AUTHOR INDEX
of
Mathematical Reviews
1973-79

Volumes 45-58

H-K

American Mathematical Society
Providence, Rhode Island

ISBN 0-8218-0035-3

Copyright © 1981 by the American Mathematical Society

Printed in the United States of America

All rights reserved except those granted to the United States Government
This book may not be reproduced in any form without the permission of the publishers

, Chung Wei Approximation numbers of linear operators and nuclear spaces. *J. Math. Anal. Appl.* **46** (1974), 292–311. (N. Tiţa) **52** #1389 47B10 (46A05)

On the trace of a class of nuclear operators. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 131–137. (R. G. Bartle) **52** #15071 47B10

, Joo Shik (*with* Furuta, Katsuhisa) Identification of weighting function using deterministic input. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 6, 801–805. (Hsi-han Yeh) **55** #2293 93E10

, Ki Sik Convergence of nonlinear semigroups and approximation schemes to well-posed Cauchy problems in Banach spaces. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 337–350. (J. E. Lagnese) **46** #6116 47H15 (47D05)

On convergence of semigroups of operators in Banach spaces. *J. Korean Math. Soc.* **9** (1972), 91–99. (V. K. Balakrishnan) **48** #12145 47D05

Une note sur la convergence des semi-groupes des opérateurs dans les espaces de Banach. *Kyungpook Math. J.* **13** (1973), 87–95. (G. DaPrato) **48** #4826 47D05

(*with* Bénilan, Philippe) Équation d'évolution du type $(du/dt)+\beta v\phi(u)\ni 0$ dans $L^\infty(U)$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 22, *A*i, *A*947–*A*950. (D. E. Edmunds) **53** #8981 47H15 (35R20)

Quelque opérateur d'évolution dans $L^\infty(U)$. *J. Korean Math. Soc.* **14** (1977/78), *no.* 1, 121–126. (K. Goebel) **56** #16464 47H15 (47B44)

, Kwang Chul The radical of topological abelian groups. *J. Korean Math. Soc.* **12** (1975), *no.* 1, 13–27. (E. J. Howard) **52** #649 22B05

On the self dual locally compact Abelian groups with compact radical. *J. Korean Math. Soc.* **14** (1977/78), *no.* 2, 213–215. (M. Rajagopalan) **57** #6285 22D35 (43A40)

, T. T. (*with* Ijaola, O.) Algebraic description of J-contractive real matrices. *Electron. Lett.* **12** (1976), *no.* 16, 411–412. (A. Jaeger) **57** #5451 94A20

Synthesis of impulse–response matrices by quasilossless realisations. *Electron. Lett.* **12** (1976), *no.* 17, 422–443. (S. P. Bhattacharyya) **54** #9862 94A20

aack, Dennis G. Stringency in the empirical Bayes problem. *Comm. Statist.* **4** (1975), 185–192. (Mir Ali) **51** #4481 62C10

An adaptive approach to compound multiple decisions. *Comm. Statist.—Theory Methods* **A7** (1978), *no.* 3, 229–239. (Author's summary) **58** #18815 62C25

aack, Joel (*with* Fuller, Kent R.) Rings with quivers that are trees. *Pacific J. Math.* **76** (1978), *no.* 2, 371–379. (B. J. Müller) **58** #16764 16A48

(*with* Fuller, Kent R.; Hullinger, H.) Stable equivalence of uniserial rings. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 2, 153–158. (Idun Reiten) **57** #3186 16A36

aack, R. J. Prior on extensionality. *Logique et Analyse* (*N.S.*) **17** (1974), *no.* 67-68, 295–299. (Brian F. Chellas) **58** #4988 02A05

aack, Susan Mentioning expressions. *Logique et Analyse* (*N.S.*) **17** (1974), *no.* 67–68, 277–294. (Scott K. Lehmann) **55** #2471 02A05

The justification of deduction. *Mind* **85** (1976), *no.* 337, 112–119. (Not reviewed) 02A05

Analyticity and logical truth in *The roots of reference*. *Theoria* **43** (1977), *no.* 2, 129–143. **58** #27225 02A05

aack, Wolfgang ★Darstellende Geometrie. II: Körper mit krummen Begrenzungsflächen. Kotierte Projektionen. Sechste, verbesserte Auflage. Sammlung Göschen, Band 4143. *Walter de Gruyter, Berlin-New York*, 1971. 125 *pp.* (Editors) **49** #9722 50–01

Systeme von zwei linearen partiellen Differentialgleichungen erster Ordnung in zwei Variablen vom hyperbolischen Typus mit parabolischer Anfangskurve. *Topics in analysis* (*Colloq. Math. Anal., Jyväskylä*, 1970), *pp.* 156–165. *Lecture Notes in Math., Vol.* 419, *Springer, Berlin*, 1974. (S. A. Tersenov) **51** #10891 35M05

See also **Collection: Haack, Wolfgang, 52** #5247 *and* **Wendland, Wolfgang L., 52** #5329

aag, G. (*with* Weidlich, W.; Alber, P.) Approximation methods for stationary solutions of discrete master equations. *Z. Phys. B* **26** (1977), *no.* 2, 207–215 (Ian Lerche) **55** #2014 82.49

Transition factor method for discrete master equations; and application to chemical reactions. *Z. Phys. B* **29** (1978), *no.* 2, 153–159. (Herbert Spohn) **58** #4133 82.60

aag, Rudolf Bemerkungen zum Begriffsbild der Quantenphysik. (English summary) *Z. Physik* **229** (1969), 384–391. (W. Güttinger) **48** #1616 81.46

(*with* Doplicher, Sergio; Roberts, John E.) Local observables and particle statistics. I. *Comm. Math. Phys.* **23** (1971), 199–230. (J. M. Jauch) **45** #6316 81.46

(*with* Kadison, Richard V.; Kastler, Daniel) Asymptotic orbits in a free Fermi gas. *Comm. Math. Phys.* **33** (1973), 1–22. (R. H. Herman) **49** #12015 (E **55** #2009) 82.46

(*with* Doplicher, Sergio; Roberts, John E.) Local observables and particle statistics. II. *Comm. Math. Phys.* **35** (1974), 49–85. (H. Araki) **48** #13060 81.22 (81.46)

(*with* Kastler, Daniel; Trych-Pohlmeyer, B.) Stability and equilibrium states. *Comm. Math. Phys.* **38** (1974), 173–193. (J.-P. Conze) **53** #7327 82.46

(*with* Kadison, Richard V.; Kastler, Daniel) Corrigendum: "Asymptotic orbits in a free Fermi gas" (Comm. Math. Phys. **33** (1973), 1–22). *Comm. Math. Phys.* **43** (1975), *no.* 2, 198. (Editors) **55** #2009 82.46

(*with* Łopuszański, Jan T.; Sohnius, Martin F.) All possible generators of supersymmetries of the S-matrix. *Nuclear Phys. B* **88** (1975), 257–274. (Authors' summary) **53** #15132 81.22

The algebraic approach to quantum statistical mechanics. Equilibrium states and hierarchy of stability. *Critical phenomena* (*Sitges Internat. School Statist. Mech., Sitges*, 1976), *pp.* 155–188. *Lecture Notes in Phys., Vol.* 54, *Springer, Berlin*, 1976. (D. A. Dubin) **57** #8770 82.46

(*with* Araki, Huzihiro; Kastler, Daniel; Takesaki, Masamichi) Extension of KMS states and chemical potential. *Comm. Math. Phys.* **53** (1977), *no.* 2, 97–134. (U. Cattaneo) **56** #2042 81.46

(*with* Trych-Pohlmeyer, Ewa) Stability properties of equilibrium states. *Comm. Math. Phys.* **56** (1977), *no.* 3, 213–224. (U. Cattaneo) **58** #20093 82.46

(*with* Bannier, Ulrich) Comments on Mielnik's generalized (non linear) quantum mechanics. *Comm. Math. Phys.* **60** (1978), *no.* 1, 1–6. (S. Gudder) **58** #8917 81.46

Haagen, Klaus (*with* Schweitzer, W.) Zur Approximation der hypergeometrischen Verteilung durch die Normalverteilung. *Statist. Hefte* (*N.F.*) **16** (1975), *no.* 2, 123–127. (See Zbl **312** #62014) 62E20

(*with* Pertler, Reinhold) ★Methoden der Statistik. Band I. Kohlhammer Standards Psychologie, Basisbücher und Studientexte. *Verlag W. Kohlhammer, Stuttgart*, 1976. 206 *pp.* (From the authors' preface) **55** #11445 62–01

Haagerup, Uffe Normal weights on W^*-algebras. *J. Functional Analysis* **19** (1975), 302–317. (François Combes) **52** #1338 46L10

The standard form of von Neumann algebras. *Math. Scand.* **37** (1975), *no.* 2, 271–283. (H. Araki) **53** #11387 46L10

Operator valued weights and crossed products. *Symposia Mathematica, Vol. XX* (*Convegno sulle Algebre C^* e loro Applicazioni in Fisica Teorica, Convegno sulla Teoria degli Operatori Indice e Teoria K, INDAM, Roma*, 1974), *pp.* 241–251. *Academic Press, London*, 1976. (François Combes) **56** #1086 46L10

An example of a weight with type III centralizer. *Proc. Amer. Math. Soc.* **62** (1977), *no.* 2, 278–280. (Jun Tomiyama) **55** #3806 46L10

Les meilleures constantes de l'inégalité de Khintchine. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 5, A259–A262. (Author's summary) **58** #23329 42A56

(*with* Bratteli, Ola) Unbounded derivations and invariant states. *Comm. Math. Phys.* **59** (1978), *no.* 1, 79–95. (Shinzō Kawamura) **58** #2329 46L10

de Haan, Laurens (*with* Hordijk, Arie) The rate of growth of sample maxima. *Ann. Math. Statist.* **43** (1972), 1185–1196. (C. W. Anderson) **47** #1107 60F99 (60F10)

(*with* Balkema, A. A.) On R. von Mises' condition for the domain of attraction of $\exp(-e^{-x})^1$. *Ann. Math. Statist.* **43** (1972), 1352–1354. (M. Hušková) **47** #1100 60F05

(*with* Resnick, Sidney I.) Almost sure limit points of record values. *J. Appl. Probability* **10** (1973), 528–542. (Michael Rubinovitch) **51** #9171 60F15

On random indices and limit distributions. *Ann. Probability* **2** (1974), 181. (C. W. Anderson) **50** #11383 60F05

(*with* Balkema, A. A.) Residual life time at great age. *Ann. Probability* **2** (1974), 792–804. (Jozef L. Teugels) **50** #11504 60K05 (60F05)

On sample quantiles from a regularly varying distribution function. *Ann. Statist.* **2** (1974), 815–818. (A. K. Md. Ehsanes Saleh) **51** #6938 60F15 (62G30)

Weak limits of sample range. *J. Appl. Probability* **11** (1974), 836–841. (Joseph Deken) **50** #11384 60F05 (62G30)

Equivalence classes of regularly varying functions. *Stochastic Processes Appl.* **2** (1974), 243–259. (Sidney I. Resnick) **51** #1916 60F05 (26A12)

(*with* Balkema, A. A.) Limit laws for order statistics. *Limit theorems of probability theory* (*Colloq., Keszthely*, 1974), *pp.* 17–22. *Colloq. Math. Soc. János Bolyai, Vol.* 11, *North-Holland, Amsterdam*, 1975. (Sidney I. Resnick) **53** #9330 60F05 (62G30)

An Abel-Tauber theorem for Laplace trnsforms. *J. London Math. Soc.* (2) **13** (1976), *no.* 3, 537–542. (N. H. Bingham) **53** #11315 44A10 (40E05, 60F05)

Sample extremes: an elementary introduction. *Statistica Neerlandica* **30** (1976), *no.* 4, 161–172. (J. Galambos) **54** #14022 60–01 (60F05, 62G30)

On functions derived from regularly varying functions. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 4, 431–438. (Aart J. Stam) **58** #1050 26A12

(*with* Resnick, Sidney I.) Limit theory for multivariate sample extremes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **40** (1977), *no.* 4, 317–337. (J. Galambos) **57** #17774 60F05 (62G30)

(*with* Taconis-Haantjes, Elselien) Asymptotic properties of a correlation coefficient type statistic connected with the general linear model. *J. Econometrics* **7** (1978), *no.* 1, 15–21. (H. Toutenburg) **57** #17917 62E20

(*with* Balkema, A. A.) Limit distributions for order statistics. I. (Russian summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 1, 80–96. (J. Galambos) **58** #7788a 60F05 (62G30)

(*with* Balkema, A. A.) Limit distributions for order statistics. II. (Russian summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 2, 358–375. (J. Galambos) **58** #7788b 60F05 (62G30)

de Haan, M. *See* **De Haan, M.**

Haan, O. (*with* Mütter, K. H.) Approximate crossing sum rules for partial-wave amplitudes. *Nuclear Phys. B* **131** (1977), *no.* 2-3, 232–254. (Authors' summary) **56** #14308 81.47

taconis-Haantjes, Elselien *See* **Taconis-Haantjes, Elselien**

ter Haar, D. ★Lectures on selected topics in statistical mechanics. International Series in Natural Philosophy, Vol. 92. *Pergamon Press, Oxford-New York-Toronto, Ont.* 1977. vii + 124 *pp. ISBN* 0-08-017937-1 (B. Souillard) **57** #8745 82.00

See also **Einstein collection, 51** #4924; **Gol′dman, I. I.; et al., 56** #7517 *and* **Davydov, A. S., 57** #8518b

Haar, H. (*with* Brehmer, Siegfried) ★Differentialformen und Vektoranalysis. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1973. 303 *pp.* (K. Strubecker) **55** #11288 58A10 (53A45)

Haar, Harald Über philosophische Probleme des mathematischen Unendlichkeitsbegriffs. *Potsdamer Forschungen, Reihe B, Heft* 4, *pp.* 114–156. *Pädagog. Hochschule "Karl Liebknecht", Potsdam*, 1974. (H. C. Kennedy) **58** #63 01A55 (02–03)

Haas, Christopher *See* **Symposium: Theory of Scheduling and its Applications, 48** #3481

Haas, Gerald (*with* Dumonceaux, Robert; Antle, Charles E.) Likelihood ratio test for discrimination between two models with unknown location and scale parameters. With discussion by H. Leon Harter. *Technometrics* **15** (1973), 19–31. (I. M. Chakravarti) **48** #9924 62F05

Haas, R. W. (*with* Owen, Donald B.) Tables of the normal conditioned on t-distribution. *Contributions to survey sampling and applied statistics*, *pp.* 295–318. *Academic Press, New York*, 1978. (Authors' summary) **58** #18836 62E15 (62Q05)

Haas, Violet B. (*with* Böttiger, A.) Ein Beitrag zur Synthese zeitoptimaler Regelkreise mit nichtlinearer Strecke zweiter Ordnung. (English summary) *Regelungstech. Prozeß-Datenverarbeit.* **18** (1970), *no.* 6, 262–265. (E. O. Roxin) **52** #16760 93C10 (49B15)

An alternate form of the conjugate gradient method for dynamic optimization. *IEEE Trans. Automatic Control* **AC-20** (1975), 581–582. (I. Teodoru) **52** #9048 49D10

On normality and conjugate point criteria for singular extremals. *SIAM J. Control* **13** (1975) *no.* 6, 1172–1182. (J. E. Rubio) **52** #6529 49B10

Normality and controllability for the problem of Bolza. *Proceedings of the* 1977

IEEE Conference on Decision and Control (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 393–396. *Inst. Electrical Electron. Engrs., New York*, 1977. (Author's summary) **58** #18044 49B20

On the singular Bolza problem. *Advances in Math.* **24** (1977), *no.* 2, 189–205. (B. P. Molinari) **56** #1164 49A10

The Clebsch and Jacobi conditions for singular extremals. *Internat. J. Control* **27** (1978), *no.* 4, 557–570. (Author's summary) **58** #2553 49C05 (93B99)

Haas, Willard R. (*with* Wnek, Walter J.) The equivalence and numerical solution of regression, optimalpolicy, and boundary value problems involving differential equations. *J. Computational Phys.* **18** (1975), *no.* 3, 326–341. (Francesco G. Lerda) **54** #1631 (E **54** #1632) 65L10 (49D25, 62J05)

See also **Celmiņš, Aivars, 54** #1632

Haase, Dietrich Die Diracsche Störungstheorie in Operatorform. (English summary) *Fortschr. Physik* **24** (1976), *no.* 1, 37–54. (Anton Z. Capri) **54** #1984 81.47

Haase, Maria (*with* Argyris, John H.; Malejannakis, Georg A.) ★Natural geometry of surfaces with specific reference to the matrix displacement analysis of shells. Report No. 134. *Institut für Statik und Dynamik der Luft- und Raumfahrtkonstruktionen, University of Stuttgart, Stuttgart*, 1973. i + 62 *pp.* (B. A. Boley) **52** #2366 73.65

Haase, Rudolf Keplers Weltharmonik in Vergangenheit, Gegenwart und Zukunft. *Sudhoffs Arch.* **57** (1973), 41–70. (Editors) **57** #15868 01A45

Haase, Wolfgang ★Ein stochastisches Modell zur Prognose des Konsumentenverhaltens. *Peter Hanstein Verlag GmbH, Cologne*, 1973. 87 *pp.* (G. Tintner) **53** #7396 90A99

Haavisto, J. (*with* Roman, Paul) Gauge theories and nonrelativistic cosmological symmetries. *J. Mathematical Phys.* **17** (1976), *no.* 9, 1664–1670. (A. Raychauduri) **54** #6792 81.53

(*with* Roman, Paul) Higgs fields, curved space, and hadron structure. *Internat. J. Theoret. Phys.* **16** (1977), *no.* 12, 915–936. (Authors' summary) **58** #25631 81.53

Haba, Zbigniew The four-dimensional position operator in theories with broken conformal symmetry. (Italian and Russian summaries) *Nuovo Cimento A* (11) **32** (1972), *no.* 2, 174–184. (Author's summary) **55** #5047 81.47

The four-dimensional position operator, coherent states and representations of the conformal group. (Italian and Russian summaries) *Nuovo Cimento A* (11) **30** (1975), *no.* 4, 567–588. (Author's summary) **55** #7155 81.22

Representations of the Sugawara SU(2) current algebra. *Rep. Mathematical Phys.* **8** (1975), *no.* 1, 61–74. (Author's summary) **53** #15133 81.22

Measure-theoretic representations of the $SU(2)\otimes SU(2)$ current algebra with PCAC. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1276–1285. (David H. Sharp) **53** #12317 81.46

(*with* Nowicki, A. A.) Non-Hermitian time operators and their physical interpretation. *Phys. Rev. D* (3) **13** (1976), *no.* 2, 523–527. (F. R. Halpern) **56** #17597 81.47

Functional representations of conformally invariant free fields. *Rep. Mathematical Phys.* **9** (1976), *no.* 2, 187–198. (Gerald A. Goldin) **58** #19929 81.22 (22E70)

An infinite component field-theoretic model in Gelfand-Naimark z-basis. *Acta Phys. Austriaca* **47** (1977), *no.* 3, 181–192. (Author's summary) **56** #1978 81.22 (22E70)

Functional equations for extended hadrons. *J. Mathematical Phys.* **18** (1977), *no.* 11, 2133–2137. (Emilio Santos) **56** #14380 81.60

The Schwinger functional in terms of a non-Gaussian functional measure. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 5, 451–457. (Author's summary) **58** #19966 81.35 (81.28)

Habali, S. (*with* Panagiotopoulos, P. D.) Unilateral elasticity of general elastic materials. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T130–T131. (S. N. Murthy) **57** #14794 73.49

Habalov, V. D. (*with* Svešnikov, A. A.) Estimation of the average number of overshoots of a two-dimensional random field. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 3, 94–99. (Authors' introduction) **48** #12763 62M99

Habashi, W. (*with* Shen, S. F.) Local linearization of the finite element method and its applications to compressible flows. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 3, 565–577. (Authors' summary) **56** #10434 76.65

Habay, J. (*with* Ronveaux, André; Dumont-Lepage, Marie-Claire) Bounds on the number of poles of the solution of a general Riccati equation. *SIAM J. Math. Anal.* **8** (1977), *no.* 6, 1038–1056. (H. Hochstadt) **56** #12436 34C99

Habbema, J. D. F. (*with* Hermans, J. J.; van der Burgt, A. T.) Cases of doubt in allocation problems. *Biometrika* **61** (1974), 313–324. (M. Arató) **54** #11665 62H30

See also **Compstat, 49** #9990 *and* **de Finetti, Bruno, 50** #15022

Habedank, G. Über eine Kombination des Ritzschen Verfahrens mit einem Iterationsverfahren. (English and Russian summaries) *Z. Angew. Math. Mech.* **54** (1974), 325–334. (L. Collatz) **50** #3610 65N30

Habelašvili, G. I. (*with* Tenengol′c, G. M.) An algorithm for determining the distance between cyclic codes that correct arithmetical errors. (Russian. Georgian summary) *Thbilis. Saḥelmc. Univ. Gamoqeneb. Math. Inst. Šrom.* **3** (1972), 285–300. (From the authors' text) **56** #11520 94A10

(*with* Kobašvili, T. V.; Urumov, I. O.) Determination of minimal code distance for a class of cyclic AN-codes. (Russian. Georgian summary) *Collection of articles on programming* (*Russian*), *pp.* 63–72. *Tbilis. Gos. Univ. Inst. Prikl. Mat., Tbilisi*, 1975. (From the text) **58** #33497 94A10

(*with* Kobašvili, T. V.; Urumov, I. O.) Finding cyclic representatives of cyclic arithmetic codes. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 1, 49–52. (Heinrich Seidel) **53** #2514 94A10

(*with* Kipšidze, Z. Š.; Klimiašvili, M. A.; Kobašvili, T. V.; Urumov, I. O.) ★Некоторые весовые коды, исправляющие ошибки. (Russian) [Some weighted error-correcting codes] With a Georgian summary. *Izdat. Tbilis. Univ., Tbilisi*, 1978. 45 *pp.* (Stefan Dodunekov) **58** #20788 94A10

Habenicht, Walter Zur Lösung von ganzzahligen linearen Programmen durch Enumeration in konvexen Körpern. *Proceedings in Operations Research*, 4 (*Annual Meeting, Deutsch Gesellsch. Operations Research, Würzburg*, 1974), *pp.* 155–165. *Physica-Verlag, Würzburg*, 1974. (Ferenc Forgó) **56** #7970 90C10

★Ausgewählte Enumerationsstrategien zur Lösung ganzzahliger linearer Optimierungsprobleme. Mathematical Systems in Economics, No. 21. *Verlag Anton Hain, Meisenheim am Glan*, 1976. vi + 168 *pp.* (Jürgen Guddat) **55** #12056 90C05

Zur Auswahl von Basislösungen bei Verfahren der ganzzahligen Optimierung. (English summary) *First Symposium on Operations Research* (*Univ. Heidelberg, Heidelberg*, 1976), *Teil* 1, *pp.* 172–185. *Operations Research Verfahren, XXV. Hain, Meisenheim*, 1977. (Author's summary) **58** #32931 90C10 (52A45)

Haber, R. (*with* Keviczky, L.) Adaptive dual extremum control by finite order Volterra model. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 4, 247–260. (Bojan Popović) **51** #2739 93E20

(*with* Hetthéssy, J.; Keviczky, L.) A separating transformation to the minimum variance control. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 2, 147–154. (B. Wittenmark) **54** #12339 93E99

Adaptive extremum seeking of a quadratic curve. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **6** (1977), *no.* 1, 67–77. (Bojan Popović) **58** #4577 93E20

Haber, Seymour Corrigendum: "A modified Monte-Carlo quadrature. II" (Math. Comp. **21** (1967), 388–397). *Math. Comp.* **23** (1969), *no.* 106, 473. (Editors) **53** #4477 65C05 (65D30)

Sequences of numbers that are approximately completely equidistributed. *J. Assoc. Comput. Mach.* **17** (197)), 269–272. (Calvin T. Long) **48** #2102 10K25 (65C10)

Corrigendum: "Stochastic quadrature formulas" (Math. Comp. **23** (1969), 751–764). *Math. Comp.* **24** (1970), *no.* 112, 1001. (Editors) **53** #4478 65C05 (65D30)

On certain optimal quadrature formulas. *J. Res. Nat. Bur. Standards Sect. B* **75B** (1971), 85–88. (R. Franke) **46** #10179 65D30

The error in numerical integration of analytic functions. *Quart. Appl. Math.* **29** (1971/72), 411–420. (John P. Coleman) **55** #9496 65D30 (41A55)

Experiments on optimal coefficients. *Applications of number theory to numerical analysis* (*Proc. Sympos., Univ. Montréal, Montreal, Que.*, 1971), *pp.* 11–37. *Academic Press, New York*, 1972. (A. M. Cohen) **52** #12300 65D30

On the existence of simple quadratures. *Michigan Math. J.* **19** (1972), 401–410. (R. Franke) **47** #691 41A55

(*with* Shisha, Oved) An integral related to numerical integration. *Bull. Amer. Math. Soc.* **79** (1973), 930–932. (B. K. Lahiri) **47** #7288 41A55

(*with* Flatto, Leopold) A quadrature formula of degree three. *J. Approximation Theory* **9** (1973), 44–52. (L. W. Johnson) **50** #6116 65D30

(*with* Shisha, Oved) Improper integrals, simple integrals, and numerical quadrature. *J. Approximation Theory* **11** (1974), 1–15. (Henning Esser) **50** #5309 41A55

Adaptive integration and improper integrals. *Math. Comp.* **29** (1975), 806–809. (M. M. Chawla) **51** #11940 65D30

(*with* Zacks, Shelemyahu) Adaptive forecasting of the size of a work force subject to random withdrawals. *Naval Res. Logist. Quart.* **24** (1977), *no.* 3, 493–506. (John E. Hewett) **57** #14243 62F15 (62F25)

The tanh rule for numerical integration. *SIAM J. Numer. Anal.* **14** (1977), *no.* 4, 668–685. (H. Werner) **56** #7123 65D30

(*with* Shisha, Oved) On the nonomnipotence of regular summability methods. *Adv. in Math.* **28** (1978), *no.* 3, 231–232. (B. Kuttner) **58** #12071 40C05

Haberkorn, R. Theory of magnetic field modulation of radical recombination reactions. I. *Chem. Phys.* **19** (1977), *no.* 2, 165–179. (Ian Lerche) **56** #4584 82.45

Haberland, Elke Infinitely divisible stationary recurrent point processes. Collection of articles dedicated to the memory of Wolfgang Richter. *Math. Nachr.* **70** (1975), 259–264. (F. Papangelou) **53** #9408 60K05 (60G55)

Haberland, K. Über die Anzahl der Erweiterungen eines algebraischen Zahlkörpers mit einer gegebenen abelschen Gruppe als Galoisgruppe. *Acta Arith.* **26** (1974/75), 153–158. (T. Kubota) **50** #9818 10H25 (12A35)

Haberlandt, R. (*with* Der, R.) Linked-cluster expansions in the equations of motion method for nonequilibrium processes. *Phys. A* **79** (1975), *no.* 6, 597–616. (Chanchal K. Majumdar) **54** #14664 82.45

(*with* Czerwon, H.-J.; Der, R.) Quantum statistical theory of chemical reactions. I. General formulation and lowest-order results. *Molecular Phys.* **33** (1977), *no.* 6, 1743–1756. (Authors' summary) **56** #7677 82.41

Haberler, P. L. F. Canonical dimensions for the electromagnetic field and current in quantum electrodynamics. *Phys. Lett.* **37B** (1971), 71–74. (S. Aramaki) **48** #7816 81.30

See also **Concepts in hadron physics, 48** #1596

Haberman, Richard (*with* Ablowitz, Mark J.) Resonantly coupled nonlinear evolution equations. *J. Mathematical Phys.* **16** (1975), *no.* 11, 2301–2305. (Sadakazu Aizawa) **53** #1058 35Q99

(*with* Ablowitz, Mark J.) Nonlinear evolution equations–two and three dimensions. *Phys. Rev. Lett.* **35** (1975), *no.* 18, 1185–1188. (Authors' summary) **55** #896 35Q99

Some higher-order nonlinear evolution equations. *Studies in Appl. Math.* **54** (1975), *no.* 4, 275–282. (Mark J. Ablowitz) **56** #6158 35Q99

Note on generating nonlinear evolution equations. *SIAM J. Appl. Math.* **31** (1976), *no.* 1, 47–50. (S. I. Pai) **53** #7207 76.35

Nonlinear perturbations of the Orr-Sommerfeld equation—asymptotic expansion of the logarithmic phase shift across the critical layer. *SIAM J. Math. Anal.* **7** (1976), *no.* 1, 70–81. (Author's summary) **57** #18467 76.41 (35C99)

★Mathematical models. Mechanical vibrations, population dynamics, and traffic flow. An introduction to applied mathematics. *Prentice-Hall, Inc., Englewood Cliffs, N. J.*, 1977. xiii + 402 *pp.* (George Weiss) **55** #14066 90–01

On the singular behavior of spatially dependent nonlinear wave envelopes. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 154–163. (Peter J. Chen) **55** #4915 76.41

Nonlinear transition layers—the second Painlevé transcendent. *Studies in Appl. Math.* **57** (1977), *no.* 3, 247–270. (D. V. V. Wend) **57** #16814 34C15 (34E20, 58F05, 76.34)

Haberman, Shelby J. Log-linear models for frequency data: sufficient statistics and likelihood equations. *Ann. Statist.* **1** (1973), 617–632. (Douglas R. Miller) **52** #4500 62F10

★The analysis of frequency data. Statistical Research Monographs, Vol. IV. *The University of Chicago Press, Chicago, Ill.-London*, 1974. xii + 419 *pp.* (Rolf Sundberg)

53 #11865 62F99

Log-linear models for frequency tables derived by indirect observation: maximum likelihood equations. *Ann. Statist.* **2** (1974), 911–924. (Edward D. Rothman) **56** #16887 62F10 (62P10, 92A10)

Log-linear models for frequency tables with ordered classifications. *Biometrics* **30** (1974), 589–600. (S. K. Katti) **52** #9456 62F05

Direct products and linear models for complete factorial tables. *Ann. Statist.* **3** (1975), 314–333. (C. R. Rao) **54** #11679 62K15 (62J10)

How much do Gauss-Markov and least square estimates differ? A coordinate-free approach. *Ann. Statist.* **3** (1975), *no.* 4, 982–990. (Takeshi Amemiya) **51** #14437 62J05

Maximum likelihood estimates in exponential response models. *Ann. Statist.* **5** (1977), *no.* 5, 815–841. (Masafumi Akahira) **58** #18861 62F10 (62E20, 62F20)

Product models for frequency tables involving indirect observation. *Ann. Statist.* **5** (1977), *no.* 6, 1124–1147. (S. K. Katti) **56** #4023 62F10

Log-linear models and frequency tables with small expected cell counts. *Ann. Statist.* **5** (1977), *no.* 6, 1148–1169. (Rolf Sundberg) **56** #6980 62F10 (62F05, 62E20)

Habermann, A. N. (*with* Wulf, W. A.; Russell, D. B.) BLISS: A language for systems programming. *Comm. ACM* **14** (1971), 780–790. (P. Deussen) **46** #8463 68A05

Operating system structures. *Foundations of computer science* (*Lecture Notes, Advanced Course, Univ. Amsterdam, Amsterdam*, 1974), *pp.* 87–118. *Math. Centre Tracts, No.* 63, *Math. Centrum, Amsterdam*, 1975. (Robert Wagner) **54** #6599 68A99 (90B35)

A new approach to avoidance of system deadlocks. *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Bleue* **9** (1975), *no. B*-3, 19–28. (C. Mohan) **53** #7413 90B25 (90B30, 68A99)

Haberstroh, Robert A. Hypocontinuity of multiplication on the Clifford algebra of an infinite-dimensional topological vector space. *Proc. Amer. Math. Soc.* **50** (1975), 435–442. (H. Gross) **52** #452 15A66 (46M99)

Habert de Montmore, Henri-Louis *See* **Delorme, Suzanne**, **58** #21294

Habetha, Klaus Zum Phragmén-Lindelöfsches Prinzip bei quasiholomorphen und pseudoanalytischen Funktionen. (English summary) Collection of articles dedicated to Wolfgang Haack on the occasion of his 70th birhtday. *Applicable Anal.* **2** (1972), 169–185. (Gerhard Jank) **53** #5901 30A93

Über lineare elliptische Differentialgleichungssysteme mit analytischen Koeffizienten. *Ergebnisse einer Tagung über "Funktionentheoretische Methoden bei partiellen Differentialgleichungen"* (*Bonn*, 1972), *pp.* 65–89. *Gesellsch. Math. Datenverarbeitung, Bonn, Ber. No.*77. *Gesellsch. Math. Datenverabeitung, Bonn*, 1973. (R. C. MacCamy) **57** #3625 35J45

★Höhere Mathematik für Ingenieure und Physiker. Band 1. Klett Studienbücher Mathematik. *Ernst Klett, Stuttgart*, 1976. 196 *pp.* (Editors) **55** #579 26–01

Eine Bemerkung zur Funktionentheorie in Algebren. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 502–509. *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (Kenneth O. Leland) **58** #11443 30A92

On zeros of elliptic systems of first order in the plane. *Function theoretic methods in differential equations*, *pp.* 45–62. *Res. Notes in Math., No.* 8, *Pitman, London*, 1976. (Editors) **58** #23029 35J45

Habetler, George J. (*with* Cottle, Richard W.; Lemke, C. E.) Quadratic forms semi-definite over convex cones. *Proceedings of the Princeton Symposium on Mathematical Programming* (*Princeton Univ.*, 1967), *pp.* 551–565. *Princeton Univ. Press, Princeton, N.J.*, 1970. (Alexander M. Rubinov) **48** #11160 15A48 (90C20)

(*with* Rainey, J. W.) Tridiagonalization of completely nonnegative matrices. *Math. Comp.* **26** (1972), 121–128. (E. Deutsch) **46** #8400 65F15

(*with* Larsen, Edward W.) A functional-analytic derivation of Case's full and half-range formulas. *Comm. Pure Appl. Math.* **26** (1973), 525–537. (L. Finkelstein) **51** #2556 82.45

(*with* Price, A. L.) An iterative method for generalized nonlinear complementarity problems. *J. Optimization Theory Appl.* **11** (1973), 36–48. (G. Berman) **48** #2851 47H99 (49D99)

(*with* Matkowsky, Bernard J.) On the validity of a nonlinear dynamic stability theory. *Arch. Rational Mech. Anal.* **57** (1975), 166–188. (J. R. Cannon) **50** #13849 35B35

(*with* Matkowsky, Bernard J.) Uniform asymptotic expansions in transport theory with small mean free paths, and the diffusion approximation. *J. Mathematical Phys.* **16** (1975), 846–854. (L. Finkelstein) **52** #2494 82.45

(*with* Kostreva, Michael M.) On a direct algorithm for nonlinear complementarity problems. *SIAM J. Control Optimization* **16** (1978), *no.* 3, 504–511. (C. B. Garcia) **58** #4360 90C99

Habets, Patrick ★A consistency theory of singular perturbations of differential equations. Séminaires de Mathématique Appliquée et Mécanique, Rapport No. 44. *Institut de Mathématique Pure et Appliquée, Université Catholique de Louvain, Heverlé*, 1972. i+38 *pp.* (Editors) **53** #3443 34D15

★The consistency problem of singularly perturbed differential equations. Séminaires de Mathématique Appliquée et Mécanique, Rapport No. 50. *Institut de Mathématique Pure et Appliquée, Université Catholique de Louvain, Heverlé*, 1972. i+21 *pp.* (Editors) **53** #3444 34D15

(*with* Peiffer, K.) ★Classification of stabilitylike concepts and their study using vector Lyapunov functions. Séminaires de Mathématique Appliquée et Mécanique, Rapport No. 43. *Institut de Mathématique Pure et Appliquée, Université Catholique de Louvain, Heverlé*, 1972. i+46 *pp.* (Editors) **53** #3446 34D20

(*with* Risito, Corrado) Stability criteria for systems with first integrals, generalizing theorems of Routh and Salvadori. *Équations différentielles et fonctionnelles non linéaires* (*Actes Conf. Internat. "Equa-Diff 73", Brussels/Louvain-la-Neuve*, 1973), *pp.* 569–580. *Hermann, Paris*, 1973. (T. Yoshizawa) **53** #8578 34D10

(*with* Peiffer, K.) Classification of stability-like concepts and their study using vector Lyapunov functions. *J. Math. Anal. Appl.* **43** (1973), 537–570. (V. Lakshmikantham) **48** #11696 34D20

Singular perturbations of a vector boundary value problem. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp.* 149–154. *Lecture Notes in Math., Vol.* 415, *Springer, Berlin*, 1974. (Editors) **58** #1347 34B15

Stabilité asymptotique pour des problèmes de perturbations singulières. *Stability problems* (*Centro Internaz. Mat. Estivo* (*C.I.M.E.*), *I Ciclo, Bressanone*, 1974), *pp.* 1–18. *Edizioni Cremonese, Rome*, 1974. (From the text) **58** #28904 34D15

The consistency problem of singularly perturbed differential equations. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **20** (1974), 81–92. (F. Hoppensteadt) **49** #7535 34D15

A consistency theory of singular perturbations of differential equations. *SIAM J. Appl. Math.* **26** (1974), 136–153. (F. Hoppensteadt) **48** #11694 34D15

Double dégénérescence dans des problèmes de perturbations singulières. *Ann. Soc. Sci. Bruxelles Sér. I* **89** (1975), 11–15. (W. M. Greenlee) **51** #13389 34E15

On the method of strained coordinates. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 152–162. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #24979 65L99 (34E05)

(*with* Rouche, Nicolas; Laloy, M.) ★Stability theory by Liapunov's direct method. Applied Mathematical Sciences, Vol. 22. *Springer-Verlag, New York-Heidelberg*, 1977. xii+396 *pp.* ISBN 0-387-90258-9 (Marshall Slemrod) **56** #9008 34D20 (93D05)

Singular perturbations of a nonlinear boundary value problem. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 1, 69–81. (W. Wasow) **55** #8493 34E20

See also **Conference: Differential Equations, 51** #966

Habib, Anwar (*with* Wafi, Abdul) Degree of approximation of functions by modified Bernstein polynomial on an unbounded interval. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 6, 691–695. (C. W. Clenshaw) **57** #6953 41A10

Habib, Michel (*with* Lambert, Gérard) Some results about the minimal cardinal ($p(G)$) of a path set in a graph $G=(X, U)$ carrying out a partition of X, and the number of jumps ($S(G)$) in acircuit graphs. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 367–384. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (Brian Alspach) **52** #13472 05C20

(*with* Lambert, Gérard) Nombre de sauts et indice de partition dans les graphes sans circuit. Colloque sur la Théorie des Graphes (Paris, 1974). *Cahiers Centre Études Recherche Opér.* **17** (1975), *no.* 2-4, 197–211. (Gerard Laman) **53** #7847 05C20

(*with* Chein, Michel; Maurer, Marie-Catherine) Hypergraphes et treillis homogènes. Ensemble des parties homogènes d'un graphe ou d'un hypergraphe. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 5, A285–A287. (Authors' summary) **58** #21835 05C99 (06A20)

Habibagahi, Hamid (*with* Pratschke, John L.) A comparison of the power of the von Neumann ratio, Durbin-Watson and Geary tests. *Rev. Econom. Statist.* **54** (1972), 179–185. (A. K. Gayen) **50** #3501 62M10 (62P20)

See also **Belsley, David A.**, (Not reviewed)

Habibi, Abdul Hayee Where was al-Birun situated? With discussion. Proceedings of the Symposium on al-Bīrūnī and Indian Sciences (New Delhi, 1971). *Indian J. History Sci.* **10** (1975), *no.* 2, 257–258, 277. (Brij Mohan) **57** #2820 01A30 (01A35)

Habibullah, G. Mustafa An integral equation involving Shively's polynomials. *J. Natur. Sci. and Math.* **10** (1970), 209–214. (K. N. Srivastava) **46** #7821 45H05

A generalization of the Hankel operator. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 3, 327–339 (1973). (H. M. Srivastava) **47** #9182 44A15

Some integral equations involving confluent hypergeometric functions. *Yokohama Math. J.* **19** (1971), 35–43. (R. G. Buschman) **45** #5691 45H05

A note on an integral involving Bessel functions. *Punjab Univ. J. Math.* (*Lahore*) **6** (1973), 5–10. (R. K. Gupta) **48** #11614 33A40

A note on Lipschitz spaces. *Punjab Univ. J. Math.* (*Lahore*) **6** (1973), 29–34. (J. Friberg) **50** #973 46E35

Some integral operators with hypergeometric functions as kernels. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **21(69)** (1977), *no.* 3-4, 293–300. (From the introduction) **58** #6949 44A20 (33A30)

A note on a pair of integral operators involving Whittaker functions. *Glasgow Math. J.* **18** (1977), *no.* 1, 99–100. (R. K. Saxena) **55** #994 44A20

Habibullin, A. A. The Bochner integral for functions with values in a nonlinear space ω. *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **1** (1970), 60–65, 319. (Author's summary) **56** #12217 28A45 (46G10)

On the stability of the solutions of differential equations in a Banach space in critical cases. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no.* 5, 66–70, 95. (A. Szép) **50** #13755 34D10

A certain functional equation with unbounded operators. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 5, 86–89, 95. (S. Fučik) **52** #11677 47H15

Habibullin, R. F. (*with* Zabotin, Ja. I.) Some classes of quasiconcave functions. (Russian) *Numerical methods in problems of technology and economics* (*Russian*), *pp.* 80–90. *Izdat. Kazan. Univ., Kazan*, 1971. (From the authors' introduction) **55** #2139 90C25

(*with* Zabotin, Ja. I.) Quasimonotone functions and the quasimonotone programming problem. (Russian) *Numerical methods in problems of technology and economics* (*Russian*), *pp.* 91–98. *Izdat. Kazan. Univ., Kazan*, 1971. (From the authors' introduction) **55** #2153 90C30

(*with* Zabotin, Ja. I.; Korablev, A. I.) The minimization of quasicomplex functionals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 10(125), 27–33. (Z. Poracká-Diviš) **50** #10963 49B30

(*with* Zabotin, Ja. I.; Korablev, A. I.) Sufficient conditions for a global minimum in a nonlinear programming problem. (Russian) *Issled. Prikl. Mat. Vyp.* 1 (1973), 103–108. (RŽMat **1974** #10 V570) **57** #11775 90C30

(*with* Zabotin, Ja. I.; Korablev, A. I.) Conditions for the extremum of a functional in the presence of constraints. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 6, 65–70. (E. G. Gol'šteĭn) **50** #1723 90C25

(*with* Zabotin, Ja. I.) Nonlinear support functionals, and the minimization problem. (Russian) *Issled. Prikl. Mat. Vyp.* 3 (1975), 60–67. (Ju. K. Dem'janovič) **57** #8019 65K05

A method for finding a point of a convex set. (Russian) *Issled. Prikl. Mat. Vyp.* 4 (1977), 15–22. (Jiří V. Outrata) **58** #13709 65K05 (90C99)

The method of generalized descent for the solution of problems of the minimization of functionals. (Russian) *Issled. Prikl. Mat. Vyp.* 4 (1977), 23–30. (Stefan Mirică) **58** #12629 49D10

Habicht, W. The works of Leonhard Euler in the field of dioptrics. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn. Vyp.* 4(45) (1973), 29–34, 103, 113. (C. J. Scriba) **57** #2835 01A50

(*with* Blanc, S.; Grigor'jan, A. T.; Juškevič, A. P.) On the publication of Leonard Euler's complete works. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1975**, *no*. 2(51), 67–86, 124. (Editors) **58** #27139 01A75

An article by Leonard Euler on mechanics. (Russian) *Voprosy Istor. Estestvoznan i Tehn.* **1976**, *no*. 4(53), 31–34, 109. (Author's summary) **58** #26959 01A50

See also **Euler, Leonhard**, **54** #7180 *and* **Euler, Leonhard**, **58** #15920

Habirov, S. V. Extremal quasiconformal mappings of axially symmetric domains. (Russian) *Dinamika Splošn. Sredy Vyp.* 13 *Dinamika Židk. so Svobod. Granicami* (1973), 116–123, 188. (A. Džuraev) **57** #6419 30A60

Some quasiconformal mappings that belong to a certain Lie pseudogroup. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 998–1000. (R. Kühnau) **51** #10619 30A60

The structure of the pseudogroup that is admitted by the equation of an ideal incompressible fluid. (Russian) *Dinamika Splošn. Sredy Vyp.* 24 *Dinamika Židk. so Svobod. Granicami* (1976), 105–114, 171. (J. Chrastina) **56** #14108 76.58

Hablo, T. V. (*with* Volynskiĭ, È. I.; Filatov, G. V.) A certain ravine algorithm for global search. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no*. 2, 50–54. (Authors' summary) **58** #4292 90B40

Haboush, William J. Logarithmic differentials and purely inseparable descent. *J. Algebra* **23** (1972), 100–115. (P. Samuel) **46** #3501 13C05 (14C20)

Deformation theoretic methods in the theory of algebraic transformation spaces. *J. Math. Kyoto Univ.* **14** (1974), 341–370. (J. E. Humphreys) **52** #419 14L99 (14D15)

The scheme of Lie sub-algebras of a Lie algebra and the equivariant cotangent map. *Nagoya Math. J.* **53** (1974), 59–70. (V. L. Popov) **50** #2187 14L15 (17B45)

Reductive groups are geometrically reductive. *Ann. of Math.* (2) **102** (1975), *no*. 1, 67–83. (V. L. Popov) **52** #3179 14L15 (14D20, 15A72, 20G05, 20G15)

See also **Demazure, Michel**, **56** #3134

Habr, Jaroslav *See* **Kassay, František**, **56** #10930

Habrat, S. A modification of the method of Euler polygons for the ordinary delay differential equation. *Zeszyty Nauk. Uniw. Jagielloń.* **475** *Prace Mat. Zeszyt* 19 (1977), 201–217. (David K. Kahaner) **57** #8030 65L05

Habre, William Représentation du centre de certains cônes faiblement complets. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1160–A1162. (J. Benkö) **45** #4111 46A40

(*with* Noureddine, Khalil) Sous-algèbres localement convexes de $C(T)$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no*. 25, Aii, A1739–A1741. (Richard Haydon) **52** #8896 46E10

(*with* Noureddine, Khalil) Sous-algèbres localement convexes de $C(T)$. *Publ. Dép. Math.* (*Lyon*) **14** (1977), *no*. 1, 27–54. (Denny Gulick) **58** #12315 46E10 (46E25)

Hać, Aleksander (*with* Słysz, Roman) A certain nonlinear boundary value problem in the plane for a system of two partial differential equations of elliptic type. (Polish. Russian and English summaries) *Biul. Wojsk. Akad. Tech.* **20** (1971), *no*. 12(232), 45–56. (T. Styś) **48** #2557 35J25

Non-linear boundary-value problem in the plane for a system of partial differential equations. Collection of articles in memory of Witołd Pogorzelski. *Demonstratio Math.* **5** (1973), 203–224. (R. B. Kelman) **48** #6660 35J25 (31A25)

(*with* Słysz, Roman) A compound problem of Hilbert-Riemann type for an infinite system of analytic functions. *Demonstratio Math.* **11** (1978), *no*. 1, 105–118. (D. Mitrović) **58** #11437 30A88

Hacar, M. A. Relations between the distances between *n* points, their populations and the transportation costs. (Spanish) *Proceedings of the Eleventh Annual Conference of Spanish Mathematicians* (*Murcia*, 1970) (*Spanish*), *pp*. 135–142. *Univ. Complutense de Madrid, Madrid*, 1973. (G. Tintner) **50** #3895 90B05

Hacar Benitez, Miguel-Ángel *See* **Proceedings: Annual Conference of Spanish Mathematicians**, **48** #10735 *and* **Proceedings: Annual Conference of Spanish Mathematicians**, **49** #7046

Hačatrjan, A. A. Uniqueness of the solution in elasticity theory with varying modulus. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **56** (1973), 232–235. (J. Ignaczak) **48** #12960 73.35

Hačatrjan, A. E. (*with* Šulikovskiĭ, V. I.) Three-webs in a Riemannian space V_3. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 7(182), 94–98. (Adrian C. Albu) **57** #1317 53B20

Hačatrjan, A. G. Overdetermined parabolic boundary value problems. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 10. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **69** (1977), 240–272, 278. (G. W. Hedstrom) **57** #6883 35N10 (35K50)

Hačatrjan, G. G. (*with* Tairjan, V. I.) On the determination of *H*-orbits of cyclic FG-codes of arbitrary length. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **58** (1974), 139–144. (G. M. Tenengol'c) **50** #12444 94A10

(*with* Tairjan, V. I.; Mhitarjan, A. G.) Determination of the weight spectrum and the coding distance of a class of cyclic codes. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **64** (1977), *no*. 3, 165–169. (Editors) **58** #15686 94A10

Hačatrjan, I. G. A certain inverse problem of the theory of shells. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **10** (1975), *no*. 4, 307–316, 386. (M. O. Bašeleĭšvili) **53** #9805 73.34

The recovery of a differential equation from its spectrum. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no*. 1, 93–94. (L. de Branges) **53** #5987 34B25

Hačatrjan, I. O. The closure of families of functions of Mittag-Leffler type under weighted uniform approximation in the complex domain. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **10** (1975), *no*. 4, 373–384, 387. (H. J. Landau) **54** #524 30A18

The completeness of families of functions of Mittag-Leffler type under weighted uniform approximation in the complex domain. (Russian) *Mat. Zametki* **18** (1975), *no*. 5, 675–685. (Editors) **57** #6442 30A82

(*with* Akopjan, S. A.) The closure of nonclosed systems of functions of Mittag-Leffler type. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no*. 1, 96–114, 222. (R. P. Boas, Jr.) **54** #848 42A64 (33A70)

Hačatrjan, I. T. Transition processes in second order systems with periodic coefficient (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1977**, *no*. 8, 914–918, 955. (Author's summary) **58** #8803 78.34

Hačatrjan, K. N. Construction of entire functions of minimal order that decrease in a angle at a given rate. (Russian. Armenian and English summaries) *Izv. Akad. Nau Armjan. SSR Ser. Mat.* **11** (1976), *no*. 1, 34–55, 98. (R. P. Boas, Jr.) **54** #2962 30A64

Hačatrjan, M. A. Some theorems of analysis in the formal system of Kleene-Vesley (Russian) *Mat. Zametki* **21** (1977), *no*. 1, 109–116. (G. E. Minc) **55** #12484 02E0 (02C15)

Hačatrjan, R. V. Differential games with finite information splitting. (Russian) *Aka Nauk Armjan. SSR Dokl.* **54** (1972), 204–209. (L. A. Petrosjan) **49** #6946 90D2 (93E05)

A certain class of differential games with incomplete information. (Russian. Englis summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius,* 1971 (*Russian*), *pp*. 241–245. *Izdat.* "*Mintis*", *Vilnius*, 1973. (Author's summary) **55** #1003 90D25

Differential games with discrete information. (Russian. Armenian summary) *Aka Nauk Armjan. SSR Dokl.* **63** (1976), *no*. 3, 141–145. (È. G. Al'breht) **56** #4879 90D25

Hačatrjan, S. T. A certain regularity in the asymptotic decoupling of the equations of linear automatic control system. (Russian. Armenian summary) *Akad. Nauk Armjan SSR Dokl.* **56** (1973), 277–283. (G. N. Mil'šteĭn) **51** #15082 93C15

Stability of motion on a given time interval. (Russian. Armenian and Englis summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **27** (1974), *no*. 3, 47–55, 82. (V Komkov) **56** #3420 34D20

Hačatrjan, V. E. (*with* Podlovčenko, R. I.; Petrosjan, G. N.) Interpretations of schemes o algorithms, and various types of equivalence relations between schemes. (Russian Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **7** (1972) *no*. 2, 140–151. (G. Wechsung) **46** #10240 68A10 (02E10, 02F50)

Permutability in logical graphs, and the problem of its resolution. (Russian. Armenian summary) *Molod. Naučn. Rabotnik.* **2(20)** (1974), 51–59. (From the introduction) **58** #9841 94A20

Complete systems of permutability transformations for certain classes of *L*-graphs (Russian. Armenian summary) *Molod. Naučn. Rabotnik* **2(22)** (1975), 25–35. (Author' introduction) **58** #27645 05C99 (68A30, 94A20)

The permutability of logical graphs. (Russian. English summary insert) *Kibernetik* (*Kiev*) **1976**, *no*. 3, 33–43. (Robert P. Daley) **58** #19368 68A25 (02F10, 02G05 68A30)

The permutation relations in Janov's schemata. (Russian) *Programmirovanie* **1976** *no*. 4, 3–12, 110. (E. Ikaunieks) **55** #6914 68A05

Term-logical equivalence in a class of schemes over a strongly nondegenerate base (Russian) *Programmirovanie* **1977**, *no*. 3, 20–27, 95. (Cristian Calude) **58** #3616 68A05

Complete systems of *D*-equivalent transformations of Janov schemes. (Russian) *Programmirovanie* **1978**, *no*. 3, 16–27, 95. (A. V. Anisīmov) **58** #25072 68A05

Hačaturov, A. R. Spectral characteristics of a certain difference scheme for the Navier-Stokes equations. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **7** (1976) *Gazovaj Dinamika no*. 6, 145–152. (Author's introduction) **56** #17479 76.65

Hačaturov, V. R. An approximation-combinatorial method, and some of of its applications (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1464–1487, 1629. (I. Maruşiac **50** #12236 90C10

(*with* Astahov, N. D.) Dynamical allocation problems (models and methods o solution). (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no*. 1, 93–109. (A. A. Juškevič **56** #8013 90C40

Hačaturova, T. V. An estimate of the spectrum of certain stationary random processes (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 42–50. (I. V. Romanovskiĭ **48** #10021 62M15

See also **Problems in the theory of probability distributions**, **52** #4355

Hacet, B. Ī. (*with* Bogoljubov, N. N.; Petrina, D. Ja.) The mathematical description of the equilibrium state of classical systems on the basis of the formalism of a canonical ensemble. (Russian. English summary) *Teoret. Mat. Fiz.* **1** (1969), *no*. 2, 251–274. (Authors' summary) **56** #17652 82.60

(*with* Zavalo, S. T.; Kostarčuk, V. M.) ★Алгебра и теория чисел. Частина перша. (Ukrainian) [Algebra and number theory. Part one] With a Russian summary. *Vidavn. Ob'ēdn.* "*Višča Škola*", *Kiev*, 1974. 462 *pp*. (Editors) **52** #10298 00A05

See also **Séminaire: Équations aux Dérivées Partielles**, **52** #11274

Hacet, S. B. (*with* Jadrenko, M. Ĭ.) Optimal estimates of the unknown mean value of a homogeneous random field on the cylinder. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 18 (1976), 75–80, 143. (Authors' summary) **58** #13578 62M99 (62F10)

Hacet, S. V. (*with* Jadrenko, M. Ĭ.) Certain statistical problems for isotropic random fields on a sphere. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp*. 242–250. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Editors) **54** #14071 60G25 (62M10)

Hačev, M. M. The Dirichlet problem for the Tricomi equation in a rectangle. (Russian) *Differencial'nye Uravnenija* **11** (1975), 151–160, 205. (A. M. Nahušev) **51** #3717 35M05

The Dirichlet problem for a certain equation of mixed type. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no*. 1, 137–143, 190. (Megumi Saigo) **54** #749 35M05

The Dirichlet problem for a generalized Lavrent'ev-Bicadze equation in a rectangular domain. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no*. 1, 136–139, 190. (P. Ju. Alekna) **57** #6871 35M05

Hache, Jordane Éléments premiers entre eux dans un anneau commutatif unitaire. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A947–A950. (H. H. Storrer) **45** #3380 13A99

Structure des anneaux qui admettent des Super-p.g.c.d. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 399–401. (James A. Huckaba) **50** #7120 13F15

Idéaux premiers d'un anneau qui admet des Super-p.g.c.d. *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 5-8, Ai, A187–A189. (James A. Huckaba) **52** #384 13F15

Idéaux premiers d'un anneau de Bezout et d'un domaine pseudo-bezoutien. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 1, A9–A11. (Author's summary) **55** #326 13A15

Hachemeister, Charles A. Credibility for regression models with application to trend. With a discussion by Al Quirin. *Credibility: theory and applications* (*Proc. Berkeley Actuar. Res. Conf., Univ. California, Berkeley, Calif.*, 1974; *dedicated to Edward A. Lew*), *pp.* 129–169. *Academic Press, New York*, 1975. (Jiří Anděl) **53** #14800 62J05 (62P05)

Hachenbroch, W. (*with* Fuchssteiner, Benno) Maximumpunkte. *Arch. Math.* (*Basel*) **23** (1972), 415–421. (Ky Fan) **47** #3984 46E99 (46A99, 52A40)

Hachigian, Jack On functions of non-homogeneous Markov chains. *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **18** (1972), 177–181. (J. H. B. Kemperman) **47** #5959 60J10

Hachimine, Gensuke (*with* Kimura, Masayuki) A method for the logical design of three-valued logic functions. *Systems-Computers-Controls* **7** (1976), *no.* 5, 82–90 (1977). (Tatsuo Higuchi) **58** #4667 94A20

Hachtel, Gary The sparse tableau approach to finite element assembly. *Sparse matrix computations* (*Proc. Sympos., Argonne Nat. Lab., Lemont, Ill.*, 1975), *pp.* 349–363. *Academic Press, New York*, 1976. (See Zbl **343** #65010; MR **56** #7097) 65F99 (65N30)

Hachtel, Gary D. Vector and matrix variability type in sparse matrix algorithms. *Sparse matrices and their applications* (*Proc. Sympos., IBM Thomas J. Watson Res. Center, Yorktown Heights, N.Y.*, 1971), *pp.* 53–64. *Plenum, New York*, 1972. (R. P. Tewarson) **49** #6577 65F05

(*with* Brayton, Robert K.; Gustavson, Fred G.) A new efficient algorithm for solving differential-algebraic systems using implicit backward differentiation formulas. *Proc. IEEE* **60** (1972), 98–108. (C. W. Gear) **50** #3592 65L99

(*with* Director, Stephen W.) The simplicial approximation approach to design centering. *IEEE Trans. Circuits and Systems* **CAS-24** (1977), *no.* 7, 363–372. (I. T. Frisch) **56** #11561 94A20 (90C50)

(*with* Director, Stephen W.; Vidigal, Luis Manuel) Computationally efficient yield estimation procedures based on simplicial approximation. *IEEE Trans. Circuits and Systems* **CAS-25** (1978), *no.* 3, 121–130. (Authors' summary) **58** #20834 94A20

See also **Stiff differential systems**, **49** #8359

Hącia, Lechosław Estimation of the error in the approximate solution of a certain class of integral equations. (Russian. Polish and English summaries) *Fasc. Math. No.* 7 (1973), 41–44 (1974). (J. Kofroň) **52** #16073 65R05

On approximate solution of integral equations of the Fredholm-Volterra type. (Polish summary) *Fasc. Math. No.* 7 (1973), 45–51 (1974). (P. M. Anselone) **52** #2260 65R05

The approximate solution of the Fourier problem. (Russian. Bulgarian and English summaries) Conference on Differential Equations and Applications (Ruse, 1975). *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (1975), *no.* 3, 169–176 (1977). (Author's summary) **57** #10383 45D05 (58F10)

Hacić, O. The existence of the solution of a certain class of differential equations in locally convex spaces. (Serbo-Croatian. English summary) *Mat. Vesnik* **8(23)** (1971), 163–170. (J. Muszyński) **45** #7230 34G05 (47A99)

Hačijan, L. G. The rate of convergence of game processes for the solution of matrix games. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1421–1431, 1626. (D. Marc Kilgour) **57** #5124 90D05

(*with* Èrlih, A. I.) The convergence of iterative game processes with an unequal choice of steps by partners. (Russian) *Èkonom. i Mat. Metody* **14** (1978), *no.* 2, 332–344. (Authors' summary) **58** #20498 90D05

Háčik, Miloš A certain property of a second order Euler differential equation of Jacobi type. (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **34** (1970), 85–89. (M. Švec) **46** #432 34A30

Conditions for the existence of a common solution for second order homogeneous linear differential equations. (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **34** (1970), 91–97. (M. Švec) **46** #433 34A30

Generalization of amplitude phase and accompanying differential equation. (Slovak summary) *Sb. Prací Přírodověd. Fak Univ. Palackého v Olomouci* **33** (1971), 7–17. (O. Borůvka) **50** #5070 34A30 (34C10)

Application of a second order linear differential transformation to the solution of the differential equation of amplitudes with respect to the base $[\alpha, \beta]$. (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **44** (1971), 19–25. (M. Švec) **48** #11638 34A30

A generalization of a theorem on the separation of the roots of the integrals of the differential equation $y''=q(t)y$ and the roots of their derivatives with respect to the weight functions $[\alpha(t), \beta(t)]$. (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **44** (1971), 27–33. (M. Švec) **48** #11639 34A30

(*with* Blaško, Rudolf) Properties of the integrals and their derivatives of the nonoscillatory differential equation $y''=q(t)y$, $q(t)<O$, with respect to the weight functions $\alpha(t)$, $\beta(t)$, from the point of view of hyperbolic polar coordinates. (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **44** (1971), 35–49. (M. Švec) **48** #11637 34A30

Contribution to the monotonicity of the sequence of zero points of integrals of the differential equation $y''+g(t)y=0$ with regard to the basis $[\alpha, \beta]$. *Arch. Math.* (*Brno*) **8** (1972), 79–83 (1973). (L. Lorch) **48** #4408 34C10 (33A70)

(*with* Blaško, Rudolf) Linear homogeneous second order differential equations that are pure disconjugate with respect to the derivative. (Slovak. English and loose English summaries) *Mat. Časopis Sloven. Akad. Vied* **22** (1972), 323–331. (O. Borůvka) **47** #8947 34A30

On a certain modification of Sturm's comparison theorem. (Czech summary) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **37** (1972), 15–18. (S. Ahmad) **50** #683 34C10

A note to the higher monotonicity properties of certain Sturm-Liouville functions. *Fourth Scientific Conference, College of Transport Engineering, Žilina, Section* 1: *Mathematics, Physics, Cybernetics* (*Slovak*), *pp.* 59–65. *Vysoká Škola Dopravná v Žiline, Žilina*, 1973. (N. Hayek Calil) **53** #8570 34C99

Higher monotonicity properties of zero points of the linear combination of the solution and its first derivative of the differential equation $y''+q(t)y=0$. *Arch. Math.* (*Brno*) **10** (1974), *no.* 2, 67–77 (1975). (L. Lorch) **53** #3422 34C10 (33–XX)

A remark on definite second order linear differential equations of Jacobi type. (Slovak. Russian, English and German summaries) *Práce Štúd. Vys. Školy Doprav. v Žiline Sér. Mat.-Fyz. Číslo* 1 (1974), 27–32. (V. Šeda) **53** #6002 34C10

Hačikjan, R. O. (*with* Adamjan, È. K.) A property of homogeneous Markov chains describing complex renewal systems. *Avtomat. i Telemeh.* **1976**, *no.* 3, 47–51 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 3, *part* 1, 354–358. (Andor Dobó) **55** #1519 60K10 (90B25)

Hacısalihoğlu, H. Hilmi On the motion of the Frenet trihedron of a space curve. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **17** (1968), 33–55. (H. R. Müller) **45** #5884 53A05

Acceleration axes in spatial kinematics. I, II. (Turkish summaries) *Comm. Fac. Sci. Univ. Ankara Sér. A* **20** (1971), 1–15; *ibid.* **20** (1971), 17–40. (J. Hoschek) **47** #9920 70.53

General dual motion of *n* moving reference frames. *Comm. Fac. Sci. Univ. Ankara Sér. A* **20** (1971), 71–85. (J. Hoschek) **48** #7704 70.34

(*with* Kaya, Rüstem) Bresse and inflection congruences. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **22** (1973), 89–107. (J. Hoschek) **48** #9568 53A05

On the geometry of motion in the Euclidean *n*-space. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **23** (1974), *no.* 10, 95–108. (H. R. Müller) **53** #6436 53A05

(*with* Özdamar, E.) Characterizations of spherical curves in Euclidean *n*-space. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **23** (1974), *no.* 11, 109–125. (P. Drăgilă) **54** #8459 53A05

(*with* Özdamar, E.) A characterization of inclined curves in Euclidean *n*-space. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér.* A_1 *Math.* **24** (1975), *no.* 3, 15–23. (M. Şt. Botez) **58** #30770 53A05

(*with* Sabuncuoğlu, Arif) Higher curvatures of a strip. *Comm. Fac. Sci. Univ. Ankara Sér.* A_1 *Math.* **24** (1975), *no.* 4, 25–33. (J. Hoschek) **57** #17519 53A05 (53C45)

(*with* Sabuncuoğlu, Arif) On higher curvatures of a curve. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér.* A_1 *Math.* **24** (1975), *no.* 5, 33–46. (Punyapat Jha) **58** #12742 53A05 (53C70)

Hack, Michel The recursive equivalence of the reachability problem and the liveness problem for Petri nets and vector addition systems. *15th Annual Symposium on Switching and Automata Theory* (1974), *pp.* 156–164. *IEEE Comput. Soc., Long Beach, Calif.*, 1974. (Jan van Leeuwen) **54** #11854 68A25

The equality problem for vector addition systems is undecidable. *Theoret. Comput. Sci.* **2** (1976), *no.* 1, 77–95. (Jan van Leeuwen) **55** #12496 02F50 (68A10)

Hack, Thomas G. Extensions of the concept of regular synthesis as a sufficient conditon for optimality. *SIAM J. Control* **11** (1973), 358–374. (L. D. Berkovitz) **48** #989 49B10 (90D25)

Hackbusch, Wolfgang Extrapolation applied to certain discretization methods solving the intitial value problem for hyperbolic differential equations. *Numer. Math.* **28** (1977), *no.* 2, 121–142. (Sean McKee) **58** #13756 65M99 (65–04)

Extrapolation to the limit for numerical solutions of hyperbolic equations. *Numer. Math.* **28** (1977), *no.* 4, 455–474. (Author's summary) **56** #13679 65M25

A fast iterative method for solving Poisson's equation in a general region. *Numerical treatment of differential equations* (*Proc. Conf., Math. Forschungsinst., Oberwolfach*, 1976), *pp.* 51–62. *Lecture Notes in Math., Vol.* 631, *Springer, Berlin*, 1978. (O. Widlund) **58** #3522 65N05

On a method of characteristics for solving a hyperbolic equation of second order. (German summary) *Computing* **20** (1978), *no.* 1, 47–60. (Hans J. Stetter) **58** #3514 65M25 (65N15)

Hackenbroch, Wolfgang Integraldarstellung einer Klasse dissipativer linearer Operatoren. *Math. Z.* **109** (1969), 273–287. (See Zbl **179**, 179) 47B44

Extremale Sesquilinearformen und der Satz von Bochner-Schwartz. *Arch. Math.* (*Basel*) **22** (1971), 401–411. (Colin C. Graham) **45** #9150 46K99

Zur Darstellungstheorie σ-vollständiger Vektorverbände. *Math. Z.* **128** (1972), 115–128. (W. A. J. Luxemburg) **48** #2718 46A40

Zum Radon-Nikodymschen Satz für positive Vektormasse. *Math. Ann.* **206** (1973), 63–65. (C. W. Swartz) **48** #2340 28A45

Eindeutigkeit des Darstellungsraumes von Vektorverbänden. *Math. Z.* **135** (1973/74), 285–288. (N. Popa) **50** #937 46A40

Über den Freudenthalschen Spektralsatz. (English summary) *Manuscripta Math.* **13** (1974), 83–99. (Benno Fuchssteiner) **50** #5415 46A40

Non commutative integration in spectral theory. *Measure theory* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 309–321. *Lecture Notes in Math., Vol.* 541, *Springer, Berlin*, 1976. (S. Gudder) **57** #10428 46G99 (46L10, 81.46)

Representation of vector lattices by spaces of real functions. *Functional analysis: surveys and recent results* (*Proc. Conf., Paderborn*, 1976), *pp.* 51–72. *North-Holland Math. Studies, Vol.* 27; *Notas de Mat., No.* 63, *North-Holland, Amsterdam*, 1977. (R. J. Nagel) **58** #2141 46A40

Spektraltheorie im Hilbertraum. *Jahrbuch Überlicke Mathematik*, 1977, *pp.* 61–72. *Bibliographisches Inst., Mannehim*, 1977. (Richard E. Frankfurt) **56** #16425 47B15 (47–01)

Hackenbroich, H. H. (*with* Seligman, Thomas H.; Zahn, W.) Analytic methods for refined resonating group calculations. I. Reduction to cluster modes. *Helv. Phys. Acta* **50** (1977), *no.* 5, 723–740. (S. N. Biswas) **57** #14966 81.20

Hacker, F. (*with* Simpson, R. Bruce) Multiple positive solutions of spherically symmetric nonlinear boundary value problems. *J. Math. Anal. Appl.* **43** (1973), 357–372. (Clarence M. Ablow) **48** #6661 35J25

Hacker, Günter (*with* Hild, Claus) A note on criteria for price index systems. *Theory and* *applications of economic indices* (*Proc. Internat. Sympos., Univ. Karlsruhe, Karlsruhe*, 1976), *pp.* 245–255. *Physica-Verlag, Würzburg*, 1978. (Authors' summary) **58** #15049 90A15

Hackevič, R. P. On the geometry of two-dimensional surfaces in a four-dimensional affine space. (Russian) *Mathematics* (*Russian*), *pp.* 53–57. *Gos. Ped. Inst. im. A. M. Gor′kogo, Minsk*, 1974. (From the text) **58** #30779 53A15

Hackevič, V. A. The invariant subspaces of certain classes of linear operators in normed spaces with an indefinite metric. (Russian) *Mat. Issled.* **6** (1971), *no.* 3(21), 133–147. (E. Durszt) **45** #2517 47A15 (46B10, 46D05)

Plus operators in normed spaces with indefinite metric. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 5(167), 255–256. (Björn Textorius) **53** #3785 47B50

Certain geometric and topological properties of normed spaces with indefinite metric. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 6(133), 97–102. (J. Bognár) **50** #5436 46D05

(*with* Senderov, V. A.) Normed J_ν-spaces, and certain classes of linear operators in these spaces. (Russian) *Mat. Issled.* **8** (1973), *no.* 3(29), 56–75, 180. (J. Bognár) **50** #5437 46D05 (47B50)

The plus-operators in a Hilbert *J*-space. (Russian) *Mat. Issled.* **9** (1974), *no.* 2(32), 182–203, 253–254. (T. Ja. Azizov) **50** #2991 47B50

Fixed points of generalized linear-fractional transformations. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 5, 1130–1141, 1220. (T. Ja. Azizov) **53** #8958 47B50 (47H10)

J-semiunitary operators in a Hilbert *J*-space. (Russian) *Mat. Zametki* **17** (1975), *no.* 4, 639–647. (H. Langer) **54** #3489 47B50

An application of the contraction mapping principle to the theory of operators in a space with indefinite metric. (Russian) *Funkcional. Anal. i Priložen.* **12** (1978), *no.* 1, 88–89. (H. Langer) **58** #17946 47B50 (47A15)

Hackevič, V. H. (*with* Gabašvili, N. V.) On the question of matrix arithmetic of nonpositional systems. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **61** (1971), 405–408. (C. Reischer) **47** #1321 68A10

Non-orthogonal basic systems of non-positional representations of numbers. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **61** (1971), 565–568. (A. Mąkowski (Zbl **213**, 53)) **46** #1152 68A50

Minibasis models of nonpositional systems. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **17**, *no.* 2 *Mat. Tehn. Kibernetika* (1977), 58–94. (RŽMat **1978** #6 V938) **58** #19329 68A10 (10A30)

(*with* Čačanašvili, A. R.) Basis representations for a class of nonpositional systems. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **17** *no.* 2, *Mat. Tehn. Kibernetika* (1977), 95–105. (Editors) **58** #21919 10A30 (68A15)

Hackevič, V. P. Asymptotic behavior of the solutions of linear differential-difference equations. (Russian) *Collection of scientific works of graduates, No.* 7: *Mathematics, mechanics, physics* (*Russian*), *pp.* 104–118. *Univ. Družby Narodov, Moscow*, 1970. (M. Švec) **45** #2287 34K20

On the problem of the analytical design of regulators for distributed-parameter systems under boundary-function control. *Prikl. Mat. Meh.* **35** (1971), 598–608 (*Russian*); *translanted as J. Appl. Math. Mech.* **35** (1971), 548–558 (1972). (From the author's summary) **49** #2163 93C20

An approximate solution of the problem of the analytic design of regulators for systems with distributed parameters when the boundary functions are controlled. (Russian) *Collection of scientific works of postgraduates, No. XI*: *Mathematics and physics* (*Russian*), *pp.* 44–53. *Univ. Družby Narodov, Moscow*, 1972. (V. N. Igolkin) **48** #9489 49A20

Solution of the problem of analytical controller design for systems with distributed parameters. I. *Avtomat. i Telemeh.* **1972**, *no.* 3, 5–14 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 3, *part* 1, 349–358. (Guy Jumarie) **54** #9771 93C20

Solution of the problem of analytical controller design for systems with distributed parameters. II. *Avtomat. i Telemeh.* **1972**, *no.* 5, 5–13 (*Russian. English summary*); *translated as Automat. Remote Control* **1972**, *no.* 5, *part* 1, 707–715. (Guy Jumarie) **54** #9772 93C20

Hacking, Ian Jacques Bernoulli's *Art of conjecturing*. *British J. Philos. Sci.* **22** (1971), 209–229. (D. A. Sprott) **57** #4376 62–03 (01A50, 60–03)

Propensities, statistics and inductive logic. *Logic, methodology and philosophy of science, IV* (*Proc. Fourth Internat. Congress, Bucharest*, 1971), *pp.* 485–500. *Studies in Logic and Foundations of Math., Vol.* 74, *North-Holland, Amsterdam*, 1973. (David W. Miller) **56** #13405 62A99 (02A05)

Infinite analysis. *Studia Leibnitiana* **6** (1974), 126–130. (Editors) **58** #26886 01A45 (02–03)

★The emergence of probability. A philosophical study of early ideas about probability, induction and statistical inference. *Cambridge University Press, London-New York*, 1975. vi + 209 *pp.* (H. L. Seal) **57** #7715 60–03 (01A50, 01A99)

A Leibnizian space. *Dialogue* **14** (1975), 89–100. (Editors) **58** #4989 02A05

★Logic of statistical inference. First paperback edition. *Cambridge University Press, Cambridge-New York-Melbourne*, 1976. ix + 232 *pp.* (Editors) **52** #12128 62Axx

Do-it-yourself semantics for classical sequent calculi, including ramified type theory. *Logic, foundations of mathematics and computability theory* (*Proc. Fifth Internat. Congr. Logic, Methodology and Philos. Sci., Univ. Western Ontario, London, Ont.*, 1975), *Part I*, *pp.* 371–390. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 9, *Reidel, Dordrecht*, 1977. (W. Rautenberg) **58** #16128 02B15 (02D99)

See also **Wiggins, David**, **58** #16113

Hackl, Clemens E. ★Schaltwerk- und Automatentheorie. I. Sammlung Göschen, Band 6011. *Walter de Gruyter, Berlin-New York*, 1972. 157 *pp.* (I. Peák) **50** #1773 94A20 (68–01)

★Schaltwerk- und Automatentheorie. II. Sammlung Göschen, Band 7011. *Walter de Gruyter, Berlin-New York*, 1973. 152 *pp.* (I. Peák) **50** #1774 94A20 (68–01)

See also **Programming methodology**, **53** #14957

Hackl, P. Simultane Inferenz von Abweichungen zwischen beobachteten und erwarteten Häufigkeiten aus Multinomialverteilungen. (English summary) *Biometrische Z.* **17** (1975), *no.* 7, 437–445. (Emil Spjøtvoll) **53** #4404 62J15 (62F25)

Hackler, Donald Compact groups of real power need not be metrizable. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 1, 187. (Hans-Christian Reichel) **56** #1271 54E35 (02G05, 02K30, 22C05, 20K45)

Hacon, D. D. J. Some embeddings of spheres in projective space. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 102–105. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (J. P. Levine) **49** #3979 57D40

Iterated torus knots. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 1, 57–60. (Louis H. Kauffman) **53** #11621 57C45 (32C40)

Hacque, Michel Localisations et schémas affines. *Publ. Dép. Math.* (*Lyon*) **7** (1970), *no.* 2, 1–114. (*loose errata*) (R. T. Hoobler) **45** #8698 18F05 (13D99)

Caractérisations générales des localisations. *Publ. Dép. Math.* (*Lyon*) **7** (1970), *no.* 4, 45–103. (Dorian Spulber) **50** #404 16A62

Une propriété des localisations plates. *Publ. Dép. Math.* (*Lyon*) **7** (1970), *no.* 4, 103–123. (Dorian Spulber) **50** #405 16A62

Quelques remarques sur les triples. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 661–663. (J. Duskin) **51** #3257 18C15

Factorisation des homomorphismes d'anneaux plats à gauche. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1391–1394. (J.-P. Lafon) **50** #2253 16A62

Triples et exactitudes. *Publ. Dép. Math.* (*Lyon*) **11** (1974), *no.* 1, 84–100. (R. M. Fossum) **53** #5697 18E10

See also **Séminaire: Algèbre Non Commutative**, **48** #5782

Hacyan, Shahen (*with* Plebański, Jerzy F.) Some type III solutions of the Einstein-Maxwell equations. *Internat. J. Theoret. Phys.* **14** (1975), *no.* 5, 319–326. (Shin-ichi Kitamura) **53** #12472 83.53

(*with* Plebański, Jerzy F.) Null geodesic surfaces and Goldberg-Sachs theorem in complex Riemannian spaces. *J. Mathematical Phys.* **16** (1975), *no.* 12, 2403–2407. (John Wainwright) **52** #9966 83.53

(*with* Plebański, Jerzy F.) Some basic properties of Killing spinors. *J. Mathematical Phys.* **17** (1976), *no.* 12, 2203–2206. (J. D. Zund) **54** #13754 53A50

Hada, Dennis (*with* Sario, Leo; Wang, Cecilia Y.) Dirlichlet finite biharmonic functions on the Poincaré *N*-ball. *Bull. Amer. Math. Soc.* **79** (1973), 914–915. (H. Wu) **49** #7467 31B30 (53C20)

(*with* Sario, Leo; Wang, Cecilia Y.) Dirichlet finite biharmonic function on the Poincaré *N*-ball. *J. Reine Angew. Math.* **272** (1974), 92–101. (J. Lelong-Ferrand) **52** #1564 53C20 (31B20)

(*with* Sario, Leo; Wang, Cecilia Y.) Bounded biharmonic functions on the Poincaré *N*-ball. *Kōdai Math. Sem. Rep.* **26** (1974/75), 327–342. (J. Ferrand) **53** #13602 31B30

(*with* Sario, Leo; Wang, Cecilia Y.) *N*-manifolds carrying bounded but no Dirichlet finite harmonic functions. *Nagoya Math J.* **54** (1974), 1–6. (W. H. Ow) **52** #8454 31B05

A relation between two biharmonic Green's functions on Riemannian manifolds. *Trans. Amer. Math. Soc.* **227** (1977), 251–261. (Lung Ock Chung) **55** #3288 31C10

Hadamard, Jacqueline *See* **Hadamard, Jacques**, **51** #10002

Hadamard, Jacques ★Essai sur la psychologie de l'invention dans le domaine mathématique. Traduit de l'anglais par Jacqueline Hadamard. Collection "Discours de la Méthode". *Gauthier-Villars, Paris*, 1975. 135 *pp.* (Editors) **51** #10002 00A25

See also **Gonseth, Ferdinand**, **50** #1802; **Poincaré, Henri**, **52** #2804 *and* **Gray, J. D.**, **58** #20982

Hadano, Toshihiro Remarks on the conductor of an elliptic curve. *Proc. Japan Acad.* **48** (1972), 166–167. (J. W. S. Cassels) **47** #230 14K15 (14G10)

On the conductor of an elliptic curve with a rational point of order 2. *Nagoya Math. J.* **53** (1974), 199–210. (M. Bašmakov) **50** #7151 14G05 (14K15)

Conductor of elliptic curves with complex multiplication and elliptic curves of prime conductor. *Proc. Japan Acad.* **51** (1975), 92–95. (M. Bašmakov) **51** #8124 14K22 (10D05)

On the Diophantine equation $a^x = b^y + c^z$. *Math. J. Okayama Univ.* **19** (1976/77), *no.* 1, 25–29. (David Lee Hilliker) **55** #5526 10B25

Elliptic curves with a torsion point. *Nagoya Math. J.* **66** (1977), 99–108. (J. Blass) **58** #10935 14K15 (14G25)

Hadar, Josef (*with* Russell, William R.) Stochastic dominance and diversification. *J. Econom. Theory* **3** (1971), *no.* 3, 288–305. (From the authors' introduction) **56** #10810 90A15 (90A05)

Haddad, Abraham (*with* Sundararajan, N.; Cruz, José B., Jr.) ε-coupling method for near-optimum design of large-scale linear systems. *Proc. Inst. Elec. Engrs.* **117** (1970), 223–224. (R. F. Albrecht) **47** #1487 93A15

(*with* Kelsey, D. W.) Detection and prediction of a stochastic process having multiple hypotheses. *Information Sci.* **6** (1973), 301–311. (E. Parzen) **51** #15112 93E10

(*with* Kokotović, Petar V.) Controllability and time-optimal control of systems with slow and fast modes. *Proceedings of the* 1974 *IEEE Conference on Decision and Control including* 13*th Symposium on Adaptive Processes* (*Phoenix, Ariz.*, 1974), *pp.* 179–184. *Inst. Electr. Electron. Engrs., New York*, 1974. (Authors' summary) **56** #17951 93B05 (93C45)

(*with* Kelsey, D. W.) Minimax predictors for signals having a bounded *k*th derivative. *J. Franklin Inst.* **297** (1974), 29–44. (K. S. Miller) **53** #15513 93E10 (94A05)

(*with* Albrecht, Felix; Gatzke, Harry; Wax, Nelson) The dynamics of two interacting populations. *J. Math. Anal. Appl.* **46** (1974), 658–670. (N. Keyfitz) **49** #6955 92A15

(*with* Kokotović, Petar V.) Controllability and time-optimal control of systems with slow and fast modes. *IEEE Trans. Automatic Control* **AC-20** (1975), 111–113. (V. A. Plotnikov) **56** #1182 49E15

Linear filtering of singularly perturbed systems. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 4, 515–519. (Author's summary) **56** #15033 93E10

(*with* Albrecht, Felix; Gatzke, Harry; Wax, Nelson) On the control of certain interacting populations. *J. Math. Anal. Appl.* **53** (1976), *no.* 3, 578–603. (K. Dietz) **53** #5042 92A15 (93C15, 49A35, 49E30)

(*with* Tugnait, J. K.) On state estimation for uncertain discrete-time systems.

Proceedings of the 1977 *IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 603–608. *Inst. Electrical Electron. Engrs., New York*, 1977. (Authors' summary) **58** #20737 93E10

(*with* Kokotović, Petar V.) Stochastic control of linear singularly perturbed systems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 815–821. (Authors' summary) **56** #15087 93E20

(*with* Sebald, A. V.) Robust state estimation in uncertain systems: combined detection-estimation with incremental MSE criterion. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 821–825. (Hironao Kawashima) **58** #26453 93E10 (62N15)

(*with* Hildebrand, H. A.) Nonlinear distributed filters for the estimation of insect population densities. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no.* 10, 754–758. (W. J. Padgett) **56** #11089 92A15

(*with* Sebald, A. V.) State estimation for singularly perturbed systems with uncertain perturbation parameter. *IEEE Trans. Automat. Control* **23** (1978), *no.* 3, 464–469. (Authors' summary) **58** #26454 93E10

See also **Nonlinear systems: processing of random signals–classical analysis, 55** #5303

Haddad, David C. Asymptotic values of finitely valent functions. *Duke Math. J.* **39** (1972), 361–367. (B. G. Eke) **45** #3712 30A72

Holomorphic functions with linearly accessible asymptotic values. *Michigan Math. J.* **19** (1972), 357–360. (D. C. Rung) **47** #8864 30A72

Boundary behavior and quasi-normality of finitely valent holomorphic functions. *Canad. J. Math.* **25** (1973), 812–819. (B. G. Eke) **48** #4320 30A74

Angular limits of locally finitely valent holomorphic functions. *Pacific J. Math.* **48** (1973), 107–112. (B. G. Eke) **48** #8802 30A72

Level curves and asymptotic tracts of holomorphic functions. *Proc. West Virginia Acad. Sci.* **46** (1974), *no.* 2, 180–182. (M. Hervé) **52** #14299 30A72

Haddad, Emile K. New criteria for bounded-input-bounded-output and asymptotic stability of nonlinear systems. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and non-linear systems*; *Identification, differential games, discrete and stochastic systems, Paper No.* 32.2, 8 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 [1972]. (I. H. Mufti) **51** #5109 93D99

Stability of non-linear feedback systems with time-varying linear sub-system (plant). *Internat. J. Control* (1) **18** (1973), 1077–1103. (B. J. Leon) **49** #8717 93D99

A criterion for the bounded-input, bounded-output stability of time-varying nonlinear systems. *SIAM J. Control* **11** (1973), 286–305. (Jan C. Willems) **48** #1760 93D10

A counter-example to a criterion on the finite response of feedback systems. *Internat. J. Control* **23** (1976), *no.* 68 885–886. (S. E. Dreyfus) **54** #4757 93C10

On the dynamic response and stability of sampled-data non-linear time-varying feedback systems. *Internat. J. Control* **24** (1976), *no.* 3, 405–422. (Kunihiko Ichikawa) **56** #11323 93D15

Haddad, Georges (*with* Baillon, Jean-Bernard) Quelques propriétés des opérateurs angle-bornés et *n*-cycliquement monotones. (English summary) *Israel J. Math.* **26** (1977), *no.* 2, 137–150. (Authors' summary) **58** #17949 47D05 (47H05)

Haddad, Labib Sur quelques points de topologie générale. Théorie des nasses et des tramails. *Ann. Fac. Sci. Univ. Clermont-Ferrand No.* 44 (1970), 5–80. (L. Gillman) **46** #841 54A05

(*with* Fakir, Sabah) Objets cohérents et ultraproduits dans les catégories. *J. Algebra* **21** (1972), 410–421. (B. Stenström) **47** #304 18E15

Topologie générale et espaces d'ultrafiltres. *Ann. Sci. Univ. Clermont No.* 54 *Math. No.* 10 (1975), 1–23. (N. Hindman) **53** #9152 54D35

Sur trois questions de Grimeisen en topologie générale. *Ann. Sci. Univ. Clermont No.* 57 *Math. No.* 11 (1975), 1–15. (Don A. Mattson) **54** #8542 54A20

Haddad, Richard A. (*with* Sarma, G. N.) Stability of discrete-time systems with periodic coefficients. *Eleventh Joint Automatic Control Conference of the American Automatic Control Council* (*Georgia Inst. Tech., Atlanta, Ga.*, 1970), *pp.* 125–128. *Amer. Soc. Mech. Engrs., New York*, 1970. (Authors' summary) **45** #7332 39A12 (93C55)

A class of orthogonal nonrecursive binomial filters. *IEEE Trans. Audio Electroacoust.* **AU-19** (1971), *no.* 4, 296–304. (Author's summary) **56** #11372 93E10 (94A05)

See also **Weiner, L. B., 57** #9270

Hadden, W. James, Jr. (*with* Mintzer, David) Test of the Born and Rytov approximations using the Epstein problem. *J. Acoust. Soc. Amer.* **63** (1978), *no.* 5, 1279–1286. (Authors' summary) **58** #14390 76.41

Haddix, George F. (*with* Mordeson, John N.; Vinograde, Bernard) On the two main intermediate field towers of purely inseparable extensions. *Math. Z.* **119** (1971), 21–27. (G. H. Wenzel) **48** #8461 12F15

Haddock, A. G. (*with* Seshadri, Vanamamalai) Bivariate probability distributions satisfying a certain summability condition. *Sankhyā Ser. A* **37** (1975), *no.* 1, 113–120. (Barry C. Arnold) **55** #11499 62H05

Haddock, John R. Some refinements of asymptotic stability theory. *Ann. Mat. Pura Appl.* (4) **89** (1971), 393–401. (S. Leela) **46** #9468 34D20

Liapunov functions and boundedness and global existence of solutions. *Applicable Anal.* **2** (1972/73), 321–330. (Hans-Otto Walther) **52** #14508 34D20

(*with* Grimmer, Ronald) Stability of bounded and unbounded sets for ordinary differential equations. *Ann. Mat. Pura Appl.* (4) **99** (1974), 143–153. (R. F. Datko) **50** #10458 34D20

On Liapunov functions for nonautonomous systems. *J. Math. Anal. Appl.* **47** (1974), 599–603. (T. A. Burton) **50** #7703 34D20

On the asymptotic behavior of solutions of $x'(t) = -a(t)f(x(t-r(t)))$. *SIAM J. Math. Anal.* **5** (1974), 569–573. (N. Onuchic) **50** #732 34K20

(*with* Burton, T. A.) The equation $x''(t)+a(t)x(t-r(t))=0$. *Differential equations* (*Third Mexico-U.S. Sympos., Mexico City*, 1975) (*Spanish*), *pp.* 177–184. *Math. Notes and Sympos., Vol.* 2, *Fondo de Cultura Económ., Mexico City*, 1976. (K. Schmitt) **57** #16911 34K15

Stability theory for nonautonomous systems. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. II, pp.* 271–274. *Academic Press, New York*, 1976. (Editors) **58** #28898 34D10

(*with* Burton, T. A.) On solutions tending to zero for the equation $x''(t)+a(t)x(t-r(t))=0$. *Arch. Math.* (*Basel*) **27** (1976), *no.* 1, 48–51. (Robert M. Bullock) **56** #12498 34K15

Some new results on stability and convergence of solutions of ordinary and functional differential equations. *Funkcial. Ekvac.* **19** (1976), *no.* 3, 247–269. (Thomas S. Angell) **56** #12514 34K20 (34D20)

(*with* Burton, T. A.) On the delay-differential equations $x'(t)+a(t)f(x(t-r(t)))=0$ and $x''(t)+a(t)f(x(t-r(t)))=0$. *J. Math. Anal. Appl.* **54** (1976), *no.* 1, 37–48. (N. Onuchic) **53** #3464 34K20

(*with* Bernfeld, Stephen R.) A variation of Razumikhin's method for retarded functional differential equations. *Nonlinear systems and applications* (*Proc. Internat. Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp.* 561–566. *Academic Press, New York*, 1977. (A. B. Kuržanskiĭ) **57** #16917 34K20

Asymptotic behavior of solutions of nonlinear functional differential equations in Banach space. *Trans. Amer. Math. Soc.* **231** (1977), *no.* 1, 83–92. (V. Lakshmikantham) **56** #786 34G05 (34K20)

Haddon, E. W. (*with* Chadwick, P.) Inflation-extension and eversion of a tube of incompressible isotropic elastic material. *J. Inst. Math. Appl.* **10** (1972), 258–278. (A. J. M. Spencer) **49** #4397 73.65

Haddow, J. B. (*with* Barclay, D. W.; Moodie, T. Bryant) Waves in thin-walled, nonuniform, perfectly elastic tubes containing incompressible inviscid fluid. *J. Acoust. Soc. Amer.* **62** (1977), *no.* 1, 1–7. (D. R. Bland) **56** #1872 73.35

(*with* Mioduchowski, A.) Expansion of a thin walled hyperelastic spherical shell. *Z. Angew. Math. Mech.* **58** (1978), *no.* 3, 168–169. (M. N. L. Narasimhan) **58** #19657 73.65

Hadeler, K. P. ★Mathematik für Biologen. Heidelberger Taschenbücher, Band 129. *Springer-Verlag, Berlin-New York*, 1970. ix + 232 *pp.* (Editors) **53** #15027 69.00

Non-quadratic variational problems. *Aequationes Math.* **7** (1971), 199–210. (C. R. Putnam) **46** #688 47A50 (49G20)

Existenz- und Eindeutigkeitssätze für inverse Eigenwertaufgaben mit Hilfe des topologischen Abbildungsgrades. *Arch. Rational Mech. Anal.* **42** (1971), 317–322. (A. Lee) **49** #5050 15A60

Bemerkungen zum Gradientenverfahren. (English summary) *Numer. Math.* **18** (1971/72), 413–422. (H. Weber) **46** #4331 49D10

Bemerkung zu einer Arbeit von W. Wetterling über positive Operatoren. *Numer. Math.* **19** (1972), 260–265. (B. Levinger) **46** #4716 65J05

Selektionsmodelle in der Populationsgenetik. *Methoden und Verfahren der mathematischen Physik, Band* 9, *pp.* 137–160. *Bibliographisches Inst., Mannheim*, 1973. (D. Ludwig) **51** #15039 92A10

Remarks on Haar systems. *J. Approximation Theory* **7** (1973), 59–62. (James Lewis) **49** #7667 41A50

(*with* Braess, Dietrich) Simultaneous inclusion of the zeros of a polynomial. *Numer. Math.* **21** (1973/74), 161–165. (J. Vandergraft) **50** #1491 65H05

On a class of nonlinear eigenvalue problems. Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys.* **15** (1974), *no.* 1-2, 35–38. (Jerome Eisenfeld) **53** #4528 65J05 (47H99)

On the equilibrium states in certain selection models. *J. Math. Biol.* **1** (1974), *no.* 1, 51–56. (L. A. Bunimovič) **51** #5056 92A10

(*with* an der Heiden, Uwe; Rothe, F.) Nonhomogeneous spatial distributions of populations. *J. Math. Biol.* **1** (1974/75), *no.* 2, 165–176. (John M. Chadam) **52** #16721 92A15 (35K55)

On the theory of lateral inhibition. (German summary) *Kybernetik* (*Berlin*) **14** (1974), *no.* 3, 161–165. (M. Z. Nashed) **49** #9696 47H15 (68A45)

Nonlinear eigenvalue problems. *Numerische Behandlung von Differentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1974), *pp.* 111–129. *Internat. Schriftenreihe Numer. Math., Band* 27, *Birkhäuser, Basel*, 1975. (S. Fučík) **53** #9015 49G05 (47A55, 47H15)

(*with* Liberman, Uri) Selection models with fertility differences. *J. Math. Biol.* **2** (1975), *no.* 1, 19–32. (Edward Pollak) **55** #7463 92A10

(*with* Rothe, F.) Travelling fronts in nonlinear diffusion equations. *J. Math. Biol.* **2** (1975), *no.* 3, 251–263. (John M. Chadam) **53** #15423 92A15 (35K55)

Nonlinear diffusion equations in biology. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 163–206. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #26131 92A05

Travelling population fronts. *Population genetics and ecology* (*Proc. Conf., Israel*, 1975), *pp.* 585–592. *Academic Press, New York*, 1976. (R. Fischler) **55** #7467 92A15

(*with* an der Heiden, Uwe; Schumacher, Konrad) Generation of the nervous impulse and periodic oscillations. *Biol. Cybernet.* **23** (1976), *no.* 4, 211–218. (J. Myron Hood) **58** #15279 92A05

On the stability of the stationary state of a population growth equation with time-lag. *J. Math. Biol.* **3** (1976), *no.* 2, 197–201. (J. M. Cushing) **53** #12646 92A15 (34K20)

Some aspects of the mathematics of limulus. *Optimal estimation in approximation theory* (*Proc. Internat. Sympos., Freudenstadt*, 1976), *pp.* 241–257. *Plenum, New York*, 1977. (O. Gürel) **58** #9373 92A05

(*with* Tomiuk, J.) Periodic solutions of difference-differential equations. *Arch. Rational Mech. Anal.* **65** (1977), *no.* 1, 87–95. (T. G. Proctor) **56** #799 34K15

See also **Numerische Behandlung von Eigenwertaufgaben, 50** #3516 *and* **Numerik und Anwendungen von Eigenwertaufgaben und Verzweigungsproblemen, 56** #13504

Haden, Richard L. (*with* Schulman, Robert S.) A test theory model for ordinal measurements. *Psychometrika* **40** (1975), *no.* 4, 455–472. (Authors' summary) **58** #8121 62P15

Hader, R. J. (*with* Côté, Robert; Manson, A. R.) Minimum bias approximation of a general regression model. *J. Amer. Statist. Assoc.* **68** (1973), 633–638. (Mir Ali) **50** #11641 62J05

Hadgopoulos, Demetrius John A note on Aristotle's notions of universality and necessity. *Logique et Analyse* (*N.S.*) **18** (1975), *no.* 69–70, 171–174. (K. Inoue) **53** #88 02–03

Hadian, A. (*with* Sobel, Milton) Selecting the *t*th largest using binary errorless comparisons. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred,* 1969), *pp*. 585–599. *North-Holland, Amsterdam*, 1970. (S. G. Mohanty) **47** #49 05A20

Hadidi, Nasser On the "output" process of a state dependent queue. *Skand. Aktuarietidskr*. **1972**, 182–186 (1973). (Author's summary) **54** #6321 60K25

A note on generalized birth-death processes. (French summary) Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 1. *Bull. Inst. Internat. Statist*. **45** (1973), *no*. 1, 487–491. (Anthony G. Pakes) **51** #7024 60J80

Linearly state dependent queues. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *pp*. 303–308. *Colloq. Math. Soc. János Bolyai, Vol*. 9, *North-Holland, Amsterdam*, 1974. (Micha Yadin) **51** #11704 60K25

Busy period of queues with state dependent arrival and service rates. *J. Appl. Probability* **11** (1974), 842–848. (Brian W. Conolly) **50** #11520 60K25

A basically Poisson queue with non-Poisson output. *Naval Res. Logist. Quart*. **21** (1974), 659–662. (H. L. Seal) **51** #2009 60K25

A queueing model with variable arrival rates. *Period. Math. Hungar*. **6** (1975), 39–47. (Brian Conolly) **51** #11705a 60K25

Hadinger, G. (*with* Bessis-Mazloum, Nadine; Bessis, G.) Off-diagonal hydrogenic r^k integrals by a ladder-operator procedure. *Phys. Rev. A* (3) **8** (1973), 2246–2248. **50** #15663 81.34

(*with* Bessis-Mazloum, Nadine; Bessis, G.) Closed-form expressions of matrix elements and eigenfunctions from ladder-operator considerations. *J. Mathematical Phys*. **15** (1974), 716–726. (Z. Janković) **49** #10275 81.34

(*with* Bessis-Mazloum, Nadine; Bessis, G.; Dakhel, B.) The perturbed ladder operator method—analytical determination of the generalised central field energies and wavefunctions. *J. Phys. A* **11** (1978), *no*. 3, 467–483. (Authors' summary) **57** #15057 81.47

Hadîrcă, Iacob On a geometrical transformation. (Romanian) *Gaz. Mat. Publ. Lunară Pentru Tineret* **81** (1976), *no*. 1, 7–9. (L. Bitay) **52** #15210 50B05

Hadjiat, M. Construction et étude axiomatique d'une procédure d'agrégation des préférences individuelles. *Math. Sci. Humaines No*. 52 (1975), 21–34. (Maurice Salles) **53** #15293 90A05 (92A20)

Hadjidemetriou, John D. Variational equations of Hamiltonian systems with two degrees of freedom. (French summary) *J. Mécanique* **10** (1971), 433–448. (Djordje Djukic) **51** #2389 70.34

All order stability of Hamiltonian systems with two degrees of freedom. (French summary) *J. Mécanique* **12** (1973), 1–24. (Author's summary) **57** #8244 70.34 (34D10)

A note on the analytic continuation of periodic orbits. (Greek summary) *In honor of Stavros M. Plakidis* (*special vol. dedicated to his* 80*th birthday*), *pp*. 385–394. *Zisuli, Athens*, 1974. (R. H. Wilson, Jr.) **50** #3688 70.34 (85.34)

The continuation of periodic orbits from the restricted to the general three-body problem. *Celestial Mech*. **12** (1975), *no*. 2, 155–174. (C. Marchal) **52** #7243 70.34

(*with* Christides, Th.) Families of periodic orbits in the planar three-body problem. *Celestial Mech*. **12** (1975), *no*. 2, 175–187. (C. Marchal) **52** #7244 70.34

The stability of periodic orbits in the three-body problem. *Celestial Mech*. **12** (1975), *no*. 3, 255–276. (C. Marchal) **52** #7245 70.34

Families of periodic planetary-type orbits in the three-body problem and their stability. *Astrophys. and Space Sci*. **40** (1976), *no*. 1, 201–224. (Donald G. Saari) **54** #9203 70.34 (85.34)

(*with* Bozis, George) On the continuation of periodic orbits from the restricted to the general three-body problem. *Celestial Mech*. **13** (1976), *no*. 2, 127–136. (C. J. Brookes) **53** #9771 70.34

The existence of families of periodic orbits in the N-body problem. *Celestial Mech*. **16** (1977), *no*. 1, 61–76. (A. Vanderbauwhede (Zbl **366** #70007)) **58** #25223 70.58 (58F05)

Hadjidimos, Apostolos Extrapolated alternating direction implicit methods for solving the biharmonic equation in three space variables. *Bull. Soc. Math. Grèce* (*N.S.*) **12** (1971), *no*. 1, 138–153. (H.-O. Kreiss) **51** #9518 65N20

The numerical solution of a model problem biharmonic equation by using extrapolated alternating direction implicit methods. *Numer. Math*. **17** (1971), 301–317. (D. M. Young, Jr.) **46** #8437 65N10

Three-level alternating direction implicit iterative methods for solving the Dirichlet problem. *Bull. Soc. Math. Grèce* (*N.S.*) **13** (1972), *no*. 1-2, 214–232. (H.-O. Kreiss) **50** #15373 65N05

(*with* Iordanidis, Kosmas) Solving Laplace's equation in a rectangle by alternating direction implicit methods. *J. Math. Anal. Appl*. **48** (1974), 353–367. (J. R. Kuttler) **50** #9008 65N20

(*with* Avdelas, G.) High accuracy extrapolated alternating direction implicit methods for the numerical solution of Neumann problem in the 2- and 3-dimensional cases. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 29–37. (G. T. Symm) **51** #11987 65N10

(*with* Avdelas, G.) On improving the convergence rates of extrapolated alternating direction implicit schemes. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **16** (1976), *no*. 4, 363–373. (D. M. Young, Jr.) **55** #11641 65N10

On comparing optimum alternating direction preconditioning and extrapolated alternating direction implicit schemes. *J. Math. Anal. Appl*. **59** (1977), *no*. 3, 573–586. (H.-O. Kreiss) **55** #13819 65N20

Accelerated overrelaxation method. *Math. Comp*. **32** (1978), *no*. 141, 149–157. (Eugene L. Wachspress) **58** #3353 65F10

Hadjiivanov, N. G. *See* **Hadžiivanov, Nikolaĭ G.**

Hadjikonstantinou, P. (*with* Jannussis, A. D.) Relativistic motion of an electron in uniform external electric and magnetic fields. *Fizika* (*Zagreb*) **7** (1975), *no*. 4, 177–186. (G. P. Bava) **57** #2270 81.35

Hadley, G. (*with* Kemp, Murray C.) ★Variational methods in economics. Advanced Textbooks in Economics, Vol. 1. *North-Holland Publishing Co., Amsterdam-London*; *American Elsevier Publishing Co., Inc., New York*, 1971. ix+378 *pp*. (S. Cruceanu) **49** #8603 90Axx

Hadlock, Charles R. Existence and dependence on a parameter of solutions of a nonlinear two point boundary value problem. *J. Differential Equations* **14** (1973), 498–517. (Jerome Eisenfeld) **48** #4440 34E15 (34B15)

Asymptotic performance of near-optimum controls obtained by regular and singular perturbations. *J. Math. Anal. Appl*. **61** (1977), *no*. 1, 292–301. (V. L. Bakke) **57** #17461 49B50

Hadlock, E. H. (*with* Moore, T. O.) A new definition of reduced binary quadratic form. *J. Natur. Sci. and Math*. **11** (1971), 257–263. (D. G. James) **46** #5245 10C05

Hadlock, Frank O. The minimal 2-coloration problem. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla*., 1972), *pp*. 221–241. *Florida Atlantic Univ., Boca Raton, Fla*., 1972. (B. Manvel) **50** #160 05C15

Partitioning related sets. *Proceedings of the Fourth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla*., 1973), *pp*. 309–328. *Utilitas Math., Winnipeg, Man*., 1973. (Jaroslav Nešetřil) **52** #13503 05C99

Minimum spanning forests of bounded trees. *Proceedigs of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla*., 1974), *pp*. 449–460. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man*., 1974. (H. V. Kronk) **50** #9648 05C05

(*with* Hoffman, Frederick) Block patterns and routing. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla*., 1975), *pp*. 385–399. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man*., 1975. (I. M. Stancu-Minasian) **53** #2343 90B35 (05Bxx)

Finding a maximum cut of a planar graph in polynomial time. *SIAM J. Comput*. **4** (1975), *no*. 3, 221–225. (A. K. Dewdney) **52** #196 (E **55** #13865) 05C99 (68A20)

A shortest path algorithm for grid graphs. *Networks* **7** (1977), *no*. 4, 323–334. (Jonathan Halpern) **57** #5452 94A20 (05C35, 68A10)

(*with* Hoffman, Frederick) Manhattan trees. *Utilitas Math*. **13** (1978), 55–67. (R. A. Melter) **57** #5821 05C35 (05C05)

See also **Aoshima, K.; et al., 55** #13865

Hadnagy, A. (*with* Schechter, Ervin) On the discrete convergence of nonlinear difference methods. Collection of articles dedicated to G. Călugăreanu on his seventieth birthday. *Rev. Roumaine Math. Pures Appl*. **17** (1972), 1349–1355. (A. Trevgoda (RŽMat **1973** #4 B988)) **50** #15328 65J05 (47H15)

Hadrava, P. (*with* Bičák, J.) General-relativistic radiative transfer theory in refractive and dispersive media. *Astronom. and Astrophys*. **44** (1975), *no*. 2, 389–399. (Attay Kovetz) **53** #2263 83.35

Hadwiger, Hugo Zentralaffine Kennzeichnung des Jordanschen Inhaltes. *Elem. Math*. **25** (1970), 25–27. (Editors) **55** #8322 28A75 (10E35)

Ungelöstes Probleme Nr. 53. *Elem. Math*. **26** (1971), 58. (Editors) **48** #4898a (E **48** #4898c) 50D05

(*with* Schaer, Jonathan) Studie zur kombinatorischen Geometrie zentralsymmetrischer Eikörper. *Portugal. Math*. **30** (1971), 145–152. (G. D. Chakerian) **46** #2551 52A35

Drei Sätze zur kombinatorischen Geometrie der Sphäre. *Math.-Phys. Semesterber*. **19** (1972), 206–212. (T. Zamfirescu) **54** #1092 52A45

(*with* Bokowski, Jürgen; Wills, Jörg M.) Eine Ungleichung zwischen Volumen, Oberfläche und Gitterpunktanzahl konvexer Körper im n-dimensionalen euklidischen Raum. *Math. Z*. **127** (1972), 363–364. (G. D. Chakerian) **47** #4144 52A40

(*with* Mani, Peter) On the Euler characteristic of spherical polyhedra and the Euler relation. *Mathematika* **19** (1972), 139–143. (H. Lenz) **48** #1040 52A25

Gitterperiodische Punktmengen und Isoperimetrie. *Monatsh. Math*. **76** (1972), 410–418. (A. Florian) **48** #2902 52A40

Erweiterter Polyedersatz und Euler-Shephardsche Additionstheoreme. *Abh. Math. Sem. Univ. Hamburg* **39** (1973), 120–129. (E. Jucovič) **48** #9555 52A25

(*with* Wills, Jörg M.) Über Eikörper und Gitterpunkte im gewöhnlichen Raum. *Geometriae Dedicata* **2** (1973), 255–260. (H. E. Debrunner and P. Mani) **54** #1089 52A40 (10E05)

(*with* Meier, Christoph) Studien zur vektoriellen Integralgeometrie. *Math. Nachr*. **56** (1973), 261–268. (G. D. Chakerian) **48** #7184 53C65

Homothetieinvariante und additive Polyederfunktionen. *Arch. Math*. (*Basel*) **25** (1974), 203–205. (W. J. Firey) **49** #11387 52A25

Begründung der Eulerschen Charakteristik innerhalb der ebenen Elementargeometrie. *Enseignement Math*. (2) **20** (1974), 33–43. (H. E. Debrunner) **50** #14484 52A10

(*with* Mani, Peter) On polyhedra with extremal Euler characteristic. *J. Combinatorial Theory Ser. A* **17** (1974), 345–349. (Joseph Zaks) **50** #11032 52A25

(*with* Wills, Jörg M.) Gitterpunktanzahl konvexer Rotationskörper. *Math. Ann*. **208** (1974), 221–232. (G. D. Chakerian) **49** #6031 52A20

Räumlich-geometrische Wahrscheinlichkeiten und Mittelwerte. *Z. Angew. Math. Mech*. **54** (1974), 664–667. (R. V. Ambarcumjan) **50** #8638 60D05 (53C65)

Eine Erweiterung der kinematischen Hauptformel der Integralgeometrie. *Abh. Math. Sem. Univ. Hamburg* **44** (1975), 84–90 (1976). (G. D. Chakerian) **53** #3894 52A40 (53C65)

Über die Flächeninhalte ebener Schnitte konvexer Körper. *Elem. Math*. **30** (1975), *no*. 5, 97–102. (H. W. Guggenheimer) **52** #6578 52A40

Zerlegungsgleichheit euklidischer Polyeder bezüglich passender Abbildungsgruppen und invariante Funktionale. *Math.-Phys. Semesterber*. **22** (1975), 125–133. (Bernd Kind) **51** #6586 52A25

Das Wills'sche Funktional. (English summary) *Monatsh. Math*. **79** (1975), 213–221. (J. H. H. Chalk) **52** #289 10E05 (52A20)

(*with* Wills, Jörg M.) Neuere Studien über Gitterpolygone. *J. Reine Angew. Math*. **280** (1976), 61–69. (Bernd Kind) **52** #15244 52A40 (10J25)

(*with* Bokowski, Jürgen; Wills, Jörg M.) Eine Erweiterung der Croftonschen Formeln für konvexe Körper. *Mathematika* **23** (1976), *no*. 2, 212–219. (H. W. Guggenheimer) **55** #3965 52A20 (53C65)

Hadwin, Donald W. Invariant subspaces of linear transformations. *Illinois J. Math*. **19** (1975), *no*. 4, 560–566. (Richard E. Frankfurt) **52** #3988 47A15

Weak completeness and invariant subspaces. *Michigan Math. J*. **22** (1975), *no*. 2, 171–173. (F. H. Szafraniec) **52** #6461 47A15

An operator-valued spectrum. *Indiana Univ. Math. J*. **26** (1977), *no*. 2, 329–340.

(James A. Deddens) **55** #1118 47A65 (47A10)

(*with* Brown, Arlen; Fong, Che Kao) Parts of operators on Hilbert space. *Illinois J. Math.* **22** (1978), *no.* 2, 306–314. (J. Ernest) **58** #17927 47A65 (47B15)

Continuous functions of operators; a functional calculus. *Indiana Univ. Math. J.* **27** (1978), *no.* 1, 113–125. (J. Ernest) **57** #7226 47A60

Approximating direct integrals of operators by direct sums. *Michigan Math. J.* **25** (1978), *no.* 1, 123–127. (J. Ernest) **58** #17920 47A55 (46L05)

Fuglede's theorem and limits of spectral operators. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 3, 365–368. (F.-H. Vasilescu) **58** #12372 46H15 (47B40)

adži, P. I. Certain sums that contain cylindrical functions. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1972**, *no.* 3, 75–77, 94. (D. P. Gupta) **48** #8887 33A40

The Laplace transform for expressions that contain a probability function. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1973**, *no.* 2, 78–80, 93. (L. Berg) **48** #6833 44A20

Certain sums that contain a generalized probability function. (Russian) *Prikl. Mat. i Programmirovanie No.* 12 (1974), 128–133, 141. (I. I. Kotlarski) **51** #4504 62E99 (33A20)

Certain integrals that contain a probability function. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1975**, *no.* 2, 86–88, 95. (C. Tanaka) **52** #6048 33A20

Integrals containing the Fresnel functions $S(x)$ and $C(x)$. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1975**, *no.* 3, 48–60, 93. (J. Kaczmarski) **53** #13667 33A10

Expansions for the probability function in series of Čebyšev polynomials and Bessel functions. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1976**, *no.* 1, 77–80, 96. (V. L. Makarov) **54** #623 33A40

Integrals that contain a probability function of complicated arguments. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1976**, *no.* 1, 80–84, 96. (V. L. Makarov) **57** #10029 33A70

adžić, Olga On the topological structure of Mikusiński's operators. *Mat. Vesnik* **8(23)** (1971), 321–330. (H. Jarchow) **45** #7429 46A15 (44A40)

Theorems on continuous dependence of the fixed point on a parameter and applications to differential equations in locally convex spaces. (Serbo-Croatian. English summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **1** (1971), 3–14. (L. Janos) **45** #8966 34G05

Existence of the solution of the equation $x=G(x,S(x))$ in locally convex spaces. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemeij, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations, Bled, 1973, in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 118–123. (Simeon Reich) **50** #10920 47H10

Existence theorems for the system $x=H(x,y)$, $y=K(x,y)$ in locally convex spaces. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **16(30)** (1973), 65–73. (Bruce Calvert) **50** #8176 47H10

A generalization of a theorem of G. Marinescu. (Serbo-Croatian. English summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **3** (1973), 35–39. (S. Fučík) **48** #9471 47H10

Existence of an implicit function in locally convex spaces. (Serbo-Croatian. English summary) *Univ. u Novom Sadu Ab. Rad. Prirod.-Mat. Fak.* **4** (1974), 1–8. (G. Marinescu) **53** #6615 58C15

The existence of the solution of a system of differential equations in locally convex spaces. (Serbo-Croatian. English summary) *Mat. Vesnik* **12(27)** (1975), *no.* 1, 63–70. (M. Bertolino) **52** #934 34G05

Differential equations in locally convex spaces. (Serbo-Croatian. English summary) *Mat. Vesnik* **12(27)** (1975), *no.* 2, 143–150. (Leo F. Boron) **52** #935a 34G05

The boundary value problem for differential equations in locally convex spaces. (Serbo-Croatian. English summary) *Mat. Vesnik* **12(27)** (1975), *no.* 2, 151–156. (Leo F. Boron) **52** #935b 34G05

A certain class of implicit differential equations in locally convex spaces. (Serbo-Croatian. English summary) *Mat. Vesnik* **12(27)** (1975), *no.* 3, 251–255. (Leo F. Boron) **52** #935c 34G05

Implicit differential equation in locally convex spaces. *Publ. Inst. Math.* (*Beograd*)(*N.S.*) **19(33)** (1975), 67–72. (A. Szép) **54** #3118 34G05 (47H10)

Chi Song Wong's class $U(X)$ in locally convex spaces. (Serbo-Croatian. English summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **5** (1975), 19–21. (L. Janos) **53** #9185 54H25

(*with* Pap, Endre) Some applications of the diagonal theorem in functional analysis. (Serbo-Croatian. English summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **5** (1975), 23–33. (L. Janos) **53** #8864 46B05

(*with* Paunić, Đura) A theorem on fixed point in locally convex spaces. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **20(34)** (1976), 111–116. (T. A. Èbanoidze) **56** #6481 47H10 (34G05)

Implicit differential equations $\dot{x}=H(f_1,(t,x,g_1(t,x,\dot{x})),\cdots,f_n(t,x,g_n(t,x,\dot{x})))x(t_0)=x_0$ in locally convex spaces. (Serbo-Croatian summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **6** (1976), 19–23. (G. Marinescu) **57** #6696 34G05

(*with* Paunić, Đura) Theorems on the fixed point for some classes of mappings in locally convex spaces. (Serbo-Croatian summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **6** (1976), 25–31. (L. Janos) **56** #12999 47H10

On differential equations with retarded arguments in locally convex spaces. *Mat. Vesnik* **1(14)(29)** (1977), *no.* 2, 153–158. (Robert M. Bullock) **57** #6697 34G05 (34K10)

(*with* Paunić, Đura) A fixed point theorem in non-Archimedean probabilistic locally convex spaces. *Mat. Vesnik* **1(14)(29)** (1977), *no.* 2, 159–163. (Zbl **382** #47030) **58** #17987 47H10 (54H25)

A generalization of Krasnoseljski's fixed point theorem in probablistic locally convex spaces. *Mat. Vesnik* **1(14)(29)** (1977), *no.* 2, 173–177. (From the text) **58** #23799 47H10

A fixed point theorem for a class of mappings in probabilistic locally convex spaces. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **21(35)** (1977), 81–87. (V. Istrăţescu) **56** #9335 47H10

A fixed point theorem for mappings with a sequentially compact iteration in probabilistic locally convex spaces. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 71–76. (Michel Smith) **58** #17988 47H10

Probabilistic proof of a fixed point theorem in K-convex linear topological spaces. (Serbo-Croatian summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **7** (1977), 3–8. (Author's summary) **58** #17989 47H10

A fixed point theorem in random normed spaces. (Serbo-Croatian summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **7** (1977), 23–27. (Haskell Cohen) **58** #12541 47H10 (54H25)

★Osnovi teorije nepokretne tačke. (Serbo-Croatian. English summary) [Foundations of fixed point theory] *Institut za Matematiku, Novi Sad*, 1978. vii + 315 *pp.* (L. Janos) **58** #12553 47H10 (54H25)

Fixed point for mappings on probabilistic locally convex spaces. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **22(70)** (1978), *no.* 3, 287–292. (V. Istrăţescu) **58** #23800 47H10

See also **Biography: Hadžić, Olga**, **52** #13245

Hadžiev, D. I. Estimation of random processes on the basis of observations with a point process. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2(188), 235–236. (R. Š. Lipcer) **53** #14643 60G35

The filtering of semimartingales in the case of observations on point processes. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 1, 175–184. (O. A. Glonti) **58** #3014 60G35

Hadžiev, Dž. The integral rational basis in algebras of invariants of irreducible representations of the rotation group of three-dimensional space. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 316 *Voprosy Meh. i Mat.* (1968), 257–270. (V. L. Popov) **50** #2352 20G05 (10B35, 14D20, 15A72)

(*with* Sarymsakov, T. A.) Topological modules over semifields of the first kind. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 1041–1043. (V. I. Arnautov) **46** #7329 16A80 (12K05)

(*with* Sarymsakov, T. A.) L^*-structures metrized over semifields. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1972**, *no.* 5, 3–4. (L. Janos) **47** #5618 46N05 (12J99, 54E99)

The closedness of orbits of general position in finite-dimensional representations of semisimple Lie groups. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), 300–311, 388–389. (V. L. Popov) **49** #9002 14M15 (15A72, 20G05, 22E45)

Certain ideals in the algebra of invariants of the product of linear forms. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), 312–322, 389. (V. L. Popov) **49** #9003 14M15 (15A72)

Some questions of topology in lattices. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 815–817. (L. Skula) **51** #12635 06A20 (54F05)

Projective limits of Hilbert spaces. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 3, 89–90. (W. H. Ruckle) **50** #7974 46A05

Certain questions of the theory of topological partially ordered systems. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 460 *Voprosy Mat.* (1974), 137–143, 179-180. (Rosalind Reichard) **54** #3354 46A40

Universal algebras of Lie groups, and their applications. (Russian) *Proceedings of the Summer School in the Spectral Theory of Operators and the Theory of Group Representation* (*Baku*, 1968) (*Russian*), *pp.* 195–197. *Izdat.* "*Elm*", *Baku*, 1975. (V. L. Popov) **53** #721 22E60 (15A72)

(*with* Sarymsakov, T. A.; Nasirov, S. N.) A description of the ideals of a certain class of rings. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 5, 1018–1019. (Klaus Keimel) **53** #5580 13J99 (06A40)

(*with* Ajupov, Š. A.) Topology in K-spaces with unity. (Russian) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 1, 3–4. (A. Wiweger) **51** #8782 46A40

Representations of groups in Boolean algebras. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 3, 3–4. (Uno Kaljulaid) **52** #575 20E35

A certain generalization of the Hilbert-Nagata theorem from the theory of invariants, and the reciprocity law for a certain class of representations. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 4, 6–7. (V. L. Popov) **52** #5714 15A72 (20L10)

(*with* Olimov, H.) The Kreĭn-Mil'man theorem in locally convex modules over semifields. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 6, 5–6. (J. Jakubík) **53** #14065 46A05

The group $\mathrm{Sp}(m,n,\Omega)$, and some questions on the theory of invariants for its actions. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 490 *Voprosy Matematiki* (1976), 230–235, 272–273. (Author's summary) **57** #12390 10C30 (14L99, 15A72)

The action of finite groups in Dedekind lattices. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 2, 7. (J. S. Joel) **56** #375 14L99

Hadžihanov, U. The Bol lines of the second kind of a congruence. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **71** (1973), 537–540. (K. Svoboda) **49** #9756 53A20

A certain normalization of the focal surfaces of a line congruence. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974) *no.* 4, 26–34, 81. (M. Decuyper) **51** #4068 53A20

Hadžiĭski, M. A method of investigating nonstationary processes in steam generators in the case of large variations in the load. (Bulgarian. Russian and English summaries) *Avtomat. i Izčisl. Tehn.* **6** (1972), *no.* 4, 13–20, 1, 2, 3. (Author's summary) **47** #8166 93C99

Hadžiĭski, V. H. On the meromorphic approximation of analytic functions on relatively closed sets. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 12, 1679–1680. (V. M. Kokilašvili) **58** #6264 30A82

Hadžiivanov, Nikolaĭ G. The extension of mappings into a sphere. (Russian. French summary) *Annuaire Univ. Sofia Fac. Math.* **64** (1969/70), 1–6 (1971). (W. Kuperberg) **46** #8162 54C20

Condensation onto bicompacta. (Russian. French summary) *Annuaire Univ. Sofia Fac. Math.* **64** (1969/70), 7–12 (1971). (W. Kuperberg) **46** #8188 54E50

Strongly closed mappings. (Russian. French summary) *Annuaire Univ. Sofia Fac. Math.* **64** (1969/70), 13–15 (1971). (R. Engelking) **46** #4459 54C10

(*with* Skordev, Genčo S.) The homotopy properties of a certain space. (Russian. English summary) *Annuaire Univ. Sofia Fac. Math.* **64** (1969/70), 17–22 (1971). (R.

Engelking) **46** #4460 54C15

Extension of proximity mappings into spheres. (Russian. English summary) *Annuaire Univ. Sofia Fac. Math.* **64** (1969/70), 119–125 (1971). (R. Engelking) **46** #4484 54E05

Infinite-dimensional spaces. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 491–500. (D. Adnadjević) **46** #2653 54F45

(*with* Nedev, Stojan Ĭ.) 0-metrizable proximities are metrizable. (Russian) *C. R. Acad. Bulgare Sci.* **26** (1972), 1289–1291. (M. Hušek) **48** #7211 54E05

There exist no normal spaces with the first axiom of countability that are hereditarily weakly infinite-dimensional in the sense of Ju. M. Smirnov. (Russian) *C. R. Acad. Bulgare Sci.* **26** (1973), 591–593. (M. Hušek) **47** #9571 54F45

(*with* Prodanov, Ivan) A proof of the Schröder-Bernstein theorem. (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **16(49)** (1973), 115–117. (V. Komkov) **56** #15426 04A05

Continuous mappings of hobnails into Euclidean spaces. (Bulgarian. Russian and English summaries) *Mathematics and mathematical education* (*Proc. Second Spring Conf. Bulgarian Math. Soc., Vidin*, 1973) (*Bulgarian*), *pp.* 221–230. *Izdat. B″lgar. Akad. Nauk., Sofia*, 1974. (Roman Duda) **50** #8476 54F60

On infinite-dimensinal Cantor manifolds. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 355–363. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (K. Nagami) **50** #14703 54F45

Continuous mappings of knobs into $\mathbf{R}^n$. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 283–287. (Roman Duda) **49** #9821 54F60 (57A15)

A lower bound for the cardinal dimension of certain G_δ sets in Tychonov cube. *C. R. Acad. Bulgare Sci.* **28** (1975), 151–152. (D. Adnadjević) **51** #11455 54F45

Connectedness. (Bulgarian. Russian and English summaries) *Mathematics and mathematical education* (*Proc. Third Spring Conf. Bulgar. Math. Soc., Burgas*, 1974) (*Bulgarian*), *pp.* 286–290, *B″lgar. Akad. Nauk, Sofia*, 1976. (See Zbl **356** #54019) 54D05

(*with* Hamamdžiev, Atanas L.) An example of a compact Hausdorff M-connected space which is not strongly M-connected. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 5, 613–614. (Donald E. Bennett) **55** #1298 54D05

Countable unions of closed sets whose pairwise intersections have bounded dimension. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 6, 779–781. (K. Sieklucki) **58** #24206 54F45

The dimension of compact metric spaces. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 7, 927 929. (K. Sieklucki) **55** #11218 54F45

The dimension of metric spaces. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 8, 1085–1086. (D. Adnadjevic) **56** #3809 54F45

A generalization of Lebesgue's theorem on coverings, and some applications of it. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 9, 1237–1240. (K. Sieklucki) **55** #11219 54F45

A generalization of Turán's theorem on graphs. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 11, 1567–1570. (G. P. Egoryčev) **56** #15477 05C15

(*with* Nenov, Nedjalko D.) The maximum of the number of edges of a graph. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 11, 1575–1578. (G. P. Egoryčev) **56** #15478 05C15

(*with* Nenov, Nedjalko D.) p-sequences of graphs and some extremal properties of Turán graphs. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 4, 475–478. (N. Hadziivanov) **58** #16398 05C35

(*with* Nenov, Nedjalko D.) Inequalities that are connected with graphs. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 5, 635–638. (Editors) **58** #21795b 05C30

Inequalities for graphs. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 6, 793–796. (Editors) **58** #21795a 05C30

Strong Cantor manifolds. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 9, 1247 1249. (J. Mioduszewski) **57** #7548 54F45

Maximum of a multilinear form of integer variables, and its application in the theory of extremal graphs. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 10, 1373–1376. (H. Sachs) **58** #361 05C35

(*with* Nenov, Nedjalko D.) Extremal problems for s-graphs and Turán's theorem. (Russian) *Serdica* **3** (1977), *no.* 2, 117–125. (D. Cvetković) **58** #5369 05C35

(*with* Hamamdžiev, Atanas L.) A method of P. S. Uryson for the proof that an F_σ set does not cut. (Russian) *Serdica* **3** (1977), *no.* 2, 130–135. (Michael L. Wage) **57** #7518 54D05

Hadžikov, L. (*with* Simeonova, K. M.) On the question of the parametric oscillations of viscoelastic cylindrical shells. (Bulgarian. Russian and English summaries) *Teoret. i Prilož. Meh.* **8** (1977), *no.* 4, 96–105. (B. Vujanović) **57** #14726 73.35

Hadžinov, M. K. (*with* Mihaĭlov, F. A.; Tyhevič, O. F.) Application of structural transformations to the analysis of nonstationary linear systems. (Russian. English summary) *Problems of Control and Information Theory/Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 1, 71–94. (Stanislav K. Myškov) **55** #7503 93C05

Hadžinov, V. V. (*with* Dodonov, A. G.; Ostrouh, E. N.; Černyšev, Ju. O.) A method for the sequential calculation of large-scale network systems. (Russian) *Èlektronika i Modelirovanie Vyp.* 11 (1976), 73–75, 130. (Authors' summary) **58** #8188 65F10 (94A20)

Haebich, William The multiplicator of a regular product of groups. *Bull. Austral. Math. Soc.* **7** (1972), 279–296. (J. Wiegold) **47** #5126 20F25

The multiplicator of a splitting extension. *J. Algebra* **44** (1977), *no.* 2, 420–433. (C. Y. Tang) **55** #8189 20F25

Haefeli, H. G. *See* **Bell, A. W.**, **53** #5208

Haefliger, André Lectures on the theorem of Gromov. *Proceedings of Liverpool Singularities Symposium, II* (1969/1970), *pp.* 128–141. *Lecture Notes in Math., Vol.* 209, *Springer, Berlin*, 1971. (J. W. Robbin) **48** #12560 57D40

(*with* Bott, Raoul) On characteristic classes of Γ-foliations. *Bull. Amer. Math. Soc.* **78** (1972), 1039 1044. (Ph. Tondeur) **46** #6370 57D30

Bott's theorem on a topological obstruction to complete integrability. (Spanish) *Rev. Mat. Hisp.-Amer.* (4) **32** (1972), 21–32; *ibid.* (4) **32** (1972), 106–113. (R. L. Bishop) **46** #4547 57D20 (57D30)

Sur les classes caractéristiques des feuilletages. *Séminaire Bourbaki, 24$^{\text{eme}}$ année* (1971/1972), *Exp. No.* 412, *pp.* 239–260. *Lecture Notes in Math., Vol.* 317, *Springer, Berlin*, 1973. (D. B. Fuks) **54** #8667 57D30 (57D25)

Sur la cohomologie de Gelfand-Fuchs. *Differential topology and geometry* (*Proc. Colloq., Dijon*, 1974), 121–152. *Lecture Notes in Math., Vol.* 484, *Springer, Berlin*, 1975. (D. B. Fuks) **52** #15497 57D25 (18H25, 58H05)

Sur la cohomologie de l'algèbre de Lie des champs de vecteurs. *Ann. Sci. École Norm. Sup.* (4) **9** (1976), *no.* 4, 503–532. (B. Cenkl) **56** #6674 57D30 (58H05)

Un modèle pour l'espace des sections d'un fibré. *Publ. Dép. Math.* (*Lyon*) **13** (1976), *no.* 3, 37–56. (D. B. Fuks) **57** #7595 55F20 (57D25, 57D30)

Cohomology of Lie algebras and foliations. *Differential topology, foliations and Gelfand-Fuks cohomology* (*Proc. Sympos., Pontifícia Univ. Católica, Rio de Janeiro*, 1976), *pp.* 1–12. *Lecture Notes in Math., Vol.* 652, *Springer, Berlin*, 1978. (Toru Tsujishita) **58** #18485 57D30

On the Gelfand-Fuks cohomology. *Enseign. Math.* (2) **24** (1978), *no.* 1-2, 143–160. (Laurence R. Taylor) **58** #18486 57D30 (58H05)

Haegemans, Ann (*with* Piessens, Robert) Inversion of some irrational Laplace transforms. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 1, 39–43. (Authors' summary) **52** #1179 44A10 (65D20)

(*with* Piessens, Robert) Cubature formulas of degree eleven for symmetric planar regions. *J. Comput. Appl. Math.* **1** (1975), *no.* 2, 79–83. (Helmut Brass) **52** #15975 65D30

(*with* Piessens, Robert) Cubature formulas of degree nine for symmetric planar regions. *Math. Comput.* **29** (1975), 810–815. (Authors' summary) **51** #4634 65D30

(*with* Piessens, Robert) Construction of cubature formulas of degree eleven for symmetric planar regions, using orthogonal polynomials. *Numer. Math.* **25** (1975/76), *no.* 2, 139–148. (R. Franke) **53** #4493 65D30

Circularly symmetrical integration formulas for two-dimensional circularly symmetrical regions. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **16** (1976), *no.* 1, 52–59. (James W. Burgmeier) **54** #4069 65D30

Algorithm 34: an algorithm for the automatic integration over a triangle. (German summary) *Computing* **19** (1977), *no.* 2, 179–187. (From the author's summary) **56** #13541 65D30

(*with* Piessens, Robert) Construction of cubature formulas of degree seven and nine symmetric planar regions, using orthogonal polynomials. *SIAM J. Numer. Anal.* **14** (1977), *no.* 3, 492–508. (T. N. L. Patterson) **55** #6789 65D30

Haentjens, D. (*with* Bouten, M.; van Leuven, P.) Extension of Elliott's projection technique to compact semisimple groups. *Physica* **73** (1974), 585–592. (N. Mukunda) **50** #15629 81.22

van Haeringen, H. (*with* van Wageningen, R.) Analytic T matrices for Coulomb plus rational separable potentials. *J. Mathematical Phys.* **16** (1975), 1441–1452. (Jean-Claude Guillot) **53** #2197 81.47

Coulombian asymptotic states. *J. Mathematical Phys.* **17** (1976), *no.* 6, 995–1000. (M. J. Goovaerts) **57** #15066 81.47

Coulomb-scattering states and partial-wave decompositions. (Italian and Russian summaries) *Nuovo Cimento B* (11) **34** (1976), *no.* 1, 53–75. (Robert L. Warnock) **55** #5009 81.35

T matrix and effective range function for Coulomb plus rational separable potentials especially for $l=1$. *J. Mathematical Phys.* **18** (1977), *no.* 5, 927–940. (Robert L. Warnock) **57** #15067 81.47

(*with* van der Mee, C. V. M.; van Wągeningen, R.) The number of bound states of the Coulomb plus Yamaguchi potential. *J. Mathematical Phys.* **18** (1977), *no.* 5, 941–943. (Robert L. Warnock) **56** #7640 81.47

van Haersma Buma, Chris E. (*with* Duin, Robert P. W.) Computation of concave piecewise linear discriminant functions using Chebyshev polynomials. *IEEE Trans. Computers* **C-25** (1976), *no.* 2, 178 -186. (George Marsaglia) **52** #16177 68A45

Haeseler, Ingo (*with* Ruscheweyh, Stephan) Singuläre Eichlerintegrale und verallgemeinerte Eisensteinreihen. *Math. Ann.* **203** (1973), 251–259. (B. Maskit) **50** #600 30A58 (10D10)

Haeusserman, Walter *See* **Control in space**, **48** #8041 *and* **Control in space**, **48** #13320

Haezendonck, Jean (*with* Delbaen, Freddy) Caractérisation de la tribu des événements antérieurs à un temps d'arrêt pour un processus stochastique. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **56** (1970), 1085–1092. (F. B. Knight) **45** #1234 60G40

Quelques questions relatives aux ensembles boreliens convexes dans les espaces polonais linéaires. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **57** (1971), 1118–1122. (J. P. R. Christensen) **46** #1988 28A05

Une démonstration probabiliste et simple d'une proposition de Pelczynski. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **57** (1971), 1123–1125. (J.-P. Kahane) **46** #2467 47B10 (60B99)

Les groupes commutatifs de Lebesgue-Rohlin. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972), 344–353. (C. L. Scheffer) **48** #11443 28A60

Un théorème de structure pour les groupes commutatifs de Lebesgue-Rohlin. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972), 583–598. (J. C. Oxtoby) **47** #6992 28A60

Un processus de branchement fellerien discernable. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **8** (1972), 265–306. (S. Dubuc) **51** #7025 60J80

Abstract Lebesgue-Rohlin spaces. *Bull. Soc. Math. Belg.* **25** (1973), 243–258. (C. L. Scheffer) **49** #513 28A30

Une généralisation du théorème de la limite centrale de Lindeberg. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 12, A797–A800. (Author's summary) **57** #1608 60F05

Haf, Herbert Eine Anwendung der Theorie asymptotisch linearer Operatoren auf eine nichtlineare Randwertaufgabe der Potentialtheorie. *Methoden und Verfahren der mathematischen Physik, Band* 6, *pp.* 57–67. *B. I.-Hochschultaschenbücher, No.* 725, *Bibliographisches Inst., Mannheim*, 1972. (E. Zeidler) **51** #6138 35J65

Eine Anwendung der Theorie asymptotisch linearer Operatoren auf ein nichtlineares Schwingungsproblem. *Methoden und Verfahren der mathematischen Physik, Band* 7, *pp.* 165–176. *B. I.-Hochschultaschenbücher, No.* 726, *Bibliographisches Inst., Mannheim*, 1972. (E. Zeidler) **51** #6139 35J65

Ein nichtlineares Schwingungsproblem mit gemischter linearer Randbedingung. *Monatsh. Math.* **76** (1972), 419–427. (H. E. Fettis) **47** #5429 35J05

Zur Existenztheorie für ein nichtlineares Randwertproblem der Potentialtheorie bei beliebigem komplexem Parameter. *J. Math. Anal. Appl.* **42** (1973), 627–638. (K. Kreith) **47** #9061 35J65

Über ein nichtlineares Schwingungsproblem mit nichtlinearer Dirichletbedingung. *J. Reine Angew. Math.* **258** (1973), 211–220. (J. Nečas) **47** #9056 35J60

Zum Analytizitätsbereich des Schrödinger-Operators. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T232–T234. (E. Müller-Pfeiffer) **56** #840 35J10

Häfele, W. (*with* Bürk, Ralph; Breitenecker, Manfred; Riedel, C.) Macro-economic models, differential topology and energy strategies. *New trends in systems analysis (Proc. Internat. Sympos., Versailles,* 1976), *pp.* 265–289. *Lecture Notes in Control and Information Sci., Vol.* 2, *Springer, Berlin,* 1977. (From the introduction) **58** #20300 90A15 (58C25)

Hafenbrak, Bernd ★Zur Wellenausbreitung in stark propagativen Medien. Von der Universität Stuttgart zur Erlangung der Würde eines Doktors der Naturwissenschaften genehmigte Abhandlung. *Universität Stuttgart, Stuttgart,* 1977. 87 *pp.* (Editors) **58** #14377 78.35 (35L99)

Hafer, Eberhard Darstellungen von Verkettungsgruppen und eine Invariante des Verkettungstyps. *Abh. Math. Sem. Univ. Hamburg* **40** (1974), 176–186. (L. Neuwirth) **48** #12502 55A25

Hafez, Mohamed M. (*with* Cheng, H. K.) Convergence acceleration of relaxation solutions for transonic flow computations. *AIAA J.* **15** (1977), *no.* 3, 329–336. (R. Manohar) **56** #10421 76.65

Haff, C. E. (*with* Burns, R. N.) A ranking problem in graphs. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing (Florida Atlantic Univ., Boca Raton, Fla.,* 1974), *pp.* 461–470. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.,* 1974. (E. A. Nordhaus) **51** #219 05C05

(*with* Burns, R. N.) A combinatorial ranking problem. *Aequationes Math.* **14** (1976), *no.* 3, 351–355. (Authors' summary) **54** #160 05C99 (05B35)

Haff, L. R. Minimax estimators of the multinormal mean: autoregressive priors. *J. Multivariate Anal.* **6** (1976), *no.* 2, 265–280. (James Berger) **53** #14742 62C25

Minimax estimators for a multinormal precision matrix. *J. Multivariate Anal.* **7** (1977), *no.* 3, 374–385. (James Berger) **56** #9762 62C99 (62H99, 62F10)

Haffner, François (*with* Brusset, Henry; Depeyre, Dominique; Petit, Jean-Pierre) On the convergence of standard and damped least squares methods. *J. Computational Phys.* **22** (1976), *no.* 4, 534–542. (S. F. McCormick) **55** #6780 65D15

Hafizon, Š. G. Solution of the problems *DN, N, D* for a certain spatial equation in a spherical annulus. (Russian) *Differencial'nye Uravnenija (Rjazan') Vyp.* 8 (1976), 209–215. (A. P. Soldatov) **56** #16154 35M05 (35J20)

Hafizov, M. H. The extension of a vector-valued measure. (Russian) *Current questions in mathematical logic and set theory (Russian), pp.* 291–301. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow,* 1975. (L. Ja. Savel'ev) **56** #12218 28A45

On the theory of the integral representation of linear mappings. (Russian) *Current questions in mathematical logic and set theory (Russian), pp.* 302–310. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow,* 1975. (P. Mankiewicz) **56** #3634 46G10 (47B37)

The absolute continuity of a vector-valued measure. (Russian) *Mat. Zametki* **17** (1975), 71–78. (Alan Shuchat) **52** #14221 28A45

Hafner, H. On the Lorentz force in gravitation theory. *Rev. Roumaine Phys.* **16** (1971), 479–486. (H. Rund) **45** #4794 83.53

Linear theories of gravitation. (Romanian. English summary) *Stud. Cerc. Fiz.* **24** (1972), 215–233. (R. Roşca) **49** #12032 83.53

Hafner, Izidor The regular ring and the maximal ring of quotients of a finite Baer *-ring. *Michigan Math. J.* **21** (1974), 153–160. (S. K. Berberian) **49** #7298 16A30

On some subtheory of formal arithmetic. (Slovenian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 2, 229–231. (Editors) **58** #21557 02G05

Hafner, Paul R. Über eine Primzahlkongruenz. *Elem. Math.* **33** (1978), *no.* 3, 68–70. (Donald L. Goldsmith) **58** #27729 10A35 (15A36)

Hafner, Robert The asymptotic distribution of random clumps. (German summary) *Computing (Arch. Elektron. Rechnen)* **10** (1972), 335–351. (A. K. Gupta) **48** #7478 62H30 (60D05)

Die asymptotische Verteilung von mehrfachen Koinzidenzen. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **21** (1972), 96–108. (R. V. Ambarcumjan) **46** #6420 60F05

Asymptotische Normalität der Anzahl zufälliger Moleküle. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **181** (1973), 215–251. (Wolfgang Sendler) **55** #13537 60F05 (60C05)

Neuer Beweis eines klassischen Besetzungsproblems. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **181** (1973), 269–289. (Wolfgang Sendler) **55** #13538 60C05 (60F05)

Verteilungskonvergenz gegen Poisson-Prozesse von Punktkomplexen im $\mathbf{Z}^m$. (Russian summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 133–150. (Bernard Harris) **47** #5917 60E05

(*with* Sendler, Wolfgang) Some asymptotic results on multiple matching. *J. Appl. Probability* **11** (1974), 479–492. (Dominique Foata) **51** #14209 60F05

Kolmogorov-Smirnov-statistics under the alternative. (French and German summaries) *Math. Operationsforsch. Statist.* **6** (1975), *no.* 5, 787–796. (M. Knott) **52** #12197 (EA **52**) (EA **53**) 62G10

Hafner, W. *See* **Publications: Department of Mathematics, 51** #14

Haftendorn, Dörte Additiv kommutative und idempotente Halbringe mit Faktorbedingung. I. *Publ. Math. Debrecen* **25** (1978), *no.* 1-2, 107–116. (H. J. Weinert) **58** #11037 16A78

Haftka, R. T. (*with* Mallett, R. H.; Nachbar, W.) Relation of the static perturbation technique to Koiter's method. *Israel J. Tech.* **9** (1971), *no.* 6, 553–557. (J. Murzewski) **53** #2113 73.41

Hag, Kari A convergence theorem for limitärperiodisch *T*-fractions of rational functions. *Proc. Amer. Math. Soc.* **32** (1972), 491–496. (W. J. Thron) **45** #514 30A22

(*with* Vamanamurthy, M. K.) The coefficients of quasiconformality of cones in *n*-space. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **3** (1977), *no.* 2, 267–275. (M. Ohtsuka) **58** #28485 30A60

Hag, Per A generalization of the Rudin-Carleson theorem. *Proc. Amer. Math. Soc.* **43** (1974), 341–344. (J. Garnett) **49** #3519 (E **54** #3414) 46E15

Erratum to: "A generalization of the Hudin-Carleson theorem" (Proc. Amer. Math. Soc. **43** (1974), 341–344). *Proc. Amer. Math. Soc.* **60** (1976), 377. (Editors) **54** #3414 46J10

Restrictions of convex subsets of $C(X)$. *Trans. Amer. Math. Soc.* **233** (1977), 283–294. (H. E. Lacey) **57** #7128 46E10

Haga, Hanjiro ★A disequilibrium-equilibrium model with money and bonds. A Keynesian-Walrasian synthesis. Lecture Notes in Economics and Mathematical Systems, Vol. 135. *Springer-Verlag, Berlin-New York,* 1976. vi+119 *pp.* (M. B. Suryanarayana) **56** #10811 90A15

Haga, Takahiro (*with* Abe, Keiichi; Fukumura, Teruo) On the stabilities of threshold elements. *Systems-Computers-Controls* **1** (1970), *no.* 2, 63–71 (1971). (Authors' summary) **49** #12178 94A20

(*with* Fukumura, Teruo; Abe, Keiichi) A problem in many-valued threshold logic and its solution. *Systems-Computers-Controls* **3** (1972), *no.* 3, 47–53 (1973). (A. Rose) **51** #15210 94A20

Haga, Toshiro (*with* Okuno, Tadakazu) Selection of variables in multiple regression analysis. *Proceedings of the Third Japan-USSR Symposium on Probability Theory (Tashkent,* 1975), *pp.* 713–722. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin,* 1976. (Colin. L. Mallows) **55** #6709 62J05

Haga, Yoshinori (*with* Takeda, Zirô) Correspondence between subgroups and subalgebras in a cross product von Neumann algebra. Collection of articles dedicated to Gen-ichirô Sunouchi on his sixtieth birthday. *Tôhoku Math. J.* (2) **24** (1972), 167–190. (Horst Behncke) **52** #1339 46L10

On subalgebras of a cross product von Neumann algebra. *Tôhoku Math. J.* (2) **25** (1973), 291–305. (W. B. Arveson) **49** #5868 46L10

On approximately finite algebras. *Tôhoku Math. J.* (2) **26** (1974), 325–332. (John B. Conway) **50** #2931 46L10

Crossed products of von Neumann algebras by compact groups. *Tôhoku Math. J.* (2) **28** (1976), *no.* 4, 511–522. (Ş. Strătilă) **55** #13254 46L10

Hagan, Melvin R. Continuity of certain connected functions and multifunctions. *Proc. Amer. Math. Soc.* **42** (1974), 295–301. (R. F. Dickman, Jr.) **48** #4995 54C60

Continuity of pseudo-open multifunctions. *Math. Chronicle* **7** (1978), *no.* 1-2, 69–76. (Edwin Duda) **58** #18333 54C10

Hagan, P. J. (*with* Brewer, Kenneth R. W.; Perazzelli, Pasquali) Seasonal adjustment using Box-Jenkins models. (French summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 3, 130–136 (1976). (Raúl Pedro Mentz) **57** #14301 62M10

Hagander, Per Numerical solution of $A^TS+SA+Q=0$. *Information Sci.* **4** (1972), 35–50. (C. A. Hall) **47** #1259 65F05

The use of operator factorization for linear control and estimation. (French, German and Russian summaries) *Automatica—J. IFAC* **9** (1973), 623–631. (T. Sasagawa) **58** #33421 93E10

Hagar, Hamilton, Jr. Approximate statistics of random vector magnitudes. *AIAA J.* **14** (1976), *no.* 5, 700–702. (Editors) **56** #16988 65C05

Hagberg, Jan Approximation of the summation process obtained by sampling from a finite population. (Russian summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 790–803. (J. Hájek) **48** #7327 60B10 (62E20)

Hage, Ibrahim (*with* Farès, Nicolas) Sur une classe d'anneaux semi-simples et un type d'idempotents. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A817–A820. (J. Luh) **45** #306 16A40

Hagedorn, George A. Asymptotic completeness for a class of four particle Schrödinger operators. *Bull. Amer. Math. Soc.* **84** (1978), *no.* 1, 155–156. (Pierre Hillion) **58** #14658 81.47

Hagedorn, H. W. Sieve methods and polynomial sequences. *Acta Arith.* **28** (1975/76), *no.* 3, 245–252. (Jean-Marie De Koninck) **52** #10640 10H40

Hagedorn, Peter Zur Umkehrung des Satzes von Lagrange über die Stabilität. (English summary) *Z. Angew. Math. Phys.* **21** (1970), 841–845. (Author's summary) **55** #7024 70.34

Die Umkehrung der Stabilitätssätze von Lagrange-Dirichlet und Routh. (English summary) *Arch. Rational Mech. Anal.* **42** (1971), 281–316. (E. Leimanis) **49** #8457 (E **49** #8458) 70.34

Eine zusätzliche Bemerkung zu meiner Arbeit: "Die Umkehrung der Stabilitätssätze von Lagrange-Dirichlet und Routh" (Arch. Rational Mech. Anal. **42** (1971), 281–316). *Arch. Rational Mech. Anal.* **47** (1972), 395. (E. Leimanis) **49** #8458 70.34

On equilibrium instability in holonomic mechanical systems with partial dissipation. *Prikl. Mat. Meh.* **37** (1973), 640–646 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 606–611. (F. V. Pohle) **49** #6711 70.34

On the stability of equilibrium sets of discrete conservative mechanical systems. *AIAA J.* **12** (1974), 1057–1059. (Ljubomir Lilov) **49** #10209 70.34

Über die Instabilität konservativer Systeme mit gyroskopischen Kräften. (English summary) *Arch. Rational Mech. Anal.* **58** (1975), *no.* 1, 1–9. (Gh. Silaş) **52** #16214 70.49

Some remarks on the string problem treated by Singh and Demin. *Celestial Mech.* **11** (1975), 59–73; *errata, ibid.* **11** (1975), 530. (Ljubomir Lilov) **51** #14690 70.35

(*with* Breakwell, John V.) A differential game with two pursuers and one evader. Differential game issue. *J. Optimization Theory Appl.* **18** (1976), *no.* 1, 15–29. (Wai Leung Chan) **54** #6972 90D25

Ein Differentialspiel mit zwei Verfolgern und einem Verfolgten. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T342–T345. (See Zbl **341** #90074; MR **53** #10) 90D25

Selbsterregte Schwingungen in Mechanik und Elektrotechnik. Steiermärkisches Mathematisches Symposium, 9. (Graz, 1977) *Ber. Math.-Statist. Sekt. Forschungszentrum Graz No.* 74-79 (1977), 37 *pp.* (V. Komkov) **56** #17269 70.00

On non-conservative systems with ignorable coordinates. *Arch. Rational Mech. Anal.* **68** (1978), *no.* 1, 89–92. (Benjamin Plybon) **58** #3827 70.49

Canonical transformations in the optimal control of mechanical systems. (French and German summaries) *Internat. J. Non-Linear Mech.* **13** (1978), *no.* 2, 103–116. (B. Vujanovic) **57** #18349 70.49 (49H05) (*with* Huseyin, Koncay) The effect of damping on the stability of pseudo-conservative systems. *Z. Angew. Math. Mech.* **58** (1978), *no.* 6, 147–148. (A. Corduneanu) **58** #17350 34D05

Über die Tilgung selbsterregter Schwingungen. (English summary) *Z. Angew. Math. Phys.* **29** (1978), *no.* 5, 815–821. (Author's summary) **58** #25203 70.34

See also **Differential games and applications**, **57** #15525

Hagedorn, R. (*with* Etim, E.) A soluble field theoretical model for strong interactions inspired by the statistical bootstrap. *Nuclear Phys. B* **131** (1977), *no.* 4-5, 429–458. (Authors' summary) **56** #17623 81.60

Hage-Hassan, M. (*with* Lambert, M.) La méthode de la fonction génératrice et les développements en quasibosons. (English summary) *Nuclear Phys.* **A188** (1972), 545–565. (Authors' summary) **52** #2469 81.47

Hagelschuer, Paul B. ★Theorie der linearen, Dekomposition. Lecture Notes in Operations Research and Mathematical Systems, Vol. 58. *Springer-Verlag, Berlin-New York*, 1971. vii + 191 *pp.* (K. Zimmermann) **51** #14955 90C05

Hagelstein, P. L. Solution of a second-order integro-differential equation which occurs in laser modelocking. *J. Math. Phys.* **19** (1978), *no.* 7, 1594–1599. (P. Achuthan) **58** #29946 45J05 (34K10)

Solution of a modified Lamé equation with an integral term. *J. Mathematical Phys.* **19** (1978), *no.* 6, 1386–1390. (Walter Eberhard) **58** #6481 34B30

Hageman, L. A. (*with* Porsching, T. A.) Aspects of nonlinear block successive overrelaxation. *SIAM J. Numer. Anal.* **12** (1975), 316–335. (W. C. Rheinboldt) **52** #12315 65H10

Hagemann, Joachim (*with* Mitschke, Aleit) On *n*-permutable congruences. *Algebra Universalis* **3** (1973), 8–12. (Alden Pixley) **48** #8349 08A25

Hagen, C. R. Galilean invariant Lee model for all spins and parities. *Comm. Math. Phys.* **21** (1971), 219–236. (B. K. Datta) **45** #4753 81.22

(*with* Yee, Jae Hyung) Light-cone quantization: study of a soluble model with *q*-number anticommutator. *Phys. Rev. D* (3) **13** (1976), *no.* 10, 2789–2804. (Porter W. Johnson) **56** #7621 81.47

bessel-Hagen, E. *See* **Bessel-Hagen, E.**

müller zum Hagen, Henning *See* **Müller zum Hagen, Henning**

Hagen, Ole Utility and morality. *Mathematical economics and game theory*, *pp.* 588–604. *Lecture Notes in Econ. and Math. Systems*, *Vol.* 141, *Springer*, *Berlin*, 1977. (Prasanta K. Pattanaik) **55** #11951 90A10

Hagendorf, Jean Guillaume Extensions immédiates de chaînes et de relations. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A607–A609. (N. H. Williams) **48** #5927 06A05

Extensions immédiates et respectueuses de chaînes et de relations. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A949–A950. (Đ. Kurepa) **47** #4797 04A05

Extensions immédiates respectueuses de chaînes. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1273–A1275. (Đ. Kurepa) **47** #4798 04A05

Sur certaines extensions de chaînes. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1589–A1592. (Dj. Kurepa) **49** #46 04A05 (06A05)

Impartibilité et algébricité des relations. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A869–A871. (Đ. Kurepa) **49** #7142 04A05 (04A25)

Chaînes incassables. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1475–1478. (Dj. Kurepa) **50** #1885 04A05

Surdistributivité du plongement entre chaînes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 24, Ai, A1391–A1394. (Dj. Kurepa) **57** #5756 04A05 (06A10)

Surdistributivité du plongement entre chaînes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 1, Ai, A1–A2. (D. Kurepa) **55** #10344 06A35

Sous-distributivité du plongement entre chaînes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 17, A979–A981. (Author's summary) **55** #5494 06A35

Hagenmeyer, Brigitte ★Randwertproblem und Grenzübergang in der Theorie der Wärmsleitung. Von der Universität Stuttgart (Technische Hochschule) zur Erlangung der Würde eines Doktors der Naturwissenschaften genehmigte Abhandlung. *Universität Stuttgart*, *Stuttgart*, 1971. 41 *pp.* (Klaus Deimling) **55** #10849 35K05

v. Hagenow, Karl-Ulrich (*with* Finck von Finckenstein, Karl Graf) Konvergenz eines Differenzenverfahrens für quasilineare parabolische Anfangs-Randwertprobleme. (English summary) *Numer. Math.* **20** (1972/73), 372–376. (Authors' summary) **47** #4460 65N10

(*with* Finck von Finckenstein, Karl Graf) Über explizite Differenzenmethoden zur Lösung nichtlinearer Diffusionsgleichungen in Zylindersymmetrie. *Methoden und Verfahren der mathematischen Physik*, *Band* 9, *pp.* 171–181. *Bibliographisches Inst.*, *Mannheim*, 1973. (J. W. McLaurin) **52** #12562 80.65 (65N10)

Hager, Anthony W. (*with* Comfort, W. W.) Dense subspaces of some spaces of continuous functions. *Math. Z.* **114** (1970), 373–389. (From the authors' introduction) **53** #14394 54C40 (54A25)

(*with* Nanzetta, Philip; Plank, Donald) Inversion in a class of lattice-ordered algebras. *Colloq. Math.* **24** (1971/72), 225–234. (D. G. Johnson) **46** #4212 46J99 (06A70)

An approximation technique for real-valued functions. *General Topology and Appl.* **1** (1971), *no.* 2, 127–133. (J. P. Ferrier) **45** #795 41A65 (54E15)

(*with* Comfort, W. W.) The projection mapping and other continuous functions on a product space. *Math. Scand.* **28** (1971), 77–90. (T. Husain) **47** #4206 54C30 (54B10, 54C50, 54D15, 54D35)

Three classes of uniform spaces. *General topology and its relations to modern analysis and algebra*, *III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 159–164. *Academia*, *Prague*, 1972. (J. R. Isbell) **50** #5754 54E15

Uniformities on a product. *Canad. J. Math.* **24** (1972), 379–389. (J. R. Isbell) **45** #5948 54E15

(*with* Reynolds, George D.; Rice, Michael D.) Borel-complete topological spaces. *Fund. Math.* **75** (1972), *no.* 2, 135–143. (A. Appert) **46** #8182 54D99

Measurable uniform spaces. *Fund. Math.* **77** (1972), *no.* 1, 51–73. (Z. Frolík) **48** #3011 54E15

(*with* Comfort, W. W.) Cardinality of $\mathfrak{k}$-complete Boolean algebras. *Pacific J. Math.* **40** (1972), 541–545. (D. Monk) **46** #7112 06A40

Compactification and completion as absolute closure. *Proc. Amer. Math. Soc.* **40** (1973), 635–638. (G. E. Strecker) **48** #9660 54D35

Vector lattices of uniformly continuous functions and some categorical methods in uniform spaces. *TOPO 72—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf. Pittsburgh, Pa.*, 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 172–187. *Lecture Notes in Math.*, *Vol.* 378, *Springer*, *Berlin*, 1974. (M. Hušek) **50** #14678 54E15

(*with* Blair, Robert L.) Extensions of zero-sets and of real-valued functions. *Math. Z.* **136** (1974), 41–52. (Donald Plank) **52** #6652 54C45

Some nearly fine uniform spaces. *Proc. London Math. Soc.* (3) **28** (1974), 517–546. (J. R. Isbell) **53** #1528 54E15

(*with* Comfort, W. W.) Uniform continuity in topological groups. *Symposia Mathematica*, *Vol. XVI* (*Convegno sui Gruppi Topologici e Gruppi di Lie*, *INDAM*, *Rome*, 1974), *pp.* 269–290. *Academic Press*, *London*, 1975. (O. T. Alas) **53** #9155 54E15 (22A05)

Perfect maps and epi-reflective hulls. *Canad. J. Math.* **27** (1975), 11–24. (H. Herrlich) **51** #1751 54E15

Real-valued functions on Alexandroff (zero-set) spaces. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 4, 755–769. (Thomas E. Gantner) **52** #15348 54C35 (54C50)

(*with* Blair, Robert L.) Notes on the Hewitt realcompactification of a product. *General Topology and Appl.* **5** (1975), 1–8. (M. Hušek) **51** #1748 54D60

A class of function algebras (and compactifications, and uniform spaces). *Symposia Mathematica*, *Vol. XVII* (*Convegno sugli Anellii Funzioni Continue*, *INDAM*, *Rome*, 1973), *pp.* 11–23. *Academic Press*, *London*, 1976. (Melvin Henriksen) **54** #13841 54C40 (54E15)

(*with* Comfort, W. W.) Metric spaces without large closed discrete sets. *Canad. J. Math.* **28** (1976), *no.* 3, 611–626. (A. H. Stone) **54** #13867 54E35 (54A25)

(*with* Rice, Michael D.) The commuting of coreflectors in uniform spaces with completion. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 3, 371–380. (H. Herrlich) **54** #6095 54E15

(*with* Curzer, Howard) On the topological completion. *Proc. Amer. Math. Soc.* **56** (1976), 365–370. (A. H. Stone) **54** #3658 54D60

(*with* Blair, Robert L.) z-embedding in $\beta X \times \beta Y$. *Set-theoretic topology* (*Papers*, *Inst. Medicine and Math.*, *Ohio Univ.*, *Athens*, *Ohio*, 1975-1976), *pp.* 47–72. *Academic Press*, *New York*, 1977. (L. I. Sennott) **55** #13371 54C45 (54C50)

(*with* Robertson, Lewis C.) Representing and ringifying a Riesz space. *Symposia Mathematica*, *Vol. XXI* (*Convegno sulle Misure su Gruppi e su Spazi Vettoriali*, *Convegno sui Gruppi e Anelli Ordinati*, *INDAM*, *Rome*, 1975), *pp.* 411–431. *Academic Press*, *London*, 1977. (Melvin Henriksen) **58** #2783 54H99

Uniformities induced by cozero and Baire sets. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 1, 153–159. (M. Hušek) **55** #9033 54E15

Approximation theorems for uniformly continuous functions. *Trans. Amer. Math. Soc.* **236** (1978), 263–273. (W. H. Summers) **58** #23303 41A65 (41A30)

Hager, Nina Physik und die Überwindung des "Ideals der Beschreibung der Naturerscheinungen in mechanischen Begriffen". *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **26** (1977), *no.* 1, 97–98. (Editors) **58** #21257 01A60 (70.01)

Hager, R. A. (*with* Ross, John) A regularity theorem for linear second order elliptic divergence equations. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 283–290. (D. K. Gvazava) **51** #10842 35D10 (35J15)

Hager, William W. (*with* Garg, Devendra P.) Dynamics of a non-linear spatial trade model. *Internat. J. Systems Sci.* **3** (1972), 427–438. (Ion Dobre) **49** #4545 90A15

(*with* Strang, Gilbert) Free boundaries and finite elements in one dimension. *Math. Comput.* **29** (1975), *no.* 132, 1020–1031. (I. Norman Katz) **52** #9602 65K05

The Ritz-Trefftz method for state and control constrained optimal control problems. *SIAM J. Numer. Anal.* **12** (1975), *no.* 6, 854–867. (Nicolae Luca) **54** #3550 49D15

(*with* Horowitz, Larry L.) Convergence and stability properties of the discrete Riccati operator equation and the associated optimal control and filtering problems. *SIAM J. Control Optimization* **14** (1976), *no.* 2, 295–312. (L. I. Gal'čuk) **53** #10426 93E10 (93C15, 49E20)

(*with* Mitter, Sanjoy Kumar) Lagrange duality theory for convex control problems. *SIAM J. Control Optimization* **14** (1976), *no.* 5, 843–856. (G. M. Ewing) **53** #14261 49B10 (49D15)

Rates of convergence for discrete approximations to unconstrained control problems. *SIAM J. Numer. Anal.* **13** (1976), *no.* 4, 449–472. (J. Cullum) **58** #18058 49D99 (65K05)

(*with* Rogers, Joel C. W.) Minimum drag surfaces. *Appl. Math. Optim.* **4** (1977/78), *no.* 2, 197–207. (W. R. Sears) **57** #11336 76.49

(*with* Brezzi, Franco; Raviart, Pierre-Arnaud) Error estimates for the finite element solution of variational inequalities. *Numer. Math.* **28** (1977), *no.* 4, 431–443. (Gilbert Strang) **56** #7254 65N30

Haggard, Gary On the function $N(3,2,\lambda,v)$. *Proceedings of the Third Southeastern Conference on Combinatorics*, *Graph Theory and Computing* (*Florida Atlantic Univ.*, *Boca Raton*, *Fla.*, 1972), *pp.* 243–250. *Florida Atlantic Univ.*, *Boca Raton*, *Fla.*, 1972. (Judith Q. Longyear) **50** #121 05A05

Special embeddings of the complete graph. *Aequationes Math.* **8** (1972), 299–303. (T. A. Brown) **47** #3223 05C10

(*with* Duke, Richard A.) The genus of subgraphs of K_8. *Israel J. Math.* **11** (1972), 452–455. (A. T. White) **46** #1627 05C10

(*with* McCarthy, Donald J.; Wohlgemuth, Andrew) Minimum edge graphs with given hyperoctahedral automorphism group. *Proceedings of the Fourth Southeastern Conference on Combinatorics*, *Graph Theory and Computing* (*Florida Atlantic Univ.*, *Boca Raton*, *Fla.*, 1973), *pp.* 329–334. *Utilitas Math.*, *Winnipeg*, *Man.*, 1973. (L. V. Quintas) **50** #6915 05C25

The least number of edges for graphs having dihedral automorphism group. *Discrete Math.* **6** (1973), 53–78. (Pavol Hell) **48** #157 05C25

(*with* McWha, Peter) Decomposition of complete graphs into trees. *Czechoslovak Math. J.* **25(100)** (1975), 31–36. (M. McLeish) **51** #5352 05C05

(*with* McCarthy, Donald J.; Wohlgemuth, Andrew) Extremal edge problems for graphs with given hyperoctahedral automorphism group. *Discrete Math.* **14** (1976), *no.* 2, 139–156. (William Arlinghaus) **56** #11847 05C25

Edmonds characterization of disc embeddings. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 291–302. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (From the introduction) **58** #10466 05–04 (05C10)

See also **Complements and comments**, **48** #1835

aggarty, R. J. A generalisation of supersoluble groups. *Trans. Amer. Math. Soc.* **209** (1975), 433–441. (T. O. Hawkes) **51** #8240 20D10

On the heights of group characters. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 2, 213–216. (P. Fong) **55** #8160 20C20

(*with* Humphreys, J. F.) Projective characters of finite groups. *Proc. London Math. Soc.* (3) **36** (1978), *no.* 1, 176–192. (A. O. Morris) **57** #6170 20C25

aggerty, M. J. (*with* Severne, G.) Kinetic theory for finite inhomogeneous gravitational systems. *Astrophys. and Space Sci.* **45** (1976), *no.* 2, 287–302. (W. H. Julian) **58** #4194 85.60 (85.45)

aggerty, Thomas P. *See* **Analytic methods in mathematical physics**, **48** #5746

aggett, P. *See* **Cliff, A. D.; et al.**, **54** #1529

kobza-Haggiag, Juliane *See* **Bokobza-Haggiag, Juliane**

äggkvist, Roland (*with* Thomassen, Carsten) On pancyclic digraphs. *J. Combinatorial Theory Ser. B* **20** (1976), *no.* 1, 20–40. (F. Harary) **52** #10481 05C20

aghany, Ahmad On duality and Krull-dimension. *J. London Math. Soc.* (2) **14** (1976), *no.* 1, 79–85. (W. V. Vasconcelos) **54** #7539 16A46

Reflexive ideals in simple Ore extensions. *J. London Math. Soc.* (2) **16** (1977), *no.* 3, 429–436. (D. A. Jordan) **57** #6106 16A72

aghany, Ghodsieh Norming the algebra of formal power series in n indeterminates. *Proc. London Math. Soc.* (3) **33** (1976), *no.* 3, 476–496. (E. L. Stout) **54** #3411 46J05 (13J05)

aghighi-Talab, Dariush (*with* Wright, Christopher) On the distribution of records in a finite sequence of observations, with an application to a road traffic problem. *J. Appl. Probability* **10** (1973), 556–571. (Authors' summary) **50** #5983 60K30

agihara, Hisako Relations of ergodicities to topological amenabilities for a semigroup of operators with some of their applications. *Natur. Sci. Rep. Ochanomizu Univ.* **23** (1972), 13–26. (V. K. Balakrishnan) **47** #2427 47D05 (46J10)

agihara, Yusuke ★Celestial mechanics. Volume I: Dynamical principles and transformation theory. *The MIT Press, Cambridge, Mass.-London*, 1970. xiii + 689 *pp.* (Zbl **242** #70003) **57** #18306 70.00

★Celestial mechanics. Volume II, Part 1: Perturbation theory. *The MIT Press, Cambridge, Mass.-London*, 1971. xvii + 504 + x *pp.* (Zbl **305** #70012) **57** #18307a 70.00

★Celestial mechanics. Volume II, Part 2: Perturbation theory. *The MIT Press, Cambridge, Mass.-London*, 1972. xv + 921 + x *pp.* (Zbl **305** #70012) **57** #18307b 70.00

Recent advances of celestial mechanics in the Soviet Union. *Vistas in astronomy, Vol.* 13, *pp.* 15–47. *Pergamon, Oxford*, 1972. (Editors) **58** #19463 70.00 (34–02)

★Celestial mechanics. Volume III, Part 1: Differential equations in celestial mechanics. *Japan Society for the Promotion of Science, Tokyo*, 1974. xv + 504 *pp.* (Zbl **344** #70007) **57** #18308a 70.00 (34Cxx)

★Celestial mechanics. Volume III, Part 2: Differential equations in celestial mechanics. *Japan Society for the Promotion of Science, Tokyo*, 1974. iii + *pp.* 505–1160. (Zbl **344** #70007) **57** #18308b 70.00 (34Cxx)

★Celestial mechanics. Volume IV, Part 1: Periodic and quasi-periodic solutions. *Japan Society for the Promotion of Science, Tokyo*, 1975. xv + 551 *pp.* (Zbl **355** #70009) **57** #18309a 70.00 (34Cxx)

★Celestial mechanics. Volume IV, Part 2: Periodic and quasi-periodic solutions. *Japan Society for the Promotion of Science, Tokyo*, 1975. *pp.* i-iv + 553–1243. (Zbl **355** #70009) **57** #18309b 70.34 (34Cxx)

★Celestial mechanics. Vol. V. Part I. Topology of the three-body problem. *Japan Society for the Promotion of Science, Tokyo*, 1976. xx + 876 *pp.* (See Zbl **359** #70019) 58F05 (70.58)

★Celestial mechanics. Vol. V. Part II. Topology of the three-body problem. *Japan Society for the Promotion of Science, Tokyo*, 1976. *pp.* i + 877–1560. (See Zbl **358** #70019) 58F05 (70.58)

Hagin, Frank G. (*with* Cohen, Jack K.; Keller, Joseph B.) Short time asymptotic expansions of solutions of parabolic equations. *J. Math. Anal. Appl.* **38** (1972), 82–91. (R. N. Pederson) **46** #2228 35K15

Bifurcation in singular selfadjoint boundary value problems. *Rocky Mountain J. Math.* **3** (1973), *no.* 4, 541–563. (W. Wasow) **47** #9005 34G05

★A first course in differential equations. *Prentice-Hall, Inc., Englewood Cliffs, N.J.*, 1975. ix + 342 *pp.* (Editors) **50** #13673 34–01

Hagis, Peter, Jr. Unitary amicable numbers. *Math. Comp.* **25** (1971), 915–918. (G. Greaves) **45** #8599 10A25

Relatively prime amicable numbers with twenty-one prime divisors. *Math. Mag.* **45** (1972), 21–26. (H. J. Kanold) **45** #6740 10A25

(*with* McDaniel, Wayne L.) A new result concerning the structure of odd perfect numbers. *Proc. Amer. Math. Soc.* **32** (1972), 13–15. (H. J. Kanold) **45** #1822 10A25

A lower bound for the set of odd perfect numbers. *Math. Comp.* **27** (1973), 951–953. (E. M. Horadam) **48** #3854 10A25 (10–04)

(*with* McDaniel, Wayne L.) On the largest prime divisor of an odd perfect number. *Math. Comp.* **27** (1973), 955–957. (E. M. Horadam) **48** #3855 10A25 (10–04)

(*with* McDaniel, Wayne L.) Some results concerning the non-existence of odd perfect numbers of the form $p^{\alpha}M^{2\beta}$. *Fibonacci Quart.* **13** (1975), 25–28. (H.-J. Kanold) **50** #7016 10A40

(*with* McDaniel, Wayne L.) On the largest prime divisor of an odd perfect number. II. *Math. Comp.* **29** (1975), 922–924. (E. M. Horadam) **51** #8021 10A40

On the number of prime factors of a pair of relatively prime amicable numbers. *Math. Mag.* **48** (1975), *no.* 5, 263–266. (F. T. Howard) **53** #249 10A20

(*with* Lord, Graham) Unitary harmonic numbers. *Proc. Amer. Math. Soc.* **51** (1975), 1–7. (E. M. Horadam) **51** #5466 10A20

(*with* Lord, Graham) Quasi-amicable numbers. *Math. Comp.* **31** (1977), *no.* 138, 608–611. (A. L. Whiteman) **55** #7902 10A25

Hagiu, Maria The method of lines in the solution of the equation $u_t = u_{xx} + f(u)$. (Romanian. French summary) *Bul. Inst. Politehn. Braşov. Ser. A Mec.* **13** (1971), 27–30. (C. Tartia) **46** #10229 65N99

A numerical integration method for a partial differential equation of parabolic type. (Romanian. French summary) *Univ. Braşov Lucrari Ştiinţ.* **17** (1975), 19–22. (Author's summary) **56** #4188 65N05

Hagiwara, Hiroshi (*with* Nishihara, Seiichi) An open hash method using predictors. *Information Processing in Japan* **15** (1975), 6–10. (Geneva G. Belford) **53** #15023 68A50

Hagiwara, Teisuke *See* **Matsuzaki, Toshio**, **58** #21020 *and* **Tazaki, Ataru**, **58** #21038

Hagiwara, Yoshiki Some considerations on the Markoff decision process organized with estimation of probability. *Systems-Computers-Controls* **1** (1970), *no.* 5, 13–22 (1971). (A. Descloux) **48** #1715 90C40

A system for recognition of the implication relation between formulas in the logic of predicates. *Electron. Commun. Japan* **55** (1972), *no.* 5, 140–147. **56** #10187 68A40 (02B10)

Hagler, James (*with* Stegall, Charles) Banach spaces whose duals contain complemented subspaces isomorphic to $C[0,1]$. *J. Functional Analysis* **13** (1973), 233–251. (G. J. O. Jameson) **50** #2874 46B05

Some more Banach spaces which contain L^1. *Studia Math.* **46** (1973), 35–42. (William B. Johnson) **48** #11995 46B05

On the structure of S and $C(S)$ for S dyadic. *Trans. Amer. Math. Soc.* **214** (1975), 415–428. (Richard Haydon) **52** #8899 46E15 (54A25)

(*with* Johnson, William B.) On Banach spaces whose dual balls are not weak* sequentially compact. *Israel J. Math.* **28** (1977), *no.* 4, 325–330. (Richard Haydon) **58** #2173 46B10

A counterexample to several questions about Banach spaces. *Studia Math.* **60** (1977), *no.* 3, 289–308. (R. C. James) **56** #1032 46B10

Nonseparable "James tree" analogues of the continuous functions on the Cantor set. *Studia Math.* **61** (1977), *no.* 1, 41–53. (H. E. Lacey) **55** #8755 46B05 (46E15)

(*with* Odell, E.) A Banach space not containing l_1 whose dual ball is not weak* sequentially compact. *Illinois J. Math.* **22** (1978), *no.* 2, 290–294. (Richard Haydon) **58** #2174 46B10

Hagler, Marion O. (*with* Marks, Robert J., II; Walkup, John F.) A sampling theorem for space variant systems. *J. Opt. Soc. Amer.* **66** (1976), *no.* 9, 918–921. (Authors' summary) **56** #18092 94A05

Hagopian, Charles L. Arc-wise connected plane continua. *Topology Conference* (*Proc. General Topology Conf., Emory Univ., Atlanta, Ga.*, 1970), *pp.* 41–45. *Dept. Math., Emory Univ., Atlanta, Ga.*, 1970. (Eldon J. Vought) **49** #7992 54F20

The cyclic connectivity of plane continua. *Michigan Math. J.* **18** (1971), 401–407. (L. O. Vaughan, Jr.) **45** #9294 (EA **55/56**) 54F20

Arcwise connectivity of semi-aposyndetic plane continua. *Pacific J. Math.* **37** (1971), 683–686. (D. W. Hall) **46** #6322 54F20

The fixed point property and decomposable plane continua. *Proceedings of the University of Oklahoma Topology Conference Dedicated to Robert Lee Moore* (*Norman, Okla.*, 1972), *pp.* 60–63. *Univ. of Oklahoma, Norman, Okla.*, 1972. (S. P. Singh) **50** #11192 54F20 (54H25)

Errata: "A cut point theorem for plane continua". *Duke Math. J.* **39** (1972), 823. (Editors) **46** #9947 54F20

Planar images of decomposable continua. *Pacific J. Math.* **42** (1972), 329–331. (C. E. Burgess) **47** #4229 54F20 (57A05)

An arc theorem for plane continua. *Illinois J. Math.* **17** (1973), 82–89. (A. Lelek) **47** #2562 54F20

Characterizations of λ connected plane continua. *Pacific J. Math.* **49** (1973), 371–375. (G. R. Gordh, Jr.) **50** #5760 54F20

Planar λ connected continua. *Proc. Amer. Math. Soc.* **39** (1973), 190–194. (C. E. Burgess) **47** #4230 54F20

Schlais' theorem extends to λ connected plane continua. *Proc. Amer. Math. Soc.* **40** (1973), 265–267. (F. Burton Jones) **47** #5844 54F15 (54F20)

A fixed-point theorem for homogeneous continua. *Michigan Math. J.* **21** (1974), 233–234. (W. J. Gray) **50** #8486 54H25 (54F20)

Locally homeomorphic λ connected plane continua. *Pacific J. Math.* **52** (1974), 403–404. (F. Burton Jones) **52** #4249 54F20

λ connectivity and mappings onto a chainable indecomposable continuum. *Proc. Amer. Math. Soc.* **45** (1974), 132–136. (F. Burton Jones) **49** #6185 54F20

λ connected plane continua. *Trans. Amer. Math. Soc.* **191** (1974), 277–287. (F. Burton Jones) **49** #6186 54F20

λ connectivity in the plane. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 197–202. *Academic Press, New York*, 1975. (Eldon J. Vought) **50** #14695 54F20

Characterizing the arc by composition of functions. *Colloq. Math.* **34** (1975/76), *no.* 1, 57–62. (J. Mioduszewski) **53** #9169 54F25

Homogeneous plane continua. *Houston J. Math.* **1** (1975), 35–41. (F. Burton Jones) **52** #4250 54F20 (57A05)

Disk-like products of λ connected continua. I, II. *Proc. Amer. Math. Soc.* **51** (1975), 448–452; *ibid.* **52** (1975), 479–484. (G. R. Gordh, Jr.) **51** #11451 54F20

Disk-like products of λ connected continua. II. *Proc. Amer. Math. Soc.* **52** (1975), 479–484. (Author's summary) **58** #12943 54F20

Torus-like products of λ connected continua. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 227–230. (C. E. Burgess) **52** #6677 54F20

A fixed point theorem for hyperspaces of λ connected continua. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 231–234. (James T. Rogers, Jr.) **51** #13997 (E **56** #1288) 54F20 (54B20)

Fixed point theorems for disk-like products and hyperspaces. *Topology* (*Proc. Ninth Annual Spring Conf., Memphis State Univ., Lecture Notes in Pure and Appl. Math., Vol.* 24, *Dekker, New York*, 1976. (J. J. Charatonik) **55** #9056 54H25 (54F20)

The fixed-point property for almost chainable homogeneous continua. *Illinois J. Math.* **20** (1976), *no.* 4, 650–652. (L. O. Vaughan, Jr.) **54** #6101 54F20 (54H25)

Indecomposable homogeneous plane continua are hereditarily indecomposable. *Trans. Amer. Math. Soc.* **224** (1976), *no.* 2, 339–350 (1977). (F. Burton Jones) **54** #8586 54F20

Homogeneous circle-like continua that contain pseudo-arcs. *Topology Proceedings, Vol. I (Conf., Auburn Univ., Auburn, Ala.*, 1976), *pp.* 29–32. *Math. Dept., Auburn Univ., Auburn, Ala.*, 1977. (J. J. Charatonik) **56** #16583 54F20

(*with* Rogers, James T., Jr.) A classification of homogeneous, circle-like continua. *Houston J. Math.* **3** (1977), *no.* 4, 471–474. (C. E. Burgess) **57** #4129 54F20 (54F65)

A characterization of solenoids. *Pacific J. Math.* **68** (1977), *no.* 2, 425–435. (F. Burton Jones) **56** #16584 54F20

Addendum to: "A fixed point theorem for hyperspaces of λ connected continua" (Proc. Amer. Math. Soc. **53** (1975), no. 1, 231–234). *Proc. Amer. Math. Soc.* **62** (1977), *no.* 2, 374–375. (James T. Rogers, Jr.) **56** #1288 54H25

Hagopian, J. D. (*with* Frisch, Ivan T.) Capacitance and resistance minimization in n-port RC networks. *IEEE Trans. Circuit Theory* **CT-19** (1972), 87–89. (Authors' summary) **56** #11572 94A20

(*with* Frisch, Ivan T.) Capacitance, inductance, and resistance minimization in RLC networks. *IEEE Trans. Circuit Theory* **CT-19** (1972), 383–385. (R. Saeks) **48** #13492 94A20

Hagstroem, K. G. *See* **Lundberg, Ove**, **50** #35

Hague, D. S. (*with* Merz, A. W.) Coplanar tail-chase aerial combat as a differential game. *AIAA J.* **15** (1977), *no.* 10, 1419–1423. (Editors) **57** #15513 90D25

Hague, S. J. *See* **Software for numerical mathematics**, **50** #6095 *and* **Discussion: Numerical quadrature**, **51** #7257 (EA **52**)

Hähl, H. (*with* Siebenmann, Laurence C.; Guillou, Lucien) Les voisinages ouverts réguliers. *Ann. Sci. École Norm. Sup.* (4) **6** (1973), 253–293. (M. L. Curtis) **48** #9732 57C40

(*with* Siebenmann, Laurence C.; Guillou, Lucien) Les voisinages ouverts réguliers: critères homotopiques d'existence. *Ann. Sci. École Norm. Sup.* (4) **7** (1974), 431–461 (1975). (M. L. Curtis) **50** #14766 57C40

(*with* Guillou, Lucien) Les voisinages réguliers ouverts: critères homotopigues d'identification. *Compositio Math.* **32** (1976), *no.* 2, 133–156. (R. J. Daverman) **54** #13924 57A40

Hähl, Hermann Automorphismengruppen von lokalkompakten zusammenhängenden Quasikörpern und Translationsebenen. *Geometriae Dedicata* **4** (1975), *no.* 2-4, 305–321. (H. Salzmann) **53** #3868a 50D35

Vierdimensionale reelle Divisionsalgebren mit dreidimensionaler Automorphismengruppe. *Geometriae Dedicata* **4** (1975), *no.* 2-4, 323–331. (H. Salzmann) **53** #3868b 50D35 (16A40)

Geometrisch homogene vierdimensionale reelle Divisionsalgebren. *Geometriae Dedicata* **4** (1975), *no.* 2-4, 333–361. (H. Salzmann) **53** #3868c 50D35

Automorphismengruppen achtdimensionaler lokalkompakter Quasikörper. *Math. Z.* **149** (1976), *no.* 3, 203–225. (H. Salzman) **53** #13466 22A99 (50D35, 16A40)

(*with* Buchanan, Thomas) On the kernel and the nuclei of 8-dimensional locally compact quasifields. *Arch. Math.* **29** (1977), *no.* 5, 472–480. (H. Salzmann) **57** #9781 17E05 (57D25)

(*with* Buchanan, Thomas) The transposition of locally compact, connected translation planes. *J. Geom.* **11** (1978), *no.* 1, 84–92. (H. Salzmann) **58** #12715 50D50

Zur Klassifikation von 8- und 16-dimensionalen lokalkompakten Translationsebenen nach ihren Kollineationsgruppen. *Math. Z.* **159** (1978), *no.* 3, 259–294. (J. André) **58** #12703 50D35 (54H99)

Hahm, David E. Chrysippus' solution to the Democritean dilemma of the cone. *Isis* **63** (1972), *no.* 217, 205–220. (H. L. L. Busard) **58** #21001 01A20

Hahn, Alexander J. On the homomorphisms of the integral linear groups. *Math. Ann.* **197** (1972), 234–250. (I. Reiner) **47** #355 20G35

The isomorphisms of certain subgroups of the isometry groups of reflexive spaces. *J. Algebra* **27** (1973), 205–242. (J. Dieudonné) **49** #435 20G15

Isomorphisms of the integral classical groups and their congruence subgroups. *Amer. J. Math.* **97** (1975), *no.* 4, 865–887. (J. Dieudonné) **52** #10598 10C30 (20G30)

On the isomorphisms of the projective orthogonal groups and their congruence subgroups. *J. Reine Angew. Math.* **273** (1975), 1–22. (E. A. Connors) **52** #5563 10C30 (20G30)

Cayley algebras and the automorphisms of $PO_8'(V)$ and $P\Omega_8(V)$. *Amer. J. Math.* **98** (1976), *no.* 4, 953–987. (A. A. Bondarenko) **55** #2750 10C30

Cayley algebras and the isomorphisms of the orthogonal groups over arithmetic and local domains. *J. Algebra* **45** (1977), *no.* 1, 210–246. (E. A. Connors) **55** #7920 10C30

Isomorphism theory for orthogonal groups over arbitrary integral domains. *J. Algebra* **51** (1978), *no.* 1, 233–287. (E. A. Connors) **57** #12391 10C30 (20G35, 22E40)

Hahn, F. Discrete real time flows with quasi-discrete spectra and algebras generated by exp $q(t)$. *Israel J. Math.* **16** (1973), 20–37. (Karl Petersen) **49** #6203 54H20

See also **Parry, William**, **49** #6204

Hahn, Frank H. (*with* Arrow, Kenneth J.) ★General competitive analysis. Mathematical Economics Texts, No. 6. *Holden-Day, Inc., San Francisco, Calif.*; *Oliver & Boyd, Edinburgh*, 1971. xii + 452 *pp.* (David Schmeidler) **55** #11958 90A15

On optimum taxation. *J. Econom. Theory* **6** (1973), *no.* 1, 96–106. (Author's introduction) **56** #7837 90A15

Hahn, G. T. *See* **Applied mechanics**, **50** #11914

Hahn, Geña Some star anti-Ramsey numbers. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing (Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 303–310. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (Stefan A. Burr) **58** #21755 05C15

Hahn, Gerald J. (*with* Hendrickson, Richard W.) A table of percentage points of the distribution of the largest absolute value of k Student t variates and its applications. *Biometrika* **58** (1971), 323–332. (Authors' summary) **47** #2716 62E15 (62Q05)

Hahn, H. Geometrical aspects of the pseudo steady state hypothesis in enzyme reactions. *Physics and mathematics of the nervous system (Proc. Summer School, Internat. Centre Theoret. Phys., Trieste*, 1973), *pp.* 528–545. *Lecture Notes in Biomath., Vol.* 4, *Springer, Berlin*, 1974. (Shigehiro Ushiki) **57** #5166 92A05

See also **Bolzano, Bernard**, **52** #34

Hahn, Hans *See* **Festschrift: Weber, Heinrich**, **50** #12626

Hahn, Hermann Die erste mechanische Rechenmaschine. *Praxis Math.* **18** (1976), *no.* 4, 90–93. (See Zbl **357** #01016) 68-03 (01A55)

Hahn, Hubert Existence criteria for bifurcations as stability criteria for critical nonlinear control systems. *Theoretical approaches to complex systems (Proc. Sympos., Tübingen*, 1977), *pp.* 3–49. *Lecture Notes in Biomath., Vol.* 21, *Springer, Berlin*, 1978. (J. W. Jerome) **58** #22852 34D20 (34H05, 58F10)

Hahn, Hwa S. A note on de Bruijn's number system. *J. Korean Math. Soc.* **6** (1969), 47–50. (M. S. Cheema) **48** #264 10L05 (05A05)

A counting function of integral n-tuples. *Fibonacci Quart.* **10** (1972), *no.* 6, 609–612, 627–628. (R. W. Robinson) **46** #8841 05A10

Another property of magic squares. *Fibonacci Quart.* **13** (1975), *no.* 3, 205–208. (Heiko Harborth) **52** #10450 05B15

Hahn, Kyong T. Subordination principle and distortion theorems on holomorphic mappings in the space C^n. *Trans. Amer. Math. Soc.* **162** (1971), 327–336. (Walter Hengartner) **45** #7098 (E **58** #28695) 32A30 (30A42)

Properties of holomorphic functions of bounded characteristic on star-shaped circular domains. *J. Reine Angew. Math.* **254** (1972), 33–40. (Herbert Alexander) **50** #13617 32H99

(*with* Bergman, Stefan) Some properties of pseudo-conformal images of Reinhardt circular domains. *Rocky Mountain J. Math.* **2** (1972), *no.* 3, 423–441. (S. Hitotumatu) **45** #7111 32A07

Erratum: "Subordination principle and distortion theorems on holomorphic mappings in the space C^n" (Trans. Amer. Math. Soc. **162** (1971), 327–336). *Trans. Amer. Math. Soc.* **170** (1972), 507–508. (Editors) **58** #28695 32H99

(*with* Mitchell, Josephine) H^p spaces on bounded symmetric domains. *Ann. Polon. Math.* **28** (1973), 89–95. (J. H. Hedlund) **48** #9274 43A85 (30A78, 31B10, 32A25)

Higher dimensional generalizations of the Bloch constant and their lower bounds. *Trans. Amer. Math. Soc.* **179** (1973), 263–274. (Robert E. Greene) **48** #4340 32A30 (32H99)

Distortions of a bounded domain by holomorphic mappings. *J. Reine Angew. Math.* **272** (1974), 173–181. (J. Mitchell) **51** #5975 (E **57** #6520) 32H15

Trigonometry on the unit ball of a complex Hilbert space. *Bull. Amer. Math. Soc.* **81** (1975), 183–186. (Robert E. Greene) **51** #4305 58B10 (32H15)

Holomorphic mappings of the hyperbolic space into the complex euclidean space and the Bloch theorem. *Canad. J. Math.* **27** (1975), 446–458. (Hirotaka Fujimoto) **57** #6518 32H25

Correction to the paper: "Distortions of a bounded domain by holomorphic mappings" (J. Reine Angew. Math. **272** (1974), 173–181). *J. Reine Angew. Math.* **273** (1975), 108. (Editors) **57** #6520 32H99

(*with* Mitchell, Josephine) Representation of linear functionals in H^p spaces over bounded symmetric domains in C^N. *J. Math. Anal. Appl.* **56** (1976), *no.* 2, 379–396. (Manfred Stoll) **55** #727 32M15

Quantitative Bloch's theorem for certain classes of holomorphic mappings of the ball into $P_n(C)$. *J. Reine Angew. Math.* **283/284** (1976), 99–109. (Adib A. Fadlalla) **53** #885 32H20

On completeness of the Bergman metric and its subordinate metric. *Proc. Nat. Acad. Sci. U.S.A.* **73** (1976), *no.* 12, 4294. (John E. Fornaess) **54** #5509 32H15

On completeness of the Bergman metric and its subordinate metrics. II. *Pacific J. Math.* **68** (1977), *no.* 2, 437–446. (John E. Fornaess) **58** #6366 32H15

Geometry on the unit ball of a complex Hilbert space. *Canad. J. Math.* **30** (1978), *no.* 1, 22–31. (Jean-Pierre Vigué) **57** #16706 32H15 (32M05, 58B10)

Inequality between the Bergman metric and Carathéodory differential metric. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 2, 193–194. (Jacob Burbea) **57** #16707 32H15

Hahn, L. (*with* Butzer, Paul L.; Westphal, Ursula) On the rate of approximation in the central limit theorem. Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, III. *J. Approximation Theory* **13** (1975), 327–340. (C.-G. Esseen) **52** #15608 60F05

(*with* Butzer, Paul L.) Approximationsordnung im zentralen Grenzwertsatz und für den Erwartungswert der standardisierten Summenvariablen. *Math. Nachr.* **75** (1976), 113–126. (H. Bergström) **54** #11453 60F05

Hahn, Liang Shin On the Bloch-Nevanlinna problem. *Proc. Amer. Math. Soc.* **32** (1972), 221–224. (Horst Tietz) **45** #2184 30A18 (30A82)

(*with* Blum, Julius R.; Eisenberg, Bennett) Ergodic theory and the measure of sets in the Bohr group. *Acta Sci. Math. (Szeged)* **34** (1973), 17–24. (W. Parry) **51** #10536 22D40 (10K05, 28A65)

On an extension of the theorem of Hausdorff-Young. *Amer. Math. Monthly* **80** (1973), 667–669. (J. H. Hedlund) **48** #2637 42A16

(*with* Blum, Julius R.) Strong uniform distributions and ergodic theorems. *Proc. Amer. Math. Soc.* **47** (1975), 378–382. (Karl Petersen) **50** #13447 28A65 (43A05)

Hahn, Marjorie G. What second-order Lipschitz conditions imply the CLT? *Probability in Banach spaces (Proc. First Internat. Conf., Oberwolfach*, 1975), *pp.* 107–111. *Lecture Notes in Math., Vol.* 526, *Springer, Berlin*, 1976. (Evarist Giné) **55** #13550 60G17 (60B10)

Conditions for sample-continuity and the central limit theorem. *Ann. Probability* **5** (1977), *no.* 3, 351–360. (Evarist Giné) **55** #13551 60G17 (60F05)

(*with* Klass, Michael J.) Sample-continuity of square-integrable processes. *Ann. Probability* **5** (1977), *no.* 3, 361–370. (Evarist Giné) **55** #13552 60G17

A note on the central limit theorem for square-integrable processes. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 2, 331–334. (Evarist Giné) **56** #6793 60F05

(*with* Dubins, Lester E.) A characterization of the families of finite-dimensional distributions associated with countably additive stochastic processes whose sample paths are in D. *Z. Wahrsch. Verw. Gebiete* **43** (1978), *no.* 2, 97–100. (Evarist Giné) **57** #17793 60Gxx

Central limit theorems in $D[0, 1]$. *Z. Wahrsch. Verw. Gebiete* **44** (1978), *no.* 2, 89–101. (Evarist Giné) **58** #18640 60B10 (60F05, 60G15)

Hahn, Peter (*with* Feldman, Jacob; Moore, Calvin C.) Orbit structure and countable sections for actions of continuous groups. *Adv. in Math.* **28** (1978), *no.* 3, 186–230. (Joel J. Westman) **58** #11217 22D40

Hahn, Philipp Matthaus *See* **Paulus, Rudolf F.**, **56** #8288

Hahn, Siegfried (*with* Pötter, Karl-Friedrich) Eine Verallgemeinerung eines Satzes von H.

H. Schaefer. *Wiss. Z. Techn. Univ. Dresden* **19** (1970), 1383–1385. (B. Fishel) **50** #8177 47H10

(*with* Riedrich, Thomas) Der Abbildungsgrad kompakter Vektorfelder in nicht notwendig lokalkonvexen topologischen Vektorräumen. *Wiss. Z. Techn. Univ. Dresden* **22** (1973), 37–42. (H. Amann) **47** #9368 47H10 (45G99)

Über Näherungslösungen von nichtlinearen Operatorengleichungen in topologischen Vektorräumen. *Wiss. Z. Techn. Univ. Dresden* **22** (1973), 489–493. (G. Vainikko) **48** #7042 47H15 (65J05)

(*with* Pötter, Karl-Friedrich) Über Fixpunkte kompakter Abbildungen in topologischen Vektorräumen. *Studia Math.* **50** (1974), 1–16. (J. Daneš) **49** #11329 47H10

Zur Leray-Schauder-Theorie in topologischen Vektorräumen. *Wiss. Z. Techn. Univ. Dresden* **24** (1975), *no.* 2, 375–378. (I. K. Marek) **55** #11113 47H10 (58E05)

Über die Stabilität von Lösungen nichtlinearer Operatorengleichungen in nicht notwendig lokalkonvexen topologischen Vektorräumen. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 3, 421–440. (Theodore Laetsch) **54** #11125 47H15

Ein Homotopieerweiterungssatz für kompakte Vektorfelder in topologischen Vektorräumen. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 4, 807–812. (J. Daneš) **55** #6256 47H99 (58D99)

Fixpunktsätze für mengenwertige Abbildungen in lokalkonvexen Räumen. *Math. Nachr.* **73** (1976), 269–283. (J. Daneš) **55** #6247 47H10

Fixpunktsätze für kompakte Abbildungen in topologischen Vektorräumen. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 315–320. *Abh. Akad. Wissensch. DDR*, *Abt. Math.-Naturwissensch.-Techn.*, *No.* 3N, *Akademie-Verlag*, *Berlin*, 1977. (Heinrich Steinlein) **58** #23801 47H10

Gebietsinvarianzsatz und Eigenwertaussagen für konzentrierende Abbildungen. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 4, 697–713. (Christian Fenske) **57** #14027 58C99 (47H10)

Ein elementarer Zugang zur Leray-Schauder-Theorie. (English summary) *Comment. Math. Univ. Carolinae* **19** (1978), *no.* 1, 71–87. (Author's summary) **58** #17990 47H10

Eine Bemerkung zur Theorie verdichtender Abbildungen. *Wiss. Z. Tech. Univ. Dresden* **27** (1978), *no.* 2, 337–340. (J. Daneš) **58** #12542 47H10 (58D15)

Hahn, Willi (*with* Burkard, Rainer E.; Zimmermann, Uwe) An algebraic approach to assignment problems. *Math. Programming* **12** (1977), *no.* 3, 318–327. (E. Ja. Gabovič) **56** #14750 90C99

Hahn, Wolfgang On linear geometric difference equations with accessory parameters. *Funkcial. Ekvac.* **14** (1971), 73–78. (C. E. Billigheimer) **48** #4557 39A15

Über den Gegenstand der sogenannten angewandten Mathematik. *Nieuw Arch. Wisk.* (3) **19** (1971), 175–187. (Editors) **57** #5555 00A25

On Salvadori's one-parametric families of Liapunov functions. *Ricerche Mat.* **20** (1971), 193–197. (K. E. Swick) **48** #6580 34D20

Über die Funktional-Differentialgleichung $f'(z)=f(qz)$ und verwandte Funktionalgleichungen. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **16** (1973), 3–21 (1974). (C. E. Billigheimer) **53** #8604 34K05 (39A10)

Rundungsfehler beim "All-integer integer programming algorithm" von Gomory. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 3, 249–254. (G. Bär) **52** #2580 90C10

Optimierungsaufgaben mit multiplikativ verknüpften binären Variablen. (English summary) *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I*, *pp.* 121–128. *Operations Research Verfahren*, *Band XVIII*, *Hain*, *Meisenheim am Glan*, 1974. (Tomas Gal) **56** #4821 90C10

Über geometrische Differenzengleichungen mit einer Einheitswurzel als Parameter. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 95–99. (D. C. Gilles) **53** #6131 39A10

(*with* Attmann, J.) Numerische Erfahrungen mit der Filtermethode von Balas in der linearen binären Optimierung. (English summary) *Computing* **14** (1975), *no.* 3, 261–270. (Wolfgang Wetterling) **53** #15352 90C10

Über orthogonalitätserhaltende Operatoren. *Mat. Vesnik* **12(27)** (1975), *no.* 4, 337–339. (D. J. Eustice) **58** #1309 33A65

On linear geometric difference equations. (French summary) With discussion. *Transformations ponctuelles et leurs applications* (*Colloq. Internat. CNRS*, *No.* 229, *Toulouse*, 1973), *pp.* 41–53, 75. *Éditions Centre Nat. Recherche Sci.*, *Paris*, 1976. (B. Choczewski) **58** #1794 39A15

Über einige Typen nichtlinearer geometrischer Differenzengleichungen. *Ber. Math.-Statist. Sekt. Forschungszentrum Graz No.* 66 (1976), 21 *pp.* (A. Halanay) **56** #9124 39A10

On the asymptotic behaviour of solutions of differential equations in a Banach space. *Math. Systems Theory* **10** (1976), *no.* 1, 77–83. (Author's summary) **57** #13050 34G05 (47H15)

Über lineare Operatoren, die mit geometrischen Differenzen gebildet werden. *Period. Math. Hungar.* 7 (1976), *no.* 2, 95–109. (K. Lajkó) **55** #6044 39A10

On nonlinear geometric difference equations. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 1, 89–94. (B. Choczewski) **58** #1781 39A10 (30A20)

On differential equations for orthogonal polynomials. *Funkcial. Ekvac.* **21** (1978), *no.* 1, 1–9. (N. Hayek-Calil) **58** #6399 33A65

Hahn, Yukap (*with* Watson, Kenneth M.) Green functions and projection operators in the semiclassical approximation. *Phys. Lett.* **45B** (1973), 304–308. (Authors' summary) **51** #14801 81.47

Adiabatic optical potential and variational lower bounds on scattering parameters near threshold. *Phys. Rev. A* (3) **12** (1975), *no.* 6, 2402–2406. (Evangelos Ifantis) **53** #2198 81.47

Reduced matrix equations for direct nuclear reactions. *Phys. Rev. C* (3) **14** (1976), *no.* 2, 446–455. (Vincenzo Grecchi) **54** #4425 81.47

Hahnel, Peter ★Kohomologie von Linienbündeln auf projektiven Faserungen. Inaugural-Dissertation zur Erlangung des Doktorgrades der Mathematisch-Naturwissenschaftlichen Fakultät der Rheinischen Friedrich-Wilhelms-Universität Bonn. Bonn. Math. Schr. No. 63 (1973). *Mathematische Institut der Universität*, *Bonn*, 1973. v+47 *pp.* (M. Schneider) **48** #11111 14F05 (20G05)

Hahnewald-Busch, Andreas *See* **Nollau, Volker**, **58** #3136

Hahn-Goldberg, Saúl Generalized linear and quasilinear accretive systems of partial differential equations. *Comm. Partial Differential Equations* **2** (1977), *no.* 2, 109–164. (Author's review (Zbl **356** #35060)) **58** #17477 35F20

Hahutaišvili, A. S. (*with* Ļevičs, E.) Hereditarily radical classes of metabelian groups. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 161–167. *Izdat.* "*Zinatne*", *Riga*, 1971. (K. A. Hirsch) **48** #2259 20E15

Radically equivalent groups and radicals in wreath products of groups. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 265–276. *Izdat.* "*Zinatne*", *Riga*, 1971. (Richard E. Phillips) **47** #8700 20F25

On the theory of radicals in the class of finite groups. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 11 (*Russian*), *pp.* 191–204. *Izdat.* "*Zinatne*", *Riga*, 1972. (K. A. Hirsch) **47** #1947 20D99

(*with* Gringlaz, L. Ja.) Varieties and formations in the class of finite groups. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 18 (1976), 57–63, 222. (*loose errata*) (B. Hartley) **57** #12702 20E10 (20D99)

Hà Huy Vui (*with* Nguyễn Tự Cường; Nguyễn Hũu Dúc; Nguyễn Sĩ Minh) Sur les germes de fonctions infiniment déterminés. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 16, A1045–A1048. (Editors) **58** #31180 58C25

nghiêm xuân Hai *See* **Nghiêm Xuân Hai**

ta kuang Haĭ *See* **Ta Kuang Haĭ**

Haĭ, G. A. *See* **Advances in game theory**, **48** #10519

Haĭ, M. V. (*with* Kīt, G. S.) Integral equations of three-dimensional thermoelasticity problems for solids with cracks. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 12, 1105–1109, 1151. (M. Sokołowski) **53** #9817 73.45

(*with* Kīt, G. S.) Temperature stresses in a strip that is weakened by arbitrarily oriented heat-insulated cracks. (Russian) *Mat. Metody i Fiz.-Meh. Polja Vyp.* 3 (1976), 20–26, 116. **56** #17352 73.45

(*with* Kīt, G. S.) Integral equations of axially symmetric problems of thermoelasticity for a solid with cracks. (Russian) *Mat. Metody i Fiz.-Meh. Polja Vyp.* 6 (1977), 3–7, 108. (L. Jentsch) **58** #14146 73.35

Integral equations of periodic problems of thermoelasticity for an infinite solid with disc-shaped cracks. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 1, 46–50, 94. (S. P. Gavelja) **58** #8680 73.45

Haĭbullina, A. H. *See* **Coding theory and information modeling**, **49** #6994

Haĭda, O. N. On the problem of limit polarization. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 751–765. (S. Kaliski) **46** #6718 78.35

Haĭdapov, D. A. Equiaffine theory of a pair of point and line forms. (Russian) *Trudy Irkutsk. Gos. Univ.* **66** (1969), 253–261. (A. Švec) **46** #8080 53A40

Haĭdarov, A. H. A certain inverse problem of potential theory. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 4, 788–789. (V. M. Isakov) **52** #14325 31A25

A problem of elimination of masses for flat domains. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 296 (1976), 132–136, 179. (Author's summary) **58** #25836 86.31

Haĭdarov, Ja. O. Application of the method for the summability of series to the solution of a mixed problem for a quasilinear equation of hyperbolic type. (Russian) *Boundary value problems for differential equations*, 5 (*Russian*), *pp.* 168–173, 186–187. *Izdat.* "*Fan*" *Uzbek. SSR*, *Tashkent*, 1975. (Author's summary) **58** #17554 35L60

Haifawi, Mahmoud Normed spaces over valued fields. *J. Reine Angew. Math.* **261** (1973), 153–156. (A. F. Monna) **48** #842 46B05

On non-archimedean β-Banach spaces. *Proceedings of the Symposium on Functional Analysis* (*Istanbul*, 1973), *pp.* 69–74. *Publ. Math. Res. Inst.-Istanbul*, *No.* 1, *Math. Res. Inst.*, *Istanbul*, 1974. (L. Narici) **54** #8247 46B99

Haigh, C. W. The combinatorial enumeration of meso-ionic heterocyclic annulenes. *Match No.* 3 (1977), 87–96. (Author's summary) **57** #9143 92A99 (05A15)

Haigh, John A neat way to prove asymptotic normality. *Biometrika* **58** (1971), *no.* 3, 677–678. (Author's summary) **55** #4471 62E20

Random equivalence relations. *J. Combinatorial Theory Ser. A* **13** (1972), 287–295. (L. H. Harper) **47** #4816 05A17

The asymptotic behaviour of a divergent linear birth and death process. *J. Appl. Probability* **15** (1978), *no.* 1, 187–191. (Andrew D. Barbour) **57** #4347 60J80

Haigh, Tom Linearization and asymptotic behavior. *Math. Systems Theory* **9** (1975), *no.* 1, 18–29. (T. G. Hallam) **52** #8578 34D10

Haight, Frank A. On a generalization of Pythagoras' theorem. *A spectrum of mathematics* (*Essays presented to H. G. Forder*), *pp.* 73–77. *Auckland Univ. Press*, *Auckland*, 1971. (E. J. F. Primrose) **54** #13705 50B05

The characterization of discrete distributions by conditional distributions. (Polish summary) *Zastos. Mat.* **13** (1972/73), 207–213. (S. M. Samuels) **48** #3156 62E10

(*with* Jones, Robert B.) A probabilistic treatment of qualitative data with special reference to word association tests. *J. Mathematical Psychology* **11** (1974), 237–244. (M. Iosifescu) **50** #4001 92A25

Haight, J. A. Difference covers which have small k-sums for any k. *Mathematika* **20** (1973), 109–118. (A. P. Street) **49** #2644 10L10

A set of infinite measure whose ratio set does not contain a given sequence. *Séminaire de Théorie des Nombres*, 1974–1975 (*Univ. Bordeaux I*, *Talence*), *Exp. No.* 17, 8 *pp.* *Lab. Théorie des Nombres*, *Centre Nat. Recherche Sci.*, *Talence*, 1975. (M. Mendès France) **52** #13712 10K99

A set of infinite measure whose ratio set does not contain a given sequence. *Mathematika* **22** (1975), *no.* 2, 195–201. (F. Schweiger) **53** #3236 28A05 (10K99)

abu-el-Haija, Ahmad I. *See* **Abu-El-Haija, Ahmad I.**

Haijam, Omar *See* **Khayyām, Omar**

Haĭkin, A. L. (*with* Borisovič, O. Ju.) The concept of the rotation of a vector field on a manifold. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 20 (1975), 19–23. (Alan West) **57** #7579 55C20 (57D25)

Haĭkin, B. E. Schemes for the discretization and formulation of the variational equation in the solution of problems of plastic flow by means of variational-difference methods. (Russian) Approximate solution of boundary value problems and of functional equations. *Perm. Politehn. Inst. Sb. Naučn. Trudov No.* 152 (1974), 18–29. (B. Vujanovic) **53** #12175 73.65

Haĭkin, I. A. Models of an evolving linear system. (Russian) *Upravlenie Složn. Sistemami* (*Riga*) *Vyp*. 2 (1975), 13–26, 135. (Ştefan Ţigan) **57** #15613 93B99 (90C05)

Forming the initial state of an evolving linear system with an incompatible structure. (Russian) *Upravlenie Složn. Sistemami* (*Riga*) *Vyp*. 2 (1975), 27–32, 135. (Ştefan Ţigan) **57** #15614 93B99 (90C05)

Haĭkin, Ju. E. (*with* Maz′ja, V. G.) A remark on the continuity in L_2 of a singular integral operator. (Russian. English summary) *Vestnik Leningrad. Univ.* **24** (1969), *no*. 19, 156–159. (Authors' summary) **56** #6475 47G05

The boundedness of pseudodifferential operators in weight spaces. (Russian) *Dokl. Akad. Nauk SSSR* **190** (1970), 289–292. (Editors) **54** #3510 47G05

Singular integral operators in L_2 spaces with a weight. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 437–441, 463–464. (Monty Strauss) **48** #12163 47G05 (35S05)

(*with* Maz′ja, V. G.) The continuity of singular integral operators in normed spaces. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no*. 1 *Mat. Meh. Astronom. vyp*. 1, 28–34, 160. (From the text) **58** #30517 47G05 (45E99)

(*with* Maz′ja, V. G.; Plamenevskiĭ, B. A.) A well-posed problem for singular integral equations with a symbol that goes to zero. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no*. 8, 1479–1486, 1541. (V. B. Dybin) **57** #7263 47G05

Haĭkin, M. I. The regularization of operators with a nonclosed range of values. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no*. 8(99), 118–123. (J. Benkö (Zbl **205**, 142)) **57** #1175 47B30

The exceptional case of the Riemann problem. (Russian) *Trudy Sem. Kraev. Zadačam Vyp*. 7 (1970), 283–288. (Zbl **206**, 365) **58** #17128 30A88

An exceptional case of the homogeneous Riemann problem with finite index of the coefficient. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no*. 5(120), 92–103. (S. A. Tersenov) **47** #480 30A88

The singular case of a singular integral operator with piece-wise continuous coefficients. (Russian) *Mat. Issled.* 7 (1972), *no*. 3(25), 194–209, 273. (S. G. Samko) **47** #7523 47G05 (45E05)

The zeros of a singular integral operator with piece-wise continuous coefficients in the singular case. (Russian) *Mat. Issled.* **8** (1973), *no*. 1(27), 171–179, 241. (S. G. Samko) **47** #7524 47G05 (45E05)

A singular integral equation with continuous coefficients in a special case. *Trudy Sem. Kraev. Zadačam No*. 10 (1973), 152–162. (Jürgen Leiterer) **50** #5397 45E05

The singular case of the Wiener-Hopf system of equations. (Russian) *Mat. Issled.* **9** (1974), *no*. 1(31), 131–142. (F. Smithies) **51** #3973 47G05 (45E10)

The set of values of a singular integral operator on a special case. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no*. 2 (165), 119–122. (N. K. Karapetjanc) **56** #6472 47G05 (45E05)

A special case of a system of singular integral equations and convolution equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 4(179), 141–144. (D. Przeworska-Rolewicz) **57** #10386 45E10

Haĭkin, N. M. (*with* Semenov, V. M.; Mogila, V. G.) A certain method of solving a volume scheduling problem. (Russian) *Mathematical methods of solution of economic problems* (*Suppl. to Èkonom. i Mat. Metody*), *No*. 5, (*Russian*), *pp*. 80–91. *Izdat. "Nauka", Moscow*, 1974. (V. D. Dimitrov) **52** #4984 90B35

(*with* Zak, E. I.) The construction of a minimal packing of a tree in the problem of optimal distribution of memory. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no*. 3, 58–63. (Authors' summary) **58** #32032 68A10

Haĭkovič, I. M. The method of least squares in the problem of signal filtering and in the inverse problem of geophysics. (Russian) *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1972**, *no*. 1, 65–70. (Ulrich Eckhardt) **52** #9974 86.45 (65R05)

Haile, Alemayehu (*with* Webster, John T.) An improved quadratic estimator for variance components. (French summary) *Biometrics* **29** (1973), 408–413. (W. Uhlmann) **48** #9998 62J10

Haile, Darrell E. The closed socle of a central separable algebra. *J. Algebra* **51** (1978), *no*. 1, 97–106. (F. DeMeyer) **57** #3181 16A16

Hailperin, Theodore ★Boole's logic and probability. A critical exposition from the standpoint of contemporary algebra, logic and probability theory. Studies in Logic and the Foundations of Mathematics, Vol. 85. *North-Holland Publishing Co., Amsterdam-New York-Oxford*, 1976. x + 245 *pp*. (K. Inoue) **56** #2744 01A55 (60A05, 60–03, 02–03, 02B05)

Hailpern, Brent Continuous non-differentiable functions. *Pi Mu Epsilon J*. **6**, *no*. 5, 249–260 (1976). (K. M. Garg) **56** #3207 26A27

Haimes, Yacov Y. (*with* Lasdon, Leon S.; Wismer, David A.) On a bicriterion formulation of the problems of integrated system identification and system optimization. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-1** (1971), 296–297. (R. Petrović) **45** #9457 93B30

Integrated system identification and optimization. *Control and dynamic systems: advances in theory and applications, Vol*. 10, *pp*. 435–518. *Academic Press, New York*, 1973. (From the author's introduction) **56** #8109 93B30 (93C99)

(*with* McGrew, D. R.) Parametric solution to the joint system identification and optimization problem. *J. Optimization Theory Appl.* **13** (1974), 582–605. (R. Petrović) **51** #7660 93B30

(*with* Nainis, W. Scott) A multilevel approach to planning for capacity expansion in water resource systems. *IEEE Trans. Systems Man Cybernet.* **SMC-5** (1975), *no*. 1, 53–63. (Andrew P. Sage) **53** #15387 90C50 (90A99)

(*with* Hall, Warren A.) The surrogate worth trade-off method with multiple decision-makers. *Multiple criteria decision making* (*Papers, 22nd Internat. Meeting Inst. Management Sci.* (*TIMS*), *Kyoto*, 1975), *pp*. 207–233. *Lecture Notes in Econom. and Math. Systems, Vol*. 123, *Springer, Berlin*, 1976. (Authors' summary) **56** #7778 90A05

Haimo, Deborah Tepper The reduced Poisson-Hankel transform. I. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **13(17)** (1967), *no*. 3-4, 39–42. (F. M. Cholewinski (Zbl **157**, 195)) **46** #9658 44A15

The reduced Poisson-Hankel transform. II. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **14(18)** (1968), *no*. 1-2, 105–109. (See Zbl **176**, 421) 44A15

Equivalence of integral transform and series expansion representations of generalized temperatures. *Analytic methods in mathematical physics* (*Sympos., Indiana Univ., Bloomington, Ind*., 1968), *pp*. 453–459. *Gordon and Breach, New York*, 1970. (Editors) **50** #14084 44A15 (35K05)

(*with* Cholewinski, Frank M.) Inversion of the Hankel potential transform. *Pacific J. Math.* **37** (1971), 319–330. (J. N. Pandey) **46** #4115 44A15

Series expansions for dual Laguerre temperatures. *Canad. J. Math.* **24** (1972), 1145–1153. (Y. L. Luke) **47** #613 35C10 (35K05)

Series expansions with convergence in the mean for dual Laguerre temperatures. *Indiana Univ. Math. J.* **22** (1972/73), 207–215. (Y. L. Luke) **46** #2117 33A65 (35K05)

(*with* Cholewinski, Frank M.) Inversion of the reduced Poisson-Hankel transform. *J. Analyse Math.* **25** (1972), 323–343. (H. Kober) **46** #5947 44A15

Widder temperature representations. *J. Math. Anal. Appl.* **41** (1973), 170–178. (Manfred W. Kracht) **47** #3836 35K05 (35C99)

(*with* Cholewinski, Frank M.) The $\mathcal{C}$-Borel transform. *Proc. Amer. Math. Soc.* **42** (1974), 445–451. (J. N. Pandey) **48** #9281 44A15

(*with* Askey, Richard A.) Series inversion of some convolution transforms. *J. Math. Anal. Appl.* **59** (1977), *no*. 1, 119–129. (Hans-Jürgen Glaeske) **56** #988 44A35

Haimo, Franklin The index of an algebra automorphism group. *Conference on Group Theory* (*Univ. Wisconsin-Parkside, Kenosha, Wis*., 1972), *pp*. 85–90. *Lecture Notes in Math., Vol*. 319, *Springer, Berlin*, 1973. (Chang M. Bang) **54** #5090 08A25 (20B25).

Radical and antiradical groups. *Rocky Mountain J. Math.* **3** (1973), 91–106. (Anthony E. Hoffman) **50** #375 16A21 (20K99)

Closed hulls in infinite symmetric groups. *Trans. Amer. Math. Soc.* **180** (1973), 475–484. (I. Gy. Maurer) **48** #429 20E99

Haimov, N. B. Distribution of the singular points of the first and second group. (Russian) *Dušanbin. Gos. Ped. Inst. Učen. Zap.* **53** (1966), *Ser. Mat. no*. 5, 117–126. (See RŽMat **1969** #11 B237) 34C05

The location of the characteristics of a certain differential equation. (Russian) *Dušanbin. Gos. Ped. Inst. Učen. Zap.* **53** (1966), *Ser. Mat. no*. 5, 127–132. (See RŽMat **1967** #11 B244) 34C99

Haimova, P. L. Simply connected and non-simply connected closed integral surfaces determined by a Pfaffian equation. (Russian) *Dušanbin. Gos. Ped. Inst. Učen. Zap.* **53** (1966), *Ser. Mat. no*. 5, 133–164. (See RŽMat **1967** #11 B326) 34C99

Haimovici, Adolf Sur certains invariants dans les espaces à transport non-linéaire. I. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **14(62)** (1970), 327–351 (1971). (L. Tamássy) **48** #2921 53B15

Sur le comportement de la solution d'un certain système d'équations hyperboliques. *Methoden und Verfahren der mathematischem Physik, Band* 5, *pp*. 141–170. *B. I.-Hochschulskripten, No*. 724*a-b*, *Bibliographisches Inst., Mannheim*, 1971. (S. Cinquini) **51** #3710 35L55

Weakly homogeneous equations and homogeneous distributions. (Romanian. French summary) *An. Univ. Timişoara Ser. Şti. Mat.* **9** (1971), 73–77. (Author's summary) **49** #1099 46F10

On some invariants in spaces with non-linear transport. II. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 113–117. (S. Takizawa) **48** #7135 53A55

Sur le comportement des solutions d'un problème de Dirichlet. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **19** (1973), 139–159. (Howard A. Levine) **49** #802 35B40

Sur une exponentielle généralisée. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **17(65)** (1973), *no*. 4, 401–412 (1975). (P. M. Anselone) **52** #8827 45D05

Professor Constantin Borş. (Romanian) *Gaz. Mat. Ser. A* **78** (1973), 79–80. **50** #4214 01A70

Periodic solutions of hyperbolic partial differential equations. *Ann. Mat. Pura Appl.* (4) **98** (1974), 297–309. (Genowefa Majcher) **54** #3137 35B10 (35L35)

A page from the history of the Mathematics Seminar of Iaşi: Gr. C. Moisil. (Romanian) *Gaz. Mat. Ser. A* **79** (1974), 34–37. (Editors) **57** #5616 01A65 (01A70)

Periodic solutions of differential equations with set functions as unknowns. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 161–170. (L. Cesari) **49** #9338 34C25

On the behaviour of the solutions of a system of differential equations with set functions as unknowns. I. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **59** (1975), *no*. 6, 718–724 (1976). (L. D. Fountain) **58** #6556a 34D99

On a unitary method for integration, partial derivation and interpolation formulae. *Rev. Anal. Numér. Théor. Approx.* **4** (1975), *no*. 1, 5–11. (From the summary) **58** #31720 65D05

★Ecuaţii diferentiale cu funcţii de mulţime ca necunoscute. (Romanian) [Differential equations with set functions as unknowns] With an English summary and table of contents. Analiza Modernă şi Aplicaţii. [Modern Analysis and Applications] *Editura Academiei Republicii Socialiste România, Bucharest*, 1976. 167 *pp*. (C. Corduneanu) **56** #12881 46G99 (34G05, 34A99, 35L99)

On the behaviour of the solutions of a system of differential equations with set functions as unknowns. II. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no*. 1, 32–41. (L. D. Fountain) **58** #6556b 34D99

Periodic solutions of differential equations with set functions as unknowns. *Proceedings of the Conference on Differential Equations and their Applications* (*Univ. Iaşi, Iaşi*, 1973), *pp*. 31–35. *Editura Acad. R.S.R., Bucharest*, 1977. (Henryk Adamczyk) **57** #6853 35L15 (35B10, 45D05)

Invariant solutions of differential equations. *An. Ştiinţ. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **23** (1977), *no*. 2, 347–351. (R. K. Miller) **58** #11659 34C20

On a uniform method for integration, differentiation and interpolation with applications to the numerical solution of a class of partial differential equations. *J. Approx. Theory* **23** (1978), *no*. 2, 87–98. (Thomas A. Atchison) **58** #8165 65D30 (65P05)

See also **Corduneanu, Constantin; et al.**, **50** #4210

Haimovici, Mendel *See* **Obituary: Haimovici, Mendel**, **52** #10342; **Grindei, I.; et al.**, **53** #50 *and* **Ieşan, Dorin; et al.**, **55** #7694

Haimulin, Ju. N. Barlotti's formulae. (Russian) *Čuvaš. Gos. Ped. Inst. Učen. Zap. No*. 27 (1966), 58–63. (K. Burian) **52** #15226 50D30

Interpretations of a class of noncommutative quasifields in affine Galois planes. (Russian) *Current problems in geometry and its applications, No.* 2 (*Russian*), *pp.* 74–78, 128. *Čuvaš. Gos. Univ., Cheboksary*, 1976. (Author's summary) **58** #30734 50D35

ain, Richard M. (*with* Eades, Peter) On circulant weighing matrices. *Ars Combinatoria* **2** (1976), 265–284. (Authors' summary) **55** #7808 05B20

Hainer, Karl Lösung des Dirichletproblems und Konvergenz der Differenzenapproximation für elliptische Differentialgleichungen zweiter Ordnung. *Math. Z.* **131** (1973), 189–211. (Lars B. Wahlbin) **52** #8645 35J25

Haines, Andrew L. (*with* Singpurwalla, Nozer D.) Some contributions to the stochastic characterization of wear. *Reliability and biometry: statistical analysis of lifelength* (*Proc. Conf., Florida State Univ., Tallahassee, Fla.*, 1973), *pp.* 47–80. *Soc. Indust. Appl. Math., Philadelphia, Pa.*, 1974. (A. C. Cohen) **50** #6086 62N05

Haines, David C. Injective objects in the category of *p*-rings. *Proc. Amer. Math. Soc.* **42** (1973), 57–60. (R. A. Melter) **48** #3837 06A70 (16A38)

Haines, Leonard ★Representation theorems for context sensitive languages. *Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, Calif.*, 1970. i + 36 *pp.* (S. Ginsburg) **53** #9731 68A30

Haĭnig, G. *See also* **Heinig, Georg**

Haĭnis, Ioannis Th. Distributions stochastiques de L. Schwartz à valeurs vectorielles. *Bull. Soc. Math. Grèce* (*N.S.*) **11** (1970), *no.* 1, 34–46. (M. Balanzat) **48** #5135 60B05

Quelques propriétés sur le produit tensoriel des distributions stochastiques du Schwartz. *Bull. Soc. Math. Grèce* (*N.S.*) **15** (1974), 29–38. (Author's summary) **58** #30199 46F99 (60G20)

Une loi multiplicative des grands nombres. *Math. Balkanica* **5** (1975), 134–137. (From the introduction) **58** #24458 60B99 (46K05)

A multiplicative ergodic theorem in commutative Banach algebra. *Nonlinear Anal.* **1** (1976/77), *no.* 5, 455–458. (T. A. Gillespie) **58** #30263 46J05 (47A35)

A multiplicative ergodic theorem in commutative Banach algebra. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 5, 649–653. (M. S. Ramanujan) **56** #9266 46J05

Hainzl, Josef On local generalizations of the Pi-theorem of dimensional analysis. Modern dimensional analysis, similitude and similarity. *J. Franklin Inst.* **292** (1971), 463–470. (J. L. Kazdan) **49** #6708 69.00

★Mathematik für Naturwissenschaftler. Leitfäden der angewandten Mathematik und Mechanik LAMM, Band 19. Teubner Studienbücher, Mathematik. *B. G. Teubner, Stuttgart*, 1974. 311 *pp.* (Editors) **53** #7169 69.00

Zur Gruppeninvarianz linearer partieller Differentialgleichungen mit konstanten Koeffizienten. *Arch. Rational Mech. Anal.* **59** (1975), *no.* 2, 149–158. (J. Chrastina) **52** #6163 35E99

★Mathematik für Naturwissenschaftler. Teubner Studienbücher: Mathematik. *B. G. Teubner, Stuttgart*, 1977. 311 *pp. ISBN* 3-519-12326-6 (Editors) **57** #5527 00A05

Zur Faktorisierung und Vertauschbarkeit von linearen homogenen partiellen Differentialoperatoren. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T234–T236. (J. Chrastina) **56** #815 35A30

Haĭoš, D. *See* **Hajós, György**

Hairer, E. (*with* Wanner, Gerhard) Multistep-multistage-multiderivative methods of ordinary differential equations. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 3, 287–303. (C. W. Gear) **51** #14590 65L05

(*with* Wanner, Gerhard) On the Butcher group and general multi-value methods. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), *no.* 1, 1–15. (J. C. Butcher) **53** #7037 65L05

(*with* Wanner, Gerhard) A theory for Nyström methods. *Numer. Math.* **25** (1975/76), *no.* 4, 383–400. (D. F. Mayers) **55** #6857 65L05

Méthodes de Nyström pour l'équation différentielle $y''=f(x,y)$. (English summary) *Numer. Math.* **27** (1976/77), *no.* 3, 283–300. (J. C. Butcher) **56** #4174 65L05

On the order of iterated defect correction. *Numer. Math.* **29** (1977/78), *no.* 4, 409–424. (V. Sree Hari Rao) **58** #24959 65L05

A Runge-Kutta method of order 10. *J. Inst. Math. Appl.* **21** (1978), *no.* 1, 47–59. (I. Norman Katz) **58** #8270 65L05 (65H10)

Haĭretdinova, N. G. On the oriental sources of the Regiomontanus' trigonometrical treatise. *Arch. Internat. Histoire Sci.* **23** (1970), *no.* 90-91, 61–66. (See Zbl **224** #01017) 01A40 (01A25)

On the history of Naṣīr ad-Dīn aṭ-Ṭūsī's *Treatise on the quadrilateral.* (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1976**, *no.* 1(54), 42–43, 97, 107. (B. Rozenfel′d) **58** #10012 01A30

See also **Khayyām, Omar**, 57 #12026 *and* **Husam ad-Dīn as-Salar**, **58** #4807

Hairov, A. A. (*with* Ogaĭ, S. V.) A method for the construction of Diophantine equations that have a finite number of rational points. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970), 202–204. (See RŽMat **1970** #12 A101) 10B15 (14G05)

Hairov, A. R. Cubature formulas of a special form. (Russian) *Functional analysis, theory of functions and their applications, No.* 1 (*Russian*), *pp.* 171–178, 10. *Dagestan. Gos. Univ., Makhachkala*, 1974. (Gheorghe Coman) **56** #6230 41A55 (65D30)

Cubature formulas for functions of the class $V^{(p)}$ $(p \geqslant 1)$. (Russian) *Functional analysis, theory of functions and their applications, No.* 1 (*Russian*), *pp.* 179–181, 10. *Dagestan. Gos. Univ., Makhachkala*, 1974. (Gheorghe Coman) **56** #6231 41A55

Haĭrullin, E. The general boundary value problem of the heat equation for the one-dimensional case with a discontinuous coefficient. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **1** (1970), 233–239, 331–332. (Author's summary) **56** #12594 35K05

The general boundary value problem of the heat equation in a multidimensional space for a strip. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **2** (1971), 103–107, 343–344. (Author's summary) **56** #12595 35K05

The general boundary value problem of the heat equation in a multidimensional space with a discontinuous coefficient for a strip. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **2** (1971), 107–112, 344. (From the author's summary) **56** #12596 35K05

The Cauchy problem for a certain class of linear integro-differential equations. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 3, 70–74, 94. (Nicolae Luca) **52** #14883 45J05

(*with* Mašrapov, N. K.) A mixed problem with a directional derivative for a parabolic system with discontinuous coefficients. (Russian) *Theoretical and applied problems in mathematics and mechanics* (*Russian*), *pp.* 292–299, 317. *Nauka Kazah. SSR, Alma-Ata*, 1977. (Editors) **58** #29257 35K40 (35C99)

Haĭrullin, G. T. Some Diophantine equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 2(105), 105–112. (J. Browkin) **45** #6757 10B10

Haĭrullin, I. H. (*with* Nikolenko, V. N.) A certain mixed problem for a degenerate equation of hyperbolic type. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1969), *no.* 3, 131–134. (P. Ungar) **46** #530 35L20

On a problem for a degenerate equation of hyperbolic type. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 7 (1970), 289–292. (Zbl **211**, 408) **58** #17566 35M05

Haĭrullin, R. H. A certain algorithm for Monte Carlo methods for finding the maximal characteristic number of a positive linear operator. (Russian) *Functional analysis and the theory of functions, No.* 8 (*Russian*), *pp.* 156–166. *Izdat. Kazan. Univ., Kazan*, 1971. (I. Šelihova (RŽMat **1972** #5 B1163)) **54** #4483 82.60

An algorithm of Monte Carlo methods for calculations of critical systems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 10(185), 138–149. (S. V. Temko) **57** #8830 82.65

See also **Orthogonal polynomial expansion**, **58** #29733

Haĭrullin, S. H. *See* **Studies in the theory of plates and shells**, **48** #3343

Haĭrutdinov, I. V. The alternation of the saddles and anti-saddles of a certain differential equation. (Russian) *Volž. Mat. Sb. No.* 8 (1971), 211–214. (M. Bertolino) **45** #8921 34C05

(*with* Normatov, P.) The distribution of the singular points of a certain differential equation if (0,0) is a dicritical node. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1976**, *no.* 3(61), 58–61. (M. Bertolino) **55** #12998 34C05

Haisch, Bernhard M. A tensor formulation of the equation of transfer for spherically symmetric flows. *Astrophys. J.* **205** (1976), *no.* 2, *part* 1, 520–526. (Attay Kovetz) **53** #12512 85.65

ibn al-Haitham, Ḥasan *See* **Bruins, E. M.**, (See Zbl **214**, 259); **Sokolova, E. I.**, **50** #6750; **Stiegler, Karl**, **56** #5137; **Sesiano, Jacques**, **57** #12031; **Rozenfel′d, B. A.**, **58** #10015; **Gurova, A. K.**, **58** #26782 *and* **Rozenfel′d, B. A.**, **58** #26798

Haĭtman, S. M. (*with* Urjukov, B. A.) Model-independent properties of an electrical arc burning in a turbulent jet. (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR Ser. Tehn. Nauk* **1977**, *no.* 8, 91–96, 159. (From the text) **58** #19795 76.60

Haitov, A. Hamilton equations for a system of an indefinite number of particles. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **15** (1971), *no.* 2, 26–33. (Q. K. Ghori) **45** #1436 70.34

(*with* Minlos, R. A.) Limit equivalence of thermodynamic ensembles in the case of one-dimensional classical systems. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 4, 93–94. (Alexej Sitenko) **49** #10311 82.60

Limit equivalence of different ensembles for one-dimensional statistical systems. (Russian) *Trudy Moskov. Mat. Obšč.* **28** (1973), 215–260. (H. Debes (Zbl **295** #60085)) **57** #2384 82.60

(*with* Minlos, R. A.) The limit equivalence of thermodynamical ensembles in the case of one-dimensional systems. (Russian) *Trudy Moskov. Mat. Obšč.* **32** (1975), 146–186. (Ju. M. Suhov) **54** #4485 82.60

Some properties of the Gibbs limit distribution for homogeneous systems. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 548 *Voprosy Mat.* (1977), 100–109, 145–146. (Steven M. Moore) **58** #32695 82.60

See also **Transactions of the Moscow Mathematical Society**, **50** #9479

Haitov, T. I. Certain theorems in the theory of periodic cubature formulae with the derivatives given. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **18** (1975), *no.* 1, 12–15. (Walter Gautschi) **52** #4584 65D30

Haĭtun, S. D. On the history of the Gibbs paradox. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1975**, *no.* 3(52), 52–56, 102 (1976). (Editors) **58** #21210 01A55 (80.01, 82.01)

Haĭtvaeva, H. (*with* Maksudov, T. S.) Some quadrature formulas for the calculation of the approximate value of the integral $\int_0^1(\ln x^{-1})^{\alpha-1}f(x)\,dx$. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 23 (1974), 16–29, 222. (I. P. Mysovskih) **58** #3338 65D30

Hajarnavis, C. R. (*with* Lenagan, Thomas H.) Localisation in Asano orders. *J. Algebra* **21** (1972), 441–449. (R. A. Beauregard) **46** #9090 16A18

On Small's theorem. *J. London Math. Soc.* (2) **5** (1972), 596–600. (M. Djabali) **47** #1844 16A08

Non-commutative rings whose homomorphic images are self-injective. *Bull. London Math. Soc.* **5** (1973), 70–74. (A. Zaks) **47** #3452 16A52

(*with* Chatters, A. W.; Norton, N. C.) The Artin radical of a Noetherian ring. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 3, 379–384. (RŽMat **1978** #10 A168) **58** #22146 16A21

(*with* Chatters, A. W.) Rings in which every complement right ideal is a direct summand. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 109, 61–80. (Robert Gordon) **55** #10519 16A48

Hajdin, Nikola (*with* Krajcinovic, Dusan) Integral equation method for solution of boundary value problems of structural mechanics. I. Ordinary differential equations. *Internat. J. Numer. Methods Engrg.* **4** (1972), 509–522. (J. W. Dailey) **47** #1308a 65N99

(*with* Krajcinovic, Dusan) Integral equation method for solution of boundary value problems of structural mechanics. II. Elliptic partial differential equations. *Internat. J. Numer. Methods Engrg.* **4** (1972), 523–539. (J. W. Dailey) **47** #1308b 65N99

Hajduk, B. A characterization of differentiable submanifolds of Euclidean spaces. *Colloq. Math.* **27** (1973), 75–79. (H. R. Gluck) **48** #9728 57A35

Presentations of the fundamental group of a manifold. *Colloq. Math.* **34** (1975/76), *no.* 2, 235–240. (B. J. Sanderson) **55** #9068 55A05

Comparing handle decompositions of homotopy equivalent manifolds. *Fund. Math.* **95** (1977), *no.* 1, 35–47. (R. C. Kirby) **56** #9554 57D80 (57C20)

Hajduković, Dimitrije Almost weak convergence. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth. *Math. Balkanica* **3** (1973), 124–128. (J. A. Van Casteren) **50** #8021 46B15

The matrices generated by the almost convergent functions. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth. *Math. Balkanica* **3** (1973), 129–133. (W. Beekmann) **50** #10594 40C05

Generalized Banach limits in normed spaces. (Russian) Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 239–243. (Ivan Singer) **52** #8885 46B05

Almost convergence of vector sequences. *Mat. Vesnik* **12(27)** (1975), *no.* 3, 245–249. (K. Chandrasekhara Rao) **52** #3791 40H05

F-conservative matrices. *Math. Balkanica* **5** (1975), 138–142. (W. Beekmann) **58** #23239 40C05 (40D25)

The functionals of the kind of Banach limits. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **19(33)** (1975), 73–76. (A. C. Zaanen) **53** #6299 46E15

Hajek, Darrell W. (*with* Strecker, George, E.) Direct limits of Hausdorff spaces. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 165–169. *Academia*, *Prague*, 1972. (H. Herrlich) **50** #8410 54B25

A characterization of T_3-spaces. *Indiana Univ. Math. J.* **23** (1973/74), 23–25. (E. P. Rozycki) **48** #4997 54D10

(*with* Wilson, Richard G.) Compact spaces are inverse limits of supercompact spaces. *J. London Math. Soc.* (2) **6** (1973), 690–692. (Donald Plank) **49** #11472 54D30

(*with* Wilson, Richard G.) The non-simplicity of certain categories of topological spaces. *Math. Z.* **131** (1973), 357–359. (H. Herrlich) **47** #9535 54D10 (18B05)

(*with* Wilson, Richard G.) Categories of m-bounded Hausdorff spaces. *Michigan Math. J.* **20** (1973), 285–288. (M. Hušek) **47** #7693 54D35

Functions with continuous Wallman extensions. *Czechoslovak Math. J.* **24(99)** (1974), 40–43. (Douglas Harris) **51** #1743 54D35 (54C20)

(*with* Wilson, Richard G.) Minimal embedding-reflective subcategories in the category of Hausdorff spaces. *Indiana Univ. Math. J.* **24** (1974/75), 995–999. (V. Kannan) **51** #11404 54B30

(*with* Wilson, Richard G.) Embedding in m-bounded completely Hausdorff spaces. *Nanta Math.* **7** (1974), *no.* 2, 60–61. (W. W. Comfort) **51** #9020 54D15

A note on Wallman extendible functions. *Proc. Amer. Math. Soc.* **44** (1974), 505–506. (C. E. Aull) **49** #9812 54D35 (54C20)

(*with* Todd, Aaron R.) Lightly compact spaces and infra H-closed spaces. *Proc. Amer. Math. Soc.* **48** (1975), 479–482. (Jack R. Porter) **51** #6726 54D30

Preserving separation properties under direct limits. *Nanta Math.* **9** (1976), *no.* 2, 141–146. (H. Herrlich) **56** #16567 54D10 (54B25)

On the nonmaximality of the category of WI-functions. *Nanta Math.* **9** (1976), *no.* 2, 147–148. (Editors) **58** #24193 54D35

(*with* Jiménez, Angel E.) A note on KC Wallman compactifications. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 176–178 (1977). (Richard A. Alò) **55** #1308 54D35

Wallman extendible functions with normal domains. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos.*, *Prague*, 1976). *Part B*, *pp.* 154–155. *Soc. Czechoslovak Mathematicians and Physicists*, *Prague* 1977. (G. E. Strecker) **57** #1398 54C10

Categories of Wallman extendible functions. *Compositio Math.* **34** (1977), *no.* 1, 109–111. (A. Pultr) **56** #6603 54D35 (18B99)

(*with* Barr, Dennis) Normality inducing spaces. *General Topology and Appl.* **7** (1977), *no.* 1, 89–97. (Richard A. Alò) **55** #6350 54C20 (54D15)

(*with* Vega, Jossie) WC functions and the closed intersection property. *Indiana Univ. Math. J.* **26** (1977), *no.* 4, 789–790. (G. L. Cain, Jr.) **56** #6591 54C20

Uniquely Wallman extendible functions with a nonregular range. *Math. Colloq. Univ. Cape Town* **11** (1977), 7–11. (C. E. Aull) **57** #1423 54D35

Relatively Hausdorff compactifications are second category. *Nanta Math.* **10** (1977), *no.* 1, 67. (Zbl **366** #54012) **58** #24194 54D35

(*with* Justiniano, Madeline) A compactification for T_3 spaces. *Nanta Math.* **10** (1977), *no.* 1, 68–71. (From the introduction) **58** #24195 54D35

Some results concerning the Wallman compactification. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** (1977/78), *no.* 1-3, 139–146. (G. L. Cain, Jr.) **58** #2723 54D35

Hájek, Jaroslav Limiting properties of likelihoods and inference. With comments by V. P. Godambe, C. R. Rao and H. Rubin and a reply by the author. *Foundations of statistical inference* (*Proc. Sympos.*, *Univ. Waterloo*, *Waterloo*, *Ont.*, 1970), *pp.* 142–162. *Holt, Rinehart and Winston of Canada*, *Toronto*, *Ont.*, 1971. (J. Wolfowitz) **51** #11791 62F20

Local asymptotic minimax and admissibility in estimation. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California*, *Berkeley*, *Calif.*, 1970/1971), *Vol. I*: *Theory of statistics*, *pp.* 175–194. *Univ. California Press*, *Berkeley*, *Calif.*, 1972. (G. Roussas) **53** #4344 62F10

Asymptotic theories of sampling with varying probabilities without replacement. *Proceedings of the Prague Symposium on Asymptotic Statistics* (*Charles Univ.*, *Prague*, 1973), *Vol. I*, *pp.* 127–138. *Charles Univ.*, *Prague*, 1974. (Jan Lanke) **53** #4318 62D05

Asymptotic sufficiency of the vector of ranks in the Bahadur sense. *Ann. Statist.* **2** (1974), 75–83. (M. Raghavachari) **50** #8825 62G10

(*with* Kimeldorf, George S.) Regression designs in autoregressive stochastic processes. Collection of articles dedicated to Jerzy Neyman on his 80th birthday. *Ann. Statist.* **2** (1974), 520–527. (A. Ja. Dorogovcev) **50** #8882 62M10 (62K05)

See also **Strnad, Vladimír**, **50** #1821; **Rényi, Alfréd**, **50** #3281; **Proceedings: Prague Symposium on Asymptotic Statistics**, **51** #2035; **Proceedings: Prague Symposium on Asymptotic Statistics**, **51** #2036; **Šidák, Zbyněk**, **51** #5244; **Šidák, Zbyněk**, **52** #5297; **Šidák, Zbyněk**, **52** #5298; **Obituary: Hájek, Jaroslav**, **54** #2399 *and* **Basu, D.**, **54** #11600

Hájek, Miloslav A contribution to the parameter estimation of a certain class of dynamical systems. (Czech summary) *Kybernetika* (*Prague*) **8** (1972), 165–173. (M. J. Davies) **48** #10556 93B15

Hájek, Mojmír *See* **Conference: Mathematical Methods in Economics**, **49** #6886

Hájek, Otomar Prolongations in topological dynamics. *Seminar on Differential Equation and Dynamical Systems, II* (*Univ. Maryland*, *College Park*, *Md.*, 1969), *pp.* 79–89, *Lecture Notes in Math.*, *Vol.* 144, *Springer*, *Berlin*, 1970. (S. Ahmad) **52** #15416 54H20

Representation of dynamical systems. *Funkcial. Ekvac.* **14** (1971), 25–34. (S Ahmad) **46** #4510 54H20

(*with* Simanaitis, D. J.) Limit points which are not sequentially attainable. *Math Systems Theory* **5** (1971), 289–291. (D. C. Kent) **46** #2659 54H20 (34C35)

Identification of control systems by performance. *Math. Systems Theory* **5** (1971), 349–352. (Henry Hermes) **46** #1401 93C05 (93B30)

Geometric theory of time-optimal control. *SIAM J. Control* **9** (1971), 339–350. (L. D. Berkovitz) **45** #5848 49E15

Terminal manifolds and switching locus. *Math. Systems Theory* **6** (1972/73), 289–301. (J. Kučera) **52** #15186 49E15 (93C15)

Non-minimality of 3-manifolds. *Recent advances in topological dynamics* (*Proc. Conf.*, *Yale Univ.*, *New Haven*, *Conn.*, 1972; *in honor of Gustav Arnold Hedlund*), *pp.* 140–142. *Lecture Notes in Math.*, *Vol.* 318, *Springer*, *Berlin*, 1973. (M. A. Geraghty) **53** #1551 54H20

Strategy design in pursuit games. *Differential games and control theory* (*Proc. NFS-CBMS Regional Res. Conf.*, *Univ. Rhode Island*, *Kingston*, *R.I.*, 1973), *pp.* 71–79. *Lecture Notes in Pure Appl. Math.*, *Vol.* 10, *Dekker*, *New York*, 1974. (See Zbl **298** #90079; MR **50** #9361) 90D25

Duality for differential games and optimal control. *Math. Systems Theory* **8** (1974), *no.* 1, 1–7. (Ronald J. Stern) **52** #7570 90D25 (49E30)

Cores of targets in linear control systems. *Math. Systems Theory* **8** (1974/75), *no.* 3, 203–206. (Takashi Yahagi) **52** #4086 49E05

★Pursuit games. An introduction to the theory and applications of differential games of pursuit and evasion. Mathematics in Science and Engineering, Vol. 120. *Academic Press, Inc.* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1975. xii + 266 *pp.* (A. I. Subbotin) **56** #14781 90D25

Pursuit games: a survey. *The theory and application of differential games* (*Proc. NATO Advanced Study Inst.*, *Univ. Warwick*, *Coventry*, 1974), *pp.* 281–291. *NATO Adv. Study Inst. Ser.*, *Ser. C: Math. and Phys. Sci.*, 13, *Reidel*, *Dordrecht*, 1975. (Author's summary) **58** #26070 90D25

Pursuit games with delays. *Funkcial. Ekvac.* **18** (1975), *no.* 1, 93–98. (Author's summary) **55** #14241 90D25

Toward a general theory of pursuit and evasion. *Differential games and applications* (*Proc. Workshop*, *Enschede*, 1977), *pp.* 143–152. *Lecture Notes in Control and Informat. Sci.*, *Vol.* 3, *Springer*, *Berlin*, 1977. (Milan Medved') **58** #4366 90D05

On the number of roots of exp-trig polynomials. (German summary) *Computing* **18** (1977), *no.* 2, 177–183. (Colin M. Campbell) **55** #11600 65H05

On differentiability of the minimal time function. *Funkcial. Ekvac.* **20** (1977), *no.* 2, 97–114. (I. Muntean) **57** #3939 49B10 (49E15)

See also **Global differentiable dynamics**, **50** #5089 *and* **Dynamical systems**, **58** #22710

Hájek, Petr On interpretability in set theories. *Comment. Math. Univ. Carolinae* **12** (1971), 73–79. (A. Lévy) **47** #32 02G05 (02F20)

(*with* Bendová, Kamila; Renc, Zdeněk) The GUHA method and the three-valued logic. (Czech summary) *Kybernetika* (*Prague*) **7** (1971), 421–435. (M. Stojaković) **48** #3289 68A05

(*with* Vopěnka, Petr) ★The theory of semisets. *Academia* (*Publishing House of the Czechoslovak Academy of Sciences*), *Prague*, 1972. 332 *pp.* (Andreas Blass) **56** #2824 02K10 (02K05)

On interpretability in set theories. II. *Comment. Math. Univ. Carolinae* **13** (1972), 445–455. (A. Lévy) **48** #1922 02K05

(*with* Hájková, Marie) On interpretability in theories containing arithmetic. *Fund. Math.* **76** (1972), *no.* 2, 131–137. (M. Boffa) **46** #7012 02G99 (02F35)

Contributions to the theory of semisets. I. Relations of the theory of semisets to the Zermelo-Fraenkel set theory. *Z. Math. Logik Grundlagen Math.* **18** (1972), 241–248. (K. A. Bowen) **46** #7029 02K15

Some logical problems of automated research. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School*, *Štrbské Pleso*, 1973), *pp.* 85–93. *Math. Inst.*, *Slovak Acad. Sci.*, *Bratislava*, 1973. (Author's introduction) **58** #19416 68A45 (02G10)

(*with* Vopěnka, Petr) Existence of a generalized semantic model of Gödel-Bernays set theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 1079–1986. (M. Boffa) **54** #10016 02K15

Why semisets? Dedicated to Professor Gert H. Müller on occasion of his 50th birthday. *Comment. Math. Univ. Carolinae* **14** (1973), 397–420. (James R. Geiser) **49** #7139 02K15 (02E05, 02K05, 02K10)

Bibliography of the Prague Seminar on Foundations of Set Theory. II. *Czechoslavak Math. J.* **23(98)** (1973), 527–529. (Editors) **47** #4794 02Kxx (00A15, 04–03)

Automatic listing of important observational statements. I. *Kybernetika* (*Prague*) **9** (1973), 187–205. (B. H. Mayoh) **53** #5288 02G10

Automatic listing of important observational statements. II. *Kybernetika* (*Prague*) **9** (1973), 251–271. (B. H. Mayoh) **53** #5289 02G10

(*with* Harmancová, Dagmar) On generalized credence functions. *Kybernetika* (*Prague*) **9** (1973), 343–356. (A. A. Mullin) **53** #5242 02A05 (00A25, 68A45)

Degrees of dependence in the theory of semisets. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday. *Fund. Math.* **82** (1974/75), 11–24. (K. A. Bowen) **51** #10090 02K15 (02K05)

Automatic listing of important observational statements. III. *Kybernetika* (*Prague*) **10** (1974), 95–124. (B. H. Mayoh) **54** #4960 02G10 (68A40)

On logics of discovery. *Mathematical foundations of computer science* 1975 (*Fourth Sympos.*, *Mariánské Lázně*, 1975), *pp.* 30–45. *Lecture Notes in Comput. Sci.*, *Vol.* 32, *Springer*, *Berlin*, 1975. (Pavel Strnad) **54** #71 (EA **54**) 02C99 (68A45, 00A25)

Some remarks on observational model-theoretic languages. *Set theory and hierarchy theory* (*Proc. Second Conf., Bierutowice*, 1975), *pp*. 335–345. *Lecture Notes in Math., Vol*. 537, *Springer, Berlin*, 1976. (From the introduction) **58** #16258 02H10

On the unattained sixtieth birthday of Ladislav Rieger. (Czech) *Časopis Pěst. Mat*. **101** (1976), *no*. 4, 417–418. (Editors) **55** #7692 01A70

Observationsfunktorenkalküle und die Logik der automatisierten Forschung. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **12** (1976), *no*. 4-5, 181–186. (Author's summary) **58** #27413 02F50 (02B20, 02C05, 68A40)

Arithmetical complexity of some problems in computer science. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnica*, 1977), *pp*. 282–287. *Lecture Notes in Comput. Sci., Vol*. 53, *Springer, Berlin*, 1977. (Zvi Galil) **57** #18222 68A20

Experimental logics and Π_3^0 theories. *J. Symbolic Logic* **42** (1977), *no*. 4, 515–522. (S. S. Wainer) **58** #16243 02F50 (02G99)

Generalized quantifiers and finite sets. *Prace Nauk. Inst. Mat. Politech. Wrocław. No*. 14 *Ser. Konfer. No*. 1 (1977), 91–104. (Author's summary) **58** #5086 02C99 (02G99, 02H10)

(*with* Balcar, Bohuslav) On sequences of degrees of constructibility. *Z. Math. Logik Grundlagen Math*. **24** (1978), *no*. 4, 291–296. (From the introduction) **58** #16300 02K99

See also **Balcar, Bohuslav, 49** #4772 *and* **Special issue: GUHA method of mechanized hypothesis formation, 58** #19437

ájek z Hájku, Tadeáš *See* **Collection: Hájek z Hájku, Tadeáš, 56** #47

aji, Rasoul (*with* Newell, Gordon F.) A relation between stationary queue and waiting time distributions. *J. Appl. Probability* **8** (1971), 617–620. (S. Ekberg) **45** #2820 60K25

ajian, Arshag (*with* Ito, Yûji; Kakutani, Shizuo) Invariant measures and orbits of dissipative transformations. *Advances in Math*. **9**, 52–65 (1972). (R. V. Chacon) **46** #2003 28A65

(*with* Ito, Yûji; Kakutani, Shizuo) Orbits, sections, and induced transformations. *Israel J. Math*. **18** (1974), 97–115. (R. V. Chacon) **51** #5890 28A65

(*with* Ito, Yûji; Kakutani, Shizuo) Full groups and a theorem of Dye. *Advances in Math*. **17** (1975), *no*. 1, 48–59. (François Aribaud) **51** #10584 28A65

(*with* Ito, Yûji) Transformations that do not accept a finite invariant measure. *Bull. Amer. Math. Soc*. **84** (1978), *no*. 3, 417–427. (Motosige Osikawa) **57** #6365 28A65

ájíček, P. Three remarks on axisymmetric stationary horizons. *Comm. Math. Phys*. **36** (1974), 305–320. (Michael P. Ryan, Jr.) **54** #6852 83.35

ájíček, Petr (*with* Schmidt, Bernd) The *b*-boundary of tensor bundles over a space-time. *Comm. Math. Phys*. **23** (1971), 285–295. (J. K. Beem) **45** #6360 83.53

Exact models of charged black holes. I. Geometry of totally geodesic null hypersurface. *Comm. Math. Phys*. **34** (1973), 37–52. (Philippe -A. Dionne) **48** #7895 83.53

Exact models of charged black holes. II. Axisymmetric stationary horizons. *Comm. Math. Phys*. **34** (1973), 53–76. (Philippe -A. Dionne) **48** #13144 83.53

Can outside fields destroy black holes? *J. Mathematical Phys*. **15** (1974), 1554–1558. (Phillipe -A. Dionne) **50** #1687 83.53

Stationary electrovacuum spacetimes with bifurcate horizons. *J. Mathematical Phys*. **16** (1975), 518–522. (M. Carmeli) **50** #15829 83.53

Static electrovacuum spacetimes with bifurcate horizons. *J. Mathematical Phys*. **16** (1975), 523–527. (M. Carmeli) **50** #15830 83.53

Hajičová, E. (*with* Odehnalová, M.) Ten years of our Bulletin. *Prague Bull. Math. Linguist. No*. 21 (1974), 65–78. (M. Novotný) **55** #6972 68A30

Hajj, F. Y. (*with* Kobeisse, H.; Nassif, Nabil R.) On the numerical solution of Schroedinger's radial equation. *J. Computational Phys*. **16** (1974), 150–159. (C. Froese Fischer) **50** #6390 81.65

Hajj, Ibrahim N. (*with* Kuh, Ernest S.) Nonlinear circuit theory: resistive networks. *Proc. IEEE* **59** (1971), 340–355. (Authors' summary) **56** #11589 94A20 (58C15)

Updating method for LU factorisation. *Electron. Lett*. **8** (1972), 186–188. (R. Merris) **48** #12788 65F05

Computation of Thévenin and Norton equivalents. *Electron. Lett*. **12** (1976), *no*. 11, 273–274. (Robert J. Mulholland) **54** #2344 94A20

Hajj Diab, Ahmad *See* **Diab, Ahmad**

Hájková, Marie The lattice of bi-numerations of arithmetic. II. *Comment. Math. Univ. Carolinae* **12** (1971), 281–306. (N. C. A. da Costa) **45** #64 02F25

(*with* Hájek, Petr) On interpretability in theories containing arithmetic. *Fund. Math*. **76** (1972), *no*. 2, 131–137. (M. Boffa) **46** #7012 02G99 (02F35)

hájek z Hájku, Tadeáš *See* **Hájek z Hájku, Tadeáš**

Hajnal, András (*with* Erdős, Paul; Milner, E. C.) Set mappings and polarized partition relations. *Combinatorial theory and its applications, I* (*Proc. Colloq., Balatonfüred*, 1969), *pp*. 327–363. *North-Holland, Amsterdam*, 1970. (From the authors' introduction) **45** #8585 06A05 (05A17)

(*with* Szemerédi, Endre) Proof of a conjecture of P. Erdős. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred*, 1969), *pp*. 601–623. *North-Holland, Amsterdam*, 1970. (J. W. Moon) **45** #6661 05C99

The set-theoretic work of Pál Erdős: On his sixtieth birthday. (Hungarian) *Mat. Lapok* **22** (1971), 197–208 (1972). (Editors) **48** #36 01A70

(*with* Juhász, István) A consequence of Martin's axiom. *Nederl. Akad. Wetensch. Proc. Ser. A* **74** = *Indag. Math*. **33** (1971), 457–463. (Anne K. Steiner) **46** #4474 54A25 (04A15, 54H05)

(*with* Erdős, Paul) Ordinary partition relations for ordinal numbers. *Period. Math. Hungar*. **1** (1971), *no*. 3, 171–185. (E. C. Milner) **45** #8531 04A20 (05A17)

(*with* Erdős, Paul) On Ramsey like theorems. Problems and results. *Combinatorics* (*Proc. Conf. Combinatorial Math., Math. Inst., Oxford*, 1972), *pp*. 123–140. *Inst. Math. Appl., Southend-on-Sea*, 1972. (J. E. Graver) **49** #2405 05A05

(*with* Erdős, Paul; Milner, E. C.) Partition relations for η_α and for $\aleph_\alpha$-saturated models. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868-1942), *pp*. 95–108. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (D. V. Čudnovs′kiĭ) **49** #7143 04A20

(*with* Juhász, István) On disjoint representation of ultrafilters. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), *pp*. 215–219. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (S. H. Hechler) **49** #10554 04A20 (54A25)

(*with* Erdős, Paul; Fried, Ervin; Milner, E. C.) Some remarks on simple tournaments. *Algebra Universalis* **2** (1972), 238–245. (J. W. Moon) **46** #5161 05C20

(*with* Juhász, István) Two consistency results in topology. *Bull. Amer. Math. Soc*. **78** (1972), 711. (Mary Powderly) **47** #4196 54A25 (02K05, 04A10, 54D10, 54D20)

(*with* Milner, E. C.; Szemerédi, Endre) A cure for the telephone disease. *Canad. Math. Bull*. **15** (1972), 447–450. (R. L. Graham) **47** #3184 05A05

(*with* Juhász, István) On discrete subspaces of product spaces. *General Topology and Appl*. **2** (1972), 11–16. (K. Nagami) **45** #7664 54A25 (04A10)

(*with* Erdős, Paul; Milner, E. C.) Simple one-point extensions of tournaments. *Mathematika* **19** (1972), 57–62. (R. K. Guy) **52** #2947 05C20

(*with* Kertész, Andor) Some new algebraic equivalents of the axiom of choice. *Publ. Math. Debrecen* **19** (1972), 339–340 (1973). (W. Hodges) **48** #8235 02K20

(*with* Erdős, Paul; Rothschild, B. L.) "On chromatic number of graphs and set-systems" (Acta Math. Acad. Sci. Hungar. **17** (1966), 61–99) by Erdős and Hajnal. *Cambridge Summer School in Mathematical Logic* (*Cambridge*, 1971), *pp*. 531–538. *Lecture Notes in Math., Vol*. 337, *Springer, Berlin*, 1973. (W. Moser) **52** #7949 05C15 (02K30)

(*with* Juhász, István) A consistency result concerning hereditarily α-Lindelöf spaces. *Acta Math. Acad. Sci. Hungar*. **24** (1973), 307–312. (C. R. Borges) **48** #2966 54A25

(*with* Erdős, Paul; Máté, Attila) Chain conditions on set mappings and free sets. *Acta Sci. Math.* (*Szeged*) **34** (1973), 69–79. (Thomas J. Jech) **47** #6492 04A15

(*with* Juhász, István) On the number of open sets. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math*. **16** (1973), 99–102 (1974). (Roland E. Larson) **50** #5718 54A25

(*with* Baumgartner, James E.) A proof (involving Martin's axiom) of a partition relation. *Fund. Math*. **78** (1973), *no*. 3, 193–203. (N. H. Williams) **47** #8310 04A20 (02K05)

(*with* Juhász, István) On hereditarily α-Lindelöf and α-separable spaces. II. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, II. *Fund. Math*. **81** (1973/74), *no*. 2, 147–158. (C. R. Borges) **49** #1478 54D20

(*with* Rothschild, B. L.) A generalization of the Erdős-Ko-Rado theorem on finite set systems. *J. Combinatorial Theory Ser. A* **15** (1973), 359–362. (J. E. Graver) **48** #3745 05A05

(*with* Juhász, István) A consistency result concerning hereditarilyα-separable spaces. *Nederl. Akad. Wetensch. Proc. Ser. A* **76** = *Indag. Math*. **35** (1973), 301–307. (Mary Powderly) **50** #14629 54A25 (02K99)

(*with* Juhász, István) On square-compact cardinals. *Period. Math. Hungar*. **3** (1973), *no*. 3-4, 285–288. (A. H. Stone) **49** #3840 54D30 (02K35)

(*with* Erdős, Paul) Unsolved and solved problems in set theory. *Proceedings of the Tarski Symposium* (*Proc. Sympos. Pure Math., Vol. XXV, Univ. California, Berkeley, Calif*., 1971), *pp*. 269–287. *Amer. Math. Soc., Providence, R.I*., 1974. (Keith Devlin) **50** #9590 04–02 (04A20, 54A25)

(*with* Erdős, Paul; Shelah, Saharon) On some general properties of chromatic numbers. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp*. 243–255. *Colloq. Math. Soc. János Bolyai, Vol*. 8, *North-Holland, Amsterdam*, 1974. (J. E. Graver) **50** #9662 05C15 (04A20)

(*with* Erdős, Paul) Some remarks on set theory. XI. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, III. *Fund. Math*. **81** (1974), 261–265. (A. H. Kruse) **50** #114 04A20 (02K35)

(*with* Baumgartner, James E.; Máté, Attila) Weak saturation properties of ideals. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his* 60*th birthday*), *Vol. I, pp*. 137–158. *Colloq. Math. Soc. János Bolyai, Vol*. 10, *North-Holland, Amsterdam*, 1975. (M. S. Popadić) **51** #5317 04A20 (02K35, 04A10)

(*with* Erdős, Paul; Galvin, Fred) On set-systems having large chromatic number and not containing prescribed subsystems. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his* 60*th birthday*), *Vol. I, pp*. 425–513. *Colloq. Math. Soc. János Bolyai, Vol*. 10, *North-Holland, Amsterdam*, 1975. (E. C. Milner) **53** #2727 05C15 (04A20)

(*with* Erdős, Paul; Pósa, L.) Strong embeddings of graphs into colored graphs. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his* 60*th birthday*), *Vol. I, pp*. 585–595. *Colloq. Math. Soc. János Bolyai, Vol*. 10, *North-Holland, Amsterdam*, 1975. (R. C. Read) **52** #2937 05C15

Weak partition relations. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his* 60*th birthday*), *Vol. II, pp*. 817–836. *Colloq. Math. Soc. Janos Bolyai, Vol*. 10, *North-Holland, Amsterdam*, 1975. (L. Bukovský) **52** #10435 04A20

(*with* Juhász, István) On first countable non-Lindelöf *S*-spaces. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his* 60*th birthday*), *Vol. II. pp*. 837–852. *Colloq. Math. Soc. János Bolyai, Vol*. 10, *North-Holland, Amsterdam*, 1975. (S. H. Hechler) **54** #6062 54A25 (04A30, 54D20)

(*with* Máté, Attila) Set mappings, partitions, and chromatic numbers. *Logic Colloquium '73* (*Bristol*, 1973), *pp*. 347–379. *Studies in Logic and the Foundations of Mathematics, Vol*. 80, *North-Holland, Amsterdam*, 1975. (E. C. Milner) **54** #12528 04A20 (02K05, 05C15)

Results and independence results in set-theoretical topology. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B.C*., 1974), *Vol*. 2, *pp*. 61–62. *Canad. Math. Congress, Montreal, Que*., 1975. (Editors) **54** #6061 54A25 (04A15)

(*with* Galvin, Fred) Inequalities for cardinal powers. *Ann. of Math*. (2) **101** (1975), 491–498. (M. Magidor) **51** #12535 04A30 (02K25, 04A20)

(*with* Juhász, István) On the products of weakly Lindelöf spaces. *Proc. Amer. Math. Soc*. **48** (1975), 454–456. (E. P. Rozycki) **52** #11834 54D20 (54B10)

(*with* Comfort, W. W.; Juhász, István) Compactness-like properties of generalized weak products. *Topology* (*Proc. Ninth Annual Spring Conf., Memphis State Univ., Memphis, Tenn*., 1975), *pp*. 185–188. *Lecture Notes in Pure and Appl. Math., Vol*. 24, *Dekker, New York*, 1976. (S. H. Hechler) **55** #9026 54D30

(*with* Juhász, István) On spaces in which every small subspace is metrizable. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **24** (1976), *no*. 9, 727–731. (H. R. Bennett) **56** #6619 54E35

(*with* Juhász, István) A separable normal topological group need not be Lindelöf.

General Topology and Appl. **6** (1976), *no.* 2, 199–205. (D. V. Čudnov′skiĭ) **55** #4088 54A25 (54D20)

(*with* Juhász, István) Remarks on the cardinality of compact spaces and their Lindelöf subspaces. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 1, 146–148. (Stephen Willard) **54** #11263 54A25 (54D30)

(*with* Erdős, Paul; Milner, E. C.) On set systems having paradoxical covering properties. *Acta Math. Acad. Sci. Hungar.* **31** (1978), *no.* 1-2, 89–124. (James Baumgartner) **58** #21628 04A20 (02K05)

See also **Problems: Combinatorial theory**, **46** #8855; **Bibliography: Hajnal, András**, **48** #43; **Topics in topology**, **49** #3802; **Problems: Topology**, **50** #8399; **Infinite and finite sets**, **50** #12526 *and* **Problems: Hypergraphs**, **50** #12824

Hajnal, Emilia Methods for the solution of systems of nonlinear equations. (Hungarian) *Tanulmányok-MTA Számitástechn. Automat. Kutató Int. Budapest No.* 38 (1975), 59 *pp.* (B. Jankó) **53** #4520 65H10

Hajnal, J. On products of non-negative matrices. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 3, 521–530. (E. Seneta) **53** #490 15A48 (60J10)

See also **Demographic genetics**, **52** #10091

Hajnal, Miklos (*with* Kóczy, László T.) A new fuzzy calculus and its application as a pattern recognition technique. *Modern trends in cybernetics and systems* (*Proc. Third Internat. Congr., Bucharest*, 1975), *Vol. II*, *pp.* 103–118. *Springer, Berlin*, 1977. (Shinichi Tamura) **56** #8370 04A99 (02C05, 68A45)

(*with* Kóczy, László T.) A new attempt to axiomatize fuzzy algebra with an application example. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **6** (1977), *no.* 1, 47–66. (Michio Sugeno) **56** #11668 94A99 (06A40)

Hajós, György (*with* Kürschák, Jószef; Neukomm, G.; Surányi, János) ★Венгерские математические олимпиады. (Russian) [The Hungarian Mathematical Olympiads] Translated from the Hungarian by Ju. A. Danilov. Edited and with a foreword by V. M. Alekseev. *Izdat. "Mir", Moscow*, 1976. 544 *pp.* (From the publisher's description) **55** #2420 00A05

See also **Obituary: Hajós, Győrgy**, **45** #1721 (EA **48**) *and* **Obituary: Hajós, György**, **50** #12609

Hajtman, Béla Nonparametric method for discriminating two independent groups. *Studia Sci. Math. Hungar.* **7** (1972), 43–46. (M. Knott) **47** #9766 62G10

Some generalizations of the McNemar test. (Hungarian. English summary) *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.* **23** (1977), *no.* 1-2, 127–137. (László Györfi) **55** #11491 62G10

Hakansson, Nils H. Optimal entrepreneurial decisions in a completely stochastic environment. *Management Sci.* **17** (1970/71), 427–449. **45** #6387 90A15

(*with* Miller, Bruce L.) Compound-return mean-variance efficient portfolios never risk ruin. *Management Sci.* **22** (1975/76), *no.* 4, 391–400. (Jean-Louis Boursin) **54** #2140 90A05

Haken, Hermann (*with* Graham, Robert) Functional Fokker-Planck treatment of electromagnetic field propagation in a thermal medium. *Z. Physik* **234** (1970), 193–206. (Authors' summary) **53** #15099 78.35

Resonant interaction between excitons and intense coherent light. *Z. Physik* **262** (1973), *no.* 2, 119–134. (Piero de Mottoni) **53** #10001 81.47

(*with* Strobl, G.) An exactly solvable model for coherent and incoherent exciton motion. *Z. Physik* **262** (1973), *no.* 2, 135–148. (Koichiro Matsuno) **54** #1985 81.47

Distribution function for classical and quantum systems far from thermal equilibrium. *Z. Physik* **263** (1973), *no.* 4, 267–282. (James McDonald) **54** #2045 82.45

Cooperative phenomena in systems far from thermal equilibrium and in nonphysical systems. *Rev. Modern Phys.* **47** (1975), 67–121. (S. Harris) **57** #8813 82.60

Generalized Onsager-Machlup function and classes of path integral solutions of the Fokker-Planck equation and the master equation. *Z. Phys. B* **24** (1976), *no.* 3, 321–326. (James McDonald) **54** #1949 81.35

★Synergetics—an introduction. Nonequilibrium phase transitions and self-organization in physics, chemistry and biology. *Springer-Verlag, Berlin-New York*, 1977. xii + 325 *pp. ISBN* 3-540-07885-1 (V. K. Wong) **57** #11560 82.60 (92A05)

Some aspects of synergetics. *Synergetics* (*Proc. Internat. Workshop, Garmisch-Partenkirchen*, 1977), *pp.* 2–17. *Springer, Berlin*, 1977. (J. S. Joel) **58** #25651 82.00 (69.00)

(*with* Wunderlin, A.) New interpretation and size of strange attractor of the Lorenz model of turbulence. *Phys. Lett. A* **62** (1977), *no.* 3, 133–134. (Authors' summary) **58** #2892 58F15

(*with* Egler, W.) Theory of damping and fluctuations of the polariton due to its interaction with lattice vibrations. *Z. Phys. B* **28** (1977), *no.* 1, 51–60. (Authors' summary) **58** #14820 82.47

See also **Synergetics**, **57** #15818

Haken, Wolfgang Connections between topological and group theoretical decision problems. *Word problems: decision problems and the Burnside problem in group theory* (*Conf., Univ. California, Irvine, Calif.*, 1969; *dedicated to Hanna Neumann*), *pp.* 427–441. *Studies in Logic and the Foundations of Math., Vol.* 71, *North-Holland, Amsterdam*, 1973. (J. S. Birman) **53** #1594 57A10 (20F10)

An existence theorem for planar maps. *J. Combinatorial Theory Ser. B* **14** (1973), 180–184. (A. T. White) **47** #3226 05C15

Some special presentations of homotopy 3-spheres. *Topology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.*, 1973), *pp.* 97–107. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin*, 1974. (L. Neuwirth) **50** #8525 57A10 (55A40)

(*with* Appel, Kenneth I.) Every planar map is four colorable. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 5, 711–712. (F. Bernhart) **54** #12561 05C15

(*with* Appel, Kenneth I.) A proof of the four color theorem. *Discrete Math.* **16** (1976), *no.* 2, 179–180. (Editors) **58** #27597 05C15

(*with* Appel, Kenneth I.) The existence of unavoidable sets of geographically good configurations. *Illinois J. Math.* **20** (1976), *no.* 2, 218–297. (F. Harary) **52** #13458 05C15 (57C35)

(*with* Appel, Kenneth I.) Every planar map is four colorable. *J. Recreational Math.* **9** (1976/77), *no.* 3, 161–169. (Frank Allaire) **58** #27598f 05C15

(*with* Appel, Kenneth I.) The class check lists corresponding to the supplement: "Every planar map is four colorable. I. Discharging" (Illinois J. Math. **21** (1977), no. 3, 429–490). *Illinois J. Math.* **21** (1977), *no.* 3, C1-C210. (*microfiche supplement*) (Frank Allaire) **58** #27598c 05C15

(*with* Appel, Kenneth I.) Supplement to: "Every planar map is four colorable. I. Discharging" (Illinois J. Math. **21** (1977), no. 3, 429–490) by Appel and Haken; "II. Reducibility" (ibid. **21** (1977), no. 3, 491–567) by Appel, Haken and J. Koch. *Illinois J. Math.* **21** (1977), *no.* 3, 1–251. (*microfiche supplement*) (Frank Allaire) **58** #27598d 05C15

(*with* Appel, Kenneth I.) Every planar map is four colorable. I. Discharging. *Illinois J. Math.* **21** (1977), *no.* 3, 429–490. (Frank Allaire) **58** #27598a 05C15

(*with* Appel, Kenneth I.; Koch, J.) Every planar map is four colorable. II. Reducibility. *Illinois J. Math.* **21** (1977), *no.* 3, 491–567. (Frank Allaire) **58** #27598b 05C15

An attempt to understand the four color problem. *J. Graph Theory* **1** (1977), *no.* 3, 193–206. (Paul C. Kainen) **58** #27600 05C15 (00A25, 55A10)

(*with* Appel, Kenneth I.) The solution of the four-color-map problem. *Sci. Amer.* **237** (1977), *no.* 4, 108–121, 152. (Frank Allaire) **58** #27598e 05C15

See also **Wagner, Klaus**, (See Zbl **387** #05008)

nguen Hak Fuk *See* **Nguen Hak Fuk**

Hakim, M. Analyse multivariate des plans d'expérience. *Rev. Statist. Appl.* **21** (1973), *no.* 2, 71–92. (E. H. Lehman) **53** #14801 62J05

Hakim, Monique ★Topos annelés et schémas relatifs. Ergebnisse der Mathematik und ihrer Grenzgebiete, Band 64. *Springer-Verlag, Berlin-New York*, 1972. vi + 160 *pp.* (M. Miyanishi) **51** #500 14D20 (14F05)

(*with* Sibony, Nessim) Frontière de Šilov et spectre de $A(\bar{D})$ pour des domaines faiblement pseudoconvexes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 22, Aii, A959–A962. (R. Michael Range) **52** #11113 32E25 (32F15)

(*with* Sibony, Nessim) Quelques conditions pour l'existence de fonctions pics dans des domaines pseudoconvexes. *Duke Math. J.* **44** (1977), *no.* 2, 399–406. (John E. Fornaess) **56** #15988 32F15 (32E25)

Hakimdžanov, Ju. B. Standard subalgebras of reductive Lie algebras. (Russian) *Dokl. Akad. Nauk UzSSR* **1974**, *no.* 7, 6–7. (Juri A. Bahturin) **51** #5687 17B20

Derivation algebras of certain nilpotent Lie algebras. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 4(178), 186. (Alekseĭ Gaĭnov) **53** #569 17B40

Standard subalgebras of reductive Lie algebras. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 6, 49–55. (G. P. Kukin) **52** #3258 17B20

The algebra of differentiations of certain Lie algebras. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 12, 5–7. (H. Freudenthal) **53** #5681 17B40

(*with* Oniščik, A. L.) Semidirect sums of Lie algebras. (Russian) *Mat. Zametki* **18** (1975), *no.* 1, 31–40. (I. L. Kantor) **55** #443 17B40

Derivations of certain nilpotent Lie algebras. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 1(164), 100–110. (I. L. Kantor) **55** #442 17B40

Derivations of certain Lie algebras. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 1(187), 267–268. (I. L. Kantor) **54** #10361 17B40

The cohomology of parabolic subalgebras of semisimple Lie algebras. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 9, 3–4. (I. L. Kantor) **58** #5813 17B55

The construction of standard nilsubalgebras of reductive Lie algebras. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 2, 47–51. (H. de Vries) **56** #8643 17B05

Differentiations of Lie algebras. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 6, 41–46, 102. (Juri A. Bahturin) **57** #9772 17B40

The cohomology of parabolic subalgebras of semisimple Lie algebras. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 6(198), 237–238. (N. N. Šapovalov) **58** #799 17B10

Hakimi, S. Louis Steiner's problem in graphs and its implications. *Networks* **1** (1971/72), 113–133. (F. Harary) **45** #5008 05C99

(*with* Maheshwari, Shachindra N.) Optimum locations of centers in networks. *Operations Res.* **20** (1972), 967–973. (Izhak Rubin) **49** #8612 90B05

(*with* Patrinos, A. N.) The distance matrix of a graph and its tree realization. *Quart. Appl. Math.* **30** (1972/73), 255–269. (L. V. Quintas) **54** #2507 05C05

(*with* Amin, Ashok T.) Upper bounds on the order of a clique of a graph. *SIAM J. Appl. Math.* **22** (1972), 569–573. (Authors' summary) **46** #5175 05C99

(*with* Amin, Ashok T.) Graphs with given connectivity and independence number or networks with given measures of vulnerability and survivability. *IEEE Trans. Circuit Theory* **CT-20** (1973), 2–10. (W.-K. Chen) **48** #10675 94A20

(*with* Amin, Ashok T.) On the design of reliable networks. *Networks* **3** (1973), 241–260. (C. Tartia) **49** #8748 94A20

(*with* Amin, Ashok T.) Characterization of connection assignment of diagnosable systems. *IEEE Trans. Computers* **C-23** (1974), 86–88. (Authors' summary) **50** #6653 94A20

(*with* Schmeichel, Edward F.) Pancyclic graphs and a conjecture of Bondy and Chvátal. *J. Combinatorial Theory Ser. B* **17** (1974), 22–34. (J. A. Bondy) **55** #10323 05C35

On the existence of graphs with prescribed degrees and connectivity. *SIAM J. Appl. Math.* **26** (1974), 154–164. (L. W. Beineke) **51** #227 05C10

(*with* Patrinos, A. N.) Relations between graphs and integer-pair sequences. *Discrete Math.* **15** (1976), *no.* 4, 347–358. (László Lovász) **54** #2546 05C99

(*with* Maheshwari, Shachindra N.) On models for diagnosable systems and probabilistic fault diagnosis. *IEEE Trans. Computers* **C-25** (1976), *no.* 3, 228–236. (Authors' summary) **58** #26569 94A20

(*with* Schmeichel, Edward F.) On the existence of a traceable graph with prescribed vertex degrees. *Ars Combinatoria* **4** (1977), 69–80. (David M. Berman) **58** #16403 05C35

(*with* Schmeichel, Edward F.) On planar graphical degree sequences. *SIAM J. Appl. Math.* **32** (1977), *no.* 3, 598–609. (Editors) **57** #9583 05C10

(*with* Schmeichel, Edward F.) Graphs and their degree sequences: a survey. *Theory and applications of graphs* (*Proc. Internat. Conf., Western Mich. Univ., Kalamazoo, Mich.*, 1976), *pp.* 225–235. *Lecture Notes in Math., Vol.* 642, *Springer, Berlin*, 1978. (L. W.

Beineke) **58** #21847 05C99

See also **Proceedings: Symposium on Large-Scale Networks**, **50** #15871

akimov, A. The advantage of the operative method of management in the "load-forming object—load-receiving point" system. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **21** (1978), *no.* 2, 16–19. (M. Maňas) **58** #25951 90B99 (90C50)

akimov, A. H. (*with* Usmanov, Z. D.) On an elliptic equation with a singular point. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 4(66), 80–82. (From the introduction) **58** #17485 35J15

akimzjanov, G. S. (*with* Jaušev, I. K.) Numerical computation of stationary plane-parallel flows of ideal fluids and gas in channels of complex configuration. (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR Ser. Tehn. Nauk* **13** (1977), *no.* 3, 37–45, 142. (From the introduction) **58** #25383 76.65

akkala, Lauri (*with* Ojala, Leo) Discretization error analysis in linear DDA connections. *IEEE Trans. Computers* **C-23** (1974), *no.* 9, 932–941. (A. D. Booth) **52** #10205 94A05

(*with* Blomberg, Hans) On-line co-ordination under uncertainty of weakly interacting dynamical systems. *Automatica–J. IFAC* **12** (1976), *no.* 2, 185–193. (Authors' summary) **56** #11128 93A15

On infeasible gradient-type coordination algorithms for dynamical systems. *Internat. J. Systems Sci.* **8** (1977), *no.* 5, 489–496. (Wan S. Chan) **58** #15462 93C30 (90C99)

(*with* Golemanov, Ljudmil) On the coordinability of hierarchical systems. (Russian summary) *Systems Sci.* **3** (1977), *no.* 3, 285–297. (Authors' summary) **58** #9456 93A15

akstian, A. Ralph Procedures for the factor analytic treatment of measures obtained on different occasions. *British J. Math. Statist. Psychology* **26** (1973), 219–239. (C. W. Chen) **51** #4555 62H25

The development of a class of oblique factor solutions. *British J. Math. Statist. Psychology* **27** (1974), 100–114. (Author's summary) **54** #11659 62H25

(*with* Whalen, Thomas E.) A *K*-sample significance test for independent alpha coefficients. *Psychometrika* **41** (1976), *no.* 2, 219–231. (Authors' summary) **58** #18997 62P15

akulinen, Timo Product-limit estimators in the analysis of competing risks. *Scand. Actuar. J.* **1977**, *no.* 4, 203–211. (H. L. Seal) **57** #7920 62P05

alačeva, Marija The use of a class of convolution codes in adaptive decoding. (Bulgarian. Russian and English summaries) *Current problems in engineering cybernetics*, *pp.* 85–95. *B″lgar. Akad. Nauk*, *Sofia*, 1975. (Author's summary) **58** #33484 94A05 (94A10)

alamandaris, Harry *See* **Transactions: Conference of Army Mathematicians**, **49** #4737

ziechcińska-Halamoda, Zyta *See* **Dziechcińska-Halamoda, Zyta**

alanay, Aristide On the controllability of linear difference-differential systems. *Mathematical systems theory and economics*, *I*, *II* (*Proc. Internat. Summer School*, *Varenna*, 1967), *pp.* 329–336. *Lecture Notes in Oper. Res. and Math. Econom.*, *Vols.* 11, 12, *Springer*, *Berlin*, 1969. (V. Staikos) **47** #10099 93B05

(*with* Barbălat, I.) Hyperstabilité des blocs intégraux et à différences. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **14** (1969), 631–637. (Guy Jumarie) **48** #10589 93D10

Some new results and problems concerning periodic and almost-periodic solutions for systems with time lag. (Russian summary) *Proc. Fifth Internat. Conf. on Nonlinear Oscillations* (*Kiev*, 1969), *Vol.* 1: *Analytic methods in the theory of nonlinear oscillations* (*Russian*) *pp.* 572–593. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1970. (Author's summary) **54** #5582 34K15 (93D10)

Hyperstability, oscillations and optimal stabilization. *Seminar on Differential Equations and Dynamical Systems*, *II* (*Univ. Maryland*, *College Park*, *Md.*, 1969), *pp.* 90–114. *Lecture Notes in Math.*, *Vol.* 144, *Springer*, *Berlin*, 1970. (Author's review (Zbl **207** #87)) **58** #9628 93D10

(*with* Wexler, D.) ★Качественная Теория импульсных систем. (Russian) [The qualitative theory of sampled-data systems] Translated from the Romanian by M. I. Bukatar' and G. V. Nožak. Edited by V. P. Rubanik. *Izdat.* "*Mir*", *Moscow*, 1971. 309 *pp.* (Editors) **50** #5064 34Cxx

Relaxed optimal controls for time lag systems. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 1059–1072. (D. K. Hughes) **46** #3155 93C40

(*with* Barbălat, I.) Nouvelles applications de la méthode fréquentielle dans la théorie des oscillations. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **16** (1971), 689–702. (Guy Jumarie) **48** #10572 93C10

Potentiels dont toutes les trajectoires sont fermées. (Romanian and Russian summaries) *Studia Univ. Babeş-Bolyai Ser. Math.-Mech.* **16** (1971), *no.* 2, 51–58. (C. Marchal) **46** #4814 70.31

★Ecuaţii diferenţiale. (Romanian) [Differential equations] *Editura Didactica şi Pedagogica*, *Bucharest*, 1972. 257 *pp.* (Editors) **50** #7619 34–01

Potentials with closed trajectories on surfaces of revolution. *Ordinary differential equations* (*Proc. Conf.*, *Math. Res. Center*, *Naval Res. Lab.*, *Washington*, *D. C.*, 1971), *pp.* 83–93. *Academic Press*, *New York*, 1972. (Author's summary) **54** #9204 70.34

Variational problems with delayed argument. *Ordinary differential equations* (*Proc. Conf.*, *Math. Res. Center*, *Naval Res. Lab.*, *Washington*, *D. C.*, 1971), *pp.* 405–412. *Academic Press*, *New York*, 1972. (M. Q. Jacobs) **55** #1195 49B35

Frequency-domain criteria for dissipativity. *Ordinary differential equations* (*Proc. NRL-MRC Conf.*, *Math. Res. Center*, *Naval Res. Lab.*, *Washington*, *D.C.*, 1971), *pp.* 413–417. *Academic Press*, *New York*, 1972. (G. S. Ladde) **58** #33398 93D99

Systèmes à retard. Application des méthodes fréquentielles. *Équations différentielles et fonctionnelles non linéaires* (*Actes Conférence Internat.* "*Equa-Diff 73*", *Bruxelles et Louvain-la-Neuve*, 1973), *pp.* 357–380. *Hermann*, *Paris*, 1973. (Jean Genet) **54** #5591 34K20

(*with* Asner, Bernard A., Jr.) Pointwise degenerate second order delay-differential systems. *An. Univ. Bucureşti Mat.-Mec.* **22** (1973), *no.* 2, 45–60. (V. M. Popov) **50** #5140 34K15

(*with* Asner, Bernard A., Jr.) Algebraic theory of pointwise degenerate delay-differential systems. *J. Differential Equations* **14** (1973), 293–306. (Marshall Slemrod) **52** #5138 93D99 (34K20)

(*with* Asner, Bernard A., Jr.) Delay-feedback solution for the minimal time linear problem with several outputs. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 295–296. (V. M. Popov) **47** #8157 93C15

(*with* Asner, Bernard A., Jr.) Non-controllability of time-invariant linear systems using one-dimensional linear delay feedback. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **18** (1973), 283–291. (Bojan Popović) **57** #5223 93B05

Théorème de Noether pour des problèmes variationnels à arguments déplacés. Collection of articles dedicated to the memory of Tadeusz Ważewski, II. *Ann. Polon. Math.* **29** (1974), 189–198. (U. D'Ambrosio) **50** #1077 49A30

(*with* Asner, Bernard A., Jr.) Delay-feedback using derivatives for minimal time linear control problems. *J. Math. Anal. Appl.* **48** (1974), 257–263. (G. M. Ewing) **54** #8383 49A10

Optimal control of periodic solutions. Hommage au Professeur Miron Nicolescu pour son 70e anniversaire, II. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 3–16. (D. K. Hughes) **49** #9707 49B10

(*with* Barbălat, I.) Conditions de comportement "presque linéaire" dans la théorie des oscillations. (English and German summary inserts) *Rev. Roumaine Sci. Tech. Ser. Électrotech. Énergét.* **19** (1974), 321-341. (Guy Jumarie) **50** #5100 34C15

(*with* Răsvan, Vladimir) Frequency domain criteria for nuclear reactor stability. I. The case of the uncontrolled reactor. (English and German summary inserts) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **19** (1974), 367–378. (E. O. Roxin) **50** #12388 93D10 (34K20)

(*with* Răsvan, Vladimir) Frequency domain criteria for nuclear reactor stability. II. The controlled reactor. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **20** (1975), *no.* 2, 233–250. (E. O. Roxin) **52** #12914 93D10

(*with* Asner, Bernard A., Jr.) Minimal-time delay-feedback for discrete systems. (French and German summary inserts) *Rev. Roumaine Sci. Tech. Sér. Electrotech. Énergét.* **20** (1975), *no.* 3, 419–424. (Takashi Yahagi) **53** #1364 49A30

(*with* Răsvan, Vladimir) Periodic and almost periodic solutions for a class of systems described by coupled delay-differential and difference equations. *Nonlinear Anal.* **1** (1976/77), *no.* 3, 197–206. (J. K. Hale) **58** #29007 34K15

(*with* Drăgan, V.) Suboptimal linear controller by singular perturbations techniques. (French and German summary inserts) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **21** (1976), *no.* 4, 585–591. (D. K. Hughes) **55** #8920 49A10

Some new applications of Popov's frequency-domain method. *Nonlinear systems and applications* (*Proc. Internat. Conf.*, *Univ. Texas*, *Arlington*, *Tex.*, 1976), *pp.* 147–162. *Academic Press*, *New York*, 1977. (V. M. Popov) **57** #5314 93D10

Pointwise degenerate differential equations with lag, and control theory. (Russian) *Problems of the asymptotic theory of nonlinear oscillations* (*Russian*), *pp.* 246–250, 280. *Naukova Dumka*, *Kiev*, 1977. (Author's summary) **58** #29026 34K25

(*with* Răsvan, Vladimir) General theory of linear hybrid control. *Internat. J. Control* **26** (1977), *no.* 4, 621–634. (J. E. Rubio) **57** #2684 93C55

(*with* Drăgan, V.) Optimal stabilization of systems with small time constants. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **22** (1977), *no.* 1, 99–104. (K. W. Han) **56** #11293 93D05

See also **Răsvan, Vladimir**, **56** #11317

Halász, Gábor Boundary behavior and arithmetic. *Proceedings of the NRL Conference on Classical Function Theory* (*Math. Res. Center*, *Naval Res. Lab.*, *Washington*, *D.C.*, 1970), *pp.* 131–135. *Math. Res. Center*, *Naval Res. Lab.*, *Washington*, *D.C.*, 1970. (R. C. Buck) **48** #254 10H10 (30A34)

On the distribution of additive and the mean values of multiplicative arithmetic functions. *Studia Sci. Math. Hungar.* **6** (1971), 211–233. (J. Knopfmacher) **47** #8471 (E **47** #8472) 10K20

Remarks to my paper: "On the distribution of additive and the mean values of multiplicative arithmetic functions". *Acta Math. Acad. Sci. Hungar.* **23** (1972), 425–432. (J. Knopfmacher) **47** #8472 (E **58** #555) 10K20

Statistical interpolation. (Hungarian. English summary) *Mat. Lapok* **23** (1972), 71–87 (1973). (M. Csorgo) **51** #7127 62G05 (41A05)

On the periodicity of composed integral functions. Collection of articles dedicated to the memory of Alfréd Rényi, I. *Period. Math. Hungar.* **2** (1972), 73–83. (Fred Gross) **48** #4310 30A66

On a result of Salem and Zygmund concerning random polynomials. *Studia Sci. Math. Hungar.* **8** (1973), 369–377. (A. C. Offord) **51** #3787 42A36 (60G99)

On Taylor series absolutely convergent on the circumference of the circle of convergence. III. *Acta Math. Acad. Sci. Hungar.* **25** (1974), 81–87. (G. Piranian) **50** #13467 30A10

On the distribution of additive arithmetic functions. Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 143–152. (S. L. Segal) **51** #5527 10H25

Remarks to the talk of Mr. I. Ruzsa: "General multiplicative functions" (Topics in number theory, pp. 281–285, Colloq. Math. Soc. János Bolyai, Vol. 13, North-Holland, Amsterdam, 1976). *Topics in number theory* (*Proc. Colloq.*, *Debrecen*, 1974), *pp.* 79–80. *Colloq. Math. Soc. János Bolyai*, *Vol.* 13, *North-Holland*, *Amsterdam*, 1976. (T. M. Apostol) **55** #12619 10A20

Remarks on the remainder in Birkhoff's ergodic theorem. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 389–395. (Meir Smorodinsky) **54** #13034 28A65

(*with* Székely, Gábor J.) On the elementary symmetric polynomials of independent random variables. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 397–400. (W. Hoeffding) **54** #11467 60F15

Localizing the Lozinski-Harshiladze theorem on projections into the space of trigonometric polynomials. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 3-4, 307–318. (S. Izumi) **58** #6890 42A48

(*with* Major, Peter) Reconstructing the distribution from partial sums of samples. *Ann. Probability* **5** (1977), *no.* 6, 987–998. (W. L Steiger) **56** #9683 60G50 (42A80)

Estimates for the concentration function of combinatorial number theory and probability. *Period. Math. Hungar.* **8** (1977), *no.* 3-4, 197–211. (H. Kesten) **58** #13338 60G50 (10K20, 60C05)

See also **Sárközy, András**, **58** #555

Halász, Sylvia (*with* Kleitman, Daniel J.) A note on random triangles. *Studies in Appl. Math.* **53** (1974), 225–237. (H. Groemer) **50** #11367 60D05

On a stochastic programing problem with random coefficients. *Progress in* *operations research, Vols. I, II* (*Proc. Sixth Hungarian Conf., Eger*, 1974), *pp*. 493–498. *Colloq. Math. Soc. János Bolyai, Vol*. 12, *North-Holland, Amsterdam*, 1976. (I. M. Stancu-Minasian) **55** #9973 90C15

Halatnikov, I. M. (*with* Belinskiĭ, V. A.; Lifšic, E. M.) Construction of a general cosmological solution of the Einstein equation with a time singularity. *Ž. Èksper. Teoret. Fiz*. **62** (1972), 1606–1613 (*Russian. English summary*); *translated as Soviet Physics JETP* **35** (1972), 838–841. (Authors' summary) **51** #14852 83.35

(*with* Belinskiĭ, V. A.) Effect of scalar and vector fields on the nature of the cosmological singularity. *Ž. Èksper. Teoret. Fiz*. **63** (1972), 1121–1134 (*Russian. English summary*); *translated as Soviet Physics JETP* **36** (1973), 591–597. (Authors' summary) **50** #15822 83.53

(*with* Belinskiĭ, V. A.) On the influence of the spinor and electromagnetic fields on the cosmological singularity. (Italian summary) *Rend. Sem. Mat. Univ. e Politec. Torino* **35** (1976/77), 159–180 (1978). (A. Crumeyrolle) **58** #20191 83.53

Halatsis, Constantine (*with* Philokyprou, George; Gaitanis, N.) On the problem of finding *d, t, r* and *j* type partition pairs of a sequential machine. *IEEE Trans. Computers* **C-26** (1977), *no*. 3, 294–297. (István Babcsányi) **56** #15225 94A25

(*with* Philokyprou, George) Pseudochaining in hash tables. *Comm. ACM* **21** (1978), *no*. 7, 554–557. (Eberhard Lüdde) **58** #3784 68A50

Halbekov, U. T. Asymptotic integration of a system of equations of parabolic type with a small parameter. (Russian) *Voprosy Vyčisl. i Prikl. Mat*. (*Tashkent*) *No*. 39 (1976), 20–24, 197. (RŽMat **1976** #9 B320) **58** #29258 35K40

Halberg, Charles J. A., Jr. (*with* Samuelsson, Åke) On the fine structure of spectra. *Math. Scand*. **29** (1971), 37–49. (H. A. Gindler) **46** #6065 47A10

Halberstadt, Emmanuel Sur certains sous-groupes des groupes symétriques. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 733–735. (W. J. Wong) **50** #13212 20B15

Sur certains sous-groupes maximaux des groupes symétriques ou alternés. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Ai, A1417–A1419. (Gary M. Seitz) **51** #10444 20B05

On certain maximal subgroups of symmetric or alternating groups. *Math. Z*. **151** (1976), *no*. 2, 117–125. (Ja. G. Berkovič) **55** #466 20B05

Halberstam, Heini (*with* Richert, H.-E.) A new look at Brun's sieve. *Colloque de Théorie des Nombres* (*Univ. Bordeaux, Bordeaux*, 1969), *pp*. 97–106. *Bull. Soc. Math. France, Mém. No*. 25, *Soc. Math. France, Paris*, 1971. (J. W. Porter) **51** #393 10H30

Progress towards hypothesis H. *Journées Arithmétiques Françaises* (*Univ. Provence, Marseille*, 1971), *exp. No*. 3, 8 *pp. Univ. Provence, Marseille*, 1971. (Jean-Marc Deshouillers) **53** #310 10H30

Numbers with large prime factors. *Séminaire de Théorie des Nombres*, 1971-1972 (*Univ. Bordeaux I, Talence*), *Exp. No*. 23, 9 *pp. Lab. Théorie des Nombres, Centre Nat. Recherche Sci., Talence*, 1972. (Editors) **52** #10618 10H15

(*with* Richert, H.-E.) The distribution of polynomial sequences. *Mathematika* **19** (1972), 25-50. (H. L. Montgomery) **58** #21980 10H30 (10H15)

Numbers with large prime factors. *Publ. Math. Univ. Bordeaux Année I* (1972/73), *No*. 3, *Exp. no*. 2, 9 *pp*. (R. Tijdeman) **52** #8058 10H15

(*with* Richert, H.-E.) Brun's method and the fundamental lemma. *Analytic number theory* (*Proc. Sympos. Pure Math., Vol. XXIV, St. Louis Univ., St. Louis, Mo*., 1972), *pp*. 247–249. *Amer. Math. Soc., Providence, R.I*., 1973. (Editors) **48** #11021 10H30

The distribution of sequences in arithmetic progressions. *Séminaire Delange-Pisot-Poitou*, 13*e année* (1971/72), *Théorie des nombres, No*. 2, *Exp. No*. 25, 5 *pp. Secrétariat Mathématique, Paris*, 1973. (T. M. Apostol) **52** #13682 10H20 (10H30)

(*with* Richert, H.-E.) Brun's method and the fundamental lemma. Collection of articles dedicated to Carl Ludwig Siegel on the occasion of his seventy-fifth birthday, II. *Acta Arith*. **24** (1973), 113–133. (H. L. Montgomery) **58** #27858a 10H30

(*with* Richert, H.-E.) ★Sieve methods. London Mathematical Society Monographs, No. 4. *Academic Press* [*A subsidiary of Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1974. xiv + 364 *pp*. (*loose errata*) (J. W. Porter) **54** #12689 10H30

Transcendental numbers. *Math. Gaz*. **58** (1974), 276–284. (Editors) **57** #5917 10F35

A proof of Chen's theorem. *Journées Arithmétiques de Bordeaux* (*Conf., Univ. Bordeaux*, 1974), *pp*. 281–293. *Astérisque, No*. 24-25, *Soc. Math. France, Paris*, 1975. (J. W. Porter) **52** #10645 10J20 (10J15)

(*with* Richert, H.-E.) Brun's method and the fundamental lemma. II. Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith*. **27** (1975), 51–59. (H. L. Montgomery) **58** #27858b 10H30

(*with* Richert, H.-E.) Addendum and corrigendum to the paper "Mean value theorems for a class of arithmetic functions" (Acta Arith. **18** (1971), 243–256). *Acta Arith*. **28** (1975/76), *no*. 1, 107–110. (D. Rearick) **52** #3089 10H30

Some unsolved problems in higher arithmetic. *The encyclopaedia of ignorance, pp*. 191–203. *Pergamon, Oxford*, 1978. (Matti Jutila) **58** #10675 10–01

See also **Rogers, C. A., 46** #1540; **Davenport, Harold, 58** #27141a; **Davenport, Harold, 58** #27141b; **Davenport, Harold, 58** #27141c *and* **Davenport, Harold, 58** #27141d

Halbert, E. C. (*with* Barrett, Bruce R.; McGrory, J. B.) Hidden configurations and effective interactions: a comparison of three different ways to construct renormalized Hamiltonians for truncated shell-model calculations. *Ann. Phys*. (*New York*) **90** (1975), 321–390. (E. C. G. Sudarshan) **57** #2302 81.47

Halbhavi, I. G. (*with* Varadarajan, K.) Gottlieb sets and duality in homotopy theory. *Canad. J. Math*. **27** (1975), *no*. 5, 1042–1055. (J. Siegel) **52** #11907 55E10

(*with* Varadarajan, K.) Extensions of fibrations. *Indiana Univ. Math. J*. **25** (1976), *no*. 8, 801–808. (T. tom Dieck) **54** #6141 55F05

Halbritter, J. Boundary condition for the distribution function of a gas of linear molecules. *Z. Naturforsch*. **29a** (1974), 1723–1735. (Ricardo Lima) **53** #10079 82.47

Halbritter, Ulrich (*with* Bodendiek, Rainer) Über die Transformationsformel von log $\eta(\tau)$ und gewisser Lambertscher Reihen. *Abh. Math. Sem. Univ. Hamburg* **38** (1972), 147–167. (K. Thanigasalam) **46** #3461 10H10

Hald, Anders The size of Bayes and minimax tests as function of the sample size and the loss ratio. *Skand. Aktuarietidskr*. **1971**, 53–73 (1972). (D. V. Lindley) **50** #1370 62C99

(*with* Keiding, Niels) Asymptotic properties of Bayesian decision rules for two terminal decisions and multiple sampling. II. *J. Roy. Statist. Soc. Ser. B* **34** (1972), 55–74. (D. V. Lindley) **47** #4357 62C10

Some remarks on the sequential probability ratio test. Collection of articles in honour of Professor H. C. Hamaker. *Statistica Neerlandica* **26** (1972), *no*. 3, 131–135. (R. H. Farrel) **52** #15899 62L10

Bayesian decision rules for two terminal decisions, discrete prior distribution and double sampling. (French summary) Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 1. *Bull. Inst. Internat. Statist*. **45** (1973), *book* 1, 492–498. (Thomas A. Kelley) **52** #15810 62F15

Optimum double sampling tests of given strength. I. The normal distribution. *J. Amer. Statist. Assoc*. **70** (1975), 451–456. (R. A. Wijsman) **51** #7190 62L10

(*with* Møller, Uffe) The ASN function for curtailed single sampling by attributes. *Technometrics* **18** (1976), *no*. 3, 307–312. (W. Uhlmann) **54** #1520 62N10

A note on the determination of attribute sampling plans of given strength. *Technometrics* **19** (1977), *no*. 2, 211–212. (W. Uhlmann) **55** #9469 62N10

Hald, Ole Hansen A converse to the Bauer-Fike theorem. *Linear Algebra and Appl*. **9** (1974), 267–274. (Claude Brezinski) **50** #6132 65F15 (15–XX)

(*with* Fischer, D.; Golub, Gene H.; Leiva, C.; Widlund, Olof B.) On Fourier-Toeplitz methods for separable elliptic problems. *Math. Comp*. **28** (1974), 349–368. (R. H. Bartels) **54** #4072 65F05 (65N20)

On a Newton-Moser type method. *Numer. Math*. **23** (1975), 411–426. (R. A. Tapia) **53** #4517 65H05

Inverse eigenvalue problems for Jacobi matrices. *Linear Algebra and Appl*. **14** (1976), *no*. 1, 63–85. (H. Hochstadt) **56** #5594 15A15 (65F15)

Discrete inverse Sturm-Liouville problems. I. Uniqueness for symmetric potentials. *Numer. Math*. **27** (1976/77), *no*. 2, 249–256. (William B. Day) **57** #14472 65L15 (34B25)

Inverse eigenvalue problems for layered media. *Comm. Pure Appl. Math*. **30** (1977), *no*. 1, 69–94. (Gottfried Anger) **56** #17695 86.35

The inverse Sturm-Liouville problem and the Rayleigh-Ritz method. *Math. Comp*. **32** (1978), *no*. 143, 687–705. (Francesco G. Lerda) **58** #19172 65L15

Haldane, J. B. S. *See* **Genetics and social structure, 49** #10401; **Studies in the history of statistics and probability, 51** #1889; **Demographic genetics, 52** #10091 *and* **Fel'dman, G. È., 58** #21296

Halder, Heinz-Richard Dimension der Bahnen lokal kompakter Gruppen. *Arch. Math*. (*Basel*) **22** (1971), 302–303. (Bernard L. Madison) **45** #2084 54H15

Über Bahnen lokal kompakter Gruppen auf Flächen. *Geometriae Dedicata* **2** (1973), 101–109. (P. S. Mostert) **48** #3026 54H15 (57E25)

Ebene *n*-Schnitt-Geometrien und sphärische Strukturen. *Arch. Math*. (*Basel*) **25** (1974), 553–560. (H. Salzmann) **50** #8292 50D45

(*with* Heise, Werner) On the existence of finite chain-*m*-structures and *k*-arcs in finite projective spaces. *Geometriae Dedicata* **3** (1974/75), 483–486. (N. S. Mendelsohn) **52** #6563 50D35

Über symmetrische (k,n)-Kurven in endlichen Ebenen. (English summary) *J. Geometry* **5** (1974), 147–157. (A. Schleiermacher) **52** #6564 50D35

(*with* Heise, Werner) ★Einführung in die Kombinatorik. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag, Munich-Vienna*, 1976. xii + 302 *pp*. (Jaroslav Nešetřil) **58** #16316 05–01

Über Kurven vom Typ (m, n) und Beispiele total m-regulärer (k, n)-Kurven. (English summary) *J. Geometry* **8** (1976), *no*. 1-2, 163–170. (B. d'Orgeval) **58** #21714 05B30

Hale, A. L. (*with* Meirovitch, Leonard) A Rayleigh-Ritz approach to the synthesis of large gyroscopic structures. (French summary) *J. Méc. Appl*. **1** (1977), *no*. 4, 333–356. (Authors' summary) **58** #14079 70.49

Hale, C. (*with* Phillips, Garry D. A.) The bias of instrumental variable estimators of simultaneous equation systems. *Internat. Econom. Rev*. **18** (1977), *no*. 1, 219–228. (G. Tintner) **56** #13498 62P20

Hale, D. F. (*with* Burchard, Hermann G.) Piecewise polynomial approximation on optimal meshes. *J. Approximation Theory* **14** (1975), *no*. 2, 128–147. (L. L. Schumaker) **51** #10957 41A15

Hale, Jack K. ★Ordinary differential equations. Pure and Applied Mathematics, Vol. XXI. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1969. xvi + 332 *pp*. (G. Maess (Zbl **186** #409)) **54** #7918 34–02 (58Fxx)

★Functional differential equations of retarded type. Lecture Series of the Seventh Brazilian Mathematical Colloquium (Poços de Caldas, 6–26 July 1969). *Instituto de Matemática Pura e Aplicada, Conselho Nacional de Pesquisas, Rio de Janeiro*, 1969. ii + 239 *pp*. (Editors) **57** #6710 34Kxx

Behavior near a periodic orbit of functional differential equations. *Advances in differential and integral equations* (*Conf. Qualitative Theory of Nonlinear Differential and Integral Equations, Univ. Wisconsin, Madison, Wis*., 1968; *in memoriam Rudolph E. Langer* (1894–1968)), *pp*. 71–75. *Studies in Appl. Math., No*. 5, *Soc. Indust. Appl. Math., Philadelphia, Pa*., 1969. (K. Schmitt) **51** #10812 34K15

★Functional differential equations. Applied Mathematical Sciences, Vol. 3. *Springer-Verlag New York, New York-Heidelberg*, 1971. viii + 238 *pp*. (M. Schechter (Zbl **222** #34003)) **57** #6711 34Kxx

Functional differential equations. *Analytic theory of differential equations* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich*., 1970), *pp*. 9–22. *Lecture Notes in Mat., Vol*. 183, *Springer, Berlin*, 1971. (K. Schmitt) **52** #11251 34K15

Local behavior of autonomous neutral functional differential equations. *Ordinary differential equations* (*Proc. Conf., Math. Res. Center, Naval Res. Lab., Washington, D.C*., 1971), *pp*. 95–107. *Academic Press, New York*, 1972. (B. Stephan) **54** #3128 34K15

(*with* Lasalle, Joseph P.; Slemrod, Marshall) Theory of a general class of dissipative processes. *J. Math. Anal. Appl*. **39** (1972), 177–191. (G. Sansone) **47** #2581 (E **48** #1203) 54H25 (34C35)

(*with* Mawhin, Jean L.) ★Coincidence degree and periodic solutions of neutral equations. Séminaires de Mathématique Appliquée et Mécanique, Rapport No. 63. *Institut de Mathématique Pure et Appliquée, Université Catholique de Louvain, Louvain-La-Neuve*, 1973. ii + 21 *pp*. (Editors) **52** #14534 34K15

Some infinite-dimensional dynamical systems. *Dynamical systems* (*Proc. Sympos*., *Univ. Bahia, Salvador*, 1971), *pp.* 129–133. *Academic Press, New York*, 1973. (A. F. Izé) **49** #10998 34K15

α-contractions and differential equations. *Équations différentielles et fonctionnelles non linéaires* (*Actes Conf. Internat.* "*Equa-Diff 73*", *Brussels/Louvain-la-Neuve*, 1973), *pp.* 15–41. *Hermann, Paris*, 1973. (R. R. Ahmerov) **53** #3456 34K05 (47H10)

Oscillations in neutral functional differential equations. *Non-linear mechanics* (*Centro Internaz. Mat. Estivo* (*C.I.M.E.*), *I Ciclo, Bressanone*, 1972), *pp.* 97–111. *Edizioni Cremonese, Rome*, 1973. (R. R. Ahmerov) **53** #3461 34K15

Smoothing properties of neutral equations. *An. Acad. Brasil. Ci.* **45** (1973), 49–50. (S. Leela) **48** #9047 34K20

(*with* Lopes, Orlando) Fixed point theorems and dissipative processes. *J. Differential Equations* **13** (1973), 391–402. (Jerome Eisenfeld) **48** #12173 47H10 (34K15)

(*with* Lasalle, Joseph P.; Slemrod, Marshall) Erratum: "Theory of ageneral class of dissipative processes" (J. Math. Anal. Appl. **39** (1972), 177–191). *J. Math. Anal. Appl.* **41** (1973), 270. (G. Sansone) **48** #1203 54H25

Stability of linear systems with delays. *Stability problems* (*Centro Internaz. Mat. Estivo* (*C.I.M.E.*), *I Ciclo, Bressanone*, 1974), *pp.* 19–35. *Edizioni Cremonese, Rome*, 1974. (From the text) **58** #22937 34K20

(*with* Chow, Shui Nee) Strongly limit-compact maps. *Funkcial. Ekvac.* **17** (1974), 31–38. (Jerome Eisenfeld) **50** #3021 47H10 (34K10)

Behavior near constant solutions of functional differential equations. *J. Differential Equations* **15** (1974), 278–294. (J. Kato) **49** #10999 34K15

(*with* Mawhin, Jean L.) Coincidence degree and periodic solutions of neutral equations. *J. Differential Equations* **15** (1974), 295–307. (R. E. Fennell) **49** #780 34K15

Continuous dependence of fixed points of condensing maps. *J. Math. Anal. Appl.* **46** (1974), 388–394. (M. Edelstein) **50** #5559 47H10

Functional differential equations with infinite delays. *J. Math. Anal. Appl.* **48** (1974), 276–283. (S. P. Hastings) **51** #1067 34K15

The solution operator with infinite delays. *International Conference on Differential Equations* (*Proc., Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 330–336. *Academic Press, New York*, 1975. (Erwin Kozakiewicz) **54** #10803 34K15 (34K05)

(*with* Chow, Shui Nee; Mallet-Paret, John) Applications of generic bifurcations. I. *Arch. Rational Mech. Anal.* **59** (1975), *no.* 2, 159–188. (Jean Mawhin) **52** #11675 47H15 (35B99, 58C15)

Parametric stability in difference equations. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 209–214. (Sheldon P. Gordon) **53** #1075 39A10

Periodic solutions of functional differential equations. *Differential equations* (*Third Mexico-U.S. Sympos., Mexico City*, 1975) (*Spanish*), *pp.* 9–23. *Math. Notes and Sympos., Vol.* 2, *Fondo de Cultura Económ., Mexico City*, 1976. (John R. Haddock) **56** #16104 34K15 (47H10)

Functional differential equations of neutral type. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. I*, *pp.* 179–194. *Academic Press, New York*, 1976. (Editors) **58** #28982 34K05

Discrete dissipative processes. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 207–224. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (J. S. Joel) **58** #24387 58F20 (34C35)

(*with* Chow, Shui Nee; Mallet-Paret, John) Applications of generic bifurcation. II. *Arch. Rational Mech. Anal.* **62** (1976), *no.* 3, 209–235. (Jean Mawhin) **54** #3753 58E99 (35G20, 47H15)

(*with* Oliva, Waldyr M.) One-to-oneness for linear retarded functional differential equations. *J. Differential Equations* **20** (1976), *no.* 1, 28–36. (K. Schmitt) **55** #8510 34K05

(*with* Martínez-Amores, Pedro) Stability in neutral equations. *Nonlinear Anal.* **1** (1976/77), *no.* 2, 161–173. (R. F. Datko) **58** #29008 34K15

★Theory of functional differential equations. Second edition. Applied Mathematical Sciences, Vol. 3. *Springer-Verlag, New York-Heidelberg*, 1977. x+365 *pp.* (R. R. Ahmerov) **58** #22904 34Kxx

Bifurcation near families of solutions. *Differential equations* (*Proc. Internat. Conf., Uppsala*, 1977), *pp.* 91–100. *Sympos. Univ. Upsaliensis Ann. Quingentesimum Celebrantis, No.* 7, *Almqvist & Wiksell, Stockholm*, 1977. (M. I. Kamenskiĭ) **58** #12554 47H15 (58E05)

Generic bifurcation with applications. *Nonlinear analysis and mechanics: Heriot-Watt Symposium* (*Edinburgh*, 1976), *Vol. I*, *pp.* 59–157. *Res. Notes in Math., No.* 17, *Pitman, London*, 1977. (J. E. Marsden) **58** #18512 58–02 (58C25, 58E05)

(*with* Rodrigues, Hildebrando Munhoz) Bifurcation in the Duffing equation with independent parameters. I. *Proc. Roy. Soc. Edinburgh Sect. A* **78** (1977/78), *no.* 1-2, 57–65. (D. R. J. Chillingworth) **58** #6506a 34C15 (58F10)

(*with* Rodrigues, Hildebrando Munhoz) Bifurcation in the Duffing equation with independent parameters. II. *Proc. Roy. Soc. Edinburgh Sect. A* **79** (1977/78), *no.* 3-4, 317–326. (D. R. J. Chillingworth) **58** #6506b 34C15 (58F10)

Restricted generic bifurcation. *Nonlinear analysis* (*collection of papers in honor of Erich H. Rothe*), *pp.* 83–98. *Academic Press, New York*, 1978. (B. V. Loginov) **58** #18534 58C25 (47H15, 58E05)

(*with* Kato, Junji) Phase space for retarded equations with infinite delay. *Funkcial. Ekvac.* **21** (1978), *no.* 1, 11–41. (Waldyr M. Oliva) **58** #11793 34K15 (58F10)

See also **Studies in ordinary differential equations**, **56** #5979; **Dynamical systems**, **58** #22710 *and* **Dynamical systems**, **58** #22711

Hale, Mark P., Jr. (*with* Gagen, Terence M.) On the maximal normal prime-nilpotent subgroup of a prime-solvable group. *Bull. Austral. Math. Soc.* **6** (1972), 255–262. (John D. P. Meldrum) **45** #3552 20D10

Normally closed saturated formations. *Proc. Amer. Math. Soc.* **33** (1972), 337–342. (R. M. Bryant) **45** #365 20D99

(*with* Shult, Ernest E.) Equiangular lines, the graph extension theorem, and transfer in triply transitive groups. *Math. Z.* **135** (1973/74), 111–123. (Peter M. Neumann) **49** #5144 20B20

(*with* Drake, David A.) Half counts in Latin quarters. *Discrete Math.* **8** (1974), 257–268. (Authors' summary) **54** #5011 05B15

Locally dual affine geometries. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah*, 1975), *pp.* 513–518. *Academic Press, New York*, 1976. (Aiden A. Bruen) **53** #7822 05B25

Pull-backs of formation projectors. *Proc. Amer. Math. Soc.* **60** (1976), 61–64 (1977). (F. P. Lockett) **55** #5736 20D10

(*with* Drake, David A.) Group constructible (t, k)-nets and Hjelmslev planes. *J. Algebra* **48** (1977), *no.* 2, 321–331. (D. Jungnickel) **56** #15465 05B25 (50D35)

Finite geometries which contain dual affine planes. *J. Combinatorial Theory Ser. A* **22** (1977), *no.* 1, 83–91. (Francis Buekenhout) **54** #10046 05B25 (50D30)

(*with* Jungnickel, Dieter) A generalization of Singer's theorem. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 2, 280–284. (A. Cronheim) **58** #18115 50D35

See also **Finite groups**, **50** #460

Hale, R. L. V. Logic for morons. *Mind* **87** (1978), *no.* 345, 111–115. (Ruth Manor) **57** #9460 02A05

Hale, V. W. D. (*with* Burns, Robert G.) A note on group rings of certain torsion-free groups. *Canad. Math. Bull.* **15** (1972), 441–445. (Donald S. Passman) **46** #9149 20C05

Hales, Alfred W. Combinatorial representations of abelian groups. *Combinatorics* (*Proc. Sympos. Pure Math., Vol. XIX, Univ. California, Los Angeles, Calif.*, 1968), *pp.* 105–108. *Amer. Math. Soc., Providence, R.I.*, 1971. (J. Turner) **47** #8349 05C30 (05C25)

(*with* Baker, Kirby A.) From a lattice to its ideal lattice. *Algebra Universalis* **4** (1974), 250–258. (Alasdair Urquhart) **51** #291 06A20 (02H05)

(*with* Nunke, R. J.) Groups have few composition series. *Amer. Math. Monthly* **81** (1974), 50. (Richard E. Phillips) **48** #11313 20E15

Linear analogues of ultrafilters. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 2, 311–313. (Olav Njåstad) **53** #4005 54D35 (04A20, 54H15)

Ultrafilters and Abelian groups. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 4, 554–556. (From the author's introduction) **55** #10579 20K10

(*with* Brown, Robert F.) Exact completeness of compact Lie groups. *Houston J. Math.* **2** (1976), *no.* 1, 17–22. (John F. Price) **53** #708 22E15

Analogues of the stacked bases theorem. *Abelian group theory* (*Proc. Second New Mexico State Univ. Conf., Las Cruces, N.M.*, 1976), *pp.* 399–405. *Lecture Notes in Math., Vol.* 616, *Springer, Berlin*, 1977. (Editors) **58** #22334 20K20

Hales, R. S. Numerical invariants and the strong product of graphs. *J. Combinatorial Theory Ser. B* **15** (1973), 146–155. (Moshe Rosenfeld) **48** #177 05C99

Halevy, Avner (*with* Rao, M. Bhaskara) On Leader's V_p space of finitely additive measures. *J. Reine Angew Math.* **293/294** (1977), 204–216. (Lester E. Dubins) **56** #12207 28A10

Haley, David K. Equationally compact Artinian rings. *Canad. J. Math.* **25** (1973), 273–283. (B. J. Müller) **47** #3445 16A46 (16A80)

A note on equational compactness. *Algebra Universalis* **4** (1974), 36–40. (A. Yaqub) **50** #6977 08A15

A note on compactifying Artinian rings. *Canad. J. Math.* **26** (1974), 580–582. (B. J. Müller) **50** #7246 16A46 (08A25)

Equational compactness and compact topologies in rings satisfying A.C.C. *Pacific J. Math.* **62** (1976), *no.* 1, 99–115. (W. Taylor) **54** #2564 08A15

Haley, K. B. A general method of solution for special structure linear programmes. *Operational Res. Quart.* **17** (1966), 83–90. (Author's summary) **45** #1589 90C05

See also **Operational research**, **53** #12542

Haley, Stephen B. Exact relations among correlation functions of inherently nondynamic interacting systems. *J. Mathematical Phys.* **19** (1978), *no.* 5, 1184–1186. (Shigetoshi Katsura) **57** #15149 82.60

Exact solutions of disordered Ising spin chains in a magnetic field. *J. Mathematical Phys.* **19** (1978), *no.* 5, 1187–1191. (Shigetoshi Katsura) **57** #15150 82.60

Halezov, A. D. (*with* Kononenko, A. F.) A two-person game with a fixed sequence of moves and with inexact information on the set of the partner's choices. (Russian) *Questions in applied mathematics* (*Russian*), *pp.* 44–55. *Sibirsk. Ènerget. Inst. Akad. Nauk SSSR Sibirsk. Otdel., Irkutsk*, 1975. (J. M. Skowroński) **58** #9337 90D25

Halfant, Matthew Analytic properties of Rényi's invariant density. *Israel J. Math.* **27** (1977), *no.* 1, 1–20. (W. Parry) **55** #10642 28A65

Halff, Henry M. Choice theories for differentially comparable alternatives. *J. Mathematical Psychology* **14** (1976), *no.* 3, 244–246. (B. G. Mirkin) **56** #7777 90A05

Precriterion stationarity in Markovian learning models. *Psychometrika* **41** (1976), *no.* 3, 301–320. (Author's summary) **58** #7864 60J20 (92A25)

Halfin, L. A. (*with* Halfina, N. M.) The ε-minimax property of the Hotelling T^2 test for nonnormal distributions. (Russian) *Mat. Zametki* **11** (1972), 527–536. (M. Iosifescu) **46** #4633 62C07

(*with* Halfina, N. M.) The ε-minimax character of the Hotelling T^2 test for distributions that are close to normal. (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 102–112. (Viorel Gh. Vodă) **48** #7429 62C07

(*with* Halfina, N. M.) A robust version of the likelihood ratio test. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), 203–206. (W. Hoeffding) **51** #7141 62G35

On the Boltzmann H-theorem. (Russian. English summary) *Teoret. Mat. Fiz.* **35** (1978), *no.* 3, 425–429. (Nina B. Maslova) **58** #14849 82.60

See also **Problems in the theory of probability distributions**, **52** #4355

Halfin, Shlomo Simultaneous determination of ordering and amplifications of cascaded subsystems. *J. Optimization Theory Appl.* **6** (1970), 356–363. (S. E. Moskowitz) **45** #6388 90C99

Arbitrarily complex corner polyhedra are dense in R^n. *SIAM J. Appl. Math.* **23** (1972), 157–163. (V. Joseph Bowman, Jr.) **48** #1704 90C25

Steady-state distribution for the buffer content of an $M/G/1$ queue with varying service rate. *SIAM J. Appl. Math.* **23** (1972), 356–363. (N. U. Prabhu) **47** #5983 60K25

(*with* Segal, M.) A priority queueing model for a mixture of two types of customers. *SIAM J. Appl. Math.* **23** (1972), 369–379. (N. U. Prabhu) **47** #5982 60K25

On finding the absolute and vertex centers of a tree with distances. *Transportation Sci.* **8** (1974), 75–77. (P. Vondráček) **50** #12191 90B10

Explicit construction of invariant measures for a class of continuous state Markov processes. *Ann. Probability* **3** (1975), *no.* 5, 859–864. (W. Parry) **52** #6878 60J05 (10K10)

An approximate method for calculating delays for a family of cyclic-type queues. *Bell System Tech. J.* **54** (1975), *no.* 10, 1733–1754. (Author's summary) **54** #6330 60K30

Halfina, N. M. The minimax character of a complex analogue of the R^2-test. (Russian) *Trudy Mat. Inst. Steklov.* **111** (1970), 12–22. (S. Kullback) **46** #4634 62C07

(*with* Halfin, L. A.) The ε-minimax property of the Hotelling T^2 test for nonnormal distributions. (Russian) *Mat. Zametki* **11** (1972), 527–536. (M. Iosifescu) **46** #4633 62C07

(*with* Halfin, L. A.) The ε-minimax character of the Hotelling T^2 test for distributions that are close to normal. (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 102–112. (Viorel Gh. Vodă) **48** #7429 62C07

(*with* Halfin, L. A.) A robust version of the likelihood ratio test. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), 203–206. (W. Hoeffding) **51** #7141 62G35

See also **Theoretical problems in mathematical statistics**, **48** #7424 *and* **Problems in the theory of probability distributions**, **52** #4355

Hälg, W. (*with* Auerbach, T.; Gandillon, J.-P.; Mennig, J.) Analytical solution of S_4-equations in plane geometry. *Comput. Methods Appl. Mech. Engrg.* **2** (1973), 133–146. (P. Nelson) **52** #2501 82.65 (65L10)

(*with* Özisik, M. N.; Mennig, J.) Half-range moment method for solution of the transport equation in a spherically symmetric geometry. *J. Quant. Spectrosc. Radiat. Transfer* **15** (1975), *no.* 12, 1101–1106. (Ian Lerche) **53** #15225 82.45

Halgreen, Christian (*with* Barndorff-Nielsen, Ole) Infinite divisibility of the hyperbolic and generalized inverse Gaussian distributions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **38** (1977), *no.* 4, 309–311. (Barthel W. Huff) **55** #9207 60E05

(*with* Barndorff-Nielsen, Ole; Blaesild, Preben) First hitting time models for the generalized inverse Gaussian distribution. *Stochastic Processes Appl.* **7** (1978), *no.* 1, 49–54. (Barthel W. Huff) **58** #7780 60E05

Halic, Gheorghe Sur une relation dans le calcul des neutrices. *Rev. Anal. Numér. Théorie Approximation* 3 (1974), *no.* 2, 167–171 (1975). (Editors) **56** #13537 65D25

Halicki, Henryk Critical remarks on the Box and Jenkins method for the prediction of nonstationary stochastic processes. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **18** (1973), 287–294. (Author's summary) **48** #1414 62M20

Halikov, D. H. Group properties of a system of equations of the motion of an elastic homogeneous anisotropic medium. (Russian) *Mathematics and the methodology of its teaching, Part II* (*Russian*), *pp.* 130–134. *Tadžik. Gos. Univ., Dushanbe*, 1974. (Editors) **58** #29049 35A30 (22E05, 58H05)

Halikov, K. S. (*with* Salaev, V. V.) A singular integral with an infinite number of singular points. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 2, 23–27. (N. K. Karapetjanc) **52** #6339 44A25

Estimates for a singular integral with an infinite number of singular points. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 37 (1975), 12–18, 141–142. (RŽMat **1976** #6 B46) **58** #29921 45E99

Some properties of a singular integral with an infinite number of singular points. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 38 (1975), 43–54, 156. (RŽMat **1976** #7 B50) **58** #29914 45E10

A singular integral with a Hilbert kernel with an infinite number of singular points. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1976**, *no.* 4, 79–84. (Not reviewed) 44A15

Halikov, M. K. (*with* Mamatov, M) Multidimensional limit theorems for sums of a random number of random vectors. (Russian) Studies in mathematical statistics, and related questions. *Taškent. Gos. Univ. Naučn. Trudy No.* 402 (1972), 71–81. (J. Galambos) **49** #1562 60F05

Halikulov, I. B. (*with* Kučkarov, Ja. H.) Measures with values in topological Boolean algebras. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 3, 6–8. (Beloslav Riečan) **54** #5434 28A55

(*with* Sarymsakov, T. A.) The strong law of large numbers with respect to semifield-valued measures. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 4, 808–810. (Ştefan P. Niculescu) **57** #10785 60F15

(*with* Kučkarov, Ja. H.) Some probability-theoretic results that are connected with Boolean measures. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1978**, *no.* 1, 12–17, 91. (S. A. Čobanjan) **58** #18649 60B99 (60F15)

Halilov, A. I. . Certain transformations of sequential programs. I. (Russian) *Software of electronic digital computers* (*Proc. Sem. Automation of Programming, Kiev*, 1970/1971) (*Russian*), *pp.* 22–34. *Akad. Nauk Ukrain, SSR Inst. Kibernet., Kiev*, 1971. (V. N. Agafonov) **52** #7184a 68A05

Certain transformations of sequential programs. II. *Software of electronic digital computers* (*Proc. Sem. Automation of Programming, Kiev*, 1970/1971) (*Russian*), *pp.* 34–42. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1971. (V. N. Agafonov) **52** #7184b 68A05

The automatization of the desequencing of programs on the level of a procedure-oriented language. (Russian) *Theory of languages and methods of construction of programming systems* (*Proc. Sympos.*) (*Russian*), *pp.* 60–70. *Inst. Kibernet. Akad. Nauk Ukrain. SSR, Kiev-Alushta*, 1972. (Horst Reichel) **52** #16097 68A05

Certain multiprocessing problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 1, 103–114. (Author's introduction) **54** #6538 68A05

On the question of program parallelization. (Russian) *Problemy Kibernet. No.* 28 (1974), 157–176, 278–279; *correction, ibid. No.* 29 (1974), 248. (Miroslav Hladký) **52** #2270 68A05

See also **Languages of systems programming and methods for their realization**, **56** #7281

Halilov, È. I. *See* **Abstracts: Republican Scientific Conference on Mathematics and Mechanics**, **52** #13058

Halilov, I. M. (*with* Džafarov, A. S.) The range of a singular integral operator with Cauchy kernel. (Russian. Azerbaijani and English summaries) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1975**, *no.* 3, 13–31. (N. K. Karapetjanc) **56** #6471 47G05

Halilov, Z. I. On the theory of dynamical systems of automatic control with distributed parameters. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk.* **1970**, *no.* 1-2, 3–9. (G. Zatiašivili) **45** #8318 93C20

See also **Gel'fand, I. M.; et al.**, **45** #18; **Obituary: Halilov, Z. I.**, **50** #42; **Functional analysis and its application**, **50** #9465; **Studies of special questions in the theory of differential equations**, **50** #10498 *and* **Bicadze, A. V.; et al.**, **52** #7791

Halilova, B. A. Fourier-Jacobi coefficients, and the approximation of functions by ultraspherical polynomials. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1973**, *no.* 2, 87–94. (V. Veselinov) **53** #6180 41A50

Certain estimates for polynomials. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 2, 46–55. (Victor I. Levin) **50** #4863 26A82 (42A04)

Halilova, R. Z. (*with* Baĭramogly, M.) A certain theorem of Phragmén-Lindelöf type for operator differential equations. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn: Mat. Nauk* **1973**, *no.* 2, 83–86. (D. M. Eidus) **52** #14589 (EA **53**) 35G05 (47F05)

(*with* Gasymov, M. G.) Lacunae in the spectrum of a periodic problem. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 3, 42–46. (M. K. Grammatikopovlos) **58** #17297 34B25

Halilović, Hatidža M. (*with* Malenica, Mirjana) A certain generalization of certain differential equations. (Serbo-Croatian. French summary) *Akad. Nauka i Umjet. Bosne i Hercegov. Rad. Knj.* **33** *Odjelj. Prirod. Mat. Nauka No.* 10 (1969), 87–103. (J. F. Heyda) **45** #2235 34A25 (35A99)

(*with* Malenica, Mirjana) Certain partial differential equations. (Serbo-Croatian. French summary) *Akad. Nauka i Umjet Bosne i Hercegov. Rad. Knj.* 45 *Odjelj. Prirod. Mat. Nauka No.* 12 (1973), 25–39. (Leo F. Boron) **49** #7569 35A25

Halimanovič, M. P. (*with* Bespamjatnyh, N. D.; Bogdanov, Ju. S.; Gusak, A. A.; Ivanov, E. A.) The development of mathematics at Belorussian State University. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1971**, *no.* 3, 5–12, 92. (Editors) **51** #30 01A60

Halimskiĭ, E. D. Tree-like and linearly tree-like spaces. (Russian) *Current questions in mathematical logic and set theory* (*Russian*), *pp.* 241–257. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (D. Adnadjević) **56** #16566 54D05

★*Упорядоченные топологические пространства.* (Russian) [Ordered topological spaces] *Izdat. "Naukova Dumka", Kiev*, 1977. 92 *pp.* (Roman Duda) **57** #4118 54F05 (55B40)

Halin, Rudolf Unendliche minimale n-fach zusammenhängende Graphen. Collection of articles dedicated to Lothar Collatz on his sixtieth birthday. *Abh. Math. Sem. Univ. Hamburg* **36** (1971), 75–88. (J. Sedláček) **49** #7176 05C35

Automorphisms and endomorphisms of infinite locally finite graphs. *Abh. Math. Sem. Univ. Hamburg* **39** (1973), 251–283. (C. St. J. A. Nash-Williams) **49** #150 05C99

A note on Menger's theorem for infinite locally finite graphs. *Abh. Math. Sem. Univ. Hamburg* **40** (1974), 111–114. (Torrence D. Parsons) **49** #137 05C35

A problem concerning infinite graphs. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 233–237. *Academia, Prague*, 1975. (F. Harary) **52** #10504 05C99

A problem in infinite graph-theory. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 79–84. (C. St. J. A. Nash-Williams) **55** #189a (E **55** #189b) 05C99

Some path problems in graph theory. *Abh. Math. Sem. Univ. Hamburg* **44** (1975), 175–186 (1976). (Colin J. H. McDiarmid) **55** #2651 05C35

S-functions for graphs. *J. Geometry* **8** (1976), *no.* 1-2, 171–186. (W. Dörfler) **56** #2873 05C99

Systeme disjunkter unendlicher Wege in Graphen. (English summary) *Numerische Methoden bei Optimierungsaufgaben, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1976), *pp.* 55–67. *Internat. Ser. Numer. Math., Vol.* 36, *Birkhäuser, Basel*, 1977. (W. Dörfler) **58** #5394 05C99

See also **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **48** #8247 *and* **Woodall, D. R.**, **55** #189b

Halin, V. G. (*with* Jakovlev, A. V.) Universal norms in Γ-extensions. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **71** (1977), 251–255, 287. (Ján Sliwa) **57** #12452 12A35

Halitov, M. N. (*with* Tihomirov, V. V.) The application of S. N. Bernšteĭn's polynomials in problems of the approximation of a function and its derivative. (Russian) *Avtometrija* **1974**, *no.* 2, 89–91. (Bl. Sendov) **50** #13984 41A10 (65Dxx)

Halitov, N. T. (*with* Ahmetov, S. M.) The method of subregions for integral equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 8(171), 9–15. (Authors' review (RŽMat **1977** #3 B823)) **58** #23452 45L10 (47H15, 65J05)

Halitova, G. A. Approximation of sums of a random number of summands that are distributed according to the binomial law by infinitely divisible laws. (Russian) *Taškent. Gos. Ped. Inst. Učen. Zap.* **100** *Voprosy Teor. Verojatnost.* (1972), 90–95, 138. (Editors) **57** #4293 60F05

Halkin, Hubert (*with* Jordan, B. W.; Polak, Elijah; Rosen, J. B.) Theory of optimum discrete time systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 53, *Paper* 28B, 7 *pp. Inst. Mech. Engrs., London*, 1967. (F. M. Kirillova) **52** #5127 93C55

(*with* Neustadt, Lucien W.) Control as programming in general normed linear spaces. *Mathematical systems theory and economics, I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp.* 23–40. *Lecture Notes in Oper. Res. and Math. Econom., Vols.* 11, 12. *Springer, Berlin*, 1969. (Thomas S. Angell) **48** #9496 49B10

Extremal properties of biconvex contingent equations. *Ordinary differential equations* (*Proc. NRL-MRC Conf., Math. Res. Center, Naval Res. Lab., Washington, D. C.*, 1971), *pp.* 109–119. *Academic Press, New York*, 1972. (V. V. Obuhovskiĭ) **55** #13326 49E10

Necessary conditions in mathematical programming and optimal control theory. *Optimal control theory and its applications* (*Proc. Fourteenth Biennial Sem. Canad. Math. Congr., Univ. Western Ontario, London, Ont.*, 1973), *Part I*, *pp.* 113–165. *Lecture Notes in Econom. and Math. Systems, Vol.* 105, *Springer, Berlin*, 1974. (Editors) **58** #9602 93C99 (90Cxx)

Necessary conditions for optimal control problems with infinite horizons.

Econometrica **42** (1974), 267–272. (Author's summary) **55** #13319 49B99

Implicit functions and optimization problems without continuous differentiability of the data. Collection of articles dedicated to the memory of Lucien W. Neustadt. *SIAM J. Control* **12** (1974), 229–236. (Ivar Ekeland) **53** #10311 90C30 (49B05)

Brouwer fixed point theorem versus contraction mapping theorem in optimal control theory. *International Conference on Differential Equations* (*Proc., Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 337–344. *Academic Press, New York*, 1975. (D. K. Hughes) **54** #10525 26A57 (49B99)

Mathematical programming without differentiability. *Calculus of variations and control theory* (*Proc. Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1975), *pp.* 279–287. *Math. Res. Center, Univ. Wisconsin, Publ. No.* 36, *Academic Press, New York*, 1976. (Michael E. Thomas) **55** #8927 49A99 (90Cxx, 65K05)

Interior mapping theorem with set-valued derivatives. *J. Analyse Math.* **30** (1976), 200–207. (K. M. Garg) **58** #6102 26A24

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360c *and* **Control theory and the calculus of variations, 52** #15159

kowska, Katarzyna Conditional definitions and the idea of meaningful expression with conditionally defined terms. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **13** *Logika Mat.* (1973), 5–56. (G. E. Minc) **54** #7199 02B10

Congruences and automorphisms of algebras belonging to equational classes defined by non-trivializing equalities. *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 1-2, 8–11. (Alden Pixley) **52** #233 08A15

On algebra connected with notion of satisfiability in theories with conditional definitions. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **4** (1975), *no.* 4, 154–162. (Leo Esakia) **55** #2549 02G99

(*with* Piróg-Rzepecka, Krystyna) Proofs in theories containing conditional definitions. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **15** *Logika Mat.* (1975), 63–76. (Jerzy Kotas) **54** #7200 02B10

(*with* Słupecki, Jerzy; Piróg-Rzepecka, Krystyna) ★Logika matematyczna. (Polish) [Mathematical logic] *Państwowe Wydawnictwo Naukowe, Warsaw*, 1976. 289 *pp.* (S. J. Surma) **57** #15933 02–01

On some operator defined on equational classes of algebras. *Arch. Math.* (*Brno*) **12** (1976), *no.* 4, 209–212. (Alden Pixley) **55** #5498 08A15

An equational class of algebras. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **19** *Logika Mat.* (1976), 127–136. (Author's summary) **57** #5871 08A25

On some generalizations of Boolean algebras. *Demonstratio Math.* **10** (1977), *no.* 3-4, 731–749. (J. A. Kalman) **58** #5437 06A40

Congruences, automorphisms and subalgebras of a certain Łukasiewicz algebra. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **20** *Algebra, Zastos. Mat.* (1978), 43–55. (Author's summary) **58** #16274 02J05 (06A35)

all, A. D. (*with* Goldstein, A. J.) Solutions to a problem in power series reversion. *SIAM J. Math. Anal.* **6** (1975), 192–198. (M. Stieglitz) **50** #13957 40B05

all, A. Rupert (*with* Hall, Marie Boas) Further notes on Henry Oldenburg. *Notes and Records Roy. Soc. London* **23** (1968), 33–42. (2 *plates*) (Editors) **58** #4848 01A45

(*with* Hall, Marie Boas) The intellectual origins of the Royal Society—London and Oxford. *Notes and Records Roy. Soc. London* **23** (1968), 157–168. (Editors) **58** #26887 01A45

(*with* Boas Hall, Marie) Anglo-French scientific communication in the mid-seventeenth century. *Actes du XIIe Congrès International d'Histoire des Sciences* (*Paris*, 1968), *Tome XI*: *Sciences et sociétés*: *relations-influences-écoles*, *pp.* 65–69. *Librairie Sci. Tech. Blanchard, Paris*, 1971. (Editors) **52** #13141 01A45

Newton and his editors. The Wilkins Lecture, 1973. *Notes and Records Roy. Soc. London* **29** (1974), 29–52. (4 *plates*) (Editors) **58** #26888 01A45

Newton and his editors. The Wilkins Lecture, 1973. *Proc. Roy. Soc.* (*London*) *Ser. A* **338** (1974), 397–417. (C. B. Boyer) **50** #23 01A45 (01A50)

Newton in France: a new view. *Hist. of Sci.* **13** (1975), *no.* 4, 233–250. (C. J. Scriba) **58** #26889 01A45

See also **Correspondence: Isaac Newton, 58** #15936 *and* **Correspondence: Isaac Newton, 58** #21348

all, Adrienne A. Derivations of certain C^*-algebras. *J. London Math. Soc.* (2) **5** (1972), 321–329. (G. A. Elliott) **51** #11122 46L05

all, Albert C. *See* **Automatic control: classical linear theory, 52** #16755

all, Andrew D., Jr. Solving a problem in eigenvalue approximation with a symbolic algebra system. *SIAM J. Comput.* **4** (1975), 163–174. (Bernard H. Rosman) **51** #14636 68A15 (65L15)

all, Charles A. (*with* Carlson, R. E.) Ritz approximations to two-dimensional boundary value problems. *Numer. Math.* **18** (1971/72), 171–181. (A. Haimovici) **46** #4751 65N30

(*with* Gordon, William J.) Geometric aspects of the finite element method. *The mathematical foundations of the finite element method with applications to partial differential equations* (*Proc. Sympos., Univ. Maryland, Baltimore, Md.*, 1972), *pp.* 769–783. *Academic Press, New York*, 1972. (Reinhard Scholz) **54** #4141 65N30

(*with* Carlson, R. E.) Bicubic spline interpolation in rectangular polygons. Collection of articles dedicated to J. L. Walsh on his 75th birthday, VIII. *J. Approximation Theory* **6** (1972), 366–377. (R. Franke) **49** #5644 41A15

(*with* Gordon, William J.) Construction of curvilinear co-ordinate systems and applications to mesh generation. *Internat. J. Numer. Methods Engrg.* **7** (1973), 461–477. (Authors' summary) **56** #10057 65N30

(*with* Carlson, R. E.) Error bounds for bicubic spline interpolation. *J. Approximation Theory* **7** (1973), 41–47. (R. Franke) **49** #3385 41A15

Uniform convergence of cubic spline interpolants. *J. Approximation Theory* **7** (1973), 71–75. (D. Leviatan) **50** #837 41A15

(*with* Carlson, R. E.) Bicubic spline interpolation in L-shaped domains. Collection of articles dedicated to Isaac Jacob Schoenberg on his 70th birthday, I. *J. Approximation Theory* **8** (1973), 62–68. (Gerhard Marz) **49** #9483 41A15 (65D05)

(*with* Andria, George D.; Byrne, George D.) Convergence of cubic spline interpolants of functions possessing discontinuities. Collection of articles dedicated to Isaac Jacob Schoenberg on his 70th birthday, II. *J. Approximation Theory* **8** (1973), 150–159. (A. Meir) **50** #2754 41A15

(*with* Kennedy, J. W.) Convergence of a Ritz approximation for the steady state heat flow problem. *J. Inst. Math. Appl.* **12** (1973), 187–196. (Hong-Yun Kim) **57** #14510 65N30

(*with* Gordon, William J.) Transfinite element methods: blending-function interpolation over arbitrary curved element domains. *Numer. Math.* **21** (1973/74), 109–129. (M. Zlámal) **52** #2131 65D05 (65N35)

Natural cubic and bicubic spline interpolation. *SIAM J. Numer. Anal.* **10** (1973), 1055–1060. (G. D. Byrne) **48** #11848 41A05 (65D05)

(*with* Cavendish, James C.) L_∞-convergence of collocation and Galerkin approximations to linear two-point parabolic problems. *Aequationes Math.* **11** (1974), 230–249. (Jacob Steinberg) **50** #15389 65N35

(*with* Mutafelija, Boris A.) Transfinite interpolation of steam tables. *J. Comput. Phys.* **18** (1975), 79–91. (C. E. Pearson) **54** #6451 65D05

(*with* Lowke, J. J.) A non-self-adjoint finite difference model of electron diffusion parallel to electric fields. *J. Computational Phys.* **19** (1975), *no.* 3, 297–310. (Paul G. Arminjon) **53** #2255 82.65

Transfinite interpolation and applications to engineering problems. *Theory of approximation, with applications* (*Proc. Conf., Univ. Calgary, Calgary, Alta.*, 1975; *dedicated to the memory of Eckhard Schmidt*), *pp.* 308–331. *Academic Press, New York*, 1976. (R. Franke) **54** #4061 65D05

(*with* Luczak, R. W.; Serdy, A. G.) Numerical solution of steady state heat flow problems over curved domains. *ACM Trans. Math. Software* **2** (1976), *no.* 3, 257–274. (Stephen Hilbert) **54** #4135 65N10

(*with* Meyer, W. Weston) Optimal error bounds for cubic spline interpolation. *J. Approximation Theory* **16** (1976), *no.* 2, 105–122. (Sherwood D. Silliman) **53** #1106 41A15

(*with* Cavendish, James C.; Gordon, William J.) Ritz-Galerkin approximations in blending function spaces. *Numer. Math.* **26** (1976), *no.* 2, 155–178. (Joachim A. Nitsche) **56** #10054 65N30

(*with* Gordon, William J.) Exact matching of boundary conditions and incorporation of semiquantitative solution characteristics in initial approximations to boundary value problems. *J. Computational Phys.* **25** (1977), *no.* 2, 151–162. (A. R. Mitchell) **57** #14501 65N20

(*with* Frey, A. E.; Heinrich, J. C.) On an exact boundary technique. *J. Inst. Math. Appl.* **20** (1977), *no.* 2, 191–198. (J. R. Cannon) **56** #13709 65N30

(*with* Cavendish, James C.; Zienkiewicz, Olgierd C.) Blended infinite elements for parabolic boundary value problems. *Internat. J. Numer. Methods Engrg.* **12** (1978), *no.* 12, 1841–1851. (Authors' summary) **58** #24990 65N05

(*with* Heinrich, J. C.) A finite element that satisfies natural boundary conditions exactly. *J. Inst. Math. Appl.* **21** (1978), *no.* 2, 237–250. (N. N. Janenko) **58** #19226 65N30

(*with* Frey, A. E.; Porsching, T. A.) Some results on the global inversion of bilinear and quadratic isoparametric finite element transformations. *Math. Comp.* **32** (1978), *no.* 143, 725–749. (G. F. Raggett) **57** #14508 65N30

See also **Numerical solution of systems of nonlinear algebraic equations, 50** #6138 *and* **Mullis, Clifford T., 51** #4649

Hall, Charles F. (*with* Hall, Ernest L.) A nonlinear model for the spatial characteristics of the human visual system. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no.* 3, 161–170. (J. D. Cowan) **57** #15548 92A05

Hall, D. J. (*with* Duda, R. O.; Huffman, David A.; Wolf, D. E.) ★Development of new pattern-recognition methods. ARL 73-0153. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1973. xii+223 *pp.* (W. Greblicki) **50** #3668 68A45

Hall, Dick Wick (*with* Murphy, Sheila K.; Rozycki, Eugene P.) On spaces which are essentially T_1. *J. Austral. Math. Soc.* **12** (1971), 451–455. (O. T. Alas) **45** #4348 54D10

(*with* Anderson, Kenneth W.) ★Elementary real analysis. *McGraw-Hill Book Co., New York-Düsseldorf-Johannesburg*, 1972. vii+178 *pp.* (Editors) **54** #10513 26–01

Coloring seven-circuits. *Graphs and combinatorics* (*Proc. Capital Conf., George Washington Univ., Washington, D.C.*, 1973), *pp.* 273–290. *Lecture Notes in Math., Vol.* 406, *Springer, Berlin*, 1974. (Ruth Bari) **51** #5366 05C15

(*with* Bari, Ruth A.) Chromatic polynomials and Whitney's broken circuits. *J. Graph Theory* **1** (1977), *no.* 3, 269–275. (Joan Hutchinson) **57** #16115 05C15

Hall, Donald E. Can local measurements resolve the twin paradox in a Kerr metric? *Amer. J. Phys.* **44** (1976), *no.* 12, 1204–1208. (Andrew King) **54** #6864 83.53

Hall, Ernest L. (*with* Reed, Irving S.; Kwon, Y. S.; Truong, T. K.) X-Ray reconstruction by finite field transforms. *Proceedings of the Third International Joint Conference on Pattern Recognition* (*Coronado, Calif.*, 1976), *pp.* 339–343. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Gabor T. Herman) **58** #4396 92–04 (94A05)

(*with* Hall, Charles F.) A nonlinear model for the spatial characteristics of the human visual system. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no.* 3, 161–170. (J. D. Cowan) **57** #15548 92A05

(*with* Wong, Robert Y.) Sequential hierarchical scene matching. *IEEE Trans. Computers* **C-27** (1978), *no.* 4, 359–366. (Arnold Griffith) **57** #11213 68A45

Hall, Frank J. (*with* Meyer, Carl D., Jr.) Generalized inverses of the fundamental bordered matrix used in linear estimation. *Sankhyā Ser. A* **37** (1975), *no.* 3, 428–438. (J. K. Baksalary) **55** #10478 15A09 (62J05)

Generalized inverses of a bordered matrix of operators. *SIAM J. Appl. Math.* **29** (1975), 152–163. (M. Z. Nashed) **51** #8850 47A10

On the independence of blocks of generalized inverses of bordered matrices. *Linear Algebra and Appl.* **14** (1976), *no.* 1, 53–61. (James R. Wall) **56** #8591 15A09

(*with* Hartwig, Robert E.) Further results on generalized inverses of partitioned matrices. *SIAM J. Appl. Math.* **30** (1976), *no.* 4, 617–624. (Thomas L. Boullion) **53** #8090 15A09

(*with* Hartwig, Robert E.) Pseudo-similarity for matrices over a field. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 1, 6–10. (Abraham Berman) **58** #28027 15A21

Hall, G. G. (*with* Solomon, C. E.) Orbital equations for the transcorrelated wavefunction. *Chem. Phys. Lett.* **4** (1969/70), 352–354. (E. Zeidler) **48** #10372 81.47

See also **Andrews, J. G.; et al., 56** #1854

Hall, G. S. On the theorems of Levine and Zund. *Ann. Mat. Pura Appl.* (4) **96** (1972), 175–183. (J. D. Zund) **48** #13145 83.53

Complex recurrent space-times. *J. Phys. A* **7** (1974), *L*42–*L*44. (Author's summary) **53** #10136 83.53

The classification of the Ricci tensor in general relativity theory. *J. Phys. A.* **9** (1976), *no.* 4, 541–545. (R. Roşca) **53** #12473 83.53

Ricci recurrent space times. *Phys. Lett. A* **56** (1976), *no.* 1, 17–18. (Author's summary) **53** #12474 83.53

Recurrence conditions in space-time. *J. Phys. A* **10** (1977), *no.* 1, 29–42. (Marcos D. Maia) **55** #2030 83.53

Riemannian curvature and the Petrov classification. *Z. Naturforsch. A* **33** (1978), *no.* 5, 559–562. (Helmuth K. Urbantke) **58** #14922 83.53 (53C50)

Hall, G. W. C. (*with* Cockayne, Ernest J.) Plane motion of a particle subject to curvature constraints. *SIAM J. Control* **13** (1975), 197–220. (È. G. Al′breht) **55** #6280 49E15

Hall, Gaineford J, Jr. Sequential search with random overlook probabilities. *Ann. Statist.* **4** (1976), *no.* 4, 807–816. (H. Taylor) **54** #6939 90B40

Strongly optimal policies in sequential search with random overlook probabilites. *Ann. Statist.* **5** (1977), *no.* 1, 124–135. (Nagata Furukawa) **55** #7451 90D35 (90B40, 62L05)

Nonstationary stochastic gold-mining: a time-sequential tactical-allocation problem. *Naval Res. Logist. Quart.* **25** (1978), *no.* 1, 81–93. (Edwin H. Neave) **58** #4345 90C40 (90C50, 90B99)

Hall, George Stability analysis of predictor-corrector algorithms of Adams type. *SIAM J. Numer. Anal.* **11** (1974), 494–505. (Rolf Jeltsch) **50** #3576 65L05

See also **Modern numerical methods for ordinary differential equations, 57** #14454

Hall, I. J. (*with* Prairie, R. R.) One-sided prediction intervals to contain at least m out of k future observations. *Technometrics* **15** (1973), 897–914. (A. F. Ifram) **49** #10029 62F25

Hall, J. E. (*with* Bronikowski, T. A.; Nohel, John A.) Quantitative estimates for a nonlinear system of integrodifferential equations arising in reactor dynamics. *SIAM J. Math. Anal.* 3 (1972), 567–588. (M. I. Imanaliev) **47** #3927 (E **50** #1673) 45K05

See also **Nohel, John A., 50** #1673

Hall, J. I. Steiner triple systems with geometric minimally generated subsystems. *Quart J. Math. Oxford Ser.* (2) **25** (1974), 41–50. (E. F. Assmus, Jr.) **49** #10569 05B05

(*with* Cameron, Peter J.; van Lint, Jacobus H.; Springer, Tonny Albert; van Tilborg, Henricus Carolus Adrianus) Translates of subgroups of the multiplicative group of a finite field. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), *no.* 4, 285–289. (Robert M. McConnel) **53** #2907 12C30

Fusion and dihedral 2-subgroups. *J. Algebra* **40** (1976), *no.* 1, 203–228. (H. Kurzweil) **54** #5338 20D20

(*with* Janssen, A. J. E. M.; Kolen, A. W. J.; van Lint, Jacobus H.) Equidistant codes with distance 12. *Discrete Math.* **17** (1977), *no.* 1, 71–83. (J.-M. Góethals) **56** #11512 94A10 (05B30)

Bounds for equidistant codes and partial projective planes. *Discrete Math.* **17** (1977), *no.* 1, 85–94. (Mikhaïl Deza) **56** #13112 50D35 (94A10)

On two conjectures of Stanton and Mullin. *J. Combinatorial Theory Ser. A* **22** (1977), *no.* 2, 153–162. (Bhagwandas) **56** #5315 05B05

(*with* Udding, J. T.) On intersections of pairs of Steiner triple systems. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no.* 2, 87–100. (Charles C. Lindner) **56** #5317 05B05

Hall, Janet E. (*with* Sharp, Rodney Y.) Dualizing complexes and flat homomorphisms of commutative Noetherian rings. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 1, 37–45. (W. Vogel and P. Schenzel) **58** #648 13E05

Hall, Japbeth, Jr. A condition for equality of cardinals of minimal generators under closure operators. *Canad. Math. Bull.* **14** (1971), 569–570. (J. M. Plotkin) **47** #1003 54A05 (04A05)

The independence of certain axioms of structures in sets. *Proc. Amer. Math. Soc.* **31** (1972), 317–325. (E. Mendelson) **45** #141 08A20

Covering dimension in finite-dimensional metric spaces. *Proc. Amer. Math. Soc.* **41** (1973), 274–277. (D. Adnadjević) **48** #1189 54F45

Independence in combinatiorial geometries of rank three. *Canad. Math. Bull.* **18** (1975), *no.* 2, 217–221. (Thomas Brylawski) **54** #5017 05B35

Hall, L. M. (*with* Grimm, L. J.) Differential inequalities and boundary problems for functional-differential equations. *Symposium on Ordinary Differential Equations* (*Univ. Minnesota, Minneapolis, Minn.*, 1972; *dedicated to Hugh L. Turrittin*), *pp.* 41–53. *Lecture Notes in Math.*, *Vol.* 312, *Springer, Berlin*, 1973. (K. Schmitt) **53** #3455 34K05

(*with* Grimm, L. J.) Holomorphic solutions of functional differential systems near singular points. *Proc. Amer. Math. Soc.* **42** (1974), 167–170. (D. Hinton) **48** #6604 34K05

(*with* Grimm, L. J.) An alternative theorem for singular differential systems. *J. Differential Equations* **18** (1975), *no.* 2, 411–422. (R. L. Anderson) **52** #6079 34A20 (34K05, 47E05)

(*with* Grimm, L. J.) Holomorphic solutions of singular functional differential equations. *J. Math. Anal. Appl.* **50** (1975), 627–638. (Franz Kappel) **57** #6714 34K05 (34A20)

(*with* Grimm, L. J.) Extensions of Lettenmeyer's theorem. *Differential equations* (*Colloq., Keszthely*, 1974), *pp.* 223–229. *Colloq. Math. Soc. János Bolyai*, *Vol.* 15, *North-Holland, Amsterdam*, 1977. (A. F. Izé) **58** #1467 34K05

(*with* Grimm, L. J.; Fitzpatrick, W. J.) Theory of singular points for a class of functional-differential equations in the complex domain. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp.* 102–113, 303. *Izdat. "Naukova Dumka", Kiev*, 1977. (Authors' summary) **57** #13089 34K15

A characterization of the cokernel of a singular Fredholm differential operator. *J. Differential Equations* **24** (1977), *no.* 1, 1–7. (From the introduction) **58** #1326 34A20 (47E05)

Regular singular differential equations whose conjugate equation has polynomial solutions. *SIAM J. Math. Anal.* **8** (1977), *no.* 5, 778–784. (Walter Hengartner) **56** #12368 34A30

The conjugate of a singular functional differential operator. *Internat. J. Math. Math. Sci.* **1** (1978), *no.* 1, 41–45. (Hans Kaper) **57** #16901 34K05 (34A20)

See also **Conference: Differential Equations, 51** #966

Hall, M. (*with* Debnath, Lokenath) On unsteady Stokes, Ekman and Rayleigh layers in a rotating fluid. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 201–209. (R. K. Gupta) **48** #7759 76.35

Hall, M. A. Hydraulic network analysis using (generalized) geometric programming. *Networks* **6** (1976), *no.* 2, 105–130. (Elmor L. Peterson) **54** #4680 90C50 (90B10)

Hall, M. G. Methods and problems in the calculation of transonic flows. *Proceedings of the Fifth International Conference on Numerical Methods in Fluid Dynamics* (*Twente Univ., Enschede*, 1976), *pp.* 65–74. *Lecture Notes in Phys.*, *Vol.* 59, *Springer, Berlin*, 1976. (Silvio Nocilla) **56** #17480 76.65

boas Hall, Marie *See* **Boas Hall, Marie**

Hall, Marie Boas (*with* Hall, A. Rupert) Further notes on Henry Oldenburg. *Notes and Records Roy. Soc. London* **23** (1968), 33–42. (2 *plates*) (Editors) **58** #4848 01A45

(*with* Hall, A. Rupert) The intellectual origins of the Royal Society—London and Oxford. *Notes and Records Roy. Soc. London* **23** (1968), 157–168. (Editors) **58** #26887 01A45

The Royal Society's role in the diffusion of information in the seventeenth century. I. *Notes and Records Roy. Soc. London* **29** (1975), 173–192. (Editors) **58** #4849 01A45

Hall, Marshall, Jr. ★Teoría de los grupos. (Spanish) [The theory of groups] Translated from the English by Federico Velasco Coba. Editorial coordination by Federico Galván Anaya. *Editorial F. Trillas, S.A., Mexico City*, 1969. 440 *pp.* (Editors) **46** #5418 20–02

Combinatorial designs and groups. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 3, *pp.* 217–222. *Gauthier-Villars, Paris*, 1971. (Peter J. Cameron) **54** #10051 05B30

Designs with transitive automorphism groups. *Combinatorics* (*Proc. Sympos. Pure Math., Vol. XIX, Univ. California, Los Angeles, Calif.*, 1968), *pp.* 109–113. *Amer. Math. Soc., Providence, R.I.*, 1971. (H. Hanani) **48** #119 05B05

Construction of finite simple groups. *Computer in algebra and number theory* (*Proc. SIAM-AMS Sympos. Appl. Mat., New York*, 1970), *pp.* 109–134. *SIAM-AMS Proc., Vol. IV, Amer. Math. Soc., Providence, R.I.*, 1971. (Ulrich Dempwolff) **50** #13245 20D05

The diophantine equation $x^3-y^2=k$. *Computers in number theory* (*Proc. Sci. Res. Council Atlas Sympos. No.* 2, *Oxford*, 1969), *pp.* 173–198. *Academic Press, London*, 1971. (J. W. S. Cassels) **48** #2061 10B10

The Markoff spectrum. *Acta Arith.* **18** (1971), 387–399. (H. Gross) **45** #5084 10F99

Group theory and block designs. (Russian) Translated from the English by S. A. Širokova. *Kombinatornyĭ Anal. No.* 1 (1971), 10–34. (Editors) **45** #1779 05A15

Incidence axioms for affine geometry. *J. Algebra* **21** (1972), 535–547. (G. J. Schellekens) **47** #5708 50A99 (50D05)

Construction of block designs. *A survey of combinatorial theory* (*Proc. Internat. Sympos., Colorado State Univ., Fort Collins, Colo.*, 1971), *pp.* 251–258. *North-Holland, Amsterdam*, 1973. (J. F. Lawless) **51** #187 05B05

Notes on groups of exponent four. *Conference on Group Theory* (*Univ. Wisconsin-Parkside, Kenosha, Wis.*, 1972), *pp.* 91–118. *Lecture Notes in Math.*, *Vol.* 319, *Springer, Berlin*, 1973. (J. Mennicke) **52** #579 20F05

(*with* Aschbacher, Michael) Groups generated by a class of elements of order 3. *Finite groups '72* (*Proc. Gainesville Conf., Univ. Florida, Gainesville, Fla.*, 1972), *pp.* 12–18. *North-Holland Math. Studies, Vol.* 7, *North-Holland Amsterdam*, 1973. (M. E. Harris) **50** #13241 20D05

(*with* Aschbacher, Michael) Groups generated by a class of elements of order 3. *J. Algebra* **24** (1973), 591–612. (Graham Higman) **47** #327 20D99

(*with* Baumert, Leonard) Nonexistence of certain planes of order 10 and 12. *J. Combinatorial Theory Ser. A* **14** (1973), 273–280. (Stanley E. Payne) **47** #3206 05B25

Difference sets. *Combinatorics, Part* 3: *Combinatorial group theory* (*Proc. NATO Advanced Study Inst., Breukelen*, 1974), *pp.* 1–26. *Math. Centre Tracts, No.* 57, *Math. Centrum, Amsterdam*, 1974. (K. Yamamoto) **56** #15462 05B10

Ovals in the Desarguesian plane of order 16. *Ann. Mat. Pura Appl.* (4) **102** (1975), 159–176. (J. W. P. Hirschfeld) **50** #11012 50D30 (05B25)

Semi-automorphisms of Hadamard matrices. *Math. Proc. Cambridge Philos. Soc.* **77** (1975), 459–473. (S. K. Tharthare) **51** #684 20D05 (05B20)

★The theory of groups. Reprinting of the 1968 edition. *Chelsea Publishing Co., New York*, 1976. xiii + 434 *pp.* (Editors) **54** #2765 20–02

Construction of combinatorial designs. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Roma*, 1973), *Tomo I*, *pp.* 13–41. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (H. Hanani) **55** #12529 05–02

Nonexistence of a finite group with a specified 7-block. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah*, 1975), *pp.* 409–424. *Academic Press, New York*, 1976. (I. M. Isaacs) **53** #5722 20C20

(*with* Vaaler, Jeffrey D.) Alternation theorems. *J. Algebra* **42** (1976), *no.* 1, 184–191. (A. Zajta) **54** #10916 40A05

Group properties of Hadamard matrices. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 2, 247–256. (Stanley E. Payne) **52** #13433 05B20 (20B25)

Integral matrices A for which $AA^T=mI$. *Number theory and algebra*, *pp.* 119–134. *Academic Press, New York*, 1977. (Morris Newman) **58** #733 15A36

Computers in group theory. *Topics in group theory and computation* (*Proc. Summer School, University Coll., Galway*, 1973), *pp.* 1–37. *Academic Press, London*, 1977. (W. Moser) **57** #9809 20–04 (20D05)

Combinatorial constructions. *Studies in combinatorics*, *pp.* 218–253. *MAA Studies in Math.*, 17, *Math. Assoc. America, Washington, D.C.*, 1978. (H. Hanani) **58** #21675 05B05 (05B10)

See also **Computers in algebra and number theory, 48** #5756; **Studies in applied mathematics, 49** #4784; **Combinatorics, 49** #7147; **Combinatorics, 49** #8867; **Combinatorics, 49** #8868; **Combinatorics, 52** #7912 *and* **McKay, John, 53** #4463

Hall, Michael H. Some examples in homology theory. *Amer. Math. Monthly* **78** (1971), 1005–1006. (Joel M. Cohen) **45** #4405 55B20 (18F25)

Classes of pairs which are supports for a homology theory. *Portugal. Math.* **33** (1974), 79–84. (D. Baladze) **49** #3901 55B35

N. S. (*with* Quinn, Dennis W.; Weinacht, Richard J.) Poisson integral formulas in generalized bi-axially symmetric potential theory. *SIAM J. Math. Anal.* **5** (1974), 111–118. (David R. Adams) **49** #3173 31B20

P. Corrigendum: "On the embedding of a group in a join of given groups" (J. Austral. Math. Soc. **17** (1974), 434–495). *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 3, 383. (F. Levin) **55** #3089 20E99

, Peter (*with* Heyde, C. C.) On a unified approach to the law of the iterated logarithm for martingales. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 3, 435–447. (N. C. Jain) **54** #11468 60F15 (60G45)

Martingale invariance principles. *Ann. Probability* **5** (1977), *no.* 6, 875–887. (Author's summary) **58** #24473 60F05 (60B10, 60G45)

On the L^p convergence of sums of independent random variables. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 3, 439–446. (Roy V. Erickson) **56** #6795 60F05

Representations and limit theorems for extreme value distributions. *J. Appl. Probab.* **15** (1978), *no.* 3, 639–644. (Aart J. Stam) **58** #13298 60F15 (62G30)

On the rate of convergence of moments in the central limit theorem. *J. Austral. Math. Soc. Ser. A* **25** (1978), *no.* 2, 250–256. (R. N. Bhattacharya) **58** #2983 60F05

On the extreme terms of a sample from the domain of attraction of a stable law. *J. London Math. Soc.* (2) **18** (1978), *no.* 1, 181–191. (R. J. Tomkins) **58** #7792 60F05 (62G30)

On the duality between the behaviour of sums of independent random variables and the sums of their squares. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 1, 117–121. (Roy V. Erickson) **58** #7791 60F05

Some asymptotic expansions of moments of order statistics. *Stochastic Process. Appl.* **7** (1978), *no.* 3, 265–275. (Lionel Weiss) **58** #13499 62G30 (62E20)

The convergence of moments in the martingale central limit theorem. *Z. Wahrsch. Verw. Gebiete* **44** (1978), *no.* 3, 253–260. (David J. Scott) **58** #24474 60F05 (60G45)

l, Philip On the embedding of a group in a join of given groups. Collection of articles dedicated to the memory of Hanna Neumann, VIII. *J. Austral. Math. Soc.* **17** (1974), 434–495. (F. Levin) **51** #13055 (E **55** #3089) 20F25

The stability of Poiseuille flow modulated at high frequencies. *Proc. Roy. Soc. London Ser. A* **344** (1975), *no.* 1639, 453–464. (Radu Bădescu) **52** #9789 76.35

(*with* Walton, I. C.) The smooth transition to a convective régime in a two-dimensional box. *Proc. Roy. Soc. London Ser. A* **358** (1978), *no.* 1693, 199–221. (E. G. Broadbent) **58** #3918 76.35

The linear stability of flat Stokes layers. *Proc. Roy. Soc. London Ser. A* **359** (1978), *no.* 1697, 151–166. (Rishi Ram) **58** #14270 76.35

The effect of external forcing on the stability of plane Poiseuille flow. *Proc. Roy. Soc. London Ser. A* **359** (1978), *no.* 1699, 453–478. (Author's summary) **58** #19705 76.35

ll, R. (*with* Yau, Stephen Sik-Sang) The distribution of orientation of optimal stimuli for cells of striate cortex. *Biol. Cybernet.* **21** (1976), *no.* 2, 113–120. (Authors' summary) **58** #4409 92A05

ll, R. L. Ambiguous points of holomorphic functions of slow growth. *Michigan Math. J.* **18** (1971), 161–168. (H. T. Mathews) **46** #359 30A72

On single-product functions with rotational symmetry. *Aequationes Math.* **8** (1972), 281–286. (R. Kodnár) **47** #7255 39A15

Line sets and asymptotic behavior of functions holomorphic in the unit disc. *Ann. Acad. Sci. Fenn. Ser. A I No.* 519 (1972), 11 *pp.* (D. A. Brannan) **49** #591 30A72

Gaussian wave functions and the many-body problem. (French summary) *Canad. J. Phys.* **50** (1972), 305–311. (Author's summary) **52** #7365 81.35

ll, R. R. On the distribution of divisors of integers in residue classes (mod k). II. *J. Number Theory* **3** (1971), 204–209. (M. C. Wunderlich) **45** #3339 10H15

On the distribution of divisors of integers in residue classes (mod k). III. *J. Number Theory* **3** (1971), 278–287. (M. C. Wunderlich) **45** #3340 10H15

On pseudo-polynomials. *Mathematika* **18** (1971), 71–77. (B. M. Stewart) **45** #3369 12E05

On the probability that n and $f(n)$ are relatively prime. III. *Acta Arith.* **20** (1972), 267–289. (W. J. LeVeque) **46** #3474 10K20

On a theorem of Erdős and Rényi concerning abelian groups. *J. London Math. Soc.* (2) **5** (1972), 143–153. (A. Mader) **45** #3559 20K99

(*with* Sudbery, A.) On a conjecture of Erdős and Rényi concerning abelian groups. *J. London Math. Soc.* (2) **6** (1972), 177–189. (A. Mader) **47** #365 20K99

(*with* Anderson, N.; Arthurs, A. M.) Extremum principle for a nonlinear problem in magneto-elasticity. *Proc. Cambridge Philos. Soc.* **72** (1972), 315–318. (U. D'Ambrosio) **45** #7151 34B99 (49A10)

(*with* Erdős, Paul) On the values of Euler's ϕ-function. *Acta Arith.* **22** (1973), 201–206. (D. Suryanarayana) **53** #13143 10H25 (10H15)

Halving an estimate obtained from Selberg's upper bound method. *Acta Arith.* **25** (1973/74), 347–351. (E. M. Horadam) **49** #4949 10H15

The divisors of $p-1$. *Mathematika* **20** (1973), 87–97. (E. Grosswald) **48** #6034 10H25

The divisors of integers. I. *Acta Arith.* **26** (1974/75), 41–46. (H. G. Meijer) **50** #266 10L10 (10K05)

(*with* Erdős, Paul) Some distribution problems concerning the divisors of integers. *Acta Arith.* **26** (1974/75), 175–188. (M. Mendès France) **50** #7070 10K05 (10H20)

Sums of imaginary powers of the divisors of integers. *J. London Math. Soc.* (2) **9** (1974/75), 571–580. (E. M. Horadam) **51** #386 10H25

(*with* Erdős, Paul) On the distribution of values of certain divisor functions. *J. Number Theory* **6** (1974) 52–63. (András Sárközi) **49** #2606 (EA **49**) 10H25 (10L10)

A problem of Erdős and Kátai. *Mathematika* **21** (1974), 110–113. (H. G. Diamond) **51** #3088 10H25

Some properties of the sequence $\{p-1\}$. *Acta Arith.* **28** (1975/76), *no.* 1, 101–105. (Jean-Marc Deshouillers) **52** #3102 10L10 (10H15)

The divisors of integers. II. *Acta Arith.* **28** (1975/76), *no.* 2, 129–135. (H. G. Meijer) **52** #5592 10H15

(*with* Jackson, T. H.; Sudbery, A.; Wild, K.) Some advances in the no-three-in-line problem. *J. Combinatorial Theory Ser. A* **18** (1975), 336–341. (R. K. Guy) **51** #3063 10E99 (05B30)

(*with* Wild, K.) A problem on integer sequences. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 1, 117–122. (Donald L. Goldsmith) **52** #13600 10A10

(*with* Williamson, J. H.) On a certain functional equation. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 2, 133–136. (Hiroshi Haruki) **52** #8425 30A64

A problem in combinatorial geometry. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 3, 315–319. (H. L. Abbott) **52** #13651 10E05 (05A15)

On a conjecture of Littlewood. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), *no.* 3, 443–445. (V. C. Dumir) **53** #7954 10E05

A conjecture of Erdős in number theory. *Acta Arith.* **29** (1976), *no.* 2, 191–196. (D. Suryanarayana) **53** #2867 10H20

The distribution of $f(d)$ (mod 1). *Acta Arith.* **31** (1976), *no.* 1, 91–97. (L. Kuipers) **55** #5553 10H20 (10F40)

Note on a theorem of Pólya and Catherine Rényi. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 1-2, 69–71. (Thomas McCoy) **54** #7437 12D10

(*with* Erdős, Paul) Probabilistic methods in group theory. II. *Houston J. Math.* **2** (1976), *no.* 2, 173–180. (J. Kubilius) **58** #10791 10H25 (10K20, 20D99)

(*with* Wild, K.) On a problem of Turán concerning partitions. *J. London Math. Soc.* (2) **13** (1976), *no.* 3, 472–474. (P. Erdős) **53** #10706 10A45

(*with* Erdős, Paul) Proof of a conjecture about the distribution of divisors of integers in residue classes. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 2, 281–287. (Karl-Heinz Indlekofer) **53** #304 10H15

(*with* Erdős, Paul) Distinct values of Euler's ϕ-function. *Mathematika* **23** (1976), *no.* 1, 1–3. (D. Suryanarayana) **54** #2603 10H25

The length of ray-images under starlike mappings. *Mathematika* **23** (1976), *no.* 2, 147–150. (Donald K. Blevins) **55** #642 30A32

On the constant $\beta(k)$ in Rosser's sieve. *Acta Arith.* **32** (1977), *no.* 4, 393–395. (J. W. Porter) **55** #10407 10H30

Extensions of a theorem of Erdős-Rényi in probabilistic group theory. *Houston J. Math.* **3** (1977), *no.* 2, 225–234. (J. H. B. Kempermann) **58** #2952 60B15 (10K05, 20K05)

(*with* Erdős, Paul) Euler's ϕ-function and its iterates. *Mathematika* **24** (1977), *no.* 2, 173–177. (V. C. Harris) **57** #12356 10A20

(*with* Erdős, Paul) Some new results in probabilistic group theory. *Comment. Math. Helv.* **53** (1978), *no.* 3, 448–457. (Gutti J. Babu) **58** #16561 10H25 (10K20, 20Dxx)

(*with* Erdős, Paul) On some unconventional problems on the divisors of integers. *J. Austral. Math. Soc. Ser. A* **25** (1978), *no.* 4, 479–485. (D. Suryanarayana) **58** #21975 10H25

Hall, R. S. (*with* Bateman, Paul T.; Brown, John Wesley; Kloss, K. E.; Stemmler, Rosemarie M.) Linear relations connecting the imaginary parts of the zeros of the zeta function. *Computers in number theory* (*Proc. Sci. Res. Council Atlas Sympos. No.* 2, *Oxford*, 1969), *pp.* 11–19. *Academic Press, London*, 1971. (M. Mikolás) **48** #8408 10H05

The prime number theorem for generalized primes. *J. Number Theory* **4** (1972), 313–320. (H. G. Diamond) **46** #7184 10H40

Beurling generalized prime number systems in which the Chebyshev inequalities fail. *Proc. Amer. Math. Soc.* **40** (1973), 79–82. (J. Knopfmacher) **47** #6634 10H40

Hall, Richard L. Some exact solutions to the translation-invariant N-body problem. *J. Phys. A* **11** (1978), *no.* 7, 1227–1233. (Martin Kummer) **58** #20005a 81.47

Exact solutions of Schrödinger's equation for translation-invariant harmonic matter. *J. Phys. A* **11** (1978), *no.* 7, 1235–1240. (Martin Kummer) **58** #20005b 81.47

Hall, Rita (*with* Kuga, Michio) Algebraic cycles in a fiber variety. *Sci. Papers College Gen. Ed. Univ. Tokyo* **25** (1975), *no.* 1, 1–6. (Editors) **57** #9699 14C30 (14K22)

Hall, Robert E. The translational hull of an N-semigroup. *Pacific J. Math.* **41** (1972), 379–389. (I. Peák) **46** #5495 20M10

Hall, S. F. Invariant quantization of the vector meson field. *J. Phys. A* **7** (1974), 1369–1373. (Author's summary) **53** #12381 81.49

(*with* Allcock, G. R.) Massless spin-3/2 theory and the unmixed spinor representations of the Lorentz group. *J. Phys. A* **10** (1977), *no.* 2, 267–277. (F. R. Halpern) **56** #7525 81.22

Hall, T. E. On the lattice of congruences on a semilattice. *J. Austral. Math. Soc.* **12** (1971), 456–460. (E. Gedeonová) **46** #1661 06A20

Orthodox semigroups. *Pacific J. Math.* **39** (1971), 677–686. (M. Yamada) **46** #5496 20M10

(*with* Gillam, D. W. H.; Williams, N. H.) On finite semigroups and idempotents. *Bull. London Math. Soc.* **4** (1972), 143–144. (G. B. Preston) **47** #5150 20M10

Congruences and Green's relations on regular semigroups. *Glasgow Math. J.* **13** (1972), 167–175. (G. J. Lallement) **47** #6903 20M10

Almost commutative bands. *Glasgow Math. J.* **13** (1972), 176–178. (M. Yamada) **47** #1982 20M10

An example involving a non-regular $\mathfrak{D}$-class in a semigroup. *J. Austral. Math. Soc.* **13** (1972), 257–258. (H. D'Alarcao) **47** #373 20M10

On regular semigroups. *J. Algebra* **24** (1973), 1–24. (H. J. Weinert) **46** #9201 20M10

(*with* Clifford, A. H.) A characterization of R-classes of semigroups as partial groupoids. *Semigroup Forum* **6** (1973), *no.* 3, 246–254. (M. Yamada) **51** #10493 20M10

The partially ordered set of all J-classes of a finite semigroup. *Semigroup Forum* **6** (1973), *no.* 3, 263–264. (D. J. Foulis) **52** #14111 20M10

On congruences on finite semigroups. Collection of articles dedicated to Alfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander Doniphan Wallace on the occasion of his 68th birthday. *Semigroup Forum* **7** (1974), *no.* 1-4, 369–371. (Mohan S. Putcha) **52** #609 20M10

Free products with amalgamation of inverse semigroups. *J. Algebra* **34** (1975), 375–385. (G. J. Lallement) **52** #3401 20M20

(*with* Gillam, D. W. H.; Williams, N. H.) An addition theorem for finite semigroups. *Semigroup Forum* **10** (1975), *no.* 3, 273–276. (John W. Hogan) **52** #637 20M99 (*with* Ash, C. J.) Inverse semigroups on graphs. *Semigroup Forum* **11** (1975/76), *no.* 2, 140–145. (Mohan S. Putcha) **52** #8292 20M10 (05C99)

Inverse semigroup varieties with the amalgamation property. *Semigroup Forum* **16** (1978), *no.* 1, 37–51. (A. A. Iskander) **58** #11174 20M05 (08A15)

Hall, Tord Some relations in connection with the Möbius μ-function. (Swedish. English summary) *Nordisk Mat. Tidskr.* **20** (1972), 34–36, 68. (H. J. Godwin) **49** #2527 10A20

Hall, W. B. (*with* Williams, E. R.) Cyclic superimposed designs. *Biometrika* **60** (1973), 47–53. (S. S. Shrikhande) **50** #11658 62K10

Hall, W. J. Two asymptotically efficient sequential t-tests. *Proceedings of the Prague Symposium on Asymptotic Statistics* (*Charles Univ., Prague*, 1973), *Vol. II*, *pp.* 89–108. *Charles Univ., Prague*, 1974. (Jan C. Geertsema) **52** #4543 62L10

(*with* Loynes, R. M.) On the concept of contiguity. *Ann. Probability* **5** (1977), *no.* 2, 278–282. (G. Roussas) **56** #1543 62E20

(*with* Loynes, R. M.) Weak convergence of processes related to likelihood ratios. *Ann. Statist.* **5** (1977), *no.* 2, 330–341. (G. Roussas) **56** #1624 62L99

See also **Šidák, Zbyněk**, **50** #8827; **Bartholomew, David J.**, **51** #14325; **Geisser, Seymour**, **52** #1951; **Rao, C. Radhakrishna**, **52** #4482 *and* **Lindley, Dennis V.**, **52** #6932

Hall, Warren A. (*with* Haimes, Yacov Y.) The surrogate worth trade-off method with multiple decision-makers. *Multiple criteria decision making* (*Papers*, 22*nd Internat. Meeting Inst. Management Sci.* (*TIMS*), *Kyoto*, 1975), *pp.* 207–233. *Lecture Notes in Econom. and Math. Systems*, *Vol.* 123, *Springer*, *Berlin*, 1976. (Authors' summary) **56** #7778 90A05

Hall, William S. (*with* Fink, James P.) Entrainment of frequency in evolution equations. *J. Differential Equations* **14** (1973), 9–41. (A. G. Kartsatos) **49** #10986 34G05 (34C25)

(*with* Fink, James P.; Khalili, Siamak) Perturbation expansions for some nonlinear wave equations. *SIAM J. Appl. Math.* **24** (1973), 575–595. (Authors' summary) **47** #3805 35B20 (35L05)

Two timing for abstract differential equations. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp.* 368–372. *Lecture Notes in Math.*, *Vol.* 415, *Springer*, *Berlin*, 1974. (H. I. Freedman) **54** #7977 34E05

(*with* Fink, James P.; Hausrath, Alan R.) A convergent two-time method for periodic differential equations. *J. Differential Equations* **15** (1974), 459–498. (W. M. Greenlee) **49** #9359 34E10

(*with* Fink, James P.; Hausrath, Alan R.) Discontinuous periodic solutions for an autonomous nonlinear wave equation. *Proc. Roy. Irish Acad. Sect. A* **75** (1975), *no.* 16, 195–226. (M. S. P. Eastham) **52** #14567 35B10 (35L60)

(*with* Fink, James P.; Hausrath, Alan R.) Discontinuous periodic solutions of an autonomous wave equation. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. I*, *pp.* 267–271. *Academic Press*, *New York*, 1976. (Editors) **58** #29063 35B10 (35L05)

Integrating a differential equation with a weak continuous vector field. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 225–230. *Lecture Notes in Math.*, *Vol.* 564, *Springer*, *Berlin*, 1976. (Editors) **58** #28949 34G05

(*with* Hausrath, Alan R.) A Rayleigh wave equation. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 333–338. *Abh. Akad. Wissensch. DDR*, *Abt. Math.-Naturwissensch.-Techn.*, *No.* 3N, *Akademie-Verlag*, *Berlin*, 1977. (Mitsuhiro Nakao) **58** #17446 35B10 (35L10)

See also **Nonlinear wave motion**, **49** #790 *and* **Huber, Peter J.**, **50** #8792 (EA **51**)

Hallahan, Charles (*with* Holzsager, Richard A.) Mutual direct summands. *Arch. Math.* (*Basel*) **25** (1974), 591–592. (S. Elliger) **51** #604 16A50

Hallala, Piotr (*with* Biela, Andrzej) Studies on Church's calculus. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **5** (1976), *no.* 2, 57–62. (N. C. A. da Costa) **55** #5396 02C99

Hallam, Thomas G. (*with* Komkov, Vadim) Application of Liapunov's functions to finite time stability. *Rev. Roumaine Math. Pures Appl.* **14** (1969), 495–501. (Authors' introduction) **54** #658 34D20

Asymptotic relationships between the solutions of two second order differential equations. *Ann. Polon. Math.* **24** (1970/71), 295–300. (R. E. O'Malley, Jr.) **46** #474 34E99

Asymptotic integration of a nonhomogeneous differential equation with integrable coefficients. *Czechoslovak Math. J.* **21(96)** (1971), 661–671. (D. Hinton) **45** #664 34E05

(*with* Lakshmikantham, V.) Growth estimates for convergent solutions of ordinary differential equations. *J. Mathematical and Physical Sci.* **5** (1971), 83–88. (M. E. Muldoon) **45** #7179 34C10

Convergence of solutions of perturbed nonlinear differential equations. *Ann. Mat. Pura Appl.* (4) **94** (1972), 275–282. (N. Chafee) **47** #3782 34E10

On nonlinear functional perturbation problems for ordinary differential equations. *J. Differential Equations* **12** (1972), 63–80. (T. Yoshizawa) **48** #6574 34D10

(*with* Ladas, Gerasimos; Lakshmikantham, V.) On the asymptotic behavior of functional differential equations. *SIAM J. Math. Anal.* **3** (1972), 58–64. (G. Sansone) **47** #3796 34K20

A comparison principle for terminal value problems in ordinary differential equations. *Trans. Amer. Math. Soc.* **169** (1972), 49–57. (H. A. DeKleine) **46** #5733 34C10

(*with* Heidel, J. W.; Loper, David E.) Some third order initial value problems arising in magnetohydrodynamics. *Indiana Univ. Math. J.* **23** (1973/74), 1077–1096. (Clarence M. Ablow) **49** #4406 76.34

Asymptotic equivalence of ordinary differential equations. *J. Differential Equations* **14** (1973), 419–423. (I. Kiguradze) **48** #8994 34D05

(*with* Onuchic, Nelson) Asymptotic relations between perturbed linear systems of ordinary differential equations. *Pacific J. Math.* **45** (1973), 187–199. (H. Hochstadt) **47** #5383 34D10

Classification of bounded solutions of a linear nonhomogeneous differential equation. *Proc. Amer. Math. Soc.* **40** (1973), 507–512. (E. K. H. Hoehn) **47** #8948 34A30

Parametric perturbation of linear systems of ordinary differential equations. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 196–202. *Greek Math. Soc.*, *Athens*, 1974. (Lawrence E. Levine) **57** #6683 34E10

On convergence of the solutions of a functional differential equation. *J. Math. Anal. Appl.* **48** (1974), 566–573. (S. P. Hastings) **51** #1076 34K20

(*with* Loper, David E.) Singular boundary value problems arising in a rotating fluid flow. *Arch. Rational Mech. Anal.* **60** (1975/76), *no.* 4, 355–369. (Allan C. Peterson) **53** #3397 34B15

(*with* Lovelady, David Lowell) On admissibility for differential equations on R. *J. London Math. Soc.* (2) **11** (1975), *no.* 1, 49–52. (From the authors' introduction) **55** #747 34A30

On representation and boundedness of solutions of a functional differential equation. *Math. Systems Theory* **9** (1975), *no.* 1, 1–8. (D. Ramakrishna Rao) **52** #14549 34K20

(*with* Cooper, Wyatt G.) Nonlinear perturbation of a linear system of differential equations with a regular singular point. *Rocky Mountain J. Math.* **5** (1975), 247–254. (M. Ráb) **51** #1033 34D10

(*with* Bernfeld, Stephen R.; Lakshmikantham, V.) Asymptotic equivalence of nonlinear differential equations in Banach spaces. *SIAM J. Math. Anal.* **6** (1975), 140–145. (M. Švec) **51** #1048 34G05

(*with* Bancroft, Stephen) Bounded solutions of nonlinear differential equations with parameters. *SIAM J. Math. Anal.* **6** (1975), 236–241. (C. Olech) **51** #1028 34D05

Parametric perturbation problems in ordinary differential equations. *Trans. Amer. Math. Soc.* **224** (1976), 43–59. (Author's summary) **55** #3439 34D10 (34E10)

(*with* Young, Eutiquio C.) Bounds for solutions of reaction-diffusion equations. *Nonlinear systems and applications* (*Proc. Internat. Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp.* 163–171. *Academic Press*, *New York*, 1977. (Antonino Maugeri) **56** #12610 35K55

(*with* O'Brien, James J.) A note on baroclinic equatorial motions. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 1, 47–54. (R. R. Long) **57** #8967 86.34

Hallan, P. P. (*with* Bhatnagar, K. B.) Effect of perturbations in Coriolis and centrifugal forces on the stability of libration points in the restricted problem. *Celestial Mech.* **18** (1978), *no.* 2, 105–112. (James A. Murdock) **58** #25199 70.34 (34D10)

Hallbauer, Georg Wettlauffreie Kodierung mit gleichzeitiger Zustandsreduktion bei ungetakteten Folgeschaltungen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **12** (1976), *no.* 4-5, 193–225. (Jürgen Dassow) **54** #4835 94A20

Zustandskodierung mit gleichzeitiger Zustandsreduktion hinsichtlich eines möglichst geringen Logikaufwandes. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 12, 643–653. (Jan Grabowski) **57** #19123 94A20

Hallberg, Joe N. (*with* Lindquist, Claude S.) Nomographs and filters. *J. Franklin Inst.* **302** (1976), *no.* 2, 111–145. (Authors' summary) **56** #15180 94A20

Halldén, Sören *See* **Logic and value**, **48** #3691; **Modality, morality and other problems of sense and nonsense**, **56** #73 *and* **Segerberg, Krister**, **56** #11759

Hallenbeck, David J. (*with* Brickman, Louis; MacGregor, Thomas H.; Wilken, Donald R.) Convex hulls and extreme points of families of starlike and convex mappings. *Trans. Amer. Math. Soc.* **185** (1973), 413–428 (1974). (M. S. Robertson) **49** #3102 30A32

Some inequalities for convex, starlike, and close-to-convex mappings. *Czechoslovak Math. J.* **24(99)** (1974), 411–415. (T. H. MacGregor) **50** #589 30A32

(*with* MacGregor, Thomas H.) Subordination and extreme-point theory. *Pacific J. Math.* **50** (1974), 455–468. (J. Clunie) **50** #13481 30A32

On the Marx conjecture for the convex hulls of families of starlike and convex mappings. *Proc. Amer. Math. Soc.* **42** (1974), 135–139. (R. McLaughlin) **48** #4293 30A32

Extreme points of classes of functions defined by subordination. *Proc. Amer. Math. Soc.* **46** (1974), 59–64. (T. H. MacGregor) **50** #10225 30A32

Convex hulls and extreme points of some families of univalent functions. *Trans. Amer. Math. Soc.* **192** (1974), 285–292. (M. S. Robertson) **49** #3103 30A32

Convex hulls and extreme points of families of starlike and close-to-convex mappings. *Pacific J. Math.* **57** (1975), *no.* 1, 167–176. (Louis Brickman) **52** #725 30A32

(*with* Ruscheweyh, Stephan) Subordination by convex functions. *Proc. Amer. Math. Soc.* **52** (1975), 191–195. (S. D. Bernardi) **51** #10603 30A32

(*with* Livingston, Albert E.) A coefficient estimate for multivalent functions. *Proc. Amer. Math. Soc.* **54** (1976), 201–206. (W. C. Royster) **52** #8401 (EA **53**) 30A32

(*with* Livingston, Albert E.) Applications of extreme point theory to classes of multivalent functions. *Trans. Amer. Math. Soc.* **221** (1976), *no.* 2, 339–359. (L. A. Aksent'ev) **53** #11036 30A32

Haller, H. S. (*with* Govindarajulu, Z.) c-sample rank order statistics. *J. Indian Statist. Assoc.* **10** (1972), 17–35. (Hira L. Koul) **51** #4533 62G10

(*with* Govindarajulu, Z.) c-sample tests of homogeneity against ordered alternatives. *Proceedings of the Symposium to honour Jerzy Neyman* (*Warsaw*, 1974), *pp.* 91–102. *Państw. Wydawn. Nauk.*, *Warsaw*, 1977. (T. P. Hettmansperger) **56** #13439 62G10

Haller, H. Smith, Jr. *See* **Optimizing methods in statistics**, **48** #9900

Haller, L. (*with* Miller, I. G. T.) Direct hypercone unconstrained minimization. *Proceedings of the Princeton Symposium on Mathematical Programming* (*Princeton Univ.*, 1967), *pp.* 511–522. *Princeton Univ. Press*, *Princeton*, *N.J.*, 1970. (Editors) **48** #5380 65K05

Haller-Wedel, Ernst ★Die Einflussgrössenrechnung in Theorie und Praxis. Anwendung mehrdimensionaler statistischer Untersuchungsverfahren in Industrie, Wirtschaft und Verwaltung. Mit einer Einleitung von J. R. de Jong. Statistische Verfahren für Arbeitsstudien und Fertigung, Prüf- und Messtechnik, Band III. *Carl Hanser Verlag*, *Munich*, 1973. 418 *pp.* *ISBN* 3-446-10544-1 (Editors) **57** #17897 62–01

Hallet, P. (*with* Mund, E. H.; Hennart, J. P.) An algorithm for the interpolation of functions using quintic splines. *J. Comput. Appl. Math.* **1** (1975), *no.* 4, 279–288. (Authors' summary) **56** #7111 65D05

(*with* Hennart, J. P.; Mund, E. H.) A Galerkin method with modified piecewise polynomials for solving a second-order boundary value problem. *Numer. Math.* **27**

(1976/77), *no.* 1, 11–20. (Frank G. Hagin) **55** #9547 65L10 (34A50)

nes-Hallett, A. J. *See* **Hughes-Hallett, A. J.**

llett, J. Terry (*with* Hirsch, Kurt A.) Groups of exponent 4 as automorphism groups. *Math. Z.* **117** (1970), 183–188. (M. F. Newman) **45** #361 20F55

(*with* Hirsch, Kurt A.) Finite groups of exponent 4 as automorphism groups. II. *Math. Z.* **131** (1973), 1–10. (M. F. Newman) **48** #2267 20F55

(*with* Hirsch, Kurt A.) Finite groups of exponent 12 as automorphism groups. *Math. Z.* **155** (1977), *no.* 1, 43–53. (M. F. Newman) **58** #11150 20F55 (20B25)

lleux, Robert *See* **Kepler, Johannes, 56** #15293

lley, Edmond *See* **Ronan, Colin A., 58** #10089

lley, J. Woods *See* **Correlation functions and quasiparticle interactions in condensed matter, 58** #32642

lliday, J. (*with* Hayes, J. G.) The least-squares fitting of cubic spline surfaces to general data sets. *J. Inst. Math. Appl.* **14** (1974), 89–103. (M. Marsden) **51** #14521 65D10

llidy, W. H. (*with* Couch, W. E.) Radiation scattering in Einstein-Maxwell theory. *J. Mathematical Phys.* **12** (1971), 2170–2175. (H. S. P. Grässer) **45** #8207 83.35

llin, Marc Jeux à information incomplète. *Cahiers Centre Études Recherche Opér.* **14** (1972), 1–22. (P. Fortunati) **52** #16684 90D35

(*with* de Vries, Karine; Lemaire, Jean) Caractérisation des échelles de production optimale en avenir déterministe. (English summary) *Cahiers Centre Études Recherche Opér.* **15** (1973), 397–404. (Bernard Martinet) **52** #16589 90B30

Jeux de marchandage à information incomplète et échanges d'information. Colloque sur la Théorie des Jeux (Bruxelles, 1975). *Cahiers Centre Études Recherche Opér.* **18** (1976), *no.* 1-2, 173–200. (G. Owen) **54** #2222 90D10

Subjectively mixed strategies. The public event case. *Internat. J. Game Theory* **5** (1976), *no.* 1, 23–25. (E. G. Gol′šteĭn) **53** #10329 90D10

Structures de coalition et problèmes de négociation. Échanges d'information dans les jeux à information incomplète. *Cahiers Centre Études Recherche Opér.* **19** (1977), *no.* 1-2, 3–157. (G. Duru) **58** #9320 90D12

(*with* Mélard, Guy) Indéterminabilité pure et inversibilité des processus autorégressifs—moyenne mobile à coefficients dépendant du temps. (English summary) Séries chronologiques: approches fréquentielle et temporelle (Colloq., Brussels, 1977). *Cahiers Centre Études Recherche Opér.* **19** (1977), *no.* 3-4, 385–392. (P. A. Morettin) **58** #31662 62M10 (62M20)

allinan, Maureen (*with* McFarland, David D.) Higher order stability conditions in mathematical models of sociometric or cognitive structure. *J. Mathematical Sociology* **4** (1975), *no.* 1, 131–148. (È. Orlovskiĭ) **54** #9734 92A20

allstrom, Alfred P. Some spaces where best uniform approximation always fails. *Approximation theory* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1973), *pp.* 369–371. *Academic Press, New York*, 1973. (J. Garnett) **49** #3549 46J10 (41A65)

Some spaces in which best uniform approximation is never possible. *J. Approximation Theory* **11** (1974), 205–207. (William Hintzman) **54** #8119 41A65

A counterexample to a conjecture on an integral condition for determining peak points (counterexample concerning peak points). *Pacific J. Math.* **51** (1974), 455–457. (J. Garnett) **50** #13560 30A98

allum, C. R. (*with* Lewis, Truman O.; Boullion, Thomas L.) Estimation in the restricted general linear model with a positive semidefinite covariance matrix. *Comm. Statist.* **1** (1973), 157–166. (E. S. Keeping) **47** #6016 62F10

(*with* Boullion, Thomas L.; Odell, Patrick L.) Parameter estimation and hypothesis testing in the restricted general linear model. *Indust. Math.* **23** (1973), 1–25. (I. Guttman) **48** #12736 62Jxx

(*with* Pore, M. D.) Computational aspects of matrix generalized inversion for the computer with applications. *Comput. Math. Appl.* **1** (1975), *no.* 1, 145–150. (R. P. Tewarson) **52** #4599 65F20 (15A09)

(*with* Odell, Patrick L.; Boullion, Thomas L.) An extension of the generalized Gauss-Markov theorem to the mixed model. *Indust. Math.* **27** (1977), *no.* 2, 93–103. (R. Kala) **57** #10924 62J05

(*with* McMath, John S.; Sims, S. E.) On the properties of a matrix valued derivative utilizing the Moore-Penrose inverse. *Linear Algebra and Appl.* **18** (1977), *no.* 3, 281–291. (I. Fennell Burns) **58** #8201 65F20 (15A99)

allum, Cecil R. *See* **Influence of computing on mathematical research and education, 49** #7058

allyburton, John C., Jr. (*with* Brillhart, John D.) Two new factors of Fermat numbers. Collection of articles dedicated to Derrick Henry Lehmer on the occasion of his seventieth birthday. *Math. Comp.* **29** (1975), 109–112. (Torleiv Kløve) **51** #5460 (E **52** #13599) 10–04 (10A40)

(*with* Brillhart, John D.) Corrigenda to: "Two new factors of Fermat numbers" (Math. Comp. **29** (1975), 110). *Math. Comp.* **30** (1976), *no.* 133, 198. (Torleiv Kløve) **52** #13599 (EA **54**) 10–04

alme, Aarne (*with* Orava, J.; Blomberg, Hans) Polynomial operators in non-linear systems theory. *Internat. J. Systems Sci.* **2** (1971/72), 25–47. (Leonard Weiss) **46** #10398 93C10 (93D99)

Polynomial operators for nonlinear systems analysis. *Acta Polytech. Scand. Math. and Comput. Mach. Ser. No.* 24 (1972), 64 *pp.* (Leonard Weiss) **51** #12372 93C10 (93B05)

(*with* Orava, P. Jussi) Generalized polynomial operators for nonlinear systems analysis. *IEEE Trans. Automatic Control* **AC-17** (1972), 226–228. (Authors' summary) **55** #14280 93A99

(*with* Hämäläinen, Raimo P.; Heikkilä, Ossi; Laaksonen, Osmo) On synthesizing a state regulator for analytic non-linear discrete-time systems. *Internat. J. Control* **20** (1974), 497–515. (Kailash C. Kapur) **50** #4044 93C55

(*with* Orava, P. Jussi) Inversion of generalized power series representation. *J. Math. Anal. Appl.* **45** (1974), 136–141. (Leonard Weiss) **50** #8189 47H99 (46G99)

(*with* Orava, P. Jussi) Fixed point of polynomial type nonlinear operators. *J. Optimization Theory Appl.* **13** (1974), 139–151. (From the authors' introduction) **57** #10516 47H10 (93C22)

(*with* Hämäläinen, Raimo P.) On the nonlinear regulator problem. *J. Optimization Theory Appl.* **16** (1975), 255–275. (M. J. Davies) **51** #9887 93C10

Halmos, Emil (*with* Rapcsák, Tamás) Minimum weight design of statistically indeterminate trusses. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **3** (1977), *no.* 1-2, 171–183. (From the summary) **58** #14198 73.49

Halmos, Paul R. Positive approximants of operators. *Indiana Univ. Math. J.* **21** (1971/72), 951–960. (S. K. Berberian) **45** #919 47B99 (41A65)

How to write mathematical texts. (Russian) Translated from the English (Enseignement Math. (2) **16** (1970), 123–152) by A. A. Bel′skiĭ. *Uspehi Mat. Nauk* **26** (1971), *no.* 5(161), 243–269. (Editors) **52** #5236 00–XX

★Naive Mengenlehre. Dritte Auflage. Übersetzt aus dem Englischen von Manfred Armbrust und Fritz Ostermann. Moderne Mathematik in elementarer Darstellung, No. 6. *Vandenhoeck & Ruprecht, Göttingen*, 1972. 132 *pp.* (Editors) **50** #4305 04–01

Products of shifts. *Duke Math. J.* **39** (1972), 779–787. (J. A. Erdos) **47** #2413 47A65

Limits of shifts. *Acta Sci. Math.* (*Szeged*) **34** (1973), 131–139. (Eric Nordgren) **49** #3576 47A65

The legend of John von Neumann. *Amer. Math. Monthly* **80** (1973), 382–394. (F. J. Murray) **47** #6416 01A60

★Finite-dimensional vector spaces. Reprinting of the 1958 second edition. Undergraduate Texts in Mathematics. *Springer-Verlag, New York-Heidelberg*, 1974. viii + 200 *pp.* (Editors) **53** #13258 15–01 (47–01)

★Naive set theory. Reprint of the 1960 edition. Undergraduate Texts in Mathematics. *Springer-Verlag, New York-Heidelberg*, 1974. vii + 104 *pp.* (Editors) **56** #11794 04–01

Spectral approximants of normal operators. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 51–58. (Ky Fan) **49** #9674 47B15

★Naive Mengenlehre. Vierte Auflage. Aus dem Englischen übersetzt von Manfred Armbrust und Fritz Ostermann. Moderne Mathematik in elementarer Darstellung, No. 6. *Vandenhoeck & Ruprecht, Göttingen*, 1976. 132 *pp.* (Editors) **55** #102 04–01

(*with* Ewing, J. H.; Gustafson, William H.; Moolgavkar, Suresh; Wheeler, William H.; Ziemer, W. P.) American mathematics from 1940 to the day before yesterday. *Amer. Math. Monthly* **83** (1976), *no.* 7, 503–516. (D. J. Struik) **56** #2751 01A65

(*with* Gustafson, William H.; Radjavi, Heydar) Products of involutions. Collection of articles dedicated to Olga Taussky Todd. *Linear Algebra and Appl.* **13** (1976), *no.* 1/2, 157–162. (G. E. Wall) **53** #3135 20G15 (15A21)

Some unsolved problems of unknown depth about operators on Hilbert space. *Proc. Roy. Soc. Edinburgh Sect. A* **76** (1976/77), *no.* 1, 67–76. (Warren R. Wogen) **56** #9292 47Axx (47Bxx)

Logic from A to G. *Math. Mag.* **50** (1977), *no.* 1, 5–11. (K. Inoue) **55** #5377 02–01

See also **Mathematics: Periodical collection of translations of foreign articles, 49** #4721; **Mathematics: Periodical collection of translations of foreign articles, 49** #4722 *and* **Dash, A. T., 52** #9000

Halperin, B. I. Theory of dynamic critical properties. *Statistical physics* (*Proc. IUPAP Internat. Conf. Statist. Phys., Budapest*, 1975), *pp.* 163–181. *North-Holland, Amsterdam*, 1976. (Author's summary) **57** #15121 82.35

(*with* Nelson, David R.) Theory of two-dimensional melting. *Phys. Rev. Lett.* **41** (1978), *no.* 2, 121–124. (Authors' summary) **58** #14439 80.47

Halperin, Max (*with* Ware, James H.) Early decision in a censored Wilcoxon two-sample test for accumulating survival data. *J. Amer. Statist. Assoc.* **69** (1974), 414–422. (M. Knott) **50** #15128 62G10

(*with* Ware, James H.; Byar, David P.; Mantel, Nathan; Brown, Charles C.; Koziol, James A.; Gail, Mitchell H.; Green, Sylvan B.) Testing for interaction in an $I \times J \times K$ contingency table. *Biometrika* **64** (1977), *no.* 2, 271–275. (Dennis D. Wackerly) **58** #13464 62F05

Halperin, Miriam P. Deformations of formal embeddings of schemes. *Trans. Amer. Math. Soc.* **221** (1976), *no.* 2, 303–321. (Mary Schaps) **53** #10799 14D15 (14E15)

Halperin, Stephen (*with* Stasheff, James Dillon) Differential algebra in its own rite. *Proceedings of the Advanced Study Institute on Algebraic Topology* (*Aarhus Univ., Aarhus* 1970), *Vol. III, pp.* 567–577. *Various Publ. Ser., No.* 13, *Mat. Inst., Aarhus Univ., Aarhus*, 1970. (J. P. May) **49** #3944 55H20

(*with* Greub, Werner H.; Vanstone, Ray) ★Connections, curvature, and cohomology. Vol. I: De Rham cohomology of manifolds and vector bundles. Pure and Applied Mathematics, Vol. 47. *Academic Press, New York-London*, 1972. xix + 443 *pp.* (D. Lehmann) **49** #1423 53C20 (22E15, 55F10)

(*with* Toledo, Domingo) Stiefel-Whitney homology classes. *Ann. of Math.* (2) **96** (1972), 511–525. (J. P. Levine) **47** #1072 57D20

(*with* Greub, Werner H.) Fibre integration and some of its applications. *Collect. Math.* **23** (1972), 195–212. (P. Molino) **49** #11527 57D20

(*with* Greub, Werner H.; Vanstone, Ray) ★Connections, curvature, and cohomology. Vol. II: Lie groups, principal bundles, and characteristic classes. Pure and Applied Mathematics, Vol. 47-II. *Academic Press* [*A subsidiary of Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1973. xxi + 541 *pp.* (D. Lehmann) **49** #1424 53C20 (22E15, 55F10)

(*with* Lehmann, Daniel) Cohomologies et classes caractéristiques des choux de Bruxelles. *Differential topology and geometry* (*Proc. Colloq., Dijon*, 1974), *pp.* 79–120. *Lecture Notes in Math., Vol.* 484, *Springer, Berlin*, 1975. (Bruce L. Reinhart) **53** #6586 57D30 (57D20)

(*with* Greub, Werner H.) An intrinsic definition of the Dirac operator. *Collect. Math.* **26** (1975), *no.* 1, 19–37. (H. A. Eliopoulos) **57** #14068 58G05

(*with* Toledo, Domingo) The product formula for Stiefel-Whitney homology classes. *Proc. Amer. Math. Soc.* **48** (1975), 239–244. (R. H. Rosen) **51** #1836 57C25 (57D20)

(*with* Greub, Werner H.; Vanstone, Ray) ★Connections, curvature, and cohomology. Volume III: Cohomology of principal bundles and homogeneous spaces. Pure and Applied Mathematics, Vol. 47-III. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1976. xxi + 593 *pp.* (D. Lehmann) **53** #4110 (EA **53**) 58–02 (55Fxx, 57Fxx, 57D20)

(*with* Lehmann, Daniel) Twisted exotism. *Differential geometry and relativity, pp.* 67–73. *Mathematical Phys. and Appl. Math., Vol.* 3, *Reidel, Dordrecht*, 1976. (B. Cenkl) **57** #13969 57D20

Finiteness in the minimal models of Sullivan. *Trans. Amer. Math. Soc.* **230** (1977), 173–199. (A. V. Zarelua) **57** #1493 55H05 (55D15)

(*with* Allday, Christopher) Lie group actions on spaces of finite rank. *Quart. J.*

Math. Oxford Ser. (2) **29** (1978), *no.* 113, 63–76. (G. E. Bredon) **58** #18510 57E99 (55D99)

Rational fibrations, minimal models, and fibrings of homogeneous spaces. *Trans. Amer. Math. Soc.* **244** (1978), 199–224. (K.-T. Chen) **58** #24264 55F20

Halpern, Benjamin Invariant metric properties of maps. *Fund. Math.* **72** (1971), *no.* 3, 203 221. (E. Halfar) **45** #4374 54H20

A decomposition theorem for reflexive lattices of subspaces. *J. London Math. Soc.* (2) **8** (1974), 762–764. (S. K. Berberian) **50** #1023 47A15 (06A20)

Double normals and tangent normals for polygons. *Proc. Amer. Math. Soc.* **51** (1975), 434–437. (T. Banchoff) **51** #9003 53C70 (52A10)

Symmetric powers and Lefschetz numbers. *Michigan Math. J.* **23** (1976), *no.* 3, 273–276. (Gilles Fournier) **54** #13900 55C20

Homeomorphisms with many recurrent points. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 1, 159–160. (J. W. Robbin) **54** #3758 58F10 (58F20, 58D99)

(*with* Weaver, Charles S.) Inverting a cylinder through isometric immersions and isometric embeddings. *Trans. Amer. Math. Soc.* **230** (1977), 41–70. (Robert Wells) **57** #14030 58D10 (57D40)

Strange billiard tables. *Trans. Amer. Math. Soc.* **232** (1977), 297–305. (L. A. Bunimovič) **56** #9595 58F15 (34C35)

Halpern, Elkan F. Polynomial regression from a Bayesian approach. *J. Amer. Statist. Assoc.* **68** (1973), 137–143. (W. E. Strawderman) **52** #9472 62F15 (62J05)

Bayesian spline regression when the number of knots is unknown. *J. Roy. Statist. Soc. Ser. B* **35** (1973), 347–360. (W. E. Strawderman) **49** #6428 62C10 (62J05)

Posterior consistency for coefficient estimation and model selection in the general linear hypothesis. *Ann. Statist.* **2** (1974), 703–712. (I. Guttman) **50** #15175 62J05

Halpern, Francis R. Quantum mechanics of the anharmonic oscillator. *J. Mathematical Phys.* **14** (1973), 219–227. (G. R. Allcock) **48** #7818 81.34

Halpern, Fred Transfer theorems for topological structures. *Pacific J. Math.* **61** (1975), *no.* 2, 427–440. (A. B. Slomson) **53** #5294 02H05

(*with* Ellentuck, Erik) Theories having many extensions. *Rep. Math. Logic No.* 4 (1975), 25 -29. (M. E. Nadel) **52** #75 02H05 (02B25, 02K30)

Halpern, Herbert (*with* Digernes, Trond) On open projections of GCR algebras. *Canad. J. Math.* **24** (1972), 978–982. (Mi-Soo Smith) **47** #4010 46L05

Unitary implementation of automorphism groups on von Neumann algebras. *Comm. Math. Phys.* **25** (1972), 253–275. (M. Takesaki) **45** #5768 46L10

Essential central spectrum and range for elements of a von Neumann algebra. *Pacific J. Math.* **43** (1972), 349 380. (Ole A. Nielsen) **48** #2787 46L10

Integral decomposition of functionals on C^*-algebras. *Trans. Amer. Math. Soc.* **168** (1972), 371–385. (S. Sakai) **45** #5769 46L05

Primitive ideals in von Neumann algebras. *Proc. Amer. Math. Soc.* **39** (1973), 563–566. (S. Anastasio) **47** #7452 46L10

Mackey Borel structure for the quasi-dual of a separable C^*-algebra. *Canad. J. Math.* **26** (1974), 621 628. (W. B. Arveson) **52** #3973 46L05

Open projections and Borel structures for C^*-algebras. *Pacific J. Math.* **50** (1974), 81-98. (J. W. Bunce) **49** #9639 46L05

Quasi-equivalence classes of normal representations for a separable C^*-algebra. *Trans. Amer. Math. Soc.* **203** (1975), 129–140. (G. Arsene) **51** #3911 46L05

Essential central range and selfadjoint commutators in properly infinite von Neumann algebras. *Trans. Amer. Math. Soc.* **228** (1977), 117–146. (Richard I. Loebl) **55** #3807 46L10

Halpern, J. (*with* Priess, I.) Shortest path with time constraints on movement and parking. *Networks* **4** (1974), 241-253. (G. Berman) **49** #12098 90C35

Halpern, J. D. (*with* Collins, George E.) On the interpretability of arithmetic in set theory. *Notre Dame J. Formal Logic* **11** (1970), 477–483. (A. B. Slomson) **45** #4970 02G99

On a question of Tarski and a maximal theorem of Kurepa. *Pacific J. Math.* **41** (1972), 111-121. (Thomas J. Jech) **46** #7027 (E **47** #1610) 02K05 (02J05, 02K20, 04A25)

Correction to: "On a question of Tarski and a maximal theorem of Kurepa". *Pacific J. Math.* **43** (1972), 827. (Editors) **47** #1610 02K05 (02K20)

(*with* Howard, Paul E.) Cardinal addition and the axiom of choice. *Bull. Amer. Math. Soc.* **80** (1974), 584–586. (D. Pincus) **48** #8230 02K05 (02K20)

Nonstandard combinatorics. *Proc. London Math. Soc.* (3) **30** (1975), 40–54. (L. Bukovský) **52** #10436 04A20

(*with* Howard, Paul E.) The law of infinite cardinal addition is weaker than the axiom of choice. *Trans. Amer. Math. Soc.* **220** (1976), 195–204. (John K. Truss) **53** #12945 02K20 (02K05)

Halpern, Jonathan Ratios in planning-budgeting and bounds on resource requirements. *Operations Res.* **20** (1972), 974–983. (R. Salia) **50** #1709 90B99

Evaluating Boolean function with random variables. *Internat. J. Systems Sci.* **5** (1974), 545–553. (I. V. Romanovskiĭ) **50** #12463 94A20 (06-XX, 68A20)

Fault testing for a k-out-of-n system. *Operations Res.* **22** (1974), *no.* 6, 1267–1271. (Mark Brown) **55** #6847 65K05 (90B99)

Set adjacency measures in fuzzy graphs. *J. Cybernet.* **5** (1975), *no.* 4, 77–87 (1976). (James C. Bezdek) **56** #2861 05C20 (94A15)

p-period maximal dynamic flows in a network. *Internat. J. Systems Sci.* **7** (1976), *no.* 12, 1403-1415. (Edward Minieka) **56** #7898 90B10

Travelling time on dense networks. *Comput. Methods Appl. Mech. Eng.* **10** (1977), *no.* 1, 1–11. (Not reviewed) 90B10

Shortest route with time dependent length of edges and limited delay possibilities in nodes. (German summary) *Z. Operations Res. Ser. A-B* **21** (1977), *no.* 3, A117–A124. (I. Fennell Burns) **58** #4261 90B10

Halpern, Leopold (*with* Deser, S.) Self-coupled scalar gravitation. *General Relativity and Gravitation* **1** (1970/71), *no.* 2, 131-136. (George Debney) **53** #4880 83.53

An approach to a discrete quantum mechanics in closed Riemannian spaces. (French summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972), 996–1011. (K. Kumar) **47** #8042 81.47

An approach to a discrete quantum mechanics in closed Riemannian spaces. *Z. Naturforsch.* **28a** (1973), 1613–1619. (Thomas A. Barnebey) **53** #10030 81.53

Conclusions from an extended gauge principle of Dirac's equation. *Differential geometrical methods in mathematical physics* (*Proc. Sympos., Univ. Bonn, Bonn,* 1975), *pp.* 355–364. *Lecture Notes in Math., Vol.* 570, *Springer, Berlin,* 1977. (J. S. Joel) **58** #25476 81.22

Gravitational law and spinnning electron equation in a de Sitter symmetric space. *General Relativity and Gravitation* **8** (1977), *no.* 8, 623–630. (Edward N. Glass) **57** #8883 83.53 (83.57)

See also **Gravitation: problems, prospects, 48** #7881

Halpern, M. B. (*with* Bardakci, K.) New dual quark models. *Phys. Rev. D* (3) **3** (1971), 2493–2506. (F. R. Halpern) **48** #5522 81.22

Quantum "solitons" which are SU(N) fermions. *Phys. Rev. D* (3) **12** (1975), *no.* 6, 1684-1699. (Johan G. Belinfante) **56** #10582 81.47

(*with* Koplik, J.) Faddeev-Popov procedure and Gribov copies. *Nuclear Phys. B* **132** (1978), *no.* 3-4, 239–248. (Authors' summary) **58** #14659 81.47

Halphen, Bernard (*with* Nguyen Quoc Son) Sur les lois de comportement élasto-visco-plastique à potentiel généralisé. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A319–A322. (Authors' summary) **51** #14722 73.53

Unicité et principe d'extrêmum en thermoviscoplasticité finie couplée. (English, Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no.* 5-6, 707–713. (René Hayart) **54** #9267 73.49

Sur le champ des vitesses en thermoplasticité finie. (English summary) *Internat. J. Solids and Structures* **11** (1975), *no.* 9, 947-960. (B. R. Seth) **51** #14717 73.49

(*with* Nguyen Quoc Son) Sur les matériaux standards généralisés. (English summary) *J. Mécanique* **14** (1975), 39-63. (D. Ieşan) **54** #4252 73.35

L'accommodation des structures élastoplastiques à écrouissage cinématique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 10, Aiii, A799–A802. (René Hayart) **55** #9652 73.35

(*with* Baillon, Jean-Bernard) L'accommodation des structures élastoviscoplastiques. (English summary) *C. R. Acad. Sci. Paris Sér, A-B* **284** (1977), *no.* 2, A125–A128. (Authors' summary) **54** #11924 73.46

Halpin, Michael N. Transitive quasi-uniformities for bitopological spaces. *Math. Colloq. Univ. Cape Town* **11** (1977), 47–64. (P. Fletcher) **57** #4108 54E15

Halsey, Eric Arrangements of eight pseudolines in the projective plane. *Proceedings of the Conference on Convexity and Combinatorial Geometry* (*Univ. Oklahoma, Norman, Okla.,* 1971), *pp.* 1–3. *Dept. Math., Univ. Oklahoma, Norman, Okla.,* 1971. (David A. Drake) **49** #9732 50D30 (05B25)

See also **Cybernetics collection, 50** #16063

Halsey, G. D. (*with* Hewitt, Edwin) More on the superparticular ratios in music. *Amer. Math. Monthly* **79** (1972), 1096–1100. (Editors) **47** #1744 10B25

Halter-Koch, Franz Geschlechtertheorie der Ringklassenkörper. *J. Reine Angew. Math.* **250** (1971), 107–108. (K. Masuda) **45** #1879 12A65

Abgeschlossene Mengen algebraischer Zahlen. *Abh. Math. Sem. Univ. Hamburg* **38** (1972), 65–79. (J. B. Roberts) **46** #3457 10F35

Einseinheitengruppen und prime Restklassengruppen in quadratischen Zahlkörpern. *J. Number Theory* **4** (1972), 70–77. (T. Lepistö) **45** #5106 12A25

Ein Satz über die Geschlechter relativ-zyklischer Zahlkörper von Primzahlgrad und seine Anwendung auf biquadratisch-bizyklische Körper. (English summary) *J. Number Theory* **4** (1972), 144–156. (H. Yokoi) **46** #1756 12A65

Idealtheorie der offen einbettbaren kommutativen topologischen Ringe. *J. Reine Angew. Math.* **256** (1972), 168–172. (K. N. Sigmon) **46** #7328 16A80

Letter to the editor. *Canad. Math. Bull.* **16** (1973), 299. (E. L. Cohen) **48** #2062 10B10

(*with* Stender, Hans-Joachim) Unabhängige Einheiten für die Körper $K=Q(\sqrt[n]{(D^n \pm d)})$ mit $d|D^n$. *Abh. Math. Sem. Univ. Hamburg* **42** (1974), 33–40. (K. Lakkis) **51** #432 12A45

Unabhängige Einheitensysteme für eine allgemeine Klasse algebraischer Zahlkörper. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 85–91. (K. Lakkis) **51** #12784 12A45

Eine Bemerkung über kubische Einheiten. *Arch. Math.* (*Basel*) **27** (1976), *no.* 6, 593–595. (Harvey Cohn) **55** #2837 12A45 (12A30)

Construction of continuous idèle class characters in quadratic number fields, and imbedding problems for dihedral and quaternion fields. *Séminaire Delange-Pisot-Poitou, 17e année* (1975/76), *Théorie des nombres: Fasc.* 1, *Exp. No.* 14, 13 *pp. Secrétariat Math., Paris,* 1977. (Jack Sonn) **58** #27901 12A55 (12A65)

Einheiten und Divisorenklassen in Galois'schen algebraischen Zahlkörpern mit Diedergruppe der Ordnung $2l$ für eine ungerade Primzahl l. *Acta Arith.* **33** (1977), *no.* 4, 355 364. (Charles J. Parry) **56** #11955 12A50

(*with* Moser, Nicole) Sur le nombre de classes de certaines extensions métacycliques sur Q ou sur un corps quadratique imaginaire. *J. Math. Soc. Japan* **30** (1978), *no.* 2, 237–248. (Jürgen Ritter) **58** #5587 12A50

Eine allgemeine Geschlechtertheorie und ihre Anwendung auf Teilbarkeitsaussagen für Klassenzahlen algebraischer Zahlkörper. *Math. Ann.* **233** (1978), *no.* 1, 55–63. (J. Browkin) **57** #12457 12A50

Über Primzahlkonstellationen und eine Vermutung von A. Schinzel. *Math.-Phys. Semesterber.* **25** (1978), *no.* 1, 157–162. (Philip A. Leonard) **58** #574 10M05

Haltof, Brigitte *See* **Gladkiĭ, A. V.; et al., 49** #11867

Halton, John H. Estimating the accuracy of quasi-Monte Carlo integration. *Applications of number theory to numerical analysis* (*Proc. Sympos., Univ. Montréal, Montreal, Que.,* 1971), *pp.* 345–360. *Academic Press, New York,* 1972. (D. C. Handscomb) **50** #3520 65C05

Halvorsen, S. G. Counterexamples in the spectral theory of singular Sturm-Liouville operators. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee,* 1974), *pp.* 373–382. *Lecture Notes in Math., Vol.* 415, *Springer, Berlin,* 1974. (D. Hinton) **58** #28805 34B25

Halwani, Ibrahim Sur les ordres d'Asano. *Publ. Dép. Math.* (*Lyon*) **11** (1974), *no.* 4, 107–121. (G. Michler) **51** #3208 16A18

Halyo, Nesim (*with* McAlpine, George A.) On the spectral factorization of nonstationary vector random processes. System identification and time-series analysis. *IEEE Trans. Automatic Control* **AC-19** (1974), 674–679. (Authors' summary) **57** #18932 93B30

(*with* Caglayan, Alper K.) A separation theorem for the stochastic sampled-data LQG problem. *Internat. J. Control* **23** (1976), *no.* 2, 237–244. (D. D. Sworder) **54** #2311 93E20

Halyts'kyy, V. K. *See* **Galic'kiĭ, V. K.**

Ham, Philippe Opérateur cellulaire spécialisé pour la recherche des facteurs d'un raphe. (Loose English summary) *Rev. Française Automat. Informat. Recherche pérationnelle Sér. Bleue* **9** (1975), *no.* B-1, 87–105. (B. R. Myers) **51** #7937 05C30

a, Hiromitsu (*with* Yamashita, Kazumi) Families of partial functions for perceptrons. *lectron. Commun. Japan* **57** (1974), *no.* 7, 1–9. (Authors' summary) **56** #15231 4A30 (68A45, 92A05)

a, Mitsuru (*with* Kiang, D.; Nakazawa, Kazo) Smoothed Veneziano model and πN nd KN total cross sections at high energy. *Progr. Theoret. Phys.* **46** (1971), 486–491. Jean Nuyts) **46** #8558 81.22

acher, Horst (*with* Burkard, Rainer E.; Zimmermann, Uwe) Flussprobleme mit llgemeinen Kosten. (English summary) *Numerische Methoden bei ptimierungsaufgaben, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1976), *pp.* -22. *Internat. Ser. Numer. Math., Vol.* 36, *Birkhäuser, Basel*, 1977. (Peter Bod) **57** #15374 90B10 (90C05)

acher, V. C. (*with* Nguyen, H. B.) Pattern synchronization in two-dimensional cellular paces. *Information and Control* **26** (1974), 12–23. (Seihaku Higuchi) **52** #16182 68A45

(*with* Sorenson, P. G.) A real-time system design methodology. (French summary) *INFOR—Canad. J. Operational Res. and Information Processing* **13** (1975), 1–18. (K. H. V. Booth) **50** #9039 68A05

achi, Toshihiro (*with* Osikawa, Motosige) On zero type and positive type transformations with infinite invariant measures. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 280–295. (M. S. Waterman) **46** #5580 28A65

(*with* Osikawa, Motosige) Topological entropy of a non-irreducible intrinsic Markov shift. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 296–299. (W. Parry) **46** #5581 28A65 (54H20)

(*with* Totoki, Haruo) A remark on the topological entropy. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 300–303. (H. Keynes) **46** #4511 54H20

Equivalent measures on product spaces. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 335–341. (A. De Hoyos) **51** #6961 60G30 (28A35)

(*with* Oka, Yukimasa; Osikawa, Motosige) A classification of ergodic non-singular transformation groups. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **28** (1974), 113–133. (Douglas Lind) **55** #5839 28A65

Equivalence of measures and classification of groups of non-singular transformations. *Math. Rep. College General Ed. Kyushu Univ.* **10** (1975), *no.* 1, 21–44. (W. Krieger) **54** #7748 28A65

(*with* Oka, Yukimasa; Osikawa, Motosige) Flows associated with ergodic non-singular transformation groups. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 1, 31–50. (Alain Connes) **52** #10998 28A65 (46L10)

mada, El-Said (*with* Csáki, Frigyes) Method for design of linear optimal systems in frequency domain. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 2, 103–120. (Takashi Yahagi) **55** #2237 93C05

mada, Koichi A simple majority rule on the distribution of income. *J. Econom. Theory* **6** (1973), *no.* 3, 243–264. (From the author's introduction) **56** #10761 90A05

mada, Noboru On the p-rank of the incidence matrix of a balanced or partially balanced incomplete block design and its applications to error correcting codes. *Hiroshima Math. J.* **3** (1973), 153–226. (E. F. Assmus, Jr.) **48** #10842 05B05 (94A10)

On a geometrical method of construction of group divisible incomplete block designs. *Ann. Statist.* **2** (1974), 1351–1356. (I. M. Chakravarti) **50** #15194 62K10 (05B05)

(*with* Tamari, Fumikazu) Duals of balanced incomplete block designs derived from an affine geometry. *Ann. Statist.* **3** (1975), *no.* 4, 926–938. (Damaraju Raghavarao) **51** #11863 62K10 (05B05)

(*with* Yamamoto, Sumiyasu; Ikeda, Hideto; Shige-eda, Shinsei; Ushio, Kazuhiko) On claw-decomposition of complete graphs and complete bigraphs. *Hiroshima Math. J.* **5** (1975), 33–42. (Michael S. Martin) **52** #205 05C99

(*with* Yamamoto, Sumiyasu; Ikeda, Hideto; Shige-eda, Shinsei; Ushio, Kazuhiko) Design of a new balanced file organization scheme with the least redundancy. *Information and Control* **28** (1975), 156–175. (K. H. V. Booth) **51** #7402 68A50

(*with* Ohmori, H.) On the BIB design having the minimum p-rank. *J. Combinatorial Theory Ser. A* **18** (1975), 131–140. (E. F. Assmus, Jr.) **54** #5001 05B05 (05B25)

(*with* Yamamoto, Sumiyasu; Ushio, Kazuhiko; Tazawa, Shinsei; Ikeda, Hideto; Tamari, Fumikazu) Partition of a query set into minimal number of subsets having consecutive retrieval property. *J. Stat. Plann. Inference* **1** (1977), *no.* 1, 41–51. (K. H. V. Booth) **58** #8586 68A50

(*with* Kobayashi, Yasuyuki) On the block structure of BIB designs with parameters $v=22$, $b=33$, $r=12$, $k=8$, and $\lambda=4$. *J. Combinatorial Theory Ser. A* **24** (1978), *no.* 1, 75–83. (S. S. Shrikhande) **57** #12252 05B05

amada, Nozomu (*with* Takahashi, Shin-ichi) Generalization of Routh Algorithm by Lyapunov's second method. *Electron. Commun. Japan* **57** (1974), *no.* 3, 55–62. (S. Prusty) **52** #5133 93D05

(*with* Sasaki, Yoshinari; Takahashi, Shin-ichi) Some criteria for aperiodic damping systems. *Electron. Commun. Japan* **58** (1975), *no.* 4, 33–40. (Michel Cotsaftis) **54** #12302 93D05

amada, Taskashi (*with* Nonaka, Toshio; Yoshimura, Izumi) On the connectivity of total graphs. *Math. Ann.* **196** (1972), 30–38. (F. Harary) **45** #5020 05C10

(*with* Akiyama, Jin; Yoshimura, Izumi) Miscellaneous properties of middle graphs. *TRU Math.* **10** (1974), 41–53. (D. P. Geller) **54** #157 05C99

(*with* Kitamura, Tai-ichi; Yoshimura, Izumi) On the connectivities of the generalized line, middle and total graph. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 7 (1975), 47–54. (T. Zamfirescu) **52** #159 05C10

(*with* Akiyama, Jin; Yoshimura, Izumi) On characterizations of the middle graphs. *TRU Math.* **11** (1975), 35–39. (L. W. Beineke) **54** #2538 05C99

(*with* Yoshimura, Izumi) Traversability and connectivity of the middle graph of a graph. *Discrete Math.* **14** (1976), *no.* 3, 247–255. (L. W. Beineke) **54** #2537 05C99

(*with* Akiyama, Jin; Yoshimura, Izumi) Graph equations for line graphs, total graphs and middle graphs. *TRU Math.* **12** (1976), *no.* 2, 31–34. (L. W. Beineke) **57** #177a 05C99

(*with* Akiyama, Jin; Yoshimura, Izumi) A solution of graph equation for line graphs. *TRU Math.* **12** (1976), *no.* 2, 35–43. (L. W. Beineke) **57** #177b 05C99

(*with* Masuyama, Hiroshi; Yoshida, Noriyoshi) Towards a minimum realization of fail-safe asynchronous sequential machine with feedback loops. *Mem. Fac. Engrg. Hiroshima Univ.* **6**, *no.* 2, 37–43 (1977). (István Babcsányi) **55** #14441 94A25

(*with* Shimogaki, Yukio) On the n-th power of a tree and its clique graph. *Proc. Fac. Sci. Tokai Univ.* **12** (1977), 11–14. (Dennis P. Geller) **57** #2963 05C05

(*with* Akiyama, Jin) A note on the arboricity of the complement of a tree. *TRU Math.* **13** (1977), *no.* 1, 55–57. (L. W. Beineke) **57** #5797 05C05

Hamada, Toshio (*with* Michiwaki, Yoshimasa; Hatta, Kenji; Ōyama, Makoto) For a problem on elementary geometry. *Res. Rep. Nagaoka Tech. College* **8** (1972), 153–157. (J. Böhm) **47** #8224 01A25 (50B10)

(*with* Michiwaki, Yoshimasa; Hatta, Kenji; Ōyama, Makoto) Some problems on elementary geometry. *Res. Rep. Nagaoka Tech. College* **9** (1973), 127–133. (E. B. Allen) **50** #1811 01A25 (50B20)

(*with* Mishiwaki, Yoshimasa; Ōyama, Makoto) On a mathematical problem for an anniversary of Takakazu Seki's death. (Japanese. English summary) *Sûgakushi Kenkyû No.* 57 (1973), 1–8. (S. Hitotumatu) **57** #2817 01A25 (50B20)

(*with* Michiwaki, Yoshimasa; Ōyama, Makoto) A study of a class of similar problems recorded on Sangaku. III. (Japanese) *Sûgakushi Kenkyû No.* 59 (1973), 1–28. (Joong Fang) **58** #26744b 01A25

(*with* Michiwaki, Yoshimasa; Ōyama, Makoto) A study of a class of similar problems recorded on Sangaku. III (continuation). (Japanese) *Sûgakushi Kenkyû No.* 60 (1974), 1–26. (Joong Fang) **58** #26744c 01A25

(*with* Michiwaki, Yoshimasa; Ōyama, Makoto; Tanaka, Mitsuru) On the sandai dedicated to Akagi-san Jōmō. (Japanese) *Sûgakushi Kenkyû No.* 62 (1974), 3–9. **58** #26747 01A25

(*with* Tanaka, Mitsuru; Michiwaki, Yoshimasa; Ōyama, Makoto; Kurosaki, Kiichi) Ptolemy's theorem appeared in wasan (as Shūju Yamaji's "Center"). (Japanese) *Sûgakushi Kenkyû No.* 63 (1974), 9–18. **58** #26770 01A25

(*with* Michiwaki, Yoshimasa; Ōyama, Makoto) An invariant relation in chains of tangent circles. *Math. Mag.* **48** (1975), 80–87. (J. F. Rigby) **50** #14453 50B20

(*with* Michiwaki, Yoshimasa; Ōyama, Makoto) On the influence of the "Seki's School versus the Saijō School controversy" in the provinces. (Japanese) *Sûgakushi Kenkyû No.* 64 (1975), 1–10. **58** #26731 01A25

(*with* Tanaka, Kaoru; Kobayashi, Tatsuhiko; Ōtake, Shigeo; Ōyama, Makoto; Tanaka, Mitsuru; Michiwaki, Yoshimasa) On Shuzen Hashimoto, an arithmetician itinerant in the prefecture Gumma. (Japanese) *Sûgakushi Kenkyû No.* 70 (1976), 1–10. **58** #15827 01A25

(*with* Kobayashi, Tatsuhiko; Tanaka, Kaoru; Iizuka, Masaaki; Ōtake, Shigeo; Ōyama, Makoto; Tanaka, Mitsuru; Michiwaki, Yoshimasa) *Sansho (Book of Mathematics)* dated 1749. (Japanese) *Sûgakushi Kenkyû No.* 75 (1977), 9–20. **58** #26738 01A25

Hamada, Yûsaku Problème analytique de Cauchy à caractéristiques multiples dont les données de Cauchy ont des singularités polaires. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1681–A1684. (H. Kumano-go) **48** #4482 35G10

On the propagation of singularities of the solutions of Cauchy problems. (Japanese) *Sûgaku* **27** (1975), *no.* 4, 327–335. (Editors) **58** #29317 35L30

Singular Cauchy problems. (Japanese) Distributions and linear differential equations (Proc. Fourth Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975) *Sûrikaisekikenkyûsho Kôkyûroku No.* 248 (1975), 1–9. (Lu-San Chen) **57** #16951 35G99

(*with* Leray, J.; Wagschal, Claude) Systèmes d'équations aux dérivées partielles à caractéristiques multiples: problème de Cauchy ramifié; hyperbolicité partielle. *J. Math. Pures Appl.* (9) **55** (1976), *no.* 3, 297–352. (Maria Cinquini-Cibrario) **55** #8572 35L30 (32A30)

(*with* Nakamura, Gen) On the singularities of the solution of the Cauchy problem for the operator with non uniform multiple characteristics. *Ann. Scuola Norm. Sup. Pisa. Cl. Sci.* (4) **4** (1977), *no.* 4, 725–755. (J. Vaillant) **58** #22956 35A20

Hamadanizadeh, Javad Interpolation schemes in *Dastūr al-munajjimīn*. *Centaurus* **22** (1978/79), *no.* 1, 44–52. (Y. Dold) **58** #15841 01A30

Hamaguchi, Chihiro (*with* Yokogawa, Masamichi; Ando, Koushi; Yamabe, Kikuo; Adachi, Sadao) Resonant Brillouin scattering as an analogy to modulation spectroscopy. *Tech. Rep. Osaka Univ.* **27** (1977), *no.* 1364-1393, 335–350. (Jean-Paul Marchand) **58** #8906 81.35

Hamaker, C. (*with* Solmon, Donald C.) The angles between the null spaces of Xrays. *J. Math. Anal. Appl.* **62** (1978), *no.* 1, 1–23. (Gabor T. Herman) **57** #3798 45L05 (65D99)

(*with* Smith, Kennan T.; Solmon, Donald C.; Wagner, Sheldon L.) Mathematical aspects of divergent beam radiography. *Proc. Nat. Acad. Sci. U.S.A.* **75** (1978), *no.* 5, 2055–2058. (James C. Bezdek) **58** #20581 92A05 (68A45)

Hamaker, Hugo C. An alternative procedure for taking a random sample. *Statist. Neerlandica* **29** (1975), 63–66. (Victor K. T. Tang) **51** #9286 62D05

Bayesianism; a threat to the statistical profession? (French summary) *Internat. Statist. Rev.* **45** (1977), *no.* 2, 111–115. (J. W. Pratt) **58** #7941 62A15

Subjective probabilities and exchangeability from an objective point of view. (French summary) *Internat. Statist. Rev.* **45** (1977), *no.* 3, 223–231. (D. V. Lindley) **58** #7944 62A15

See also **Collection: Hamaker, Hugo C.**, **50** #5998; **Sieben, J. W.; et al.**, **50** #12604; **Bibliography: Hamaker, Hugo C.**, **50** #12605; **Good, Irving John**, **58** #7942 *and* **Moore, P. G.**, **58** #7943

Hamaker, William Factoring groups and tiling space. *Aequationes Math.* **9** (1973), 145–149. (Larry C. Grove) **48** #5893 20K99 (05B45)

(*with* Stein, Sherman K.) Splitting groups by integers. *Proc. Amer. Math. Soc.* **46** (1974), 322–324. (A. P. Street) **50** #2367 20K25

el-Hamaky, Bahia *See* **El-Hamaky, Bahia**

Hamala, M. (*with* Turnovec, František) An application of the Kuhn-Tucker conditions to the contruction of mathematical programming and game theory problems with previously assigned solutions. (Slovak. Russian, English and German summaries) *Second National Conference on Mathematical Methods in Economics* (*Harmónia*, 1972) (*Czech*), *pp.* 41–68. *Ekonom.-Mat. Lab. Ekonom. Ústavu Československ. Akad. Věd, Prague*,

1973. (M. Mañas) **49** #12089 90C25

Hämäläinen, Raimo P. (*with* Halme, Aarne; Heikkilä, Ossi; Laaksonen, Osmo) On synthesizing a state regulator for analytic non-linear discrete-time systems. *Internat. J. Control* **20** (1974), 497–515. (Kailash C. Kapur) **50** #4044 93C55

(*with* Halme, Aarne) On the nonlinear regulator problem. *J. Optimization Theory Appl.* **16** (1975), 255–275. (M. J. Davies) **51** #9887 93C10

Difference games with periodic information structures with application to the worst case design of regulators. *Internat. J. Systems Sci.* **8** (1977), *no.* 7, 753–770. (Not reviewed) 90D99 (93C30)

Recursive algorithms for Nash strategies in two-player difference games. *Internat. J. Control* **27** (1978), *no.* 2, 229–237. (Author's summary) **57** #18847 90D05 (93C05)

Nash and Stackelberg solutions to general linear-quadratic two player difference games. I. Open-loop and feedback strategies. *Kybernetika* (*Prague*) **14** (1978), *no.* 1, 38–56. (Author's summary) **57** #18848a 90D05

Nash and Stackelberg solutions to general linear-quadratic two-player difference games. II. Open-closed strategies. *Kybernetika* (*Prague*) **14** (1978), *no.* 2, 123–134. (Author's summary) **57** #18848b 90D05

Hamamdžiev, Atanas L. (*with* Hadžiivanov, Nikolaĭ G.) An example of a compact Hausdorff M-connected space which is not strongly M-connected. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 5, 613–614. (Donald E. Bennett) **55** #1298 54D05

(*with* Hadžiivanov, Nikolaĭ G.) A method of P. S. Uryson for the proof that an F_σ set does not cut. (Russian) *Serdica* **3** (1977), *no.* 2, 130–135. (Michael L. Wage) **57** #7518 54D05

Hamana, Masamichi On linear topological properties of some C^*-algebras. *Tôhoku Math. J.* (2) **29** (1977), *no.* 1, 157–163. (J. W. M. Ford) **56** #1081 46L05

Hamann, Claude-Joachim (*with* Brunner, Jürgen) Redundanz und Komposition von Automaten. (Russian. English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 475–476. (H.-J. Hoehnke) **49** #8757 94A30 (18B20)

(*with* Brunner, Jürgen; Budach, Lothar) Zur Redundanz von endlichen Automaten. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **10** (1974), 301–324. (I. Peák) **50** #16157 94A30

(*with* Brunner, Jürgen) Redundanz und Komposition von Automaten. *Math. Nachr.* **59** (1974), 207–211. (H. J. Hoehnke) **49** #8758 94A30 (18B20)

Hamann, D. R. Path integral theory of magnetic alloys. *Phys. Rev. B* (3) **2** (1970), 1373–1392. (T. Arai) **49** #6853 82.45

Orthogonality catastrophe in metals. *Phys. Rev. Lett.* **26** (1971), 1030–1032. (F. R. N. Nabarro) **45** #6334 81.62

Hamann, Eloise On the R-invariance of $R[x]$. *J. Algebra* **35** (1975), 1–16. (M. Miyanishi) **53** #8036 13B25 (14M99)

On power-invariance. *Pacific J. Math.* **61** (1975), *no.* 1, 153–159. (J. T. Arnold) **53** #10792 13J05

Hamann, Günther Geographische und nautische Planung und Methodik zu Beginn des Entdeckungszeitalters. (English summary) *RETE* **1** (1971/72), *no.* 2, 97–115. (Editors) **58** #4831 01A40

Hamann, Uwe Einige Bemerkungen zu den verallgemeinerten Ableitungen und den Sobolevschen Räumen. *Math. Nachr.* **66** (1975), 155–162. (Richard Bagby) **51** #11090 46E35

Hamano, Masanobu (*with* Nishida, Toshio; Kodama, Masanori; Shimosakon, Takio) On the substitutional two-commodity inventory system. *Tech. Rep. Osaka Univ.* **27** (1977), *no.* 1364-1393, 307–315. (Authors' summary) **56** #17758 90B05

Hamara, Oma (*with* Wakae, Masami) The generalized Smith indices. I, II. *Math. Z.* **122** (1971), 71–81; *ibid.* **122** (1971), 93–100. (M.-C. Ku) **52** #6703 55C35

(*with* Wakae, Masami) On the homology of the n-special reduced product space of a Euclidean space. *Canad. Math. Bull.* **15** (1972), 427–431. (C. W. Patty) **47** #4268 55C35

Hamatsuka, Teruo (*with* Sunahara, Yoshifumi) Optimal control for distributed parameter systems with random coefficients. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 15.2, 10 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33466 93E20

Hambleton, Ian Free involutions on 6-manifolds. *Michigan Math. J.* **22** (1975), *no.* 2, 141–149. (M. L. Curtis) **52** #6762 57E15

Existence of free involution on 5-manifolds. *Indiana Univ. Math. J.* **26** (1977), *no.* 4, 777–787. (J. M. Kister) **58** #18464 57A15

(*with* Riehm, Carl) Splitting of Hermitian forms over group rings. *Invent. Math.* **45** (1978), *no.* 1, 19–33. (A. A. Ranicki) **58** #2840 57D65 (10C05, 20C10)

Hamblin, C. L. Mathematical models of dialogue. *Theoria* **37** (1971), 130–155. **45** #26 02C99

Language types and logical theorems. *Information and Control* **22** (1973), 183–187. (Th. Ottmann) **48** #3304 68A30

A felicitous fragment of the predicate calculus. *Notre Dame J. Formal Logic* **14** (1973), 433–447. (M. R. Krom) **51** #115 02G05 (02B10)

Cresswell's colleague TLM. *Noûs* **9** (1975), *no.* 2, 205–210. (Editors) **58** #21465b 02C10

Hambourger, Robert A difficulty with the Frege-Russell definition of number. *J. Philos.* **74** (1977), *no.* 7, 409–414. (J. Corcoran) **56** #8315 02A05

Hamburg, Ileana Particular fields of vectors in the plane. (Romanian. French summary) *An. Univ. Craiova Ser. a IV-a* **1** (1970), 75–78. (G. G. Weill) **48** #11530 30A90 (55C99)

Proximity spaces and topological spaces. (Romanian. French and English summaries) *An. Univ. Timişoara Ser. Şti. Mat.* **8** (1970), 159–167. (S. Gacsályi) **48** #5010 54E05

The compactification of proximity spaces. (Romanian. French summary) *Stud. Cerc. Mat.* **22** (1970), 1189–1196. (S. Gacsályi) **48** #5011 54E05

Contributions to the study of proximal continuity. (Romanian. English summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **17** (1971), 307–312. (S. Gacsályi) **46** #6302 54E05

Weakly uniform spaces and proximity spaces. (Romanian. Russian and English summaries) *An. Univ. Bucureşti Mat.-Mec.* **20** (1971), *no.* 1, 75–87. (O. Costinescu) **46** #4485 54E05

Observations on the compactification of S. Leader and Ju. M. Smirnov. (Romanian. English summary) *Stud. Cerc. Mat.* **23** (1971), 1353–1360. (S. Gacsályi) **48** #9661 54D35 (54E05)

Sur la continuité proximale. (Romanian summary) *An. Univ. Craiova Ser. a V-a No.* 2, 31–38 (1974). (Olav Njåstad) **53** #14425 54E10

La convergence proximale et les structures faiblement uniformes. *Period. Math. Hungar.* **5** (1974), 235–242. (S. A. Naimpally) **50** #8453 54E15

La convergence proximale. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 321–328. (S. A. Naimpally) **49** #9813 54E05

(*with* Hamburg, Peter) Images et images réciproques de structures de proximité. *Papers from the National Colloquium on Geometry and Topology* (*Univ. Timişoara, Timişoara*, 1977), *pp.* 97–105. *Soc. Şti. Mat., Univ. Timişoara, Timişoara*, 1977. (O. Frink) **58** #30981 54E05

Hamburg, Peter The algebraic structure of δ-filters. (Romanian. French summary) *An. Univ. Craiova Ser. a IV-a* **1** (1970), 19–26. (S. Gacsályi) **48** #9667 54E05

(*with* Dobrescu, Eugen V.) A two-dimensional convergence. (Romanian. English summary) *An. Univ. Craiova Ser. a IV-a* **1** (1970), 27–34. (K. H. Hofmann) **49** #3015 22A10

Topogene Ordnungen und Nachbarschaftsstrukturen. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **17** (1971), 291–305. (L. Skula) **46** #4453 54A15 (54E05)

Teilfolgen in topologischen Räumen. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **18** (1975), 117–122 (1976). (H. J. Biesterfeldt, Jr.) **54** #6056 54A20

Konvergenz in verallgemeinerten topologischen Räumen. *Portugal. Math.* **35** (1976), *no.* 3-4, 137–168. (M. Katětov) **58** #12882 54A05 (54A20)

(*with* Hamburg, Ileana) Images et images réciproques de structures de proximité. *Papers from the National Colloquium on Geometry and Topology* (*Univ. Timişoara, Timişoara*, 1977), *pp.* 97–105. *Soc. Şti. Mat., Univ. Timişoara, Timişoara*, 1977. (O. Frink) **58** #30981 54E05

Hamburg, Robin Rider The theory of equations in the 18th century: the work of Joseph Lagrange. *Arch. History Exact Sci.* **16** (1976/77), *no.* 1, 17–36. (William C. Waterhouse) **58** #15922 01A50 (10–03)

Hamburger, Henry N-person prisoner's dilemma. *J. Mathematical Sociology* **3** (1973), 27–48. (Louis J. Billera) **53** #2394 90D05

(*with* Wexler, Kenneth N.) A mathematical theory of learning transformational grammar. *J. Mathematical Psychology* **12** (1975), 137–177. (D. Vaida) **52** #2287 68A30 (68A35, 92A25)

Hamburger, P. On Wallman-type, regular Wallman-type and z-compactifications. *Period. Math. Hungar.* **1** (1971), *no.* 4, 303–309. (O. Frink) **45** #2666 54D35

On k-compactifications and realcompactifications. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 255–262. (H. Herrlich) **47** #1025 54D35 (54D60, 54E05)

A general method to give internal characterizations of completely regular and Tychonoff spaces. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 479–494. (H. Buchwalter) **47** #5829 54E15 (54D15)

Remarks on the lecture "Zamečanie po povodu ponjatija okrestnosti v topologii" given by P. S. Aleksandrov. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 106–112. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (J. M. Aarts) **49** #3835 54D15 (54E05)

Complete regularity as a separation axiom. *Period. Math. Hungar.* **4** (1973), 39–44. (J. M. Aarts) **49** #6144 54D15

(*with* Deák, Ervin) Vollständig interne Charakterisierungen der T_2-kompaktifizierbaren Räume. *Period. Math. Hungar.* **4** (1973), 125–145. (J. M. Aarts) **50** #14654 54D15

Superextensions and preproximities. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 367–378. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (J. M. Aarts) **51** #6730 (EA **52**) 54D35 (54E05)

See also **General topology and its relations to modern analysis and algebra**, **49** #3800

Hamdan, M. A. (*with* Tsokos, Chris P.) Stochastic nonlinear integro-differential systems with time lag. *J. Natur. Sci. and Math.* **10** (1970), 293–303. (G. Papanicolaou) **46** #8305 60H20

(*with* Tsokos, Chris P.) An information measure of association in contingency tables. *Information and Control* **19** (1971), 174–179. (T. N. Bhargava) **47** #6022 62G05

(*with* Martinson, E. Q.) The bivariate gamma correlation surface. *South African Statist. J.* **5** (1971), 67–69. (Mir Ali) **48** #7463 62H10

(*with* Tsokos, Chris P.) Stochastic asymptotic exponential stability of stochastic integral equations. *J. Appl. Probability* **9** (1972), 169–177. (Y. M. Chen) **45** #7846 60H20

The t-statistic of the point-binomial distribution. (Arabic summary) *Libyan J. Sci.* **3** (1973), 71–74. (Title) **49** #4132 62E15

A stochastic derivation of the bivariate Poisson distribution. *South African Statist. J.* **7** (1973), 69–71. (M. E. Wise) **50** #1385 62E99

The use of orthogonal polynomials and orthonormal functions in the calculation of the noncentrality parameter of chi-squared. *Comm. Statist.* **3** (1974), 157–166. (B. L. S. Prakasa Rao) **48** #12717 62G10

On Pearson's chi-squared for contingency tables and zero bivariate binomial correlation. *Comm. Statist.* **3** (1974), 885–892. (Paul W. Holland) **57** #14268 62H20

On the continuity correction. *Technometrics* **16** (1974), 631–632. (Author's summary) **53** #11847 62E20

A note on the trinomial distribution. (French summary) *Internat. Statist. Rev.* **43** (1975), *no.* 2, 219–220. (G. S. Lingappaiah) **55** #6637 62E15

(*with* Pirie, Walter R.; Arnold, J. C.) Simultaneous testing of McNemar's problem for several populations. *Psychometrika* **40** (1975), *no.* 2, 153–161. (Authors' summary) **58** #18850 62F05

Letters to the editor: "An improved gamma approximation to the negative binomial" (Technometrics **16** (1974), 621–624) by D. J. Best and P. G. Gipps and "A simple approximation to the negative binomial (and regular binomial)" (ibid. **14** (1972), no. 2, 385–389) by W. C. Guenther. *Technometrics* **17** (1975), *no.* 4, 518–519. (From the text) **52** #4489 62E15 (*with* Jensen, D. R.) A bivariate binomial distribution and some applications. *Austral. J. Statist.* **18** (1976), *no.* 3, 163–169. (B. Raja Rao) **57** #7919 62N10 62H10)

(*with* Pirie, Walter R.; Khuri, A. I.) Unbiased estimation of the common mean based on incomplete bivariate normal samples. (German summary) *Biometrische Z.* **18** (1976), *no.* 4, 245–249. (M. Samiuddin) **56** #4029 62F10

Comparison of two measures of association in two-way contingency tables. (French summary) *Canad. J. Statist.* **5** (1977), *no.* 2, 235–240. (Alan Agresti) **58** #8033 62H20

ndi, Alisbah Orhan Algebraic structure of the continuum and the factorial representation. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér.* A_1 *Math.* **24** (1975), *no.* 6, 47–57. (Stanley J. Benkoski) **57** #12374 10A99

Remarks concerning Fermat's problem. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér.* A_i *Math.* **24** (1975), *no.* 8, 65–66. (Editors) **58** #27749 10B15

agoz Hamedani, G. *See* **Gharagoz Hamedani, G.**

nedani, G. G. (*with* Mehri, Bahman) Periodic boundary value problem for certain non-linear second order differential equation. *Studia Sci. Math. Hungar.* **9** (1974), *no.* 3-4, 307–312 (1975). (K. Schmitt) **53** #13704 34B15

(*with* Tata, M. N.) On the determination of the bivariate normal distribution from distributions of linear combinations of the variables. *Amer. Math. Monthly* **82** (1975), *no.* 9, 913–915. (Steven Arnold) **52** #4523 62H05

(*with* Mehri, Bahman) On the existence of periodic solutions of nonlinear second order differential equations. *SIAM J. Appl. Math.* **29** (1975), 72–76. (K. Schmitt) **51** #6053 34C25

Positive definite functionals in Banach spaces. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 4, 416–420. (T. Neubrunn) **58** #11317 28A40

(*with* Mandrekar, Vidyadhar) Central limit problem on L_p ($p \geqslant 2$). II. Compactness of infinitely divisible laws. *J. Multivariate Anal.* **7** (1977), *no.* 3, 363–373. (R. Jajte) **56** #16724 60B10 (60F05, 60B15)

(*with* Mehri, Bahman) Boundary value problems for certain non-linear third order differential equations. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 3, 315–319. (G. A. Klaasen) **56** #12381 34B15

el-Hameed, M. *See also* **Abdel-Hameed, M.**

el-Hameed, Mohamed *See* **Abdel-Hameed, Mohamed**

meister, Ernst *See* **Steinhaus, Hugo**, **50** #1790

meka, H. F. On the calculation of Franck-Condon overlap integrals. *Physica* **46** (1970), 271–278. (J. T. Cushing) **45** #1501 81.33

mer, K. (*with* Smith, M. R.) Stability of general Hill's equation with three independent parameters. *Trans. ASME Ser. E. J. Appl. Mech.* **39** (1972), 276–278. (Authors' summary) **45** #669 34D99

merle, A. (*with* Pape, H.) Über einen stochastischen Ansatz zur Lösung von Klassifikationsproblemen. *Statist. Hefte* (*N.F.*) **18** (1977), *no.* 2, 142–146. (Authors' summary) **56** #4058 62H30

mermesh, Morton *See* **Landau, L. D.; et al.**, **57** #14959

mernik, Wolfgang (*with* Michler, Gerhard O.) On Brauer's main theorem on blocks with normal defect groups. *J. Algebra* **22** (1972), 1–11. (A. Rosenberg) **45** #8744 20C20

(*with* Michler, Gerhard O.) Hauptblöcke von Gruppenalgebren. *Arch. Math.* (*Basel*) **24** (1973), 21–24. (A. Rosenberg) **48** #2234 20C05

The linear character of an indecomposable module of a group algebra. *J. London Math. Soc.* (2) **7** (1973), 220–224. (Donald S. Passman) **48** #4088 20C05

★Group algebras of finite groups—defect groups and vertices. Lectures given at the University of Giessen, Winter 1973/74. Vorlesungen aus dem Mathematischen Institut Giessen, Heft 3. *Mathematisches Institut Giessen, Universität Giessen, Giessen*, 1974. 122 *pp.* (Donald S. Passman) **51** #668 20C05

Indecomposable modules with cyclic vertex. *Proceedings of the International Conference on Representations of Algebras* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 13, 8 *pp. Carleton Math. Lecture Notes*, *No.* 9, *Carleton Univ., Ottawa, Ont.*, 1974. (Donald S. Passman) **50** #13222 20C05

Group structure and properties of block ideals of the group algebra. *Glasgow Math. J.* **16** (1975), *no.* 1, 22–28. (Mark Benard) **53** #5714 20C05

Indecomposable modules with cyclic vertex. *Math. Z.* **142** (1975), 87–90. (Mark Benard) **51** #667 20C05

Specht modules and the radical of the group ring over the symmetric group γ_p. *Comm. Algebra* **4** (1976), *no.* 5, 435–475. (A. Kerber) **53** #8210 20C05

(*with* Michler, Gerhard O.) On vertices of simple modules in p-solvable groups. *Mitt. Math. Sem. Giessen Heft* 121 (1976), 147–162. (P. Fong) **57** #12666 20C20

See also **Goldie, Alfred W.**, **51** #8160 *and* **Representations of algebras**, **52** #3207

ametova, Z. Ja. (*with* Čani, A. S.) A limit theorem for certain functionals of a sequence of Markov chains. (Russian) *Theory of random processes*, *No.* 2 (*Russian*), 109–113, 140. *Izdat. "Naukova Dumka", Kiev*, 1974. (V. V. Anisimov) **51** #14210 60F05 (60J05)

amid, M. A. K., (*with* Towaij, S. J.) Fast generation of the gamma and digamma functions of complex argument. *Internat. J. Electron.* **34** (1973), 273–275. (Y. L. Luke) **52** #7083 65D20

del' Hamid, Muhamed Ibragim *See* **Abdel' Hamid, Muhamed Ibragim**

amid, Salah (*with* Meffroy, Jean; Kamel, Osman Saïd Mostafa) Sur les perturbations séculaires d'une théorie planétaire générale du deuxième ordre construite à l'aide des variables canoniques de Poincaré et de la méthode de Von Zeipel. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 671–674. (Authors' summary) **55** #9639 70.35 (85.35)

amidi, Massih (*with* Pearl, Judea) On the residual correlation of finite-dimensional discrete Fourier transforms of stationary signals. *IEEE Trans. Information Theory* **IT-21** (1975), 480–482. (Denis de Brucq) **52** #5198 (E **56** #15157) 94A15

(*with* Pearl, Judea) Comparison of the cosine and Fourier transforms of Markov-1 signals. *IEEE Trans. Acoust. Speech Signal Processing* **ASSP-24** (1976), *no.* 5, 428–429. (G. Robert Redinbo) **55** #2355 94A15

See also **Kitajima, Hideo**, **56** #15157

amidoune, Yahya Ould Sur les atomes d'un graphe orienté. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 20, *A*1253–*A*1256. (Author's summary) **56** #2862 05C20

Sur les sommets de demi-degré h d'un graphe fortement h-connexe minimal. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 20, A863–A865. (Author's summary) **58** #21772 05C20

Hamidov, A. A. (*with* Muhitdinov, N.; Usmanov, G.) A certain method for the solution of a nonlinear singular integral equation of a special type. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1968**, *no.* 10, 9–11. (R. V. Dudučava) **52** #11509 45G05

The convergence of a certain approximate method for solving nonlinear singular integro-differential equations. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 316 *Voprosy Meh. i Mat.* (1968), 202–210. (G. F. Miller) **50** #15400 65R05

A method of solving the inverse problem of the theory of an ideal gas jet with curvilinear surfaces. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 10, 10–13. (Simona Popp) **57** #8360 76.30

Escape of an ideal gas from axially symmetric containers. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 11, 18–20. (Simona Popp) **57** #8361 76.30

A method for the solution of a system of elliptic equations. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 6, 33–36, 88. (Author's summary) **58** #1598 35J45 (76.35)

(*with* Rahmatulin, H. A.) Solution of axially symmetric problems of an ideal compressible gas jet. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 3, 529–532. (From the text) **58** #14241 76.30

Hamidov, L. A. A peculiarity of the method of "sources" and "sinks". (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 10, 15–16. (S. P. Gavelja) **58** #8687 73.47 (65F05)

Hamilton, A. J. S. The triangulation of 3-manifolds. *Quart. J. Math. Oxford Ser.* (2) **27** (1976), *no.* 105, 63–70. (Mario Pezzana) **53** #11618 57C15

Hamilton, Alan G. Recursive equivalence types of vector spaces. *J. Austral. Math. Soc.* **18** (1974), 376–384. (Northrup Fowler, III) **53** #12915 02F40 (02F99)

Hamilton, E. P. (*with* Goodwin, B. E.) The inverse problem of the calculus of variations. *Analytic methods in mathematical physics* (*Sympos., Indiana Univ., Bloomington, Ind.*, 1968), *pp.* 461–466. *Gordon and Breach, New York*, 1970. (See Zbl **195**, 400; MR **48** #5746) 49H05

Hamilton, Eugene The infinitely renormalized field in the scalar field model. *J. Mathematical Phys.* **17** (1976), *no.* 4, 443–457. (Tetz Yoshimura) **53** #2199 81.47

Hamilton, G. M. Some projections of the hypercube γ_4. *Math. Gaz.* **55** (1971), *no.* 394, 397–400. (Zbl **236** #50010) **58** #18078 50B10

Hamilton, Howard B. (*with* Tamura, Takayuki) Commutative semigroups with greatest group-homomorphism. *Proc. Japan Acad.* **47** (1971), 671–675. (D. B. McAlister) **46** #3661 20M10

(*with* Tamura, Takayuki) Is minimal group congruence smallest? *Semigroup Forum* **4** (1972), 173–176. (M. Kolibiar) **45** #3602 20M10

(*with* Tamura, Takayuki) The study of commutative semigroups with greatest group-homomorphism. *Trans. Amer. Math. Soc.* **173** (1972), 401–419. (H. Jürgensen) **47** #3581 (EA **58**) 20M10

Semilattices whose structure lattice is distributive. *Semigroup Forum* **8** (1974), *no.* 3, 245–253. (Ralph Freese) **51** #10177 06A20

(*with* Nordahl, Thomas E.; Tamura, Takayuki) Commutative cancellative semigroups without idempotents. *Pacific J. Math.* **61** (1975), *no.* 2, 441–456. (W. E. Deskins) **53** #5777 20M10

Permutability of congruences on commutative semigroups. *Semigroup Forum* **10** (1975/76), *no.* 1, 55–66 (F. R. McMorris) **52** #8298 20M10

Hamilton, J. D. (*with* Amir-Moéz, Ali R.) Art and mathematics of string figures. *J. Recreational Math.* **7** (1974), *no.* 1, 23–34. (M. P. Closs) **55** #12377 00A05

(*with* Amir-Moéz, Ali R.) Hippocrates (*Ippokraths*). *J. Recreational Math.* **7** (1974), *no.* 2, 105–107. (Phillip S. Jones) **56** #2722 01A20 (50B05)

(*with* Amir-Moéz, Ali R.) A generalized parallelogram law. *Math. Mag.* **49** (1976), *no.* 2, 88–89. (J. F. Rigby) **52** #15216 50B10

(*with* Meyer, Harold D.) Finite element solutions for steady state visco-plastic flow. *SIAM J. Numer. Anal.* **13** (1976), *no.* 6, 940–943. (David F. Griffiths) **55** #1918 73.65

Hamilton, J. Dwayne The uniformly accelerated reference frame. *Amer. J. Phys.* **46** (1978), *no.* 1, 83–89. (Mineo Ikeda) **57** #15223 83.53

Hamilton, J. F. *See* **Stochastic point processes: statistical analysis, theory, and applications**, **48** #10008

Hamilton, James (*with* Adler, Andrew) Invariant means via the ultrapower. *Math. Ann.* **202** (1973), 71–76. (R. B. Kirk) **48** #2664 43A07 (02H20)

Differential equations for long-period gravity waves on fluid of rapidly varying depth. *J. Fluid Mech.* **83** (1977), *no.* 2, 289–310. (Y. Kato) **57** #2106 76.35

Hamilton, John David Remarks on some theorems about positive solutions. *Proceedings of a Seminar on Applications of Differential Equations to Mechanics and Physics* (*Texas Tech Univ., Lubbock, Tex.*, 1972), 75–82. *Math. Ser., No.* 10, *Texas Press, Texas Tech Univ., Lubbock, Tex.*, 1972. (S. Kutateladze) **50** #14390 47H10

Noncompact mappings and cones in Banach spaces. *Arch. Rational Mech. Anal.* **48** (1972), 153–162. (Norman Dancer) **49** #5955 47H10

Hamilton, Margaret (*with* Zeldin, Saydean) Higher order software techniques applied to a space shuttle prototype program. *Programming Symposium* (*Proc. Colloq. Programmation, Paris*, 1974), *pp.* 17–32. *Lecture Notes in Comput. Sci., Vol.* 19, *Springer, Berlin*, 1974. (T. Rus) **55** #7003 68A50

(*with* Zeldin, Saydean) Higher order software–a methodology for defining software. *IEEE Trans. Software Engrg.* **SE-2** (1976), *no.* 1, 9–32. (Robert Wagner) **53** #12057 68A05

Hamilton, Martin A. The stochastic approximation approach to a discrimination problem. *Ann. Math. Statist.* **43** (1972), 1096–1109. (J. R. Blum) **47** #2764 62L20

Hamilton, Max *See* **Discussion: Papers by Professor Tversky and by Professor Suppes**, **52** #6803

Hamilton, Peggy M. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9427

Hamilton, R. A. H. (*with* Srivastava, G. P.) Complementary variational principles. *Phys. Rep.* **38C** (1978), *no.* 1, 1–83. (From the introduction) **58** #20032 81.49

Hamilton, Richard S. Regularity theorems for partial differential operators. *J. Differential Geometry* **5** (1971), 39–58. (From the author's introduction) **54** #3750 58D15 (58G99)

★Harmonic maps of manifolds with boundary. Lecture Notes in Mathematics, Vol. 471. *Springer-Verlag, Berlin-New York*, 1975. i+168 *pp*. (Jean-Claude Mitteau) **58** #2872 58E99 (35J60, 58D15)

Deformation of complex structures on manifolds with boundary. I. The stable case. *J. Differential Geometry* **12** (1977), *no*. 1, 1–45. (R. Michael Range) **57** #16701 32G05

Hamilton, Wallace L. (*with* Mertens, John R., Jr.) Reproduction in tessellation structures. *J. Comput. System Sci*. **10** (1975), 248–252. (Robert M. Baer) **51** #14651 68A25

Hamilton, William O. *See* **Relativity**, **49** #4510

Hamilton, William Rowan *See* **van der Waerden, B. L.**, **54** #4896; **Fogelin, Robert J.**, **54** #4908 (E **55** #12423) ; **van der Waerden, B. L.**, **57** #5610; **Mathews, Jerold**, **58** #68; **Buchheim, Wolfgang**, **58** #4873; **Krotkova, N. G.**, **58** #21216 *and* **McConnell, A. J.**, **58** #27027

Hamišon, A. Z. Semigroups of multivalued transformations that determine topological spaces. (Russian) *Ukrain. Mat. Ž*. **24** (1972), 800–806, 861. (Carroll O. Wilde) **47** #2570 54H15

Semigroups of multivalued continuous transformations that determine topological spaces. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1973**, *no*. 5, 10–16, 135. (E. Halfar) **50** #8425 54C35

Continuous semigroups of multivalued transformations. (Russian) *Ukrain. Mat. Ž*. **26** (1974), 775–783, 862. (K. Sieklucki) **50** #14652 54C60 (54H15)

Hamitov, M. H. (*with* Nurekenov, T. K.) The existence of ω-periodic solutions of countable systems of differential equations. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh*. **2** (1971), 39–43, 339. (Authors' summary) **56** #12479 34G05

(*with* Nurekenov, T. K.) The existence of ω-periodic solutions of countable systems of differential equations. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no*. 3, 69–70. (A. Halanay) **45** #3856 34C25

(*with* Nurekenov, T. K.) The existence of ω-periodic solutions of ordinary differential equations in a Banach space. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1972**, *no*. 1, 72–74. (G. S. Ladde) **46** #3942 34G05

The existence of non-negative periodic solutions of countable systems of differential equations. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1972**, *no*. 1, 81–84. (G. S. Ladde) **46** #3938 34G05

Hamlen, William A. The quasi-optimal price of undepletable externalities. *Bell J. Econom*. **8** (1977), *no*. 1, 324–334. (M. B. Suryanarayana) **58** #9135 90A15 (90D35)

Hamlet, Richard G. Testing programs with finite sets of data. *Comput. J*. **20** (1977), *no*. 3, 232–237. (Guy Vidal-Naquet) **56** #7294 68A05

Execution traces and programming-language semantics. *Internat. J. Comput. Information Sci*. **6** (1977), *no*. 4, 263–278. (Leon Levy) **57** #11153 68A05 (68A30)

Syntax and semantics of universal programming languages. *Internat. J. Comput. Math*. **6** (1977/78), *no*. 2, 87–103. (Stephen Itoga) **57** #11154 68A05

Hamlett, T. R. (*with* Long, Paul E.) H-continuous functions. (Italian summary) *Boll. Un. Mat. Ital*. (4) **11** (1975), *no*. 3, 552–558. (E. Halfar) **52** #4217 54C05

Compact maps, connected maps and continuity. *J. London Math. Soc*. (2) **10** (1975), 25–26. (G. S. Ungar) **51** #1712 54C10

Cluster sets in general topology. *J. London Math. Soc*. (2) **12** (1975/76), *no*. 2, 192–198. (M. L. Marx) **52** #9148 54A20

Necessary and sufficient conditions for a linear functional to be continuous. *Kyungpook Math. J*. **15** (1975), *no*. 2, 237–239. (H. Jarchow) **53** #1210 46A15

A correction to the paper: "Semi-open sets and semi-continuity in topological spaces" (Amer. Math. Monthly **70** (1963), 36–41) by Norman Levine. *Proc. Amer. Math. Soc*. **49** (1975), 458–460. (Roland E. Larson) **51** #4130 54A10

(*with* Long, Paul E.) Inverse cluster sets. *Proc. Amer. Math. Soc*. **53** (1975), *no*. 2, 470–476. (R. F. Dickman, Jr.) **52** #9149 54A20 (54C10)

Applications of cluster sets in minimal topological spaces. *Proc. Amer. Math. Soc*. **53** (1975), *no*. 2, 477–480. (R. F. Dickman, Jr.) **52** #9179 54D25 (54C10)

Partial cluster sets in general topology. (Italian summary) *Boll. Un. Mat. Ital*. (5) **13A** (1976), *no*. 1, 126–129. (C. L. Belna) **54** #7784 30A72 (54C10, 30A90)

The at worst removable discontinuities of functions and cluster sets. *Math. Chronicle* **4** (1976), *no*. 2-3, 94–100. (Edwin Duda) **53** #6485 54C05 (30A72)

Semi-continuous functions. *Math. Chronicle* **4** (1976), *no*. 2-3, 101–107. (P. W. Harley, III) **54** #1163 54C99

The property of being a Baire space is semi-topological. *Math. Chronicle* **5** (1976/77), *no*. 3, 166–167. (David C. Wilson) **56** #16563 54C50

Conditions implying continuity of functions in topological spaces. *Math. Chronicle* **5** (1976/77), *no*. 3, 179–185. (Roman Frič) **57** #4073 54C05

Some approaches to cluster sets in general topology. *Kyungpook Math. J*. **17** (1977), *no*. 1, 85–89. (M. L. Marx) **56** #9469 54A20

Hamm, Helmut A. Topology of isolated singularities of complex spaces. *Proceedings of Liverpool Singularities Symposium, II* (1969/1970), 213–217. *Lecture Notes in Math., Vol.* 209, *Springer, Berlin*, 1971. (K. Lamotke) **49** #3203 32C40

Exotische Sphären als Umgebungsränder in speziellen komplexen Räumen. *Math. Ann*. **197** (1972), 44–56. (K. Lamotke) **47** #2625 32C40

(*with* Lê Dũng Tráng) Un théorème de Zariski du type de Lefschetz. *Ann. Sci. École Norm. Sup*. (4) **6** (1973), 317–355. (Richard Randell) **53** #5582 14B05 (32C40)

Ein Beispiel zur Berechnung der Picard-Lefschetz-Monodromie für nichtisolierte Hyperflächensingularitäten. *Math. Ann*. **214** (1975), 221–234. (A. H. Wallace) **53** #862 32C40 (14D05)

Remarks on asymptotic integrals, the polynomial of I. N. Bernstein and the Picard-Lefschetz monodromy. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass*., 1975), *pp*. 31–35. *Amer. Math. Soc., Providence, R.I*., 1977. (Editors) **58** #28653 32C40 (14D05)

The genus χ_y of quasihomogeneous complete intersections. (Russian) *Funkcional. Anal. i Priložen*. **11** (1977), *no*. 1, 87–88. (P. Orlik) **57** #12511 14D05

Hammack, Joseph L. (*with* Segur, Harvey) The Korteweg-de Vries equation and water waves. II. Comparison with experiments. *J. Fluid Mech*. **65** (1974), 289–313. (J. W. Miles) **51** #2446 76.35

(*with* Segur, Harvey) The Korteweg-de Vries equation and water waves. III. Oscillatory waves. *J. Fluid Mech*. **84** (1978), *no*. 2, 337–358. (W. Michael Lai) **58** #19706 76.35

Hammad, Pierre Le rôle de l'énergie libre pour des systèmes régis par l'équation de Fokker-Planck. (English summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **25** (1976), *no*. 2, 183–196. (Ian Lerche) **54** #9538 82.49

Information dans les systèmes à caractère Markovien. *Publ. Économétriques* 9 (1976), *no*. 2, 67–91, 131. (S. Guiaşu) **55** #2356 94A15

Hammarling, Sven A note on modifications to the Givens plane rotation. *J. Inst. Math. Appl*. **13** (1974), 215–218. (N. N. Abdelmalek) **49** #8309 65F25

van Hamme, L. Sur une généralisation de l'indicateur d'Euler. *Acad. Roy. Belg. Bull. Cl. Sci*. (5) **57** (1971), 805–817. (J. B. Kelly) **46** #1739 10K20

Hammel, John *See* **Nicolescu, Lilly Jeanne; et al.**, **50** #6700; **Nicolescu, Lilly Jeanne; et al.**, **52** #10290; **Teodorescu, P. P.**, **52** #12489; **Kecs, Wilhelm; et al.**, **52** #12497; **Dragoş, Lazăr**, **52** #12507 *and* **Maliţa, Mircea; et al.**, **53** #2296

Hammel, William C. An exact spherically symmetric local solution in a class of "strong" and "weak" two-tensor gravity theories. *J. Mathematical Phys*. **16** (1975), *no*. 10, 2114–2122. (J. Blackman) **52** #12698 83.53

Strong and weak gravity: a class of generally covariant mixing models of spin-2 neutral fields: linearization. (Italian summary) *Nuovo Cimento B* (11) **25** (1975), 757–785. (Author's summary.) **52** #4924 83.53

(*with* Lubkin, Elihu) Strong and weak gravity: a context for unbiased birefringence (Italian and Russian summaries) *Nuovo Cimento B* (11) **26** (1975), 377–395. (C. J. Isham) **51** #12270 83.53

Hammer, Amnon (*with* Shichor, Eliahu) An equivalence between two error criteria. *IEEE Trans. Information Theory* **IT-21** (1975), *no*. 6, 702–703. (R. L. Kashyap) **52** #16838 94A05 (68A45)

Hammer, C. L. (*with* Tucker, R. H.) New quantum electrodynamics for vector mesons. *Phys. Rev. D* (3) **3** (1971), 2448–2460. (P. Achuthan) **48** #10355 81.35

(*with* DeFacio, Brian) Remarks on the Klauder phenomenon. *J. Mathematical Phys*. **15** (1974), 1071–1077. (Jean Michel Combes) **50** #9239 81.47

(*with* DeFacio, Brian) Bilinear quantum field theories and their coherent states. *J. Mathematical Phys*. **17** (1976), *no*. 2, 267–281. (Jorge André Swieca) **52** #12612 81.47

(*with* Weber, T. A.) Wavepacket scattering in potential theory. *J. Mathematical Phys*. **18** (1977), *no*. 8, 1562–1567. (F. C. Auluck) **55** #14006 81.35

(*with* DeFacio, Brian) Uniqueness connection between charge conjugation and statistics. *J. Mathematical Phys*. **19** (1978), *no*. 1, 103–108. (James Fabrey) **57** #11483 81.47

(*with* Shrauner, J. E.; DeFacio, Brian) Path-integral representation for the S matrix. *Phys. Rev. D* (3) **18** (1978), *no*. 2, 373–384. (Authors' summary) **58** #20006 81.47

Hammer, Douglas I. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9427

Hammer, Esther *See* **Selbstzeugnisse von Johannes Kepler**, **51** #10005

Hammer, Franz Die Astrologie des Johannes Kepler. *Sudhoffs Arch*. **55** (1971), 113–135. (V. E. Thoren) **57** #5589 01A45

See also **Selbstzeugnisse von Johannes Kepler**, **51** #10005

Hammer, Joseph Volume-surface area relations for n-dimensional lattices. *Math. Z*. **123** (1971), 219–222. (H. Hadwiger) **45** #4280 52A40

(*with* Dwyer, Denis) On sequences of lattice packings. *Bull. Austral. Math. Soc*. **15** (1976), *no*. 1, 133–139. (J. Bokowski) **55** #12646 10E30

(*with* Elkington, Gordon Bradley) Lattice points in a convex set of given width. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no*. 4, 504–507. (G. T. Sallee) **54** #3594 52A40 (10E05)

★Unsolved problems concerning lattice points. Research Notes in Mathematics, No. 15. *Pitman, London-San Francisco, Calif.-Melbourne*, 1977. v+101 *pp*. *ISBN* 0-273-01103-0 (J. M. Wills) **56** #16515 52A40 (10E05, 10J25)

(*with* Levingston, Richard; Seberry, Jennifer) A remark on the excess of Hadamard matrices and orthogonal designs. *Ars Combin*. **5** (1978), 237–254. (Peter Eades) **58** #10505 05B20

Hammer, Michael A new grammatical transformation into $LL(k)$ form. *Sixth Annual ACM Symposium on Theory of Computing* (*Seattle, Wash*., 1974), *pp*. 266–275. *Assoc. Comput. Mach., New York*, 1974. (R. E. Stearns) **54** #4198 68A30

Hammer, Peter L. Communication on: "The bottleneck transportation problem" and "Some remarks on the time transportation problem". *Naval Res. Logist. Quart*. **18** (1971), 487–490. (K. Hinderer) **46** #8668 90C50

(*with* Rosenberg, Ivo G.) Equivalent forms of zero-one programs. *Applications of number theory to numerical analysis* (*Proc. Sympos., Univ. Montreal, Montreal, Que*., 1971), *pp*. 453–463. *Academic Press, New York*, 1972. (K. G. Murty) **53** #7463 90C10

(*with* Ettinger, Alexander) Pseudo-Boolean programming with random coefficients. *Cahiers Centre Études Recherche Opér*. **14** (1972), 67–82. (M. Stoica) **48** #3492 90C15

(*with* Peled, Uri N.) On the maximization of a pseudo-Boolean function. *J. Assoc. Comput. Mach*. **19** (1972), 265–282. (G. Berman) **47** #8109 90C10

BABO—A Boolean approach for bivalent optimization. *Optimization and design* (*Internat. Summer School Impact of Optimization Theory on Technological Design, Louvain*, 1971), 473–489. *Prentice-Hall, Englewood Cliffs, N.J*., 1973. (G. Berman) **50** #12237 90C10

Boolean procedures for bivalent programming. *Mathematical programming in theory and practice* (*Proc. NATO Adv. Study Inst., Figueira da Foz*, 1972), *pp*. 311–363. *North-Holland, Amsterdam*, 1974. (F. Giannessi) **57** #18817 90C10 (94A20)

(*with* Rosenberg, Ivo G.) Linear decomposition of a positive group-Boolean function. *Numerische Methoden bei Optimierungsaufgaben, Band* 2 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1973), *pp*. 51–62. *Internat. Schriftenreihe Numer. Math., Band* 23, *Birkhäuser, Basel*, 1974. (K. A. Baker) **56** #15521 06A40

(*with* Johnson, Ellis L.; Peled, Uri N.) Regular 0-1 programs. Colloque sur la Programmation Mathématique (Brussels, 1974). *Cahiers Centre Études Recherche Oper*. **16** (1974), 267–276. (Authors' summary) **56** #10976 90C30

(*with* Granot, Frieda) On the role of generalized covering problems. Colloque sur la Programmation Mathématique (Brussels, 1974). *Cahiers Centre Études Recherche Opér*. **16** (1974), 277–289. (Authors' summary) **56** #14718 90C30 (*with* Bradley, Gordon H.; Wolsey, Laurence A.) Coefficient reduction for equalities in 0-1 variables. *Math. Programming* **7** (1974), 263–282. (Neal Glassman) 1 #4992 90C10

A note on the monotonicity of pseudo-Boolean functions. *Z. Operations Res. Ser. -B* **18** (1974), A47–A50. (Koriolan Gilezan) **55** #12071 90C10

Boolean elements in combinatorial optimization. *Combinatorial programming: ethods and applications* (*Proc. NATO Advanced Study Inst., Versailles*, 1974), 67–92. *ATO Advanced Study Inst. Ser., Ser. C: Math. and Phys. Sci., Vol.* 19, *Reidel, ordrecht*, 1975. (Kailash C. Kapur) **52** #16605 90C10 (94A20)

(*with* Padberg, Manfred W.; Peled, Uri N.) Constraint pairing in integer rogramming. (French summary) *INFOR—Canad. J. Operational Res. and Information rocessing* **13** (1975), 68–81. (Csaba Fabian) **50** #12238 90C10

(*with* Johnson, Ellis L.; Peled, Uri N.) Facets of regular 0−1 polytopes. *Math. rogramming* **8** (1975), 179–206. (Csaba Fabian) **52** #5005 90C10

Boolean procedures in optimization. *Symposia Mathematica, Vol. XIX* (*Convegno ulla Programmazione Matematica e sue Applicazioni, INDAM, Roma*, 1974), *pp.* 03–121. *Academic Press, London*, 1976. (Koriolan Gilezan) **55** #12072 90C10

(*with* Nguyen, Sang) APOSS. A partial order in the solution space of bivalent rograms. *Modern trends in cybernetics and systems* (*Proc. Third Internat. Congr., ucharest*, 1975), *Vol. I, pp.* 869–883. *Springer, Berlin*, 1977. (G. Šerkšnys) **57** #15430 0C10

Pseudo-Boolean remarks on balanced graphs. *Numerische Methoden bei ptimierungsaufgaben, Band* 3 (*Tagung, Oberwolfach*, 1976), *pp.* 69–78. *Internat. Ser. umer. Math., Vol.* 36, *Birkhäuser, Basel*, 1977. (S. Rudeanu) **57** #5833 05C99

(*with* Földes, Stéphane) Split graphs. *Proceedings of the Eighth Southeastern onference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton ouge, La.*, 1977), *pp.* 311–315. *Congressus Numerantium, No. XIX, Utilitas Math., innipeg, Man.*, 1977. (Authors' summary) **58** #21844 05C99

(*with* Chvátal, Václav) Aggregation of inequalities in integer programming. *Studies n integer programming* (*Proc. Workshop, Bonn*, 1975), *pp.* 145–162. *Ann. of Discrete ath., Vol.* 1, *North-Holland, Amsterdam*, 1977. (Csaba Fabian) **57** #18814 90C10

(*with* Peled, Uri N.; Sorensen, St.) Pseudo-Boolean functions and game theory. I. ore elements and Shapley value. *Cahiers Centre Études Recherche Opér.* **19** (1977), *no.* -2, 159–176. (S. Brent Morris) **56** #4866 90D10

(*with* Földes, Stéphane) Split graphs having Dilworth number two. *Canad. J. Math.* **29** (1977), *no.* 3, 666–672. (M. Las Vergnas) **57** #3005 05C99

(*with* Johnson, Ellis L.; Peled, Uri N.) The role of master polytopes in the unit ube. *SIAM J. Appl. Math.* **32** (1977), *no.* 4, 711–716. (F. Giannessi) **58** #9234 90C10 (90C25)

(*with* Benzaken, C.) Linear separation of dominating sets in graphs. Advances in graph theory (Cambridge Combinatorial Conf., Trinity College, Cambridge, 1977). *Ann. Discrete Math.* **3** (1978), 1–10. (M. C. Golumbic) **58** #10603 05C99

See also **Operational Research**, **49** #12059; **Narihisa, Hiroyuki**, **54** #9654; **Studies in integer programming**, **56** #2376 *and* **Mathematical programming in theory and practice**, **57** #2461

mer, Preston C. Mind pollution. *Cybernetica* **14** (1971), 5–19. (G. Kropp) **48** #5791 00A25

(*with* Jones, Richard M.) Connected sets: Bases and metrics. *Math. Systems Theory* **5** (1971), 281–288. (Roman Duda) **45** #5966 54D05

mer, Roswitha Eine kategorielle Charakterisierung von Familien konvexer Mengen. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 92–104. (W. J. Firey) **54** #3583 52A20

Konvexitätsraum und affiner Raum. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 105–111. (C. M. Petty) **52** #1520 52A05

Beziehungen zwischen den Sätzen von Radon, Helly und Caratheodory bei axiomatischen Konvexitäten. *Abh. Math. Sem. Univ. Hamburg* **46** (1977), 3–24. (Benno Fuchssteiner) **58** #18165 52A50

nmerer, Norbert (*with* Hofmeister, Gerd) Zu einer Vermutung von Rohrbach. *J. Reine Angew. Math.* **286/287** (1976), 239–247. (A. R. Freedman) **54** #10181 10L05

nmerlin, G. Eine Fehlerabschätzung für die Approximation analytischer Funktionen durch Splines. *Numerische Methoden bei Differentialgleichungen und mit funktionalanalytischen Hilfsmitteln* (*Tagungen, Clausthal-Zellerfeld und Oberwolfach*, 1972), *pp.* 113–120. *Internat. Schriftenreihe Numer. Math., Band* 19, *Birkhäuser, Basel*, 1974. (L. L. Schumaker) **53** #8727 41A15 (30A82)

See also **Numerische Behandlung von Differentialgleichungen mit besonderer Berücksichtigung freier Randwertaufgaben**, **57** #10988

nmerlin, Günther Fehlerabschätzung bei numerischer Integration nach Gauss. (English summary) *Methoden und Verfahren der mathematischen Physik, Band* 6, 153–163. *B. I.-Hochschultaschenbücher, No.* 725, *Bibliographisches Inst., Mannheim*, 1972. (Author's summary) **50** #11732 65D30

(*with* Richert, Walter R.) Zur Fehlerabschätzung von Näherungslösungen für spezielle nichtlineare Eigenwertaufgaben. *Beiträge Numer. Math.* **4** (1975), 95–104. (M. Lotkin) **56** #4150 65J05

Zur numerischen Behandlung von homogenen Fredholmschen Integralgleichungen 2. Art mit Splines. (English summary) *Spline functions* (*Proc. Internat. Sympos., Karlsruhe*, 1975), *pp.* 92–98. *Lecture Notes in Math., Vol.* 501. *Springer, Berlin*, 1976. (Author's summary) **58** #8402 65R05 (65D05)

See also **Numerische Behandlung von Differentialgleichungen**, **50** #15344

mmerling, Leo Beweis einer kombinatorischen Identitätmittels vollständiger Induktion. *Math.-Phys. Semesterber.* **23** (1976), *no.* 1, 136–137. (Author's introduction) **54** #10036 05A19

mmers, William D. (*with* Long, Paul E.) Certain non-continuous retract functions. *Math. Chronicle* **4** (1976), *no.* 2-3, 122–140. (D. E. Sanderson) **53** #14392 54C15

Left invertible spaces. *Math. Chronicle* **5** (1976), *no.* 1-2, 70–78. (Patrick H. Doyle) **54** #11267 54C10

mmersley, J. M. A few seedlings of research. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. I: Theory of statistics, pp.* 345–394. *Univ. California Press, Berkeley, Calif.*, 1972. (George Marsaglia) **53** #9457 62E20

(*with* Grimmett, Geoffrey) Maximal solutions of the generalized subadditive inequality. *Stochastic geometry* (*a tribute to the memory of Rollo Davidson*), 270–284. *Wiley, London*, 1974. (John Haigh) **51** #9142 60C05

Postulates for subadditive processes. *Ann. Probability* **2** (1974), 652–680. (H. Kesten) **51** #6947 60G10 (60F05, 60J80)

Some speculations on a sense of nicely calculated chances. *SIAM Rev.* **16** (1974), 237–255. (Z. Šidák) **50** #9029 68–02

The design of future computing machinery for functional integration. *Functional integration and its applications* (*Proc. Internat. Conf., London*, 1974), *pp.* 83–86. *Clarendon Press, Oxford*, 1975. (Editors) **57** #11982 00A05 (65–XX)

Rumination on infinite Markov systems. *Perspectives in probability and statistics* (*papers in honour of M. S. Bartlett on the occasion of his 65th birthday*), *pp.* 195–200. *Applied Probability Trust, Univ. Sheffield, Sheffield*, 1975. (Donald A. Dawson) **53** #14724 60K35

(*with* Lewis, J. W. E.; Rowlinson, J. S.) Relationships between the multinomial and Poisson models of stochastic processes, and between the canonical and grand canonical ensembles in statistical mechanics, with illustrations and Monte Carlo methods for the penetrable sphere model of liquid-vapour equilibrium. *Sankhyā Ser. A* **37** (1975), *no.* 4, 457–491. (Authors' summary) **57** #4370 60K35 (65C05, 82.60)

See also **Kingman, J. F. C.**, **50** #8663 *and* **Besag, Julian**, **51** #9409

Hamming, R. W. ★Численные методы для научных работников и инженеров. (Russian) [Numerical methods for scientists and engineers] Translated from the English by V. L. Arlazarov, G. S. Razina and A. V. Uskov. Edited by R. S. Guter. Second edition, revised. *Izdat. "Nauka", Moscow*, 1972. 400 *pp.* (Editors) **50** #6093 65–01

★Computers and society. McGraw-Hill Computer Science Series. *McGraw-Hill Book Co., New York-Düsseldorf-Johannesburg*, 1972. x+284 *pp.* (Editors) **53** #12048 68–01

(*with* Epstein, M. P.) Noninterpolatory quadrature formulas. *SIAM J. Numer. Anal.* **9** (1972), 464 -475. (D. F. Mayers) **47** #2795 65D30 (41A55)

★Numerical methods for scientists and engineers. Second edition. International Series in Pure and Applied Mathematics. *McGraw-Hill Book Co., New York-Düsseldorf-Johannesburg*, 1973. x+721 *pp.* (Editors) **50** #3514 65–01

The frequency approach to numerical analysis. *Studies in numerical analysis* (*papers in honour of Cornelius Lanczos on the occasion of his* 80*th birthday*), *pp.* 151–175. *Academic Press, London*, 1974. (Hannah Chen) **58** #8131 65–02 (65Dxx)

See also **Algebraic coding theory: history and development**, **51** #9958 *and* **Key papers in the development of coding theory**, **52** #5176

Hammond, C. E. (*with* Friedmann, P.; Woo, Tze Hsin) Efficient numerical treatment of periodic systems with application to stability problems. *Internat. J. Numer. Methods Engrg.* **11** (1977), *no.* 7, 1117–1136. (A. R. Gourlay) **57** #11890 93D05

Hammond, J. K. Evolutionary spectra in random vibrations. With comments by M. S. Bartlett, A. M. Walker, T. Subba Rao, M. D. Godfrey, W. D. Ray, H. E. Daniels, J. Durbin, and a reply by M. B. Priestly and H. Tong and by J. K. Hammond. *J. Roy. Statist. Soc. Ser. B* **35** (1973), 167–179, 179–188. (T. Pitcher) **49** #1718 62M15

See also **Priestley, M. B.; et al.**, **49** #1719 *and* **Stochastic problems in dynamics**, **57** #2702

Hammond, Peter Roth's method for the solution of boundary-value problems in electrical engineering. *Proc. Inst. Elec. Engrs.* **114** (1967), 1969–1976. (A. Ishimaru) **46** #6719 78.35

(*with* Smith, D. H.) Perfect codes in the graphs O_k. *J. Combinatorial Theory Ser. B* **19** (1975), *no.* 3, 239–255. (Norman Biggs) **54** #2539 05C99 (94A10)

(*with* Smith, D. H.) An analogue of Lloyd's theorem for completely regular codes. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), 261–267. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (Norman Biggs) **52** #13504 05C99 (94A10)

Nearly perfect codes in distance-regular graphs. *Discrete Math.* **14** (1976), *no.* 1, 41–56. (Norman Biggs) **54** #2540 94A10 (05C99)

Equilibrium and duality in electromagnetic field problems. *J. Franklin Inst.* **306** (1978), *no.* 2, 133–157. (Vadim Komkov) **58** #25410 78.49

q-coverings and completely regular codes in distance-regular graphs. *Quart. J. Math. Oxford Ser.* (2) **29** (1978), *no.* 113, 23–30. (From the introduction) **57** #19072 94A10 (05C99)

Hammond, Peter J. A note on extreme inequality aversion. *J. Econom. Theory* **11** (1975), *no.* 3, 465–467. (D. Rosenblatt) **53** #4913 90A10

Equity, Arrow's conditions, and Rawls' difference principle. *Econometrica* **44** (1976), *no.* 4, 793–804. (Anjan Mukherji) **58** #9114 90A05 (92A20)

Endogenous tastes and stable long-run choice. *J. Econom. Theory* **13** (1976), *no.* 2, 329–340. (Ryuzo Sate) **55** #14079 90A05

(*with* Burmeister, Edwin) Maximin paths of heterogeneous capital accumulation and the instability of paradoxical steady states. *Econometrica* **45** (1977), *no.* 4, 853–870. (Zbl **364** #90036) **58** #32856 90A15

Hammond, William F. The Hilbert modular surface of a real quadratic field. *Math. Ann.* **200** (1973), 25–45. (Don Zagier) **49** #2758 14J25

(*with* Hirzebruch, F.) *L*-series, modular imbeddings, and signatures. *Math. Ann.* **204** (1973), 263–270. (K.-B. Gundlach) **51** #10238 10D20 (14D20)

Chern numbers of 2-dimensional Satake compactifications. *J. London Math. Soc.* (2) **14** (1976), *no.* 1, 65–70. (G. van der Geer) **55** #3344 32N05 (32J05)

The two actions of Hilbert's modular group. *Amer. J. Math.* **99** (1977), *no.* 2, 389–392. (K.-B. Gundlach) **55** #10395 10D20

moussa-Hamouda, Effat *See* **Moussa-Hamouda, Effat**

Hamov, G. G. The number of solutions of certain indeterminate Diophantine equations. (Russian) Questions of modern mathematics and methods of teaching it at institutions of higher learning. *Leningrad. Gos. Ped. Inst. Učen. Zap.* **404** (1971), 285–297. (J. S. Joel) **55** #10384 10B45 (10F30)

The approximation of algebraic numbers. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **464** (1971), *no.* 2, 178–201. (F. Schweiger) **45** #5085 10F25

The simultaneous approximation of algebraic numbers by algebraic numbers. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **464** (1971), *no.* 2, 202–213. (F. Schweiger) **45** #5086 10F10

The finiteness of the number of solutions of certain Diophantine equations with several unknowns. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **541** (1972), 209–219. (S. E. Schuur) **47** #129 10B15

See also **Hercen Lectures**, **47** #4749

Hampel, Frank R. A general qualitative definition of robustness. *Ann. Math. Statist.* **42** (1971), 1887–1896. (P. J. Huber) **46** #1013 62G35

(*with* Andrews, David F.; Bickel, Peter J.; Huber, Peter J.; Rogers, William H.; Tukey, John W.) ★Robust estimates of location: Survey and advances. *Princeton University Press, Princeton, N.J.*, 1972. ix+373 *pp.* (M. M. Siddiqui) **48** #9927 62F10 (62G35)

Robust estimation: a condensed partial survey. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **27** (1973), 87–104. (W. Hoeffing) **50** #11551 62–02 (62G35)

Some small sample asymptotics. *Proceedings of the Prague Symposium on Asymptotic Statistics* (*Charles Univ., Prague*, 1973), *Vol. II*, 109–126. *Charles Univ., Prague*, 1974. (Christian Hipp) **51** #9305 62E20

The influence curve and its role in robust estimation. *J. Amer. Statist. Assoc.* **69** (1974), 383–393. (H. E. Reinhardt) **50** #15097 62F10

Beyond location parameters: robust concepts and methods. (French summary) With discussion. Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 1. Invited papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 1, 375–382, 383–391 (1976). (V. J. Yohai) **58** #3190 62G35

Hampl, Miloslav *See* **Polášek, Jan, 50** #9508; **Obituary: Hampl, Miloslav, 50** #9509; **Polášek, Jan, 50** #9510 *and* **Polášek, Jan, 58** #10210

Hampson, John K. (*with* Wilansky, Albert) Sequences in locally convex spaces. *Studia Math.* **45** (1973), 221–223. (S. O. Iyahen) **49** #3485 46A07

Duality theory with semibipolar spaces. *Duke Math. J.* **41** (1974), 155–159. (N. T. Peck) **52** #1237 46A15

Hampton, C. R. (*with* Passman, Donald S.) On the semisimplicity of group rings of solvable groups. *Trans. Amer. Math. Soc.* **173** (1972), 289–301. (S. K. Sehgal) **48** #2235 20C05

Hampton, Charles E. (*with* Cannon, John R.; Strauss, Monty J.) A fluid flow problem involving a pipe, and a porous medium. *Matematiche* (*Catania*) **30** (1975), *no.* 1, 43–54 (1976). (R. M. Gundersen) **55** #9708 76.45

Hamraev, K. (*with* Maksudov, F. G.) A solution of the mixed problem for a hyperbolic equation on the half line by the generalized Fourier method. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1970**, *no.* 6, 30–37. (J. Kopáček) **45** #7282 35L35 (47F05)

Solution of a mixed problem for a parabolic equation on the half line. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 2, 83–92. (V. Djurikovič) **45** #5585 35K20

Hamrick, Gary (*with* Ossa, Erich) Unitary bordism of monogenic groups and isometries. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts, Amherst, Mass.*, 1971), *Part I*, *pp.* 172–182. *Lecture Notes in Math.*, *Vol.* 298, *Springer, Berlin*, 1972. (P. S. Landweber) **50** #14807 57D85

(*with* Alexander, John P.; Vick, James W.) A construction for involutions on homotopy spheres. *Topology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.*, 1973), *pp.* 1–5. *Lecture Notes in Math.*, *Vol.* 375, *Springer, Berlin*, 1974. (R. K. Lashof) **51** #1849 57D60

(*with* Alexander, John P.; Vick, James W.) Bilinear forms and cyclic group actions. *Bull. Amer. Math. Soc.* **80** (1974), 730–734. (R. E. Stong) **49** #11545 57D85

(*with* Alexander, John P.; Conner, Pierre; Vick, James W.) Witt classes of integral representations of an abelian *p*-group. *Bull. Amer. Math. Soc.* **80** (1974), 1179–1182. (A. Dress) **52** #5782 20C10 (57D85)

(*with* Alexander, John P.; Vick, James W.) Involutions on homotopy spheres. *Invent. Math.* **24** (1974), 35–50. (R. K. Lashof) **49** #9857 57D85 (55C35, 57D60)

(*with* Alexander, John P.; Vick, James W.) Cobordism of manifolds with odd order normal bundle. *Invent. Math.* **24** (1974), 83–94. (R. K. Lashof) **49** #1533 57D90

(*with* Alexander, John P.; Vick, James W.) The signature of the fixed set of a map of odd period. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 327–331. (Louis H. Kauffman) **53** #11632 57D85

(*with* Alexander, John P.; Vick, James W.) Linking forms and maps of odd prime order. *Trans. Amer. Math. Soc.* **221** (1976), *no.* 1, 169–185. (R. E. Stong) **53** #6600 57E15 (57D85)

(*with* Alexander, John P.; Conner, Pierre) ★Odd order group actions and Witt classification of innerproducts. Lecture Notes in Mathematics, Vol. 625. *Springer-Verlag, Berlin-New York*, 1977. i+202 *pp.* *ISBN* 3-540-08528-9 (J. P. Levine) **58** #18509 57E30 (10C05, 15A63)

Hamstrom, Mary-Elizabeth Homotopy in homeomorphism spaces, TOP and PL. *Bull. Amer. Math. Soc.* **80** (1974), 207–230. (C. L. Seebeck, III) **48** #12581 57E05 (58D10)

Uniform PL approximations of isotopies and extending PL isotopies in low dimensions. *Advances in Math.* **19** (1976), *no.* 1, 6–18. (C. L. Seebeck, III) **52** #15488 57C55

Hamudhanov, M. Z. *See* **Dictionary: Automatic control, 57** #5552

Hamza, Abdelaziz M. Integrals involving Bessel polynomials. *Proc. Math. Phys. Soc. A.R.E. No.* 35 (1971), 9–15 (1973). (R. K. Gupta) **48** #8888 33A40

Integrals involving Bessel polynomials. *Riv. Mat. Univ. Parma* (3) **1** (1972), 41–46. (S. K. Chatterjea) **51** #5995 33A40

(*with* Ragab, F. M.) Integrals involving products of *E*-functions and Appell's functions. (Czech summary) *Časopis Pěst. Mat.* **99** (1974), 325–346, 410. (R. S. Dahiya) **50** #13651 33A35

(*with* Saxena, Ram Kishore) On some results involving Miejer's *G*-function and Bessel polynomials. (Arabic summary) *Libyan J. Sci.* **6B** (1976), 83–86. (C. L. Parihar) **56** #3375 33A35

(*with* Saxena, Ram Kishore) An integral associated with Bessel polynomials and the *H*-function. (Arabic summary) *Libyan J. Sci.* 7 (1977), *no.* B, 35–40. (Authors' summary) **58** #28723 33A35

Hamza, F. The third fundamental boundary value problem of the dynamics of a three-dimensional elastic body. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **69** (1973), 553–555. (P.P. Teodorescu) **49** #11917 73.35

A proof for the existence of a solution of the fourth fundamental problem of the dynamics of a three-dimensional elastic body, and its approximate computation. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **70** (1973), 37–39. (E. Lankau) **52** #2326 73.35

Hamza, M. H. (*with* Sheirah, M. A.) Polynomial extrapolation in sampled-data contro systems. *IEEE Trans. Automatic Control* **AC-16** (1971), 102–103. (Authors' summary **45** #8319 93C99

Optimale Steuerung einer Schlange von Fahrzeugen mittels mathematischer Programmierung. *Regelungstech. Prozess-Datenverarbeit.* **20** (1972), *no.* 7, 310–312 (From the author's summary) **53** #7499 90C50

(*with* Sheirah, M. A.) On-line identification of distributed parameter systems. (French, German and Russian summaries) *Automatica—J. IFAC* **9** (1973), 689–698 (Authors' summary) **58** #4500 93B30 (93C20)

(*with* Rasmy, M. E.) Optimal control of distributed parameter systems with discrete constrained inputs. *Internat. J. Control* **20** (1974), 159–168. (R. N. P. Singh) **50** #306 49B25

(*with* Rasmy, M. E.) Minimum-effort time-optimal control of linear discrete systems. *Internat. J. Control* **21** (1975), 293–304. (Authors' summary) **56** #8123 93C55 (93C05)

(*with* Sheirah, M. A.) On-line state estimation for distributed parameter systems. *Automatic Control Theory Appl.* **5** (1977), *no.* 2, 41–47. (Arunabha Bagchi) **57** #5369 93E25

(*with* Rasmy, M. E.) Suboptimal control of minimum-time linear discrete systems. *Internat. J. Control* **25** (1977), *no.* 3, 361–373. (S. P. Bingulac) **56** #11280 93C55

(*with* Rasmy, M. E.) On Krasovskii's method for solving the continuous time-optimal control problem. *Internat. J. Systems Sci.* **8** (1977), *no.* 2, 185–200. (I. H Mufti) **56** #4974 93C45

See also **Proceedings: IFAC Symposium on the Control of Distributed Paramete Systems, 56** #17935a *and* **Proceedings: IFAC Symposium on the Control of Distributed Parameter Systems, 56** #17935b

čan Han′ *See* **Čan Han′**

do kong Han′ *See* **Do Kong Han′**

nguen suan Han *See* **Nguen Suan Han**

Han, Byung Ho Proof without employment of higher order predicate calculus of Maehara's ε-theorem. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 66–79 (1973). (K. Shirai) **54** #4933 02D99

Han, Chien Pai Regression estimation for bivariate normal distributions. *Ann. Inst. Statist Math.* **25** (1973), 335–344. (Author's summary) **48** #7483 62J05

Asymptotic distribution of discriminant function when covariance matrices are proportional and unknown. *Ann. Inst. Statist. Math.* **26** (1974), 127–133. **50** #3455 62H10

(*with* Lauer, G. N.) Power of Cochran's test in the Behrens-Fisher problem. *Technometrics* **16** (1974), 545–549. (D. Y. Huang) **51** #9310 62F05

Testing the equality of covariance matrices under intraclass correlation models. *Ann. Inst. Statist. Math.* **27** (1975), *no.* 2, 349–356. (Minoru Siotani) **52** #12216 62H15

(*with* Mead, Ronald; Bancroft, T. A.) Power of analysis of variance test procedures for incompletely specified fixed models. *Ann. Statist.* **3** (1975), *no.* 4, 797–808. (Emil Spjøtvoll) **51** #11848 62J10

Some relationships between noncentral chi-squared and normal distributions. *Biometrika* **62** (1975), 213–214. (Campbell B. Read) **51** #9297 62E15

(*with* Johnson, J. Peter; Bancroft, T. A.) A pooling methodology for regressions in prediction. (French summary) *Biometrics* **33** (1977), *no.* 1, 57–67. (H. Toutenberg) **56** #4063 62J05

(*with* Bancroft, T. A.) Inference based on conditional specification: a note and a bibliography. (French summary) *Internat. Statist. Rev.* **45** (1977), *no.* 2, 117–127. (Authors' summary) **58** #13463 62F05 (62F10, 62J05)

Han, Kuang Wei (*with* Tsay, Yih Tsong) Applications of the stability-equation method to linear systems. *J. Franklin Inst.* **300** (1975), *no.* 4, 243–264. **56** #14999 93D15

(*with* Tsay, Yih Tsong) A gradient approach to the determination of stability of limit cycles. *J. Franklin Inst.* **300** (1975), *no.* 5/6, 391–418. (Authors' summary) **58** #4547 93D15 (93C10)

(*with* Tsay, Yih Tsong) Stability-equation method for sampled-data systems. *J. Franklin Inst.* **301** (1976), *no.* 4, 335–356. (K. B. Datta) **53** #15505 93D99 (93C55)

★Nonlinear control systems. Some practical methods. *Academic Cultural Co., Santa Clara, Calif.-Taipei-Hong Kong*, 1977. vii+296 *pp.* (Editors) **57** #9147 93–01

(*with* Tsay, Yih Tsong) Stability equation method for control systems with lags and distributed-parameters. *J. Franklin Inst.* **303** (1977), *no.* 1, 29–51. (Guy Jumarie) **56** #2573 93D99 (93C20)

Han, M. Y. (*with* Biedenharn, L. C.) Gauge problem in quantum field theory. *Lett. Nuovo Cimento* (2) **2** (1971), 1110–1115. (R. L. Ingraham) **52** #16376 81.47

(*with* Biedenharn, L. C.) A two-component spherical factorization of the Klein-Gordon and Kramers equations. *Phys. Lett.* **36B** (1971), 475–476. (Z. Janković) **46** #8574 81.34

(*with* Biedenharn, L. C.; van Dam, H.) Comment on the paper entitled "On the Poincaré noninvariance of a recent alternative to the Dirac equation" (Lett. Nuovo Cimento (2) **4** (1972), 61–64) by R. N. Madan. *Lett. Nuovo Cimento* (2) **5** (1972), 967–968. (Kishin Mariwalla) **50** #12071b 81.47

(*with* Biedenharn, L. C.; van Dam, H.) Two-component alternative to Dirac's equation. *Phys. Rev. D* (3) **6** (1972), 500–519. (Authors' summary) **51** #9703 81.47

(*with* Biedenharn, L. C.; van Dam, H.) Generalization and interpretation of Dirac's positive-energy relativistic wave equation. *Phys. Rev. D* (3) **8** (1973), 1735–1746. (Authors' summary) **51** #12256 83.35

Han, Nian Guo Galaxies with ellipsoidal distribution cannot be stable. (Chinese) *Acta Phys. Sinica* **24** (1975), *no.* 1, 72–78. **56** #4701 85.35

Han, S. M. (*with* Nakagawa, Y.; Wu, S. T.) Magnetohydrodynamics of atmospheric transients. I. Basic results of two-dimensional plane analyses. *Astrophys. J.* **219** (1978), *no.* 1, *part* 1, 314–323. (Giulio Mattei) **56** #17505a 78.35

(*with* Wu, S. T.; Dryer, M.; Nakagawa, Y.) Magnetohydrodynamics of atmospheric transients. II. Two-dimensional numerical results for a model solar corona. *Astrophys. J.* **219** (1978), *no.* 1, *part* 1, 324–335. (Giulio Mattei) **56** #17505b 78.35

Han, Shih Ping Superlinearly convergent variable metric algorithms for general nonlinear programming problems. *Math. Programming* **11** (1976/77), *no.* 3, 263–282. (H. Schwetlick) **58** #3441 65K05 (90C30)

A globally convergent method for nonlinear programming. *J. Optimization Theory* *pl.* **22** (1977), *no.* 3, 297–309. (Albert Buckley) **56** #14721 90C30

Dual variable metric algorithms for constrained optimization. *SIAM J. Control* *timization* **15** (1977), *no.* 4, 546–565. (Barry Kort) **56** #17827 90C30

Te Sun Linear dependence structure of the entropy space. *Information and Control* (1975), *no.* 4, 337–368. (Author's summary) **56** #11531 94A15

Lattice-theoretic formulation of multifactor interactions and minimality of ll-symmetric decomposition of χ^2-statistics. *Rep. Statist. Appl. Res. Un. Japan. Sci.* *grs.* **24** (1977), *no.* 2, 1–12. (R. Pfaffenberger) **58** #31620 62J10

Nonnegative entropy measures of multivariate symmetric correlations. *Information* *d Control* **36** (1978), *no.* 2, 133–156. (Gordon Cook) **57** #4429 62H20 (94A15)

T'ien Min A numerical method for solving the initial value problems of stiff ordinary fferential equations. *Sci. Sinica* **19** (1976), *no.* 2, 180–198. (J. C. Butcher) **56** #10016 65L05

Y. W. (*with* Ramamoorthy, C. V.) Reliability and design aspects of digital bsystems with concurrent error detectors. *Reliability and fault tree analysis* (*Conf.*, *niv. California, Berkeley, Calif.*, 1974), *pp.* 733–765. *Soc. Indust. Appl. Math.*, *hiladelphia, Pa.*, 1975. (Sudhakar M. Reddy) **56** #11614 94A20

usa, Hideo (*with* Kobayashi, Hiroaki; Yoshikawa, Tsueneo) Pole assignability and ntrollability of decentralized control systems. (Japanese. English summary) *Systems* *d Control* **20** (1976), *no.* 10, 557–565. (Authors' summary) **58** #26241 93B05

(*with* Kobayashi, Hiroaki; Yoshikawa, Tsueneo) Controllability under ecentralized information structure. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 182–188. (P. E. Sarachik) **58** #15377 93B05

(*with* Kobayashi, Hiroaki; Yoshikawa, Tsueneo) Suboptimal control of ecentralized control systems. (Japanese. English summary) *Systems and Control* **22** 978), *no.* 3, 169–177. (Tohru Katayama) **58** #4580 93E20

fy, A. A. R. (*with* Seif, A. A.; Sakr, M. F.) Real-time least-squares estimation using ccessive integrations. *Information and Control* **36** (1978), *no.* 1, 42–55. (Ĭ. M. Stojanov) 7 #15720 93E25 (93B05, 93E10)

i, Hiromi (*with* Nishida, Toshio; Tahara, Akihiko) Optimal design for heterogeneous wo-server queue. *Tech. Rep. Osaka Univ.* **22** (1972), 295–301. (P. R. Milch) **50** #14989 60K25

k, Jan Simultaneous nondeterministic games. I. *Arch. Math.* (*Brno*) **5** (1969), 29–60. R. E. Stearns) **46** #8680 90D99

Simultaneous nondeterministic games. II. *Arch. Math.* (*Brno*) **6** (1970), 115–144 1971). (R. E. Stearns) **46** #8681 90D99

Simultaneous nondeterministic games. III. *Arch. Math.* (*Brno*) **7** (1971), 123–144. R. E. Stearns) **46** #8682 90D99

Game-theoretical approach to some modifications of generalized topologies. *eneral topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague* *opological Sympos.*, 1971), 173–179. *Academia, Prague*, 1972. (R. Telgársky) 2 #11809 54A05 (90D99)

On plain absolute equilibrium points in general non-ordered games withperfect nformation. I, II. *Arch. Math.* (*Brno*) **9** (1973), *no.* 4, 151–170; *ibid* 10 (1974), *no.* 1, –26 (1975). (Author's summary) **55** #10053 90D99

Equilibrium points of some games on oriented graphs. *Recent advances in graph* *theory* (*Proc. Second Czechoslovak Sympos.*, *Prague*, 1974), 239–248. *Academia, Prague*, 1975. (C. Berge) **52** #16687 90D40 (05C99)

amura, Eiichi (*with* Takagahara, Toshihide; Kubo, Ryogo) Stochastic models of intermediate state interaction in second order optical processes–transient response. *J. Phys. Soc. Japan* **43** (1977), *no.* 5, 1522–1532. (Authors' summary) **57** #2209 78.60

an, Maurice (*with* Kurtzberg, Jerome M.) A review of the placement and quadratic assignment problems. *SIAM Rev.* **14** (1972), 324–342. (A. D. Booth) **46** #4774 68A10

See also **Proceedings: Symposium on Large-Scale Networks**, **50** #15871

ani, Haim Truncated finite planes. *Combinatorics* (*Proc. Sympos. Pure Math., Vol. XIX, Univ. California, Los Angeles, Calif.*, 1968), 115–120. *Amer. Math. Soc., Providence, R.I.*, 1971. (M. Kimberley) **48** #132 05B30

(*with* Ray-Chaudhuri, Dijen K.; Wilson, Richard M.) On resolvable designs. *Discrete Math.* **3** (1972), 343–357. (W. D. Wallis) **46** #8857 05B05

On balanced incomplete block designs with blocks having five elements. *J. Combinatorial Theory Ser. A* **12** (1972), 184–201. (Jane W. Di Paola) **45** #6645 05B05

On transversal designs. *Combinatorics* (*Proc. NATO Advanced Study Inst.*, *Breukelen*, 1974), *Part* 1: *Theory of designs, finite geometry and coding theory*, *pp.* 42–52. *Math. Centre Tracts, No.* 55, *Math. Centrum, Amsterdam*, 1974. (Jennifer Seberry (Zbl **312** #05016)) **58** #5291 05B30

On resolvable balanced incomplete block designs. *J. Combinatorial Theory Ser. A* **17** (1974), 275–289. (H. B. Mann) **50** #6883 05B05

Balanced incomplete block designs and related designs. *Discrete Math.* **11** (1975), 255–369. (Judith Q. Longyear) **52** #2918 05B05

Resolvable designs. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Rome*, 1973), *Tomo II*, *pp.* 249–252. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (D. K. Ray-Chaudhuri) **58** #21676 05B05

A combinatorial identity. *Fibonacci Quart.* **14** (1976), *no.* 1, 49–51. (Daniel I. A. Cohen) **52** #13418 05A19

(*with* Brouwer, A. E.; Schrijver, Alexander) Group divisible designs with block-size four. *Discrete Math.* **20** (1977/78), *no.* 1, 1–10. (J. H. van Lint) **57** #5780 05B05

See also **Combinatorics**, **52** #7912

nani, Michael Z. An optimal evaluation of Boolean expressions in an on-line query system. *GI–6. Jahrestagung* (*Stuttgart*, 1976), *pp.* 211–220. *Informatik-Fachberichte, Band* 5, *Springer, Berlin*, 1976. (Clement T. Yu) **57** #2006 68A50 (94A30)

An optimal evaluation of Boolean expressions in an online query system. *Comm. ACM* **20** (1977), *no.* 5, 344–347. (K. H. V. Booth) **55** #9627 68A50

naoka, Tadahide Note on *c*-realcompact spaces and mappings. *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl.* **26** (1977/78), *no.* 2, 55–58. (A. R. Pears) **58** #2730 54D60 (54C10)

natani, Yoshito Calculability of the primitive recursive functionals of finite type over the natural numbers. *⊧ISILC Proof Theory Symposion* (*Proc. Internat. Summer Inst. and Logic Colloq., Kiel*, 1974), *pp.* 152–163. *Lecture Notes in Math., Vol.* 500, *Springer, Berlin*, 1975. (Michael Beeson) **53** #5273 02D99 (02C15)

Hanazawa, Masazumi A remark on ordered structures with unary predicates. *J. Math. Soc. Japan* **27** (1975), *no.* 3, 345–349. (A. B. Slomson) **52** #109 04A10 (02H05)

On replacement schemas in Ackermann's set theory. *Sci. Rep. Saitama Univ. Ser. A* **8** *no.* 2, 25–28 (1975). (M. Boffa) **54** #96 02K15

A second order theory of ordinal numbers with Ackermann-type reflection schema. *J. Math. Soc. Japan* **29** (1977), *no.* 4, 745–753. (John Hickman) **57** #9545 02K15 (04A10)

A theory of ordinal numbers with Ackermann's schema. *J. Math. Soc. Japan* **30** (1978), *no.* 3, 413–432. (John Hickman) **58** #229 02K10 (04A10)

Hańćkowiak, Jerzy Statistical methods in classical mechanics. *Rep. Mathematical Phys.* **7** (1975), *no.* 2, 239–249. (Joseph Ford) **52** #2310 70.34

Hancock, S. G. Orbits of paths under hyperbolic toral automorphisms. *Dynamical systems, Vol. I—Warsaw*, *pp.* 93–96. *Astérisque, No.* 49, *Soc. Math. France, Paris*, 1977. (C. S. Hartzman) **58** #7729 58F15 (28A65)

Hand, D. J. (*with* Batchelor, Bruce G.) Fast Monte Carlo integration of PDF estimators. *J. Cybernet.* **5** (1975), *no.* 3, 111–124 (1976). (Artenio De Matteis) **53** #15009 68A45

Handa, B. R. (*with* Mohanty, S. G.) Rank order statistics related to a generalized random walk. *Studia Sci. Math. Hungar.* **5** (1970), 267–276. (I. Vincze) **45** #4554 62G30

On a generalization of one dimensional random walk with a partially reflecting barrier. *Canad. Math. Bull.* **14** (1971), 325–332. (T.-C. Sun) **47** #5963 60J15

Choice of initial states in estimating transition probabilities of a finite ergodic Markov chain. *Biometrika* **59** (1972), 407–414. (V. Ivanov (RŽMat **1973** #1 V348)) **51** #11885 62M05

(*with* Mohanty, S. G.) Higher dimensional lattice paths with diagonal steps. *Discrete Math.* **15** (1976), *no.* 2, 137–140. (D. P. Roselle) **53** #2699 05A15

Handa, S. (*with* Srivastava, Hari M.; Gupta, K. C.) A certain double integral transformation. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), *no.* 5, 402–406. (V. M. Bhise) **52** #8526 33A35

(*with* Gupta, K. C.; Kalla, S. L.) On certain new integral transformation formulae. *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1-2, 143–152 (1976). (V. M. Bhise) **54** #10993 44A20 (33A35)

(*with* Gupta, K. C.) A new double integral for Fox's *H*-function. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **20** (1977), *no.* 4, 337–341. (From the authors' summary) **57** #6534 33A35

On heat production in a finite cylinder with a moving source of heat within it. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **21** (1978), *no.* 1, 39–45. (Author's summary) **58** #25433 80.44

(*with* Gupta, K. C.) Conduction of heat in an infinite circular cylinder with a moving source of heat within it. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **21** (1978), *no.* 2, 139–143. (From the summary) **58** #25425 80.35

Handel, David The diagonal fibration, *H*-spaces, and duality. *Proc. Amer. Math. Soc.* **36** (1972), 275–279. (David Smallen) **46** #6348 55D45

(*with* Segal, Jack) An acyclic continuum with non-movable suspensions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 171–172. (S. Mardešić) **47** #5813 54C55 (55E05)

(*with* Segal, Jack) Shape classification of (projective *m*-space)-like continua. *General Topology and Appl.* **3** (1973), 111–119. (G. E. Strecker) **48** #1155 54C56

(*with* Segal, Jack) Finite shape classifications. *Quart. J. Math. Oxford Ser.* (2) **24** (1973), 37–45. (S. Mardešić) **47** #9532 54C56 (55E20)

(*with* Segal, Jack) On shape classifications and invariants. *General Topology and Appl.* **4** (1974), 109–124. (R. R. Summerhill) **49** #9802 54C56 (18A99, 54B25, 54F20)

Fibre bundle homotopy epimorphisms. *Quart. J. Math. Oxford Ser.* (2) **25** (1974), 379–384. (P. W. H. Lemmens) **51** #6791 55D10 (55F10)

Epimorphism plus monomorphism implies equivalence in the homotopy category. *J. Pure Appl. Algebra* **6** (1975), *no.* 3, 357–360. (H. Wada) **53** #4049 55D10

On fixed-point free fibrewise maps of projective bundles. *Proc. Amer. Math. Soc.* **60** (1976), 299–303 (1977). (Jean-Michel Lemaire) **55** #9091 55F25 (55F40)

On normal characteristic classes of bounded manifolds. *Topology* **15** (1976), *no.* 2, 155–157. (Ulrich Koschorke) **53** #9240 57D20

Handel, Michael Approximating stratum preserving CE maps between CS sets by stratum preserving homeomorphisms. *Geometric topology* (*Proc. Conf., Park City, Utah*, 1974), *pp.* 245–250. *Lecture Notes in Math., Vol.* 438, *Springer, Berlin*, 1975. (R. C. Kirby) **53** #11624 57C55

On certain sums of Hilbert cubes. *General Topology and Appl.* **9** (1978), *no.* 1, 19–28. (R. B. Sher) **58** #2827 57A20

The Bing staircase construction for Hilbert cube manifolds. *General Topology and Appl.* **9** (1978), *no.* 1, 29–40. (R. B. Sher) **58** #2826 57A20

A resolution of stratification conjectures concerning CS sets. *Topology* **17** (1978), *no.* 2, 167–175. (L. Guillou) **57** #17658 57C15 (54E60)

Handelman, David (*with* Selick, P.) A maximality criterion for nilpotent commutative matrix algebras. *Canad. Math. Bull.* **17** (1974), 125–126. (G. Krause) **50** #4655 16A42

Prime regular rings of quotients. *Comm. Algebra* **2** (1974), 525–533. (D. C. Murdoch) **50** #9950 16A30

(*with* Goodearl, K. R.) Simple self-injective rings. *Comm. Algebra* **3** (1975), *no.* 9, 797–834. (J. K. Luedeman) **52** #498 16A52

Strongly semiprime rings. *Pacific J. Math.* **60** (1975), *no.* 1, 115–122. (S. S. Page) **52** #10785 16A12

When is the maximal ring of quotients projective? *Proc. Amer. Math. Soc.* **52** (1975), 125–130. (S. Elliger) **52** #10784 16A08

(*with* Lawrence, John) Strongly prime rings. *Trans. Amer. Math. Soc.* **211** (1975), 209–223. (J. K. Luedeman) **52** #8175 16A12

(*with* Lawrence, John) Left and right zero divisors in group algebras. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 3, 453–454. (Susan Montgomery) **55** #2982 16A26

Representing rank complete continuous rings. *Canad. J. Math.* **28** (1976), *no.* 6, 1320–1331. (Melvin Henriksen) **55** #5680 16A30 (54C40)

Simple regular rings with a unique rank function. *J. Algebra* **42** (1976), *no.* 1, 60–80. (R. A. Melter) **54** #5291 16A30

(*with* Goodearl, K. R.) Rank functions and K_O of regular rings. *J. Pure Appl. Algebra* 7 (1976), *no.* 2, 195–216. (Andy R. Magid) **52** #10794 16A30

K_1 of noncommutative von Neumann regular rings. *J. Pure Appl. Algebra* **8** (1976), *no.* 1, 105–118. (Andy R. Magid) **53** #3019 16A54

Prüfer domains and Baer * rings. *Arch. Math.* (*Basel*) **29** (1977), *no.* 3, 241–251. (S. K. Berberian) **57** #12587 16A34 (13F05)

Completions of rank rings. *Canad. Math. Bull.* **20** (1977), *no.* 2, 199–205. (K. R. Goodearl) **57** #12584 16A30

Perspectivity and cancellation in regular rings. *J. Algebra* **48** (1977), *no.* 1, 1–16. (R. B. Warfield, Jr.) **56** #5642 16A30

(*with* Lawrence, John) Finite Rickart C^*-algebras. *Bull. Amer. Math. Soc.* **84** (1978), *no.* 1, 157–158. (B. Yood) **57** #7192 46L05

(*with* Lawrence, John; Schelter, William) Skew group rings. *Houston J. Math.* **4** (1978), *no.* 2, 175–198. (Claudio Procesi) **58** #5771 16A38 (16A26)

(*with* Green, Sherry M.; Roberts, P.) K-theory of finite dimensional division algebras. *J. Pure Appl. Algebra* **12** (1978), *no.* 2, 153–158. (Keith Dennis) **58** #852 18F25 (16A54)

A short proof of the Dawkins-Halperin theorem. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 3, 387–389. (P. M. Cohn) **57** #6092 16A40

Coordinatization applied to finite Baer * rings. *Trans. Amer. Math. Soc.* **235** (1978), 1–34. (S. S. Holland, Jr.) **57** #3185 16A28

Handelman, George H. A simple model of stability of structures. *SIAM Rev.* **17** (1975), *no.* 4, 593--604. (R. W. Dickey) **52** #9730 70.34

See also **Lin, C. C.; et al., 51** #4761 *and* **Segel, Lee A., 58** #19516

Handelsman, Richard A. (*with* Lew, John S.) On the convergence of the L^p norm to the L^∞ norm. *Amer. Math. Monthly* **79** (1972), 618–622. (T. A. Botts) **46** #2328 41A60

(*with* Bleistein, Norman) A generalization of the method of steepest descent. *J. Inst. Math. Appl.* **10** (1972), 211 -230. (B. Rodríguez-Salinas) **49** #7676 41A60

(*with* Olmstead, W. E.) Asymptotic solution to a class of nonlinear Volterra integral equations. *SIAM J. Appl. Math.* **22** (1972), 373–384. (P. M. Anselone) **46** #9672 45M05

(*with* Bleistein, Norman; Lew, John S.) Functions whose Fourier transforms decay at infinity: An extension of the Riemann-Lebesgue lemma. *SIAM J. Math. Anal.* **3** (1972), 485–495. (F. Ustina) **47** #705 42A68

(*with* Olmstead, W. E.) Singular perturbation analysis of a certain Volterra integral equation. (German summary) *Z. Angew. Math. Phys.* **23** (1972), 889–900. (P. M. Anselone) **47** #9214 45M05

(*with* Bleistein, Norman) Asymptotic expansions of integral transforms with oscillatory kernels: a generalization of the method of stationary phase. *SIAM J. Math. Anal.* **4** (1973), 519–535. (C. Fox) **48** #9206 41A60 (44A05)

(*with* Lew, John S.) Asymptotic expansion of Laplace convolutions for large argument and tail densities for certain sums of random variables. *SIAM J. Math. Anal.* **5** (1974), 425–451. (A. Erdélyi) **49** #9505 41A60

(*with* Bleistein, Norman) Multidimensional stationary phase. An alternative derivation. *SIAM J. Math. Anal.* **6** (1975), 480–487. (A. Erdélyi) **50** #14015 41A60

(*with* Berger, Neil) Asymptotic evaluation of fractional integral operators with applications. *SIAM J. Math. Anal.* **6** (1975), *no.* 5 766–773. (A. Erdélyi) **51** #13550 41A60

(*with* Olmstead, W. E.) Asymptotic solution to a class of nonlinear Volterra integral equations. II. *SIAM J. Appl. Math.* **30** (1976), *no.* 1, 180–189. (P. M. Anselone) **52** #11513 45M05

(*with* Olmstead, W. E.) Diffusion in a semi-infinite region with nonlinear surface dissipation. *SIAM Rev.* **18** (1976), *no.* 2, 275–291. (B. A. Fleishman) **53** #3500 35K05

See also **Nonlinear problems in the physical sciences and biology, 51** #7766

Handkiewicz, Andrzej A generalization of the method of determining signs of terms of the simultaneity function for the structural number. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **20** (1971), 593–600. (P. Vondráček) **49** #10453 (EA **50**) 94A20

Analysis of four-terminal networks with controllable sources by the method of structural numbers. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **21** (1972), 553–563. (P. Vondráček) **48** #8115 94A20

(*with* Rybarczyk, Andrzej; Debosz, Jerzy A.) Determinattion of the structure of a graph by the method of the expansion of the structural number into one-row factors. (Polish and Russian summaries) *Arch. Elektrotech.* (*Warsaw*) **23** (1974), 781–789. (Giorgio Balconi) **54** #165 05C99 (94A20)

Handler, Gabriel Y. Minimax location of a facility in an undirected tree graph. *Transportation Sci.* **7** (1973), 287–293. (S. A. Hakimi) **51** #7597 90B05 (94A20)

Finding two-centers of a tree: the continuous case. *Transportation Sci.* **12** (1978), *no.* 2, 93–106. (Tadao Murata) **58** #15091 90B10 (05C35, 68A10)

Handler, Gary Termination policies for a two-state stochastic process. *Naval Res. Logist. Quart.* **19** (1972), 281–292. (P. Fortunati) **47** #4618 90B35

Handler, Paul *See* **Population dynamics, 52** #12855

Handlová, E. (*with* Nedoma, Jiří; Schmied, J.) A study of the propagation of the SH-wave field in a stratified medium with a local inhomogeneity by numerical analysis methods. (Russian) *Numerische Methoden in der Geophysik* (*Zweites Sympos., Tharandt*, 1975), *pp.* 177–195. *Geofyzikální Ustav Česk. Akad. Véd, Prague*, 1976. (George V. Demidov) **56** #2190 86.65

Handovletov, M. (*with* Seĭsov, Ju. B.) Sufficient optimality conditions. (Russian) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1976**, *no.* 6, 99–100. (From the authors' text) **56** #3709 49B10

Sufficient conditions for the optimality of sliding states. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1977**, *no.* 1, 11–13. (Author's summary) **56** #9375 49B10

(*with* Balin, E. A.; Seĭsov, Ju. B.) On sufficient optimality conditions. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1977**, *no.* 5, 3–5. (G. Zatiašvili) **57** #2687 93C99

Handscomb, David C. The relative sizes of the terms in Chebyshev and other ultraspherical expansions. *J. Inst. Math. Appl.* **11** (1973), 241–246. (C. W. Clenshaw) **48** #11850 41A10

See also **Methods of numerical approximation, 56** #13531 *and* **Multivariate approximation, 58** #29584

Handy, N. C. (*with* Epstein, Saul T.) Determination of molecular properties by the method of moments. *J. Chem. Phys.* **53** (1970), 1392–1398. (H. Primas) **48** #10356 81.44

Correlated wavefunctions. *Computational techniques in quantum chemistry and molecular physics* (*Proc. NATO Adv. Study Inst., Ramsau*, 1974), *pp.* 425–433. *NATO Advanced Study Inst. Ser., Ser. C: Math. and Phys. Sci., Vol.* 15, *Reidel, Dordrecht*, 1975. (A. Terry Amos) **56** #10609 81.49

Häne, Ernst ★Gewöhnliche Differentialgleichungen zweiter Ordnung, die eine Stieltjestransformierte als Lösung haben. Abhandlung zur Erlangung der Würde eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich. Diss. No. 4890. *Eidgenössische Technische Hochschule Zürich, Zurich*, 1972. iv+59 *pp.* (See RŽMat **1973** #8 B2410) 34A99

Haneda, Hiromasa (*with* Desoer, Charles A.) The measure of a matrix as a tool to analyze computer algorithms for circuit analysis. *IEEE Trans. Circuit Theory* **CT-19** (1972), 480–486. (Authors' summary) **56** #11559 94A20

(*with* Maruhashi, Toru; Ishii, Takeo) Analysis of piecewise-linear DC equations. *Electron. Commun. Japan* **57** (1974), *no.* 2, 63–71. (W. Börsch-Supan) **54** #1585 65H10

A generalization of monotonicity applied to the DC analysis of nondifferentiable resistive networks. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 406–412. (Abraham Kandel) **52** #16879 94A20

Theory of numerical analysis for control engineers. I. (Japanese) *Systems and Control* **21** (1977), *no.* 10, 553–561. **58** #19011 65–01

(*with* Katsura, Masashi) Properties of operations on sets and estimation of error trajectories of linear systems. (Japanese. English summary) *Systems and Control* **22** (1978), *no.* 6, 351–357. (Authors' summary) **58** #15565 93E10

Haneke, W. Ein neuer Beweis des Linnikschen Nullstellensatzes. *Publ. Math. Debrecen* **17** (1970), 249-257 (1971). (G. J. Rieger) **48** #6028 10H20

Über die reellen Nullstellen der Dirichletschen L-Reihen. *Acta Arith.* **22** (1973), 391–421. (W. J. Ellison) **47** #6623 (E **58** #10785) 10H10

Corrigendum zur Arbeit "Über die reellen Nullstellen der Dirichletschen L-Reihen" (Acta Arith. **22** (1973), 391–421). *Acta Arith.* **31** (1976), *no.* 1, 99–100. (*errata insert*) (W. J. Ellison) **58** #10785 10H10

Hanen, A. Processus ponctuels stationnaires et flots spéciaux. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **7** (1971), 23–30. (E. Çinlar) **46** #2727 60G10

Mesures aléatoires stationnaires et mesure de Palm. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **9** (1973), 311–325. (E. Çinlar) **51** #1953 60G55

(*with* Dufosse, M.; Decante, P.) Système d'analyse des processus ponctuels simples et multiples—application à la neurophysiologie. (English summary) *Internat. J. Bio-Med. Comput.* **6** (1975), *no.* 4, 249–291. (Luigi M. Ricciardi) **52** #7580 92A05 (92–04)

Hanes, Harold (*with* Olson, Keith; Scott, William R.) Products of simple groups. *J. Algebra* **36** (1975), *no.* 2, 167–184. (Philip J. Greenberg) **55** #10558 20D05

Hanes, Kit Isoperimetric inequalities for manifolds with boundary. *J. Differential Geometry* 7 (1972), 525–534. (G. D. Chakerian) **48** #12400 53C20

(*with* Berman, Joel D.) Optimizing the arrangement of points on the unit sphere. *Math. Comp.* **31** (1977), *no.* 140, 1006–1008. (J. B. Wilker) **57** #17502 52–04 (52A15, 90C30)

klein Haneveld, W. K. *See* **Klein Haneveld, W. K.**

Hanf, William Primitive Boolean algebras. *Proceedings of the Tarski Symposium* (*Proc. Sympos. Pure Math., Vol. XXV, Univ. California, Berkeley, Calif.*, 1971), 75–90. *Amer. Math. Soc., Providence, R.I.*, 1974. (B. M. Schein) **52** #88 02J05

Nonrecursive tilings of the plane. I. *J. Symbolic Logic* **39** (1974), 283–285. (C. G. Jockusch, Jr.) **51** #110 02F50 (50B30)

The Boolean algebra of logic. *Bull. Amer. Math. Soc.* **81** (1975), 587–589. (D. Monk) **52** #10404 02G15 (02J05)

Representing real numbers in denumerable Boolean algebras. *Fund. Math.* **91** (1976), *no.* 3, 167–170. (J. L. Bell) **54** #7252 02K05

Hangan, Théodor Sur la géométrie différentielle des variétés de drapeaux. *Symposia Mathematica, Vol. X* (*Convegno di Geometria Differenziale, INDAM, Rome*, 1971), 211–227. *Academic Press, London*, 1972. (D. I. Papuc) **50** #14798 57D55 (14M15, 32C10, 57D70)

Bivectors with minimal orbits. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. III. *Tensor* (*N.S.*) **26** (1972), 227–230. (E. Siwek) **49** #3704 53A10

Équations tensorielles de certaines métriques riemanniennes d'espaces symétriques. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A849–A851. (C. S. Houh) **49** #11432 53C35

Variétés et transformations infinitésimales homographiques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 20, Aii, A859–A861. (C. S. Houh) **52** #15302 53C15

Sur la courbure des grassmanniennes quaternioniennes. "*Gheorghe Ţiţeica and Dimitrie Pompeiu*" *Symposium on Geometry and Global Analysis* (*Bucharest*, 1973) (*Romanian*), *pp.* 133–134. *Editura Acad. R.S.R., Bucharest*, 1976. (From the text) **58** #24125 53C30

Hangelbroek, Rutger Jan ★A functional analytic approach to the linear transport equation. Doctoral dissertation, University of Groningen. *Rijksuniversiteit te Groningen, Groningen*, 1973. viii+112 *pp.* (Hans Kaper) **55** #7244 82.46

Linear analysis and solution of neutron transport problems. *Transport Theory Statist. Phys.* **5** (1976), *no.* 1, 1–85. (P. M. Anselone) **56** #2136 82.47 (47G05)

(*with* Lekkerkerker, C. G.) Decompositions of a Hilbert space and factorization of a W-A determinant. *SIAM J. Math. Anal.* **8** (1977), *no.* 3, 458–472. (Edward W. Larsen) **55** #9789 82.47 (47B10)

(*with* Kaper, Hans G.; Leaf, Gary K.) Collocation methods for integro-differential equations. *SIAM J. Numer. Anal.* **14** (1977), *no.* 3, 377–390. (Manfred Feilmeier) **55** #9577 65R05

Hanges, Nicholas Parametrices and local solvability for a class of singular hyperbolic erators. *Comm. Partial Differential Equations* **3** (1978), *no.* 2, 105–152. (D. L. Colton) 7 #13208 35L10 (35A05)

gi, P. (*with* Thomas, H.) Linear response and fluctuation theorems for nonstationary ochastic processes. *Z. Phys. B* **22** (1975), *no.* 3, 295–300. (Authors' summary) 6 #10623 81.60

(*with* Thomas, H.) Time evolution, correlations, and linear response of non-Markov rocesses. *Z. Phys. B* **26** (1977), *no.* 1, 85–92. (Authors' summary) **54** #12095 82.60

(*with* Grabert, H.; Talkner, P.) Microdynamics and time-evolution of macroscopic on-Markovian systems. *Z. Phys. B* **26** (1977), *no.* 4, 389–395. (Authors' summary) 6 #4607 82.60

(*with* Rösel, F.; Trautmann, Dirk) Continued fraction expansions in scattering heory and statistical non-equilibrium mechanics. *Z. Naturforsch.* **33a** (1978), *no.* 4, 02–417. (Authors' summary) **57** #18656 82.10

(*with* Grabert, H.; Talkner, P.; Thomas, H.) Microdynamics and time-evolution of acroscopic non-Markovian systems. II. *Z. Phys. B* **29** (1978), *no.* 3, 273–280. Authors' summary) **58** #20118 82.60

On derivations and solutions of master equations and asymptotic representations. *Phys. B* **30** (1978), *no.* 1, 85–95. (From the summary) **57** #18680 82.60

f, Muhammad An asymptotic variance formula for sampling without replacement with nequal probabilities. (Arabic summary) *Libyan J. Sci.* **4-A** (1974), 47–51. (David ellhouse) **50** #15044 62D05

ka, F. de P. *See* **Progress in cybernetics and systems research, 54** #4732

n, M. A. A qualitative selection criterion. (Russian) Problems of biomedical ybernetics. *Voprosy Kibernet.* (*Moscow*) *No.* 12 (1975), 30–35. (RŽMat **1975** #11 V907; MR **57** #11815) 92A10

kel, Hermann *See* **Monna, A. F., 49** #13

kerson, Kenneth L. *See* **Influence of computing on mathematical research and education, 49** #7058

key, Alex Note on nonlinear realizations of conformal symmetry. *Phys. Rev. D* (3) **3** 1971), 2543–2546. (William H. Klink) **52** #12576 81.22

Three properties of the infinite cluster in percolation theory. *J. Phys. A* **11** (1978), *no.* 3, D49–D55. (Author's summary) **56** #17391 76.00

key, Benjamin F. (*with* Mantel, Nathan) The odds ratios of a 2×2 contingency table. *Amer. Statist.* **29** (1975), *no.* 4, 143–145. (Graham J. G. Upton) **56** #6983 62F10

(*with* Mantel, Nathan) The odds ratios of a 2×2 contingency table. (French summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 4. Contributed papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 4, 128–136 (1976). (Dennis O. Dixon) **57** #4405 62F05 (62F10)

kins, J. C. (*with* Rakestraw, Roy M.) The extremal structure of locally compact convex sets. *Pacific J. Math.* **64** (1976), *no.* 2, 413–418. (I. Namioka) **56** #12837 46A99

(*with* Rakestraw, Roy M.) Convex cones and dentability. *J. Math. Anal. Appl.* **61** (1977), *no.* 3, 580–585. (R. A. Raimi) **57** #7114 46A99 (46B05, 46G10)

kins, Thomas L. ★Jean d'Alembert: science and the Enlightenment. *Clarendon Press, Oxford*, 1970. xi + 260 *pp.* (I. Grattan-Guinness) **58** #10083 01A50 (70.01)

kišiev, G. K. (*with* Čandirov, G. I.) Summation stability of the solutions of a mixed problem. (Russian) *Boundary value problems for differential equations*, 4 (*Russian*), *pp.* 144–151, 192. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1974. (Authors' summary) **57** #13139 35C99 (35L60)

kišiev, Z. F. The application of the method of lines to the solution of equations of elliptic type with degeneracy. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 3, 665–679, 820. (B. I. Kvasov) **55** #13832 65N35

Convergence of the method of lines in the solution of equations of elliptic type with degeneracy. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 1, 126–138, 269. (G. I. Sulhanišvili) **57** #11091 65N10

ková, Bohuslava Lösung einiger Integralgleichungen erster Art. III. Die Fragen der Lösbarkeit. (Czech summary) *Apl. Mat.* **17** (1972), 183–190. (J. Brilla) **47** #3921 45A05

nks, R. Interpolation by the real method between BMO, $L^\alpha(0<\alpha<\infty)$ and $H^\alpha(0<\alpha<\infty)$. *Indiana Univ. Math. J.* **26** (1977), *no.* 4, 679–689. (H. Triebel) **56** #6362 46E30 (46M35)

nle, Paul A. Erwin Schrödinger's reaction to Louis de Broglie's thesis on the quantum theory. *Isis* **68** (1977), *no.* 244, 606–609. (H. Treder) **58** #27070 01A60 (81.01)

nmamedov, O. K. A mathematical model of a single-reactor chemical engineering process with recirculation. (Russian) *Theory and methods of construction of multivariable control systems* (*Russian*), *pp.* 249–258, 338. *Izdat. "Nauka", Moscow*, 1973. (Editors) **51** #15071 93B99

A certain searching game multistage problem. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 1, 57–64. (P. Vondráček) **50** #3916 90B40 (68A25)

Convergence of a global adaptation process. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **32** (1976), *no.* 10, 3–6. (Author's summary) **57** #4681 68A35 (93C40)

anna, Azmi Degenerate and non-degenerate homology of categories. *Mathematica* (*Cluj*) **12(35)** (1970), 285–291. (T. Józefiak) **50** #13198 18E99

On the homology of the join of two categories. *Mathematica* (*Cluj*) **13(36)** (1971), 199–204. (T. H Józefiak) **49** #10757 18E99

On the homology theory of categories. II. *J. Reine Angew. Math.* **252** (1972), 112–127. (D. C. Newell) **45** #3507 18A99

On injective modules. *Amer. Math. Monthly* **80** (1973), 297–298. (A. Mader) **47** #5051 16A52

Zur Definition des cofreien Moduls. *Arch. Math.* (*Basel*) **25** (1974), 39. (T. Cheatham) **50** #13161 16A64

A new proof of the Eilenberg-Zilber-Cartier theorem. *Manuscripta Math.* **14** (1974), 297–301. (M. Barr) **50** #4702 18E05

On the left-derived functors of sup. applications. *Mathematica* (*Cluj*) **16 (39)** (1974), *no.* 1, 5–12. (From the author's introduction) **55** #10542 18E25 (18G10)

(*with* Beyl, F. Rudolf) Ext $(\cdot, Z)$-reproduced abelian groups are finite. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 267–269. (P. Gräbe) **54** #7659 20K35

(*with* Khuri, S.) Modules with irredundant sets of cogenerators. (Italian summary) *Rend. Istit. Mat. Univ. Trieste* **9** (1977), *no.* 1-2, 38–45 (1978). (K. R. Goodearl) **58** #22177 16A64

See also **Gilmer, Robert; et al., 48** #5755

Hanna, Charles C. Decomposing algebraic vector bundles on the projective line. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 2, 196–200 (1977). (Masaki Maruyama) **55** #2907 14F05

Subbundles of vector bundles on the projective line. *J. Algebra* **52** (1978), *no.* 2, 322–327. (M. E. Keating) **58** #667 14C99 (13Cxx, 14A15)

Hanna, F. Keith (*with* Aleksander, Igor) ★Automata theory: an engineering approach. Computer Systems Engineering Series. *Crane Russak, New York*; *Edward Arnold, London*, 1975. xi + 172 *pp.* (Howard Swann) **53** #15532 94–01

Hanna, G. Eine Methode zum direkten Ablesen der Elemente der Zustandsgleichungen von RLCM-Netzwerken aus der Schaltung. *Z. Elek. Informations- und Energietech.* **6** (1976), *no.* 2, 113–120. (Author's summary) **57** #5453 94A20

Hanna, M. S. (*with* Adams, R. D.; Aronszajn, Nachman) Theory of Bessel potentials. Part III. Potentials on regular manifolds. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **19** (1969), *no.* 2, 279–338 (1970). (Editors) **54** #915 46E35 (58G99, 31C15)

Hanna, Michael P. Generalized overrelaxation and Gauss-Seidel convergence on Hilbert space. *Proc. Amer. Math. Soc.* **35** (1972), 524–530. (J. Vandergraft) **46** #10196 65J05

Hannabuss, K. C. The Dirac equation in de Sitter space. *J. Phys. A* **2** (1969), 274–277. (Author's summary) **53** #15207 81.53

The localizability of particles in de Sitter space. *Proc. Cambridge Philos. Soc.* **70** (1971), 283–302. (C. Gilbert) **45** #8152 81.22

The irreducible components of homogeneous and symmetric tensors. *J. Inst. Math. Appl.* **14** (1974), 83–88. (A. J. M. Spencer) **50** #9923 15A72 (33A45)

Symmetrized tensor products of induced representations. *J. Phys. A* **9** (1976), *no.* 3, 325–334. (L. Méder) **53** #9910 81.22

(*with* Carey, A. L.) Twistors and geometric quantisation theory. *Rep. Math. Phys.* **13** (1978), *no.* 2, 199–231. (Richard C. Swanson) **58** #24347 58F05 (81.58, 83.58)

Hannah, John Maximal quotient rings of prime group algebras. II. Uniform right ideals. *J. Austral Math. Soc. Ser. A* **24** (1977), *no.* 3, 339–349. (Robert L. Snider) **58** #28055b 16A26 (16A08)

(*with* O'Meara, K. C.) Maximal quotient rings of prime group algebras. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 1, 1–7. (Robert L. Snider) **58** #28055a 16A26 (16A08)

Quotient rings of subgroup algebras. *Bull. London Math. Soc.* **10** (1978), *no.* 1, 81–83. (Gerald O. Losey) **58** #28057 16A26

Hannan, Edward James (*with* Thomson, P. J.) The estimation of coherence and group delay. *Biometrika* **58** (1971), 469–481. (M. M. Siddiqui) **48** #1407 62M15

The identification problem for multiple equation systems with moving average errors. *Econometrica* **39** (1971), 751–765. (C. W. J. Granger) **53** #4438 62P20 (90A15)

Non-linear time series regression. *J. Appl. Probability* **8** (1971), 767–780. (D. R. Brillinger) **45** #4564 62M10

Spectra changing over narrow bands. *Statistical models and turbulence* (*Proc. Sympos., Univ. California, La Jolla, Calif.*, 1971), *pp.* 460–469. *Lecture Notes in Phys., Vol.* 12, *Springer, Berlin*, 1972. (Bennett Eisenberg) **55** #13690 62M10

(*with* Heyde, C. C.) On limit theorems for quadratic functions of discrete time series. *Ann. Math. Statist.* **43** (1972), 2058–2066. (J. E. A. Dunnage) **50** #15218 62M10 (60F05)

(*with* Nicholls, D. F.) The estimation of mixed regression, autoregression, moving average, and distributed lag models. *Econometrica* **40** (1972), 529–547. (Lionel Weiss) **48** #7509 62M10

(*with* Terrell, R. D.) Time series regression with linear constraints. *Internat. Econom. Rev.* **13** (1972), 189–200. (E. Parzen) **48** #10014 62M10

Obituary: Edmund Alfred Cornish (1909–1973). *Austral. J. Statist.* **15** (1973), 218–220 (1974). (Editors) **50** #30 01A70

(*with* Thomson, P. J.) Estimating group delay. *Biometrika* **60** (1973), 241–253. (J. L. Lumley) **48** #1408 62M15

(*with* Terrell, R. D.) Multiple equation systems with stationary errors. *Econometrica* **41** (1973), 299–320. (P. C. B. Phillips) **53** #4420 (E **55** #13689) 62M10

(*with* Terrell, R. D.) Erratum: "Multiple equation systems with stationary errors" (Econometrica **41** (1973), 299–320). *Econometrica* **41** (1973), 996. (Editors) **55** #13689 62M20 (90A20)

The asymptotic theory of linear time-series models. *J. Appl. Probability* **10** (1973), 130–145, *corrections, ibid.* **10** (1973), 913. (E. Parzen) **51** #2212 62M10

The estimation of frequency. *J. Appl. Probability* **10** (1973), 510–519. (Herbert T. Davis) **51** #7200 62M10

Multivariate time series analysis. *J. Multivariate Anal.* **3** (1973), 395–407. (D. R. Brillinger) **49** #6531 (E **57** #4451) 62M10

(*with* Robinson, Peter M.) Lagged regression with unknown lags. *J. Roy. Statist. Soc. Ser. B* **35** (1973), 252–267. (J. Pickhands, III) **49** #1715 62M10

Central limit theorems for time series regression. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 157–170. (L. Törnqvist) **48** #10015 62M10 (60G10)

The uniform convergence of autocovariances. *Ann. Statist.* **2** (1974), 803–806. (J. L. Lumley) **51** #2213 62M10 (60G10)

Time-series analysis. System identification and time-series analysis. *IEEE Trans. Automatic Control* **AC-19** (1974), 706–715. (Author's summary) **55** #9447 62M10

Erratum: "Multivariate time series analysis" (J. Multivariate Anal. **3** (1973), 395–407). *J. Multivariate Anal.* **4** (1974), 497. (Editors) **57** #4451 62M10

(*with* Thomson, P. J.) Estimating echo times. *Technometrics* **16** (1974), 77–84. (J. L. Lumley) **49** #1717 (EA **49**) 62M15

Measuring the velocity of a signal. *Perspectives in probability and statistics* (*papers in honour of M. S. Bartlett on the occasion of his 65th birthday*), *pp.* 227–237. *Applied Probability Trust, Univ. Sheffield, Sheffield*, 1975. (Paul Shaman) **55** #1672 62M10

The estimation of ARMA models. *Ann. Statist.* **3** (1975), *no.* 4, 975–981. (Rolf K. Adenstedt) **52** #12267 62M10

Linear regression in continuous time. *J. Austral. Math. Soc.* **19** (1975), 146–159.

(Alexander Holevo) **51** #11890 62M10

(*with* Dunsmuir, W.) Vector linear time series models. *Advances in Appl. Probability* **8** (1976), *no.* 2, 339–364. (Authors' summary) **56** #9860 62M10 (60F05)

The asymptotic distribution of serial covariances. *Ann. Statist.* **4** (1976), *no.* 2, 396–399. (Rashid Ahmad) **53** #1884 62M10 (60G10)

The convergence of some recursions. *Ann. Statist.* **4** (1976), *no.* 6, 1258–1270. (Author's summary) **58** #24795 62M10

The identification and parametrization of ARMAX and state space forms. *Econometrica* **44** (1976), *no.* 4, 713–723. (Arunabha Bagchi) **57** #18933 93B30 (90Axx, 93E10)

ARMAX and state space systems and recursive calculations. *Frontiers of quantitative economics Vol. IIIA*, (*Invited papers, Econometric Soc., Third World Congress, Toronto, Ont.*, 1975) *pp.* 321–335. *Contributions to Economic Analysis, Vol.* 105, *North-Holland Publishing Co., Amsterdam*, 1977. (Andrew Harvey) **57** #1820 62P20

(*with* Nicholls, D. F.) The estimation of the prediction error variance. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 360, *part* 1, 834–840. (R. J. Bhansali) **58** #24804 62M20

(*with* Kanter, Marek) Autoregressive processes with infinite variance. *J. Appl. Probability* **14** (1977), *no.* 2, 411–415. (Kenneth N. Berk) **55** #9448 62M10

(*with* Deistler, Manfred; Dunsmuir, W.) Vector linear time series models: corrections and extensions. *Adv. in Appl. Probab.* **10** (1978), *no.* 2, 360–372. (Authors' summary) **58** #18968 62M10

A note on a central limit theorem. *Econometrica* **46** (1978), *no.* 2, 451–453. (Jean-Louis Boursin) **57** #14310 62P20

Hannan, Edward L. Effects of substituting a linear goal for a fractional goal in the goal programming problem. *Management Sci.* **24** (1977/78), *no.* 1, 105–107. (R. N. Kaul) **58** #32966 90C30

Hannan, James (*with* Huang, Jin-sheng) Equivariant procedures in the compound decision problem with finite state component problem. *Ann. Math. Statist.* **43** (1972), 102–112. (J. J. Deely) **47** #7843 62C25

(*with* Huang, Chün Hsiung) A stability of symmetrization of product measures with few distinct factors. *Ann. Math. Statist.* **43** (1972), 308–319. (E. S. Boylan) **46** #4573 60A10

(*with* Gilliland, Dennis C.; Huang, Jin-sheng) Asymptotic solutions to the two state component compound decision problem, Bayes versus diffuse priors on proportions. *Ann. Statist.* **4** (1976), *no.* 6, 1101–1112. (V. Susarla) **56** #6952 62C25

(*with* Fabian, Václav) On the Cramér-Rao inequality. *Ann. Statist.* **5** (1977), *no.* 1, 197–205. (C. R. Rao) **55** #6654 62F10

(*with* Gilliland, Dennis C.) Improved rates in the empirical Bayes monotone multiple decision problem with MLR family. *Ann. Statist.* **5** (1977), *no.* 3, 516–521. (V. Susarla) **55** #13623 62C25

Hanneken, C. B. Irreducible congruences over GF(2). *Trans. Amer. Math. Soc.* **193** (1974), 291–301. (John H. Hodges) **50** #283 12C05

Hannibalsson, Ingjaldur (*with* Disney, Ralph L.) An $M/M/1$ queue with delayed feedback. *Naval Res. Logist. Quart.* **24** (1977), *no.* 2, 281–291. (C. Mohan) **57** #14179 60K25 (90B99)

Hannoschöck, Gerhard (*with* Rautmann, Reimund) Schwache Lösungen und Fehlerabschätzungen für die Vlasov-Gleichung bei gemittelter Dichte. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T254–T256. (J. S. W. Wong) **55** #7113 76.65

Hannover, H. Green's functions of three-particle subresolvents containing separable potentials. *Z. Phys. A* **276** (1976), *no.* 2, 127–132. (R. G. Newton) **52** #16377 81.47

Hannsgen, Kenneth B. (*with* Shilepsky, Carol Carter) A boundedness theorem for Volterra equations. *J. Differential Equations* **10** (1971), 378–387. (J. A. Nohel) **45** #2425 45D05

(*with* Sánchez, David A.) A note on solutions of orientor fields for periodic systems. *J. Optimization Theory Appl.* **12** (1973), 325–327. (F. Odeh) **48** #7053 49A05

A Volterra equation with parameter. *SIAM J. Math. Anal.* **4** (1973), 22–30. (H. E. Gollwitzer) **49** #7713 45D05

Note on a family of Volterra equations. *Proc. Amer. Math. Soc.* **46** (1974), 239–243. (R. K. Miller) **50** #2831 45D05

A Volterra equation in Hilbert space. *SIAM J. Math. Anal.* **5** (1974), 412–416. (Š. Schwabik) **49** #7714 45D05

A linear Volterra equation in Hilbert space. *SIAM J. Math. Anal.* **5** (1974), 927–940. (P. M. Anselone) **50** #14105 45D05

Uniform boundedness in a class of Volterra equations. *SIAM J. Math. Anal.* **6** (1975), 689–697. (R. K. Miller) **51** #6336 45M99

Continuous parameter dependence in a class of Volterra equations. *SIAM J. Math. Anal.* **7** (1976), *no.* 1, 45–58. (John M. Bownds) **53** #8818 45D05

The resolvent kernel of an integrodifferential equation in Hilbert space. *SIAM J. Math. Anal.* **7** (1976), *no.* 4, 481–490. (Kevin Clancey) **54** #5909 47G05

Uniform L^1 behavior for an integrodifferential equation with parameter. *SIAM J. Math. Anal.* **8** (1977), *no.* 4, 626–639. (D. F. Shea) **57** #3787 45J05

Hannula, T. A. The Morita context and the construction of QF rings. *Proceedings of the Conference on Orders, Group Rings and Related Topics* (*Ohio State Univ., Columbus, Ohio*, 1972), *pp.* 113–130. *Lecture Notes in Math., Vol.* 353, *Springer, Berlin*, 1973. (C. M. Ringel) **49** #2826 16A36

On the construction of quasi-Frobenius rings. *J. Algebra* **25** (1973), 403–414. (E. A. Rutter) **49** #352 16A36

Hano, Jun-ichi Homogeneous **C***-bundles and equivariant projective immersions. *Amer. J. Math.* **95** (1973), 108–144. (S. Kaneyuki) **48** #6475 32M10

Equivariant projective immersion of a complex coset space with non-degenerate canonical hermitian form. *Scripta Math.* **29**, 125–139 (1973). (S. Kaneyuki) **51** #3557 32M10

Einstein complete intersections in complex projective space. *Math. Ann.* **216** (1975), *no.* 3, 197–208. (Bang-yen Chen) **52** #3586 32C10 (57E25)

A geometrical characterization of a class of holomorphic vector bundles over a complex torus. *Nagoya Math. J.* **61** (1976), 197–202. (S. Murakami) **54** #7872 32L05 (22E25)

Hano, Kazuhiro Some remarks on the parallelizability of π-manifolds. *Mem. Osaka Ins Tech. Ser. A* **19** (1974/75), *no.* 3, 149–152. (Author's summary) **55** #1366 57D25

Hanoch, Giora Homotheticity in joint production. *J. Econom. Theory* **2** (1970), 423–426. (From the author's introduction) **56** #7921 90B30

CRESH production functions. *Econometrica* **39** (1971), 695–712. (Trout Rader **53** #4914 90A10

Production and demand models with direct or indirect implicit additivity. *Econometrica* **43** (1975), 395–419. (Author's summary) **56** #2225 90A10

Risk aversion and consumer preferences. *Econometrica* **45** (1977), *no.* 2, 413–426 (Author's summary) **58** #25858 90A05

Hanouzet, Bernard Régularité pour une classe d'opérateurs elliptiques dégenérés du deuxième ordre. *Publications des Séminaires de Mathématiques* (*Univ Rennes, Rennes année* 1968-1969), *No.* 1: *Séminaires d'Analyse fonctionnelle, Exp. No.* 9, 59 *pp. Dép Math. et Informat., Univ. Rennes, Rennes*, 1969. (S. Dümmel) **50** #13870 35J25

Régularité pour une classe d'opérateurs elliptiques dégénérés du deuxième ordre. *Matematiche* (*Catania*) **24** (1969), 450–491. (From the author's introduction) **54** #8021 35J70

(*with* Goulaouic, C.) Un résultat de régularité pour les solutions d'un système différentiel. *Publications des Séminaires de Mathématiques* (*Univ. Rennes, Rennes, année* 1969-1970), *Fasc.* 1: *Séminaires d'Analyse Fonctionnelle, Exp. No.* 3, 7 *pp. Dép. Math. et Informat., Univ. Rennes, Rennes*, 1970. (S. Dümmel) **50** #13855 35D10

Problèmes elliptiques dans des ouverts non bornés. *Publications des Séminaires de Mathématiques* (*Univ. Rennes, Rennes, année* 1969–1970), *Fasc.* 1: *Séminaires d'Analyse Fonctionelle, Exp. No.* 1, 20 *pp. Dép. Math. et Informat., Univ. Rennes, Rennes*, 1970. (S. Dümmel) **50** #13871 35J25

Espaces de Sobolev avec poids application au problème de Dirichlet dans un demi espace. *Rend. Sem. Mat. Univ. Padova* **46** (1971), 227–272. (D. E. Edmunds) **46** #9517 35J25 (46E35)

Problèmes aux limites elliptiques dans des ouverts non bornés. *Actes du Colloque d'Analyse Fonctionnelle de Bordeaux* (*Univ.Bordeaux*, 1971), *pp.* 191–199. *Bull. Soc Math. France, Mém. No.* 31-32, *Soc. Math. France, Paris*, 1972. (From the author's introduction) **56** #6105 35J40

Caractérisation de classes de fonctions C^∞ par des itérés d'opérateurs elliptiques dégénérés sur des ouverts irréguliers. *Séminaire Goulaouic-Schwartz* 1971–1972: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 2, 16 *pp. École Polytech., Centre de Math., Paris*, 1972. (Makhlouf Derrifj) **53** #4125 58C25 (35P20)

(*with* Bolley, Pierre; Camus, Jacques) Étude de l'analyticité et de la régularité Gevrey pour une classe de problèmes aux limites elliptiques et dégénérés. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1175–A1177. (H. Marcinkowska) **48** #4479 35D10 (35J70)

Caractérisation de classes de fonctions C^∞ et analytiques sur une variété irrégulière à l'aide d'un opérateur différentiel. *Colloque International CNRS sur les Équations aux Dérivées Partielles Linéaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp.* 188–196. *Astérisque*, 2 et 3, *Soc. Math. France, Paris*, 1973. (Editors) **58** #23057 35J99

(*with* Baouendi, M. S.; Goulaouic, C.) Caractérisation de classes de fonctions C^∞ et analytiques sur une variété irrégulière à l'aide d'un opérateur différentiel. *J. Math. Pures Appl.* (9) **52** (1973), 115–144. (A. Avantaggiati) **51** #10865 35J30 (46E35)

(*with* Bolley, Pierre; Camus, Jacques) Étude de l'analyticité et de la régularité Gevrey pour une classe de problèmes aux limites elliptiques et dégénérés. (English summary) *Sur quelques équations aux dérivées partielles singulières, pp.* 25–48, 123. *Astérisque, No.* 19, *Soc. Math. France, Paris*, 1974. (R. D. Moyer) **51** #8629 (EA **52**) 35J70 (35H05)

(*with* Joly, Jean-Luc) Méthodes d'ordre dans l'interprétation de certaines inéquations variationnelles et applications. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 11, Ai, A373–A376. (R. Temam) **52** #3720 35J20

(*with* Joly, Jean-Luc) Un résultat de régularité pour une inéquation quasi-variationnelle du type de Neumann intervenant dans un problème de contrôle impulsionnel. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 19, *A*i, *A*799–*A*800. (A. Friedman) **53** #8993 49A20 (93C20)

(*with* Joly, Jean-Luc) Formule de Green liée à l'ordre de $H^1(\Omega)$. Applications au problème d'obstacle. *Journées: Équations aux Dérivées Partielles de Rennes* (1975), *pp.* 207–214. *Astérisque, No.* 34-35, *Soc. Math. France, Paris*, 1976. (B. Hellwig) **58** #11873 35J15

(*with* Charrier, Pierre; Joly, Jean-Luc) Sous-solutions pour un problème unilatéral d'évolution: caractérisation et régularité. *Séminaire Goulaouic-Schwartz* (1975/1976), *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 20, 10 *pp. Centre Math., École Polytech., Palaiseau*, 1976. (Zbl **338** #35056) **58** #17515 35K15

(*with* Charrier, Pierre; Joly, Jean-Luc) Estimation pour la sous-solution maximum d'un problème unilatéral d'évolution. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 8, Aii, A591–A593. (Giovanni Troianiello) **55** #6018 35K60 (49A20)

(*with* Charrier, Pierre; Joly, Jean-Luc) Estimation and regularity for the maximum lower solution of a unilateral problem. *Convex analysis and its applications* (*Proc. Conf., Muret-le-Quaire*, 1976), *pp.* 61–65. *Lecture Notes in Econom. and Math. Systems, Vol.* 144, *Springer, Berlin*, 1977. (Marc Atteia) **58** #9662 93E10

(*with* Joly, Jean-Luc) Un résultat de régularité pour une inéquation quasi variationnelle du type de Neumann intervenant dans un problème de contrôle impulsionnel. *J. Math. Pures Appl.* (9) **56** (1977), *no.* 3, 327–337. (Lucio Boccardo) **58** #30596 49A20

Hanš, O. F. *See* **Proceedings: All-Union Conference on Automatic Control—Engineering Cybernetics. 48** #8022

Hanš, Otto On optimal fault-finding strategy for systems with an unknown number of failures. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 213–216. *Academia, Prague*, 1973. (B. Dimitrov) **50** #12202 90B25 (62N05)

(*with* Křepela, Josef) Optimization of single acceptance sampling plans by attributes. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the* mory of Antonin Špaček), pp. 217–226. *Academia, Prague*, 1973. **50** #3509 62N10

Rajinder Jeet *See* **Hans-Gill, Rajinder Jeet**

Ursula Ein ableitungsfreies Verfahren zur Extremwertbestimmung. *Beiträge Numer. ath.* **2** (1974), 25–37. (Jochem Zowe) **55** #1729 65K05

om, M. (*with* Cléroux, R.) Age replacement with adjustment and depreciation costs d interest charges. *Technometrics* **16** (1974), 235–239. (I. Guttman) **49** #6537 N99

ombe, K. P. Classification of involutive Banach-Lie algebras. *Bull. Amer. Math. Soc.* (1977), *no.* 5, 1063–1065. (John Duncan) **57** #6128 17B65 (47D10)

, Georges (*with* Raoult, Jean-Pierre) Sur la convergence de Césaro des families de esures. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **20** (1971/72), 102–116. (B. eiss) **46** #6427 60F99 (28A10)

Théorème de relèvement et mesures bivalentes. (English summary) *Ann. Inst. H. incaré Sect. B (N.S.)* **8** (1972), 395–401. (Tim Traynor) **50** #2913 46G15

Complexes et décompositions binomiales. *J. Combinatorial Theory Ser. A* **12** (1972), 7–183. (L. Carlitz) **45** #4987 05A15

Automorphismes induits et valeurs propres. *Z. Wahrscheinlichkeitstheorie und Verw. ebiete* **25** (1972/73), 155–157. (L. Sucheston) **49** #5298 28A65

(*with* Raoult, Jean-Pierre) Ergodicity, uniformity and unique ergodicity. *Indiana niv. Math. J.* **23** (1973/74), 221–237. (J. C. Oxtoby) **47** #6996 28A65

Strict uniformity in ergodic theory. *Math. Z.* **135** (1973/74), 221–248. (W. Parry) #8381 28A65

(*with* Troallic, Jean-Pierre) Démonstration du théorème de point fixe de yll-Nardzewski par extension de la méthode de F. Hahn. (English summary) *C. R. cad. Sci. Paris Sér. A-B* **282** (1976), *no.* 16, *A*ii, *A*857–*A*859. (Kok-Keong Tan) #8602 54H25 (47H10)

See also **Cybernetics collection**, **50** #16063

ll, Roger I. C. (*with* Marchi, Ezio) A framework for systematic zoological studies ith game theory. *Math. Biosci.* **16** (1973), 31–58. (A. Rapoport) **47** #6342 92A05 0D10, 90D45)

(*with* Marchi, Ezio) Generalizations on the parsimony question in evolution. *Math. iosci.* **17** (1973), 11–34. (D. Richardson) **47** #6343 92A05

(*with* Marchi, Ezio) Aspects of evolutionary theory and the theory of games. *athematical problems in biology* (*Conf., Univ. Victoria, Victoria, B.C.*, 1973), *pp.* 66–72. *ecture Notes in Biomath., Vol.* 2, *Springer, Berlin*, 1974. (A. Rapoport) **51** #5062 2A15 (90D40)

(*with* Marchi, Ezio) Fuzzy aspects of the parsimony problem in evolution. *Math. iosci.* **23** (1975), 305–327. (F. W. Stallman) **51** #2676 92A10

ell, Roger W. On the nonseparable theory of Borel and Souslin sets. *Bull. Amer. ath. Soc.* **78** (1972), 236–241. (Mary Powderly) **45** #3211 04A15 (28A05)

On the non-separable theory of k-Borel and k-Souslin sets. *General Topology and ppl.* **3** (1973), 161–195. (J. P. R. Christensen) **47** #7716 54H05

On the representation of nonseparable analytic sets. *Proc. Amer. Math. Soc.* **39** 1973), 402–408. (Dj. Kurepa) **52** #1649 54H05

On characterizing non-separable analytic and extended Borel sets as types of ontinuous images. *Proc. London Math. Soc.* (3) **28** (1974), 683–699. (A. H. Stone) **0** #14711 54H05

On Borel mappings and Baire functions. *Trans. Amer. Math. Soc.* **194** (1974), 95–211. (A. H. Stone) **50** #14712 54H05 (54C50)

(*with* Wolk, E. S.) On continuous functions and convergence of nets. *Amer. Math. Monthly* **83** (1976), *no.* 5, 365–366. (R. F. Dickman, Jr.) **53** #6486 54C05

selmann, H. (*with* Eitelberg, E.) Comments on: "On system realization by matrix generalized inverses" (Internat. J. Control **26** (1977), no. 5, 745–751) by V. Lovass-Nagy, R. J. Miller and D. L. Powers. *Internat. J. Control* **27** (1978), *no.* 4, 651–652. (Editors) 57 #9179 93B15

sen, A. B. (*with* Sternfeld, Y.) On the characterization of the dimension of a compact metric space K by the representing matrices of $C(K)$. *Israel J. Math.* **22** (1975), *no.* 2, 148–167. (A. B. Németh) **53** #11351 46E15 (54F45)

On a certain class of polytopes associated with independence systems. *Math. Scand.* **41** (1977), *no.* 2, 225–241. (Jacques Dubois) **58** #24008 52A25 (05B20, 05C99)

sen, Arthur G. (*with* Na, Tsung Y.) Similarity analysis of differential equations by Lie group. Modern dimensional analysis, similitude and similarity. *J. Franklin Inst.* **292** (1971), 471–489. (Colin Rogers) **48** #11737 35A30 (35Q99)

sen, Bruce J. (*with* Sklansky, Jack; Chazin, Robert L.) Minimum-perimeter polygons of digitized silhouettes. *IEEE Trans. Computers* **C-21** (1972), 260–268. (Authors' summary) **55** #9624 68A45

sen, D. J. Compatible partial orderings in Boolean algebras. *Comment. Math. Univ. Carolinae* **14** (1973), 231-239. (R. A. Melter) **48** #5943 06A40

sen, Eldon R. (*with* McNolty, Frank) Some aspects of Swerling models for fluctuating radar cross section. *IEEE Trans. Aerospace and Electron. Systems* **AES-10** (1974), 281–285. (Editors) **49** #7005 94A05

(*with* Gilliland, Dennis C.) A note on some series representations of the integral of a bivariate normal distribution over an offset circle. *Naval Res. Logist. Quart.* **21** (1974), 207–211. (N. Giri) **50** #8829 62H05

(*with* Huynen, J. Richard; McNolty, Frank) Component distributions for fluctuating radar targets. *IEEE Trans. Aerospace and Electron. Systems* **AES-11** (1975), *no.* 6, 1316–1332. (P. N. Rathie) **53** #15538 94A05

(*with* Patrick, Merrell L.) Estimating the multiplicity of a root. *Numer. Math.* **27** (1976/77), *no.* 1, 121–131. (W. M. Kincaid) **55** #6828 65H05

(*with* Patrick, Merrell L.) A family of root finding methods. *Numer. Math.* **27** (1976/77), *no.* 3, 257–269. (Colin M. Campbell) **55** #6829 65H05

(*with* Patrick, Merrell L.; Rusnak, J.) Some modifications of Laguerre's method. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **17** (1977), *no.* 4, 409–417. (E. Frank) **57** #1867 65H05

See also **Fettis, Henry E.**, **54** #4050

nsen, Erik B. Numerical solution of integro-differential and singular integral equations for plate bending problems. (German summary) *J. Elasticity* **6** (1976), *no.* 1, 39–56. (Raičo Lazarov) **58** #3894 76.65 (65R05)

(*with* Christiansen, Søren) Numerical solution of boundary value problems through integral equations. *Z. Angew. Math. Mech.* **58** (1978), *no.* 6, 14–25. (Authors' summary) **58** #19240 65N99 (65R05)

Hansen, Frank Inner one-parameter groups acting on a factor. *Math. Scand.* **41** (1977), *no.* 1, 113–116. (Alain Connes) **58** #23631 46L10

(*with* Olesen, Dorte) Perturbations of centre-fixing dynamical systems. *Math. Scand.* **41** (1977), *no.* 2, 295–307. (S. Sankaran) **58** #17872a 46L10 (22D25)

(*with* Olesen, Dorte) Correction to: "Perturbations of centre-fixing dynamical systems". *Math. Scand.* **42** (1978), *no.* 1, *loose errata.* (S. Sankaran) **58** #17872b 46L10 (22D25)

Hansen, Friedhelm Lösung von Problemen und Verallgemeinerung von Sätzen aus der Theorie des Jacobsonschen Radikals. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 299–307. (C. Tsai) **47** #1849 16A21

Lösung eines Problems bezüglich der modularen Rechtsideale. *Acta Math. Acad. Sci. Hungar.* **24** (1973), 151–153. (T. de W. Jooste) **47** #1866 16A48

Die Frattinischen Unterstrukturen in Ringen ohne Einselement. *Math. Nachr.* **57** (1973), 259–273. (H. Tominaga) **48** #8545 16A21

Die Existenz der Eins in noetherschen Ringen. *Arch. Math.* (*Basel*) **25** (1974), 589–590. (Z. Papp) **50** #13139 16A46

On one-sided prime ideals. *Pacific J. Math.* **58** (1975), *no.* 1, 79–85. (G. Michler) **52** #487 16A46

Certain overrings of right hereditary, right Noetherian rings are V-rings. *Proc. Amer. Math. Soc.* **52** (1975), 85–90. (G. Michler) **51** #12939 16A52

The unity in rings with Gabriel and Krull dimension. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 2, 281–286. (J. C. Robson) **53** #5661 16A46

Schranken für die Gabriel- und Krull-Dimension Idealisator-ähnlicher Ringerweiterungen. *Arch. Math.* (*Basel*) **28** (1977), *no.* 6, 584–593. (Wolfgang Grölz) **56** #12060 16A46 (16A66)

Hansen, Gary W. (*with* Robinson, Donald W.) On the existence of generalized inverses. *Linear Algebra and Appl.* **8** (1974), 95–104. (Ion Enescu) **49** #10733 16A40

Hansen, Guillermo On quasi topological groups. *Univ. Nac. Tucumán Rev. Ser. A* **21** (1971), 253–256. (M. Friedberg) **49** #3013 22A05

Hansen, H. C. On cycles in flag manifolds. *Math. Scand.* **33** (1973), 269–274 (1974). (S. I. Gel'fand) **51** #12878 14M15 (20G20)

A small universal cover of figures of unit diameter. *Geometriae Dedicata* **4** (1975), *no.* 2/3/4, 165–172. (J. M. Wills) **53** #1423 52A45

Hansen, Idar (*with* Johnson, David Copeland) The primitive elements in $\mathrm{MU}_*K(Z/p, 1)$. *Math. Z.* **148** (1976), *no.* 2, 169–175. (R. M. Switzer) **53** #9258 57D90 (55G25)

Primitive and framed elements in $MU_*\mathbf{Z}/p$. *Math. Z.* **157** (1977), *no.* 1, 43–52. (R. E. Stong) **57** #4199 57D90

On Adams' splitting of K-theory and complex cobordism. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 1, 113–116. (Harvey Margolis) **57** #1492 55G25

Hansen, James V. (*with* Litchfield, James W.; Beck, Larry C.) A research and development decision model incorporating utility theory and measurement of social values. *IEEE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 6, 400–410. (Peter Bod) **53** #10185 90A10

Hansen, John C. The learning problem for conversational artifacts. *Computing systems* 1975 (*Proc. Fourth Texas Conf., Univ. Texas, Austin, Tex.*, 1975), *Paper No.* 1B–4, 4 *pp. Univ. Texas, Austin, Tex.*, 1975. (K. D. Günther) **56** #1838 68A35 (68A45, 94A30)

Some applications of a general theory of digraph measures. *Proceedings of the* 1975 *International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.*, 1975), *pp.* 262–276. *IEEE Comput. Soc., Long Beach, Calif.*, 1975. (From the introduction) **58** #5343 05C20

A process decomposition theorem. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 401-404. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (Derick Wood) **54** #11833 68A05 (68A25)

(*with* Marse, Ken) Self-modifying systems. *Proceedings of the Fifth Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1975), *pp.* 351–374. *Congressus Numerantium, No. XVI, Utilitas Math. Publ., Winnipeg, Man.*, 1976. (Fujio Nishida) **56** #4265 68A35 (94A30)

Hansen, Jorn S. Some two-mode buckling problems and their relation to catastrophe theory. *AIAA J.* **15** (1977), *no.* 11, 1638–1644. (J. M. T. Thompson) **57** #1545 58C25 (73.58)

helbig Hansen, Keld *See* **Helbig Hansen, Keld**

Hansen, Lowell J. Boundary values and mapping properties of H^p functions. *Math. Z.* **128** (1972), 189–194. (P. Lappan) **47** #471 30A72

(*with* Brown, Léon) On the range sets of H^p functions. *Pacific J. Math.* **42** (1972), 27–32. (P. L. Duren) **48** #539 30A18 (30A72)

(*with* Brown, Léon) A nonnormal outer function in H^p. *Proc. Amer. Math. Soc.* **34** (1972), 175–176. (J. A. Cima) **45** #561 30A78

The Hardy class of a function with slowly-growing area. *Proc. Amer. Math. Soc.* **45** (1974), 409–410. (M. H. Heins) **50** #2499 30A78

(*with* Hayman, W. K.) On the growth of functions omitting large sets. *J. Analyse Math.* **30** (1976), 208–214. (D. F. Shea) **55** #10697 30A78

On the growth of entire functions bounded on large sets. *Canad. J. Math.* **29** (1977), *no.* 6, 1287–1291. (S. Hellerstein) **57** #627 30A64

Hansen, M. W. *See* **Discussion: Papers, International Association of Survey Statisticians, 56** #4008

Hansen, Morris H. (*with* Madow, William G.) On statistical models and estimation in sample surveys. Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 4, Contributed papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 4, 124–127 (1976). (V. K. Srivastava) **58** #13445 62D05

(*with* Tepping, Benjamin J.) Variance estimation for a specified multiple-frame survey design. *Contributions to survey sampling and applied statistics, pp.* 57–68. *Academic Press, New York*, 1978. (Mankal N. Murthy) **58** #18821 62D05

kofoed-Hansen, O. *See* **Kofoed-Hansen, O.**

Hansen, Ole Håvard (*with* Torgersen, Erik Nikolai) Comparison of linear normal experiments. *Ann. Statist.* **2** (1974), 367–373. (M. Csorgo) **51** #7070 62B15

Hansen, Pierre Quadratic zero-one programming by implicit enumeration. *Numerical methods for non-linear optimization* (*Conf., Univ. Dundee, Dundee*, 1971), *pp.* 265–278. *Academic Press, London*, 1972. (G. Opfer) **52** #5006 90C10 (*with* Brans, J. P.; Vincke, Philippe) Programmation linéaire—critères d'optimalité. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **59** (1973), 448–459. (I. Maruşciac) **48** #7958 90C05

(*with* Las Vergnas, Michel) Une propriété des hypergraphes sans cycles de longueur supérieure à deux. Colloque sur la Théorie des Graphes (Brussels, 1973). *Cahiers Centre Études Recherche Opér.* **15** (1973), 315–317. (László Lovász) **50** #1968 05C35

(*with* Kaufman, Léon) A primal-dual algorithm for the three-dimensional assignment problem. (French summary) Colloque sur la Théorie des Graphes (Brussels, 1973). *Cahiers Centre Études Recherche Opér.* **15** (1973), 327–336. (D. R. Fulkerson) **51** #9780 90B35

(*with* Las Vergnas, Michel) On a property of hypergraphs with no cycles of length greater than two. *Hypergraph Seminar* (*Proc. First Working Sem., Ohio State Univ., Columbus, Ohio*, 1972; *dedicated to Arnold Ross*), *pp.* 99–101. *Lecture Notes in Math., Vol.* 411, *Springer, Berlin*, 1974. (Torrence D. Parsons) **51** #7954 05C99

(*with* Kaufman, Léon) An algorithm for the location of central facilities. *Mathematical programs for activity analysis* (*Rep. Belgo-Israeli Colloq. Operations Res., Pope Hadrian VI College, Univ. Louvain, Louvain*, 1972), *pp.* 141–158. *North-Holland, Amsterdam*, 1974. (S. L. Hakimi) **54** #12184 90B05

Quelques approches de la programmation non linéaire en variables 0–1. (English summary) Colloque sur la Programmation Mathématique (Brussels, 1974). *Cahiers Centre Études Recherche Opér.* **16** (1974), 291–314. (E. M. L. Beale) **50** #15909 90C10

(*with* Kaufman, Léon) A note on the quadratic assignment problem. (French summary) Colloque sur la Programmation Mathématique (Brussels, 1974). *Cahiers Centre Études Recherche Opér.* **16** (1974), 441–446. (K. Swarup) **51** #9807 90C20

Les procédures d'exploration et d'optimisation par séparation et évaluation. *Combinatorial programming: methods and applications* (*Proc. NATO Advanced Study Inst., Versailles*, 1974), *pp.* 29–65. *NATO Advanced Study Inst. Ser., Ser. C: Math. and Phys. Sci., Vol.* 19, *Reidel, Dordrecht*, 1975. (From the summaries) **58** #9235 90C10 (65K05)

Fonctions d'évaluation et pénalités pour les programmes quadratiques en variables 0-1. *Combinatorial programming: methods and applications* (*Proc. NATO Advanced Study Inst., Versailles*, 1974), *pp.* 361–370. *NATO Advanced Study Inst. Ser., Ser. C: Math. and Phys. Sci., Vol.* 19, *Reidel, Dordrecht*, 1975. (Michael J. Todd) **53** #2361 90C10

Degrés et nombre de stabilité d'un graphe. Colloque sur la Théorie des Graphes (Paris, 1974). *Cahiers Centre Études Recherche Opér.* **17** (1975), *no.* 2-3-4, 213–220. (A. Astromoff) **53** #2751 05C99

(*with* Kaufman, Léon) Public facilities location under an investment constraint. (French summary) *Operational research '75* (*Proc. Seventh IFORS Internat. Conf., Tokyo/Kyoto*, 1975), *pp.* 201–209. *North-Holland, Amsterdam*, 1976. (Jan Weglarz) **55** #2089 90B05

(*with* Loréa, Michel) Degrees and independent sets of hypergraphs. *Discrete Math.* **14** (1976), *no.* 4, 305–309. (Authors' summary) **52** #10505 05C99

A cascade algorithm for the logical closure of a set of binary relations. *Information Processing Lett.* **5** (1976/77), *no.* 2, 50–54. (From the introduction) **58** #15713a (E **58** #15713b) 94A20 (90C05, 90C20)

Erratum: "A cascade algorithm for the logical closure of a set of binary relations" (Information Processing Lett. **5** (1976/77), no. 2, 50–54). *Information Processing Lett.* **5** (1976/77), *no.* 4, 124. (From the introduction) **58** #15713b 94A20

Subdegrees and chromatic numbers of hypergraphs. *Studies in integer programming* (*Proc. Workshop, Bonn*, 1975), *pp.* 287–292. *Ann. of Discrete Math., Vol.* 1, *North-Holland, Amsterdam*, 1977. (Jean-Claude Fournier) **57** #16118 05C15

See also **Operational Research, 49** #12059

Hansen, Q. M. *See* **Control in space, 48** #13319

Hansen, R. O. Multipole moments of stationary space-times. *J. Mathematical Phys.* **15** (1974), 46–52. (J. Blackman) **49** #2019 83.35

(*with* Newman, Ezra T.) A complex Minkowski space approach to twistors. *General Relativity and Gravitation* **6** (1975), *no.* 4, 361–385. (W. M. Tulczyjew) **54** #2095 83.53

(*with* Winicour, Jeffrey) Killing inequalities for relativistically rotating fluids. *J. Mathematical Phys.* **16** (1975), 804–808. (Kotik K. Lee) **51** #4925 83.53

(*with* Janis, Allen I.; Newman, Ezra T.; Porter, John R.; Winicour, Jeffrey) Tensors, spinors, and functions on the unit sphere. *General Relativity and Gravitation* **7** (1976), *no.* 8, 687–693. (Richard Hansen) **57** #2427 83.53

(*with* Winicour, Jeffrey) New conserved quantity for the Kerr solution. *Phys. Rev. D* (3) **13** (1976), *no.* 10, 2705–2706. (Authors' summary) **56** #4659 83.53

(*with* Ludvigsen, Malcolm) A new $\mathcal{H}$-space formalism. *General Relativity and Gravitation* **8** (1977), *no.* 9, 761–786. (Edwin Ihrig) **58** #14923 83.53

(*with* Winicour, Jeffrey) Killing inequalities for relativistically rotating fluids. II. *J. Mathematical Phys.* **18** (1977), *no.* 6, 1206–1209. (Kotik K. Lee) **56** #4660 83.58

(*with* Ashtekar, Abhay) A unified treatment of null and spatial infinity in general relativity. I. Universal structure, asymptotic symmetries, and conserved quantities at spatial infinity. *J. Math. Phys.* **19** (1978), *no.* 7, 1542–1566. (John Madore) **58** #20188 83.53

Hansen, Robert C. Series representation of elements in separable Banach spaces. *Math. Mag.* **45** (1972), 190–194. (Nguyên Phuong Các) **47** #3961 46B15

(*with* Crownover, Richard M.) Commutants of generalized integrations on a space of analytic functions. *Indiana Univ. Math. J.* **26** (1977), *no.* 2, 233–245. (V. A. Tkačenko) **55** #3862 47B37 (30A98)

Hansen, Rodney T. Modular palindromes. *Math. Mag.* **44** (1971), 208–212. (S. A. Burr) **45** #6746 10A10

Generating identities for Fibonacci and Lucas triples. *Fibonacci Quart.* **10** (1972), *no.* 6, 571–578. (W. H. Mills) **46** #7153 10A40

Uniqueness of complementing pairs in partially ordered abelian groups. *J. Austral. Math. Soc.* **13** (1972), 15–16. (L. Fuchs) **45** #8595 06A60

Greatest integer function identities. *Ranchi Univ. Math. J.* **5** (1974), 89–94. (Editors) **55** #7898 10A20

Greatest integer function identities. *New Zealand Math. Mag.* **12** (1975), 23–26. (H. Gupta) **51** #5467 10A20

A characterization of complementing pairs by distance sets. *New Zealand Math. Mag.* **12** (1975), *no.* 2, 75–77. (S. Stein) **52** #8074 10L05

General identities for linear Fibonacci and Lucas summations. *Fibonacci Quart.* **16** (1978), *no.* 2, 121–128. (Graham Lord) **58** #10702 10A35

Hansen, Terje (*with* Koopmans, Tjalling C.) Definition and computation of a capital stock invariant under optimization (an abstract). *Mathematical topics in economic theory and computation* (*Sympos. Math. Econom., SIAM Fall Meeting, Univ. Wisconsin, Madison, Wis.*, 1971), *pp.* 113–121. *Soc. Indust. Appl. Math., Philadelphia, Pa.*, 1972. (Authors' summary) **55** #7302 90A10

(*with* Jaskold Gabszewicz, Jean) Collusion of factor owners and distribution of social output. *J. Econom. Theory* **4** (1972), *no.* 1, 1–18. (From the authors' introduction) **56** #10812 90A15 (90A20)

(*with* Koopmans, Tjalling C.) On the definition and computation of a capital stock invariant under optimization. *J. Econom. Theory* **5** (1972), *no.* 3, 487–523. **56** #14589a (E **56** #14589b) 90A15

(*with* Koopmans, Tjalling C.) Erratum: "On the definition and computation of a capital stock invariant under optimization" (J. Econom. Theory **5** (1972), no. 3, 487–523). *J. Econom. Theory* **6** (1973), *no.* 5, 525. **56** #14589b 90A15

A brief survey of some applications of fixed point methods. *Mathematical models in economics* (*Proc. Sympos. and Conf. on von Neumann Models, Warsaw*, 1972), *pp.* 449–459. *North-Holland, Amsterdam*, 1974. (S. Cruceanu) **53** #5001 90C50 (90A15)

On the approximation of Nash equilibrium points in an N-person noncooperative game. *SIAM J. Appl. Math.* **26** (1974), 622–637. (R. E. Stearns) **50** #1740 90D10

Generating stationary points for a class of mathematical programming problems by fixed point algorithms. *Fixed points: algorithms and applications* (*Proc. First Internat. Conf., Clemson Univ., Clemson, S. C.*, 1974), *pp.* 113–131. *Academic Press, New York*, 1977. (Michael J. Todd) **56** #13193 54H25 (90C30)

See also **Scarf, Herbert E., 52** #12727

Hansen, Vagn Lundsgaard On mapping spaces with infinite dimensional target. *Proceedings of the Advanced Study Institute on Algebraic Topology* (*Aarhus Univ., Aarhus*, 1970), *Vol. I, pp.* 154–169. *Various Publ. Ser., No.* 13, *Mat. Inst., Aarhus Univ., Aarhus*, 1970. (Peter Stefan) **49** #11562 58D15

Some theorems on direct limits of expanding sequences of manifolds. *Math. Scand.* **29** (1971), 5–36. (J. E. West) **47** #7751 57A20 (58B05)

On the homotopy type of certain spaces of differentiable maps. *Math. Scand.* **30** (1972), 75–87. (R. S. Palais) **48** #1261 58D10 (58B05)

Integrably parallelizable manifolds. *Proc. Amer. Math. Soc.* **35** (1972), 543–546. (P. Molino) **46** #4426 53C10 (57D15)

On the fundamental group of a mapping space. An example. *Compositio Math.* **28** (1974), 33–36. (S. S. Cairns) **49** #6228 55D35

Equivalence of evaluation fibrations. *Invent. Math.* **23** (1974), 163–171. (A. Dold) **51** #4242 55F15 (55E15)

On the space of maps of a closed surface into the 2-sphere. *Math. Scand.* **35** (1974), 149–158. (W. D. Neumann) **52** #6778 58D10 (57A05)

The homotopy problem for the components in the space of maps on the n-sphere. *Quart. J. Math. Oxford Ser.* (2) **25** (1974), 313–321. (I. Vaisman) **50** #14838 58D15 (55D15, 57D35)

Decomposability of evaluation fibrations and the brace product operation of James. *Compositio Math.* **35** (1977), *no.* 1, 83–89. (Michael Eggar) **58** #13035 55G40

Embedding finite covering spaces into trivial bundles. *Math. Ann.* **236** (1978), *no.* 3, 239–243. (L. S. Husch) **58** #13051 57A35

Hansen, Wolfhard Hunt's theorem and axiomatic potential theory. *Martingales* (*Report Meeting, Oberwolfach*, 1970), *pp.* 15–18. *Lecture Notes in Math., Vol.* 190, *Springer, Berlin*, 1971. (Thomas E. Armstrong) **50** #14953 60J40

Cohomology in harmonic spaces. *Seminar on Potential Theory, II, pp.* 63–101. *Lecture Notes in Math., Vol.* 226, *Springer, Berlin*, 1971. (B. Walsh) **55** #5880 31D05

Fegen und Dünnheit mit Anwendungen auf die Laplace- und Wärmeleitungsgleichung. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **21** (1971), *no.* 1, 79–121. (Author's summary) **54** #3002 31D05 (35K05)

Abbildungen harmonischer Räume mit Anwendung auf die Laplace und Wärmeleitungsgleichung. (French and English summaries) *Ann. Inst. Fourier* (*Grenoble*) **21** (1971), *no.* 3, 203–216. (E. M. J. Bertin) **49** #617 31D05

Hunt's theorem and axiomatic potential theory. *Invent. Math.* **14** (1971), 242–252. (B. Walsh) **46** #2070 31D05

Potentialtheorie semi-regulärer harmonischer Kerne. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **18** (1971), 298–304. (M. Brelot) **45** #8870 31D05

(*with* Walz, D.) Bemerkungen zur kühnen Strategie. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **20** (1971), 325–331. (J. G. Wendel) **48** #1310 60G99

Perturbation of harmonic spaces and construction of semigroups. *Invent. Math.* **19** (1973), 149–164. (Thomas E. Armstrong) **52** #6006 31D05 (60J40)

(*with* Bliedtner, Jürgen) Simplexes et espaces harmoniques. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 757–759. (Thomas E. Armstrong) **49** #5388 31D05 (46E15)

(*with* Bliedtner, Jürgen) Cônes de fonctions surharmoniques. Caractérisation de la frontière de Choquet. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1299–1301. (Thomas E. Armstrong) **49** #9240 31D05

(*with* Bliedtner, Jürgen) Simplicial cones in potential theory. *Invent. Math.* **29** (1975), *no.* 2, 83–110. (B. Walsh) **52** #8470 31D05

Cones simpliciaux de fonctions surharmoniques. *Séminaire de Théorie du Potentiel* (*Paris*, 1972-1974), *pp.* 91–94. *Lecture Notes in Math., Vol.* 518, *Springer, Berlin*, 1976. (D. H. Armitage) **56** #12293 31D05

(*with* Bliedtner, Jürgen) A simplicial characterization of elliptic harmonic spaces. *Math. Ann.* **222** (1976), *no.* 3, 261–274. (Teruo Ikegami) **53** #13614 31D05

Some remarks on strict potentials. *Math. Z.* **147** (1976), *no.* 3, 279–285. (Thomas E. Armstrong) **53** #5919 31D05

(*with* Bliedtner, Jürgen) Cones of hyperharmonic functions. *Math. Z.* **151** (1976), *no.* 1, 71–87. (Denis Feyel) **57** #16643 31D05

(*with* Bliedtner, Jürgen) Simplicial cones in potential theory. II. Approximation theorems. *Invent. Math.* **46** (1978), *no.* 3, 255–275. (B. Walsh) **58** #11473 31D05

Hansford-Miller, F. H. *See* **Cliff, A. D.; et al., 54** #1529

Hans-Gill, Rajinder Jeet Maximal covering sets. I, II. *J. Indian Math. Soc.* (*N.S.*) **35**

971), 171–179 (1972); *ibid.* (*N.S.*) **35** (1971), 181–203 (1972). (R. P. Bambah) 6 #5256 10E30

(*with* Dumir, Vishwa Chander) A counter-example in geometry of numbers. *Indian . Pure Appl. Math.* **3** (1972), *no.* 3, 460–465. (H. Groemer) **46** #7171 10E30 2A45)

(*with* Dumir, Vishwa Chander) Lattice double packings in the plane. *Indian J. Pure ppl. Math.* **3** (1972), *no.* 3, 481–487. (H. Groemer) **46** #7173 10E30 (52A45)

(*with* Dumir, Vishwa Chander) On a conjecture of Mahler. *Bull. Austral. Math. oc.* **16** (1977), *no.* 1, 125–129. (Marc Reversat) **55** #7931 10F05

(*with* Bambah, R. P.; Dumir, Vishwa Chander) Covering by star domains. *Indian . Pure Appl. Math.* **8** (1977), *no.* 3, 344–350. (A. C. Woods) **58** #5531 10E10 52A20)

ler, E. (*with* McAuliffe, G. K.; Wilkov, R. S.) Exact calculation of computer network eliability. *Networks* **4** (1974), 95–112. (W.-K. Chen) **49** #4676 94A20 (68A50)

on, Andrew J. (*with* Regge, Tullio) The relativistic spherical top. *Ann. Physics* **87** 1974), 498–566. (H. S. P. Grässer) **50** #3824 81.53

(*with* Eguchi, Tohru; Gilkey, Peter B.) Topological invariants and absence of an xial anomaly for a Euclidean Taub-NUT (Newman-Unti-Tamburino) metric. *Phys. Rev. D* (3) **17** (1978), *no.* 2, 423–427. (Authors' summary) **57** #4921 81.58 (58G10, 3.58)

son, D. L. (*with* Wright, F. T.) Some convergence results for weighted sums of ndependent random variables. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **19** 1971), 81–89. (T. M. Liggett) **45** #1220 60G50

(*with* Pledger, Gordon; Wright, F. T.) On consistency in monotonic regression. *nn. Statist.* **1** (1973), 401–421. (I. R. Savage) **50** #6023 62E20

(*with* Wright, F. T.) A theorem about the oscillation of sums of independent andom variables. *Proc. Amer. Math. Soc.* **37** (1973), 226–233. (H. H. Stratton) **7** #4328 60G50 (60J15)

(*with* Steck, G. P.) Estimating the relationship between two distribution functions. French summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 4. Contributed papers. *Bull. Inst. Internat. Statist.* **46** 1975), *no.* 4, 362–364 (1976). (B. R. Handa) **57** #1761 62G15

(*with* Goodsell, C. A.) Almost sure convergence for the Robbins-Monro process. *nn. Probability* **4** (1976), *no.* 6, 890–901. (Sami Abdelhamid) **55** #4557 62L20

(*with* Pledger, Gordon) Consistency in concave regression. *Ann. Statist.* **4** (1976), *no.* 6, 1038–1050. (Prem K. Goel) **54** #14219 62G05 (90C20)

son, Denis (*with* Abbott, H. L.) A problem of Schur and its generalizations. *Acta Arith.* **20** (1972), 175–187. (A. L. Whiteman) **47** #8475 10L10

On the product of the primes. *Canad. Math. Bull.* **15** (1972), 33–37. (E. M. Horadam) **47** #1734 10B05

(*with* Abbott, H. L.) Lower bounds for certain types of van der Waerden numbers. *J. Combinatorial Theory Ser. A* **12** (1972), 143–146. (A. P. Street) **45** #1866 10A45

(*with* Abbott, H. L.; Sauer, Norbert) Intersection theorems for systems of sets. *J. Combinatorial Theory Ser. A* **12** (1972), 381–389. (J. E. Graver) **45** #6633 05A05 (04A20)

On a theorem of Sylvester and Schur. *Canad. Math. Bull.* **16** (1973), 195–199. (E. M. Horadam) **49** #4918 10A25

(*with* Abbott, H. L.; Erdős, Paul) On the number of times an integer occurs as a binomial coefficient. *Amer. Math. Monthly* **81** (1974), 256–261. (M. S. Cheema) **49** #65 05A15 (10A40)

(*with* Abbott, H. L.) On finite Δ-systems. *Discrete Math.* **8** (1974), 1–12. (P. Erdős) **48** #10820 05A05

(*with* Abbott, H. L.) On a combinatorial problem in geometry. *Discrete Math.* **12** (1975), *no.* 4, 389–392. (G. L. Alexanderson) **52** #123 05A15

Sum-free sets and Ramsey numbers. *Discrete Math.* **14** (1976), *no.* 1, 57–61. (L. D. Baumert) **52** #7926 05B10

(*with* Chvátal, Václav) Degrees and matchings. *J. Combinatorial Theory Ser. B* **20** (1976), *no.* 2, 128–138. (F. Harary) **55** #169 05C35

(*with* Abbott, H. L.) On finite Δ-systems. II. *Discrete Math.* **17** (1977), *no.* 2, 121–126. (Karsten Steffens) **56** #8373 05A05

nson, Donald A. (*with* von Rabenau, Burkhard) Economic growth in a mixed urban economy: infrastructure investment and labor migration. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 2, 221–224. (M. B. Suryanarayana) **54** #9624 90A15

Competitive price behavior of an exhaustible resource where the rate of substitution is constrained. *Internat. Econom. Rev.* **18** (1977), *no.* 1, 135–149. (From the introduction) **58** #15047 90A15

Efficient transitions from a resource to a substitute technology in an economic growth context. *J. Econom. Theory* **17** (1978), *no.* 1, 99–113. (A. C. Williams) **57** #15329 90A15

nson, Dorothy L. (*with* Dale, Louis) The structure of idelas in a Euclidean semiring. *Kyungpook Math. J.* **17** (1977), *no.* 1, 21–29. (J. W. Brewer) **56** #3066 16A78

nson, F. (*with* Steele, J. Michael; Stenger, Frank) Distinct sums over subsets. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 1, 179–180. (S. L. G. Choi) **56** #5482 10L10

nson, F. B. (*with* Klimas, A.; Ramanathan, G. V.; Sandri, G.) Uniformly valid asymptotic solution to a Volterra equation on an infinite interval. *J. Mathematical Phys.* **14** (1973), 1592–1600. (C. Avramescu) **48** #6860 45L05

nson, J. D. (*with* Byers, J. A.; Cohen, B. I.; Condit, W. C.) Hybrid simulations of quasineutral phenomena in magnetized plasma. *J. Comput. Phys.* **27** (1978), *no.* 3, 363–396. (J. S. Colonias) **58** #14406 78.65

nson, James A. ★Growth in open economies. Lecture Notes in Operations Research and Mathematical Systems, Vol. 59. *Springer-Verlag, Berlin-New York*, 1971. v + 128 *pp.* (Michael D. Intriligator) **53** #7387 90A15

nson, James N. Equation solutions by functional analysis algorithms and formula manipulation. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems, pp.* 110–114. *North-Holland, Amsterdam*, 1972. (David R. Kincaid) **53** #8923 46N05 (68A15, 65–XX)

Experiments with equation solutions by functional analysis algorithms and formula manipulation. *J. Computational Phys.* **9** (1972), 26–52. (R. W. Hamming) **45** #2942 65Q05

anson, Jerry L. Numerical method for time-delay problems. *Internat. J. Numer. Methods Engrg.* **9** (1975), 85–99. (D. K. Hughes) **51** #12001 65Q05

Hanson, Leslie Ann (*with* Porter, A. Duane) Orthogonal similarity of normal matrices in GF(q). *Duke Math. J.* **38** (1971), 795–803. (John H. Hodges) **45** #1944 15A21

(*with* Porter, A. Duane) Unitary similarity of normal matrices in GF(q). *Math. Nachr.* **49** (1971), 351–357. (M. Pearl) **48** #8536 15A33

Hanson, Morgan A. (*with* Farr, William H.) Continuous time programming with nonlinear constraints. *J. Math. Anal. Appl.* **45** (1974), 96–115. (W. W. Breckner) **48** #13257 90C25

(*with* Farr, William H.) Continuous time programming with nonlinear time-delayed constraints. *J. Math. Anal. Appl.* **46** (1974), 41–61. (W. W. Breckner) **50** #9360 90C30

(*with* Bodo, E. P.) A class of continuous nonlinear complementarity problems. *J. Optim. Theory Appl.* **24** (1978), *no.* 2, 243–262. (J. Parida) **58** #9267 90C30

Hanson, Richard J. (*with* Dyer, P.) A computational algorithm for sequential estimation. *Comput. J.* **14** (1971), 285–290. (H. Wolf) **46** #2819 65D10 (62L12)

A numerical method for solving Fredholm integral equations of the first kind using singular values. *SIAM J. Numer. Anal.* **8** (1971), 616–622. (P. M. Anselone) **45** #2943 65R05

Integral equations of immunology. *Comm. ACM* **15** (1972), 883–890. (S. Maloň) **48** #10166 65R05

(*with* Lawson, Charles L.) ★Solving least squares problems. Prentice-Hall Series in Automatic Computation. *Prentice-Hall, Inc., Englewood Cliffs, N.J.*, 1974. xii + 340 *pp.* (R. P. Tewarson) **51** #2270 65F20

(*with* Phillips, James L.) Gauss quadrature rules with *B*-spline weight functions. *Math. Comp.* **28** (1974), *no.* 126, *loose microfiche suppl.* A1–C4. (P. Lipow) **49** #8292 65D30

Stably updating mean and standard deviation of data. Collection of articles honoring Alston S. Householder. *Comm. ACM* **18** (1975), 57–58. (D. J. Evans) **51** #7064 62–04

(*with* Phillips, James L.) An adaptive numerical method for solving linear Fredholm integral equations of the first kind. *Numer. Math.* **24** (1975), *no.* 4, 291–307. (W. R. Boland) **53** #7081 65R05

(*with* Phillips, James L.) Numerical solution of two-dimensional integral equations using linear elements. *SIAM J. Numer. Anal.* **15** (1978), *no.* 1, 113–121. (Authors' summary) **57** #8097 65R05

Hanson, T. H. McH. Actions of a locally compact group with zero. *Canad. J. Math.* **23** (1971), 413–420. (S. N. Hudson) **45** #4385a 54H15

Products of locally compact groups with zero and their actions. *Semigroup Forum* **3** (1971/72), *no.* 2, 180–184. (T.-S. Wu) **45** #3626 22A15 (54H15)

Actions of a locally compact group with zero. II. *Semigroup Forum* **3** (1971/72), *no.* 4, 371–374. (S. N. Hudson) **45** #4385b 54H15

Actions that fiber and vector semigroups. *Canad. J. Math.* **24** (1972), 29–37. (P. S. Mostert) **45** #7689 54H15

Products of locally compact groups with zero and their actions. *Canad. J. Math.* **24** (1972), 1043–1051. (T.-S. Wu) **47** #6931 22A15

(*with* King, Larry) Noncompact semigroup actions. Collection of articles dedicated to Alfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander Doniphan Wallace on the occasion of his 68th birthday. *Semigroup Forum* **7** (1974), *no.* 1-4, 58–73. (J. M. Day) **52** #14137 22A15

Hanson, William H. Mechanism and Gödel's theorems. *British J. Philos. Sci.* **22** (1971), 9–16. (Editors) **58** #27226 02A05

Hansotia, Behram Some special cases of stochastic programs with recourse. *Operations Res.* **25** (1977), *no.* 2, 361–363. (Author's summary) **58** #32944 90C15

Hansoul, Georges E. Quasi-ordered systems. I. *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 1-2, 91–103. (O. Frink) **52** #5495a 06A10

Quasi-ordered systems. II. *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 5-6, 375–395. (O. Frink) **52** #5495b 06A10

Quasi-ordered systems. III. *Bull. Soc. Roy. Sci. Liège* **45** (1976), *no.* 9–10, 322–352. (O. Frink) **55** #12583 06A10

Hanspeter, Bieri Der Satz von Hahn-Banach und Fixpunktsätze in limitierten Vektorräumen. *Comment. Math. Helv.* **45** (1970), 393–404. (S. Swaminathan) **45** #7430 46A15 (47H10)

Hanssen, L. (*with* Bergan, P. G.) A new approach for deriving "good" element stiffness matrices. *The mathematics of finite elements and applications, II* (*Proc. Second Brunel Univ. Conf. Inst. Math. Appl., Uxbridge*, 1975), *pp.* 483–497. *Academic Press, London*, 1976. (Hwa-Shan Ho) **56** #10334 73.65

Hansson, Åke (*with* Tärlung, Sten-Åke) Zig-zag procedures for memory allocation and retrieval of dense equilateral arrays of dynamically varying order. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **16** (1976), *no.* 3, 269–274. (Authors' summary) **54** #11878 68A50

Hansson, Bengt An analysis of some deontic logics. *Noûs* **3** (1969), *no.* 4, 373–398. (From the introduction) **58** #5053a (E **58** #5053b) 02C10

Voting and group decision functions. *Synthese* **20** (1969), 526–537. (K. J. Arrow) **45** #4808 90B99 (92A20)

Transitivity and topological structure of the preference space. *Proceedings of the First Scandinavian Logic Symposium* (*Åbo*, 1968), *pp.* 3–18. *Filosofiska Studier, No.* 8, *Filosof. Föreningen och Filosof. Inst., Uppsala Univ., Uppsala*, 1970. (B. G. Mirkin) **51** #2595 90A05 (08A05)

Erratum: "An analysis of some deontic logics" (Noûs 3 (1969), no. 4, 373–398). *Noûs* **4** (1970), *no.* 1, 390. (From the introduction) **58** #5053b 02C10

(*with* Gärdenfors, Peter) A guide to intensional semantics. *Modality, morality and other problems of sense and nonsense, pp.* 151–167. *CWK Gleerup Bokförlag, Lund*, 1973. (Robert P. McArthur) **56** #11757 02C10

The independence condition in the theory of social choice. *Theory and Decision* **4** (1973/74), 25–49. (Author's summary) **55** #14080 90A05 (92A20)

(*with* Gärdenfors, Peter) Filtrations and the finite frame property in Boolean semantics. *Proceedings of the Third Scandinavian Logic Symposium* (*Univ. Uppsala, Uppsala*, 1973), *pp.* 32–39. *Stud. Logic Found. Math., Vol.* 82, *North-Holland, Amsterdam*, 1975. (David Makinson) **53** #2633 02C10

(*with* Sahlquist, Henrik) A proof technique for social choice with variable electorate. *J. Econom. Theory* **13** (1976), *no.* 2, 193–200. (Andrew P. Sage) **56** #8089 92A20

See also **Deontic logic: introductory and systematic readings**, **56** #2790 (EA **55/56**)

Hantadze, A. G. (*with* Šarikadze, Dz. V.) The uniqueness of the solution of a boundary value problem of the dynamics of the ionosphere. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **62** (1971), 305–307. (E. Zeidler) **46** #5861 35Q99 (76.35)

Hantadze, N. Z. (*with* Davarašvili, G. I.) On the question of the determination of the information reliability of a multichannel code converter. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **72** (1973), 433–436. (From the authors' summary) **48** #13452 94A10

Hănțilă, F. I. Mathematical models of the relation between B and H for non-linear media. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **19** (1974), 429–448. (P. C. Vaidya) **50** #9181 78.53

On the uniqueness theorems of the stationary and quasistationary electromagnetic fields in nonlinear media. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **20** (1975), *no.* 2, 211–219. (E. Pinney) **53** #7222 78.35

A method of solving stationary magnetic field in non-linear media. (French and German summary inserts) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **20** (1975), *no.* 3, 397–407. (P. C. Vaidya) **51** #14758 78.65

Hantler, Sidney L. (*with* Kochen, Manfred) ASP: a program using stored hypotheses to select actions. *J. Cybernet.* **3** (1973), *no.* 3, 1–12. (W. W. Armstrong) **50** #6232 68A45

(*with* King, James C.) An introduction to proving the correctness of programs. *Comput. Surveys* **8** (1976), *no.* 3, 331–353. (From the summary) **58** #13851 68A05

Polynomial approximation in certain weighted Hilbert spaces of entire functions. *Math. Scand.* **39** (1976), *no.* 1, 113–124. (P. K. Kamthan) **57** #10000 32A15 (46E20)

Estimates for the $\bar\partial$-Neumann operator in weighted Hilbert spaces. *Trans. Amer. Math. Soc.* **217** (1976), 395–406. (Carlos A. Berenstein) **52** #14344 32A15 (30A82)

Hantsche, H. Über die Funktion $\Sigma(\chi)=\Sigma_{n=0}^{\infty}(-1)^n/(2n+1-\chi)$. *Z. Angew. Math. Mech.* **57** (1977), *no.* 1, 56–58. (R. P. Boas) **56** #8824 30A20 (44A20)

Hanturina, S. A. A special birational transformation of the lines in P_4. (Russian) *Geometry and topology, No.* 1 (*Russian*) *pp.* 144–147. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (Konrad Drechsler) **54** #10262 14E10

(*with* Peklič, V. A.) An involution relation between the lines of a three-dimensional projective space that is generated by four pencils of lines. (Russian) *Geometry and topology, No.* 2 (*Russian*), *pp.* 147–154. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974. (R. M. Geĭdel'man) **58** #7429 53A20

Hantzschmann, Karl Fehleruntersuchungen zur Lösung des inhomogenen natürlichen Randwertproblems durch einen Ritzschen Ansatz mit standardisierten Koordinatenfunktionen. (English and Russian summaries) . *Angew. Math. Mech.* **53** (1973), *no.* 3, 171–186. (H. Brunner) **53** #7042 65L10

Basisfunktionen für Polynomsplines. *Wiss. Z. Techn. Univ. Dresden* **25** (1976), *no.* 3, 399–403. (L. L. Schumaker) **54** #13389 41A15

Hanumanthachari, J. Some generalised unitary functions and their application to linear congruences. *J. Indian Math. Soc.* (*N.S.*) **34** (1970), 99–108 (1971). (D. Rearick) **45** #201 10K20

Certain generalizations of Nagell's totient function and Ramanujan's sum. *Math. Student* **38** (1970), 183–187. (E. M. Horadam) **47** #1730 (E **53** #5447) 10A20

A generalisation of Dedekind's Ψ-function. *Math. Student* **40A** (1972), 1–4. (H.-J. Kanold) **50** #253 10H25

"Certain generalizations of Nagell's totient function and Ramanujan's sum" (Math. Student **38** (1970), 183–187)–a correction and addition. *Math. Student* **42** (1974), 121–124 (1975). (E. M. Horadam) **53** #5447 10A20

(*with* Subrahmanyasastri, V. V.) Certain totient functions–allied Ramanujan sums and applications to certain linear congruences. *Math. Student* **42** (1974), 214–222 (1975). (M. S. Cheema) **53** #250 10A20

On an arithmetic convolution. *Canad. Math. Bull.* **20** (1977), *no.* 3, 301–305. (W. Narkiewicz) **57** #222 10A20

Hanumara, R. Choudary (*with* Tummala, V. M. Rao) Bayesian approach to maximum likelihood estimation. *Proceedings of the Annual Meeting of the American Statistical Association, Business and Economic Statistics Section* (*St. Louis, Mo.*, 1974), *pp.* 587–589. *Amer. Statist. Assoc., Washington, D.C.*, 1975. (K. M. Lal Saxena) **51** #11789 62F15

Hanus, W. (*with* Mrugała, R.) Manifestly covariant Hamiltonian form of the wave equation for the Dirac particle in the external electromagnetic field. *Acta Phys. Polon. B* **4** (1973), 607–614. (Authors' summary) **50** #15741 81.53

Hanushek, Eric A. Efficient estimators for regressing regression coefficients. *Amer. Statist.* **28** (1974), 66–67. (M. Atiqullah) **50** #1423 62J05

See also **Kenward, Lloyd R.**, (Not reviewed) *and* **Kenward, Lloyd R.**, **52** #9515

Hanyga, Andrzej Evolutionary condition in the theory of detonation and deflagration waves. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 1–11. (S. A. Berger) **49** #10244 76.35

Solutions of the Riemann problem for arbitrary hyperbolic systems of conservation laws. (Polish) *Prace IPPT/IFTR Rep.* **1975**, *no.* 38, 138 *pp.* **55** #13963 80.35

Thermodynamics, convex extensions and the Cauchy problem for systems of conservation laws. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 7-8, 521–527. (W. F. Ames) **54** #4362 80.35 (35L65)

Hanzal, Alex Sur la convergence de la méthode de surrelaxation en coordonnées pour $(A-\lambda B)x=0$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 7, A413–A415. (Author's summary) **55** #13755 65F15

Trois théorèmes sur la méthode de surrelaxation symétrique en coordonnées. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 8, A455–A458. (Author's summary) **55** #6813 65F15

Le choix optimal des paramètres dans la méthode accélérée de la surrelaxation symétrique en coordonnées. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 8, A561–A564. (Author's summary) **57** #11018 65F15

Hanzal, Josef Johannes Kepler and Bohemia before the battle of the White Mountain. (Czech. English summary) *DVT—Dějiny Věd Tech.* **4** (1971), *no.* 1, 1–12. (See Zbl **244** #01004) 01A45

Hanzalík, Štefan On the values of Euler's function. *Acta Fac. Rerum Natur. Uni* *Comenian. Math. Publ.* **25** (1971), 85–92. (E. M. Horadam) **46** #1692 10A20

Hao, Hsieh T. (*with* Newborn, Monroe M.) A study of trigger machines. *IEEE Trans* *Computers* **C-22** (1973), 1123–1131. (R. Shirtladze) **52** #7738 94A25

Haouat, Youssef (*with* Grazzini, Fulvio) Polynômes et différences finies divisées. (Englis summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 19, A1171–A1173. (Authors summary) **55** #10430 12B05 (13B25)

phan van Hap *See* **Phan Van Hap**

Hapaev, M. M. Stability in the problem of three bodies. *Dokl. Akad. Nauk SSSR* **195** (1970), 300–302 (*Russian*); *translated as Soviet Physics Dokl.* **15** (1970/71), 1013–1015 (Ja. Fodor) **50** #3689 70.34

A generalization of Ljapunov's second method. (Russian) *Differencial'nye Uravnenija* **9** (1973), 2020–2028, 2116. (R. F. Datko) **48** #9005 34D20

A stability analysis of resonance problems. (Russian) *Differencial'nye Uravnenija* **10** (1974), 447–457. 571. (R. F. Datko) **50** #704 34D20

Averaging in multifrequency systems. (Russian) *Dokl. Akad. Nauk SSSR* **21** (1974), 1021–1024. (J. A. Morrison) **50** #10448 34C30

A generalization of Ljapunov's second method. (Russian) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata*, 1973) (*Russian*), *pp.* 176–179, 196 *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (Wolfdietrich Müller) **57** #16860 34D20

A study of stability in the three body problem on the basis of a hydrodynamica model of the planets. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 5, 1092–109 (B. D. Jovanović) **55** #7028 70.35 (85.35)

Hapko, A. K. Construction of higher order iterations for the solution of systems of nonlinear equations. (Russian) *Prikl. Mat. i Programmirovanie No.* 10 (1973), 137–148 155. (H. Schwetlick) **50** #6146 65H10

Inversion of matrices by the orthogonalization method. (Russian) *Mat. Issled.* **10** (1975), *no.* 3(37), 194–200, 245. (I. Enescu) **53** #2974 15A09

Haplanov, M. G. (*with* Barsukov, E. G.) On a space of meromorphic functions. (Russian) *Mat. Zametki* **17** (1975), *no.* 4, 589–598. (E. Złotkiewicz) **53** #11058 30A68

The space of analytic functions that are representable by a certain class of Dirichle series. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 5, 1141–1159, 1199. (S. V. Hruščev **54** #13545 46E10 (30A98)

(*with* Kalužnin, L. A.; Litver, E. L.; Mokriščev, K. K.; Suprunenko, D. A.) Vladimir Petrovič Vel'min. Obituary. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 1(187) 229–235. (Editors) **53** #12842 01A70

(*with* Minkovskiĭ, V. L.; Mokriščev, K. K.; Nalbandjan, M. B.) Dmitriĭ Dmitrievi Morduhaĭ-Boltovskiĭ (on the centenary of his birth). (Russian) *Voprosy Istor. Estestvoznan. i Tehn.* **1977**, *no.* 3-4(56-57), 102–103. (Editors) **58** #4946 01A70

See also **Mathematical analysis and its applications**, **48** #8169; **Ahiezer, N. I.; et al.** **52** #5280 *and* **Mathematical analysis and its applications**, **52** #7760

Happ, H. H. The development of diakoptics. *Gabriel Kron and systems theory* (*Schaffer Library Sympos., Union Coll., Schenectady, N.Y.*, 1969), *pp.* 82–119. *Union College Press. Schenectady, N.Y.*, 1973. (Editors) **52** #13200 01A70

See also **Gabriel Kron and systems theory**, **52** #7830

Happ, W. W. *See* **Modern dimensional analysis, similitude and similarity**, **48** #10033 *and* **Transactions: Conference of Army Mathematicians**, **49** #4735

Happle, Wolfgang (*with* Rehm, Hans Peter) Zur gruppentheoretischen Abschätzung von Idealklassenexponenten galoisscher Zahlkörper durch Exponenten geeigneter Teilkörper. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, II. *J. Reine Angew. Math.* **268/269** (1974), 434–440. (Jack Sonn) **50** #7088 12A50

Hapugin, S. P. Defining sets for a class of summability methods. (Russian) *Application of functional analysis in approximation theory, No.* 3 (*Russian*), *pp.* 127–137. *Kalinin. Gos. Univ., Kalinin*, 1974. (Editors) **58** #29552 40C05

The defining sets of the $(C, 1)$ method. (Russian) *Application of functional analysis in approximation theory, No.* 2 (*Russian*), *pp.* 130–136. *Kalinin. Gos. Univ., Kalinin*, 1974. (V. Murgescu) **51** #8676 40G05

A sufficient condition for a determining set for a positive triangular method of summability. (Russian) *Application of functional analysis in approximation theory, No.* 5 (*Russian*), *pp.* 98–99. *Kalinin. Gos. Univ., Kalinin*, 1975. (Editors) **58** #29553 40C05

A sublinear operator and its applications. (Russian) *Application of functional analysis in approximation theory, No.* 5 (*Russian*), *pp.* 100–110. *Kalinin. Gos. Univ., Kalinin*, 1975. (Editors) **58** #30475 47B55 (41A65)

Haq, M. Safiul (*with* Fraser, D. A. S.) Inference and prediction for the multilinear model. *J. Statist. Res.* **4** (1970), 93–109. (D. G. Kabe) **50** #8771 62A05

Estimation of the scalar parameter in a Cauchy population. *J. Sci.* (*Karachi*) **1** (1971/72), *no.* 1, 67–68. (Author's summary) **55** #6655 62F10

Structural inference for the linear model with auto-regressive error. *J. Statist. Res.* **5** (1971), 10–22. (R. J. Buehler) **50** #8841 62J05 (62A05)

(*with* Rahaman, A. S. M. M.) Marginal likelihood function of the first order auto correlation of a multilinear model. *J. Statist. Res.* **5** (1971), 23–42. (R. J. Buehler) **50** #8842 62J05 (62A05)

(*with* Rinco, Stefan) On β-expectation tolerance region for the location-scale model. *J. Statist. Res.* **6** (1972), 52–59. (K. S. Fu) **49** #6477 62F25

Structural analysis for the bilinear model with linearly related responses. (German, French and Russian summaries) *Statist. Hefte* (*N.F.*) **14** (1973), 101–110. (A. K. Md. Ehsanes Saleh) **51** #2173 62J05 (62A05)

A multivariate model with intra-class covariance structure. *Ann. Inst. Statist. Math.* **26** (1974), 413–420. (N. Giri) **52** #15748 62A05

Inference about the difference between two p-component means in the presence of intra-class correlation. *J. Statist. Res.* **8** (1974), *no.* 1, 1–12. (S. John) **52** #15749 62A05

On inference about the mean in the presence of correlation. *Statist. Hefte* (*N.F.*) **15** (1974), 329–334. (A. P. Dawid) **53** #6852 62F10 (62J05)

On marginal likelihood inference about the parameters of linearly related responses. (German, French and Russian summaries) *Statist. Hefte* (*N.F.*) **16** (1975), 2–13. (R. J. Buehler) **51** #2041 62A05 (62J05)

(*with* Rinco, Stefan) β-expectation tolerance regions for a generalized multivariate odel with normal error variables. *J. Multivariate Anal.* **6** (1976), *no.* 3, 414–421. (A. P. awid) **54** #6365 62F25

(*with* Ng, Vee Ming) A note on structural distribution of the intra-class correlation efficient. *Statist. Hefte* (*N.F.*) **17** (1976), *no.* 3, 205–210. (A. P. Dawid) **56** #6946 .A05

Mohammad Inam ul On safeguarding statistical disclosure by giving approximate swers to queries. *International Computing Symposium* 1977 (*Liège*, 1977), *pp.* 491–495. *orth-Holland, Amsterdam*, 1977. (Yuri Breitbart) **58** #8580 68A50

e, **M. M.** Ergodic properties of shift transformations. *J. Natur. Sci. and Math.* **11** 971), 167–183. (Michael Lin) **46** #9294 28A65

e, **Mohammad Rashidul** Čech homology and cohomology groups of compact, lc^n paces. II. The universal coefficient theorem. *J. Natur. Sci. and Math.* **11** (1971), 31–242. (Y. Kodama) **46** #4520 55B05

e, **Wahidul** More on nonsimultaneous additivity. *Internat. Econom. Rev.* **15** (1974), 50–457. (Charles R. Johnson) **50** #12151 90A10

Samuelson's self-dual preferences. *Econometrica* **43** (1975), 31–39. (Author's ummary) **56** #2207 90A05 (90A10)

Kei (*with* Sawaragi, Yoshikazu; Sunahara, Yoshifumi) On a statistical analysis of on-linear time-variant control systems with a dead time subjected to a suddenly applied andom disturbance with the mean value. *Proceedings of the Sixteenth Japan National Congress for Applied Mechanics* (*Univ. Tokyo, Tokyo*, 1966), *pp.* 356–363. *Sci. Council of apan, Tokyo*, 1967. (Authors' summary) **56** #11466 93E99

On the stochastic control of linear systems with time delay. *Theoretical and applied nechanics, Vol.* 22 (*Proc. 22nd Japan Nat. Congr. Appl. Mech., Tokyo*, 1972), *pp.* 73–483. *Univ. Tokyo Press, Tokyo*, 1974. (A. Bensoussan) **51** #2740 93E20

, Masaru On the existence of various bounded harmonic functions with given periods. *agoya Math. J.* **49** (1973), 143–148. (Y. K. Kwon) **49** #9189 30A48

On the existence of various bounded harmonic functions with given periods. II. *agoya Math. J.* **56** (1975), 1–5. (R. M. Hervé) **55** #5878 31A05

, Osamu On origin and physical meaning of Ward-like identity in dual-resonance nodel. *Progr. Theoret. Phys.* **46** (1971), 1549–1559. (P. R. Chernoff) **46** #10335 1.47

(*with* Naka, Sigefumi) An example of infinite-component wave equation without pace-like solution. *Progr. Theoret. Phys.* **53** (1975), 1194–1195. (Kishin Mariwalla) 3 #12292 81.35

, Shinji (*with* Furuta, Katsuhisa; Mori, Shozo) A class of systems with the same bserver. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 4, 572–576. (T. Kaczorek) 3 #15479 93C45

(*with* Furuta, Katsuhisa) Minimal order state observers for bilinear systems. *nternat. J. Control* **24** (1976), *no.* 5, 705–718. (Arie Feuer) **55** #5253 93B05

(*with* Furuta, Katsuhisa) Observability for bilinear systems. *Internat. J. Control* **26** 1977), *no.* 4, 559–572. (Arle Feuer) **58** #26236 93B05

, Tadayuki On the stability of solutions of certain third order ordinary differential equations. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 897–902. (K. E. Swick) **47** #2152 34D20

On the asymptotic behavior of solutions of certain third order ordinary differential equations. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 903–908. (K. E. Swick) **47** #2153 34D20

A remark on the asymptotic behavior of the solution of $\dddot{x}+f(\ddot{x})\ddot{x}+\phi(\dot{x},\ddot{x})+g(\dot{x})+h(x)=p(t,x,\dot{x},\ddot{x},,\dddot{x})$. *Proc. Japan Acad.* **48** (1972), 353–355. (J. O. C. Ezeilo) **47** #7153 34D05

Remarks on the asymptotic behavior of the solutions of certain non-autonomous differential equations. *Proc. Japan Acad.* **48** (1972), 549–552. (R. M. Cooper) **48** #4433 34D05

A note on the asymptotic behavior of the solutions of $\dddot{x}+a(t)f(\ddot{x})\ddot{x}+b(t)\phi(\dot{x},\ddot{x})+c(t)g(\dot{x})+d(t)h(x)=p(t,x,\dot{x},\ddot{x},\dddot{x})$. *Proc. Japan Acad.* **49** (1973), 314–316. (J. O. C. Ezeilo) **48** #8995 34D05

On the asymptotic behavior of the solutions of some third and fourth order non-autonomous differential equations. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 649–673. (K. Kreith) **49** #10981 34D20

On the asymptotic behavior of solutions of certain non-autonomous differential equations. *Osaka J. Math.* **12** (1975), *no.* 2, 267–282. (D. Bobrowski) **52** #921 34D05

a, Yasuo (*with* Arafune, J.; Sugawara, Hirotaka) Theorems on Pomeron coupling. *Phys. Lett.* **37B** (1971), 92–94. (K. T. Mahanthappa) **48** #1605 81.30

Regge pole model and hadron physics. *Progr. Theoret. Phys. Suppl. No.* 51 (1972), 96–228. (Author's summary) **53** #15160 81.30

abasz, J. (*with* Caliński, Tadeusz) A dendrite method for cluster analysis. *Comm. Statist.* **3** (1974), 1–27. (H. Chernoff) **51** #11832 62H30

abovs′ka, L. V. (*with* Martinjuk, D. Ī.; Mironov, M. B.) Stability of the solutions of nonlinear difference equations. (Russian) *Differential-difference equations* (*Russian*), *pp.* 45–47. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (I. M. Sheffer) **52** #1077 39A12 (34D05)

(*with* Martinjuk, D. Ī.; Mironov, M. B.) A numerical-analytic method of investigating the periodic solutions of nonlinear difference equations. (Russian) *Differential-difference equations* (*Russian*), *pp.* 58–65. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (I. M. Sheffer) **52** #1078 39A12 (65Q05)

(*with* Martinjuk, D. Ī.; Perest′juk, M. O.) Periodic solutions of a certain class of systems of difference equations. (Russian) *Mathematical physics, No.* 15 (*Russian*), *pp.* 98–104. 180. *Izdat. "Naukova Dumka" Kiev*, 1974. (A. Halanay) **49** #3359 39A10

rada, K. *See* **Read, Ronald C.**, **53** #9706

rada, Koichi (*with* Fukao, Takeshi) Coexistence of competing species over a linear habitat of finite length. *Math. Biosci.* **38** (1978), *no.* 3-4, 279–291. (K. Gopalsamy) **57** #15567 92A15

rada, Koichiro On some doubly transitive groups. *Representation theory of finite groups and related topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 67–70. *Amer. Math. Soc., Providence, R.I.*, 1971. (D. A. Robinson) **47** #5081 20B10

(*with* Gorenstein, Daniel) Finite simple groups of low 2-rank and the families $G_2(q)$, $D_4^2(q)$: q odd. *Bull. Amer. Math. Soc.* **77** (1971), 829–862. (W. J. Wong) **46** #5427 20D05

(*with* Gorenstein, Daniel) Finite groups whose Sylow 2-subgroups are the direct product of two dihedral groups. *Ann. of Math.* (2) **95** (1972), 1–54. (H. Kurzweil) **47** #1939 20D20

On some 2-groups of normal 2-rank 2. *J. Algebra* **20** (1972), 90–93. (T. M. Gagen) **45** #8730 20D15

(*with* Gorenstein, Daniel) Finite groups of sectional 2-rank at most 4. *Finite groups '72* (*Proc. Gainesville Conf., Univ. Florida, Gainesville, Fla.*, 1972), *pp.* 57–67. *North-Holland Math. Studies, Vol.* 7, *North-Holland, Amsterdam*, 1973. (J. L. Alperin) **50** #4730 20D05

(*with* Gorenstein, Daniel) Finite groups with Sylow 2-subgroups of type PSp(4, q), q odd. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 341–372. (M. E Harris) **49** #2928 20D20

(*with* Gorenstein, Daniel) ★Finite groups whose 2-subgroups are generated by at most 4 elements. Memoirs of the American Mathematical Society, No. 147. *American Mathematical Society, Providence, R.I.*, 1974. vii+464 *pp.* (J. L. Alperin) **51** #3290 20D05

On finite groups having self-centralizing 2-subgroups of small order. *J. Algebra* **33** (1975), 144–160. (H. Kurzweil) **50** #7334 20D20

On the simple group F of order $2^{14}\cdot 3^6\cdot 5^6\cdot 7\cdot 11\cdot 19$. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah*, 1975), *pp.* 119–276. *Academic Press, New York*, 1976. (W. J. Wong) **53** #5730 20D05

Harada, Manabu On categories of indecomposable modules. II. *Osaka J. Math.* **8** (1971), 309–321. (E. A. Walker) **46** #3566 16A64

(*with* Kanbara, Hikoji) On categories of projective modules. *Osaka J. Math.* **8** (1971), 471–483. (B. Stenström) **47** #6770 16A50 (18G05)

Supplementary remarks on categories of indecomposable modules. *Osaka J. Math.* **9** (1972), 49–55. (J. S. Alin) **46** #3567 16A64

(*with* Ishii, Tadamasa) On endomorphism rings of noetherian quasi-injective modules. *Osaka J. Math.* **9** (1972), 217–223. (Bruce Myers) **47** #6676 13C10

On quasi-injective modules with a chain condition over a commutative ring. *Osaka J. Math.* **9** (1972), 421 426. (J. K. Luedeman) **48** #4038 16A52

Note on categories of indecomposable modules. *Publ. Dép. Math.* (*Lyon*) **9** (1972), *no.* 4, 11–25. (R. B. Warfield, Jr.) **49** #2843 16A52

Perfect categories. I. *Osaka J. Math.* **10** (1973), 329–341. (C. M. Ringel) **51** #3262a 18E15

Perfect categories. II. Hereditary categories. *Osaka J. Math.* **10** (1973), 343–355. (C. M. Ringel) **51** #3262b 18E15

Perfect categories. III. Hereditary and QF-3 categories. *Osaka J. Math.* **10** (1973), 357–367. (C. M. Ringel) **51** #3262c 18E15 (16A36)

Perfect categories. IV. Quasi-Frobenius categories. *Osaka J. Math.* **10** (1973), 585–596. (C. M. Ringel) **51** #3262d 18E15 (16A36)

Applications of factor categories to completely indecomposable modules. *Publ. Dép. Math.* (*Lyon*) **11** (1974), *no.* 2, 19–104. (B. Stenström) **51** #611 16A64

On a minimal chain of iterated idealizers from an HNP-ring. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 2, 183–191. (J. Kuzmanovich) **52** #10788 16A18

(*with* Ishii, Tadamasa) On perfect rings and the exchange property. *Osaka J. Math.* **12** (1975), *no.* 2, 483–491. (R. B. Warfield, Jr.) **51** #12948 16A64

On the exchange property in a directsum of indecomposable modules. *Osaka J. Math.* **12** (1975), *no.* 3, 719–736. (Idun Reiten) **52** #13944 16A64

A ring theoretical proof in a factor category of indecomposable modules. *J. Math. Soc. Japan* **28** (1976), *no.* 1, 160–167. (J.-P. Lafon) **53** #5670 16A64

A note on relative T-nilpotency. *Osaka J. Math.* **13** (1976), *no.* 2, 431–438. (Idun Reiten) **54** #12833 16A64

On small submodules in the total quotient ring of a commutative ring. *Rev. Un. Mat. Argentina* **28** (1976/77), *no.* 2, 99–102. (Victor Camillo) **57** #9679 13A15 (16A64)

Small submodules in a projective module and semi-T-nilpotent sets. *Osaka J. Math.* **14** (1977), *no.* 2, 355–364. (B. L. Osofsky) **58** #5780 16A50

On small ring homomorphisms. *Osaka J. Math.* **15** (1978), *no.* 2, 365–370. (J. Zelmanowitz) **58** #10855 13A15

See also **Proceedings: Symposium on Ring Theory**, **57** #6067

Harada, Minoru On the minimal diameter of Sasakian manifolds. (Japanese summary) *Bull. Yamagata Univ. Natur. Sci.* **7** (1970), *no.* 3, 191–203. (W. F. Pohl) **46** #2603 53C25

Sasakian space forms immersed in Sasakian space forms. *Bull. Tokyo Gakugei Univ.* (4) **24** (1972), 7–11. (Ngô van Quê) **48** #1106 53C25

On Sasakian submanifolds. II. *Bull. Tokyo Gakugei Univ.* (4) **25** (1973), 19–23. (K. Nomizu) **48** #2942b 53C25

On Sasakian submanifolds. Collection of articles dedicated to Shigeo Sasaki on his sixtieth birthday. *Tôhoku Math. J.* (2) **25** (1973), 103–109. (K. Nomizu) **48** #2942a 53C25

On Sasakian manifolds satisfying the axiom of ϕ-holomorphic 2-spheres. *Bull. Tokyo Gakugei Univ.* (4) **26** (1974), 1–3. (G. R. Jensen) **49** #11430 53C25

On Sasakian manifolds satisfying the axiom of anti-ϕ-holomorphic planes or 2-spheres. *Bull. Tokyo Gakugei Univ.* (4) **26** (1974), 22–25. (G. R. Jensen) **50** #5693 53C25

On Kaehler manifolds satisfying the axiom of antiholomorphic 2-spheres. *Proc. Amer. Math. Soc.* **43** (1974), 186–189. (Koichi Ogiue) **50** #8389 53C55

On some Sasakian submanifolds immersed in Sasakian space forms. *Bull. Tokyo Gakugei Univ.* (4) **27** (1975), 35–39. (N. Prakash) **52** #9114 53C15

Harada, Naofumi (*with* Mine, Hisashi; Hasegawa, Toshiharu; Shimada, Ryosaku) Logical design of multi-line many-valued logic networks. *Systems-Computers-Controls* **4** (1973), *no.* 2, 33–41. (T. C. Wesselkamper) **53** #15575 94A20 (06A20)

(*with* Tamesada, Takeomi; Shimada, Ryosaku) Sequential logic networks with quasistable state and their logic analysis. *Systems-Computers-Controls* **7** (1976), *no.* 1, 44–52 (1977). (R. Shirtladze) **58** #20891 94A25

(*with* Tamesada, Takeomi; Shimada, Ryosaku) Synthesis of sequential circuits having quasistable states. *Systems-Computers-Controls* **7** (1976), *no.* 2, 69–78 (1977). (Ljudmil Dakovski) **56** #8228 94A25

Harada, Yukio (*with* Ikebe, Nobunori) On the existence of Lipschitz continuous weak solutions of the Dirichlet problem for some quasi-linear degenerate elliptic equations. *Kumamoto J. Sci.* (*Math.*) **12** (1976/77), *no.* 1, 1–13. (Ju. V. Kostarčuk) **56** #6080 35D05 (35J25)

Haradze, A. K. Sequences of polynomials, with several parameters, related to Laguerre polynomials. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 3, 701–704, 719. (V. L. Makarov) **57** #10028 33A65

Haradze, B. I. (*with* Antelava, N. I.; Arsenišvili, G. L.) A single-server queueing system with intensities that depend on the size of the queue. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **87** (1977), *no.* 3, 557–560. (H. T. Tašmanov) **58** #18768 60K25

Haradze, E. K. *See* **Nicolaus Copernicus. On the 500th anniversary of his birth, 50** #12560

Haraguchi, Makoto A common algorithm for graph-interpretable games. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 2, 259–266. (Irinel Dragan) **57** #5151 90D99

Functional relations between systematics. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), *no.* 1, 53–59. (A. Salomaa) **58** #9901 94A30

On a simulation and an optimal input of automata in a monoidal category. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), *no.* 1, 107–122. (Bodo Pareigis) **58** #831 18B20 (94A30)

Hărăguş, D. Statistical solutions of some equations of Navier-Stokes type. (Romanian. French summary) *An. Univ. Timişoara Ser. Şti. Mat.* **12** (1974), *no.* 2, 85–110 (1977). (Editors) **58** #30553 47H15 (35Q10)

Hara K. (*with* Kusuno, S.) A study on the rotation-particle coupling. *Nuclear Phys. A* **245** (1975), 147–165. (Panayotis Tsilimigras) **53** #2200 81.47

Haralambis, Nicolas M. Sets of integers with missing differences. *J. Combinatorial Theory Ser. A* **23** (1977), *no.* 1, 22–33. (K. Nageswara Rao) **56** #11949 10L10 (10L05)

Haralick, Robert M. (*with* Dinstein, Its'hak) An iterative clustering procedure. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-1** (1971), 275–289. (P. Brock) **46** #2861 65K05

(*with* Shanmugam, K. Sam) A computationally simple procedure for imagery data compression by the Karhunen-Loève method. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-3** (1973), 202–204. (E. S. Keeping) **50** #1452 62M99 (93E10)

The diclique representation and decomposition of binary relations. *J. Assoc. Comput. Mach.* **21** (1974), 356–366. (Fan R. K. Chung) **57** #12294 05C35 (68A10)

(*with* Ripken, Knut) An associative-categorical model of word meaning. *Artificial Intelligence* **6** (1975), 75–99. (Editors) **56** #2481 92A25 (68A30)

The pattern discrimination problem from the perspective of relation theory. *Pattern Recognition* 7 (1975), *no.* 1-2, 67–79. (James C. Bezdek) **52** #16178 68A45

The table look-up rule. *Proceedings of the Third International Joint Conference on Pattern Recognition* (*Coronado, Calif.*, 1976), *pp.* 447–454. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Author's summary) **58** #14001 68A45

The table look-up rule. Special issue on remote sensing. *Comm. Statist.–Theory Methods* **A5** (1976), *no.* 12, 1163–1191. (Manabu Ichino) **55** #7004 68A50

The characterization of binary relation homomorphisms. *Internat. J. Gen. Syst.* **4** (1977/78), *no.* 2, 113–121. (A. Pultr) **58** #21894 08A05 (04A05, 05–04)

(*with* Kartus, Jesse S.) Arrangements, homomorphisms, and discrete relaxation. *IEEE Trans. Systems Man Cybernet.* **8** (1978), *no.* 8, 600–612. (P. Štěpánek) **58** #14002 68A45

Structural pattern recognition, homomorphisms, and arrangements. *Pattern Recognition* **10** (1978), *no.* 3, 223–236. (Sidney Berkowitz) **58** #19417 68A45

Haramanov, S. A. (*with* Zagorodnaja, N. P.) A certain system of partial differential equations (on the solution of the Ekman problem). (Russian) *Dal'nevostoč. Gos. Univ. Učen. Zap.* **69** (1970), 119–125. (*errata insert*) (Şt. I. Gheorghiţă) **48** #6724 35Q99 (76.35)

Harao, Masateru (*with* Suzuki, Atsuyuki; Noguchi, Shoichi; Oizumi, Juro) Synthesis of multistage logical network with multiple outputs. *Electron. Commun. Japan* **52** (1969), *no.* 9, 138 149. (Not reviewed) 94A20

(*with* Noguchi, Shoichi; Oizumi, Juro) Realization of the multi-valued logical function with the multi-stage logical network. *Electron. Commun. Japan* **54** (1971), *no.* 2, 121–130. (Authors' summary) **55** #14424 94A20 (02C05)

(*with* Noguchi, Shoichi) Algebraic properties of the iterative automaton. *Systems-Computers-Controls* **3** (1972), *no.* 6, 38–46 (1973). (Authors' summary) **57** #11965 94A30

(*with* Araki, Tatsuo; Noguchi, Shoichi) The relationship of uniform interconnection patterns to behavioral equivalence of cellular automata. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 20–27. *IEEE Computer Soc., New York*, 1975. (W. Wechler) **58** #15734 94A30

(*with* Noguchi, Shoichi) Fault tolerant cellular automata. Collection of papers on cellular automata and developmental systems (Conf. Biologically Motivated Automata Theory, MacLean, Va., 1974). *J. Comput. System Sci.* **11** (1975), *no.* 2, 171–185. (E. Ikaunieks) **52** #10274 94A30 (92A05)

(*with* Araki, Tatsuo; Noguchi, Shoichi; Oizumi, Juro) On the structure-preserving isomorphism of the cellular automaton and its classification. *Systems-Computers-Controls* **6** (1975), *no.* 4, 1–10. **56** #15227 94A30

(*with* Noguchi, Shoichi) On some dynamical properties of finite cellular automaton. *IEEE Trans. Computers* **C-27** (1978), *no.* 1, 42–52. (Albert Jugel) **57** #15786 94A30

Harari, Azriel Generalized non-linear free vibrations of prestressed plates and shells. (French and German summaries) *Internat. J. Non-Linear Mech.* **11** (1976), *no.* 3, 169–181. (J. Mazumdar) **55** #9662 73.41

Harari, F. *See* **Harary, Frank**

Harari, Sami Pureté et platitude dans les catégories de foncteurs. Thèse présentée à la Faculté des Sciences de l'Université de Paris pour l'obtention du doctorat 3e cycle, Spécialité: mathématiques. *Esquisses mathématiques, No.* 11, *Exp. No.* 1, ii + 39 *pp. Fac. Sci., Univ. Paris, Paris*, 1971. (B. Stenström) **54** #2749 18A25

Étude d'une classe de codes non linéaires. (English summary) *Rev. CETHEDEC No.* 33 (1972), 41–54. (N. J. A. Sloane) **48** #8100 94A10

Taux d'erreur résiduelle après l'utilisation des codes de Hamming. (English summary) *Rev. CETHEDEC No.* 37 (1973), 101–103. (From the author's summary and text) **49** #12157 94A10

See also **Apter, H.; et al.**, **56** #8101

Harary, Frank (*with* Palmer, Edgar M.) On the number of forests. *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 110–112. (R. J. Douglas) **46** #1639 05C30

(*with* Brown, W. G.) Extremal digraphs. *Combinatorial theory and its applications, I* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 135–198. *North-Holland, Amsterdam*, 1970. (Pau Turán) **45** #8576 05C20

Problems involving graphical numbers. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 625–635. *North-Holland, Amsterdam*, 1970. (Václav Chvátal) **45** #8561 05C99

Sparse matrices and graph theory. *Large sparse sets of linear equations* (*Proc. Conf., St. Catherine's Coll., Oxford*, 1970), *pp.* 139–150. *Academic Press, London*, 1971. (R. A Brualdi) **49** #5024 15A06

(*with* Stockmeyer, Paul K.) Planar composite graphs. *An. Acad. Brasil. Ci.* **43** (1971), 325–329. (H. A. Jung) **46** #7072 05C10

(*with* King, Clarence; Mowshowitz, Abbe; Read, Ronald C.) Cospectral graphs and digraphs. *Bull. London Math. Soc.* **3** (1971), 321–328. (R. A. Brualdi) **45** #3249 05C20

(*with* Ostrand, Phillip A.) The cutting center theorem for trees. *Discrete Math.* **1** (1971/72), *no.* 1, 7–18. (L. W. Beineke) **45** #6673 05C05

A graphical exposition of the Ising problem. *J. Austral. Math. Soc.* **12** (1971), 365–377. (From the author's introduction) **45** #5032 05C25 (82.05)

Demiarcs: an atomistic approach to relational systems and group dynamics. *J. Mathematical Sociology* **1** (1971), 195–205. (Michel Chein) **51** #7955 05C99 (92A20)

(*with* Manvel, Bennet) On the number of cycles in a graph. *Mat. Časopis Sloven. Akad. Vied* **21** (1971), 55–63. (C. St. J. A. Nash-Williams) **46** #8905 05C99

(*with* O'Neil, Peter V.; Read, Ronald C.; Schwenk, Allen J.) The number of trees in a wheel. *Combinatorics* (*Proc. Conf. Combinatorial Math., Math. Inst., Oxford*, 1972), *pp.* 155–163. *Inst. Math. Appl., Southend-on-Sea*, 1972. (J. W. Moon) **50** #1962 05C30

Recent results on generalized Ramsey theory for graphs. *Graph theory and applications* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1972; *dedicated to the memory of J. W. T. Youngs*), *pp.*125–138. *Lecture Notes in Math., Vol.* 303, *Springer, Berlin*, 1972. (Pavol Hell) **49** #7177 05C35

(*with* Schwenk, Allen J.) Evolution of the path number of a graph: Covering and packing in graphs. II. *Graph theory and computing*, *pp.* 39–45. *Academic Press, New York*, 1972. (R. C. Mullin) **49** #2456 05C35

(*with* Chvátal, Václav) Generalized Ramsey theory for graphs. *Bull. Amer. Math. Soc.* **78** (1972), 423–426. (M. Aigner) **45** #110 05C15

(*with* Manvel, Bennet) Reconstruction of square-celled animals. *Bull. Soc. Math. Belg.* **24** (1972), 375–379. (B. Manvel) **48** #8281 05C05

(*with* Krarup, J.; Schwenk, Allen J.) Graphs suppressible to an edge. *Canad. Math. Bull.* **15** (1972), 201–204. (E. M. Palmer) **47** #75 05C99

(*with* Palmer, Edgar M.) Correction: "The smallest graph whose group is cyclic". *Czechoslovak Math. J.* **22(97)** (1972), 180. (Editors) **45** #119 05C25

(*with* Piff, M. J.; Welsh, D. J. A.) On the automorphism group of a matroid. *Discrete Math.* **2** (1972), 163–171. (C. D. H. Cooper) **45** #6693 05C25

(*with* Pickel, P. F.) Two conjectures on finitely generated nilpotent groups. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1972), 31–33. (John D. P. Meldrum) **48** #4127 20F05

(*with* Fisher, Joshua; Graham, Ronald L.) A simpler counterexample to the reconstruction conjecture for denumerable graphs. *J. Combinatorial Theory Ser. B* **12** (1972), 203–204. (R. J. Douglas) **45** #5007 05C99

The two-triangle case of the aquaintance graph. *Math. Mag.* **45** (1972), 130–135. (R. C. Read) **45** #5023 05C15

(*with* Chvátal, Václav) Generalized Ramsey theory for graphs. III. Small off-diagonal numbers. *Pacific J. Math.* **41** (1972), 335–345. (R. L. Graham) **47** #3248 05C99 (05A17)

(*with* Chvátal, Václav) Generalized Ramsey theory for graphs. II. Small diagonal numbers. *Proc. Amer. Math. Soc.* **32** (1972), 389–394. (S. A. Burr) **48** #10886 05C35

(*with* Schwenk, Allen J.; Scott, R. L.) On the reconstruction of countable forests. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **13(27)** (1972), 39–42. (E. M. Palmer) **48** #5894 05C05

(*with* Holzmann, Carlos A.) On the tree graph of a matroid. *SIAM J. Appl. Math.* **22** (1972), 187–193. (W. T. Tutte) **46** #7067 05B35

(*with* Schwenk, Allen J.) A new crossing number for bipartite graphs. *Utilitas Math.* **1** (1972), 203–209. (K. Wagner) **46** #8906 05C99

★Теория графов. (Russian) [Graph theory] Translated from the English by V. P. Kozyrev. Edited by G. P. Gavrilov. *Izdat. "Mir", Moscow*, 1973. 300 *pp.* (Editors) **49** #10586 05Cxx

(*with* Palmer, Edgar M.) ★Graphical enumeration. *Academic Press, New York-London*, 1973. xiv + 271 *pp.* (R. W. Robinson) **50** #9682 05C30

(*with* Palmer, Edgar M.) A survey of graphical enumeration problems. *A survey of combinatorial theory*(*Proc. Internat. Sympos., Colorado State Univ., Fort Collins, Colo.*, 1971), *pp.* 259–275. *North-Holland, Amsterdam*, 1973. (P. K. Stockmeyer) **51** #255 05C30

On the history of the theory of graphs. *New directions in the theory of graphs* (*Proc. Third Ann Arbor Conf., Univ. Michigan, Ann Arbor, Mich.*, 1971), *pp.* 1–17. *Academic Press, New York*, 1973. (L. W. Beineke) **50** #9704 05C99 (01A65)

(*with* Schwenk, Allen J.) The number of caterpillars. *Discrete Math.* **6** (1973), 359–365. (J. Sedláček) **48** #8282 05C05

(*with* Schwenk, Allen J.) On the number of unique subgraphs. *J. Combinatorial Theory Ser. B* **15** (1973), 156–160. (E. M. Palmer) **48** #3794 05C30

(*with* Schwenk, Allen J.) The no-touch puzzle and graphical complementation. *J. Recreational Math.* **6** (1973), 284–286. (L. V. Quintas) **55** #190 05C99

(*with* Kainen, Paul C.; Schwenk, Allen J.; White, Arthur T.) A maximal toroidal graph which is not a triangulation. *Math. Scand.* **33** (1973), 108–112. (Václav Chvátal) **48** #10889 05C35

(*with* Kainen, Paul C.; Schwenk, Allen J.) Toroidal graphs with arbitrarily high crossing numbers. *Nanta Math.* **6** (1973), *no.* 1, 58–67. (H. V. Kronk) **49** #103 05C10 (*with* Chvátal, Václav) Generalized Ramsey theory for graphs. I. Diagonal numbers. llection of articles dedicated to the memory of Alfred Renyi, II. *Period. Math. ungar.* **3** (1973), 115–124. (S. A. Burr) **48** #10887 05C35

Recent results on trees. *Graphs and combinatorics* (*Proc. Capital Conf., George ashington Univ., Washington, D.C.*, 1973), *pp.* 1–9. *Lecture Notes in Math., Vol.* 406, *ringer, Berlin*, 1974. (Editors) **51** #221 05C05

A survey of generalized Ramsey theory. *Graphs and combinatorics* (*Proc. Capital nf., George Washington Univ., Washington, D.C.*, 1973), *pp.* 10–17. *Lecture Notes in ath., Vol.* 406, *Springer, Berlin*, 1974. (Author's summary) **50** #12783 05C15

A survey of the reconstruction conjecture. *Graphs and combinatorics* (*Proc. Capital nf., George Washington Univ., Washington, D.C.*, 1973), *pp.* 18–28. *Lecture Notes in ath., Vol*, 406, *Springer, Berlin*, 1974. (Author's summary) **50** #12818 05C99

Recent results on graphical enumeration. *Graphs and combinatorics* (*Proc. Capital nf., George Washington Univ., Washington, D.C.*, 1973), *pp.* 29–36. *Lecture Notes in ath., Vol.* 406, *Springer, Berlin*, 1974. (Author's summary) **52** #13480 05C30

(*with* Read, Ronald C.) Is the null-graph a pointless concept? *Graphs and mbinatorics* (*Proc. Capital Conf., George Washington Univ., Washington, D.C.*, 1973), . 37–44. *Lecture Notes in Math., Vol.* 406, *Springer, Berlin*, 1974. (Authors' summary) #12819 05C99

(*with* Schwenk, Allen J.) Which graphs have integral spectra? *Graphs and mbinatorics* (*Proc. Capital Conf., George Washington Univ., Washington, D.C.*, 1973), . 45–51. *Lecture Notes in Math., Vol.* 406, *Springer, Berlin*, 1974. (M. Doob) #7970 05C99

(*with* Hell, Pavol) Generalized Ramsey theory for graphs. V. The Ramsey number a digraph. *Bull. London Math. Soc.* **6** (1974), 175–182. (F. R. K. Chung) **49** #8893 **50** #12782) 05C15

(*with* Frucht W., Roberto) Self-complementary generalized orbits of a permutation oup. *Canad. Math. Bull.* **17** (1974), 203–208; *correction, ibid.* **17** (1974), *no.* 3, 427. (M. . Hestenes) **51** #5381 05C25 (20B05)

(*with* Schwenk, Allen J.) The communication problem on graphs and digraphs. *J. ranklin Inst.* **297** (1974), 491–495. (J. W. Moon) **50** #1980 05C99 (94A20)

(*with* Fleischner, Herbert J.; Geller, Dennis P.) Outerplanar graphs and weak uals. *J. Indian Math. Soc.* (*N.S.*) **38** (1974), *no.* 1, 2, 3, 4, 215–219 (1975). (Authors' troduction) **52** #10503 05C99

(*with* Mallion, R. B.) An elementary necessary condition for Hamiltonian graphs volving connectivity. *Nanta Math.* **7** (1974), *no.* 2, 96–101. (L. V. Quintas) **52** #2951 **54** #2523) 05C35 (94A20)

(*with* Prins, G.) Generalized Ramsey theory for graphs. IV. The Ramsey ultiplicity of a graph. *Networks* **4** (1974), 163–173. (F. R. K. Chung) **49** #4836 5C15

(*with* Lempel, Abraham) On clique-extremal (p,q)-graphs. *Networks* **4** (1974), 71–378. (J. W. Moon) **51** #5394 05C35

Four difficult unsolved problems in graph theory. *Recent advances in graph theory Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 249–256. *Academia, Prague*, 975. (Editors) **52** #2930 05Cxx

(*with* Hell, Pavol) Corrections: "Generalized Ramsey theory for graphs. V. The amsey number of a digraph" (Bull. London Math. Soc. **6** (1974), 175–182). *Bull. ondon Math. Soc.* **7** (1975), 87–88. (Editors) **50** #12782 05C15

(*with* Goldner, Anita M.) Note on the smallest nonhamiltonian maximal planar raph. *Bull. Malaysian Math. Soc.* **6** (1975), *no.* 1, 41–42. (Not reviewed) 05C35

(*with* Goldner, Anita M.) Correction to "Note on the smallest nonhamiltonian naximal planar graph" (Bull. Malaysian Math. Soc. **6** (1975), no. 1, 41–42). *Bull. Malaysian Math. Soc.* **6** (1975), *no.* 2, 33. (Not reviewed) 05C35

(*with* Palmer, Edgar M.; Read, Ronald C.) On the cell-growth problem for rbitrary polygons. *Discrete Math.* **11** (1975), 371–389. (J. W. Moon) **51** #256 5C30

(*with* Mowshowitz, Abbe) Enumeration of end-labeled trees. *Fibonacci Quart.* **13** (1975), *no.* 3, 252–254. (T. R. S. Walsh) **51** #12586 05C05

On minimal feedback vertex sets of a digraph. *IEEE Trans. Circuits and Systems* CAS-22 (1975), *no.* 10, 839–840. (J. Mitchem) **52** #10482 05C20

(*with* Robinson, Robert W.; Schwenk, Allen J.) Twenty-step algorithm for etermining the asymptotic number of trees of various species. *J. Austral. Math. Soc. Ser. A* **20** (1975), *no.* 4, 483–503. (J. W. Moon) **53** #10644 05C30

(*with* Bollobás, Béla) Point arboricity critical graphs exist. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 1, 97–102. (H. V. Kronk) **52** #10471 05C15

(*with* Robinson, Robert W.) The number of achiral trees. *J. Reine Angew. Math.* **278/279** (1975), 322–335. (W. G. Brown) **53** #13025 05C30

Le graphe de "La Nuit des Rois". (English summary) *Math. Sci. Humaines No.* 51 (1975), 77–80, 89. (W. G. Brown) **52** #7954 05C20 (92A20)

(*with* Mallion, R. B.) Errata: "An elementary necessary condition for Hamiltonian graphs involving connectivity" (Nanta Math. **7** (1974), no. 2, 96–101). *Nanta Math.* **8** (1975), *no.* 1, 104. (Editors) **54** #2523 05C35

The foremost open problems in generalized Ramsey theory. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 269–282. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (Ralph Faudree) **52** #13463 05C15

(*with* Bollobás, Béla) Extremal graphs with given diameter and connectivity. *Ars Combinatoria* **1** (1976), *no.* 1, 281–296. (Authors' summary) **54** #149 05C35

(*with* Melter, Robert A.) On the metric dimension of a graph. *Ars Combinatoria* **2** (1976), 191–195. (G. Chartrand) **56** #15497 05C99

An exposition of the reconstruction conjecture for graphs. *Bull. Malaysian Math. Soc.* **7** (1976), *no.* 1, 1–7. **56** #2832 05–02

(*with* Rosen, Ronald H.) On the planarity of 2-complexes. *Colloq. Math.* **36** (1976), *no.* 1, 101–108. (Jonathan L. Gross) **55** #10304 05C10 (57A05)

(*with* Dewdney, A. K.) The adjacency graphs of a complex. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 1, 137–144. (Richard A. Duke) **55** #188 05C99

(*with* Boesch, Francis T.) Line removal algorithms for graphs and their degree lists. Special issue on large-scale networks and systems. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 12, 778–782. (S. L. Hakimi) **58** #9819 94A20 (05C99)

(*with* Duke, Richard A.) Generalized Ramsey theory. VI. Ramsey numbers for small plexes. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 4, 400–410. (Authors' summary) **55** #7827 05C15

(*with* Schwenk, Allen J.) On tactical configurations with no four-cycles. *J. Combinatorial Theory Ser. A* **20** (1976), *no.* 3, 371–374. (Judith Q. Longyear) **53** #10618 05B30

(*with* Harborth, Heiko) Extremal animals. *J. Combinatorics Information Syst. Sci.* **1** (1976), *no.* 1, 1–8. (R. C. Entringer) **56** #15471 05B30

(*with* Minc, Henryk) Which nonnegative matrices are self-inverse? *Math. Mag.* **49** (1976), *no.* 2, 91–92. (Emilie V. Haynsworth) **53** #491 15A48

(*with* Thomassen, Carsten) Anticritical graphs. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 1, 11–18. (L. W. Beineke) **54** #2541 05C99

(*with* Chartrand, Gary; Lick, Don R.) Maximal point-arboritic graphs. *Utilitas Math.* **9** (1976), 259–262. (Authors' summary) **54** #151 05C35

(*with* Palmer, Edgar M.) ★Перечисление графов. (Russian) [Graphical enumeration] Translated from the English by G. P. Gavrilov. *Izdat. "Mir", Moscow*, 1977. 324 *pp.* (Editors) **56** #5353 05C30

(*with* Wallis, Walter Denis) Isomorphic factorizations. II. Combinatorial designs. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 13–28. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (Jean-Claude Bermond) **58** #27646b 05–02 (05B99, 05C99)

(*with* Burr, Stefan A.) The Ramsey number of many stars and one triangle. *Ars Combinatoria* **4** (1977), 119–122. (Jerold W. Grossman) **58** #21832 05C99 (05C15)

(*with* Melter, Robert A.) Addendum to: "On the metric dimension of a graph" (Ars Combinatoria **2** (1976), 191–195). *Ars Combinatoria* **4** (1977), 318. (Editors) **57** #5834 05C99

Postscript to my note with Goldner: "Note on the smallest nonhamiltonian maximal planar graph" (Bull. Malaysian Math. Soc. **6** (1975), no. 1, 41–42) by Harary and A. M. Goldner. *Bull. Malaysian Math. Soc.* **8** (1977), *no.* 3, 104–106. (Not reviewed) 05C99

(*with* Mowshowitz, Abbe; Schwenk, Allen J.) Line minimal Boolean forests. *Colloq. Math.* **37** (1977), *no.* 1, 167–173. (Brian Alspach) **57** #5814 05C25

On "The tantalizer" and "Instant insanity". *Historia Math.* **4** (1977), 205–206. (Editors) **55** #7837 05C30 (01A65)

(*with* Hsu, Derbiau F.; Miller, Zevi) The bichromaticity of a lattice-graph. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 3, 354–359. (Linda Lesniak-Foster) **58** #21756 05C15

(*with* Dewdney, A. K.) On the chromatic numbers of a simplicial complex. *J. Combinatorics Information Syst. Sci.* **2** (1977), *no.* 1, 28–35. (Joan Hutchinson) **58** #5327 05C15

(*with* Hsu, Derbiau F.; Miller, Zevi) The biparticity of a graph. *J. Graph Theory* **1** (1977), *no.* 2, 131–133. (D. H. Younger) **56** #2874 05C99

(*with* Robinson, Robert W.; Wormald, Nicholas C.) The divisibility theorem for isomorphic factorizations of complete graphs. *J. Graph Theory* **1** (1977), *no.* 2, 187–188. (From the authors' introduction) **56** #183 05C99

Homage to George Pólya. *J. Graph. Theory* **1** (1977), *no.* 4, 289–290. (Editors) **58** #10176 01A70

(*with* Palmer, Edgar M.; Robinson, Robert W.; Schwenk, Allen J.) Enumeration of graphs with signed points and lines. *J. Graph Theory* **1** (1977), *no.* 4, 295–308. (L. W. Beineke) **57** #5818 05C30

(*with* Cartwright, Dorwin) A graph theoretic approach to the investigation of system-environment relationships. *J. Mathematical Sociology* **5** (1977/78), *no.* 1, 87–111. (B. G. Mirkin) **56** #2477 92A20

(*with* Behzad, Mehdi) Which directed graphs have a solution? (Russian summary) *Math. Slovaca* **27** (1977), *no.* 1, 37–42. (J. W. Moon) **57** #9590 05C20

(*with* Miller, Zevi) On point-symmetric and arc-symmetric digraphs. *Nanta Math.* **10** (1977), *no.* 1, 50–52. (W. T. Tutte) **58** #27612 05C20

(*with* Boesch, Francis T.) Unicyclic realizability of a degree list. *Networks* **8** (1978), *no.* 2, 93–96. (L. W. Beineke) **58** #10605 05C99

(*with* Robinson, Robert W.; Wormald, Nicholas C.) Isomorphic factorisations. I. Complete graphs. *Trans. Amer. Math. Soc.* **242** (1978), 243–260. (Jean-Claude Bermond) **58** #27646a 05–02 (05C99)

See also **Mathematical aspects of electrical network analysis**, **48** #8129; **New directions in the theory of graphs**, **49** #4821; **Graphs and combinatorics**, **49** #10560; **Survey of combinatorial theory**, **50** #1889 *and* **Problems: Combinatorial mathematics**, **51** #172

Harasahal, V. H. (*with* Kudakova, R. V.) Almost periodic solutions of linear systems of differential equations. (Russian) *Mathematics and mechanics, No.* 1, *Part* 1 (*Russian*), *pp.* 61–70. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija Kazah. SSR, Alma-Ata*, 1966 (1969). (See RŽMat **1970** #7 B281; MR **48** #595) 34C25

(*with* Kudakova, R. V.) Almost periodic solutions of nonlinear systems of differential equations. (Russian) *Mathematics and mechanics, No.* 1, *Part* 1 (*Russian*), *pp.* 71–75. *Ministerstvo Vysš. i Srehn. Spec. Obrazovanija Kazah. SSR, Alma-Ata*, 1966 (1969). (See RŽMat **1970** #8 B266; MR **48** #595) 34C25

★Почти-периодические решения обыкновенных дифференциальных уравнений. (Russian) [Almost periodic solutions of ordinary differential equations] *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1970. 200 *pp.* (*errata insert*) (F. Neuman) **45** #2255 34C25

See also **Mathematics and mechanics**, **48** #595

Harasahal, V. V. The asymptotic solutions of certain systems of linear partial differential equations. (Russian) *Mathematics and mechanics, No.* 2, *Part* 2 (*Russian*), 48–53, 191. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija, Kazah. SSR, Alma-Ata*, 1967 (1970). (See RŽMat **1970** #11 B332; MR **48** #17) 35B30

(*with* Žilenko, S. V.) The construction of the transforming matrix and the differentiability of the formal solution of a certain system of partial differential equations. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no.* 3, 81–83, 96. (K. Moszyński) **50** #13850 35B40

See also **Mathematics and mechanics**, **48** #17 *and* **Mathematics and mechanics**, **48** #595

Harase, Takashi On the index-period problem for algebraic curves and abelian varieties. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 13–20. (Y. Nakai) **48** #6120 14H25 (14K15)

The transcendence of $e^{\alpha\omega+\beta(2\pi i)}$. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 279–285. (R. Tijdeman) **50** #2090 10F35

On the linear form of transcendental numbers; $\alpha_1\omega+\alpha_3 \log \alpha_4$. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **23** (1976), *no.* 3, 435–452. (W. W. Adams) **54** #12671 10F35

Harasty, Gerald A. (*with* Gilbert, Elmer G.) A class of fixed-time fuel-optimal impulsive control problems and an efficient algorithm for their solution. *IEEE Trans. Automatic Control* **AC-16** (1971), 1–11. (N. U. Ahmed) **45** #1644 49E15

Harasymiv, S. R. On mappings which commute with convolution. *J. Austral. Math. Soc.* **12** (1971), 122–128. (Editors) **56** #6377 46F10

Groups of matrices acting on distribution spaces. *Pacific J. Math.* **55** (1974), 403–417. (M. Balanzat) **52** #8925 46F10

Haratišvili, G. L. (*with* Gamkrelidze, R. V.) Conditions nécessaires du premier ordre dans les problèmes d'extremum. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 3, *pp.* 169–176. *Gauthier-Villars, Paris*, 1971. (G. M. Ewing) **54** #11144 49B30

(*with* Babunašvili, T. G.; Mačaidze, Z. A.; Ciskaridze, K. Š.) Calculation of linear time-optimal systems. (Russian. Georgian summary) *Thbilis. Saḫelmc̣. Univ. Gamoqeneb. Math. Inst. Šrom.* **3** (1972), 207–238. (From the authors' introduction) **56** #11272 93C50 (49D05)

(*with* Gamkrelidze, R. V.) A differential game of evasion with nonlinear control. Translated from the Russian by A. J. Lohwater. Collection of articles dedicated to the memory of Lucien W. Neustadt. *SIAM J. Control* **12** (1974), 332–349. (A. Friedman) **51** #15025 90D25

(*with* Tadumadze, T. A.) Quasiconvex filters in optimal systems with lags. (Russian. Georgian summary) *Thbilis. Saḫelmc̣. Univ. Gamoqeneb. Math. Inst. Šrom.* **4** (1975), 85–100. (From the introduction) **58** #15403 93B30

(*with* Tadumadze, T. A.) Questions of quasiconvexity and existence in optimal systems with delays. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 3, 569–572. (Authors' summary) **56** #13025 49A30

See also **Questions of the mathematical theory of optimal control**, (Not reviewed)

Haratišvili, N. G. (*with* Čheidze, I. M.) The discrete representation of a two-dimensional communication. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **59** (1970), 425–428. (Authors' summary) **54** #7095 94A05

Haratjan, S. G. von Neumann algebras of observables with the non-abelian commutant and superselection rules. (Russian. English summary) *Teoret. Mat. Fiz.* **14** (1973), *no.* 3, 306–313. (Author's summary) **57** #15044 81.46

A generalization of Wigner's theorem on symmetries in the C^*-algebra approach. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 177–180. (Author's summary) **57** #4893 81.46 (46L05)

Haraux, Alain Dérivation dans les inéquations variationnelles. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1257–1260. (M. Schechter) **51** #8906 47H15

(*with* Brézis, Haïm) Image d'une somme d'opérateurs monotones et applications. (English summary) *Israel J. Math.* **23** (1976), *no.* 2, 165–186. (D. Pascali) **53** #3803 47H05

Développement asymptotique d'intégrales oscillantes lentement convergentes à l'infini. (Loose English summary) *Rev. Française Automat. Informat. Recherche Operationnelle Sér. Rouge Anal. Numér.* **10** (1976), *no. R*-2, 49–59. (Francesco G. Lerda) **55** #13742 65D30

(*with* Baillon, Jean-Bernard) Comportement à l'infini pour les équations d'évolution avec forcing périodique. *Arch. Rational Mech. Anal.* **67** (1977), *no.* 1, 101–109. (A. Szép) **58** #12547 47H15 (34G05)

How to differentiate the projection on a convex set in Hilbert space. Some applications to variational inequalities. *J. Math. Soc. Japan* **29** (1977), *no.* 4, 615–631. (Thomas E. Armstrong) **58** #1207 31C25 (47H99)

Équations d'évolution non linéaires: solutions bornées et périodiques. *Ann. Inst. Fourier* (*Grenoble*) **28** (1978), *no.* 2, vii, 201–220. (Maurice Gaultier) **58** #17386 34G05 (35R20, 47H15)

Harazišvili, A. B. A certain property of convex hulls. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **71** (1973), 25–27. (W. W. Breckner) **48** #12007 46C05 (52A05)

On the problem of illumination. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **71** (1973), 289–291. (H. W. Guggenheimer) **48** #12297 52A20

Characteristic properties of a parallelepiped. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **72** (1973), 17–19. (H. W. Guggenheimer) **49** #3690 52A20

Absolutely zero-dimensional sets that are not measurable in the sense of Lebesgue. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **75** (1974), 289–291. (O. Costinescu) **50** #13413 28A05

Extensions of the Lebesgue measure. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **75** (1974), 561–563. (O. Costinescu) **51** #3383 28A10

Realization of colored graphs in Hilbert space. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **76** (1974), 53–56. (L. S. Mel'nikov) **53** #209 05C99

An example of an invariant measure. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 44–46. (R. K. Thomas) **53** #5832 28A70

Nonelementary measures. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 297–299. (R. K. Thomas) **53** #5833 28A70

Certain types of invariant measures. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 3, 538–540. (D. V. Čudnovs'kiĭ) **52** #3485 28A70

Decompositions of polytopes. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), 37–39. (E. Jucovič) **51** #11281 52A25

Groups of transformations with a strong transitivity property. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 1, 25–28. (L. Dornhoff) **52** #8258 20E99

Sets with a uniqueness property in classes of invariant measures. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 3, 537–540. (D. V. Čudnovs'kiĭ) **53** #8387 28A70

Locally conical sets. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **80** (1975), *no.* 1, 29–32. (S. Kutateladze) **53** #1402 52A05

A certain nonseparable extension of the Lebesgue measure. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 1, 69–72. (D. Newton) **53** #5834 28A70

Absolutely nonmeasurable and absolutely negligible sets in classes of invariant measures. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 2, 277–280. (J. Král) **53** #11026 28A70

Intransitivity classes of groups of motions of Euclidean spaces. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 3, 520–522. (D. V. Čudnovs'kiĭ) **55** #4115 54H15

Vitali systems. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 2, 309–312. (O. Costinescu) **54** #7728 28A10

Differentation with respect to Vitali systems. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no.* 2, 309–312. (D. Preiss) **55** #606 28A15

Measures with metric transitivity property. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no.* 3, 541–544. (K. Jacobs) **54** #7749 28A65

Extensions of invariant measures. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **83** (1976), *no.* 3, 533–536. (Dimitr Vandev) **56** #15885 28A70

On Sierpiński's problem of strict extendability of an invariant measure. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 2, 288–291. (Author's review (RŽMat **1977** #6 B34)) **58** #28439 28A70

Certain properties of uniform subsets of the Euclidean plane. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 4, 779–782. (Ion Chiţescu) **56** #15886 28A70 (28A05)

Equidissectability of polyhedra relative to the group of homotheties and translations. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 3, 552–555. (N. Poláková) **58** #12726 52A25

Some applications of Hamel bases. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 1, 17–20. (Dj. Kurepa) **57** #3343 28A10 (04A15)

Perfectly symmetric configurations. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 2, 297–300. (J. C. Fisher) **57** #10564 50B30 (52A25)

Mappings of infinite sets. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 2, 289–292. (J. G. Ceder) **57** #2917 02K99

A characterization of *rt*-sets in Euclidean spaces. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 3, 537–540. (V. Medek) **57** #3972 50B99

P-isomorphisms of binary relations. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **87** (1977), *no.* 3, 541–544. (Teo Sturm) **58** #238 04A05

Orthogonal simplexes in four-dimensional space. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **88** (1977), *no.* 1, 33–36. (E. Hertel) **58** #12727 52A25

On the existence of Borel Π-isomorphisms. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **88** (1977), *no.* 3, 529–532. (J. Lukeš) **58** #17019 28A05

Harazov, D. F. On the theory of symmetrizable operators with a discrete spectrum. (Russian) *Funkcional. Anal. i Priložen.* **5** (1971), *no.* 4, 87–88. (E. Gerlach) **58** #23718 47B25 (47B05)

Symmetrizable operators in Banach spaces. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **68** (1972), 273–276. (F. Smithies) **50** #14322 47B05

An investigation of eigenvalue problems for ordinary differential equations. (Russian. Georgian summary) *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **44** (1974), 155–171. (A. G. Ramm (Zbl **311** #34025)) **58** #1362 34B25 (47A70)

(*with* Abramov, Ju. Š.) Some questions of the spectral theory of symmetrizable operators in locally convex spaces. (Russian) *Studia Math.* **51** (1974), 97–109. (T. Ja. Azizov) **50** #2995 47B99

(*with* Abramov, Ju. Š.) The method of intermediate problems for certain equations with nonsymmetric and unbounded operators, and its application to eigenvalue problems for differential equations. (Russian. Georgian summary) Collection of articles on the theory of functions, 6. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **47** (1975), 53–65. (Authors' introduction) **58** #23699 47A70 (35P99, 49G15)

Harband, J. Three dimensional flow over a submerged object. *J. Engrg. Math.* **10** (1976), *no.* 1, 1–21. (L. M. Hocking) **53** #4715 76.35

Propagation of long waves over water of slowly varying depth. *J. Engrg. Math.* **11** (1977), *no.* 2, 97–119. (E. V. Laitone) **55** #9700 76.41

The existence of monotonic solutions of a nonlinear car-following equation. *J. Math. Anal. Appl.* **57** (1977), *no.* 2, 257–272. (V. Staikos) **55** #3473 34K15 (90C15)

Safe solutions of a nonlinear car-following equation. *J. Math. Anal. Appl.* **62** (1978), *no.* 2, 401–416. (V. Staikos) **58** #1481 34K15 (90Bxx)

Harbedija, L. I. Some exact solutions of the Friedmann equations with the cosmological term. *Astronom. Ž.* **53** (1976), 1145–1152 (*Russian*); *translated as Soviet Astronom.* **20** (1976), 647–650. (Author's summary) **57** #8851 83.35

The relativity of space finiteness-infiniteness for some Friedmann cosmological models. *Astronom. Ž.* **54** (1977), *no.* 6, 1182–1187 (*Russian*); *translated as Soviet Astronom.* **21** (1977), *no.* 6, 672–674. (Author's summary) **58** #14924 83.53

Harbertson, Noal C. (*with* Struble, Raimond A.) Integral manifolds for perturbed nonlinear differential equations. *Applicable Anal.* **1** (1971), *no.* 3, 241–278. (N. Fenichel) **45** #2278 34D10

Perturbations in nonlinear systems. *SIAM J. Math. Anal.* **3** (1972), 647–653. (T. G. Hallam) **47** #2151 34D10

Harbison, Charles H. Faces, edges, vertices of some polyhedra. *Proc. Arkansas Acad. Sci.* **28** (1974), 27. (H. W. Guggenheimer) **53** #4068 57A10 (52A25)

Harborth, Heiko Sequenzen ganzer Zahlen. *Zahlentheorie* (*Tagung, Math. Forschungsinst. Oberwolfach*, 1970), *pp.* 59–66. *Ber. Math. Forschungsinst., Oberwolfach, Heft* 5, *Bibliographisches Inst., Mannheim*, 1971. (I. Niven) **51** #12775 10L15

Alternierende 0-1-Blöcke als Teile von Dualzahlen. *Arch. Math.* (*Basel*) **22** (1971), 2–378. (Rudolf Halin) **45** #4988 05A15

Antwort auf eine Frage von P. Erdős nach fünf Punkten mit ganzzahligen bständen. *Elem. Math.* **26** (1971), 112–113. (H. R. Müller) **45** #2553 50B10

Solution of Steinhaus's problem with plus and minus signs. *J. Combinatorial Theory r. A* **12** (1972), 253–259. (L. D. Baumert) **45** #5002 05B30

Maximale Länge von Folgen ohne trennende Teilblöcke. *Arch. Math.* (*Basel*) **24** 973), 669–670. (J. J. Seidel) **49** #2416 05A15

Ein Extremalproblem für Gitterpunkte. Collection of articles dedicated to Helmut asse on his seventy-fifth birthday. *J. Reine Angew. Math.* **262/263** (1973), 356–360. (C. . Lekkerkerker) **48** #6008 10E05 (10A20)

On palindromes. *Math. Mag.* **46** (1973), *no.* 2, 96–99. (Editors) **55** #7905 A30

Über Primteiler von Stirlingschen Zahlen zweiter Art. *Elem. Math.* **29** (1974), 9–131. (Michael Henle) **50** #6868 05A10 (10A40)

(*with* Mengersen, Ingrid) Edges without crossings in drawings of complete graphs. *Combinatorial Theory Ser. B* **17** (1974), 299–311. (R. K. Guy) **51** #2964 05C10

Endliche 0-1-Folgen mit gleichen Teilblöcken. *J. Reine Angew. Math.* **271** (1974), 39–154. (J. B. Kelly) **51** #2955 05B40

Über die Teilbarkeit im Pascal-Dreieck. *Math.-Phys. Semesterber.* **22** (1975), 13–21. . B. Roberts) **52** #5549 10A25

Ein Primzahlkriterium nach Mann und Shanks. *Arch. Math.* (*Basel*) **27** (1976), *no.* 290–294. (Donald L. Goldsmith) **54** #5099 10A25

Eine Bemerkung zu den vollkommenen Zahlen. *Elem. Math.* **31** (1976), *no.* 5, 15–117. (Donald L. Goldsmith) **55** #245 10A20

(*with* Harary, Frank) Extremal animals. *J. Combinatorics Information Syst. Sci.* **1** 1976), *no.* 1, 1–8. (R. C. Entringer) **56** #15471 05B30

Parity of numbers of crossings for complete n-partite graphs. *Math. Slovaca* **26** 1976), *no.* 2, 77–95. (Richard K. Guy) **55** #12557 05C10

Number of odd binomial coefficients. *Proc. Amer. Math. Soc.* **62** (1976), *no.* 1, 9–22 (1977). (F. T. Howard) **55** #2725 10A20

Divisibility of binomial coefficients by their row number. *Amer. Math. Monthly* **84** 1977), *no.* 1, 35–37. (R. J. Evans) **54** #12617 10A25

Prime number criteria in Pascal's triangle. *J. London Math. Soc.* (2) **16** (1977), *no.* 2, 84–190. (D. H. Lehmer) **57** #16182 10A25

Prescribed numbers of tiles and tilings. *Math. Gaz.* **61** (1977), *no.* 418, 296–299. Editors) **57** #7355 50B30

oure, E. O. (*with* Aguilera, N. E.) Weighted norm inequalities for Walsh series. Spanish) *Rev. Un. Mat. Argentina* **26** (1972/73), 143–159. (R. L. Wheeden) **48** #6800 42A56

ousch, Klaus Einschliessungssätze für verallgemeinerte Abel-Matrixverfahren. *Mitt. Math. Sem. Giessen Heft* 122 (1976), ii+59 *pp.* (H.-H. Körle) **56** #6184 40G10

čenko, O. G. Application of the asymptotic principle of optimality for optimization of the operation of a complex energy system. (Russian) *Asymptotic methods in systems theory, No.* 1 (*Russian*), *pp.* 133–140, *Irkutsk. Gos. Univ., Irkutsk*, 1970. (Not reviewed) 93A99

(*with* Pančenkov, A. M.) An asymptotic method of solving extremal problems. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 336–340, 382. (V. F. Dem′janov) **47** #9386 49A25

Necessity and sufficiency of the conditions of the asymptotic optimality principle. (Russian) *Mathematical simulation and the theory of electrical circuits, No.* 12 (*Russian*), *pp.* 126–130, 159. *Izdat. "Naukova Dumka", Kiev*, 1974. (Ljubomir Lilov) **51** #1534 49B10

čenko, V. F. (*with* Sitenko, A. G.) Bound states and scattering in a system of three particles. *Uspehi Fiz. Nauk* **103** (1971), 469–527 (*Russian*); *translated as Soviet Physics Uspekhi* **14** (1971), 125–153. (A. G. Gibson) **56** #14282 81.45

(*with* Kuz′mičev, V. Ē.) Integral equations for four identical particles. *Nuclear Phys.* **A183** (1972), 606–624. (Lindsay Dodd) **54** #1958 81.45

(*with* Storoženko, S. A.; Kuz′mičev, V. Ē.) The Bateman method and algebraic solution of the three-nucleon integral equations. *Nuclear Phys.* **A188** (1972), 609–631. (Lindsay Dodd) **54** #1959 81.45

(*with* Šadčin, S. A.) Angular momentum reduction in the four-body problem. *Czechoslovak J. Phys.* **27B** (1977), *no.* 3, 255–279. (Authors' summary) **56** #10553 81.45

rčenko, V. K. Galois extensions, and rings of quotients. (Russian) *Algebra i Logika* **13** (1974), *no.* 4, 460–484, 488. (L. Bican) **53** #498 16A08

Generalized identities with automorphisms. (Russian) *Algebra i Logika* **14** (1975), *no.* 2, 215–237, 241. (Susan Montgomery) **53** #3004 16A38

Fixed elements of a finite group action on a semiprime ring. (Russian) *Algebra i Logika* **14** (1975), *no.* 3, 328–344, 369–370. (G. M. Bergman) **55** #3006 16A72

Generalized identities with automorphisms of associative rings with unity. (Russian) *Algebra i Logika* **14** (1975), *no.* 6, 681–696, 727. (V. A. Artamonov) **54** #12824 16A38

Galois subrings of simple rings. (Russian) *Mat. Zametki* **17** (1975), *no.* 6, 887–892. (P. M. Cohn) **52** #10795 16A40 (16A72)

Galois extensions of radical algebras. (Russian) *Mat. Sb.* (*N.S.*) **101(143)** (1976), *no.* 4, 500–507, 639. (W. G. Leavitt) **57** #12577 16A21

Ring identities with automorphisms. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 2, 446–467, 481. (V. N. Latyšev) **53** #13300 16A38

The Galois theory of semiprime rings. (Russian) *Algebra i Logika* **16** (1977), *no.* 3, 313–363. (Witold Więsław) **58** #28082 16A74

ardcastle, D. L. (*with* Hawk, I. L.) Finite-difference solution to the Schroedinger equation for the ground state and first-excited state of helium. *J. Computational Phys.* **21** (1976), *no.* 2, 197–207. **57** #2350 81.65

ardegree, Gary M. Stalnaker conditionals and quantum logic. *J. Philos. Logic* **4** (1975), *no.* 4, 399–421. (From the author's introduction) **57** #18526 81.06 (02C10, 06A20)

Quasi-implicative lattices and the logic of quantum mechanics. *Z. Naturforsch.* **30a** (1975), *no.* 11, 1347–1360. (E. G. Beltrametti) **55** #4968 81.06 (06A30, 02B10)

Relative compatibility in conventional quantum mechanics. *Found. Phys.* **7** (1977), *no.* 7–8, 495–510. (C. Piron) **56** #4457 81.06 (81.46)

Reichenbach and the logic of quantum mechanics. Hans Reichenbach, logical empiricist, Part IV. *Synthese* **35** (1977), *no.* 1, 3–40. (M. J. Mączyński) **58** #14455 81.02

Harder, Allen The Copernican character of Einstein's cosmology. *Ann. of Sci.* **29** (1972), 339–347. (Geoffrey Matthews) **56** #8297 01A60 (83.01)

Harder, G. Semisimple group schemes over curves and automorphic functions. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 307–312. *Gauthier-Villars, Paris*, 1971. (S. I. Gel′fand) **54** #12655 10D15 (22E40, 14G15)

A Gauss-Bonnet formula for discrete arithmetically defined groups. *Ann. Sci. École Norm. Sup.* (4) **4** (1971), 409–455. (H. Garland) **46** #8255 20H10 (10D25, 22E40, 53C30, 57F15)

Chevalley groups over function fields and automorphic forms. *Ann. of Math.* (2) **100** (1974), 249–306. (S. Gelbart (Zbl **309** #14041)) **58** #27799 10D99 (14G25, 22E55)

(*with* Narasimhan, M. S.) On the cohomology groups of moduli spaces of vector bundles on curves. *Math. Ann.* **212** (1974/75), 215–248. (P. E. Newstead) **51** #509 14F05 (14D20)

On the cohomology of discrete arithmetically defined groups. *Discrete subgroups of Lie groups and applications to moduli* (*Internat. Colloq., Bombay*, 1973), *pp.* 129–160. *Oxford Univ. Press, Bombay*, 1975. (H. Garland) **54** #12976 22E40 (32N10, 10D20)

On the cohomology of $SL(2,O)$. *Lie groups and their representations* (*Proc. Summer School on Group Representations of the Bolyai János Math. Soc., Budapest*, 1971), *pp.* 139–150. *Halsted, New York*, 1975. (H. Garland) **54** #12977 22E40 (32N10, 10D20)

Über die Galoiskohomologie halbeinfacher algebraischer Gruppen. III. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math.* **274/275** (1975), 125–138. (R. Steinberg) **52** #3352 20G40 (18H10)

Die Kohomologie S-arithmetischer Gruppen über Funktionenkörpern. *Invent. Math.* **42** (1977), 135–175. (Avner Ash) **57** #12780 22E40

See also **Mathematics: Periodical collection of translations of foreign articles, 50** #12535

Hardgrave, W. T. BOLTS: a retrieval language for tree-structured data base systems. *Information systems* (*Fourth Internat. Sympos. Comput. and Information Sci., Miami Beach, Fla.*, 1972), *pp.* 137–160. *Plenum Press, New York*, 1974. (Witold Lipski) **57** #8223 68A50

Hardie, K. A. Generalised symmetric product functors. *Math. Colloq. Univ. Cape Town* **6** (1970/71), 26–27. **54** #12850 18A30

A co-equalizer construction for left adjoint. *Math. Colloq. Univ. Cape Town* **6** (1970/71), 111–114. (Syed A. Huq) **55** #10539 18A40

On $\mathrm{cat}^i X$. *J. London Math. Soc.* (2) **3** (1971), 91–92. (H. Wada) **45** #2703 55D50

Note on smash functors. *J. London Math. Soc.* (2) **3** (1971), 93–95. (H. Wada) **45** #2704 55D50

Two adjoint functor theorems. *Math. Colloq. Univ. Cape Town* **7** (1971/72), 39–42. (Dana May Latch) **57** #3211 18A40

Further convenient aspects of the category of compactly generated Hausdorff spaces. *Math. Colloq. Univ. Cape Town* **8** (1973), 43–54. (J. W. Rutter) **56** #6653 55D99 (54D50)

On composite loop functors. *Proc. Amer. Math. Soc.* **37** (1973), 586–588. (J. F. Adams) **47** #2597 55F05

On the category of the double mapping cylinder. *Tôhoku Math. J.* (2) **25** (1973), 355–358. (D. G. Bourgin) **51** #6785 55C30

Toda brackets and the Hopf construction. I. *Math. Colloq. Univ. Cape Town* **9** (1974), 61–72. (Peter J. Eccles) **56** #16625 55E40

Special adjoint functor interpolation. *Algebra Symposium* (*Univ. Pretoria, Pretoria*, 1975), *pp.* 77–83. *Univ. Pretoria, Pretoria*, 1975. (Syed A. Huq) **58** #28121 18A40

Projectivity and injectivity relative to a functor. *Math. Colloq. Univ. Cape Town* **10** (1975/76), 68–80. (M. L. Laplaza) **54** #12863 18G05

A note on the category of the telescope. *Canad. Math. Bull.* **20** (1977), *no.* 1, 107. (D. G. Bourgin) **56** #6650 55C30

(*with* Porter, Gerald J.) The slash product homotopy operation. *Proc. London Math. Soc.* (3) **34** (1977), *no.* 3, 505–519. (M. Arkowitz) **55** #9088 55E35

Instances and ramifications of the semi-adjoint situation. I. Prestable reflection and symmetric unads. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** (1977/78), *no.* 1-3, 147–158. (Author's summary) **58** #28123a 18C15

Instances and ramifications of the semi-adjoint situation. II. The comparison functor. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** (1977/78), *no.* 1-3, 159–175. (Author's summary) **58** #28123b 18C15

See also **Proceedings: Symposium on Categorical Topology, 58** #16817

Hardiman, Stephen T. (*with* Milton, J. Susan; Tsokos, Chris P.) A stochastic model for metabolizing systems with computer simulation. *J. Statist. Phys.* **8** (1973), 79–101. (Authors' summary) **56** #17893 92A05

(*with* Tsokos, Chris P.) Existence theory for a stochastic differential equation. *Internat. J. Systems Sci.* **5** (1974), 615–621. (D. Kannan) **49** #9947 60H10

(*with* Tsokos, Chris P.) Existence theory for nonlinear random integral equations using the Banach-Steinhaus theorem. *Math. Nachr.* **63** (1974), 311–316. (A. T. Bharucha-Reid) **51** #1965 60H20 (45G99)

(*with* Tsokos, Chris P.) On the Uryson type of stochastic integral equations. *Proc. Cambridge Philos. Soc.* **76** (1974), 297–305. (D. Kannan) **49** #8107 60H20

(*with* Tsokos, Chris P.) Existence and stability behavior of random solutions of a system of nonlinear random equations. *Information Sci.* **9** (1975), *no.* 4, 299–313. (Mou-Hsiung Chang) **53** #1205 45M10 (93E15)

(*with* Tsokos, Chris P.) Existence theorems for non-linear random integral equations with time lags. *Internat. J. Systems Sci.* **7** (1976), *no.* 8, 879–900. (Dahsoong Yü) **54** #6279 60H20

Hardin, Jay C. (*with* Brown, Thomas J.) A note on Kendall's autoregressive series. *J. Appl. Probability* **10** (1973), 475–478. (Authors' summary) **50** #3500 62M10

(*with* Brown, Thomas J.) Further results on Kendall's autoregressive series. *J. Appl. Probability* **12** (1975), 180–182. (N. Giri) **50** #15219 62M10

See also **Numerical methods in fluid dynamics**, **49** #10260

Harding, E. F. (*with* Kendall, David G.) Rollo Davidson: 1944–1970. *Stochastic analysis* (*a tribute to the memory of Rollo Davidson*), *pp*. 449–452. *Wiley*, *London*, 1973. (Editors) **50** #9500 01A70 (60–03)

Likelihood and probability in inference. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp*. 227–247. *Academia*, *Prague*, 1973. (R. J. Buehler) **50** #11560 62A10

The probabilities of the shapes of randomly bifurcating trees. *Stochastic geometry* (*a tribute to the memory of Rollo Davidson*), *pp*. 259–269. *Wiley*, *London*, 1974. (John Haigh) **50** #11364 60C05

(*with* Kendall, David G.) Rollo Davidson: 1944–1970. *Stochastic geometry* (*a tribute to the memory of Rollo Davidson*), *pp*. 381–384. *Wiley*, *London*, 1974. (Editors) **50** #9499 01A70 (60–03)

See also **Stochastic analysis**, **50** #3283; **Stochastic geometry**, **50** #3284; **Godambe, V. P.; et al.**, **50** #15043; **Lindley, Dennis V.; et al.**, **54** #3939 *and* **Barndorff-Nielsen, Ole**, **55** #1546

Harding, F. M. *See* **Obituary: Harding, F. M.**, **58** #4960

Harding, Gary C. (*with* Fulkerson, Delbert Ray) On edge-disjoint branchings. *Networks* **6** (1976), *no*. 2, 97–104. (P. K. Stockmeyer) **56** #177 05C20 (68A10)

(*with* Fulkerson, Delbert Ray) Maximizing the minimum source-sink path subject to a budget constraint. *Math. Programming* **13** (1977), *no*. 1, 116–118. (R. Bolstein) **58** #9232 90C10

Harding, Sandra G. *See* **Can theories be refuted?**, **57** #5669

Hardisty, N. The instability of two vortex sheets enclosing a subsonic jet due to acoustic radiation. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no*. 1, 79–91 (1974). (S. H. Lam) **54** #4293 76.35

The instability of two vortex sheets enclosing a subsonic jet due to an acoustic point source. *Proc. Roy. Soc. Edinburgh Sect. A* **73** (1975), 215–229. (R. K. Gupta) **54** #1841 76.35

Hardman, N. R. *See* **Wollan, G. N.**, **45** #1

Hardouin-Duparc, Jean À la recherche du paradis perdu. *Publ. Math. Univ. Bordeaux Année* 1972/73, *No*. 4, 51–89. (Johnson M. Hart) **52** #16912 94A30 (68A25)

Paradis terrestre dans l'automate cellulaire de Conway. (Loose English summary) *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Rouge* **8** (1974), *no*. R-3, 63–71. (Robert M. Baer) **51** #12442 94A30

Quelques résultats sur "l'indice de transitivité" de certains tournois. (English summary) *Math. Sci. Humaines No*. 51 (1975), 35 -41, 87. (J. W. Moon) **53** #188 05C20

See also **Dress, François**, **47** #8428

Hardt, Robert M. Slicing and intersection theory for chains associated with real analytic varieties. *Acta Math*. **129** (1972), 75–136. (C.-C. Hsiung) **47** #4110 49F20 (28A75)

Slicing and intersection theory for chains modulo ν associated with real analytic varieties. *Trans. Amer. Math. Soc*. **183** (1973), 327–340. (C.-C. Hsiung) **49** #3195 32C05 (32B20)

Homology and images of semianalytic sets. *Bull. Amer. Math. Soc*. **80** (1974), 675–678. (A. Tognoli) **50** #638 32C25

Sullivan's local Euler characteristic theorem. *Manuscripta Math*. **12** (1974), 87–92. (A. Verona) **49** #3196 32C05 (32C25, 57D20)

Homology theory for real analytic and semianalytic sets. *Ann. Scuola Norm. Sup. Pisa Cl. Sci*. (4) **2** (1975), *no*. 1, 107–148. (Margherita Galbiati) **52** #3581 32B20 (32C05)

Stratification of real analytic mappings and images. *Invent. Math*. **28** (1975), 193–208. (A. Tognoli) **51** #8453 32B20 (32C05, 32C25)

Topological properties of subanalytic sets. *Trans. Amer. Math. Soc*. **211** (1975), 57–70. (A. Verona) **52** #787 32B20 (32C05)

Triangulation of subanalytic sets and proper light subanalytic maps. *Invent. Math*. **38** (1976/77), *no*. 3, 207–217. (S. Łojasiewicz) **56** #12302 32B20

On boundary regularity for integral currents or flat chains modulo two minimizing the integral of an elliptic integrand. *Comm. Partial Differential Equations* **2** (1977), *no*. 12, 1163–1232. (F. J. Almgren, Jr.) **58** #23954 49F22

Uniqueness of nonparametric area minimizing currents. *Indiana Univ. Math. J*. **26** (1977), *no*. 1, 65–71. (William K. Allard) **56** #9441 49F20 (49F22)

Hardy, A. (*with* Pasqualetti, F.; Ronchi, L.) Determination of the eigenfunctions of a homogeneous integral equation with non-symmetric kernel. (French and German summaries) *Optica Acta* **22** (1975), *no*. 9, 761–766. (G. F. Miller) **53** #7082 65R05

Hardy, Darel W. (*with* Wisner, Robert J.) New proof of a basic theorem about the modular group. *Publ. Math. Debrecen* **18** (1971), 109–110 (1972). (L. Greenberg) **46** #5250 10D05 (20H10)

(*with* Wisner, Robert J.) A dominance semigroup of the modular group. *Publ. Math. Debrecen* **19** (1972), 145–149 (1973). (Carol Tretkoff) **54** #10436 20H05

(*with* Brandon, R. L.; Kim, Ki Hang; Markowsky, George) Cardinalities of D-classes in B_n. *Semigroup Forum* **4** (1972), 341–344. (J. Dénes) **46** #3664 20M20

(*with* Brandon, R. L.; Markowsky, George) The Schützenberger group of an H-class in the semigroup of binary relations. *Semigroup Forum* **5** (1972), 45–53. (R. P. Sullivan) **47** #6898 20M10

(*with* Tirasupa, Yupaporn) Semilattices of proper inverse semigroups. *Semigroup Forum* **13** (1976), *no*. 1, 29–36. (D. B. McAlister) **54** #5376 20M10

Hardy, F. Lane (*with* Armentrout, N.; Maxson, Carlton J.) On generalized affine planes. *J. Geometry* **4** (1974), 143 159. (G. J. Schellekens) **51** #4031 50D05

Hardy, G. E. (*with* Rogers, Thomas D.) A generalization of a fixed point theorem of Reich. *Canad. Math. Bull*. **16** (1973), 201–206. (Teck-Cheong Lim) **48** #2847 47H10 (54H25)

Hardy, Godfrey Harold ★Orders of infinity. The *Infinitärcalcül* of Paul du Bois-Reymond. Reprint of the 1910 edition. Cambridge Tracts in Mathematics and Mathematical Physics, No. 12. *Hafner Publishing Co., New York*, 1971. v + 62 *pp*. (Editors) **50** #2415 26A12 (01A75)

★The integration of functions of a single variable. Reprint of the second edition, 1916. Cambridge Tracts in Mathematics and Mathematical Physics, No. 2. *Hafner Publishing Co., New York*, 1971. viii + 67 *pp*. (Editors) **50** #2417 26A36 (01A75)

(*with* Rogosinski, W. W.) ★Fourierovy řady. (Czech) [Fourier series] Translated from the English by Alois Kufner. *SNTL—Nakladatelství Technické Literatury*, *Prague Nakladatel'stvo Alfa*, *Bratislava*, 1971. 155 *pp*. (Editors) **52** #14796 42–02

See also **Brown, Brenda W.; et al.**, **50** #12581; **Berndt, Bruce C.**, **53** #7918; **Collected papers: Hardy, Godfrey Harold**, **58** #16072 *and* **Collected papers: Hardy, Godfrey Harold**, **58** #16073

Hardy, J. (*with* Pomeau, Yves; de Pazzis, Olivier) Time evolution of a two-dimensional model system. I. Invariant states and time correlation functions. *J. Mathematical Phys* **14** (1973), 1746–1759. (K. K. Sen) **52** #2306 70.28

Hardy, J. P. L. The free topological group on a cell complex. *Bull. Austral. Math. Soc*. **11** (1974), 455–463. (Edward T. Ordman) **51** #13114 22A05

(*with* Brown, Ronald) Subgroups of free topological groups and free topological products of topological groups. *J. London Math. Soc*. (2) **10** (1975), *no*. 4, 431–440. (S A. Morris) **52** #3418 22A05

(*with* Brown, Ronald) Topological groupoids. I. Universal constructions. *Math Nachr*. **71** (1976), 273–286. (D. B. Fuks) **54** #459 22A99 (20L15, 57D30, 55F35)

(*with* Brown, Ronald; Danesh-Naruie, G.) Topological groupoids. II. Covering morphisms and G-spaces. *Math. Nachr*. **74** (1976), 143–156. (D. B. Fuks) **56** #1312 55F65 (20L15)

(*with* Morris, Sidney A.) The free topological group on a simply connected space. *Proc. Amer. Math. Soc*. **55** (1976), *no*. 1, 155–159. (Pierre J. Malraison, Jr.) **54** #12951 57F20 (22A05)

(*with* Morris, Sidney A.; Thompson, H. B.) Applications of the Stone-Čech compactification to free topological groups. *Proc. Amer. Math. Soc*. **55** (1976), *no*. 1, 160–164. (Charles Joiner) **54** #12952 22A05 (54D35)

(*with* Morris, Sidney A.) A note on free topological groupoids. *Math. Nachr*. **77** (1977), 177–180. (Barbara V. Smith Thomas) **57** #517 22A99

Hardy, J. T. (*with* Feaux, Charles) Factorization in certain Cayley rings. *J. Number Theory* **7** (1975), 208–220. (F. van der Blij) **52** #3053 10C05 (17D05)

Hardy, J. W. An implemented extension of Branin's method. *Towards global optimisation* (*Proc. Workshop, Univ. Cagliari, Cagliari*, 1974), *pp*. 117–142. *North-Holland*, *Amsterdam*, 1975. (G. D. Byrne) **54** #6503 65K05

Hardy, Jack (*with* Morey, Philip S., Jr.) An operator based on quantities due to Zermelo. *Tensor* (*N.S.*) **28** (1974), 275–279. (R. H. Bowman) **50** #8334 53A45

Hardy, John A note on the representability of quaternary quadratic forms as sums of squares of two linear forms. *Portugal. Math*. **29** (1970), 161–164. (E. A. Connors) **48** #2067 10B35

Hardy, Kenneth On normal functions. *General Topology and Appl*. **2** (1972), 157–163. (S. K. Kaul) **46** #4464 54C50

(*with* Woods, R. Grant) On c-realcompact spaces and locally bounded normal functions. *Pacific J. Math*. **43** (1972), 647–656. (Z. Frolík) **51** #1749 54D60

(*with* Juhász, István) Normality and the weak cb property. *Pacific J. Math*. **64** (1976), *no*. 1, 167–172. (M. L. Wage) **55** #6358 54D15

Hardy, Lew (*with* Brown, Ronald; Morris, Sidney A.) The homotopy groups of an n-fold wedge. *Math. Z*. **143** (1975), *no*. 2, 119–121. (G. J. Porter) **52** #1685 55E20

Hardy, Robert J. (*with* Weinman, Edward J.) A stochastic model for the reabsorption of isotonic saline by the tubules in the kidney. (French summary) *Biometrics* **30** (1974), 33–40. (R. G. Stanton) **49** #10395 92A05

Hardy, W. C. (*with* Blyth, T. S.) Quasi-residuated mappings and Baer assemblies. *Proc. Roy. Soc. Edinburgh Sect. A* **69** (1970/71), 165–179. (R. J. Greechie) **45** #3271 06A50

(*with* Blyth, T. S.) A coördinatisation of lattices by one-sided Baer assemblies. *Proc. Roy. Soc. Edinburgh Sect A* **69**, *part* 4, 267–279 (1972). (R. J. Greechie) **47** #4872 06A20

Hare, William R. (*with* Laskar, Renu) Chromatic numbers for certain graphs. *J. London Math. Soc*. (2) **4** (1971/72), 489–492. (W. G. Brown) **45** #6680 05C15

(*with* Lawrence, J. F.; Kenelly, John W.) Finite unions of convex sets. *Proc. Amer. Math. Soc*. **34** (1972), 225–228. (John W. Green) **45** #1040 52A05 (46A15)

(*with* Smith, C. R.) On convex subsets of a polytope. *Proc. Amer. Math. Soc*. **35** (1972), 238 239. (A. Florian) **46** #789 52A25

(*with* Thompson, Gerald E.) Tverberg-type theorems in convex product structures. *The geometry of metric and linear spaces* (*Proc. Conf., Michigan State Univ., East Lansing, Mich*., 1974), *pp*. 212–217. *Lecture Notes in Math., Vol*. 490, *Springer*, *Berlin*, 1975. (Marilyn Breen) **53** #1416 52A35

(*with* Laskar, Renu) The chromatic polynomial of a complete r-partite graph. *Amer. Math. Monthly* **82** (1975), *no*. 7, 752–754. (Ruth Bari) **53** #5355 05C15

Harel, David (*with* Pnueli, Amir; Stavi, Jonathan) A complete axiomatic system for proving deductions about recursive programs. *Conference Record of the Ninth Annual ACM Symposium on Theory of Computing* (*Boulder, Colo*., 1977), *pp*. 249–260. *Assoc. Comput. Mach., New York*, 1977. (Giorgio Levi) **58** #13853 68A05 (02B99)

(*with* Meyer, Albert R.; Pratt, Vaughan R.) Computability and completeness in logics of programs—preliminary report. *Conference Record of the Ninth Annual ACM Symposium on Theory of Computing* (*Boulder, Colo*., 1977), *pp*. 261–268. *Assoc. Comput. Mach., New York*, 1977. (D. Vaida) **58** #13852 68A05 (02B99)

Har-El, J. (*with* Rubinstein, Y.) Optimal performance of stochastic automata in switched random environments. *IEEE Trans. Systems Man Cybernet*. **SCM-7** (1977), *no*. 9, 674–677. (Albert Jugel) **57** #2793 94A35

(*with* Rubinstein, Y.) Choice of optimal subset of numbers using a learning automaton. *J. Optimization Theory Appl*. **22** (1977), *no*. 1, 35–40. (Peter J. Moylan) **56** #6981 62F10 (62L12)

Har-El, Jonathan (*with* Kaniel, Shmuel) Linear programming method for rational approximation. *Israel J. Math*. **16** (1973), 343–349. (J. Falk) **49** #11768 65D15 (41A20)

Har'el, Zvi Harmonic mappings and distortion theorems. *Tensor* (*N.S.*) **30** (1976), *no*. 1, 47–54. (Jean-Claude Mitteau) **56** #6564 53C20 (32H25, 58E99)

Harmonic mappings of negatively curved manifolds. *Canad. J. Math*. **30** (1978), *no*. 3, 631–637. (J. K. Shahin) **58** #18269 53C20 (32H25)

Harenko, E. D. (*with* Kasymžanov, A. H.; Oševrovič, B. Ja.) al-Fārābī. The meanings of the (word) "intellect" of the Second Teacher al-Fārābī. (Russian) *Voprosy Filos*. **1970**, *no*. 8, 135–142. (Editors) **58** #10258 01A75 (01A30)

The influence of Aristotle on the shaping of certain ontological principles of Fārābī. (Russian. Kazakh summary) *Vestnik Akad. Nauk Kazah. SSR* **1975**, *no.* 8, 41. **57** #26 01A30

(*with* Kasymžanov, A. H.; Ošerovič, B. Ja.) al-Fārābī. Introductory sections on gic. (Russian) *Voprosy Filos.* **1975**, *no.* 2, 102–108. (Editors) **58** #10259 01A75 1A30)

See also **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **56** #5131

Spiru *See* **Maliţa, Mircea**, **52** #13173 *and* **Iacob, Caius**, **55** #49

r, Robert O. On the mapping associated with the complex representation of functions d processes. *IEEE Trans. Aerospace and Electron. Systems* **AES-8** (1972), 851–854. lot reviewed) 94A05

Signal sequence detection given common background image count sets. *IEEE rans. Aerospace and Electron. Systems* **AES-11** (1975), *no.* 4, 629–635. (K. S. Miller) #12390 93E10

(*with* Baras, John S.; Park, Young Ho) Quantum-mechanical linear filtering of ndom signal sequences. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 1, 59–64. Huibert Kwakernaak) **52** #10170 93E10

(*with* Baras, John S.) Quantum mechanical linear filtering of vector signal processes. *EEE Trans. Information Theory* **IT-23** (1977), *no.* 6, 683–693. (Carl W. Helstrom) 7 #5329 93E10 (94A05)

rave, B. A. (*with* Sleeman, Brian D.) The numerical solution of two-parameter genvalue problems in ordinary differential equations with an application to the roblem of diffraction by a plane angular sector. *J. Inst. Math. Appl.* **14** (1974), 9–22. G. D. Byrne) **49** #11816 65L15

(*with* Sleeman, Brian D.) Uniform asymptotic expansions for ellipsoidal wave unctions. I. High frequency solutions of the ellipsoidal wave equations. *J. Inst. Math. ppl.* **14** (1974), 31–40. (R. K. Gupta) **54** #7909 33A60

Uniform asymptotic expansions for ellipsoidal wave functions. II. Ellipsoidal wave unctions. *J. Inst. Math. Appl.* **14** (1974), 189–196. (R. K. Gupta) **54** #7910 33A60

(*with* Sleeman, Brian D.) Asymptotic evaluation of certain integral formulae for llipsoidal wave functions. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no.* 3, 257–269 (1975). Authors' summary) **52** #8753 41A60 (33A60)

Numerical approximation of eigenvalues of Sturm-Liouville systems. *J. Computational Phys.* **20** (1976), *no.* 4, 381–396. (J. D. Lambert) **53** #14923 65L15 34B25)

(*with* Sleeman, Brian D.) Lamé polynomials of large order. *SIAM J. Math. Anal.* **8** 1977), *no.* 5, 800–842. (F. M. Arscott) **57** #742 33A55 (34E05)

un, G. I. *See* **Mathematical physics**, **46** #1530

, V. A Jacobi-like eigenvalue algorithm for general real matrices. (Serbo-Croatian ummary) *Glasnik Mat. Ser. III* **11 (31)** (1976), *no.* 2, 367–378. (Robert Todd Gregory) 55 #4629 65F15

, Y. (*with* Sinha, A. S. C.) On the boundedness of solutions of some non-autonomous differential equations of the fourth-order. *Internat. J. Control* (1) **15** (1972), 717–724. A. M. Krall) **47** #5374 34C15

čev, V. V. (*with* Timofeev, A. V.; Udovičenko, S. P.; Šmidt, A. A.) Complete and continuous systems of invariants in a problem of pattern recognition. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1972), 143–144, 149. (A. Morimoto) **50** #10151 22D40 (68A45)

Dass, N. D. (*with* Cho, C. F.) Equivalence principle, stress tensor, and long-range behavior of gravitational interactions. *Phys. Rev. D* (3) **14** (1976), *no.* 10, 2511–2517. (Authors' summary) **58** #20196 83.53

iharan, P. R. (*with* Kelly, Richard W.) Ideal limiting of periodic signals in random noise. *IEEE Trans. Aerospace and Electron. Systems* **AES-7** (1971), 644–651. (K. S. Miller) **45** #8384 94A05

in, Ju. S. Adaptive formation of invariant tests in the pattern recognition problem. (Russian) *Dinamika Sistem No.* 8 (1975), 148–161, 165. (See RŽMat **1976** #11 V999) 62A05 (68A45)

Selection of tests in a signal recognition problem. (Russian) *Mat. Sb.* (*Tomsk*) *Vyp.* 1 (1975), 189–202. (Author's summary) **56** #15118 (EA **57**) 94A05

A method for forming invariant tests for attributes based on a training sample. (Russian) *Mat. Sb.* (*Tomsk*) *Vyp.* 2 (1975), 214–226. (László Györfi) **57** #4404 62F05 (62A05)

Adaptive formation of invariant features in the problem of pattern recognition. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 5, 158–164 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 5, 99–108 (1978). (Author's summary) **58** #20759 94A05 (68A45)

in, S. N. (*with* Kim, E. I.) The unsolvability by the method of successive approximations of a certain class of Volterra integral equations. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **2** (1971), 27–35, 338. (Authors' summary) **56** #9199 45D05

(*with* Kim, E. I.; Omel'čenko, V. T.) ★Математические модели тепловых процессов в электрических контактах. (Russian) [Mathematical models of heat processes in electrical contacts] *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1977. 236 *pp.* (Vadim Komkov) **58** #14426 80.35 (78.35)

rinath, K. S. Semi-split sequences. I, II. *Proc. Indian Acad. Sci. Sect. A* **75** (1972), 13–18; *ibid.* **75** (1972), 19–28. (T. Albu) **45** #6869 16A62 (13C05)

Semi-split sequences. III, IV. C. N. Srinivasiengar dedication volume. *Progr. Math.* (*Allahabad*) **6** (1972), *no.* 1, 27–37; *ibid.* **6** (1972), *no.* 1, 38–45. (T. Albu) **49** #4990 13C05

(*with* Kamalamma, K. N.) A few remarks on a binary structure. *Vignana Bharathi* **2** (1976), *no.* 2, 22–26. (V. Havel) **54** #445 20N99

On a generalization of inverse semigroups. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 2, 166–178. (J. E. Mills) **56** #15800 20M10

(*with* Ramesan, T.) On Stoneley waves at the interface of a liquid layer overlying an elastic halfspace with an embedded cylindrical cavity. *Vignana Bharathi* **3** (1977), *no.* 1, 31–43. (Authors' summary) **56** #4707 86.35

(*with* Ramesan, T.) The dynamic response of a thermoelastic halfspace with an embedded cylindrical cavity. I. *Vignana Bharathi* **3** (1977), *no.* 2, 12–29. (D. Ieşan) **56** #17342 73.35

(*with* Kamalamma, K. N.) Some elementary results in ring theory. *Vignana Bharathi* **4** (1978), *no.* 1, 55–61. (Authors' summary) **58** #22137 16–01

Hariot, Thomas *See* **Kalmar, Martin**, **57** #2832

sree Hari Rao, V. *See* **Sree Hari Rao, V.**

Haris, Stephen J. A Siegel formula for orthogonal groups over a function field. *Trans. Amer. Math. Soc.* **190** (1974), 223–231. (Lawrence Verner) **50** #2077 10C15 (12A85)

An equality of distributions associated to families of theta series. *Nagoya Math. J.* **59** (1975), 153–168. (T. Ono) **53** #359 12A85

Admissible representations for split reductive groups defined over a function field. *Osaka J. Math.* **15** (1978), *no.* 1, 101–116. (V. L. Popov) **58** #22415 22E55

Harish-Chandra ★Harmonic analysis on reductive *p*-adic groups. Notes by G. van Dijk. Lecture Notes in Mathematics, Vol. 162. *Springer-Verlag, Berlin-New York*, 1970. iv + 125 *pp.* (G. I. Ol'šanskiĭ) **54** #2889 22E50

Eisenstein series over finite fields. *Functional analysis and related fields* (*Proc. Conf. M. Stone, Univ. Chicago, Chicago, Ill.*, 1968), *pp.* 76–88. *Springer, New York*, 1970. (S. I. Gel'fand) **56** #15784 20G05 (20G40, 10D15, 22E55)

★Автоморфные формы на полупростых группах Ли. (Russian) [Automorphic forms on semisimple Lie groups] Translated from the English by D. A. Každan. Edited by M. I. Graev. Library of the journal "Matematika". *Izdat. "Mir", Moscow*, 1971. 246 *pp.* (Editors) **50** #7408 22E30 (10D20, 32N10)

On the theory of the Eisenstein integral. *Conference on Harmonic Analysis* (*Univ. Maryland, College Park, Md.*, 1971), *pp.* 123–149. *Lecture Notes in Math., Vol.* 266, *Springer, Berlin*, 1972. (G. I. Ol'šanskiĭ) **53** #3200 22E45

Harmonic analysis on reductive *p*-adic groups. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, Mass.*, 1972), *pp.* 167–192. *Amer. Math. Soc., Providence, R.I.*, 1973. (G. I. Ol'šanskiĭ) **49** #5238 22E50

Harmonic analysis on real reductive groups. I. The theory of the constant term. *J. Functional Analysis* **19** (1975), 104–204. (P. C. Trombi) **53** #3201 22E45

Harmonic analysis on real reductive groups. III. The Maass-Selberg relations and the Plancherel formula. *Ann. of Math.* (2) **104** (1976), *no.* 1, 117–201. (P. C. Trombi) **55** #12875 22E45

Harmonic analysis on real reductive groups. II. Wavepackets in the Schwartz space. *Invent. Math.* **36** (1976), 1–55. (P. C. Trombi) **55** #12874 22E45

The characters of reductive *p*-adic groups. *Contributions to algebra* (*collection of papers dedicated to Ellis Kolchin*), *pp.* 175–182. *Academic Press, New York*, 1977. (Allan J. Silberger) **58** #11240 22E50

Admissible invariant distributions on reductive *p*-adic groups. *Lie theories and their applications* (*Proc. Ann. Sem. Canad. Math. Congr., Queen's Univ., Kingston, Ont.*, 1977), *pp.* 281–347. *Queen's Papers in Pure Appl. Math., No.* 48, *Queen's Univ., Kingston, Ont.*, 1978. (G. I. Ol'šanskiĭ) **58** #28313 22E50

Harita, Mitsuru Continuation of meromorphic functions in a domain of the Cartesian product of denumerable family of complex planes. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 229–233. (A. Hirschowitz) **52** #6419 46G20 (32D15)

On the unique existence of global holomorphic solutions of some partial differential equations with a parameter in a Stein manifold. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 349–354. (R. Gérard) **52** #14587 35F20 (32A10)

Hariton, Ja. R. A certain method for the solution of discrete programming problems. (Russian) *Mathematical programming and related questions* (*Proc. Seventh Winter School, Drogobych*, 1974), *Convex programming* (*Russian*), *pp.* 159–165. *Central. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow*, 1976. (M. M. Sysło) **56** #4822 90C10

Hariton, Ju. B. (*with* Gol'danskiĭ, V. I.; Zel'dovič, Ja. B.; Kožušner, M. A.; Kondrat'ev, V. N.; Lifšic, I. M.; Novožilov, B. V.; Semenov, N. N.; Sokolov, N. D.; Tal'roze, V. L.) Aleksandr Solomonovich Kompaneets (obituary). *Uspehi Fiz. Nauk* **114** (1974), *no.* 3-4, 687–688 (*Russian*); *translated as Soviet Physics Uspekhi* **17** (1975), *no.* 6, 965–966. (Editors) **51** #12464 01A70

Haritonenko, A. A. (*with* Jurovskiĭ, B. Ju.; Dem'janovskiĭ, A. P.) A method for the optimization with respect to a vector criterion of the memory hierarchy in a computer system. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1978**, *no.* 1, 71–74, 95. (Authors' summary) **58** #19455 68A99 (90C10)

Haritonenko, P. I. (*with* Ryžkov, V. A.) A plane boundary value problem for determination of the initial stresses in a soil formation that is anisotropic with respect to water permeability. (Russian) *Differencial'nye Uravnenija* **8** (1972), 383–386. (Şt. I. Gheorghiţă) **48** #3357 76.35

(*with* Jurčuk, N. I.) The Cauchy problem for abstract Love equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1256–1266. (H. Triebel) **46** #3939 34G05 (35G10)

Haritonov, B. F. Projective planes of order 10 and 13 with regular transitive noncyclic collineation groups. (Russian) *Kombinatornyĭ Anal. Vyp.* 4 (1976), 54–59. (Jean-Claude Petit) **56** #8398 05B25

Projective planes of order $n \equiv 1 \pmod 3$ with regular transitive collineation groups. (Russian) Combinatorics. *Perm. Gos. Univ. Učen. Zap. No.* 152 (1976), 50–53. (J. Cofman) **58** #10518 05B25 (50D35)

Haritonov, B. S. (*with* Šepel'kova, L. V.; Suhanov, G. B.) ★Комбинаторные задачи в вычислительной технике. (Russian) [Combinatorial problems in computer science] *Izdat. "Ilim", Frunze*, 1973. 51 *pp.* (*errata insert*) (I. Văduva) **50** #15431 68A15

Haritonov, V. V. (*with* Sorokin, O. S.) Generalized Bessel equations with a right hand side. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 2, 99–103. (H. A. Lauwerier) **47** #7101 34A25

(*with* Sorokin, O. S.) ★Некоторые нелинейные задачи теплопроводности. (Russian) [Certain nonlinear problems of heat conduction] Edited, and with a preface by A. G. Šaškov. *Izdat. "Nauka i Tehnika", Minsk*, 1974. 152 *pp.* (H. A. Lauwerier) **50** #1646 80.35

Haritonova, M. O. On the theory of Cauchy-Poisson waves in laminated media. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Ukraïn. RSR Ser. A* **1975**, *no.* 8, 688–691, 764. (Alexander Alenicyn) **52** #4805 76.35

Application of a certain integral transform to the solution of the Cauchy-Poisson problem of wave diffraction. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 127–133, 144. (J. Kopáček) **51** #10839 35C15

Haritonova, N. I. (*with* Grigor'ev, Ju. N.; Ivanov, M. S.) On the question of the solution of the nonlinear kinetic equations of rarefied gas dynamics by the Monte Carlo method. (Russian) All Union Seminar on Models of Continuum Mechanics (Novosibirsk, 1971). *Čisl. Metody Meh. Splošnoĭ Sredy* **2** (1971), *no.* 4, 101–107. (V. S. Galkin (RŽMeh **1972** #6 B2428)) **50** #9168 76.65

Projective and elliptic spaces over a "Galois square". (Russian) *Current problems in geometry and its applications, No.* 2 (*Russian*), *pp.* 44–49, 127. *Čuvaš. Gos. Univ., Cheboksary*, 1976. (Author's summary) **58** #30696 50A15 (50C15, 50D30)

Harju, Tero A polynomial recognition algorithm for the *EDT0L* languages. (German and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 4-5, 169–177. (Pavel Strnad) **56** #10164 68A30

Harkema, R. ★Simultaneous equations. A Bayesian approach. *Rotterdam University Press, Rotterdam*, 1971. viii + 108 *pp.* (D. V. Lindley) **50** #8900 62P20

An analytical comparison of certainty equivalence and sequential updating. *J. Amer. Statist. Assoc.* **70** (1975), 348–350. (A. Aganbejan) **52** #5072 90D35

(*with* Schim van der Loeff, S.) Three models of firm behaviour; theory and estimation, with an application to the Dutch manufacturing sector. *Rev. Econom. Statist.* **58** (1976), *no.* 1, 13–21. (Anjan Mukherji) **56** #14604 90A15

Harker, David Effect of rotational symmetry on colored lattices. *Proc. Nat. Acad. Sci. U.S.A.* **75** (1978), *no.* 12, 5751–5754. (Author's summary) **58** #20063 82.06 (06A20)

Harker, K. J. Symmetry and selection rules for wave-wave interactions. *Radio Sci.* **12** (1977), *no.* 6, 977–986. (From the author's introduction) **56** #17598 81.47

Harkevič, A. A. ★Избранные труды в трех томах. (Russian) [Selected works in three volumes] Том 3: Теория информации. Опознание Образов. [Vol. 3: Information theory. Pattern recognition] *Izdat. "Nauka", Moscow*, 1973. 524 *pp.* (Editors) **52** #2803 01A75

★Избранные труды в трех томах. Том 2. (Russian) [Selected works in three volumes. Vol. 2] Линейные и нелинейные системы. [Linear and nonlinear systems] *Izdat. "Nauka", Moscow*, 1973. 566 *pp.* (Table of contents) **57** #12147 01A75

★Избранные труды в трех томах. Том 1. (Russian) [Selected works in three volumes. Volume 1] Теория электроакустических преобразователей. Волновые процессы. [Theory of electroacoustical transformers. Wave processes] *Izdat. "Nauka", Moscow*, 1973. 399 *pp.* (1 *plate*) (Editors) **58** #106 01A75

Harkevič, A. D. (*with* Epihin, V. V.) On the question of the construction of optimal graphs. (Russian) *Methods of teletraffic theory in information distribution systems* (*Russian*), *pp.* 146–157. *Izdat. "Nauka", Moscow*, 1975. (Anton Kotzig) **55** #7841 05C35

See also **Problems on the distribution of information, 50 #16065; Systems for the distribution of information, 50 #16066; Teletraffic theory and information networks, 57 #11910** *and* **Informational networks and their structure, 58 #33586**

Harkin, J. B. Lebesgue-Stieltjes inversion theorem. *Applicable Anal.* **1** (1971), *no.* 3, 279–282. (W. D. L. Appling) **45** #475 26A42 (28A25)

Sklar-Stieltjes integrals. *Illinois J. Math.* **16** (1972), 196–202. (T. H. Hildebrandt) **45** #2113 26A42 (28A25)

Harkness, William L. (*with* Shantaram, R.) On a certain class of limit distributions. *Ann. Math. Statist.* **43** (1972), 2067–2071. (R. Cuppens) **50** #5901 60E05

(*with* Godambe, Ashok V.) Normal approximation to the distribution of a cell entry in a 2×2×2 contingency table. *Comm. Statist.* **4** (1975), *no.* 8, 699–709. (S. K. Katti) **52** #9449 62E20

(*with* Godambe, Ashok V.) Inequalities for tail probabilities for the multivariate normal distribution. *Comm. Statist.–Theory Methods* **A5** (1976), *no.* 7, 689–692. (Akio Kudô) **53** #14791 62H10

Har'kov, A. A. External fields in the gravitational collapse of rotating masses. *Ž. Èksper. Teoret. Fiz.* **66** (1974), 1505–1514 (*Russian. English summary*); *translated as Soviet Physics JETP* **39** (1974), 737–741. (J. G. Taylor) **52** #9959 83.53

Har'kova, N. V. (*with* Lidskiĭ, V. B.) Spectrum of a system of membrane equations in the case of axisymmetric vibrations of shells of revolution. *Dokl. Akad. Nauk SSSR* **194** (1970), 786–789 (*Russian*); *translated as Soviet Physics Dokl.* **15** (1970/71), 982–984. (S. Drobot) **46** #4836 73.47

On the lower portion of the spectrum of natural axisymmetric vibrations of a thin elastic shell of revolution. *Prikl. Mat. Meh.* **35** (1971), 438–445 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 397–404 (1972). (W. E. Boyce) **49** #10215 73.34

An example of a noncompact set of representative measures for an algebra of analytic functions. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 4, 33–40. (C. C. White) **48** #6943 46J15

Harlamov, A. A. (*with* Kandidov, V. P.; Landa, P. S.; Leontovič, M. A.; Fursov, V. S.; Šmal'gauzen, V. I.; Jakovlev, I. A.) Sergeĭ Pavlovich Strelkov (obituary). *Uspehi Fiz. Nauk* **114** (1974), *no.* 1-2, 169–171 (*Russian*); *translated as Soviet Physics Uspekhi* **17** (1975), *no.* 5, 812–814. (Editors) **51** #7790 01A70

Harlamov, B. P. Random change of time, and continuous semi-Markov processes. (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 30–37. (A. Badrikian) **50** #11512 60K15

Point processes with a conditionally independent and uniform distribution of points on intervals. (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 38–41. (A. Badrikian) **50** #8690 60G55

The set of the regeneration moments of random processes. (Russian) Problems in the theory of probability distributions, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **41** (1974), 133–138, 167–168. (Hermann Rost) **51** #7004 60J25

Random processes with semi-Markov chains of hitting times. (Russian) Problems in the theory of probability distributions, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **41** (1974), 139–164, 168. (Hermann Rost) **51** #7005 60J25 (60K15)

On the convergence of semi-Markov walks to a continuous semi-Markov process. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 3, 497–511. (O. K. Zakusilo) **55** #6600 60K15 (60B10, 60J15)

A "correct exit" property and a limit theorem for semi-Markov processes. (Russian. English summary) Problems of the theory of probability distributions, IV. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **72** (1977), 186–201, 219, 220–221. (V. V. Anisimov) **58** #2947 60B10 (60K15)

See also **Problems in the theory of probability distributions, 52 #4355**

Harlamov, M. P. (*with* Hohlov, O. Ī.) Operators that are admissible in the dynamical equations of elasticity theory. (Ukrainian. English and Russian summaries) *Dopovid. Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 1005–1007, 1055. (V. Komkov) **47** #6175 73.35

Lowering the order in mechanical systems with symmetry. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 4–18, 137. (Author's summary) **58** #18562 58F05

Integral manifolds of the reduced system in the problem of the inertial motion of a rigid body with a fixed point. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 18–23, 137. (Author's summary) **58** #13165 58F05 (70.58)

A class of integrals of the equations of motion of a rigid body. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 2, 120–123, 192. (Q. K. Ghori) **57** #4728 70.34

The characteristic class of a fibering and the existence of a global Routh function. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 1, 89–90. (Ju. E. Gliklih) **58** #13166 58F05 (34D20)

On the problem of *n* rigid bodies. (Russian) *Meh. Tverd. Tela Vyp.* 9 (1977), 89–99, 126. (*loose errata*) (Author's summary) **58** #14048 70.34 (58F05)

Conditionally linear integral of the equations of motion of a rigid body that has dynamical symmetry. (Russian) *Meh. Tverd. Tela No.* 10 (1978), 24–29, 118. (Author's summary) **58** #19476 70.34

Harlamov, P. V. New methods for the study of problems in the dynamics of a rigid body. (Russian) *Problems in analytical mechanics, stability and control theories* (*Second Četaev Conf., Kazan*, 1973) (*Russian*), *pp.* 317–325, 343. *Izdat. "Nauka", Moscow*, 1975. (Djordje Djukic) **56** #13857 70.34

A study of the solution with two linear invariant relations of the problem of the motion of a body with a fixed point (special cases). (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 37–56, 138. (From the author's text) **57** #14681 70.34

(*with* Gorr, G. V.; Dokševič, A. Ì.; Koval'ov, O. M.; Konosevič, B. Ī.; Savčenko, O. Ja.) Some questions on the nonlinear theory of the observation of dynamical systems. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 3, 244–247, 286. (Szyman Dolecki) **56** #13078 49E05 (34C35)

Harlamov, V. M. The maximal number of components of a 4th degree surface in RP^3. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 4, 101. (A. H. Wallace) **47** #1817 14J25

New congruences for the Euler characteristic of real algebraic manifolds. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 2, 74–78. (A. H. Wallace) **48** #9736 57D20 (32C05)

A generalized Petrovskiĭ inequality. (Russian) *Funkcional. Anal. i Priložen.* **8** (1974), *no.* 2, 50–56. (A. H. Wallace) **50** #2549 32C10 (14F25, 57D20)

Additional congruences for the Euler characteristic of even-dimensional real algebraic varieties. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 2, 51–60. (A. H. Wallace) **53** #5597 14F99 (57D20)

A generalized Petrovskiĭ inequality. II. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 3, 93–94. (A. H. Wallace) **53** #3346 32C15 (57D20)

Topological types of nonsingular surfaces of degree 4 in $\mathbf{R}P^3$. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 4, 55–68. (A. H. Wallace) **56** #8584 14J99

Isotopic types of nonsingular surfaces of degree 4 in $\mathbf{RP}^3$. (Russian) *Funkcional. Anal. i Priložen.* **12** (1978), *no.* 1, 86–87. (J.-E. Bertin) **58** #22086 14J25

Harlamov, V. P. The connection between random curves, time changes and regeneration moments of random processes. (Russian. English summary) Problems in the theory of probability distributions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **55** (1976), 128–164, 201. (M. G. Šur) **55** #6565 60G99

Harlamova, E. I. (*with* Kudrjašova, L. V.; Mozalevskaja, G. V.) On the history of the formation of the equations of the dynamics of a rigid body. (Russian) *Meh. Tverd. Tela Vyp.* 7 (1974), 59–82. (J. S. Joel) **58** #26960 01A50

(*with* Kudrjašova, L. V.; Mozalevskaja, G. V.) On a paper of J. Liouville. (Russian) *Meh. Tverd. Tela Vyp.* 7 (1974), 82–86. (J. S. Joel) **58** #10104 01A55

(*with* Gorr, G. V.) Nutation-free motions of a rigid body with a fixed point. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 23–31, 137. (Authors' summary) **57** #8245 70.34

The Ampère cone. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 72–76, 138. (From the author's text) **56** #17284 70.34

(*with* Stepanova, L. A.) Some assertions relating to the problem of integrating the equations of motion of a heavy rigid body having a fixed point. (Russian) *Meh. Tverd. Tela Vyp.* 9 (1977), 45–58, 125. (Editors) **58** #27008 01A55 (70.01)

Harlamova, V. I. (*with* Reško, K. A.) The saturation of maximal chains by modular subgroups. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 788–789, 871. (B. Hartley) **50** #474 20D30

(*with* Reško, K. A.) The *p*-length of an arbitrary finite group. (Russian) *Mat. Zametki* **14** (1973), 419–427. (Sergei A. Syskin) **48** #4120 20D30

Classes of maximal subgroups of a finite group. (Russian) *Dokl. Akad. Nauk BSSR* **18** (1974), 13–16, 90. (B. Hartley) **49** #409 20D25

Finite groups whose subgroups have cofactors and subcofactors with given properties. (Russian) *Finite groups* (*Proc. Gomel Sem.*, 1973/1974) (*Russian*), *pp.* 188–202, 231. *Izdat. "Nauka i Tehnika", Minsk*, 1975. (Ja. G. Berkovič) **53** #13408 20D99

Arithmetic criteria for the solvability and supersolvability of finite groups. (Russian) *Dokl. Akad. Nauk BSSR* **19** (1976), *no.* 12, 1065–1066, 1145. (B. Hartley) **54** #10400 20D10

The *F*-length of a finite group. (Russian) *Mat. Zametki* **19** (1976), *no.* 5, 745–754. (Sergei A. Syskin) **54** #10405 20D30

(*with* Reško, K. A.) Characterization of finite groups by maximal chains of subgroups. (Russian) *Finite groups* (*Proc. Gomel Sem., Gomel*, 1975–1977) (*Russian*), *pp.* 69–78, 174. *Izdat. "Nauka i Tehnika", Minsk*, 1978. (V. D. Mazurov) **58** #22289 20D30

Harland, Peter (*with* Grafarend, Erik) Optimales Design geodätischer Netze. I. (English summary) *Deutsche Geodät. Kommiss. Bayer. Akad. Wiss. Reihe A Heft* 74 (1973), 39 *pp.* (From the authors' introduction) **57** #1886 65K05 (65D10, 86.65)

Harlap, A. È. Local homology and cohomology, homological dimension, and generalized manifolds. (Russian) *Mat. Sb.* (*N.S.*) **96(138)** (1975), 347–373, 503. (Author's summary)

8 #31056 55B35

, Carlos Edgard Rigidity of hypersurfaces of constant scalar curvature. *J. Differential Geometry* **5** (1971), 85–111. (F. Brickell) **45** #4330 53C45

A note on the geometry of distributions. (Portuguese) *Bol. Soc. Brasil. Mat.* **8** (1977), *no.* 1, 65–72. (Joao Lucas Marques Barbosa) **58** #31155 58A30

eman, D. R. F. *See* **Numerical methods in fluid dynamics**, **49** #10260

ey, P. J. (*with* Mitchell, Andrew R.) Exact control of a parabolic differential equation using an implicit Runge-Kutta method. *J. Inst. Math. Appl.* **18** (1976), *no.* 1, 9–14. (Authors' summary) **56** #16494 49D10 (65P05)

(*with* Mitchell, Andrew R.) A finite element collocation method for the exact control of a parabolic problem. *Internat. J. Numer. Methods Engrg.* **11** (1977), *no.* 2, 345–353. (Authors' summary) **56** #10058 65N30

ey, Peter W., III A characterization of spaces on which all path maps are continuous. *Proc. Amer. Math. Soc.* **34** (1972), 621–622. (O. T. Alas) **46** #8161 54C10

A countable nowhere first countable Hausdorff space. *Canad. Math. Bull.* **16** (1973), 441–442. (J. Greever) **50** #11200 54G20

Metrization of closed images of metric spaces. *TOPO 72—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.*, 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 188–191. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin*, 1974. (O. T. Alas) **50** #11175 54E35 (54C10)

Metric and symmetric spaces. *Proc. Amer. Math. Soc.* **43** (1974), 428–430. (George M. Reed) **49** #1486 54E35

(*with* Faulkner, Gary D.) Metrization of symmetric spaces. *Canad. J. Math.* **27** (1975). *no.* 5, 986–990. (R. Hodel) **54** #1176 54E35

(*with* Stephenson, R. M., Jr.) Symmetrizable and related spaces. *Trans. Amer. Math. Soc.* **219** (1976), 89–111. (Paul R. Meyer) **54** #6092 54D55 (54E25)

lip, A. D. Certain classes of solutions of a linear Diophantine equation that describes a positional string. (Russian) *Coding theory and information modeling, No.* 2 (*Russian*), *pp.* 206–209. 250. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1975. (Daniel Coray) **57** #9280 94A10 (10B05)

(*with* Gol'cer, Ja. M.) A continuous normal form and limit cycles. (Russian) *Theoretical and applied problems in mathematics and mechanics* (*Russian*), *pp.* 113–121, 308. *Nauka Kazah. SSR, Alma-Ata*, 1977. (Authors' summary) **58** #28827 34C05 (58F10)

low, Charles A. (*with* Coates, Clarence L., Jr.) Feedback in sequential machine realizations. *IEEE Trans. Computers* **C-21** (1972), 371–381. (Authors' summary) **55** #10159 94A25

rman, C. J. A note on a discrete analytic function. *Bull. Austral. Math. Soc.* **10** (1974), 123–134. (C. R. Deeter) **50** #13557 30A95

A new definition of discrete analytic functions. *Bull. Austral. Math. Soc.* **10** (1974), 281–291. (C. R. Deeter) **50** #13558 30A95

rman, Gilbert *See* **Semantics of natural language**, **53** #5245 *and* **Semantics of natural language**, **53** #5246

rman, Harry Horace ★Modern factor analysis. Third revised edition. *University of Chicago Press, Chicago, Ill.–London*, 1976. xx + 487 *pp.* (Editors) **53** #4377 62H25

See also **Messick, Samuel**, **57** #12127

rman, R. Keith (*with* Fairman, Frederick W.) Exponential approximation via a closed-form Gauss-Newton method. *IEEE Trans. Circuit Theory* **CT-20** (1973), *no.* 4, 361–369. (Ezio M. Biglieri) **53** #14863 65D15

rmanci, Abdullah On the commutativity of some class of rings. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 3, 376–380. (Howard E. Bell) **53** #8152 16A70

Two elementary commutativity theorems for rings. *Acta Math. Acad. Sci. Hungar.* **29** (1977), *no.* 1–2, 23–29. (J. Luh) **56** #3062 16A70

rmancová, Dagmar (*with* Hájek, Petr) On generalized credence functions. *Kybernetika* (*Prague*) **9** (1973), 343–356. (A. A. Mullin) **53** #5242 02A05 (00A25, 68A45)

rmat, László Self-diagnostic computer structures. I. (Hungarian. Russian and English summaries) *Informác.-Elektron.* **12** (1977), *no.* 2, 88–93. (Author's summary) **56** #2673a 94A20

Self-diagnostic computer structures. II. (Hungarian. Russian and English summaries) *Informác.-Elektron.* **12** (1977), *no.* 3, 153–159. (Author's summary) **56** #2673b 94A20

rms, Edward Variational approach to the bound-state Faddeev equations. *Phys. Rev. C* (3) **5** (1972), 1452–1457. (Author's summary) **51** #9718 81.49

A modified method of moments approach to the solution of scattering equations. *Nuclear Phys.* **A222** (1974), 125–139. (Author's summary) **50** #12051 81.45

Eigenvalues of the Faddeev equations with repulsive two-body interactions. *Phys. Rev. D* (3) **9** (1974), 993–995. (Author's summary) **53** #12306 81.45

arms, Susanne (*with* Klix, Wolf-Dieter) Ein Algorithmus zur automatischen Lösung konstruktiver Problemstellungen. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg M* **8** *Beitr. Algebra Geom.* **6** (1977), 55–69. (Wolfgang Böhm) **58** #5101 02E10 (50–04, 68A10)

armuth, Henning F. ★Transmission of information by orthogonal functions. Second edition. *Springer-Verlag, New York-Heidelberg*, 1972. xii + 393 *pp.* (Editors) **49** #12147 94A05 (42A52)

★Sequency theory. Foundations and applications. Advances in Electronics and Electron Physics, Suppl. No. 9. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1977. xiv + 505 *pp.* (G. Robert Redinbo) **55** #7561 94A05 (78.35)

See also **Applications of Walsh functions**, **48** #8080

n Harn, K. (*with* Steutel, F. W.) Generalized renewal sequences and infinitely divisible lattice distributions. *Stochastic Processes Appl.* **5** (1977), *no.* 1, 47–55. (S. K. Katti) **55** #9314 60K05 (60E05)

arnad, J. P. (*with* Pettitt, R. Bruce) Gauge theories for space-time symmetries. I. *J. Mathematical Phys.* **17** (1976), *no.* 10, 1827–1837. (Jorge André Swieca) **54** #6791 81.53

(*with* Pettitt, R. Bruce) Gauge theory of the conformal group. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 277–301. *Academic Press, New York*, 1977. (J. Rosen) **58** #8622 70.53 (53C05, 81.53)

(*with* Beckers, J.; Perroud, Marcel; Winternitz, P.) Tensor fields invariant under subgroups of the conformal group of space-time. *J. Math. Phys.* **19** (1978), *no.* 10, 2126–2153. (M. Sachs) **58** #25465 81.22 (58H05)

(*with* Vinet, Luc) On the U(2) invariant solutions to Yang-Mills equations in compactified Minkowski space. *Phys. Lett. B* **76** (1978), *no.* 5, 589–592. (Authors' summary) **58** #14501 81.22 (57D20)

Harnau, Walter Einige numerische Invarianten der teilweise geordneten Menge Φk von Vertauschbarkeitsmengen der k-wertigen Logik. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **10** (1974), 543–551. (I. E. Strazdiņš) **54** #59 02C05

Die Definition von Vertauschbarkeitsmengen in der k-wertigen Logik und das Maximalitätsproblem. *Z. Math. Logik Grundlagen Math.* **20** (1974), 339–352. (V. B. Kudrjavcev) **52** #5351 02C05

Die vertauschbaren Funktionen der k-wertigen Logik und ein Basisproblem. *Z. Math. Logik Grundlagen Math.* **20** (1974), 453–463. (V. B. Kudrjavcev) **52** #5352 02C05

Über Kettenlängen der teilweise geordneten Menge Φ_k der Vertauschbarkeitsmengen der k-wertigen Logik. *Math. Nachr.* **68** (1975), 289–297. (V. B. Kudrjavcev) **54** #12479 02C05

Eine Verallgemeinerung der Vertauschbarkeit in der k-wertigen Logik. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **12** (1976), *no.* 1–2, 33–43. (I. G. Rosenberg) **55** #12465 02C05

(*with* Dassow, Jürgen) Spezielle Gleichungen in freien Halbgruppen und eine Anwendung auf Normalformen regulärer Ereignisse. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* 7 (1976), 33–40. (W. Wechler) **55** #12347 94A30 (68A30, 20M35)

Die teilweise geordnete Menge Φ_k der Vertauschbarkeitsmengen der k-wertigen Logik. *Z. Math. Logik Grundlagen Math.* **22** (1976), *no.* 1, 19–28. (V. B. Kudrjavcev) **54** #12480 02C05

Harner, C. C. (*with* Entringer, Roger C.) Maximal component-complete subgraphs. *J. Combinatorial Theory Ser. B* **12** (1972), 245–251. (Authors' summary) **45** #8559 05C35

(*with* Entringer, Roger C.) Arc colorings of digraphs. *J. Combinatorial Theory Ser. B* **13** (1972), 219–225. (F. Harary) **47** #1656 05C15

(*with* Entringer, Roger C.; Erdős, Paul) Some extremal properties concerning transitivity in graphs. *Period. Math. Hungar.* **3** (1973), *no.* 3-4, 275–279. (J. W. Moon) **48** #169 05C35

Harner, E. James (*with* Whitmore, Robert C.) Multivariate measures of niche overlap using discriminant analysis. *Theoret. Population Biology* **12** (1977), *no.* 1, 21–36. (P. D. M. Macdonald) **56** #9881 62P10 (92A05)

Harnett, Donald L. ★Introduction to statistical methods. *Addison-Wesley Publishing Co., Reading, Mass.-London-Don Mills, Ont.*, 1970. xiii + 530 *pp.* (Editors) **50** #11547 62–01

★Introduction to statistical methods: solutions manual. *Addison-Wesley Publishing Co., Reading, Mass.*, 1971. 54 *pp.* (Editors) **50** #11548 62–01

Harney, R. C. Propagation of ultrashort light pulses in a resonant medium. *Phys. A* **91** (1978), *no.* 3–4, 469–479. (T. Erber) **57** #18492 78.33

Harnik, Victor (*with* Ressayre, Jean-Pierre) Prime extensions and categoricity in power. *Israel J. Math.* **10** (1971), 172–185. (S. Comer) **46** #45 02H05

A two cardinal theorem for sets of formulas in a stable theory. *Israel J. Math.* **21** (1975), *no.* 1, 7–23. (John Rosenthal) **55** #12504 02H05

Effective proper procedures and universal classes of program schemata. *J. Comput. System Sci.* **10** (1975), 44–61. (David C. Rine) **50** #15420 68A05

On the existence of saturated models of stable theories. *Proc. Amer. Math. Soc.* **52** (1975), 361–367. (A. H. Lachlan) **52** #7890 02H05 (02H20)

Approximation theorems and model theoretic forcing. *J. Symbolic Logic* **41** (1976), *no.* 1, 59–72. (Douglas E. Miller) **55** #5432 02H05

(*with* Makkai, Michael) Applications of Vaught sentences and the covering theorem. *J. Symbolic Logic* **41** (1976), *no.* 1, 171–187. (M. E. Nadel) **56** #5265 02H05 (02B25, 02G10)

(*with* Makkai, Michael) A tree argument in infinitary model theory. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 2, 309–314. (John P. Burgess) **57** #12204 02H10 (02B25)

Harnisch, Hans-Georg ★Zur Klassifikation der Zustände eines stochastischen Starke-Automaten. Von der Naturwissenschaftlichen Fakultät der Technischen Universität Carolo-Wilhelmina zu Braunschweig zur Erlangung des Grades eines Doktors der Naturwissenschaften genehmigte Dissertation. *Universität Carolo-Wilhelmina, Braunschweig*, 1972. 73 *pp.* (A. Salomaa) **52** #10281 94A35

Harnos, Zs. On closedness of the image of convex, closed sets. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **13** (1970), 57–59 (1971). (Bor-Luh Lin) **47** #5542 46A05

Harnoy, A. (*with* Reiner, M.) Second order stresses in classical infinitesimal elasticity. *Israel J. Tech.* **11** (1973), *no.* 5, 325–328. (C.-C. Wang) **53** #15072 73.53

de la Harpe, Pierre Groupe spinoriel associé à un espace de Hilbert. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A305–A307. (D. Elworthy) **45** #7760 58D05 (58H05, 81.58)

(*with* Omori, Hideki) Opération de groupes de Lie banachiques sur les variétés différentielles de dimension finie. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A395–A397. (A. Oniščik (RŽMat **1972** #2 A756)) **48** #7308 57E99 (58D99)

Dérivations des L^*-algèbres semi-simples complexes et des algèbres de Lie classiques d'opérateurs compacts. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A806–A809. (Mi-Soo Smith) **45** #5770 46L15 (22E99, 57F99)

(*with* Ramer, Roald) Cohomologie scalaire des algèbres de Lie classiques de type *A* d'opérateurs compacts. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A882–A885. (Mi-Soo Smith) **45** #5771 46L15 (22E99, 57F99)

★Classical Banach-Lie algebras and Banach-Lie groups of operators in Hilbert space. Lecture Notes in Mathematics, Vol. 285. *Springer-Verlag, Berlin-New York*, 1972. iii + 160 *pp.* (Raymond Streater) **57** #16372 17B65 (22E65, 46H99, 47D99)

(*with* Ramer, Roald) Polynômes invariants sur les algèbres de Lie banachiques complexes classiques d'opérateurs compacts dans l'espace hilbertien. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A824–A827. (M. Craioveanu) **45** #2758 58H05 (22E65, 47D10)

L^*-algèbres simples et algèbres de Lie classiques d'opérateurs dans l'espace hilbertien. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1096–A1098. (Mi-Soo Smith)

45 #4162 46L15 (47B99, 57F99)

Sur le groupe spinoriel associé à un espace de Hilbert. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1484–A1487. (Mi-Soo Smith) **45** #6040 58H05 (46C05)

The Clifford algebra and the spinor group of a Hilbert space. *Compositio Math.* **25** (1972), 245–261. (Mi-Soo Smith) **47** #5616 46L99 (58B99)

(*with* Omori, Hideki) About interactions between Banach-Lie groups and finite dimensional manifolds. *J. Math. Kyoto Univ.* **12** (1972), 543–570. (Ngô van Quê) **47** #4286 58A15 (17B65, 53C10)

Moyennabilité de quelques groupes topologiques de dimension infinie. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A1037–A1040. (Mi-Soo Smith) **48** #11385 22A10 (46L10, 58D05)

On complex varieties of nilpotent Lie algebras (after G. Favre). *Global analysis and its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., Trieste*, 1972), *Vol. II, pp.* 47–57. *Internat. Atomic Energy Agency, Vienna*, 1974. (Ralph K. Amayo) **55** #8129 17B30

On infinite-dimensional Lie groups acting on finite-dimensional manifolds. *Global analysis and its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., Trieste*, 1972), *Vol. II, pp.* 59–69. *Internat. Atomic Energy Agency, Vienna*, 1974. (Hideki Omori) **55** #8263 22E65 (58H05, 58D99)

Some properties of infinite-dimensional orthogonal groups. *Global analysis and its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., Trieste*, 1972), *Vol. II, pp.* 71–77. *Internat. Atomic Energy Agency, Vienna*, 1974. (Alain Guichardet) **56** #9284 46L99 (58D99, 22E65, 47B10)

Several spin algebras and one spin group of a Hilbert space. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Theor., Marseille*, 1974), *Vol.* 2, *pp.* 465–473. *Centre Nat. Recherche Sci., Centre Phys. Theor., Marseille*, 1974. (Alain Guichardet) **56** #15828 22E20 (58D05, 46L05)

(*with* Conod, Sylvie) Structure du deuxième espace de cohomologie scalaire des algèbres de Lie métabéliennes libres. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 13, Ai, A865–A867. (I. Stewart) **51** #3246 17B55

(*with* Karoubi, Max) Perturbations compactes des représentations d'un groupe dans un espace de Hilbert. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 21, Aii, A901–A904. (Claude Schochet) **52** #10948 58G10 (22D10, 46L15)

(*with* Takens, Floris) Examples of manifolds which are homogeneous spaces of Lie groups of arbitrarily large dimension. *Manuscripta Math.* **15** (1975), 275–287. (Hideki Omori) **51** #14121 57E20 (22E65)

Introduction to complex tori. *Complex analysis and its applications* (*Lectures, Internat. Sem., Trieste*, 1975), *Vol. II, pp.* 101–144. *Internat. Atomic Energy Agency, Vienna*, 1976. (Toshiyuki Maebashi) **58** #700 14K20

(*with* Karoubi, Max) Perturbations compactes des représentations d'un groupe dans un espace de Hilbert. Journées sur la Géométrie de la Dimension Infinie et ses Applications à l'Analyse et à la Topologie (Univ. Claude-Bernard—Lyon I, Lyon, 1975). *Bull. Soc. Math. France Suppl. Mém. No.* 46 (1976), 41–65. (Alain Guichardet) **54** #12964 22D10

Sur la trace des endomorphismes de Leray. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 9, Ai, A691–A692. (Author's summary) **58** #31061 55C20 (32A99)

Sous-groupes distingués du groupe unitaire et du groupe général linéaire d'une espace de Hilbert. *Comment. Math. Helv.* **51** (1976), *no.* 2, 241–257. (Mi-Soo Smith) **54** #6188 58D05 (47D10)

On noncompact Lie groups acting transitively on spheres. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 5, 501–506. (A. L. Oniščik) **56** #13239 57E25

(*with* Karoubi, Max) Représentations approchées d'un groupe dans une algèbre de Banach. (English summary) *Manuscripta Math.* **22** (1977), *no.* 3, 293–310. (A. Hulanicki) **58** #16948 22D10 (58D05)

(*with* Karoubi, Max) Perturbations compactes des représentations d'un groupe dans un espace de Hilbert. II. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **28** (1978), *no.* 1, ix, 1–25. (Alain Guichardet) **58** #6052 22D10

See also **Global analysis and its applications**, **55** #9129a; **Global analysis and its applications**, **55** #9129b *and* **Global analysis and its applications**, **55** #9129c

Harper, D. L. Primitive irreducible representations of nilpotent groups. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 2, 241–247. (J. F. Humphreys) **56** #5698 20C15

Harper, E. Y. (*with* Frost, Paul) An extended Padé procedure for constructing global approximations from asymptotic expansions: an explication with examples. *SIAM Rev.* **18** (1976), *no.* 1, 62–91. (Roderick Wong) **52** #14761 41A20

Harper, John R. (*with* Stein, Norman) Cohomology operations and orientable sphere bundles. *Proceedings of the Advanced Study Institute on Algebraic Topology* (*Aarhus Univ., Aarhus*, 1970), *Vol. I, pp.* 170–179. *Various Publ. Ser., No.* 13, *Mat. Inst., Aarhus Univ., Aarhus*, 1970. (H. Wada) **50** #14745 55F25

On certain non-homotopy abelian loop spaces. *Bol. Soc. Mat. Mexicana* (2) **15** (1970), 30–32. (Gerald Lieberman) **50** #11227 55D45 (55G10)

(*with* Schochet, Claude) Coalgebra extensions in two-stage Postnikov systems. *Math. Scand.* **29** (1971), 232–236 (1972). (R. J. Milgram) **46** #9985 55G45

Homotopy groups of finite *H*-spaces. *Bull. Amer. Math. Soc.* **78** (1972), 532–534. (M. Arkowitz) **46** #886 55D45

Homotopy groups of *H*-spaces. I. *Comment. Math. Helv.* **47** (1972), 311–331. (M. Arkowitz) **49** #6231 55D45

Whitehead products, dimension and the Hurewicz map. *An. Acad. Brasil. Ci.* **45** (1973), 189–191. (S. Gitler) **48** #12521 55E15

Mod *p* decompositions of finite *H*-spaces. *Algebraic and geometrical methods in topology* (*Conf. Topological Methods in Algebraic Topology, State Univ. New York, Binghamton, N.Y.*, 1973), *pp.* 44–51. *Lecture Notes in Math., Vol.* 428, *Springer, Berlin*, 1974. (M. Arkowitz) **51** #11488 55D45

The mod 3 homotopy type of F_4. *Localization in group theory and homotopy theory, and related topics* (*Sympos., Battelle Seattle Res. Center, Seattle, Wash.*, 1974), *pp.* 58–67. *Lecture Notes in Math., Vol.* 418, *Springer, Berlin*, 1974. (Harold Hastings) **51** #1810 55D15 (57F20)

(*with* Lin, James P.) Two torsion in *H*-spaces. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 4, 612. (J. Stasheff) **53** #11608 55D45

Harper, Judith M. (*with* Rubin, Jean E.) Variations of Zorn's lemma, principles of cofinality, and Hausdorff's maximal principle. I. Set forms. *Notre Dame J. Forma Logic* **17** (1976), *no.* 4, 565–588. (Robert Cowen) **56** #5300a 04A25

(*with* Rubin, Jean E.) Variations of Zorn's lemma, principles of cofinality, and Hausdorff's maximal principle. II. Class forms. *Notre Dame J. Formal Logic* **18** (1977, *no.* 1, 151–163. (Robert Cowen) **56** #5300b 04A25

Harper, L. H. (*with* Savage, John E.) On the complexity of the marriage problem. *Advances in Math.* **9** 299–312 (1972). (V. N. Agafonov) **52** #9684 68A20

The morphology of partially ordered sets. *J. Combinatorial Theory Ser. A* **17** (1974), 44–58. (R. Stanley) **51** #3008 06A10

(*with* Payne, Thomas H.; Savage, John E.; Straus, Ernst G.) Sorting $X+Y$. *Comm. ACM* **18** (1975), 347–349. (Forbes D. Lewis) **51** #14641 68A20

A note on some classes of Boolean functions. *Studies in Appl. Math.* **54** (1975), *no.* 2, 161–164. (J. Spencer) **56** #5068 94A20 (68A20)

(*with* Hsieh, W. N.; Savage, John E.) A class of Boolean functions with linea combinational complexity. *Theoret. Comput. Sci.* **1** (1975), *no.* 2, 161–183. (I. Hal Sudborough) **54** #4184 68A20 (94A20)

(*with* Savage, John E.) Complexity made simple. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Rome*, 1973), *Tomo II, pp.* 253–262. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (G. Wechsung) **57** #11171 68A20 (94A20)

Stabilization and the edgesum problem. *Ars Combinatoria* **4** (1977), 225–270. (G. O H. Katona) **58** #16417 05C99

An *n* log *n* lower bound on synchronous combinational complexity. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 2, 300–306. (Jürgen Dassow) **56** #15181 94A20 (68A20

See also **Studies in applied mathematics**, **49** #4784

Harper, Richard The astronomical tables of William Rede. *Isis* **66** (1975), *no.* 233, 369–378. (J. S. Joel) **58** #10018 01A35

Harper, Thurman R. (*with* Rugh, Wilson J.) Reachability, observability, and realization theory for factorable Volterra systems. *Proceedings of the IEEE Conference on Decision and Control including the* 14*th Symposium on Adaptive Processes* (*Houston, Tex.*, 1975), *pp.* 358–359. *Inst. Electr. Electron. Engrs., New York*, 1975. (Ethelbert N. Chukwu **57** #15615 93B99

(*with* Rugh, Wilson J.) Structural features of factorable Volterra systems. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 6, 822–837. (R. N. P. Singh) **54** #9743 93B05

Harper, William L. A note on universal instantiation in the Stalnaker Thomason conditional logic and *M* type modal systems. *J. Philos. Logic* **3** (1974), 373–379. (S. K. Thomason) **55** #5390 02C10

Rational belief change, Popper functions and counterfactuals. With a letter to the author by Robert Stalnaker and a response. *Foundations of probability theory, statistical inference, and statistical theories of science* (*Proc. Internat. Res. Colloq., Univ. Western Ontario, London, Ont.*, 1973), *Vol. I, pp.* 73–135. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 6, *Reidel, Dordrecht*, 1977. (Author's summary) **58** #10298 02C05 (60A05)

(*with* May, Sherry) Toward an optimization procedure for applying minimum change principles in probability kinematics. *Foundations of probability theory, statistical inference, and statistical theories of science* (*Proc. Internat. Res. Colloq., Univ. Western Ontario, London, Ont.*, 1973), *Vol. I, pp.* 137–166. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 6, *Reidel, Dordrecht*, 1977. (Authors' review) **58** #31329 60A05 (02C05, 49B30, 62A15)

See also **Foundations of probability theory, statistical inference, and statistical theories of science**, **56** #15251; **Foundations of probability theory, statistical inference, and statistical theories of science**, **56** #15252 (EA **58**) ; **Foundations of probability theory, statistical inference, and statistical theories of science**, **56** #15253; **Teller, Paul**, **58** #18804 *and* **Finch, Peter D.**, **58** #24634

thabit ibn qurra al-Harrānī *See* **Thābit ibn Qurra al-Harrānī**

Harrasov, M. H. Limiting relationships for correlation functions. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 4, 826–829. (Ł. A. Turski) **56** #10664 82.47

Harré, R. *See* **Nineteenth century British scientists**, **52** #13169

Harré, Rom A note on Ms. Horton's defence of Bacon: "In defence of Francis Bacon: a criticism of the critics of the inductive method" (Studies in Hist. and Philos. Sci. 4 (1973/74), 241–278) by Mary Horton. *Studies in Hist. and Philos. Sci.* **5** (1974), 305–306. (Not reviewed) 00A25 (01A45)

Harrell, C. E. Concerning sequence to sequence transformations. *Rend. Circ. Mat. Palermo* (2) **19** (1970), 97–108. (G. U. Brauer) **46** #2301 40C05

Harrell, Carolyn W. (*with* Debnath, Lokenath) The operational calculus of associated Legendre transforms. I. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 3, 278–291. (R. S. Dahiya) **58** #2046 44A15

Harrell, Evans M., II Singular perturbation potentials. *Ann. Physics* **105** (1977), *no.* 2, 379–406. (A. Rouet) **56** #7622 81.47

On the rate of asymptotic eigenvalue degeneracy. *Comm. Math. Phys.* **60** (1978), *no.* 1, 73–95. (C. A. Swanson) **58** #6464 34B25 (81.34)

Generalizations of Temple's inequality. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 2, 271–276. (V. L. Bakke) **58** #7348 49G20

Harrell, R. E. (*with* Karlovitz, Les Andrew) Nonreflexivity and the girth of spheres. *Inequalities, III* (*Proc. Third Sympos., Univ. California, Los Angeles, Calif.*, 1969; *dedicated to the memory of Theodore S. Motzkin*), *pp.* 121–127. *Academic Press, New York*, 1972. (K Sundaresan) **49** #7734 46B10

(*with* Karlovitz, Les Andrew) The geometry of flat Banach spaces. *Trans. Amer. Math Soc.* **192** (1974), 209–218. (R. C. James) **49** #3501 46B05

(*with* Karlovitz, L. A.) On tree structures in Banach spaces. *Pacific J. Math.* **59** (1975), *no.* 1, 85–91. (T. A. Cook) **53** #3646 46B05

Harrington, Andrew (*with* Ortel, Marvin) The dilatation of an extremal quasi-conformal mapping. *Duke Math. J.* **43** (1976), *no.* 3, 533–544. (J. E. Kelingos) **54** #13074 30A60

(*with* Ortel, Marvin) Two extremal problems. *Trans. Amer. Math. Soc.* **221** (1976), *no.* 1, 159–167. (T. Giec) **53** #13580 30A78

Harrington, David P. Almost sure convergence of continuous time branching processes. *Stochastic Processes Appl.* **6** (1977/78), *no.* 3, 317–322. (Torgny Lindvall) **57** #10836 60J80 (*with* Fleming, Thomas R.) Estimation for branching processes with varying and dom environments. *Math. Biosci.* **39** (1978), *no.* 3-4, 255–271. (Wolfgang J. Bühler) #3081 60J80 (62M05)

(*with* Fleming, Thomas R.) Estimation for discrete time nonhomogeneous Markov ins. *Stochastic Process. Appl.* **7** (1978), *no.* 2, 131–139. (Niels Keiding) **58** #13558 M05

gton, J. R. (*with* Cima, Joseph A.; Pfaltzgraff, John A.) The projective limit of the spaces. *Colloq. Math.* **37** (1977), *no.* 2, 299–311. (Joel H. Shapiro) **58** #2192 10 (30A78)

gton, Leo A. The superjump and the first recursively Mahlo ordinal. *Generalized ursion theory* (*Proc. Sympos., Univ. Oslo, Oslo,* 1972), *pp.* 43–52. *Studies in Logic and Foundations of Math., Vol.* 79, *North-Holland, Amsterdam,* 1974. (Douglas Cenzer) #13347 02F29

Recursively presentable prime models. *J. Symbolic Logic* **39** (1974), 305–309. (G. erlin) **50** #4292 02H13 (02H15, 12H05)

(*with* Kechris, Alexander S.) On characterizing Spector classes. *J. Symbolic Logic* (1975), *no.* 1, 19–24. (S. S. Wainer) **55** #5420 02F29 (02F35)

Π_2^1 sets and Π_2^1 singletons. *Proc. Amer. Math. Soc.* **52** (1975), 356–360. (Keith evlin) **51** #10096 02K30

(*with* Kechris, Alexander S.) A basis result for Σ_3^0 sets of reals with an application to nimal covers. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 445–448. (D. A. Martin) #2683 02K30 (02F30, 04A15)

(*with* Kechris, Alexander S.) On monotone vs. nonmonotone induction. *Bull. ner. Math. Soc.* **82** (1976), *no.* 6, 888–890. (P. Aczel) **55** #10259 02F27

(*with* MacQueen, D. B.) Selection in abstract recursion theory. *J. Symbolic Logic* (1976), *no.* 1, 153–158. (Douglas Cenzer) **56** #105 02F29 (02F43)

(*with* Jech, Thomas J.) On S_1 well-orderings of the universe. *J. Symbolic Logic* **41** 976), *no.* 1, 167–170. (John P. Burgess) **53** #7780 02K05

(*with* Baumgartner, James E.; Kleinberg, Eugene M.) Adding a closed unbounded t. *J. Symbolic Logic* **41** (1976), *no.* 2, 481–482. (James D. Halpern) **55** #7782 A20 (02K05)

(*with* Guaspari, David) Characterizing E_3 (the largest countable Π_3^1 set). *Proc. ner. Math. Soc.* **57** (1976), *no.* 1, 127–129. (Keith Devlin) **53** #5303 02K30

Long projective wellorderings. *Ann. Math. Logic* **12** (1977), *no.* 1, 1–24. (Douglas enzer) **57** #5752 02F35 (02K05, 02K30)

(*with* Abramson, Fred G.; Kleinberg, Eugene M.; Zwicker, W. S.) Flipping roperties: a unifying thread in the theory of large cardinals. *Ann. Math. Logic* **12** 977), *no.* 1, 25–58. (Thomas J. Jech) **57** #116 02K35 (04A20)

(*with* Kechris, Alexander S.) Π_2^1 singletons and $0^\#$. *Fund. Math.* **95** (1977), *no.* 3, 67–171. (John P. Helm) **57** #117 02K35

(*with* Kirousis, Lefteris; Schlipf, John Stewart) A generalized Kleene-Moschovakis neorem. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 2, 209–213. (S. S. Wainer) **57** #16020 2F27

See also **Handbook: Mathematical logic, 56** #15351 *and* **Handbook: Mathematical ogic, 58** #10343

ington, Roger F. (*with* Pontoppidan, K.; Abrahamsen, P.; Albertsen, N. C.) omputation of Laplacian potentials by an equivalent-source method. *Proc. Inst. Elec. Engrs.* **116** (1969), 1715–1720. (R. B. Kelman) **46** #6634 65R05 (31C20)

(*with* Mautz, Joseph R.) Computational methods for antenna pattern synthesis. *EEE Trans. Antennas and Propagation* **AP-23** (1975), 507–512. (J. S. Colonias) 1 #9672 78.65

ington, W. J. (*with* Patel, K. A.) Naylor transforms of Mellin type. *SIAM J. Math. nal.* **4** (1973), 1–7. (R. S. Dahiya) **48** #9289 44A30

iot, Thomas M. *See* **Tanner, Rosalind Cecilia Hildegard, 55** #12420; **Lohne, ohannes A., 58** #4852; **Rosen, Edward, 58** #4857; **Thomas Harriot: Renaissance cientist, 58** #4961; **Quinn, David Beers, 58** #10031; **Jacquot, Jean, 58** #10048; **orth, John, 58** #10060; **Shirley, John W., 58** #10066; **Sokol, Barnett J., 58** #10068; **Tanner, Rosalind Cecilia Hildegard, 58** #10070; **Bibliography: Harriot, Thomas M., 58** #10237; **Tanner, Rosalind Cecilia Hildegard, 58** #15909; **Pepper, Jon V., 58** #26850 *and* **Pepper, Jon V., 58** #26916

ris, A. S. (*with* Adams, John Frank; Switzer, Robert M.) Hopf algebras of cooperations for real and complex *K*-theory. *Proc. London Math. Soc.* (3) **23** (1971), 385–408. (Larry Smith) **45** #2694 55B15

ris, B. J. A systematic method of estimating gaps in the essential spectrum of self-adjoint operators. *J. London Math. Soc.* (2) **18** (1978), *no.* 1, 115–132. (M. S. P. Eastham) **58** #11607 34B25

ris, Bernard (*with* Schoenfeld, Lowell) A composition theorem for the enumeration of certain subsets of symmetric semigroups and the corresponding sets of labeled functional digraphs. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred,* 1969), *pp.* 637–650. *North-Holland, Amsterdam,* 1970. (J. W. Moon) **45** #6699 05C30

Mathematical models for statistical decision theory. *Optimizing methods in statistics* (*Proc. Sympos., Ohio State Univ., Columbus, Ohio,* 1971), *pp.* 369–389. *Academic Press, New York,* 1971. (W. E. Strawderman) **50** #8775 62C05

(*with* Park, C. J.) The limiting distribution of the sample occupancy numbers from the multinomial distribution with equal cell probabilities. *Ann. Inst. Statist. Math.* **23** (1971), 125–133. (Wolfgang Sendler) **46** #6421 60F05 (62G10)

(*with* Park, C. J.) A note on the asymptotic normality of the distribution of the number of empty cells in occupancy problems. *Ann. Inst. Statist. Math.* **23** (1971), 507–513. (S. G. Mohanty) **48** #3095 60C05

Generalized Banach match box problems and asymptotic distributions for inverse multinomial sampling. (French summary) Proceedings of the 38th Session of the International Statistical Institute (Washington, D. C., 1971), Vol. 2. *Bull. Inst. Internat. Statist.* **44** (1971), *book* 2, 202–206. (Colin L. Mallows) **51** #7092 62E20 (60C05)

Hypothesis testing and confidence intervals for products and quotients of Poisson parameters with applications to reliability. *J. Amer. Statist. Assoc.* **66** (1971), 609–613. (A. P. Basu) **45** #4555 62N05 (62F05)

(*with* Park, C. J.) The distribution of linear combinations of the sample occupancy numbers. *Nederl. Akad. Wetensch. Proc. Ser. A* **74** = *Indag. Math.* **33** (1971), 121–134. (E. F. Schuster) **45** #4531 62E20

(*with* Stasheff, James Dillon) Suspension, automorphisms, and division algebras. *Algebraic K-theory, II: "Classical" algebraic K-theory and connections with arithmetic* (*Proc. Conf., Battelle Seattle Res. Center, Seattle, Wash.,* 1972), *pp.* 337–346. *Lecture Notes in Math., Vol.* 342, *Springer, Berlin,* 1973 (J. A. Schafer) **51** #10441 18F25

The mathematical foundations of statistical decision theory. (French summary) Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 1. *Bull. Inst. Internat. Statist.* **45** (1973), *book* 1, 502–507. (D. V. Lindley) **51** #4480 62C05

(*with* Soms, Andrew P.) The reliability of systems of independent parallel components when some components are repeated. *J. Amer. Statist. Assoc.* **68** (1973), 894–898. (R. J. Buehler) **51** #7212 62N05 (62F10)

The asymptotic distribution of the order of elements in symmetric semigroups. *J. Combinatorial Theory Ser. A* **15** (1973), 66–74. (J. Dénes) **47** #8744 20M99 (10H15)

(*with* Soms, Andrew P.) Hypothesis testing and confidence intervals for a multiplicative Poisson model with applications to reliability and bioassay. *Reliability and biometry: statistical analysis of lifelength* (*Proc. Conf., Florida State Univ., Tallahassee, Fla.,* 1973), *pp.* 363–378. *Soc. Indust. Appl. Math., Philadelphia, Pa.,* 1974. (P. J. Huber) **50** #15080 62F05 (62N05)

(*with* Soms, Andrew P.) Properties of the generalized incomplete modified Bessel distributions with applications to reliability theory. *J. Amer. Statist. Assoc.* **69** (1974), 259–263. (Benjamin Epstein) **53** #4428 62N05 (62E15)

(*with* Soms, Andrew P.) Tables of the two factor and three factor generalized incomplete modified Bessel distributions. *Selected tables in mathematical statistics, Vol. III, pp.* 1–109. *Amer. Math. Soc., Providence, R. I.,* 1975. (From the authors' introduction) **53** #11938 62Q05

(*with* Segal, Graeme B.) K_i groups of rings of algebraic integers. *Ann. of Math.* (2) **101** (1975), 20–33. (Kenneth S. Brown) **52** #8222 18F25 (12A70)

The statistical estimation of entropy in the nonparametric case. (French summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 3, 346–350 (1976). (B. Ja. Levit) **58** #3175 62G05 (94A15)

A survey of statistical methods in systems reliability using Bernoulli sampling of components. *The theory and application of reliability, with emphasis on Bayesian and nonparametric methods, Vol. II* (*Conf., Univ. South Florida, Tampa, Fla.,* 1975), *pp.* 275–297. *Academic Press, New York,* 1977. (Menachem Dishon) **56** #7079 62N05 (90B25)

The statistical estimation of entropy in the non-parametric case. *Topics in information theory* (*Second Colloq. Keszthely,* 1975), *pp.* 323–355. *Colloq. Math. Soc. János Bolyai, Vol.* 16, *North-Holland, Amsterdam,* 1977. (B. Ja. Levit) **57** #1754 62G05

(*with* Soms, Andrew P.) Sequential tests for hypotheses concerning the product of Poisson parameters with applications to problems in reliability and biometry. *Naval Res. Logist. Quart.* **24** (1977), *no.* 3, 425–430. (Authors' summary) **58** #13546 62L10 (62N05, 62P10)

Harris, Bruno Group cohomology classes with differential form coefficients. *Algebraic K-theory* (*Proc. Conf., Northwestern Univ., Evanston, Ill.,* 1976), *pp.* 278–282. *Lecture Notes in Math., Vol.* 551, *Springer, Berlin,* 1976. (D.-M. Popescu) **58** #16666 14F05 (57D20)

Harris, C. G. (*with* Evans, W. A. B.) Extension of numerical quadrature formulae to cater for end point singular behaviours over finite intervals. *Internat. J. Comput. Math.* **6** (1977/78), *no.* 3, 219–227. (Thomas A. Atchison) **57** #14342 65D30

Harris, C. J. Evaluation of matrix polynomials in the state companion matrix of linear time invariant systems. *Internat. J. Systems Sci.* **4** (1973), 301–307. (D. H. Chyung) **48** #5359 65F30 (93C45)

Evaluation of the state transition matrix for linear time invariant systems. *Internat. J. Systems Sci.* **6** (1975), 107–116. (Bostwick F. Wyman) **50** #16022 93C45

Frequency stability criteria for non-linear stochastic systems. *Internat. J. Systems Sci.* **6** (1975), 579–589. (W. J. Padgett) **51** #15122 93E15

Problems in system identification and control. *Bull. Inst. Math. Appl.* **12** (1976), *no.* 5, 139–150. (Author's summary) **57** #19012 93E10 (93E20)

Harris, C. M. *See* **Inventory control and water storage, 48** #5200

Harris, Carl M. (*with* Gross, Donald; Lechner, James A.) Stochastic inventory models with bulk demand and state-dependent leadtimes. *J. Appl. Probability* **8** (1971), 521–534. (Authors' summary) **46** #6511 60K30

On queues with state-dependent Erlang service. *Naval Res. Logist. Quart.* **18** (1971), 103–110. (Author's summary) **46** #2759 60K25

(*with* Gross, Donald) On one-for-one-ordering inventory policies with state-dependent leadtimes. *Operations Res.* **19** (1971), *no.* 3, 735–760. (Authors' summary) **56** #10857 90B05

(*with* Marlin, Paul G.) A note on feedback queues with bulk service. *J. Assoc. Comput. Mach.* **19** (1972), 727–733. (Izhak Rubin) **49** #11656 60K25

(*with* Goyal, Tarsaim L.) Maximum-likelihood estimates for queues with state-dependent service. *Sankhyā Ser. A* **34** (1972), 65–80. (S. G. Mohanty) **49** #1614 60K25 (62F10)

(*with* Gross, Donald) ★Fundamentals of queueing theory. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney,* 1974. xvi + 556 *pp.* (L. Takács) **51** #7044 60K25

Some new results in the statistical analysis of queues. *Mathematical methods in queueing theory* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.,* 1973), *pp.* 157–183. *Lecture Notes in Econom. and Math. Systems, Vol.* 98, *Springer, Berlin,* 1974. (G. Tusnády) **53** #9420 60K25

(*with* Marchal, William G.) A modified Erlang approach to approximating $GI/G/1$ queues. *J. Appl. Probability* **13** (1976), *no.* 1, 118–126. (J. G. C. Templeton) **52** #15730 60K25

A note on testing for exponentiality. *Naval Res. Logist. Quart.* **23** (1976), *no.* 1, 169–175. (I. Guttman) **53** #1837 62G10

State-dependent gap acceptance. *Naval Res. Logist. Quart.* **23** (1976), *no.* 4, 653–662. (E. C. Posner) **56** #2298 (E **57** #18789) 90B20

Communication and correction: "State-dependent gap acceptance" (Naval Res. Logist. Quart. **23** (1976), no. 4, 653–662). *Naval Res. Logist. Quart.* **24** (1977), *no.* 4, 695–696. (From the introduction) **57** #18789 90B20

Harris, Chester W. (*with* Cotton, John W.) Reliability coefficients as a function of individual differences induced by a learning process assuming identical organisms. *J. Mathematical Psychology* **10** (1973), 387–420. (Viorel Gh. Vodă) **48** #5671 (E **54** #12258) 92A25

(*with* Cotton, John W.) Erratum: "Reliability coefficients as a function of individual differences induced by a learning process assuming identical organisms" (J. Mathematical Psychology **10** (1973), 387–420). *J. Mathematical Psychology* **13** (1976), *no.* 2, 241. (Viorel Gh. Vodă) **54** #12258 92A99

Harris, Christopher J. The Fokker-Planck-Kolmogorov equation in the analysis of nonlinear feedback stochastic systems. *Stability of stochastic dynamical systems* (*Proc. Internat. Sympos., Univ. Warwick, Coventry,* 1972), *pp.* 230–238. *Lecture Notes in Math., Vol.* 294, *Springer, Berlin,* 1972. (Michel Viot) **54** #12327 93E15 (93D15)

rawson-Harris, D. *See* **Rawson-Harris, D.**

Harris, Dale A. Information theory in neurophysiology. *Proceedings of the IEEE-USSR Joint Workshop on Information Theory* (*Moscow,* 1975), *pp.* 71–82. *Inst. Electr. Electron. Engrs., New York,* 1976. (F. W. Stallmann) **56** #17891 92A05 (94A15)

Harris, David C. (*with* Wade, William R.) Sets of divergence on the group 2^{ω}. *Trans. Amer. Math. Soc.* **240** (1978), 385–392. (John A. Gosselin) **58** #6895 42A56

Harris, David O. (*with* Ewig, Carl S.) Matrix solution of periodic Mathieu equations. *J. Computational Phys.* **11** (1973), 606–611. (C. J. Bouwkamp) **48** #8893 33A55

Harris, Douglas ★Structures in topology. Memoirs of the American Mathematical Society, No. 115. *American Mathematical Society, Providence, R.I.,* 1971. vi+96 *pp.* (S. A. Naimpally) **45** #5941 54A05

Transfinite metrics, sequences and topological properties. *Fund. Math.* **73** (1971/72), *no.* 2, 137–142. (J. E. Vaughan) **46** #864 54E99

The Wallman compactification as a functor. *General Topology and Appl.* **1** (1971), 273–281. (H. Herrlich) **45** #1122 54D35

Katětov extension as a functor. *Math. Ann.* **193** (1971), 171–175. (H. Herrlich) **45** #7678 54D35

Extension closed and cluster closed subspaces. *Canad. J. Math.* **24** (1972), 1132–1136. (G. E. Strecker) **47** #1023 54D20

Compact spaces and products of finite spaces. *Proc. Amer. Math. Soc.* **35** (1972), 275–280. (W. W. Comfort) **45** #7674 54D30

Universal compact T_1 spaces. *General Topology and Appl.* **3** (1973), 291–318. (C. R. Borges) **48** #9659 54D30

Representation of spaces. *TOPO 72—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.,* 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 192–200. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin,* 1974. (S. A. Naimpally) **50** #11122 54B99 (54A25, 54D20, 54E15)

Completely regular proximities and RC-proximities. *Fund. Math.* **85** (1974), *no.* 2, 103–111. (William Lindgren) **49** #11478 54E05

The local compactness of υX. *Pacific J. Math.* **50** (1974), 469–476. (W. W. Comfort) **49** #11476 54D60

Closed images of the Wallman compactification. *Proc. Amer. Math. Soc.* **42** (1974), 312–319. (Richard A. Alò) **49** #7982 54D35

Semirings and T_1 compactifications. I. *Trans. Amer. Math. Soc.* **188** (1974), 241–258. (M. Hušek) **51** #1744 54D35 (54C40)

Filter adjunction of spaces and compactifications. *Canad. J. Math.* **29** (1977), *no.* 6, 1141–1144. (T. Thrivikraman) **57** #1430 54D40

Harris, Edward G. ★Introduction to modern theoretical physics. Vol. 1. Classical physics and relativity. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney,* 1975. xvii+383+ix *pp. ISBN* 0-471-35325-6 (Editors) **56** #1855a 69.00

★Introduction to modern theoretical physics. Vol. 2. Quantum theory and statistical physics. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney,* 1975. xvii+*pp.* 387–780+ix *pp. ISBN* 0-471-35326-4 (Editors) **56** #1855b 69.00

Harris, Gary Alvin (*with* Eakin, Paul M.) When $F(f)$ convergent implies f is convergent. *Math. Ann.* **229** (1977), *no.* 3, 201–210. (L. J. Ratliff, Jr.) **56** #3001 13J05 (14B99, 32A30)

The traces of holomorphic functions on real submanifolds. *Trans. Amer. Math. Soc.* **242** (1978), 205–223. (S. I. Pinčuk) **57** #16664 32C05

Harris, Gregory (*with* Kazes, Emil) Can the Coulomb and Landau gauges be interpolated? *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1555–1566. (Not reviewed) 81.47

Harris, Herbert, Jr. *See* **Automatic control: classical linear theory, 52** #16755

Harris, J. Douglas (*with* Bezdek, James C.) Fuzzy partitions and relations; an axiomatic basis for clustering. *Fuzzy Sets and Systems* **1** (1978), *no.* 2, 111–127. (Abraham Kandel) **58** #19408 68A45

Harris, Joe *See* **Harris, Joseph**

Harris, John (*with* Higgins, Olga) Prime generators with parabolic limits. *Pacific J. Math.* **37** (1971), 687–695. (E. M. Horadam) **46** #1693 10A20

Harris, John Henry Ordinal theory in a conservative extension of predicate calculus. *Notre Dame J. Formal Logic* **12** (1971), 423–428. (P. Aczel) **45** #6615 02K35

Indexings of sets. *Notre Dame J. Formal Logic* **13** (1972), 481–484. (J. L. Bell) **48** #108 02K15

The axiom of regularity. *Logique et Analyse* (*N.S.*) **16** (1973), 321–337. (M. Boffa) **50** #4299 02K15

(*with* Rennie, M. K.) Russell's paradox: correspondence on the MacLane and Birkhoff exposition. *Math. Chronicle* **3** (1974/75), 99–114. (E. Mendelson) **53** #5304 04–01 (02A05)

On comparing theories. Theory change and theory structure. *Synthese* **32** (1975/1976), *no.* 1/2, 29–76. (Evandro Agazzi) **53** #2616 02A05

Strong scientific theories. *Philos. Sci.* **45** (1978), *no.* 2, 182–205. (Author's summary) **58** #16096 02A05

Harris, Joseph (*with* Griffiths, Phillip) A Poncelet theorem in space. *Comment. Math. Helv.* **52** (1977), *no.* 2, 145–160. (M. A. Akivis) **58** #16695 14J99 (14D20, 14N05)

Harris, K. G. (*with* Bryant, Victor) Transitive graphs. *J. London Math. Soc.* (2) **11** (1975), *no.* 1, 123–128. (Fred Stephen Roberts) **55** #5476 05C20

Harris, L. F. An index of P. Hall for varieties of groups. *Bull. Austral. Math. Soc.* **6** (1972), 399–405. (F. Levin) **46** #7381 20E10

Hypocritical and sincere groups. *Proceedings of the Second International Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra,* 1973), *pp.* 333–336. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin,* 1974. (J. R. J. Groves) **50** #7344 20E10

A product variety of groups with distributive lattice. *Proc. Amer. Math. Soc.* **43** (1974), 53–56. (R. Bryce) **48** #11311 20E10

The skeleton of a product variety of groups. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), 75–97. (D. E. Cohen) **51** #5766 20E10

Harris, Larry R. The heuristic search under conditions of error. *Artificial Intelligence* **5** (1974), 217–234. (S. Amarel) **50** #3669 68A45

See also **Charness, Neil, 58** #32024

Harris, Lawrence A. The numerical range of holomorphic functions in Banach spaces. *Amer. J. Math.* **93** (1971), 1005–1019. (J. P. Williams) **46** #663 46E40 (46G20)

A continuous form of Schwarz's lemma in formed linear spaces. *Pacific J. Math.* **38** (1971), 635–639. (K. F. Klopfenstein) **46** #4167 46B05

Banach algebras with involution and Möbius transformations. *J. Functional Analysis* **11** (1972), 1–16. (B. Yood) **50** #5480 46K05 (46L05)

Operator extreme points and the numerical range. *Indiana Univ. Math. J.* **23** (1973/74), 937–947. (R. McGuigan) **48** #12085 47A10 (46H05)

Bounded symmetric homogeneous domains in infinite dimensional spaces. *Proceedings on Infinite Dimensional Holomorphy* (*Internat. Conf., Univ. Kentucky, Lexington, Ky.,* 1973), *pp.* 13–40. *Lecture Notes in Math., Vol.* 364, *Springer, Berlin,* 1974. (E. Vinberg) **53** #11106 32M15 (46L15)

The numerical range of functions and best approximation. *Proc. Cambridge Philos. Soc.* **76** (1974), 133–141. (John R. Giles) **50** #2892 46E15 (41A65, 47A10)

Bounds on the derivatives of holomorphic functions of vectors. *Analyse fonctionnelle et applications* (*Comptes Rendus Colloq. Analyse, Inst. Mat., Univ. Federal Rio de Janeiro, Rio de Janeiro,* 1972), *pp.* 145–163. *Actualités Aci. Indust., No.* 1367, *Hermann, Paris,* 1975. (R. M. Aron (Zbl **315** #46040)) **57** #17283 46G20 (32A10)

(*with* Askey, Richard A.; Gasper, George) An inequality for Tchebycheff polynomials and extensions. *J. Approximation Theory* **14** (1975), 1–11. (A. E. Danese) **51** #8501 33A65 (41A10)

(*with* Kaup, Wilhelm) Linear algebraic groups in infinite dimensions. *Illinois J. Math.* **21** (1977), *no.* 3, 666–674. (Jean-Pierre Vigué) **57** #544 22E65 (58B10, 58B05)

On the size of balls covered by analytic transformations. *Monatsh. Math.* **83** (1977), *no.* 1, 9–23. (Martin Schottenloher) **55** #8414 32H99 (46G20)

Harris, Milton Optimal planning under transaction costs: the demand for money and other assets. *J. Econom. Theory* **12** (1976), *no.* 2, 298–314. (Author's summary) **55** #9892 90B05

Harris, Morton E. A characterization of odd order extensions of $G_2(2^n)$ by the centralizer of one central involution. *J. Algebra* **23** (1972), 291–309. (R. W. Carter) **47** #5093 20F25

On normal subgroups of p-solvable groups. *Math. Z.* **129** (1972), 55. (Peter M. Neumann) **47** #3514 20D10

A characterization of odd order extensions of the finite simple groups PSp $(4,q), G_2(q),\ D_4^2(q)$. *Nagoya Math. J.* **45** (1972), 79–96. (W. J. Wong) **46** #7367 20D05

Characterizations of some finite simple Chevalley groups by centralizers of involutions. *Finite groups '72* (*Proc. Gainesville Conf., Univ. Florida, Gainesville, Fla.,* 1972), *pp.* 74–79. *North-Holland Math. Studies, Vol.* 7, *North-Holland, Amsterdam,* 1973. (W. J. Wong) **50** #13246 20D05

A characterization of odd-order extensions of the Steinberg groups $D_4^2(q^3), q=2^n$, by the centralizer of one central involution. *J. Algebra* **24** (1973), 226–244. (R. Steinberg) **46** #9191 20G40

(*with* Gorenstein, Daniel) A characterization of the Higman-Sims simple group. *J. Algebra* **24** (1973), 565–590. (Graham Higman) **47** #318 20D05

A characterization of odd order extensions of the finite simple projective symplectic groups PSp$(8,q)$. *J. Algebra* **26** (1973), 109–124. (Mark P. Hale, Jr.) **48** #2269 20G15

(*with* Gorenstein, Daniel) Finite groups with product fusion. *Symposia Mathematica, Vol. XIII* (*Convegno di Gruppi e loro Rappresentazioni, INDAM, Rome,* 1972), *pp.* 423–430. *Academic Press, London,* 1974. (David R. Mason) **50** #7324 20D05

A characterization of odd order extensions of the finite projective symplectic groups $PSp(6,q), q$ odd. *Comm. Algebra* **2** (1974), 133–142. (W. J. Wong) **50** #462 20D05

Finite groups with given Sylow 2-subgroups and product fusion. *Comm. Algebra* **2** (1974), 143–179. (J. D. Dixon) **51** #694 20D20

Finite groups with Sylow 2-subgroups of type $PSp(6, q), q$ odd. *Comm. Algebra* **2** (1974), 181–232. (W. J. Wong) **53** #13399 20D20

A characterization of odd order extensions of the finite simple Chevalley groups $F_4(q), q$ odd. *J. Algebra* **30** (1974), 507–534. (W. J. Wong) **50** #461 20D05

(*with* Gorenstein, Daniel) Finite groups with product fusion. *Ann. of Math.* (2) **101** (1975), 45–87. (J. L. Alperin) **50** #10073 20D40

(*with* Solomon, Ronald M.) Finite groups of PSL$(2,q)$-type. A report on current join work with Ronald Solomon. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah,* 1975), *pp.* 63–78. *Academic Press, New York,* 1976. (N. Ito) **54** #7608 20D05

A note on 2-components of finite groups. *Arch. Math.* (*Basel*) **28** (1977), *no.* 2, 130–132. (From the text) **58** #28172 20D25

A note on solvable 2-components of finite groups. *Arch. Math.* (*Basel*) **29** (1977), *no.* 4, 344–348. (W. J. Wong) **58** #876 20D10

On normally persistent radicals and direct products of finite groups. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 2, 259–260. (R. C. Lyndon) **57** #12696 20D99

(*with* Solomon, Ronald M.) Finite groups having an involution centralizer with a 2-component of dihedral type. I. *Illinois J. Math.* **21** (1977), *no.* 3, 575–620. (U. Schoenwaelder) **58** #873a 20D05

Finite groups having an involution centralizer with a 2-component of dihedral type. II. *Illinois J. Math.* **21** (1977), *no.* 3, 621–647. (U. Schoenwaelder) **58** #873b 20D05

A universal mapping problem, covering groups and automorphism groups of finite groups. *Rocky Mountain J. Math.* **7** (1977), *no.* 2, 289–295. (Franco Migliorini) **55** #12817 20D45

On p'-automorphisms of abelian p-groups. *Rocky Mountain J. Math.* 7 (1977), *no.* 4, 1–752. (J. E. Adney) **56** #3124 20D45

, N. G. A theorem for asymptotic stability in the large. *Internat. J. Control* (1) **18** 973), 1005–1007. (Jochen Werner) **49** #4617 93D05

An instability theorem in the large. *Internat. J. Control* (1) **19** (1974), 433–434. (T. . Burton) **49** #747 34D05

, Paula M. J. Pivot selection methods of the Devex LP code. *Math. Programming* **5** 973), 1–28. (M. Heymann) **48** #1461 65K05

Pivot selection methods of the Devex LP code. *Computational practice in athematical programming*, *pp.* 30–57. *Math. Programming Studies*, *Vol.* 4, *orth-Holland*, *Amsterdam*, 1975. (Irinel Dragan) **52** #12765 90C05 (65K05)

s, R. A. (*with* Zund, Joseph D.) A family of algebraically general exact solutions of instein's source-free field equations. *Tensor* (*N.S.*) **29** (1975), *no.* 1, 103–106. (Editors) #10717 83.53

(*with* Zund, Joseph D.) Some Bel-Petrov type III solutions of the Einstein quations. *Tensor* (*N.S.*) **29** (1975), *no.* 3, 277–282. (Editors) **56** #10718 83.53

(*with* Zund, Joseph D.) A general family of Bel-Petrov type III exact solutions of e Einstein equations. *Tensor* (*N.S.*) **30** (1976), *no.* 2, 210–211. (H. Rund) **54** #12134 83.53

(*with* Zund, Joseph D.) Two variable Kasner type solutions of Einstein's field quations. *Tensor* (*N.S.*) **30** (1976), *no.* 3, 255–258. (Garry Ludwig) **55** #9812 83.53

(*with* Zund, Joseph D.) An investigation of Dubourdieu's list of space-times which dmit holonomy groups. *J. Math. Phys.* **19** (1978), *no.* 10, 2052–2054. (Authors' ummary) **58** #25781 83.53 (53C50)

s, R. J. Concepts of optimality in alternate routing networks. *ATR—Austral. elecommun. Res.* 7 (1973), *no.* 2, 3–8. (Not reviewed) 90B10

Concepts of optimality in alternate routing networks. *ATR—Austral. Telecommun. es.* 7 (1973), *no.* 2, 3–8. (M. Rössler) **49** #10340 90B10

s, R. L. (*with* Calder, J. R.; Coleman, W. P.) Centers of infinite bounded sets in a ormed space. *Canad. J. Math.* **25** (1973), 986–999. (V. Zizler) **48** #6889 46B05

s, R. W. (*with* Ledwidge, T. J.) ★Introduction to noise analysis. Applied Physics eries. *Pion Ltd.*, *London*, 1974. vii + 102 *pp.* (K. S. Miller) **54** #12340 94–01

s, Richard G. (*with* Appelbaum, Elie) Optimal capital policy with bounded nvestment plans. *Internat. Econom. Rev.* **19** (1978), *no.* 1, 103–114. (Su-shing Chen) 8 #4219 90A15

s, Robert The expected number of idle servers in a queuing system. *Operations Res.* 2 (1974), *no.* 6, 1258–1259. (Micha Yadin) **53** #11794 60K25

s, Robert Michael Uniform approximation of functions through partitioning. *J. pproximation Theory* 7 (1973), 239–255. (Hans-Jürgen Albrand) **49** #7668 41A50 55D10)

is, S. Exact solution of a retarded Fokker-Planck equation. *Phys. Rev. A* (3) **10** 1974), 1800–1802. (Author's summary) **53** #10067 82.45

is, Sidney E. Stochastic controllability of linear discrete systems with multiplicative oise. *Internat. J. Control* **27** (1978), *no.* 2, 213–227. (S. M. Pandit) **58** #15373 3B05 (93E15)

is, T. E. Random measures and motions of point processes. *Z. Vahrscheinlichkeitstheorie und Verw. Gebiete* **18** (1971), 85–115. (H. Kesten) **45** #1235 60K35

Nearest-neighbor Markov interaction processes on multidimensional lattices. *dvances in Math.* **9**, 66–89 (1972). (C. Stone) **46** #6512 60K35

Contact interactions on a lattice. *Ann. Probability* **2** (1974), 969–988. (David S. Griffeath) **50** #8763 60K35

On a class of set-valued Markov processes. *Ann. Probability* **4** (1976), *no.* 2, 75–194. (Richard Holley) **53** #4299 60K35

A correlation inequality for Markov processes in partially ordered state spaces. *nn. Probability* **5** (1977), *no.* 3, 451–454. (Richard Holley) **55** #6623 60K35

Additive set-valued Markov processes and graphical methods. *Ann. Probability* **6** 1978), *no.* 3, 355–378. (Richard Holley) **58** #7925 60K35

is, T. Robert From relations to groups: a formal treatment of the underlying logic of ome group-theoretic models of kinship. *Genealogical mathematics* (*Proc. MSSB Conf.*, *Univ. Texas*, *Houston*, *Tex.*, 1974), *pp.* 85–109. *Mouton*, *Paris*, 1974. (From the author's ntroduction) **55** #12178 92A20

is, V. C. (*with* Subbarao, M. V.) An arithmetic sum with an application to quasi k-free ntegers. *J. Austral. Math. Soc.* **15** (1973), 272–278. (S. L. Segal) **48** #8363 10A20

On Daykin's algorithm for finding the g.c.d. *Fibonacci Quart.* **12** (1974), 80. Editors) **50** #214 10A05

is, Will A formal metasystem for Frege's semantics. *Notre Dame J. Formal Logic* **16** (1975), 89–101. (N. B. Cocchiarella) **50** #9523 02A05

is, William A., Jr. Holomorphic solutions of nonlinear differential equations at singular points. *Advances in differential and integral equations* (*Conf.*, *Qualitative Theory of Nonlinear Differential and Integral Equations*, *Univ. Wisconsin*, *Madison*, *Wis.*, 1968; *in memoriam Rudolph E. Langer* (1894–1968)), *pp.* 184–187. *Studies in Appl. Math.*, *No.* 5, *Soc. Indust. Appl. Math.*, *Philadelphia*, *Pa.*, 1969. (C. Carton-Lebrun) **51** #10728 34A20

Analytic theory of difference equations. *Analytic theory of differential equations* (*Proc. Conf.*, *Western Michigan Univ.*, *Kalamazoo*, *Mich.*, 1970), *pp.* 46–58. *Lecture Notes in Math.*, *Vol.* 183, *Springer*, *Berlin*, 1971. (A. Halanay) **52** #11390 39A12 (34C05)

Analytic theory of linear differential systems. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 229–237. *Lecture Notes in Math.*, *Vol.* 243, *Springer*, *Berlin*, 1971. (D. A. Lutz) **52** #11158 34A20

(*with* Sibuya, Yasutaka) Asymptotic distribution of eignevalues. *Ordinary differential equations* (*Proc. Conf.*, *Math. Res. Center*, *Naval Res. Lab.*, *Washington*, *D. C.*, 1971), *pp.* 121–125. *Academic Press*, *New York*, 1972. (Walter Eberhard) **54** #10736 34B25

Characterizations of linear differential systems with a regular singular point. *Proc. Edinburgh Math. Soc.* (2) **18** (1972/73), 93–98. (D. A. Lutz) **47** #7095 34A20

Singularly perturbed boundary value problems revisited. *Symposium on Ordinary Differential Equations* (*Univ. Minnesota*, *Minneapolis*, *Minn.*, 1972; *dedicated to Hugh L. Turrittin*), *pp.* 54–64. *Lecture Notes in Math.*, *Vol.* 312, *Springer*, *Berlin*, 1973. (R. E. O'Malley, Jr.) **52** #11228 34E15

(*with* Lutz, Donald A.) Asymptotic integration of linear systems. *Ordinary and partial differential equations* (*Proc. Conf.*, *Univ. Dundee*, *Dundee*, 1974), *pp.* 155–166. *Lecture Notes in Math.*, *Vol.* 415, *Springer*, *Berlin*, 1974. (Yiannis Sficas) **54** #10775 34E05

(*with* Lutz, Donald A.) On the asymptotic integration of linear differential systems. *J. Math. Anal. Appl.* **48** (1974), 1–16. (A. F. Izé) **50** #7698 34D10

(*with* Lutz, Donald A.) Recent results in the asymptotic integration of linear differential systems. *International Conference on Differential Equations* (*Univ. Southern California*, *Los Angeles*, *Calif.*, 1974), *pp.* 345–349. *Academic Press*, *New York*, 1975. (C. A. Swanson) **53** #13760 34E05

(*with* Lutz, Donald A.) Asymptotic integration of adiabatic oscillators. *J. Math. Anal. Appl.* **51** (1975), 76–93. (H. Hochstadt) **51** #6069 34E05

(*with* Braaksma, B. L. J.) On an open problem in the theory of linear difference equations. *Nieuw Arch. Wisk.* (3) **23** (1975), *no.* 3, 228–240. (J. H. Curtiss) **53** #1073 39A10

Applications of the method of differential inequalities in singular perturbation problems. *New developments in differential equations* (*Proc. 2nd Scheveningen Conf.*, *Scheveningen*, 1975), *pp.* 111–116. *North-Holland Math. Studies*, *Vol.* 21, *North-Holland*, *Amsterdam*, 1976. (K. W. Chang) **58** #6565 34E15

On asymptotic integration. *Ordinary and partial differential equations* (*Proc. Fourth Conf.*, *Univ. Dundee*, *Dundee*, 1976), *pp.* 231–238. *Lecture Notes in Math.*, *Vol.* 564, *Springer*, *Berlin*, 1976. (Editors) **58** #28924 34E05

(*with* Lutz, Donald A.) A unified theory of asymptotic integration. *J. Math. Anal. Appl.* **57** (1977), *no.* 3, 571–586. (F. Brauer) **55** #3441 34E05 (34A25)

See also **Symposium: Ordinary Differential Equations, 51** #6007

Harris, Z. S. ★Structures mathématiques du langage. Traduit de l'anglais par C. Fuchs. Monographies de Linguistique Mathématique, Vol. 3. *Dunod*, *Paris*, 1971. xi + 248 *pp.* (Editors) **57** #11189 68A30

Harrison, B. Kent Piecewise analysis of large linear systems: Kron's method and sparse matrix procedures. *The* 1976 *Ames Research Center* (*NASA*) *Conference on Geometric Control Theory* (*Moffett Field*, *Calif.*, 1976), *pp.* 455–481. *Lie Groups*: *History Frontiers and Appl.*, *Vol. VII*, *Math Sci Press*, *Brookline*, *Mass.*, 1977. (John Todd) **58** #13654 65F10

Harrison, C. H. Three-dimensional ray paths in basins, troughs, and near seamounts by use of ray invariants. *J. Acoust. Soc. Amer.* **62** (1977), *no.* 6, 1382–1388. (Author's summary) **56** #14088 76.41 (78.00)

Harrison, D. K. (*with* Warner, Hoyt D.) Infinite primes of fields and completions. *Pacific J. Math.* **45** (1973), 201–216. (H. D. Warner) **52** #361 12J10

Commutative nonassociative algebras and cubic forms. *J. Algebra* **32** (1974), *no.* 3, 518–528. (J. S. Hsia) **53** #5477 10C10

A Grothendieck ring of higher degree forms. *J. Algebra* **35** (1975), 123–138. (J. S. Hsia) **52** #275 10C10

Harrison, E. R. Scalar-tensor theory and general relativity. *Phys. Rev. D* (3) **6** (1972), 2077–2079. (Author's summary) **51** #9734 83.49

Harrison, G. A. *See* **Symposium: Mathematical Genetics, 52** #12848

Harrison, J. Michael Discrete dynamic programming with unbounded rewards. *Ann. Math. Statist.* **43** (1972), 636-644. (V. M. Dočviri) **50** #6505 90C99

Assembly-like queues. *J. Appl. Probability* **10** (1973), 354–367. (A. F. Turbin) **50** #8747 60K25

The heavy traffic approximation for single server queues in series. *J. Appl. Probability* **10** (1973), 613–629. (A. F. Turbin) **50** #11521 (EA **51**) 60K25

A limit theorem for priority queues in heavy traffic. *J. Appl. Probability* **10** (1973), 907–912. (E. Kyprianou) **50** #11522 60K25

A priority queue with discounted linear costs. *Operations Res.* **23** (1975), *no.* 2, 260–269. (John C. Gittins) **55** #6609 60K25 (90B35)

Dynamic scheduling of a multiclass queue: discount optimality. *Operations Res.* **23** (1975), *no.* 2, 270–282. (Richard F. Serfozo) **55** #9323 60K25

(*with* Emanuel, David C.; Taylor, Allison J.) A diffusion approximation for the ruin function of a risk process with compounding assets. *Scand. Actuar. J.* **1975**, *no.* 4, 240–247. (Hans U. Gerber) **52** #15929 62P05

(*with* Lemoine, Austin J.) On the virtual and actual waiting time distributions of a $GI/G/1$ queue. *J. Appl. Probability* **13** (1976), *no.* 4, 833–836. (N. U. Prabhu) **54** #14150 60K25

(*with* Resnick, Sidney I.) The stationary distribution and first exit probabilities of a storage process with general release rule. *Math. Oper. Res.* **1** (1976), *no.* 4, 347–358. (Peter J. Brockwell) **57** #1710 60K30 (60J25)

Dynamic scheduling of a two-class queue: small interest rates. *SIAM J. Appl. Math.* **31** (1976), *no.* 1, 51–61. (Ralph L. Disney) **53** #9421 60K25 (90C40, 90B35)

The supremum distribution of a Lévy process with no negative jumps. *Advances in Appl. Probability* **9** (1977), *no.* 2, 417–422. (Noel Veraverbeke) **56** #3955 60J30

(*with* Lemoine, Austin J.) Limit theorems for periodic queues. *J. Appl. Probability* **14** (1977), *no.* 3, 566-576. (Douglas P. Kennedy) **56** #6920 60K25

Some stochastic bounds for dams and queues. *Math. Oper. Res.* **2** (1977), *no.* 1, 54–63. (Frank A. Haight) **56** #6921 60K25

Ruin problems with compounding assets. *Stochastic Processes Appl.* **5** (1977), *no.* 1, 67–79. (Hans U. Gerber) **54** #11710 62P05

(*with* Taylor, Allison J.) Optimal control of a Brownian storage system. *Stochastic Processes Appl.* **6** (1977/78), *no.* 2, 179–194. (H. Taylor) **57** #9253 93E20 (60J99, 90B05)

Harrison, Jenny Unsmoothable diffeomorphisms. *Ann. of Math.* (2) **102** (1975), *no.* 1, 85–94. (C. S. Hartzman) **52** #9294 57F99 (57D50)

On unsmoothable diffeomorphisms. *Bull. Amer. Math. Soc.* **81** (1975), 746. (Clark Robinson) **51** #6847 57D30 (57D50)

Structure of a foliated neighbourhood. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 1, 101–110. (John W. Wood) **54** #6160 57D30

Harrison, Jerome (*with* Stasheff, James Dillon) Families of H-spaces. *Quart. J. Math. Oxford. Ser.* (2) **22** (1971), 347–351. (M. Arkowitz) **45** #1163 (EA **45**) 55D45

(*with* Scheerer, Hans) Zur Homotopietheorie von Abbildungen in homotopie-assoziative H-Räume. *Arch. Math.* (*Basel*) **23** (1972), 319–323. (C. S. Hoo) **46** #8219 55D45

Harrison, K. J. Transitive atomic lattices of subspaces. *Indiana Univ. Math. J.* **21** (1971/72), 621–642. (P. Rosenthal) **45** #940 47A15 (46L99)

On the unicellularity of weighted shifts. *J. Austral. Math. Soc.* **12** (1971), 342–350. (A. Lambert) **46** #9780 47A65

Certain distributive lattices of subspaces are reflexive. *J. London Math. Soc.* (2) **8** (1974), 51–56. (N. Suzuki) **50** #2943 47A15 (46L15)

(*with* Bastian, Joseph J.) Subnormal weighted shifts and asymptotic properties of normal operators. *Proc. Amer. Math. Soc.* **42** (1974), 475–479. (F. Gilfeather) **52** #1391 47B20

Strongly reductive operators. *Acta Sci. Math.* (*Szeged*) **37** (1975), *no.* 3-4, 205–212. (Lawrence Fialkow) **52** #8966 47A15

(*with* Longstaff, W. E.) Reflexive subspace lattices in finite-dimensional Hilbert spaces. *Indiana Univ. Math. J.* **26** (1977), *no.* 6, 1019–1025. (P. A. Fillmore) **57** #10454 47A15 (06A25, 15A30)

Harrison, M. J. The power of the Durbin-Watson and Geary tests: comment and further evidence. *Rev. Econom. Statist.* **57** (1975), *no.* 3, 377–379. (A. K. Gayen) **53** #9528 62J05 (62P20)

Harrison, Michael A. (*with* Gray, James N.) On the covering and reduction problems for context-free grammars. *J. Assoc. Comput. Mach.* **19** (1972), 675–698. (I. M. Havel) **50** #11864 68A30

(*with* Havel, Ivan M.) Real-time strict deterministic languages. *SIAM J. Comput.* **1** (1972), *no.* 4, 333–349. (Horst Reichel) **48** #1522 68A30

(*with* Geller, Matthew M.) Characterizations of LR(0) languages (extended abstract). 14*th Annual IEEE Symposium on Switching and Automata Theory* (*Univ. Iowa, Iowa City, Iowa*, 1973), *pp.* 103–118. *IEEE Comput. Soc., Northridge, Calif.*, 1973. (David B. Benson) **55** #1837 68A30

(*with* Havel, Ivan M.) On a family of deterministic grammars (extended abstract). *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 413–441. *North-Holland, Amsterdam*, 1973. (Editors) **51** #2355 68A30

On covers and precedence analysis. *Dritte Jahrestagung der Gesellschaft für Informatik* (*Hamburg*, 1973), *pp.* 2–17. *Lecture Notes in Comput. Sci., Vol.* 1, *Springer, Berlin*, 1973. (Branislav Rovan) **51** #4735 68A30

On the number of classes of binary matrices. *IEEE Trans. Computers* **C-22** (1973), 1048–1052. (R. A. Brualdi) **50** #9623 05B20

(*with* Gray, James N.) Canonical precedence schemes. *J. Assoc. Comput. Mach.* **20** (1973), 214–234. (David B. Benson) **53** #4638 68A30

(*with* Havel, Ivan M.) Strict deterministic grammars. *J. Comput. System Sci.* **7** (1973), 237–277. (Sheila A. Greibach) **47** #7959 68A30

(*with* Geller, Matthew M.; Graham, Susan L.) Production prefix parsing (extended abstract). *Automata, languages and programming* (*Second Colloq., Univ. Saarbrücken, Saarbrücken*, 1974), *pp.* 232 241. *Lecture Notes in Comput. Sci., Vol.* 14, *Springer, Berlin*, 1974. (David B. Benson) **54** #11857 68A30

(*with* Book, Ronald V.) Mutually divisible semigroups. *Discrete Math.* **9** (1974), 329–332. (B. Pondělíček) **50** #2372 20M10

(*with* Havel, Ivan M.) On the parsing of deterministic languages. *J. Assoc. Comput. Mach.* **21** (1974), 525–548. (Miroslav Hladky) **50** #9059 68A30

On models of protection in operating systems. *Mathematical foundations of computer science* (*Fourth Sympos., Mariánské Lázně*, 1975), *pp.* 46–60. *Lecture Notes in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975 (Robert Wagner) **52** #16197 68A99

(*with* Graham, Susan L.) Parsing of general context-free languages. *Advances in computers, Vol.* 14, *pp.* 77–185. *Academic Press, New York*, 1976. (Daniel J. Rosenkrantz) **56** #7342 68A30

(*with* Graham, Susan L.; Ruzzo, Walter L.) On line context free language recognition in less than cubic time (extended abstract). *Eighth Annual ACM Symposium on Theory of Computing* (*Hershey, Pa.*, 1976), *pp.* 112–120. *Assoc. Comput. Mach., New York*, 1976. (Authors' summary) **55** #6970 68A30 (68A10, 68A20)

(*with* Ruzzo, Walter L.; Ullman, Jeffrey D.) Protecting in operating systems. *Comm. ACM* **19** (1976), *no.* 8, 461-471. (George I. Davida) **54** #14474 68A99

(*with* Geller, Matthew M.; Havel, Ivan M.) Normal forms of deterministic grammars. *Discrete Math.* **16** (1976), *no.* 4, 313–321. (S. A. Greibach) **54** #14454 68A30

(*with* Geller, Matthew M.) Characteristic parsing: a framework for producing compact deterministic parsers. I. *J. Comput. System Sci.* **14** (1977), *no.* 3, 265–317. (Ju. G. Karpov) **56** #13802a 68A30

(*with* Geller, Matthew M.) Characteristic parsing: a framework for producing compact deterministic parsers. II. *J. Comput. System Sci.* **14** (1977), *no.* 3, 318–343. (Ju. G. Karpov) **56** #13802b 68A30

(*with* Geller, Matthew M.) On *LR*(*k*) grammars and languages. *Theoret. Comput. Sci.* **4** (1977), *no.* 3, 245–276. (S. A. Greibach) **56** #7341 68A30

See also **ACM Symposium: Principles of Programming Languages**, **52** #2274; **ACM Symposium: Theory of Computing**, **52** #16089 *and* **ACM Symposium: Theory of Computing**, **54** #11828

Harrison, Nancy Real length functions in groups. *Trans. Amer. Math. Soc.* **174** (1972), 77–106. (K. Appel) **46** #7397 20F99

Harrison, P. J. (*with* Stevens, C. F.) A Bayesian approach to short-term forecasting. *Operational Res. Quart.* **22** (1971), 341–362. (Author' summary) **45** #1312 62F15

(*with* Godolphin, E. J.) Equivalence theorems for polynomial-projecting predictors. *J. Roy. Statist. Soc. Ser. B* **37** (1975), 205–215. (B. J. Bhansali) **53** #11916 62M20

(*with* Stevens, C. F.) Bayesian forecasting. With a discussion by M. B. Priestley, B. J. N. Blight, D. R. Cox, C. Chatfield, H. Tong, G. J. A. Stern, A. O'Hagan, T. Leonard, R. J. Bhansali, A. M. Walker, D. V. Lindley, O. D. Anderson, James M. Dickey, E. J. Godolphin, W. D. Ray and P. Newbold, and a reply by the authors. *J. Roy. Statist. Soc. Ser. B* **38** (1976), *no.* 3, 205–247. (Authors' summary) **58** #31672 62M20 (62C10)

Harrison, Ralph E. (*with* Turksen, Ismail B.) Interactions of particular Boolean queries and attributes in data bases. (French summary) *INFOR—Canad. J. Operational Res. and Information Processing* **12** (1974), 282–292. (K. H. V. Booth) **50** #1577 68A50

Harrist, R. (*with* Drane, Wanzer) Resolving hypotheses with successive chisquares. (German, French and Russian summaries) Collection of articles dedicated to the memory of John E. Walsh. *Statist. Hefte* (*N.F.*) **15** (1974), 171–180. (Editors) **50** #15247 62P99

Harrold, Allen J. (*with* Martin, C. Wayne) Removal of truncation error in finite element analysis. *The mathematics of finite elements and applications, II* (*Proc. Second Brunel Univ. Conf. Inst. Math. Appl., Uxbridge*, 1975), *pp.* 525–533. *Academic Press, London*, 1976. (William W. Hager) **56** #13557 65F10 (65G05)

Harrold, O. G., Jr. A class of wild closed curves that span orientable surfaces. *Proc. Amer. Math. Soc.* **38** (1973), 640–642. (S. Kinoshita) **48** #1212 55A30

Locally unknotted sets in three-space. *Yokohama Math. J.* **21** (1973), 47–60. (C. E. Burgess) **48** #7284 57A10 (57A35)

Harrop, Ronald On simple, weak and strong models of propositional calculi. *Proc. Cambridge Philos. Soc.* **74** (1973), 1–9. (Walter Oberschelp) **50** #1831 02B05 (02G15)

Some results concerning finite model separability of propositional calculi. *Studia Logica* **35** (1976), *no.* 2, 179–189. (J. M. Plotkin) **55** #7729 02B05

Harrow, Keith Small Grzegorczyk classes and limited minimum. *Z. Math. Logik Grundlagen Math.* **21** (1975), *no.* 5, 417–426. (Ju. V. Matijasevič) **53** #7741 02F20

The bounded arithmetic hierarchy. *Information and Control* **36** (1978), *no.* 1, 102–117. (George Tourlakis) **57** #16010 02F20 (68A20)

Harrow, M. (*with* Kaufman, Hyman) A stability result for solutions of certain fourth order differential equations. *Rend. Circ. Mat. Palermo* (2) **20** (1971), 186–194 (1972). (J. O. C. Ezeilo) **51** #13383 34D20

Harsaae, E. Some pitfalls in the use of minimum chi square. (German, French and Russian summaries) *Statist. Hefte* (*N.F.*) **17** (1976), *no.* 2, 81–104. (From the summary) **58** #18862 62F10

Informative probability and its role in the probabilistic arguments implied by Rudolph Carnap's "inductive probability" and Bayes' formula. *Statist. Hefte* (*N.F.*) **17** (1976), *no.* 4, 278–284. (RŽMat **1977** #9 V3) **58** #24428 60A05

Harsanyi, John C. A general theory of rational behavior in game situations. *Econometrica* **34** (1966), 613–634. (Author's summary) **48** #10525 90D12

(*with* Selten, Reinhard) A generalizd Nash solution for two-person bargaining games with incomplete information. *Management Sci.* **18** (1971/72), P80–P106. (B. O. Shubert) **45** #4838 90D05

Notes on the so-called incompleteness problem and on the proposed alternative concept of rational behavior. *Theory and Decision* **2** (1972), 342–352. (Author's summary) **48** #10527 90D12

Oddness of the number of equilibrium points: a new proof. *Internat. J. Game Theory* **2** (1973), 235–250. (M. Mañas) **58** #26059 90D10

Games with randomly disturbed payoffs: a new rationale for mixed-strategy equilibrium points. *Internat. J. Game Theory* **2** (1973), *no.* 1, 1–23. (P. Brock) **48** #1720 90D12

An equilibrium-point interpretation of stable sets and a proposed alternative definition. *Management Sci.* **20** (1973/74), 1472–1495. (Louis J. Billera) **50** #15941 90D12

The tracing procedure: a Bayesian approach to defining a solution for *n*-person noncooperative games. *Internat. J. Game Theory* **4** (1975), *no.* 1-2, 61–94. (J. Rosenmüller) **52** #12816 90D10

A solution concept for *n*-person noncooperative games. *Internat. J. Game Theory* **5** (1976), *no.* 4, 211–225. (Author's summary) **56** #17849 90D10

Nonlinear social welfare functions: a rejoinder to Professor Sen: "Welfare inequalities and Rawlsian axiomatics" (*Foundational problems in the special sciences* (Proc. Fifth Internat. Congr. Logic, Methodology and Philos. of Sci., Univ. Western Ontario, London, Ont., 1975), Part II, pp 271–292. Univ. Western Ontario Ser. Philos. Sci., Vol. 10, Reidel, Dordrecht, 1977) by À. Sen. *Foundational problems in the special sciences* (*Proc. Fifth Internat. Congr. Logic, Methodology and Philos. of Sci., Univ. Western Ontario, London, Ont.*, 1975) *Part II, pp.* 293–296. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 10, *Reidel, Dordrecht*, 1977. (Editors) **58** #4462b 92A20 (90A05)

Advances in understanding rational behavior. *Foundational problems in the special sciences* (*Proc. Fifth Internat. Congr. Logic, Methodology and Philos. of Sci., Univ. Western Ontario, London, Ont.*, 1975), *Part II, pp.* 315–343. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 10, *Reidel, Dordrecht*, 1977. (M. M. Flood) **58** #9350 90D40 (90A05, 90D35)

On the rationale of the Bayesian approach: comments on Professor J. W. N. Watkins's paper: "Towards a unified decision theory: a non-Bayesian approach" (*Foundational problems in the special sciences* (Proc. Fifth Internat. Congr. Logic, Methodology and Philos. of Sci., Univ. Western Ontario, London, Ont., 1975), Part II, pp. 345–379, Univ. Western Ontario Ser. Philos. Sci., Vol. 10, Reidel, Dordrecht, 1977). *Foundational problems in the special sciences* (*Proc. Fifth Internat. Congr. Logic, Methodology and Philos. of Sci., Univ. Western Ontario, London, Ont.*, 1975), *Part II, pp.* 381–392. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 10, *Reidel, Dordrecht*, 1977. (I. J. Good) **58** #13437 62C10 (90D35)

Time and the flow of information in noncooperative games. *Quantitative Wirtschaftsforschung, pp.* 255–267. *Mohr, Tübingen*, 1977. (Author's summary) **58** #33002 90D10

See also **Freeman, R. E.**, **56** #14796; **Sen, Amartya**, **58** #4462a *and* **Sen, Amartya**, **58** #4462c

Harshbarger, S. (*with* Dunn, J. C.) Conditional gradient algorithms with open loop step size rules. *J. Math. Anal. Appl.* **62** (1978), *no.* 2, 432–444. (M. Z. Nashed) **58** #7319 49D10 (65K05, 90C99)

Hařsika, L. I. Application of the exponential solution of Poisson equations to the estimation of instrument errors in the determination of the attitude of a moving object. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 37 (1977), 64–70, 119. (Author's summary) **58** #19477 70.34

Haršiladze, A. F. Obstructions to surgery for the group ($\pi \times Z_2$). (Russian) *Mat. Zametki* **16** (1974), 823–832. (Author's summary) **58** #31118 57D65

Manifolds of the homotopy type of a product of two projective spaces. (Russian) *Mat. Sb.* (*N.S.*) **96(138)** (1975), *no.* 4, 507–522, 645. (I. Vaisman) **51** #11544 57D65 (57C10)

See also **Dold, Albrecht**, **56** #6637

Hart, Allan M. (*with* Hendry, Herbert E.) Some observations on a method of McKinsey. *Notre Dame J. Formal Logic* **19** (1978), *no.* 3, 395–396. (Perry Smith) **58** #5026 02C05 (02B05)

H, Gary C. (*with* Hasselman, T. K.) A minimization method for treating convergence in modal synthesis. *AIAA J.* **12** (1974), 316–323. (F. V. Pohle) **48** #7570 65F15

H, Johnson Murdoch An infinite hierarchy of linear local adjunct languages. *Information and Control* **23** (1973), 245–259. (Leon S. Levy) **48** #1523 68A30

A class of push-down acceptors for adjunct languages. *IEEE Trans. Computers.* **C-23** (1974), *no.* 5, 449–455. (S. Ginsburg) **52** #9697 68A30

Acceptors for the derivation languages of phrase-structure grammars. *Information and Control* **25** (1974), 75–92. (Armin Cremers) **50** #6215 68A30

Ambiguity and decision problems for local adjunct languages. *J. Comput. System Sci.* **8** (1974), 8–21. (S. Ginsburg) **49** #4317 68A30

Derivation languages and syntactical categories. *Information and Control* **28** (1975), 204–220. (Derick Wood) **51** #9581 68A30

Recursive generation of local adjunct languages. *Math. Systems Theory* **9** (1975/76), *no.* 4, 315–326. (S. A. Greibach) **56** #4252 68A30

Right and left parses in phrase-structure grammars. *Information and Control* **32** (1976), *no.* 3, 242–262. (Tadao Takaoka) **54** #9170 68A30

The derivation language of a phrase structure grammar. *J. Comput. System Sci.* **12** (1976), *no.* 1, 64–79. (R. N. Goss) **52** #16150 68A30

Ht, M. L. (*with* Money, A. H.) Exact powers for the linear case of Wilks' likelihood ratio criterion. *South African Statist. J.* **9** (1975), *no.* 1, 11–26. (Minoru Siotani) **52** #2030 62H10

(*with* Money, A. H.) On Wilk's multivariate generalization of the correlation ratio. *Biometrika* **63** (1976); *no.* 1, 59–67. (S. John) **53** #6884 62H10

t, N. Two parallel relative homological algebras. *Acta Math. Acad. Sci. Hungar.* **25** (1974), 321–327. (J. Ohm) **51** #753 20K40 (18G05)

t, Oliver D. On the existence of equilibrium in a securities model. *J. Econom. Theory* **9** (1974), *no.* 3, 293–311. (George M. Constantinides) **58** #15048 90A15

On the optimality of equilibrium when the market structure is incomplete. *J. Econom. Theory* **11** (1975), *no.* 3, 418–443. (Alexander M. Rubinov) **54** #9625 90A15

(*with* Kuhn, Harold W.) A proof of the existence of equilibrium without the free disposal assumption. *J. Math. Econom.* **2** (1975), *no.* 3, 335–343. (William A. Brock) **52** #16543 90A15

Take-over bids and stock market equilibrium. *J. Econom. Theory* **16** (1977), *no.* 1, 53–83. (Giovanni M. Zambruno) **57** #5014 90A15

Ht, P. E. Moment distributions in economics: an exposition. *J. Roy. Statist. Soc. Ser. A* **138** (1975), *no.* 3, 423–434. (Alfred E. Tong) **58** #19001 62P20 (90A15)

Ht, Robert Krull dimension and global dimension of simple Ore-extensions. *Math. Z.* **121** (1971), 341–345. (R. B. Tarsy) **45** #6811 13B99

A note on the tensor product of algebras. *J. Algebra* **21** (1972), 422–427. (G. Renault) **47** #1875 16A60 (16A02)

Derivations on commutative rings. *J. London Math. Soc.* (2) **8** (1974), 171–175. (Y. Nakai) **50** #2147 13B10

Derivations on regular local rings of finitely generated type. *J. London Math. Soc.* (2) **10** (1975), 292–294. (J. J. Etayo) **51** #5602 14F10 (13B10)

Ht, Robert W. (*with* Gray, Ernest P.; Farrell, Richard A.) An application of a variational principle for scattering by random rough surfaces. *Radio Sci.* **13** (1978), *no.* 2, 333–343. (Gérard A. Maugin) **57** #8486 78.60

Ht, Sergiu Symmetric solutions of some production economies. *Internat. J. Game Theory* **2** (1973), *no.* 1, 53–62. (J. André) **47** #4655 90D12

Values of mixed games. *Internat. J. Game Theory* **2** (1973), *no.* 2, 69–85. (J. H. Case) **48** #7996 90D13

Formation of cartels in large markets. *J. Econom. Theory* **7** (1974), *no.* 4, 453–466. (Author's summary) **57** #15330 90A15 (90D35)

(*with* Hildenbrand, Werner; Kohlberg, Elon) On equilibrium allocations as distributions on the commodity space. *J. Math. Econom.* **1** (1974), *no.* 2, 159–166. (Authors' summary) **55** #9863 90A15

(*with* Kohlberg, Elon) Equally distributed correspondences. *J. Math. Econom.* **1** (1974), *no.* 2, 167–174. (Y. I. Kannai) **54** #10540 28A20 (90A15)

A note on the edges of the *n*-cube. *Discrete Math.* **14** (1976), *no.* 2, 157–163. (G. L. Alexanderson) **53** #161 05A99 (90D10)

Asymptotic value of games with a continuum of players. *J. Math. Econom.* **4** (1977), *no.* 1, 57–80. (M. Ali Khan) **56** #8036 90D13

Values of non-differentiable markets with a continuum of traders. *J. Math. Econom.* **4** (1977), *no.* 2, 103–116. (T. E. S. Raghavan) **58** #25883 90A15

rt, Timothy P. (*with* Yates, Robert A.; Raphael, Bertram) Resolution graphs. *Artificial Intelligence* **1** (1970), *no.* 4, 257–289. (A. D. Koršunov) **46** #4806 68A40

rt, V. G. (*with* Chadwick, P.; Creasy, C. F. M.) The deformation of rubber cylinders and tubes by rotation. *J. Austral. Math. Soc. Ser. B* **20** (1977), *no.* 1, 62–96. (Authors' summary) **56** #7408 73.35

rt, W. D. Imagination, necessity and abstract objects. *Studien zu Frege, Band I, pp.* 161–192. *Problemata, No.* 42, *Frommann-Holzboog, Stuttgart*, 1976. (Editors) **58** #21387 02A05 (02C10)

(*with* McGinn, Colin) Knowledge and necessity. *J. Philos. Logic* **5** (1976), *no.* 2, 205–208. (Robert P. McArthur) **58** #10315 02C10

See also **Block, Irving**, (Not reviewed)

rtberger, R. J. A proof of the Pontryagin maximum principle for initial-value problems. *J. Optimization Theory Appl.* **11** (1973), 139–145. (Author's summary) **58** #7291 49B25

rtberger, Ronald J. Representation extended to continuous time. *Optimization methods for resource allocation* (*Proc. NATO Conf., Elsinore*, 1971), *pp.* 297–307. *English Univ. Press, London*, 1974. (Werner Krabs) **51** #6537 49D35

rte, Robin E. The spectral mapping theorem in several variables. *Bull. Amer. Math. Soc.* **78** (1972), 871–875. (E. R. Deal) **45** #7471 46H05 (47A60)

Spectral mapping theorems. *Proc. Roy. Irish Acad. Sect. A* **72** 89–107 (1972). (E. R. Deal) **48** #4738 46H05

The spectral mapping theorem in many variables. *Seminar on Uniform Algebras* (*Univ. Aberdeen, Aberdeen*, 1973), *pp.* 59–63. *Dept. Math., Univ. Aberdeen, Aberdeen*, 1973. (J. W. Bunce) **50** #14226 46H05

Relatively invariant systems and the spectral mapping theorem. *Bull. Amer. Math. Soc.* **79** (1973), 138–142. (J. B. Miller) **47** #3993 46H05 (47A60)

Spectral mapping theorems on a tensor product. *Bull. Amer. Math. Soc.* **79** (1973), 367–372. (T. W. Palmer) **48** #872 46H05 (47A60)

The spectral mapping theorem for quasicommuting systems. *Proc. Roy. Irish Acad. Sect. A* **73**, 7–18 (1973). (E. R. Deal) **47** #7426 46H05 (47A60)

Tensor products, multiplication operators and the spectral mapping theorem. *Proc. Roy. Irish Acad. Sect. A* **73**, 285–302 (1973). (E. R. Deal) **48** #6984 47A60

Commutivity and separation of spectra. II. Spectral Theory Symposium (Trinity College, Dublin, 1974). *Proc. Roy. Irish Acad. Sect. A* **74** (1974), 239–244. (Mary R. Embry-Wardrop) **57** #3855 46H05

A Šilov boundary for systems? *Algebras in analysis* (*Proc. Instructional Conf. and NATO Advanced Study Inst., Birmingham*, 1973), *pp.* 268–271. *Academic Press, London*, 1975. (H. G. Dales) **54** #5834 46H10

A problem of mixed interpolation. *Math. Z.* **143** (1975), *no.* 2, 149–153. (Bernard B. Morrel) **53** #8933 47A50

The exponential spectrum in Banach algebras. *Proc. Amer. Math. Soc.* **58** (1976), 114–118. (Horst Behncke) **53** #11375 46H05 (47H10)

A spectral mapping theorem for holomorphic functions. *Math. Z.* **154** (1977), *no.* 1, 67–69. (Kiyoko Nishizawa) **56** #6391 46H05 (32E25)

(*with* Wickstead, Anthony) Upper and lower Fredholm spectra. II. *Math. Z.* **154** (1977), *no.* 3, 253–256. (F.-H. Vasilescu) **56** #12926 47A10

(*with* Buoni, John J.; Wickstead, Anthony) Upper and lower Fredholm spectra. I. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 309–314. (F.-H. Vasilescu) **56** #12925 47A10

See also **Seminar: Uniform algebras**, **49** #11261 *and* **Algebras in analysis**, **52** #14888

van Harten, A. Singular perturbation problems for non-linear elliptic second order equations. *Spectral theory and asymptotics of differential equations* (*Proc. Conf., Scheveningen*, 1973), *pp.* 181–195. *North-Holland Math. Studies, Vol.* 13, *North-Holland, Amsterdam*, 1974. (Jean Genet) **58** #29074 35B25

On an elliptic singular perturbation problem. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 485–495. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #29075 35B25

Harten, Amiram (*with* Zwas, Gideon) Self-adjusting hybrid schemes for shock computations. *J. Computational Phys.* **9** (1972), 568–583. (W. Sibagaki) **46** #8449 65P05

(*with* Hyman, James M.; Lax, Peter D.) On finite-difference approximations and entropy conditions for shocks. With an appendix by B. Keyfitz. *Comm. Pure Appl. Math.* **29** (1976), *no.* 3, 297–322. (J. R. Cannon) **54** #1640 65M10 (76.65)

The artificial compression method for computation of shocks and contact discontinuities. I. Single conservation laws. *Comm. Pure Appl. Math.* **30** (1977), *no.* 5, 611–638. (J. R. Cannon) **55** #11637 65M99

(*with* Efrony, Shamir) A partition technique for the solution of potential flow problems by integral equation methods. *J. Computational Phys.* **27** (1978), *no.* 1, 71–87. (K. C. Gupta) **57** #14910 76.65

The artificial compression method for computation of shocks and contact discontinuities. III. Self-adjusting hybrid schemes. *Math. Comp.* **32** (1978), *no.* 142, 363–389. (J. R. Cannon) **58** #8789 76.65 (65H10)

von Harten, Gerd-Friedrich (*with* Mönch, Harald) The product formula for the topological degree of strict γ-contractions. *Manuscripta Math.* **23** (1977/78), *no.* 2, 113–123. (Christian Fenske) **57** #14028 58C99 (47H10, 55C25)

Hartenstein, Reiner Synthese endlicher Automaten bei Problemen der Erkennung, Klassifikation und Informationsreduktion. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **7** (1971), 331–353. (S. Huzino) **46** #1504 94A30

See also **Jahrestagung: Gesellschaft für Informatik**, **48** #1502

Harter, H. Leon Some optimization problems in parameter estimation. *Optimizing methods in statistics* (*Proc. Sympos., Ohio State Univ., Columbus, Ohio*, 1971), *pp.* 33–62. *Academic Press, New York*, 1971. (M. M. Siddiqui) **49** #8176 62F10

(*with* Shelnutt, J. William, III.; Moore, Albert H.) Linear estimation of the scale parameter of the first asymptotic distribution of extreme values. *IEEE Trans. Reliab.* **R-22** (1973), *no.* 5, 259–264. (Mir Ali) **53** #1823 62F10

(*with* Moore, Albert H.) Corrigenda: "Maximum-likelihood estimation, from doubly censored samples, of the parameters of the first asymptotic distribution of extreme values" (J. Amer. Statist. Assoc. **63** (1968), 889–901). *J. Amer. Statist. Assoc.* **68** (1973), 757. (Editors) **50** #11602 62F10

The method of least squares and some alternatives. I. (French summary) *Internat. Statist. Rev.* **42** (1974), 147–174. (Author's review) **58** #24751a 62J05

The method of least squares and some alternatives. II. *Internat. Statist. Rev.* **42** (1974), 235–264. (Author's review) **58** #24751b 62J05

The method of least squares and some alternatives. III. *Internat. Statist. Rev.* **43** (1975), *no.* 1, 1–44. (Author's review) **58** #24751c 62J05

The method of least squares and some alternatives. IV. *Internat. Statist. Rev.* **43** (1975), *no.* 2, 125–190. (Author's review) **58** #24751d 62J05

The method of least squares and some alternatives. V. *Internat. Statist. Rev.* **43** (1975), *no.* 3, 269–272. (Author's review) **58** #24751f 62J05

Addendum: "The method of least squares and some alternatives. IV". *Internat. Statist. Rev.* **43** (1975), *no.* 3, 273–278. (Author's review) **58** #24751e (E **58** #24751d) 62J05

The method of least squares and some alternatives. VI. Subject and author indexes. *Internat. Statist. Rev.* **44** (1976), *no.* 1, 113–159. (Author's review) **58** #24751g 62J05

★A survey of the literature on the size effect on material strength. AFFDL-TR-77-11. *Air Force Flight Dynamics Laboratory/FBRD, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1977. v + 449 *pp.* (From the author's summary and introduction) **55** #7036 73.00

A bibliography of extreme-value theory. *Internat. Statist. Rev.* **46** (1978), *no.* 3, 279–306. **58** #24713 62G30

See also **Dumonceaux, Robert; et al.**, **48** #9924; **Selected tables in mathematical statistics**, **53** #11946; **Selected tables in mathematical statistics**, **53** #11947; **Selected tables in mathematical statistics**, **53** #11948 *and* **Hogg, Robert V.**, **57** #1763

Harter, Richard The optimality of Winograd's formula. *Comm. ACM* **15** (1972), 352. **47** #2801 65F05

Harter, William G. Representations of multidimensional symmetries in networks. *J. Mathematical Phys.* **15** (1974), 2016–2021. (Philip H. Butler) **50** #4769 20G45 (94A20)

(*with* Patterson, Christopher W.) ★A unitary calculus for electronic orbitals. Lecture Notes in Physics, Vol. 49. *Springer-Verlag, Berlin-New York*, 1976. xii + 144 *pp. ISBN* 3-540-07699-9 (Ju. M. Širokov) **58** #14502 81.22

(*with* Patterson, Christopher W.) Canonical symmetrization for unitary bases. I. Canonical Weyl bases. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1125–1136. (Panayotis Tsilimigras) **53** #15146a 81.22

(*with* Patterson, Christopher W.) Canonical symmetrization for the unitary bases. II. Boson and fermion bases. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1137–1142. (Panayotis Tsilimigras) **53** #15146b 81.22

(*with* dos Santos, Narciso) Double-group theory on the half-shell and the two-level system. I. Rotation and half-integral spin states. *Amer. J. Phys.* **46** (1978), *no.* 3, 251–263. (Authors' summary) **57** #8686a 81.47

(*with* dos Santos, Narciso) Double-group theory on the half-shell and the two-level system. II. Optical polarization. *Amer. J. Phys.* **46** (1978), *no.* 3, 264–273. (Authors' summary) **57** #8686b 81.47

Hartfiel, D. J. (*with* Crosby, J. W.) On the permanent of a certain class of (0, 1)-matrices. *Canad. Math. Bull.* **14** (1971), 507–511. (D. London) **47** #1821 15A15

Counterexamples to a conjecture of G. N. de Oliveira. *Pacific J. Math.* **38** (1971), 67–68. (D. London) **46** #5362 15A51

(*with* Crosby, J. W.) A lower bound for the permanent on $U_n(k,k)$. *J. Combinatorial Theory Ser. A* **12** (1972), 283–288. (H. Minc) **52** #3188 15A15

(*with* Spellmann, J. W.) Diagonal similarity of irreducible matrices to row stochastic matrices. *Pacific J. Math.* **40** (1972), 97–99. (David Carlson) **47** #1823 15A21

(*with* Spellmann, J. W.) A role for doubly stochastic matrices in graph theory. *Proc. Amer. Math. Soc.* **36** (1972), 389 394. (N. S. Mendelsohn) **47** #4844 05C20

(*with* Curry, Guy L.) An algorithm for optimal inventory policies for systems with joint setup costs. *Management Sci.* **20** (1973/74), 1175–1177. (D. Hochstädter) **51** #12303 90B05

A lower bound on the permanent of a (0, 1)-matrix. *Proc. Amer. Math. Soc.* **39** (1973), 83–85. (D. London) **47** #1820 15A15

An extension of Haynsworth's determinant inequality. *Proc. Amer. Math. Soc.* **41** (1973), 463–465. (B. N. Moyls) **48** #2163 15A45

Bounds for eigenvalues and eigenvectors of a nonnegative matrix which involve a measure of irreducibility. *SIAM J. Appl. Math.* **24** (1973), 6–8. (H. Minc) **48** #3995 15A42

A lower bound for the permanent on a special class of matrices. *Canad. Math. Bull.* **17** (1974), *no.* 4, 529–530. (D. London) **52** #5701 15A15

A result concerning strongly ergodic nonhomogeneous Markov chains. *Linear Algebra and Appl.* **9** (1974), 169–174. (Humphrey S. Fong) **50** #11457 60J10

A study of convex sets of stochastic matrices induced by probability vectors. *Pacific J. Math.* **52** (1974), 405–418. (R. A. Brualdi) **50** #9915 15A51 (60J10)

(*with* Curry, Guy L.) Concerning the solution vector for parametric programming problems. *SIAM J. Appl. Math.* **26** (1974), 294–296. (Tomas Gal) **48** #10503 90C25

On infinite products of nonnegative matrices. *SIAM J. Appl. Math.* **26** (1974), 297–301. (B. Levinger) **50** #4631 15A48

Concerning spectral inverses of stochastic matrices. *SIAM J. Appl. Math.* **27** (1974), 281–292. (Marvin Marcus) **50** #4605 15A09

A canonical form for fully indecomposable (0, 1)-matrices. *Canad. Math. Bull.* **18** (1975), *no.* 2, 223–227. (Peter M. Gibson) **52** #8155 15A21

(*with* Maxson, Carlton J.) A matrix characterization of the maximal groups in β_X. *Czechoslovak Math. J.* **25(100)** (1975), 274–278. (R. J. Plemmons) **51** #5820 20M20

(*with* Maxson, Carlton J.) The chainable matrix, a special combinatorial matrix. *Discrete Math.* **12** (1975), 245–256. (Frank W. Owens) **52** #139 05B20

Two theorems generalizing the mean transition probability results in the theory of Markov chains. *Linear Algebra and Appl.* **11** (1975), *no.* 2, 181–187. (Martin Jacobsen) **51** #10372 15A51 (60J10)

(*with* Borosh, Itshak; Maxson, Carlton J.) Answers to questions posed by Richman and Schneider. *Linear and Multilinear Algebra* **3** (1975/76), *no.* 4, 255–258. (Peter M. Gibson) **53** #8097 15A36

(*with* Maxson, Carlton J.) A characterization of the maximal monoids and maximal groups in β_X. *Pacific J. Math.* **58** (1975), *no.* 2, 437–444. (B. M. Schein (Šaĭn)) **52** #610 20M10

(*with* Maxson, Carlton J.) A study of minimally unilateral digraphs. *SIAM J. Appl. Math.* **28** (1975), 607–610. (Editors) **51** #10161 05C99

Results on measures of irreducibility and full indecomposability. *Trans. Amer. Math. Soc.* **202** (1975), 357–368. (Donald Kershaw) **51** #558 15A48

(*with* Maxson, Carlton J.) Constructing the maximal monoids in the semigroups N_n, S_n, and U_n. *Compositio Math.* **32** (1976), *no.* 1, 41–52. (R. J. Plemmons) **53** #5634 15A51 (20M10)

(*with* Maxson, Carlton J.) Algebraic models for two-edge-connected graphs. *Discrete Math.* **15** (1976), *no.* 2, 141–150. (Authors' summary) **53** #10655 05C99

(*with* Maxson, Carlton J.) A note on two conjectures of Geller. *Discrete Math.* **16** (1976), *no.* 4, 325–328. (D. P. Geller) **55** #10327 05C99

(*with* Maxson, Carlton J.; Plemmons, Robert J.) A note on Green's relations on the semigroup N_n. *Proc. Amer. Math. Soc.* **60** (1976), 11–15 (1977). (Št. Schwarz) **54** #7673 20M10

(*with* Maxson, Carlton J.) A semigroup characterization of a linearly realizable automaton over GF(p). *J. Comput. System Sci.* **14** (1977), *no.* 1, 150–155. (G. E. Ceĭtlin) **56** #12160 20M35 (94A30)

Mathematical considerations of nonhomogeneous production processes. *Linear Algebra and Appl.* **16** (1977), *no.* 2, 95–107. (C. B. Garcia) **57** #11710 90B30

On the asymptotic behavior of the Perron eigenvalue. *Linear and Multilinear Algebra* **5** (1977/78), *no.* 4, 289–295. (Donald Kershaw) **58** #5716 15A18 (90A15)

(*with* Mann, J. E.; Curry, Guy L.; Demichele, D. W.) A general law for direct sunlight penetration. *Math. Biosci.* **34** (1977), *no.* 1-2, 63–78. (Authors' summary) **58** #33096 92A05

(*with* Curry, Guy L.) On optimizing certain nonlinear convex functions which are partially defined by a simulation process. *Math. Programming* **13** (1977), *no.* 1, 88–93. (Vincenţiu Dumitru) **57** #2567 90C25

On measures of column indecomposability. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 2, 189–197. (Donald Kershaw) **58** #5728 15A48 (15A21, 60J10)

(*with* Maxson, Carlton J.) The lattice of patterns induced by a positive cone of functions. *Trans. Amer. Math. Soc.* **232** (1977), 43–59. (Ivan Rival) **57** #9618 06A20 (06A65)

The effect of *D* on the maximum eigenvalue of *DA* where *A* is an *ML*-matrix. *SIAM J. Appl. Math.* **35** (1978), *no.* 1, 119–122. (Marvin Marcus) **58** #737 15A48 (90A05)

Harth, Fritz Peter Minimalflächen mit freiem Rand in Riemannschen Mannigfaltigkeiten. (English summary) *Manuscripta Math.* **7** (1972), 35–54. (W. F. Pohl) **45** #9252 53A10

Zur Regularitä von *H*-Flächen mit freiem Rand. *Math. Z.* **150** (1976), *no.* 1, 71–74. (William K. Allard) **54** #5950 49F10

Harthong, J. (*with* Rubenthaler, Hubert) Contre exemple de Milnor. *Séminaire de Théorie Spectrale* (1972/73), *Exp. No. VI*, 30 *pp. Inst. Recherche Math. Avancée, Lab. Assoc. C.N.R.S., Univ. Louis Pasteur, Strasbourg*, 1973. (Editors) **58** #31312 58G99 (10D05)

Hartig, Donald G. Cones in *L*-spaces. Collection of articles in celebration of the sixtieth birthday of Ky Fan. *Bull. Inst. Math. Acad. Sinica* **2** (1974), 207–210. (S. J. Bernau) **50** #14159 46A40

On functors from compact pairs to Banach algebras. *Studia Math.* **54** (1975/76), *no.* 3, 191–198. (R. McGuigan) **52** #15041 46M15

Local connectedness and pseudocompactness in completely regular spaces. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 1, 117–120. (D. E. Wulbert) **57** #1410 54D05

Härtig, Klaus (*with* Surányi, János) Combinatorial and geometric thoughts on number theory. (Hungarian) *Mat. Lapok* **23** (1972), 25–29 (1973). (T. Šalát) **50** #2070 10A99

(*with* Surányi, János) Combinatorial and geometrical investigations in elementary number theory. *Period. Math. Hungar.* **6** (1975), *no.* 3, 235–240. (Ian Anderson) **52** #8017 10A25 (10A10)

Hartigan, John A. Similarity and probability. With comments by D. R. Cox, I. J. Good, J. C. Koop and D. V. Lindley and a reply by the author. *Foundations of statistical inference* (*Proc. Sympos., Univ. Waterloo, Waterloo, Ont.*, 1970), *pp.* 305–313. *Holt, Rinehart and Winston of Canada, Toronto, Ont.*, 1971. (A. P. Dawid) **52** #9430 62A99

★Clustering algorithms. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney*, 1975. xiii + 351 *pp.* (C. W. Chen) **53** #9518 62H30 (68A10)

Necessary and sufficient conditions for asymptotic joint normality of a statistic and its subsample values. *Ann. Statist.* 3 (1975), 573–580. (G. Roussas) **52** #12167 62E20

(*with* Eddy, W. F.) Uniform convergence of the empirical distribution function over convex sets. *Ann. Statist.* **5** (1977), *no.* 2, 370–374. (B. Ja. Levit) **55** #4345 60F05 (60G05, 62E20)

Asymptotic distributions for clustering criteria. *Ann. Statist.* **6** (1978), *no.* 1, 117–131. (B. Ja. Levit) **57** #1764 62G99 (62H30)

See also **Bartholomew, David J., 51** #14325; **Rao, C. Radhakrishna**, **52** #4482 *and* **Villegas, C.**, **54** #14172

Harting, Roswitha Distributoren und Kan-Erweiterungen. *Arch. Math.* (*Basel*) **29** (1977), *no.* 4, 398–405. (G. M. Kelly) **57** #9787 18A30

V-Cofibrationen und V-Kan-Erweiterungen. *Math. Z.* **155** (1977), *no.* 2, 181–198. (A. Pultr) **58** #16835 18D20 (18A25)

Hartka, J. E. Temperature of a semi-infinite rod which radiates both linearly and nonlinearly. *Quart. Appl. Math.* **32** (1974/75), 101–111. (Mario Primicerio) **55** #3544 35K60 (80.35)

Hartkämper, A. Axiomatics of preparing and measuring procedures. *Foundations of quantum mechanics and ordered linear spaces* (*Advanced Study Inst., Marburg*, 1973), *pp.* 107–115. *Lecture Notes in Phys., Vol.* 29, *Springer, Berlin*, 1974. (From the introduction) **58** #25563 81.46

See also **Foundations of quantum mechanics and ordered linear spaces**, **52** #16368

Hartl, Daniel L. (*with* Cook, R. Dennis) Stochastic selection and the maintenance of genetic variation. *Population genetics and ecology* (*Proc. Conf., Israel*, 1975), *pp.* 593–615. *Academic Press, New York*, 1976. (B. Levikson) **55** #2195 92A15

Stochastic selection in both haplophase and diplophase. *J. Math. Biol.* **3** (1976), *no.* 3–4, 263–269. (Edward Pollak) **55** #7464 92A10

Mutation-selection balance with stochastic selection. *Genetics* **86** (1977), *no.* 3, 687–696. (L. I. Rubinšteĭn) **56** #11078 92A10 (60J70)

See also **Problems: Population genetics**, **56** #17911

Hartle, J. B. (*with* Wilkins, D. C.) Analytic properties of the Teukolsky equation. *Comm. Math. Phys.* **38** (1974), 47–63. (Authors' summary) **50** #3848 83.34

(*with* Chitre, D. M.) Path-integral quantization and cosmological particle production: an example. *Phys. Rev. D* (3) **16** (1977), *no.* 2, 251–260. (Authors' summary) **57** #8843 83.28

Hartler, Gisela Experience with factorial experiments in reliability-of-component problems. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *Vol. I*, *pp.* 309–313. *Colloq. Math. Soc. János Bolyai*, *Vol.* 9, *North-Holland*, *Amsterdam* 1974. (Andre Laurent) **51** #4610 62N05

★Versuchsplanung und statistische Datenanalyse. With English and Russian summaries. Beiträge zur Forschungstechnologie, Heft 4. *Akademie-Verlag*, *Berlin*, 1976. xiii + 103 *pp.* (H. Bandemer) **57** #14202 62A99

Hartley, B. $\mathfrak{F}$-abnormal subgroups of certain locally finite groups. *Proc. London Math. Soc.* (3) **23** (1971), 128–158. (B. A. F. Wehrfritz) **46** #3622 20E25

Sylow subgroups of locally finite groups. *Proc. London Math. Soc.* (3) **23** (1971), 159–192. (B. A. F. Wehrfritz) **46** #3623 20E25

Some examples of locally finite groups. *Arch. Math.* (*Basel*) **23** (1972), 225–231. (J. E. Roseblade) **47** #339 20E25

Sylow theory in locally finite groups. *Compositio Math.* **25** (1972), 263–280. (B. A. F. Wehrfritz) **47** #5104 20B20

Sylow p-subgroups and local p-solubility. *J. Algebra* **23** (1972), 347–369. (B. A. F. Wehrfritz) **46** #5441 20D20

A note on $\mathfrak{F}$-reducibility. *J. London Math. Soc.* (2) **6** (1972), 161–168. (B. A. F. Wehrfritz) **47** #1957 20E25

(*with* Graddon, C. J.) Basis normalizers and Carter subgroups in a class of locally finite groups. *Proc. Cambridge Philos. Soc.* **71** (1972), 189–198. (B. A. F. Wehrfritz) **45** #6928 20E25

Serial subgroups of locally finite groups. *Proc. Cambridge Philos. Soc.* **71** (1972), 199–201. (D. J. S. Robinson) **45** #394 20E25

(*with* Rae, Andrew) Finite p-groups acting on p-soluble groups. *Bull. London Math. Soc.* **5** (1973), 197–198. (H. Kurzweil) **48** #11285 20D15

Complements, baseless subgroups and Sylow subgroups of infinite wreath products. *Compositio Math.* **26** (1973), 3–30. (D. J. S. Robinson) **47** #5127 20F25

A class of modules over a locally finite group. I. Collection of articles dedicated to the memory of Hanna Neumann, IV. *J. Austral. Math. Soc.* **16** (1973), 431–442. (D. I. Zaĭcev) **49** #9083 20E25

A note on the normalizer condition. *Proc. Cambridge Philos. Soc.* **74** (1973), 11–15. (H. Heineken) **47** #3549 20F10

Sylow subgroups of locally finite groups. *Proceedings of the Second International Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), *pp.* 337–346. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin*, 1974. (G. S. Mikaeljan) **51** #5769 20E25

The normalizer condition, and minitransitive permutation groups. (Russian) *Algebra i Logika* **13** (1974), *no.* 5, 589–602, 606. (David McDougall) **52** #14053 20E20

A class of modules over a locally finite group. II. *J. Austral. Math. Soc.* **19** (1975), *no.* 4, 437–469. (D. I. Zaĭcev) **52** #574 20E25

Groups of automorphisms of abelian $\mathfrak{S}_1$-groups. *Math. Proc. Cambridge Philos. Soc.* **77** (1975), 241–245. (K. Faltings) **51** #13079 20K30

(*with* Tomkinson, M. J.) Splitting over nilpotent and hypercentral residuals. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), *no.* 2, 215–226. (R. Göbel) **52** #3336 20E30

On residually finite p-groups. *Symposia Mathematica, Vol. XVII* (*Convegno sui Gruppi Infiniti, INDAM, Roma*, 1973), *pp.* 225–234. *Academic Press, London*, 1976. (A. H. Rhemtulla) **54** #7629 20E25

(*with* Parker, J. R.) Local conjugacy classes and Baire's theorem. *Arch. Math.* (*Basel*) **27** (1976), *no.* 4, 341–346. (M. J. Tomkinson) **54** #5360 20F55

A class of modules over a locally finite group. III. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 1, 95–110. (D. I. Zaĭcev) **55** #516 20F50

A conjecture of Bachmuth and Mochizuki on automorphisms of soluble groups. *Canad. J. Math.* **28** (1976), *no.* 6, 1302–1310. (J. A. Hulse) **54** #10428 20F55

Subgroups of locally normal groups. *Compositio Math.* **32** (1976), *no.* 2, 185–201. (John F. Bowers) **54** #2808 20E25

(*with* Peng, T. A.) Subnormality, ascendancy, and the minimal condition on subgroups. *J. Algebra* **41** (1976), *no.* 1, 58–78. (David McDougall) **54** #2819 20F30

The Schur-Zassenhaus theorem in locally finite groups. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 4, 491–493. (D. I. Zaĭcev) **56** #12126 20E25

(*with* Bonvallet, K.; Passman, Donald S.; Smith, Martha K.) Group rings with simple augmentation ideals. *Proc. Amer. Math. Soc.* **56** (1976), 79–82. (H. K. Farahat) **53** #2996 16A26

Augmentation powers of locally finite groups. *Proc. London Math. Soc.* (3) **32** (1976), *no.* 1, 1–24. (Thaddeus C. Hurley) **54** #7628 20E25

Splitting over the locally nilpotent residual for a class of locally finite groups. *Quart. J. Math. Oxford Ser.* (2) **27** (1976), *no.* 108, 395–400. (A. H. Rhemtulla) **56** #481 20E25

(*with* Richardson, J. S.) The socle in group rings. *J. London Math. Soc.* (2) **15** (1977), *no.* 1, 51–54. (Robert L. Snider) **55** #10507 16A26

A dual approach to Černikov modules. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 2, 215–239. (David McDougall) **58** #16852 20C05 (16A26, 20E15)

Uncountable Artinian modules and uncountable soluble groups satisfying Min-n. *Proc. London Math. Soc.* (3) **35** (1977), *no.* 1, 55–75. (A. H. Rhemtulla) **56** #479 20E15

Injective modules over group rings. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 109, 1–29. (Robert L. Snider) **55** #8088 16A26

Profinite and residually finite groups. *Rocky Mountain J. Math.* **7** (1977), *no.* 2, 193–217. (M. J. Tomkinson) **56** #482 20E25 (20F20)

artley, B. J. (*with* Moriarty, K. J. M.) The use of van der Corput neutralizers in dual models. *Acta Phys. Austriaca* **46** (1976), *no.* 1, 1–8. (N. Nakanishi) **54** #6725 81.30

(*with* Moriarty, K. J. M.) A daughterless dual amplitude. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 7, 243–247. (T. Sasakawa) **58** #4034 81.33

artley, H. O. (*with* Pfaffenberger, Roger C.) Statistical control of optimization. *Optimizing methods in statistics* (*Proc. Sympos., Ohio State Univ., Columbus, Ohio*, 1971), *pp.* 281–300. *Academic Press, New York*, 1971. (From the introduction) **58** #4336 90C30

(*with* Pfaffenberger, Roger C.) Quadratic forms in order statistics used as goodness-of-fit criteria. *Biometrika* **59** (1972), 605–611. (M. L. Puri) **51** #2133 (EA **52**) 62G10 (62E15)

(*with* Jenkins, O. C.; Ringer, L. J.) Root estimators. *J. Amer. Statist. Assoc.* **68** (1973), 414–419. (P. W. Mielke, Jr.) **51** #11749 62D05

(*with* Sielken, Robert L., Jr.) Two linear programming algorithms for unbiased estimation of linear models. *J. Amer. Statist. Assoc.* **68** (1973), 639–641. (Samprit Chatterjee) **50** #11645 62J05

(*with* Hemmerle, William J.) Computing maximum likelihood estimates for the mixed A.O.V. model using the W transformation. *Technometrics* **15** (1973), 819–831. (Robert Hultquist) **49** #1695 62J10

(*with* Lurié, D.; Stroud, M. R.) A goodness of fit test for censored data. *Comm. Statist.* **3** (1974), 745–753. (G. Opfer) **51** #2136 62G10

(*with* Gentle, James E.) Data monitoring criteria for linear models. *A survey of statistical design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *pp.* 197–207. *North-Holland, Amsterdam*, 1975. (R. Pfaffenberger) **56** #4062 62J05

(*with* Sielken, Robert L., Jr.) A "super-population viewpoint" for finite population sampling. (French summary) *Biometrics* **31** (1975), 411–422. (David Bellhouse) **52** #6943 62D05

See also **Biometrika tables for statisticians**, **50** #11696; **de Finetti, Bruno**, **50** #15022 *and* **Contributions to survey sampling and applied statistics**, **57** #4379

Hartley, Michael J. Optimum simulation path estimators. *Internat. Econom. Rev.* **13** (1972), 711–727. (B. L. S. Prakasa Rao) **51** #14504 62P20

(*with* Revankar, Nagesh S.; Pagano, Marcello) A characterization of the Pareto distribution. Collection of articles dedicated to Jerzy Neyman on his 80th birthday. *Ann. Statist.* **2** (1974), 599–601. (Authors' summary) **50** #6017 62E10 (62P20)

(*with* Revankar, Nagesh S.) On the estimation of the Pareto law from underreported data. *J. Econometrics* **2** (1974), *no.* 4, 327–341. (From the introduction) **58** #31540a (E **58** #31540b) 62F10 (62P20)

(*with* Mallela, Parthasaradhi) The asymptotic properties of a maximum likelihood estimator for a model of markets in disequilibrium. *Econometrica* **45** (1977), *no.* 5, 1205–1220. (Authors' summary) **57** #5015 90A15 (62P20)

See also **Hinkley, D. V.; et al.**, **58** #31540b

Hartley, P. J. Tensor product approximations to data defined on rectangular meshes in N-space. *Comput. J.* **19** (1976), *no.* 4, 348–352. (V. Pereyra) **56** #4119 65D10 (41A63)

Hartley, Richard (*with* Murasugi, Kunio) Covering linkage invariants. *Canad. J. Math.* **29** (1977), *no.* 6, 1312–1339. (R. J. Daverman) **56** #16628 55F55 (55A25)

Hartley, Roger Aspects of partial decisionmaking—kernels of quasi-ordered sets. *Econometrica* **44** (1976), *no.* 3, 605–608. (B. G. Mirkin) **54** #9611 90A05

On cone-efficiency, cone-convexity and cone-compactness. *SIAM J. Appl. Math.* **34** (1978), *no.* 2, 211–222. (P. L. Yu) **58** #7556 54D30

Hartley, Stephen J. (*with* Noor, Ahmed K.; Greene, William H.) Nonlinear finite element analysis of curved beams. *Comput. Methods Appl. Mech. Engrg.* **12** (1977), *no.* 3, 289–307. (See Zbl **366** #73059) 73.65

Hartli, B. *See* **Hartley, B.**

Hartman, F. *See* **Hartman, Philip**

Hartman, James K. (*with* Lasdon, Leon S.) A generalized upper bounding algorithm for multicommodity network flow problems. *Networks* **1** (1971/72), 333–354. (I. T. Frisch) **46** #10391 90B10

On rearranging matrices to block angular form (Management Sci. **18**(1971/72), 98–108) by Roman L. Weil and Paul C. Kettler. *Management Sci.* **19** (1972), *no.* 3, 352–353. (Editors) **52** #15991 65F30 (90C05)

Iterative determination of parameters for an exact penalty function. *J. Optimization Theory Appl.* **16** (1975), 49–66. (J. Falk) **51** #9823 90C30

Hartman, Jehuda (*with* Rubin, Izhak) On diameter stability of communication networks. *Proceedings of the* 1976 *Conference on Information Sciences and Systems* (*Tenth Annual Meeting, Johns Hopkins Univ., Baltimore, Md.*, 1976), *pp.* 52–55. *Dept. Electr. Engrg., Johns Hopkins Univ., Baltimore, Md.*, 1976. (William N. Anderson, Jr.) **57** #19124 94A20 (05C35)

The homeomorphic embedding of K_n in the m-cube. *Discrete Math.* **16** (1976), *no.* 2, 157–160. (H. Levinson) **55** #154 05C10 (57A15)

golema-Hartman, K. *See* **Golema-Hartman, K.**

Hartman, Philip ★Обыкновенные дифференциальные уравнения. (Russian) [Ordinary differential equations] Translated from the English by I. H. Sabitov and Ju. V. Egorov. Edited by V. M. Alekseev. *Izdat. "Mir", Moscow*, 1970. 720 *pp.* (Editors) **50** #5061 34–XX

Disconjugacy and Wronskians. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 208–218. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (T. L. Sherman) **53** #5999 34C10

On the swirling flow problem. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 270–271. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (Editors) **52** #6093 34B99

Corrigendum and addendum: "Principal solutions of disconjugate n-th order linear differential equations". *Amer. J. Math.* **93** (1971), 439–451. (D. Hinton) **45** #648 34C10

The swirling flow problem in boundary layer theory. *Arch. Rational Mech. Anal.* **42** (1971), 137–156. (J. B. McLeod) **50** #2596 34B15

On the swirling flow problem. *Indiana Univ. Math. J.* **21** (1971/72), 849–855. (T. L. Sherman) **45** #5459 34B99

On N-parameter families and interpolation problems for nonlinear ordinary differential equations. *Trans. Amer. Math. Soc.* **154** (1971), 201–226. (Dennis Barr) **46** #435 34A99

On logarithmic derivatives of solutions of disconjugate linear nth order differential equations. *Ordinary differential equations* (*Proc. Conf., NRL-MRC, Washington, D. C.*, 1971), *pp.* 127–136. *Academic Press, New York*, 1972. (Editors) **55** #8468 34C10

Convex functions and mean value inequalities. *Duke Math. J.* **39** (1972), 351–360. (E. F. Beckenbach) **48** #11415 26A51

Boundary value problems for second order, ordinary differential equations involving a parameter. *J. Differential Equations* **12** (1972), 194–212. (W. T. Reid) **49** #705 34B15

On invariant sets and on a theorem of Ważewski. *Proc. Amer. Math. Soc.* **32** (1972), 511–520. (W. T. Reid) **45** #7143 34A10

On the existence of similar solutions of some boundary layer problems. *SIAM J. Math. Anal.* **3** (1972), 120–147. (S. P. Hastings) **46** #7623 34B15 (76.34)

★Ordinary differential equations. Corrected reprint. *S. M. Hartman, Baltimore, Md.*, 1973. xiv + 612 *pp.* (Editors) **49** #9294 34–02

On differential equations, Volterra equations and the function $J_\mu^2 + Y_\mu^2$. *Amer. J. Math.* **95** (1973), 553–593. (A. Corduneanu) **48** #11633 34A25 (33A40, 45D05)

Logarithmic derivatives of solutions of disconjugate differential equations. Collection of articles dedicated to the memory of Tadeusz Ważewski, II. *Ann. Polon. Math.* **29** (1974), 173–187. (H. A. DeKleine) **49** #9331 34C10

(*with* Watson, Geoffrey S.) "Normal" distribution functions on spheres and the modified Bessel functions. *Ann. Probability* **2** (1974), 593–607. (H. Heyer) **51** #6913 60E05 (60G40)

On solutions of disconjugate differential equations. *J. Math. Anal. Appl.* **46** (1974), 338–351. (Stefan Balint) **50** #5094 34C10

On two-point boundary value problems for nonlinear second order systems. *SIAM J. Math. Anal.* **5** (1974), 172–177. (P. B. Bailey) **49** #5447 34B15

Integration of linear differential equations by Laplace-Stieltjes transforms. *International Conference on Differential Equations* (*Proc., Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 350–362. *Academic Press, New York*, 1975. (Wolfgang Bühring) **54** #630 34A25

Positive and monotone solutions of linear ordinary differential equations. *J. Differential Equations* **18** (1975), *no.* 2, 431–452. (E. K. H. Hoehn) **52** #11166 34A25

(*with* D'Archangelo, James) Integration of ordinary linear differential equations by Laplace-Stieltjes transforms. *Trans. Amer. Math. Soc.* **204** (1975), 245–266. (M. E. Muldoon) **50** #10400 34A25

Infinite convolutions on locally compact Abelian groups and additive functions. *Trans. Amer. Math. Soc.* **214** (1975), 215–231. (J. H. B. Kemperman) **53** #4168 60B15 (10K99, 43A05)

Completely monotone families of solutions of n-th order linear differential equations and infinitely divisible distributions. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **3** (1976), *no.* 2, 267–287. (C. A. Swanson) **53** #8560 (E **54** #3085) 34C10

Errata: "Completely monotone families of solutions of n-th order linear differential equations and infinitely divisible distributions" (Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4) 3 (1976), no. 2, 267-287). *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **3** (1976), *no.* 4, 725. (Editors) **54** #3085 34C10

Some characterizations of the Euclidean sphere. *Nonlinear Anal.* **1** (1976), *no.* 1, 37–48. (V. T. Fomenko) **55** #8997 53C45

On boundary value problems for superlinear second order differential equations. *J. Differential Equations* **26** (1977), *no.* 1, 37–53. (K. Schmitt) **57** #16783 34B15

Solutions of disconjugate third-order differential equations. *J. Math. Anal. Appl.* **58** (1977), *no.* 3, 497–509. (G. J. Etgen) **56** #6013 34C10

On nonoscillatory linear differential equations of second order. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 2, 251–259. (W. J. Coles) **57** #3510 34C10

On the products of solutions of second order disconjugate differentialequations and the Whittaker differential equation. *SIAM J. Math. Anal.* **8** (1977), *no.* 3, 558–571. (H. I. Freedman) **55** #8469 34C10

Hartman, Phillip A. Integrally closed and complete ordered quasigroups and loops. *Proc. Amer. Math. Soc.* **33** (1972), 250–256. (E. Ja. Gabovič) **45** #5046 06A50

Hartman, Richard The effects of price and cost uncertainty on investment. *J. Econom. Theory* **5** (1972), *no.* 2, 258–266. (Author's summary) **56** #10813 90A15

Hartman, Robert S. *See* **Kant, Immanuel**, **50** #12620

Hartman, Stanisław Interpolation par les mesures diffuses. Collection of articles commemorating Władysław Ślebodziński. *Colloq. Math.* **26** (1972), 339–343. (Colin C. Graham) **48** #4654 43A25 (43A46)

The method of Grothendieck-Ramirez and weak topologies in $C(\mathbf{T})$. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, II. *Studia Math.* **44** (1972), 181–197. (*errata insert*) (R. E. Edwards) **47** #7334 43A25

Remark on interpolation by **L**-almost periodic functions. *Colloq. Math.* **30** (1974), 133–136. (G. Thomas Frey) **50** #14072 43A60

A remark on Fourier-Stieltjes transform. *Colloq. Math.* **33** (1975), *no.* 1, 113–115, 160. (A. Derighetti) **52** #8796 43A25

Non-closed thin sets in harmonic analysis. *Colloq. Math.* **33** (1975), *no.* 1, 117–122, 160. (Colin C. Graham) **55** #6127 43A46

Rosenthal sets on the line. Collection in honor of Erhardt Schmidt on the 100th anniversary of his birth. *Math. Nachr.* **76** (1977), 153–158. (Françoise Lust) **56** #16263 43A46 (42A44)

See also **Papers: Balkan Mathematical Congress**, **51** #2824; **Sierpiński, Wacław**, **54** #2405; **Sierpiński, Wacław**, **54** #2406 *and* **Sierpiński, Wacław; et al.**, **54** #2407

Hartman, W. H. An extension of Radner's theorem. Differential games: a collection of articles. *J. Optimization Theory Appl.* **13** (1974), 334–342. (H. S. Witsenhausen) **50** #4080 93E20

Hartman, William F. Modular arithmetic weight and cyclic shifting. *Information and Control* **21** (1972), 339–343. (R. C. Mullin) **57** #11921 94A10

Hartmanis, Juris On non-determinancy in simple computing devices. *Acta Informat.* **1** (1971/72), *no.* 4, 336–344. (A. L. Rosenberg) **47** #6129 68A25

Computational complexity of random access stored program machines. *Math. Systems Theory* **5** (1971), 232–245. (P. Deussen) **46** #1130 68A20

On the problem of finding natural computational complexity measures. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School, Štrbské Pleso*, 1973), *pp.* 95–103. *Math. Inst., Slovak Acad. Sci., Bratislava*, 1973. (John T. Gill) **53** #7120 68A20

(*with* Walter, Hermann) Group theoretic characterization of linear permutation automata. *J. Comput. System Sci.* **7** (1973), 168–188. (Heinrich Seidel) **48** #1823 94A30

(*with* Simon, Janos) On the power of multiplication in random access machines. *15th Annual Symposium on Switching and Automata Theory* (1974), *pp.* 13–23. *IEEE Comput. Soc., Long Beach, Calif.*, 1974. (R. E. Stearns) **54** #4193 68A25 (68A20)

(*with* Baker, Theodore P.) On simple Gödel numberings and translations. *Automata, languages and programming* (*Second Colloq., Univ. Saarbrücken, Saarbrücken*, 1974), *pp.* 301–316. *Lecture Notes in Comput. Sci., Vol.* 14, *Springer, Berlin*, 1974. (John T. Gill) **55** #1808 68A20

(*with* Hunt, Harry B., III) The LBA problem and its importance in the theory of computing. *Complexity of computation* (*Proc. SIAM-AMS Sympos., New York*, 1973), *pp.* 1–26. *SIAM-AMS Proc., Vol. VII, Amer. Math. Soc., Providence, R.I.*, 1974. (Derick Wood) **50** #11845 68A20 (68A30)

Computational complexity of formal translations. *Math. Systems Theory* **8** (1974/75), *no.* 2, 156–166. (I. M. Havel) **52** #4704 68A20 (68A30)

(*with* Berman, Leonard) A note on tape bounds for SLA language processing. *16th Annual Symposium on Foundations of Computer Science* (*Univ. California, Berkeley, Calif.*, 1975), *pp.* 65–70. *IEEE Computer Society, Long Beach, Calif.*, 1975. (R. E. Stearns) **55** #6945 68A20

(*with* Simon, Janos) On the structure of feasible computations. *Vierte Jahrestagung der Gesellschaft für Informatik* (*Berlin*, 1974), *pp.* 3–51. *Lecture Notes in Comput. Sci., Vol.* 26, *Springer, Berlin*, 1975. (Claude Benzaken) **52** #12401 68A20

(*with* Baker, Theodore P.) On simple Goedel numberings and translations. *SIAM J. Comput.* **4** (1975), 1–11. (Authors' summary) **57** #14576 68A05 (02F99, 68A20)

(*with* Simon, Janos) On the structure of feasible computations. *Advances in computers, Vol.* 14, *pp.* 1–43. *Academic Press, New York*, 1976. (John T. Gill) **54** #9149 68A20

(*with* Berman, Leonard) On isomorphisms and density of *NP* and other complete sets. *Eighth Annual ACM Symposium on Theory of Computing* (*Hershey, Pa.*, 1976), *pp.* 30–40. *Assoc. Comput. Mach., New York*, 1976. (S. A. Greibach) **55** #6946 68A20

On effective speed-up and long proofs of trivial theorems in formal theories. (Loose French summary) *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Rouge Informat. Théor.* **10** (1976), *no.* R-1, 29–38. (John T. Gill) **54** #6550 68A20 (02F99)

(*with* Berman, Leonard) On tape bounds for single letter alphabet language processing. *Theoret. Comput. Sci.* **3** (1976/77), *no.* 2, 213–224. (Forbes D. Lewis) **57** #4617 68A20 (68A30)

Relations between diagonalization, proof systems, and complexity gaps (preliminary version). *Conference Record of the Ninth Annual ACM Symposium on Theory of Computing* (*Boulder, Colo.*, 1977), *pp.* 223–227. *Assoc. Comput. Mach., New York*, 1977. (R. E. Stearns) **58** #8486 68A20

(*with* Berman, Leonard) On polynomial time isomorphisms of complete sets. *Theoretical computer science* (*Third GI Conf., Darmstadt*, 1977), *pp.* 1–16. *Lecture Notes in Comput. Sci., Vol.* 48, *Springer, Berlin*, 1977. (David A. Plaisted) **57** #18218a 68A20

(*with* Berman, Leonard) On isomorphisms and density of NP and other complete sets. *SIAM J. Comput.* **6** (1977), *no.* 2, 305–322. (Pavel Pudlak) **56** #13774 68A20

(*with* Berman, Leonard) On polynomial time isomorphisms of some new complete sets. *J. Comput. System Sci.* **16** (1978), *no.* 3, 418–422. (David A. Plaisted) **57** #18218b 68A20

See also **Cybernetics collection**, **51** #2326 *and* **Cybernetics collection**, **52** #16085

Hartmann, A. J. *See* **Conference: Optimization Techniques**, **48** #5759

Hartmann, Carlos R. P. (*with* Tzeng, Kenneth K.) A bound for cyclic codes of composite length. *IEEE Trans. Information Theory* **IT-18** (1972), 307. (H. F. Mattson, Jr.) **48** #13457 94A10

(*with* Tzeng, Kenneth K.) A bound for arithmetic codes of composite length. *IEEE Trans. Information Theory* **IT-18** (1972), 308. (H. F. Mattson, Jr.) **48** #10641 94A10

(*with* Tzeng, Kenneth K.; Chien, Robert T.) Some results on the minimum distance structure of cyclic codes. *IEEE Trans. Information Theory* **IT-18** (1972), 402–409. (R. C. Mullin) **48** #3599 94A10

A note on the minimum-distance structure of cyclic codes. *IEEE Trans. Information Theory* **IT-18** (1972), 439–440. (G. Solomon) **48** #10642 94A10

Decoding beyond the BCH bound. *IEEE Trans. Information Theory* **IT-18** (1972), 441–444. (G. Solomon) **49** #7009 94A10

(*with* Tzeng, Kenneth K.) Generalizations of the BCH bound. *Information and Control* **20** (1972), 489–498. (S. Guiaşu) **49** #10437 94A10

(*with* Rudolph, Luther D.) Decoding by sequential code reduction. *IEEE Trans. Information Theory* **IT-19** (1973), 549–555. (G. M. Tenengol'c) **51** #15178 94A10

(*with* Tzeng, Kenneth K.) On some classes of cyclic codes of composite length. *IEEE Trans. Information Theory* **IT-19** (1973), 820–823. (R. J. McEliece) **50** #16080 94A10

(*with* Ducey, James B.; Rudolph, Luther D.) On the structure of generalized finite-geometry codes. *IEEE Trans. Information Theory* **IT-20** (1974), 240–252. (Ian Blake) **51** #2762 94A10

(*with* Tzeng, Kenneth K.) Decoding beyond the BCH bound using multiple sets of syndrome sequences. *IEEE Trans. Information Theory* **IT-20** (1974), 292–295. (G. Solomon) **51** #2761 94A10

(*with* Riek, Justus R., Jr.; Rudolph, Luther D.) Majority decoding of some classes of binary cyclic codes. *IEEE Trans. Information Theory* **IT-20** (1974), 637–643. (G. M. Tenengol'c) **51** #5170 94A10

(*with* Riek, Justus R., Jr.; Longobardi, R. J.) Weight distributions of some classes of binary cyclic codes. *IEEE Trans. Information Theory* **IT-21** (1975), 345–350. (J.-M. Goethals) **51** #5163 94A10

(*with* Hwang, Tai Yang) Correction to a proof in the coding literature. *IEEE Trans. Information Theory* **IT-21** (1975), 351. (Editors) **50** #16084 94A10

(*with* Hwang, Tai Yang) Some results on the weight structure of cyclic codes of composite length. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 3, 340–348. (W. E. Clark) **56** #8171 94A10

(*with* Rudolph, Luther D.) An optimum symbol-by-symbol decoding rule for linear codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 5, 514–517. (Nguyen Quang Duc) **55** #12293 94A10 (94A05)

(*with* Knaizuk, John, Jr.) An optimal algorithm for testing stuck-at faults in random access memories. *IEEE Trans. Computers* **C-26** (1977), *no.* 11, 1141–1144. (Chantal Robach) **57** #5459 94A20

(*with* Hwang, Tai Yang) Some results on arithmetic codes of composite length. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 1, 93–99. (W. E. Clark) **58** #4610 94A10

See also **Symposium: Information Theory**, **50** #9416

Hartmann, Christian (*with* Sánchez-Palencia, Enrique) Limiting behavior of a certain class of MHD flows in a strong magnetic field. *Magnit. Gidrodinamika* **9** (1973), *no.* 1, 3–11 (*Russian*); *translated as Magnetohydrodynamics* **9** (1973), 1–8 (1974). (S. A. Berger) **51** #2462 76.46

Effets du second ordre dans les écoulements par droites parallèles d'un fluide micropolaire. (English summary) *J. Mécanique* **14** (1975), *no.* 4, 679–704. (C. R. Illingworth) **53** #4716 76.35

Hartmann, E. Übergangsflächen bei Regelschraubflächen. *Elem. Math.* **32** (1977), *no.* 2, 32–36. (H. R. Müller) **56** #13116 53A05

Hartmann, Erich Eine Axiomatik halbovoidaler Laguerre-Geometrien mit beliebigem adikal. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 112–141. (E. W. Ellers) **53** #6417 50D45

Moulton-Laguerre-Ebenen. *Arch. Math.* (*Basel*) **27** (1976), *no.* 4, 424–435. (W. R. eise) **54** #8445 50D45

mann, Frederick W. Summability tests for singular points. *Canad. Math. Bull.* **15** 1972), 525–528. (J. P. King) **47** #3649 30A12 (40C05)

(*with* MacGregor, Thomas H.) Matrix transformations of univalent power series. *J. ustral. Math. Soc.* **18** (1974), 419–435. (William T. Sledd) **51** #10597 30A10 30A36)

Linear homeomorphisms of some classical families of univalent functions. *Proc. mer. Math. Soc.* **63** (1977), *no.* 2, 265–272. (T. H. MacGregor) **56** #12253 30A36

(*with* DeVos, Robert) Sequences of bounded summability domains. *Pacific J. Math.* **74** (1978), *no.* 2, 333–338. (M. Stieglitz) **58** #1812 40D20 (40H05)

mann, Heinz-Ullrich (*with* Burmeister, Heinz Ludwig) Two-level control of complex ystems with measurable disturbances. (Russian summary) *Systems Sci.* **2** (1976), *no.* 3, 5–15. (Tsueneo Yoshikawa) **54** #14817 93A15

mann, I. (*with* Delf, V.) Entwurf linearer diskreter Regelkreise mit quadratischem ütekriterium. (English summary) *Regelungstech.* **24** (1976), *no.* 9, 309–313. (Authors' summary) **57** #5294 93C55

mann, Karl Einige Aspekte der ganzzahligen linearen Quotientenoptimierung. *Wiss. Z. Techn. Hochsch. Chem. Leuna-Merseburg* **15** (1973), 413–418. (Csaba Fabian) **52** #5007 90C10

Rein ganzzahlige lineare Quotientenoptimierung nach dem Schnittverfahren von Gomory. (English and Russian summaries) *Math. Operationsforsch. Statist.* **6** (1975), *no.* 1, 33–53. (M. Mañas) **52** #5008 90C10

Gemischt ganzzahlige lineare Quotientenoptimierung nach dem Schnittverfahren von Gomory. (English and Russian summaries) *Math. Operationsforsch. Statist.* **6** (1975), *no.* 6, 845–854. (M. Rössler) **53** #4969 90C10

Verfahren zur Lösung ganzzahliger nichtlinearer Optimierungsprobleme. (Russian and English summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 4, 633–647. (A. Göpfert) **57** #9058 90C10

tmann, Klaus *See* **Ostrovskiĭ, G. M.; et al.**, (Not reviewed)

tmann, Peter *See* **Contributions to logic and methodology in honor of J. M. Bocheński**, **47** #6424

tmann, R. (*with* Reiser, P.) Über den Aufwand zur Lösung quadratischer Optimierungsprobleme mit den Algorithmen von Beale und von Lemke. (English summary) *Z. Operations Res. Ser. A-B* **18** (1974), B57–B63. (M. Mañas) **50** #12242 90C20

tmann, S. (*with* Degen, Wendelin) Zur Möbius-Kinematik. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **186** (1977), *no.* 1-3, 179–192. (O. Bottema) **58** #2616 53A40

tmann, U. (*with* Wüst, P.) Ein Verfahren zur Analyse und Synthese von linearen Mehrgrößen-Regelsystemen unter Verwendung des Digitalrechners. I. (English summary) *Regelungstech. Prozeß-Datenverarbeit.* **18** (1970), *no.* 6, 246–251. (Author's summary) **52** #12891 93C05

rtmann, W. Über eine Erweiterung der Monte-Carlo-Methode zur Lösung linearer Randwertprobleme zweiter und dritter Art. (English and Russian summaries) *Z. Angew. Math. Mech.* **52** (1972), *no.* 9, 471–477. (H. Amann) **52** #9555 65C05 (65N20)

rtnell, B. L. On graphs with exactly two isomorphism classes of spanning trees. *Utilitas Math.* **6** (1974), 121–137. (D. P. Geller) **50** #12774 05C05

Decomposition of $K_{xy}{}^*$, x and y odd, into $2x$-circuits. *Proceedings of the Fourth Manitoba Conference on Numerical Mathematics* (*Winnipeg, Man.*, 1974), *pp.* 265–271. *Congr. Numer., No. XII, Utilitas Math., Winnipeg, Man.*, 1975. (G. Laman) **52** #185 05C35

On unicyclic graphs having two disjoint maximal matchings. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 405–413. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (Douglas D. Grant) **52** #13505 05C99

(*with* Milgram, Maurice) Decomposition of K_p^*, for p a prime, into k-circuits. Colloque sur la Théorie des Graphes (Paris, 1974). *Cahiers Centre Études Recherche Opér.* **17** (1975), *no.* 2-4, 221–223. (Pavol Hell) **54** #138 05C20

(*with* Cockayne, Ernest J.) Edge partitions of complete multipartite graphs into equal length circuits—a summary. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 131–134. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (W. G. Brown) **52** #13487 05C35

Some problems on spanning trees. *Proceedings of the Fifth Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1975), *pp.* 375–384. *Congressus Numerantium, No. XVI, Utilitas Math. Publ., Winnipeg, Man.*, 1976. (B. Zelinka) **53** #13008 05C05

Some problems on minimum dominating sets. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 317–320. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (Morton Abramson) **58** #362 05C35

(*with* Cockayne, Ernest J.) Edge partitions of complete multipartite graphs into equal length circuits. *J. Combinatorial Theory Ser. B* **23** (1977), *no.* 2-3, 174–183. (Takashi Hamada) **58** #5391 05C99

A characterization of unicyclic graphs which do not have two disjoint maximal matchings. *Utilitas Math.* **11** (1977), 273–287. (D. P. Geller) **56** #5363 05C99

See also **Proceedings: Manitoba Conference on Numerical Mathematics**, **50** #12547; **Proceedings: Manitoba Conference on Numerical Mathematics**, **53** #4450 *and* **Proceedings: Manitoba Conference on Numerical Mathematics**, **58** #26649a

artner, Willy Galileo's contribution to astronomy. *Vistas in astronomy, Vol.* 11, *pp.* 31–43. *Pergamon, Oxford*, 1969. (Author's summary) **57** #12049 01A45 (70.01)

Naṣir al-Dīn al-Ṭūsī's lunar theory. (Italian summary) *Physis—Riv. Internaz. Storia Sci.* **11** (1969), *no.* 1-4, 287–304. (Author's summary) **57** #9400 01A30

Ptolemy, Azarquiel, Ibn al-Shāṭir, and Copernicus on Mercury. A study of parameters. *Arch. Internat. Hist. Sci.* **24** (1974), *no.* 94, 5–25. (Author's introduction) **58** #26783 01A30 (01A40)

Ptolemy's and Copernicus' Mercury models. An accuracy test. *Arch. Internat. Hist. Sci.* **24** (1974), *no.* 95, 367–369. (Editors) **58** #26700 01A20

The rôle of observations in ancient and medieval astronomy. *J. Hist. Astronom.* **8** (1977), *no.* 1, 1–11. (E. S. Kennedy) **56** #46 01A35 (01A30)

See also **Beer, Arthur**, **58** #4779

Hartnett, William E. *See* **Foundations of coding theory**, **57** #15737 *and* **Systems: approaches, theories, applications**, **58** #15361

Hartog, Joop Age-income profiles, income distribution and transition proportions. *J. Econom. Theory* **13** (1976), *no.* 3, 448–457. (Michael D. Intriligator) **54** #14751 90A15

Hartree, D. R. *See* **Automatic control: classical linear theory**, **52** #16755

Hartshorne, Robin Cohomology of non-complete algebraic varieties. *Compositio Math.* **23** (1971), 257–264. (M. Miyanishi) **46** #1793 14C99 (14F05)

Ample vector bundles on curves. *Nagoya Math. J.* **43** (1971), 73–89. (T. Oda) **45** #1929 14F05

Algebraic de Rham cohomology. *Manuscripta Math.* **7** (1972), 125–140. (D. Lieberman) **47** #1810 14F99

Cohomology with compact supports for coherent sheaves on an algebraic variety. *Math. Ann.* **195** (1972), 199–207. (J. S. Milne) **45** #6827 14F05

Equivalence relations on algebraic cycles and subvarieties of small codimension. *Algebraic geometry* (*Proc. Sympos. Pure Math., Vol.* 29, *Humboldt State Univ., Arcata, Calif.*, 1974), *pp.* 129–164. *Amer. Math. Soc., Providence, R.I.*, 1973. (G. Horrocks) **51** #5592 14C10

(*with* Rees, Elmer; Thomas, Emery) Nonsmoothing of algebraic cycles on Grassmann varieties. *Bull. Amer. Math. Soc.* **80** (1974), 847–851. (W. Barth) **50** #9870 14E15 (14C10, 57D95)

Varieties of small codimension in projective space. *Bull. Amer. Math. Soc.* **80** (1974), 1017–1032. (W. Barth) **52** #5688 14M10 (14C30)

(*with* Ogus, Arthur) On the factoriality of local rings of small embedding codimension. *Comm. Algebra* **1** (1974), 415–437. (Tadayuki Matsuoka) **50** #322 14D15 (13F15, 13H10, 14M05)

Topological conditions for smoothing algebraic singularities. *Topology* **13** (1974), 241–253. (A. A. Iarrobino, Jr.) **50** #2170 14E15 (57D10)

On the De Rham cohomology of algebraic varieties. *Inst. Hautes Études Sci. Publ. Math. No.* 45 (1975), 5–99. (D. Lieberman) **55** #5633 14F20

★Algebraic geometry. Graduate Texts in Mathematics, No. 52. *Springer-Verlag, New York-Heidelberg*, 1977. xvi+496 *pp. ISBN* 0-387-90244-9 (Robert Speiser) **57** #3116 14–01

(*with* Speiser, Robert) Local cohomological dimension in characteristic p. *Ann. of Math.* (2) **105** (1977), *no.* 1, 45–79. (G. Horrocks) **56** #353 14B15 (14M10)

Stable vector bundles and instantons. *Comm. Math. Phys.* **59** (1978), *no.* 1, 1–15. (M. F. Atiyah) **58** #671 14F05 (81.14)

See also **Algebraic geometry**, **50** #13022; **Algebraic geometry**, **51** #3164 *and* **Boutot, Jean-François**, **56** #5548

Härtter, Erich Rekursiv definierte Mengenfolgen. *Zahlentheorie* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1970), *pp.* 47–58. *Ber. Math. Forschungsinst., Oberwolfach, Heft* 5, *Bibliographisches Inst., Mannheim*, 1971. (H. B. Mann) **51** #417 10L05

★Wahrscheinlichkeitsrechnung für Wirtschafts- und Naturwissenschaftler. Uni-Taschenbücher, No. 409. *Vandenhoeck & Ruprecht, Göttingen*, 1974. 230 *pp.* (Editors) **52** #15572 60–01

(*with* Zöllner, Joachim) Darstellungen natürlicher Zahlen als Summe und als Differenz von Quadraten. (English summary) *Norske Vid. Selsk. Skr.* (*Trondheim*) **1977**, *no.* 1, 8 *pp.* (S. Stein) **58** #21984 10J05

Linear models with variable coefficients. *Theory and applications of economic indices* (*Proc. Internat. Sympos., Univ. Karlsruhe, Karlsruhe*, 1976), *pp.* 667–681. *Physica-Verlag, Würzburg*, 1978. (Zvi Artstein) **57** #18767 90A15

(*with* Hofmeister, Gerd; Zöllner, Joachim) Relativnullen und reduzible Mengen bei Differenzen von Mengen ganzer Zahlen. *J. Reine Angew. Math.* **299/300** (1978), 301–317. (B. Garrison) **58** #5576 10L99 (05B10)

Hartung, J. Über Ersatzprogramme bei der Vektoroptimierung. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I*, *pp.* 129–133. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. (Wolfgang Wetterling) **56** #10977 90C30

Zur Darstellung pseudoinverser Operatoren. *Arch. Math.* (*Basel*) **28** (1977), *no.* 2, 200–208. (H. Ratschek) **55** #13769 65J05 (47A50)

Zur Optimalität von Schätzungen in linearen Regressionsmodellen. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T328–T329. (D. V. Chopra) **56** #1600 62J05

Hartung, Joachim G. (*with* Dugošija, Đorđe P.) Über Stabilität in zwei-Personen-null-Summen-Spielen. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 151–154. (Norbert Schmitz) **53** #2393 90D05

(*with* Dugošija, Đorđe P.) Zweistufige antagonistische Spiele. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 155–158. (Norbert Schmitz) **53** #5006 90D05 (90D20)

(*with* Dugošija, Đorđe P.) Eine Penalty-Methode für antagonistische Spiele. (English summary) *Operations Research Verfahren, Band XX*, *pp.* 23–25. *Hain, Meisenheim am Glan*, 1975. (Authors' summary) **58** #26054 90D05

Einige Kriterien für die Konvexität einer Funktion. (English summary) *Operations Research Verfahren, Band XX*, *pp.* 37–43. *Hain, Meisenheim am Glan*, 1975. (J. V. Ryff) **57** #6327 26A51

A sequential regularization method for finding saddle points. *Siebente Oberwolfach-Tagung über Operations Research* (1974), *pp.* 99–102. *Operations Research Verfahren, Band XXI, Hain, Meisenheim am Glan*, 1975. (Murat R. Sertel) **55** #10617 26A51 (52A40)

On a method for computing pseudoinverses. *Optimization and operations research* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 115–125. *Lecture Notes in Econom. Math. Systems, Vol.* 117, *Springer, Berlin*, 1976. (S. F. McCormick) **56** #9942 65F20

Some inequalities for a random function. (Russian summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 3, 661–665. (S. Dubuc) **54** #14028 60A10 (26A86)

A barrier method for finding saddle points. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T345–T346. (Editors) **58** #20488 90C99 (*with* Dugošija, Đorđe P.) Über Gâteaux-Differenzierbarkeit der Minimum-Funktion. (English and Russian summaries) *Z. Angew. Math. Mech.* **56** (1976), *no.* 6, 243–246. (Authors' summary) **57** #7315 49B30

A stable interior penalty method for convex extremal problems. *Numer. Math.* **29** (1977/78), *no.* 2, 149–158. (A. Göpfert) **57** #9067 90C25 (65K05)

See also **Optimization and optimal control, 52** #15162

Hartung, Paul (*with* Chowla, S.) An "exact" formula for the *m*-th Bernoulli number. *Acta Arith.* **22** (1972), 113–115. (J. B. Kelly) **46** #7151 10A40

(*with* Chowla, S.) Congruences for class-numbers of imaginary quadratic fields (mod 3). *Norske Vid. Selsk. Skr.* (*Trondheim*) **1972**, *no.* 12, 2 *pp.* (J. V. Armitage) **48** #11044 12A50 (12A25)

(*with* Chowla, S.; De Leon, M. J.) On a hypothesis implying the non-vanishing of Dirichlet's L-series $L(s,\chi)$ for $s>0$ and real odd characters. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday. *J. Reine Angew. Math.* **262/263** (1973), 415–419. (W. Narkiewicz) **48** #3895 10H10 (12A25, 12A50)

(*with* Chowla, S.) Congruence properties of class numbers of quadratic fields. *J. Number Theory* **6** (1974), 136–137. (J. S. Joel) **48** #11045 12A50 (12A25)

(*with* Chowla, S.) A note on the hypothesis that $L(s,\chi)>0$ for all real non-principal characters χ and for all $s>0$. *J. Number Theory* **6** (1974), 271–275. (H. L. Montgomery) **49** #8967b 12A70 (10H10)

Proof of the existence of infinitely many imaginary quadratic fields whose class number is not divisible by 3. *J. Number Theory* **6** (1974), 276–278. (P. J. Weinberger) **50** #4528 12A25 (12A50)

Explicit construction of a class of infinitely many imaginary quadratic fields whose class number is divisible by 3. *J. Number Theory* **6** (1974), 279–281. (P. J. Weinberger) **50** #4529 12A25 (12A50)

(*with* Chowla, S.) The reciprocity formula for Dedekind sums. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 5, 527–529. (Christian Radoux) **55** #12608 10A20 (10A15)

(*with* Chowla, S.) The 3-squares theorem. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 10, 1077–1079. (Editors) **57** #12381 10B35

Hartvigson, Zenas R. A non-Desarguesian space geometry. *Fund. Math.* **86** (1974), 143–147. (E. W. Ellers) **50** #8259 50A25

Hartwell, J. W. A procedure for implementing the fast Fourier transform on small computers. *IBM J. Res. Develop.* **15** (1971), 355–363. (P. Brock) **45** #6219 65T05

Hartwick, John (*with* Schweizer, Urs; Varaiya, Pravin P.) Comparative statics of a residential economy with several classes. *J. Econom. Theory* **13** (1976), *no.* 3, 396–413. (Alberto Chilosi) **55** #7338 90A99

Hartwig, Helga Ein simplexartiger Lösungsalgorithmus für pseudolineare Optimierungsprobleme. *Studia Sci. Math. Hungar.* **10** (1975), *no.* 1-2, 213–236. (Siegfried Schaible) **56** #1707 65K05

Hartwig, Robert E. The resultant and the matrix equation $AX=XB$. *SIAM J. Appl. Math.* **22** (1972), 538–544. (W. Ledermann) **46** #3528 15A24

A note on Jacobson chains. *SIAM J. Appl. Math.* **23** (1972), 99–103. (C. G. Cullen) **46** #7261 15A21

Resultants and the solution of $AX-XB=-C$. *SIAM J. Appl. Math.* **23** (1972), 104–117. (B. Levinger) **46** #9067 15A24

Some properties of hypercompanion matrices. *Indust. Math.* **24** (1974), 77–84. (R. Merris) **51** #548 15A21

1-2 inverses and the invariance of $BA^{+}C$. *Linear Algebra and Appl.* **11** (1975), *no.* 3, 271–275. (R. J. Plemmons) **51** #12880 15A09

(*with* Morris, S. Brent) The universal flip matrix and the generalized faro-shuffle. *Pacific J. Math.* **58** (1975), *no.* 2, 445–455. (Marvin Marcus) **52** #8169 15A69

$AX-XB=C$, resultants and generalized inverses. *SIAM J. Appl. Math.* **28** (1975), 154–183. (W. Ledermann) **51** #8143 15A24

Block generalized inverses. *Arch. Rational Mech. Anal.* **61** (1976), *no.* 3, 197–251. (Thomas L. Boullion) **53** #2975 15A09 (16A28)

(*with* Morris, S. Brent) The generalized faro shuffle. *Discrete Math.* **15** (1976), *no.* 4, 333–346. (Authors' summary) **55** #12533 05A05 (20B05)

Rank factorization and Moore-Penrose inversion. *Indust. Math.* **26** (1976), *no.* 1, 49–63. (B. Levinger) **53** #5625 15A09

(*with* Katz, Irving Jack) Products of EP elements in reflexive semigroups. *Linear Algebra and Appl.* **14** (1976), *no.* 1, 11–19. (M. Pearl) **56** #8729 20M10 (15A09)

Roth's equivalence problem in unit regular rings. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 1, 39–44. (Gertrude Ehrlich) **53** #13297 16A30 (15A21)

(*with* Hall, Frank J.) Further results on generalized inverses of partitioned matrices. *SIAM J. Appl. Math.* **30** (1976), *no.* 4, 617–624. (Thomas L. Boullion) **53** #8090 15A09

Singular value decomposition and the Moore-Penrose inverse of bordered matrices. *SIAM J. Appl. Math.* **31** (1976), *no.* 1, 31–41. (M. Lotkin) **53** #10826 15A09

More on the Souriau-Frame algorithm and the Drazin inverse. *SIAM J. Appl. Math.* **31** (1976), *no.* 1, 42–46. (M. Lotkin) **53** #10827 15A09

A note on periodic matrices. *Indust. Math.* **27** (1977), *no.* 1, 51–55. (Thomas L. Markham) **55** #2957 15A24

(*with* Shoaf, J.) Group inverses and Drazin inverses of bidiagonal and triangular Toeplitz matrices. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 1, 10–34. (Peter Lancaster) **57** #3150 15A09

(*with* Luh, Jiang) On finite regular rings. *Pacific J. Math.* **69** (1977), *no.* 1, 73–95. (Gertrude Ehrlich) **55** #10510 16A30

(*with* Luh, Jiang) A note on the group structure of unit regular ring elements. *Pacific J. Math.* **71** (1977), *no.* 2, 449–461. (Gertrude Ehrlich) **56** #407 16A30

Spectral inverses and the row-space equations. *Linear Algebra and Appl.* **20** (1978), *no.* 1, 57–68. (M. Z. Nashed) **57** #6048 15A09

A note on the partial ordering of positive semi-definite matrices. *Linear and Multilinear Algebra* **6** (1978/79), *no.* 3, 223–226. (M. F. Smiley) **58** #22101 15A09

(*with* Hall, Frank J.) Pseudo-similarity for matrices over a field. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 1, 6–10. (Abraham Berman) **58** #28027 15A21

Generalized inverses, *EP* elements and associates. *Rev. Roumaine Math. Pures Appl.* **23** (1978), *no.* 1, 57–60. (R. A. Melter) **57** #12556 15A33

Hartwig, Ronald C. (*with* Liberty, Stanley R.) On the essential quadratic nature of LQG control-performance measure cumulants. *Information and Control* **32** (1976), *no.* 3, 276–305. (A. B. Schwarzkopf) **55** #12268 93E25

Hartzman, Carl S. Transversals to the flow induced by a differential equation on comp orientable 2-dimensional manifolds. *Trans. Amer. Math. Soc.* **167** (1972), 359–368. (R. Meyer) **45** #3879 34C40

Denjoy-type flows on orientable 2-manifolds of higher genus. *Trans. Amer. Ma Soc.* **186** (1973), 219–227 (1974). (L. Reiziņš) **50** #14846 58F20 (34C40)

Singular points and separatrices. *Dynamical systems* (*Proc. Internat. Sympos., Brow Univ., Providence, R.I.*, 1974), *Vol. II*, *pp.* 19–24. *Academic Press, New York*, 1976. (W R. Utz (Zbl **336** #34033)) **58** #31243 58F10

Diffeomorphisms of tori, their lifts and suspensions. *Rocky Mountain J. Math.* (1976), *no.* 2, 269–291. (M. C. Irwin) **53** #4095 57D50

Hartzman, Mark (*with* Hutchinson, James R.) Nonlinear dynamics of solids by the fini element method. *Computers & Structures* **2** (1972), 47–77. (Authors' summary) **45** #1452 73.65

Hartzman, Peter D. *See* **Whitehead, Earl Glen, Jr., 48** #10833

Harui, Hideki Co-irreducible elements and co-irreducible decompositions of modules *Bull. Fukuoka Univ. Ed. III* **22** (1972), 1–23. (Andy R. Magid) **48** #283 13C10

Notes on injective modules of finite type. *Bull. Fukuoka Univ. Ed. III* **23** (197 1–3. (T. Cheatham) **49** #2700 13C10

Notes on the flatness. *Bull. Fukuoka Univ. Ed. III* **23** (1973), 5–9. (Samuel H. Co Jr.) **49** #2701 13C10

The uniqueness of co-irreducible decompositions of modules. *Bull. Fukuoka Uni Ed. III* **24** (1974), 1–9. (R. A. Wiegand) **51** #5573 13C05

Remarks on injective modules over commutative regular rings. *Bull. Fukuoka Uni Ed. III* **25** (1975), 1–8. (R. A. Wiegand) **55** #10443 13C10

On torsionfree injective modules. *Bull. Fukuoka Univ. Ed. III* **26** (1976), 1–11. (M Teply) **55** #5609 13C10 (18E40)

Decompositions of injective modules over non-Noetherian rings. *Acta Math. Aca Sci. Hungar.* **30** (1977), *no.* 3-4, 203–217. (R. B. Warfield, Jr.) **58** #642 13C10

Haruki, Hiroshi An application of Picard's theorem to an extension of sine function equations. *Bull. Calcutta Math. Soc.* **62** (1970), 129–132. (Fred Gross) **45** #7334 39A15 (30A66)

On the functional inequality $|f(x+y)f(x-y)| \leqslant |f(x)|^2+|f(y)f(-y)-f(0)^2|$. *Math Student* **38** (1970), 202–206. (S. M. Shah) **46** #2018 30A20

On an application of the "square" functional equation to a geometric characterization of quadratic functions from the standpoint of conformal-mappin properties. *Aequationes Math.* **6** (1971), 36–38. (J. Matkowski) **45** #759 39A1 (30A30)

On a functional equation. *Amer. Math. Monthly* **78** (1971), 988–990. (W. Smajdor **45** #7336 39A30

On a relation between the "square" functional equation and the "square" mean-value property. *Canad. Math. Bull.* **14** (1971), 161–165. (I. Stamate) **47** #7263 39A30

On a functional equation for the exponential function of a complex variable. *Glasgow Math. J.* **12** (1971), 31–34. (M. E. Noble) **45** #5359 30A66 (30A20)

On a metrical theorem in geometry of circles. *Colloq. Math.* **25** (1972), 99–102. (O Bottema) **46** #355 30A68 (50-01)

A proof of the principle of circle-transformation by the use of a theorem o univalent functions. *Enseignement Math.* (2) **18** (1972), 145–146. (Harry B. Coonce **48** #4312 30A68

On the equivalence of Hille's and Robinson's functional equations. *Ann. Polon Math.* **28** (1973), 261–264. (Genowefa Majcher) **49** #7430 30A20 (39A15)

An integral inequality in analytic function theory. *Enseignement Math.* (2) **1** (1973), 309–312. (J. H. Curtiss) **49** #547 30A20

(*with* Golomb, Michael) An inequality for elliptic and hyperbolic segments. *Math Mag.* **46** (1973), 152–155. (A. Florian) **47** #7597 52A40

A generalization of Ivory's theorem from the standpoint of conformal mapping. *Nordisk Mat. Tidskr.* **21** (1973), 89–91. (M. Nassif) **51** #8389 30A30

A functional equation arising from geometry. *Bull. Calcutta Math. Soc.* **66** (1974), *no.* 3, 135–138. (Zbl **333** #39005) **58** #23223 39A15 (30A20)

A famous definite integral. *Math. Notae* **24** (1974/75), 23–25. (Roman Ger) **53** #8700 39A15 (26A09)

On a geometric characterization of a complex polynomial. *Math. Student* **42** (1974), 129–131 (1975). (Thomas McCoy) **53** #778 30A06

On an application of the theorem of Apollonius. *Portugal. Math.* **33** (1974), 167–170. (D. Drasin) **50** #13476 30A30

A characteristic property of orthogonal pencils of coaxal circles from the standpoint of conformal mapping. *Ann. Polon. Math.* **31** (1975), *no.* 2, 171–177. (J. G. Krzyż) **52** #14295 30A68

A functional equation arising from Ivory's theorem in geometry. *Canad. Math. Bull.* **18** (1975), *no.* 4, 507–516. (Fred Gross) **52** #14725 39A25 (30A20)

On entire functions which transform straight lines into parabolas. *Colloq. Math.* **3** (1975/76), *no.* 1, 121–125. (Günter Frank) **54** #2964 30A66

A functional equation connected with the sine addition theorem. *Portugal. Math.* **3** (1976), *no.* 1–2, 75–79. (R. A. Rosenbaum) **56** #909 39A25 (30A20)

An equivalent property to Ivory's theorem from the standpoint of conformal mapping. *Ann. Polon. Math.* **34** (1977), *no.* 3, 233–242. (J. Aczél) **57** #13668 50B30 (30A20, 39A30)

Haruki, Shigeru On two functional equations connected with a mean-value property of polynomials. *Aequationes Math.* **6** (1971), 275–277. (Fred Gross) **45** #548 30A66 (30A20)

A note on a pentomino functional equation. *Ann. Polon. Math.* **27** (1973), 129–131. (J. Matkowski) **47** #670 39A30

Multiple integrals evaluated by functional equations. *Ann. Polon. Math.* **27** (1973), 197–199. (J. Täuber) **47** #671 39A30

A note on a square type functional equation. *Canad. Math. Bull.* **16** (1973), 443–445. (A. Climescu) **49** #909 39A15

On the functional equation $\Pi_t = 1^3(X_t'-1)\cdot f=0$ and two related equations. *Utilitas Math.* **4** (1973), 3–7. (I. Stamate) **49** #5619 39A30

Four different unknown functions satisfying the triangle mean value property for rmonic polynomials. *Ann. Polon. Math.* **33** (1976/77), *no.* 3, 219–221. (Y. Kusunoki) #3276 31A05

ni, Kasaburo Scattering of plane wave by a rigid ribbon in a solid. *Res. Rep. Miyagi ech. College No.* 1 (1964), 23–30. (B. A. Bondarenko) **53** #12146 73.33

oğlu, İ. S. (*with* Brasch, F. M., Jr.) Comments on: "Adaptive stochastic control for a ass of linear systems" (IEEE Trans. Automatic Control **AC-17** (1972), 38–52; rrection, ibid. **AC-17** (1972), 417) by Edison Tse and Michael Athans. *IEEE Trans. utomatic Control* **AC-18** (1973), 78–79. (M. Aoki) **51** #5137 93E20

y, A. C. An alternative proof and generalization of a test for structural change. *mer. Statist.* **30** (1976), *no.* 3, 122–123. (Author's summary) **56** #9830 62J05 2P20)

Estimating regression models with multiplicative heteroscedasticity. *Econometrica* (1976), *no.* 3, 461–465. (Takeshi Amemiya) **53** #14802 62J05 (62P20)

A note on the efficiency of Kelejian's method of estimating Cobb-Douglas type nctions with multiplicative and additive errors. *Internat. Econom. Rev.* **17** (1976), *no.* 506–509. (Peter Schmidt) **53** #14841 62P20

A comparison of preliminary estimators for robust regression. *J. Amer. Statist. ssoc.* **72** (1977), *no.* 360, *part* 1, 910–913. (Melvin Hinich) **57** #7888 62J05

See also **Brown, R. Leonard; et al., 51** #14478

ey, Bernard N. Spectral operators with critical points. *Amer. J. Math.* **96** (1974), 1–61. (H. Langer) **51** #3949 47B40

ey, Charles (*with* Govindarajulu, Z.) Bayesian procedures for ranking and selection roblems. *Ann. Inst. Statist. Math.* **26** (1974), 35–53. (S. Panchapakesan) **51** #7106 2F07

(*with* Stenger, Frank) A two-dimensional analogue to the method of bisections for lving nonlinear equations. *Quart. Appl. Math.* **33** (1975/76), *no.* 4, 351–368. (From e authors' introduction) **56** #13600 65H10

ey, Charles A. (*with* Stein, Gunter) Quadratic weights for asymptotic regulator roperties. *Proceedings of the* 1977 *IEEE Conference on Decision and Control* (*New rleans, La.*, 1977), *Vol.* 1, *pp.* 1220–1228. *Inst. Electrical Electron. Engrs., New York*, 977. (Authors' summary) **58** #20715 93C99

(*with* Stein, Gunter) Quadratic weights for asymptotic regulator properties. *IEEE rans. Automat. Control* **23** (1978), *no.* 3, 378–387. (Authors' summary) **58** #26361 3C60

ey, D. R. A. An approach to coincidence theory through universal covering spaces. *ath. Colloq. Univ. Cape Town* **10** (1975/76), 1–11. (Benjamin Halpern) **55** #9074 5C20

ey, F. Reese *See* **Harvey, Reese**

ey, J. M. Reflections and factorization. *Math. Colloq. Univ. Cape Town* **9** (1974), 9–22. (H. Herrlich) **58** #5848 18D99

T_0-separation in topological categories. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** 1977/78), *no.* 1-3, 177–190. (L. Skula) **58** #5838 18C99 (18F99, 54A99)

ey, M. *See* **Weidenmüller, Hans A., 57** #8711

ey, R. B. On the deformation of a viscoelastic cylinder, rolling without slipping. *Quart. J. Mech. Appl. Math.* **28** (1975), 1–24. (D. Graffi) **51** #2422 73.45

ey, Reese (*with* King, James R.) On the structure of positive currents. *Invent. Math.* **15** (1972), 47–52. (H. H. Johnson) **45** #5409 32H99 (58A25)

(*with* Wells, R. O., Jr.) Holomorphic approximation and hyperfunction theory on a C^1 totally real submanifold of a complex manifold. *Math. Ann.* **197** (1972), 287–318. (A. Hirschowitz) **46** #9379 32E30

(*with* Polking, John C.) A notion of capacity which characterizes removable singularities. *Trans. Amer. Math. Soc.* **169** (1972), 183–195. (J. Conlan) **46** #5862 35Q99 (31C15)

Removable singularities and structure theorems for positive currents. *Partial differential equations* (*Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif.*, 1971), *pp.* 129–133. *Amer. Math. Soc., Providence, R.I.*, 1973. (B. Shiffman) **50** #13601 32D20 (32C30)

(*with* Wells, R. O., Jr.) Zero sets of non-negative strictly plurisubharmonic functions. *Math. Ann.* **201** (1973), 165–170. (F. T. Birtel) **48** #8847 32F05

(*with* Freeman, Michael) A compact set that is locally holomorphically convex but not holomorphically convex. *Pacific J. Math.* **48** (1973), 77–81. (R. Michael Range) **48** #4350 32E30 (32E20)

(*with* Polking, John C.) A Laurent expansion for solutions to elliptic equations. *Trans. Amer. Math. Soc.* **180** (1973), 407–413. (R. C. MacCamy) **47** #9031 35C10 (35J30)

(*with* Knapp, Anthony W.) Positive (p,p) forms, Wirtinger's inequality, and currents. *Value distribution theory* (*Proc. Tulane Univ. Program, Tulane Univ., New Orleans, La.*, 1972–1973), *Part A*, *pp.* 43–62. *Dekker, New York*, 1974. (D. Lieberman) **50** #7573 (EA **50**) 32C30 (14C30, 32J25)

Removable singularities for positive currents. *Amer. J. Math.* **96** (1974), 67–78. (B. Shiffman) **50** #13602 32D20 (32C30)

Removable singularities of cohomology classes in several complex variables. *Amer. J. Math.* **96** (1974), 498–504. (A. Hirschowitz) **51** #925 32C35 (32D20)

(*with* Shiffman, Bernard) A characterization of holomorphic chains. *Ann. of Math.* (2) **99** (1974), 553–587. (H. Tornehave) **50** #7572 32C25 (28A75, 58A25)

(*with* Lawson, H. Blaine, Jr.) Boundaries of complex analytic varieties. *Bull. Amer. Math. Soc.* **80** (1974), 180–183. (B. Shiffman) **50** #13590 32C25

Three structure theorems in several complex variables. *Bull. Amer. Math. Soc.* **80** (1974), 633–641. (P. Lelong) **50** #7574 32C30 (32C25)

(*with* Lawson, H. Blaine, Jr.) On boundaries of complex analytic varieties. I. *Ann. of Math.* (2) **102** (1975), *no.* 2, 223–290. (Y.-T. Siu) **54** #13130 32D20

(*with* Polking, John C.) Extending analytic objects. *Comm. Pure Appl. Math.* **28** (1975), *no.* 6, 701–727. (P. Lelong) **53** #13642 32D20 (32C30, 32F05)

(*with* Lawson, B.) Extending minimal varieties. *Invent. Math.* **28** (1975), 209–226. (F. J. Almgren, Jr.) **51** #6546 49F10

(*with* Carlson, James A.) A remark on the universal cover of a Moishezon space. *Duke Math. J.* **43** (1976), *no.* 3, 497–500. (J. Kajiwara) **54** #596 32E10

Holomorphic chains and their boundaries. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 309–382. *Amer. Math. Soc., Providence, R. I.*, 1977. (P. Lelong) **56** #5929 32C30 (32C25)

(*with* Lawson, H. Blaine, Jr.) On boundaries of complex analytic varieties. II. *Ann. Math.* (2) **106** (1977), *no.* 2, 213–238. (P. Lelong) **58** #17186 32B15 (32C25)

Harvey, W. J. (*with* MacLachlan, Colin) On mapping-class groups and Teichmüller spaces. *Proc. London Math. Soc.* (3) **30** (1975), *part* 4, 496–512. (Jane Gilman) **51** #10614 30A58 (32G15)

Harvey, William On branch loci in Teichmüller space. *Trans. Amer. Math. Soc.* **153** (1971), 387–399. (L. Keen) **45** #7046 30A60 (58D15)

Chabauty spaces of discrete groups. *Discontinuous groups and Riemann surfaces* (*Proc. Conf., Univ. Maryland, College Park, Md.*, 1973), *pp.* 239–246. *Ann. of Math. Studies, No.* 79, *Princeton Univ. Press, Princeton, N.J.*, 1974 (L. Greenberg) **51** #883 30A58 (32G15)

Spaces of discrete groups. *Discrete groups and automorphic functions* (*Proc. Conf., Cambridge*, 1975), *pp.* 295–348. *Academic Press, London*, 1977. (L. Keen) **58** #16961 22E40 (30A58, 32G15)

See also **Discrete groups and automorphic functions, 57** #6413

Harville, David A. (*with* Reeves, Thomas E.) ★Optimal linear indexes for some selection problems. ARL 72-0123. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1972. vi + 89 *pp.* (D. V. Chopra) **48** #5309 62P15

The distribution of a truncated linear difference between independent chi-square variates. *Ann. Inst. Statist. Math.* **25** (1973), 533–548. (R. V. Hogg) **50** #1378 62E15

Bayesian inference for variance components using only error contrasts. *Biometrika* **61** (1974), 383–385. (Mir Ali) **51** #4520 62F15

Nearly optimal allocation of experimental units using observed covariate values. *Technometrics* **16** (1974), 589–599. (Author's summary) **54** #6394 62K05 (62J10)

Computing optimum designs for covariance models. *A survey of statistical design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *pp.* 209–228. *North-Holland, Amsterdam*, 1975. (J. Kiefer) **54** #1498 62K05

Index selection with proportionality constraints. (French summary) *Biometrics* **31** (1975), 223–225. (P. Holgate) **51** #5050 92A05

Extension of the Gauss-Markov theorem to include the estimation of random effects. *Ann. Statist.* **4** (1976), *no.* 2, 384–395. (Prem K. Goel) **53** #1862 62J05

Confidence intervals and sets for linear combinations of fixed and random effects. (French summary) *Biometrics* **32** (1976), *no.* 2, 403–407. (Federico O'Reilly) **56** #9831 62J05 (62F25)

Maximum likelihood approaches to variance component estimation and to related problems. With a comment by J. N. K. Rao and a reply by the author. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 358, 320–340. (M. Atiqullah) **56** #9832 62J05 (62F10)

Harward, A. E. *See* **Moore, Gregory H., 58** #10131

Harzallah, Khèlifa (*with* Faraut, Jacques) Formes quadratiques généralisées et fonctions définies négatives. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A1034–A1036. (R. A. Gangolli) **45** #2100 43A85 (53C35)

(*with* Faraut, Jacques) Semi-groupes d'opérateurs invariants et opérateurs dissipatifs invariants. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **22** (1972), *no.* 2, 147–164. (Wilfried Hazod) **51** #1294 43A85 (47D05)

(*with* Faraut, Jacques) Fonctions sphériques de type positif sur les espaces hyperboliques. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1396–A1398. (Gilles Lachaud) **45** #6982 43A90

Distances hilbertiennes invariantes sur un espace homogène. *Théorie du potentiel et analyse harmonique* (*Journées Soc. Math. France, Inst. Recherche Math. Avancée, Strasbourg*, 1973), *pp.* 133–137. *Lecture Notes in Math., Vol.* 404, *Springer, Berlin*, 1974. (L. N. Argabright) **51** #1296 43A85 (60B15)

(*with* Faraut, Jacques) Distances hilbertiennes invariantes sur un espace homogène. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **24** (1974), *no.* 3, xiv, 171–217. (Wilfried Hazod) **51** #1295 43A85

Distributions et représentations associées á $SO_0(1, q)$. *Analyse harmonique sur les groupes de lie* (*Sém., Nancy-Strasbourg*, 1973–1975), *pp.* 211–229. *Lecture Notes in Math., Vol.* 497, *Springer, Berlin*, 1975. (G. L. Litvinov) **53** #5809 22E45 (43A90)

Harzheim, Egbert Blocksysteme auf einer Menge. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), *pp.* 221–232. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (L. Bukovský) **50** #115 04A20

Eine Verallgemeinerung zum Jordan-Brouwerschen Satz. *Math. Ann.* **203** (1973), 175–182. (M.-E. Hamstrom) **48** #7287 57A15

(*with* Ratschek, Helmut) ★Einführung in die allgemeine Topologie. Die Mathematik: Einführungen in Gegenstand und Ergebnisse ihrer Teilgebiete und Nachbarwissenschaften. *Wissenschaftliche Buchgesellschaft, Darmstadt*, 1975. vi + 122 *pp.* (Editors) **52** #1594 54–02

A combinatorial theorem related to the Jordan-Brouwer separation theorem. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. II*, *pp.* 853–855. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (M.-E. Hamstrom) **51** #11527 57C05

attija Hasaneĭn, R. H. *See* **Attija Hasaneĭn, R. H.**

Hasanis, Thomas (*with* Koufogiorgos, Themis) A characteristic property of the sphere. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 2, 303–305. (T. J. Willmore) **58** #7511 53C45

Hasanov, A. (*with* Salahitdinov, M. S.) Some boundary value problems with displacement for a class of equations of mixed type. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 5, 44–49, 103. (Megumi Saigo) **58** #1717 35M05

Hasanov, A. A. (*with* Vasil′eva, A. B.) The stable initial manifold for an integro-differential equation in the critical case. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 11, 2063–2069, 2110. (Nicolae Luca) **58** #7007 45M05 (45J05)

(*with* Vasil′eva, A. B.) Some singularly perturbed systems in the critical case. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 3, 291–297, 427. (D. Baĭnov) **57** #6687 34E15 (45K05)

Hasanov, A. I. The Cauchy problem for the equations of a cold plasma. (Russian) *Dinamika Splošn. Sredy No.* 30 (1977), 122–140, 164. (Author's summary) **58** #8984 82.35

Hasanov, R. T. The branching of solutions of a certain class of Ljapunov-Schmidt integro-differential equations in the multidimensional case. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **13** (1970), *no.* 9, 13–15. (J. W. Thomas) **45** #7411 45C05

Hasanova, M. (*with* Kukles, I. S.) Behavior of the characteristics of a differential equation. (Russian) *Mathematics and the methodology of its teaching, Part I* (*Russian*), *pp.* 108–115. *Tadžik. Gos. Univ., Dushanbe*, 1974. (Editors) **58** #28831 34C05

Hasanova, M. H. (*with* Ibragimova, H. B.) Qualitative properties of the motion of a satellite of a triaxial planet. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 12, 16–19. (Gh. Silaş) **58** #14051 70.34

Hasanova, N. The convergence of a simple iterative scheme in the problem of equilibrium of flexible plates. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 10, 5–6. (Z. Kączkowski) **47** #7995 73.65

Hasanuddin Ahmad, S. Some probability integrals relevant to reliability function of systems. (Arabic summary) *Libyan J. Sci.* **3** (1973), 65–70. (From the summary) **49** #4185 62N05

Hašba, G. N. The three-web of curves on a surface of affine space. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **71** (1973), 281–284. (K. Svoboda) **49** #11419 53C10

Hasdorff, Lawrence ★Gradient optimization and nonlinear control. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1976. xiv + 264 *pp. ISBN* 0-471-35870-3 (J. E. Rubio) **58** #7266 49–01

Hasegawa, Akira (*with* Ohsawa, Yukiharu; Nosaki, Kazuhiro) Kinetic theory of magnetohydrodynamic Kelvin-Helmholtz instability. *Phys. Fluids* **19** (1976), *no.* 8, 1139–1143. (Rishi Ram) **54** #4283 76.34

(*with* Mima, Kunioki) Pseudo-three-dimensional turbulence in magnetized nonuniform plasma. *Phys. Fluids* **21** (1978), *no.* 1, 87–92. (Authors' summary) **56** #14112 76.60

(*with* Mima, Kunioki) 2- and 3-dimensional localization of random phase waves. Conference on the Theory and Application of Solitons (Tucson, Ariz., 1976). *Rocky Mountain J. Math.* **8** (1978), *no.* 1-2, 309–322. (From the summary) **58** #8986 82.35

Hasegawa, Hiroshi Variational principles for Markov processes and Onsager principle. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 433–436. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (Author's review (Zbl **324** #60053)) **58** #32683 82.49

On the construction of a time-reversed Markoff process. *Progr. Theoret. Phys.* **55** (1976), *no.* 1, 90–105. (N. G. van Kampen) **53** #10090 82.60

Variational principle for non-equilibrium states and the Onsager-Machlup formula. *Progr. Theoret. Phys.* **56** (1976), *no.* 1, 44–60. (G. S. Agarwal) **54** #4478 82.49

A variational method for solving the Fokker-Planck equations. *Phys. Lett. A* **60** (1977), *no.* 3, 171–172. (Author's summary) **56** #2084 81.49

Variational approach in studies with Fokker-Planck equations. *Progr. Theoret. Phys.* **58** (1977), *no.* 1, 128–146. (Douglas Henderson) **57** #15145 82.49

Hasegawa, Hisao An extension of Love's solution for the axisymmetric problems of elasticity. *Bull. JSME* **18** (1975), *no.* 119, 484–492. (R. Subramanian) **52** #4784 73.35

A method of solution in terms of stress functions for axisymmetric problems of elastodynamics. *Bull. JSME* **19** (1976), *no.* 133, 739–746. (Joseph J. Roseman) **54** #11910 73.35

See also **Furuhashi, Rohzō**, **48** #7740

Hasegawa, Izumi On the sectional curvatures and the Euler-Poincaré characteristic of a Riemannian manifold. *J. Fac. Sci. Hokkaido Univ. Ser. I* **22** (1972), 62–66. (C.-C. Hsiung) **46** #8122 53C20

Remarks on the Euler-Poincaré characteristic of a hypersurface. *J. Hokkaido Univ. Ed. Sect. II A* **24** (1973/74), 1–2. (R. S. Millman) **49** #1443 53C45

H-projective-recurrent Kählerian manifolds and Bochner-recurrent Kählerian manifolds. *Hokkaido Math. J.* **3** (1974), 271–278. (Yung Chow Wong) **50** #14555 53B35

Characterization of the *p*-conformally flat Riemannian manifold. *Hokkaido Math. J.* **5** (1976), *no.* 1, 139–144. (A. Gray) **53** #11519 53B20

On higher order Einstein spaces. *J. Hokkaido Univ. Ed. Sci. A* **26** (1976), *no.* 2, 73–78. (A. Gray) **54** #8523 53C25

Hasegawa, Jun (*with* Nishitani, Kenichi) State estimation in an electric power system. (Japanese) *Systems and Control* **19** (1975), *no.* 10, 513–522. (Seihaku Higuchi) **53** #12715 93E10

Hasegawa, Kenichi (*with* Kawahara, Mutsuto) Periodic Galerkin finite element method of tidal flow. *Internat. J. Numer. Methods Engrg.* **12** (1978), *no.* 1, 115–127. (R. Manohar) **57** #2164 76.65

Hasegawa, Masaaki On products of isocompact spaces. *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **21** (1972), 213–216. (B. J. Ball) **48** #7206 54D30

Hasegawa, Minoru (*with* Perlman, Michael D.) On the existence of a minimal sufficient subfield. *Ann. Statist.* **2** (1974), 1049–1055. (Bernard Harris) **51** #11735 (E **52** #12131) 62B05

On the analysis of multi-dimensional contingency tables. (Japanese) *Keiei-Kagaku* **18** (1974), *no.* 2, 59–73. (C. Hayashi) **52** #15816 62F99

(*with* Perlman, Michael D.) Correction to: "On the existence of a minimal sufficient subfield" (Ann. Statist. 2 (1974), 1049–1055). *Ann. Statist.* **3** (1975), *no.* 6, 1371–1372. (Bernard Harris) **52** #12131 62B05

Hasegawa, Munetake (*with* Kanesaki, Nobuo) Description of pairing correlation based on a new Dyson-like representation. *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1405–1420. (Authors' summary) **56** #14309 81.47

Hasegawa, Shigeru On the ratio ergodic theorem. (Japanese) *Sûgaku* **26** (1974), *no.* 1, 43–44. (Motosige Osikawa) **54** #13035 28A65

(*with* Satō, Ryōtarō) A general ratio ergodic theorem for semigroups. *Pacific J. Math.* **62** (1976), *no.* 2, 435–437. (J. B. Robertson) **53** #11021 28A65

(*with* Satō, Ryōtarō; Tsurumi, Shigeru) Vector valued ergodic theorems for a one-parameter semigroup of linear operators. *Tôhoku Math. J.* (2) **30** (1978), *no.* 1, 95–106. (Richard Fleming) **57** #7210 47A35 (47D05)

Hasegawa, Tokuhei (*with* Yamaki, Jusuke) The "Sangaku" of Shiogama Shrine. I. (Japanese. English summary) *Res. Rep. Miyagi Tech. College No.* 2 (1965), 69–74. (K. Inoue) **54** #4894a 01A25

(*with* Yamaki, Jusuke) The "Sangaku" of Shiogama Shrine. II. (Japanese. Engli summary) *Res. Rep. Miyagi Tech. College No.* 3 (1966), 29–46. (K. Inoue) **54** #4894 01A25

Hasegawa, Toshiharu Many-valued logic and its applications. (Japanese) *Keiei-Kagaku* (1972), 125–138. (N. Zierler) **47** #8242 02C05 (94A20)

(*with* Mine, Hisashi; Harada, Naofumi; Shimada, Ryosaku) Logical design of multi-line many-valued logic networks. *Systems-Computers-Controls* **4** (1973), *no.* 33–41. (T. C. Wesselkamper) **53** #15575 94A20 (06A20)

(*with* Tanaka, Yasuhiro; Ibaraki, Toshihide) Minimal representation of some finite-state optimization problems. *Systems-Computers-Controls* **5** (1974), *no.* 6, 39–4 (1975). (Kailash C. Kapur) **52** #16658 90C47 (68A20, 94A20)

(*with* Ibaraki, Toshihide; Ishii, Hiroaki; Iwase, Jiro; Mine, Hisashi) Algorithm for quadratic fractional programming problems. *J. Operations Res. Soc. Japan* 1 (1976), *no.* 2, 174–191. (Authors' summary) **55** #9984 90C20

(*with* Shirai, Yasuyoshi; Ibaraki, Toshihide) Minimal representation of combinatorial optimization problems by finite-state positively monotone models. *Systems-Computers-Controls* **7** (1976), *no.* 1, 70–79 (1977). (Authors' summary) **58** #33590 94A25 (68A10, 68A25)

(*with* Ibaraki, Toshihide; Teranaka, Katsumi; Iwase, Jiro) The multiple-choice knapsack problem. (Japanese summary) *J. Operations Res. Soc. Japan* **21** (1978), *no.* 59–95. (Csaba Fabian) **58** #4315 90C10

Hasegawa, Yoshihei Average powers of Gaussian white noise. *Proc. Japan Acad.* **49** (1973 669–671. (Hui-Hsiung Kuo) **49** #4102 60J65

Hasegawa, Yoshimitsu Integrability theorems for Fourier series and Parseval's formulae. *J Math. Anal. Appl.* **33** (1971), 544–561. (G. Sunouchi) **53** #1141 42A32

Integrability theorems for power series expansions of two variables. *Pacific J. Math* **46** (1973), 419–428. (H. Burkill) **48** #4228 26A54 (30A10, 31A05)

Integrability theorems for Jacobi series and Parseval's formulae. *Acta Sci. Math* (*Szeged*) **37** (1975), *no.* 3-4, 213–240. (D. P. Gupta) **53** #1146 42A56

On the integrability of a class of integral transforms. *Studia Math.* **55** (1976), *no.* 3 247–259. (R. P. Soni) **57** #3754 44A15

On the integrability of Fourier-Jacobi transforms. *Ark. Mat.* **16** (1978), *no.* 1 127–139. (R. A. Askey) **58** #12182 42A76

Hasegawa, Yukiko On the initial-value problems with data on a characteristic hypersurface *J. Math. Kyoto Univ.* **13** (1973), 579–593. (M. H. Protter) **50** #749 35G10

On the C^∞-Goursat problem for 2nd order equations with real constant coefficients *Proc. Japan Acad.* **51** (1975), *no.* 7, 516–519. (J. Vaillant) **52** #14670 35L20

Haseinov, K. A. A generalized formula with variable parameters for the basis equation (Russian) *Solution and investigation of ordinary differential equations on the basis o functions with flexible structure* (*Russian*), *pp.* 196–205. *Moskov. Tehnolog. Inst. Piš Promyšl., Moscow*, 1974. **58** #22713 34A05

Solution of *n*th order linear differential equations with variable coefficients on the basis of a generalized Kulikov formula. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 9(184), 89–99. (From the text) **58** #17272 34A30

Haseman, William D. (*with* De, Prabuddha; Kriebel, Charles H.) Toward an optimal design of a network database from relational descriptions. *Oper. Res.* **26** (1978), *no.* 5 805–823. (Authors' summary) **58** #19440 68A50 (90B10)

Hasenfratz, P. (*with* Hraskó, P.) Canonical quantization of gauge theories. *Phys. Rev. D* (3) **13** (1976), *no.* 8, 2235–2244. (Authors' summary) **56** #14288 81.46

(*with* Kuti, J.) The quark bag model. *Phys. Rep.* **40C** (1978), *no.* 2, 75–179. (V. N Suško) **58** #8897 81.35

Hasenjaeger, G. ★Introduction to the bàsic concepts and problems of modern logic. Translated from the German by E. C. M. Mays. *Humanities Press, New York*; *Reidel Publishing Co., Dordrecht*, 1972. 180 *pp.* (Editors) **49** #10517 02–02

See also **Semantics and communication**, **49** #4731

Hasenkamp, Georg ★Specification and estimation of multiple-output production functions. Lecture Notes in Economics and Mathematical Systems, Vol. 120. *Springer-Verlag, Berlin-New York*, 1976. vii + 151 *pp.* (Michael D. Intriligator) **54** #2148 90A15 (62P20)

Economic and atomistic index numbers: contrasts and similarities. *Theory and applications of economic indices* (*Proc. Internat. Sympos., Univ. Karlsruhe, Karlsruhe*, 1976), *pp.* 207–243. *Physica-Verlag, Würzburg*, 1978. (Jean-Louis Boursin) **57** #15357 90A99

Hashemian, Reza Some properties of matrices with 1, −1 and 0 entries. *J. Franklin Inst.* **295** (1973), 383–394. (R. A. Brualdi) **49** #5030 15A21 (94A20)

Hashida, On Gating multiqueues served in cyclic order. *Systems-Computers-Controls* 1 (1970), *no.* 1, 1–8. (F. G. Foster) **47** #7831 60K25

On the busy period in the queueing system with finite capacity. *J. Operations Res. Soc. Japan* **15** (1972), 115–137. (R. Subramanian) **49** #8136 60K30

(*with* Kodaira, Kunio) Repeated calls resulting from data terminal busy and delayed delivery service. *Electron. Commun. Japan* **58** (1975), *no.* 3, 1–9. (I. Gh. Ciobanu) **55** #12012 90B15

Hashiguchi, K. (*with* Honda, Namio) Homomorphisms that preserve star height. *Information and Control* **30** (1976), *no.* 3, 247–266. (Claude Benzaken) **53** #10519 94A30 (20M35)

(*with* Honda, Namio) Properties of code events and homomorphisms over regular events. *J. Comput. System Sci.* **12** (1976), *no.* 3, 352–367. (I. M. Havel) **53** #10520 94A30 (68A25)

Hashiguchi, Masao On the *hv*-curvature tensors of Finsler spaces. *Rep. Fac. Sci. Kagoshima Univ. No.* 4 (1971), 1–5. (E. T. Davies) **46** #814 53B40

(*with* Hōjō, Shun-ichi; Matsumoto, Makoto) On Landsberg spaces of two dimensions with (α, β)-metric. *J. Korean Math. Soc.* **10** (1973), 17–26. (M. C. Chaki) **48** #7149 53B40

On Wagner's generalized Berwald space. *J. Korean Math. Soc.* **12** (1975), *no.* 1, 51–61. (H. Rund) **52** #4165 53B40

(*with* Ichijyō, Yoshihiro) On some special (α, β)-metrics. *Rep. Fac. Sci. Kagoshima Univ. No.* 8, (1975), 39–46. (R. B. Misra) **57** #7435 53B40

On conformal transformations of Finsler metrics. *J. Math. Kyoto Univ.* **16** (1976), *no.* 1, 25–50. (H. Rund) **53** #6458 53B40

(*with* Ichijyō, Yoshihiro) On conformal transformations of Wagner spaces. *Rep.*

ac. *Sci. Kagoshima Univ. No.* 10 (1977), 19–25. (Makoto Matsumoto) **57** #13767 3B40

m, Abdullah A. (*with* Constantinides, A. G.) Some new results on binary linear block odes. *Electron. Lett.* **10** (1974), 31–33. (Hermann J. Helgert) **56** #2635 94A10

(*with* Pozdniakov, V. S.) Stacking techniques for linear codes. *Electron. Lett.* **12** 976), *no.* 18, 481–483. (Sudhakar M. Reddy) **55** #2340 94A10

Maximum distance bounds for linear anticodes. *Proc. Inst. Elec. Engrs.* **123** (1976), o. 3, 189–190. (Ian Blake) **52** #16854 94A10

shimi, Basil *See* **Al-Hashimi, Basil**

moto, Akihiro (*with* Noshita, Kohei) A property of *N*-graphs. *IEEE Trans. omputers* **C-20** (1971), 95–97. (R. K. Guy) **46** #8879 05C10

(*with* Nishikawa, Seishi; Okada, Keiji; Noshita, Kohei; Naemura, Kenji) lgorithms of Musashino experimental design automation system for **IC** mask patterns IEDIC. *Electron. Commun. Japan* **55** (1972), *no.* 6, 33–39. **56** #11603 94A20

imoto, Hiroshi The $*$-topology and its applications. (Japanese) *Sûgaku* **26** (1974), *no.* , 248–249. **58** #30985 54E15

On the *topology and its application. *Fund. Math.* **91** (1976), *no.* 1, 5–10. (M. haskara Rao) **54** #1179 54E99 (28A05)

imoto, Ki-ichiro Twisted trace formula of the Brandt matrix. *Proc. Japan Acad. Ser. A Iath. Sci.* **53** (1977), *no.* 3, 98–102. (Marie-France Vignéras) **56** #11964 12A80

imoto, Masahiro (*with* Fujisawa, Kazuo) Numerical methods for cutoff frequencies nd modes of waveguides. *Electron. Commun. Japan* **53** (1970), *no.* 5, 108–116. (Th. iedrich) **47** #5539 45L10 (65R05, 78.35)

(*with* Fujisawa, Kazuo) A numerical method for field problems with large oundaries. *Electron. Commun. Japan* **53** (1970), *no.* 5, 117–123. (S. J. Sackett) **6** #10184 65F10 (78.65)

imoto, Reiji Some fundamental considerations on the construction of nonlinear filters. *Electron. Commun. Japan* **53** (1970), *no.* 11, 1–8. (N. U. Ahmed) **47** #1532 94A05

imoto, Shuji (*with* Ohteru, Sadamu; Kato, Tomokazu) An analysis of the behavior of he stochastic computer. *Systems-Computers-Controls* **7** (1976), *no.* 6, 1–9 (1977). (From he summary) **57** #9322 94A20

imoto, Shuzen *See* **Tanaka, Kaoru; et al., 58** #15827

imoto, Toshio Statistique A_n^2 dans le cas de la méthode du maximum de raisemblance. *J. Fac. Sci. Hokkaido Univ. Ser. I* **22** (1972), 158–160. (P. J. Huber) **46** #10118 62F10

imoto, Yasukazu (*with* Sakawa, Yoshiyuki) Control of environmental pollution and economic growth: modelling and numerical solution. *Appl. Math. Optim.* **4** (1977/78), *o.* 4, 385–400. (N. Keyfitz) **58** #25892 90A15 (92A15)

imoto, Yoshiaki (*with* Matsuzawa, Tadato) On a class of degenerate elliptic equations. *Nagoya Math. J.* **55** (1974), 181–204. (Ju. V. Egorov) **50** #7813 35J70 (35H05)

itsume, Natsuki (*with* Ochiai, Moyuru) Kinetic equations for a plasma and radiation system. I. Generalization of the Vlasov-Landau-Bogoliubov equation. *J. Phys. Soc. Japan* **31** (1971), 56–69. (T. Koga) **47** #8052 82.35

(*with* Ochiai, Moyuru) Kinetic equations for a plasma and radiation system. II. Generalization of the Bogoliubov-Lenard-Balescu equation. *J. Phys. Soc. Japan* **31** (1971), 70–78. (T. Koga) **47** #8053 82.35

(*with* Shibata, Fumiaki; Takahashi, Yoshinori) A generalized stochastic Liouville equation. Non-Markovian versus memoryless master equations. *J. Statist. Phys.* **17** (1977), *no.* 4, 171–187. (Nina B. Maslova) **57** #2391 82.60

hizume, Michihiko (*with* Kowata, A.; Minemura, Katsuhiro; Okamoto, Kiyosato) An integral representation of an eigenfunction of the Laplacian on the Euclidean space. *Hiroshima Math. J.* **2** (1972), 535–545. (W. D. Evans (Zbl **269** #35012)) **55** #3168 22E45 (43A85)

(*with* Minemura, Katsuhiro; Okamoto, Kiyosato) Harmonic functions on hermitian hyperbolic spaces. *Hiroshima Math. J.* **3** (1973), 81–108. (A. Korányi) **50** #14073 43A85

(*with* Eguchi, Masaaki; Okamoto, Kiyosato) The Paley-Wiener theorem for distributions on symmetric spaces. *Hiroshima Math. J.* **3** (1973), 109–120. (R. A. Gangolli) **49** #3027 22E30 (43A85)

Hāsib, Ḥabash *See* **Kennedy, E. S.; et al., 57** #15846

ić, N. Green's function method in the theory of electron-phonon interaction. (Serbo-Croatian summary) *Fizika* (*Zagreb*) **1** (1969), 203–217. (P. Caldirola) **55** #5010 81.35 (85.35)

iewicz, Zygmunt (*with* Kisilewicz, Jerzy; Zdrzałka, Stanisław) Evaluation of raw material composition by representative sampling in the control of a cement production process. (Polish. English and Russian summaries) *Podstawy Sterowania* **2** (1972), 361–376. (E. V. Bulinskaja) **48** #5307 62N10

(*with* Zdrzałka, Stanisław) Estimation of the composition of a mixture by the method of multistage reduction. (Polish. English and Russian summaries) *Podstawy Sterowania* **5** (1975), *no.* 2, 131–161. (Authors' summary) **54** #14577 80.49

Global identification of complex static systems with first order hierarchical structure (deterministic problem). (Russian summary) *Systems Sci.* **2** (1976), *no.* 3, 63–72. (K. Nakamura) **56** #11129 93A15 (93B30)

Global identification of complex static systems with hierarchical structure: deterministic problem. *Internat. J. Systems Sci.* **8** (1977), *no.* 9, 1021–1040. (Ivar Gustavsson) **58** #33204 93A15

(*with* Laurent, Robert; Bubnicki, Zdzisław) An analysis of identifiability of static complex systems with cascade structure and aggregated output signal. (Russian summary) *Systems Sci.* **3** (1977), *no.* 2, 143–158. (B. Wittenmark) **58** #15404 93B30

sija, R. L. Optimum allocation of inventory to a chain of interconnected warehouses. *Defence Sci. J.* **17** (1967), 175–183. (*loose errata*) (F. G. Foster) **47** #8085 90B05

A two warehouse inventory problem. *Metrika* **18** (1971/72), 133–136. (D. L. Iglehart) **56** #7887 90B05

simoto, Hidenori Exact solution of a certain semi-linear system of partial differential equations related to a migrating predation problem. *Proc. Japan Acad* **50** (1974), 623–627. (D. L. Colton) **51** #6166 35L60

šimov, Š. (*with* Jusupov, A. Ja.) A global study of the characteristics of the differential equation $dy/dx = Q(x;y)/P(x;y)$ on the entire plane. (Russian) *Taškent. Gos. Univ.–Buharsk. Ped. Inst. Naučn. Trudy Vyp.* 2 (16) (1967), 53–58. (K. R. Schneider) **53** #11147 34C05

(*with* Jusupov, A. Ja.) Limit angles of convex polygons and polyhedra in Lobačevskiĭ space. (Russian) *Taškent. Gos. Univ.—Buharsk. Ped. Inst. Naučn. Trudy Vyp.* 2 (16) (1967), 59–61. (A. K. Guc) **54** #1070 50C05

Hašimov, Š. A. Estimation of a probability density by Laguerre polynomials. (Russian) *Random processes and statistical inference, No.* 3 (*Russian*), *pp.* 186–192. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1973. (G. Manija) **51** #14391 62G05

(*with* Mirzahmedov, M. A.) On some properties of estimators of a probability density. *Kybernetika* (*Prague*) **9** (1973), 242–250. (M. Skibinsky) **49** #1668 62G05

(*with* Mirzahmedov, M. A.) The estimation of a probability density. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 9 (1973), 137–144, 177. (G. Manija) **54** #3949 62G05

(*with* Mirzahmedov, M. A.) On some properties of density estimation. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *pp.* 535–546. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (E. F. Schuster) **51** #9342 62G05

Uniform mean-square convergence of an estimate of a probability density. (Russian) *Random processes and statistical inference, No.* 4 (*Russian*), *pp.* 185--193, 214. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1974. (G. Manija) **54** #8972 62G05

Rate of convergence in the estimation of a probability density and a distribution function. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **75** (1974), 277–280. (S. A. Book) **50** #8821 62G05 (62E20)

The mean square error of nonparametric estimates of functions. (Russian) *Random processes and statistical inference, No.* 5 (*Russian*), *pp.* 175–181, 205. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1975. (G. Manija) **53** #11866 62G05

Remarks on estimates of curvilinear regression and of the density of a distribution. (Russian) *Limit theorems and mathematical statistics* (*Russian*), *pp.* 163–171, 191. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1976. (G. Manija) **56** #1569 62G05

Remarks on the nonparametric estimation of a regression curve. (Russian) *Limit theorems for random processes* (*Russian*), *pp.* 141–153, 167. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1977. (V. D. Konakov) **58** #3176 62G05

Some properties of nonparametric estimates of a probability density. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 11, 3–5. (G. Manija) **58** #13486 62G05

Hašimov, Ž. (*with* Badalov, F. B.; Muhidinov, N. M.) Approximate solution of boundary value problems for fourth order ordinary differential equations with variable coefficients by the differential double sweep method. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 41 (1976), 48–64, 186. (RŽMat **1977** #1 B1046) **58** #31857 65L10

Hašimova, M. K. An inversion formula. (Russian) *Mathematics and the methodology of its teaching, Part II* (*Russian*), *pp.* 135–138. *Tadžik. Gos. Univ., Dushanbe*, 1974. (Editors) **58** #28354 26A42

See also **Questions on differential equations, number theory, algebra and geometry, 52** #7763

Hasin, G. B. The deformation of varieties of linear subspaces of *n*-dimensional euclidean space. (Russian) *Jaroslav. Gos. Ped. Inst. Učen. Zap. No.* 61 *Geometrija* (1967), 160–165. (I. Kolář) **52** #1757 58A15 (53A25)

Three-parameter families of two-planes in projective four-space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 6(145), 80–90. (K. Svoboda) **52** #11750 53A20

Hasina, E. N. *See* **Mathematical questions in the design of a system of models, 58** #32879

Hasina, V. I. Six-dimensional Moufang webs. (Russian) *Collection of articles on differential geometry, No* 2. (*Russian*), *pp.* 35–39. *Kalinin. Gos. Univ., Kalinin*, 1975. (From the text) **58** #30781 53A35

Multidimensional three-webs with elastic *W*-algebras. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 4, 945–949. (Leo Boček) **55** #1237 53A55

Haskell, Donald F. *See* **Transactions: Conference of Army Mathematicians, 49** #4737

Haskell, R. Symmetrical precedence relations on general phrase structure grammars. *Comput. J.* **17** (1974), 234–241; *erratum, ibid.* **18** (1975), 191. (Richard A. DeMillo) **52** #12422 68A30

Haskell, T. G. (*with* Wybourne, Brian G.) Matrix elements of the radial-angular factorized harmonic oscillator. (Italian and Russian summaries) *Nuovo Cimento B*(11) **12** (1972), 185–196. (Y. Lehrer-Ilamed) **52** #12577 81.22

Haskin, A. M. An improvement of the accuracy in predicting the output signals of linear stationary sections. (Russian) *Avtometrija* **1974**, *no.* 2, 22–26, 113. (L. I. Gal′čuk) **52** #10206 94A05 (93E10)

Haskin, L. Ja. (*with* Mihaĭlov, V. V.) The flow of a gas from a container into a vacuum. (Russian) *Izv. Akad. Nauk SSSR Ser. Meh. Židk. Gaza* **1978**, *no.* 1, 161–165. (From the introduction) **58** #14288 76.35

Haskins, Loren (*with* Gudder, Stanley P.) Height on posets and graphs. *Discrete Math.* **2** (1972), *no.* 4, 357–382. (G. Grätzer) **46** #5186 06A10

(*with* Rose, Donald J.) Toward characterization of perfect elimination digraphs. *SIAM J. Comput.* **2** (1973), 217–224. (A. K. Dewdney) **49** #8895 05C20

(*with* Gudder, Stanley P.; Greechie, Richard J.) Perspectivity in semimodular orthomodular posets. *J. London Math. Soc.* (2) **9** (1974/75), 495–500. (Ronald P. Morash) **50** #12827 06A10

(*with* Gudder, Stanley P.) The center of a poset. *Pacific J. Math.* **52** (1974), 85–89. (R. P. Dilworth) **50** #1993 06A10

Haslam, H. B. On *H*-spaces mod $\mathfrak{C}_p$: *Proc. Amer. Math. Soc.* **30** (1971), 383–387. (M. Arkowitz) **46** #9968 55D45

Hasler, Martin On a quantum mechanical model for a maser. I. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 2, 351–371. (Gérard G. Emch) **54** #4444 81.60

Haslett, John The control of a multipurpose reservoir. *Advances in Appl. Probability* **8** (1976), *no.* 3, 592–609. (N. U. Prabhu) **55** #13611 60K30

Haslinger, Friedrich Quasibasen und nukleare (*F*)-Räume. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 5-7, 333–338. (Tosun Terzioğlu) **54** #8214 46A35

Funktoren auf Kategorien von nuklearen Räumen. (English and Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 1, 51–55. (W. H. Ruckle) **53** #1298 46M15 (46A05)

On Newton's interpolation polynomials. *J. Approximation Theory* **22** (1978), *no.* 4, 352–355. (Wolfgang Luh) **57** #13291 41A05

Haslinger, Fritz Basen in Räumen von holomorphen Funktionen. *Anz. Österreich. Akad.*

Wiss. Math.-Natur. Kl. **1977**, *no.* 12, 212–216. (M. S. Ramanujan) **58** #17780 46A45 (46E10)

Haslinger, Jaroslav Sur la solution d'un problème de la plaque. (Czech summary) *Apl. Mat.* **19** (1974), 316–326. (R. B. Kelman) **51** #6131 35J35

Éléments finis et l'estimation de l'erreur intérieur de la convergence. *Comment. Math. Univ. Carolinae* **15** (1974), 85–102. (Stanley Osher) **49** #1799 65N30

(*with* Hlaváček, Ivan) A mixed finite element method close to the equilibrium model. *Comment. Math. Univ. Carolinae* **15** (1974), 345–350. (Gilbert Strang) **49** #10169 65N30

(*with* Hlaváček, Ivan) Curved elements in a mixed finite element method close to the equilibrium model. (Czech summary) *Apl. Mat.* **20** (1975), 233–252. (M. Zlámal) **52** #4670 65N30

(*with* Hlaváček, Ivan) Convergence of a dual finite element method in R_n. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 3, 469–485. (I. Norman Katz) **52** #7161 65N35

(*with* Hlaváček, Ivan) A mixed finite element method close to the equilibrium model applied to plane elastostatics. (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 1, 28–42. (Ulrich Eckhardt) **52** #12360 65N30 (73.65)

(*with* Hlaváček, Ivan) Convergence of a finite element method based on the dual variational formulation. (Czech. and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 1, 43–65. (I. Aganović) **53** #1981 65N30

A note on a dual finite element method. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 4, 665–673. (John Whiteman) **55** #4745 65N30

(*with* Hlaváček, Ivan) A mixed finite element method close to the equilibrium model. *Numer. Math.* **26** (1976), *no.* 1, 85–97. (Ranbir S. Sandhu) **55** #13825 65N30

Finite element analysis for unilateral problems with obstacles on the boundary. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 3, 180–188. (Gilbert Strang) **55** #13824 65N30

(*with* Procházka, Petr) On the solution of a plate with ribs. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 4, 256–271. (Yi-Yuan Yu) **56** #7446 73.65

Hasmamedov, F. I. Methods of establishing the equation of the dynamics of complicated thermal objects when examining them as objects of control with concentrated parameters. (Russian) *Questions of engineering cybernetics* (*Russian*), *pp.* 115–122. *Izdat. Akad. Nauk Azerbaĭdžan. SSR*, *Baku*, 1969. **46** #1409 93C30

See also **Theory and methods of construction of multivariable control systems, 50** #6585

Has'minskiĭ, R. Z. Channels with small capacity, and symbol-by-symbol transmission. (Russian) Symposium on Information Theory (Dubna, 1969). *Problemy Peredači Informacii* **6** (1970), *no.* 2, 58–67. (G. Tusnády) **48** #10626 94A05

(*with* Nevel'son, M. B.) Continuous procedures of stochastic approximation. (Russian) *Problemy Peredači Informacii* 7 (1971), *no.* 2, 58–69. (A. M. Kagan) **48** #1319 60H10 (62L20)

(*with* Nevel'son, M. B.) ★Стохастическая аппроксимация и рекуррентное оценивание. (Russian) [Stochastic approximation and recurrent estimation]. Monographs in Probability Theory and Mathematical Statistics. *Izdat.* "*Nauka*", *Moscow*, 1972. 304 *pp.* (V. Fabian) **52** #12263 62L20

(*with* Ibragimov, I. A.) The successive invariant estimation of the shift parameter. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 18–20. (I. Vajda) **46** #4639 62L12

(*with* Ibragimov, I. A.) Information inequalities and superefficient estimates. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 1300–1302. (O. Gulyás) **47** #2733 62F10

(*with* Ibragimov, I. A.) Asymptotic behavior of statistical estimators for samples with discontinuous density. (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 554–586. (J. Štěpán) **46** #1007 62F15 (62E20)

The behavior of the processes of stochastic approximation for large time-variables. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 1, 81–91. (A. M. Kagan) **48** #1321 60H10

(*with* Ibragimov, I. A.) Transmission of a weak signal over a memoryless channel. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 4, 28–39. (S. Kotz) **48** #1790 94A05

(*with* Ibragimov, I. A.) The asymptotic behavior of certain statistical estimates in the smooth case. I. Investigation of the likelihood ratio. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 469–486. (A. Ja. Dorogovcev) **46** #10106 62E20

(*with* Ibragimov, I. A.) The admissibility of Pitman estimators for the location parameter. (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 57–61. (V. Kurotschka) **49** #8177 62C10

(*with* Nevel'son, M. B.) ★Stochastic approximation and recursive estimation. Translated from the Russian by the Israel Program for Scientific Translations. Translations of Mathematical Monographs, Vol. 47. *American Mathematical Society*, *Providence, R. I.*, 1973. iv + 244 *pp.* (Editors) **54** #11689 62L20

(*with* Nevel'son, M. B.) Convergence of moments of the Robbins-Monro procedure. *Avtomat. i Telemeh.* **1973**, *no.* 1, 96–100 (*Russian. English summary*); *translated as Automat. Remote Control* **34** (1973), *no.* 1, *part* 1, 85–90. (Authors' summary) **57** #1795 62L20

(*with* Ibragimov, I. A.) The approximation of statistical estimators by sums of independent variables. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 1273–1276. (J. H. Kučkarov) **49** #10020 62F10

(*with* Burnašev, M. V.) Asymptotic expressions for information in discontinuous-noise-density channel. *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **2** (1973), *no.* 2, 107–122; *translated as Problems of Control and Information Theory* (*English translation of Communications in Russian*) **2** (1973), *no.* 2, 1–15. (J. P. M. Schalkwijk) **50** #16103 94A15

(*with* Ibragimov, I. A.) Information inequalities and superefficient estimates. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 3, 53–67. (S. Kotz) **48** #5237 62F10

(*with* Ibragimov, I. A.) Asymptotic behavior of certain statistical estimates. II. Limit theorems for a posteriori density and for Bayesian estimates. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 78–93. (A. Ja. Dorogovcev) **46** #10107 62E20

(*with* Ibragimov, I. A.) Asymptotic analysis of statistical estimates for the "almos smooth" case. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973 250–260. (W. Hoeffding) **47** #6017 62F10

(*with* Ibragimov, I. A.) The moments of generalized Bayesian estimates and maximum likelihood estimates. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 535–546. (J. Wolfowitz) **48** #3170 62F10

(*with* Levit, B. Ja.) Sequential estimation of the parameter of a Markov chain (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 571–582. (M. E Thompson) **48** #12755 62L12

(*with* Ibragimov, I. A.) Amount of information in a sample relative to a parameter (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp* 4 (1973), 42–48, 152. (S. Kotz) **48** #12667 62B10 (94A15)

Sequential estimation and recursive asymptotically optimal procedures of estimatio and observation control. *Proceedings of the Prague Symposium on Asymptotic Statistic* (*Charles Univ., Prague*, 1973), *Vol. I*, *pp.* 157–178. *Charles Univ., Prague*, 1974. (Katsu Uosaki) **52** #2081 62L12

(*with* Ibragimov, I. A.) An estimator of the parameter of a signal in a Gaussian white noise. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 1, 39–59. (A. Ja Dorogovcev) **53** #6939 62M10 (93E10)

(*with* Ibragimov, I. A.) Estimation of the mean in a normal population. (Russian *Problemy Peredači Informacii* **10** (1974), *no.* 2, 64–74. (Editors) **58** #7995a (E. 58 #7995b) 62F15

(*with* Ibragimov, I. A.) Sequential estimation. (Russian. English summary) *Teor Verojatnost. i Primenen.* **19** (1974), 245–256. (N. L. Johnson) **49** #8245 62L12

(*with* Ibragimov, I. A.) The sequential estimation of the location parameter for samples with discontinuous density. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 700–713. (W. Hoeffding) **50** #11666 62L12

(*with* Ibragimov, I. A.) Asymptotic behavior of statistical estimators of the location parameter for samples with continuous density with singularities. (Russian) Problems in the theory of probability distributions, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst Steklov.* (*LOMI*) **41** (1974), 67–93, 166–167. (S. Kotz) **51** #2108 62F10

(*with* Ibragimov, I. A.) On a lower bound for moments of point estimators. *Ann Statist.* 3 (1975), 228–233. (Tze Leung Lai) **54** #3931 62F10

(*with* Ibragimov, I. A.) Letter to the editors: "Estimation of the mean in a normal population" (Problemy Peredači Informacii **10** (1974), no. 2, 64–74). (Russian) *Problemy Peredači Informacii* **11** (1975), *no.* 2, 103–104. (Editors) **58** #7995b 62F15

(*with* Ibragimov, I. A.) Estimation of the parameter of a discontinuous signal in Gaussian white noise. (Russian) *Problemy Peredači Informacii* **11** (1975), *no.* 3, 31–43. (Authors' summary) **58** #18863 62F10 (62M99, 94A05)

(*with* Ibragimov, I. A.) Local asymptotic normality for not identically distributed observations. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no.* 2, 251–266. (S. Kotz) **51** #11759 62E20 (62F10)

(*with* Ibragimov, I. A.) Properties of maximum likelihood and Bayesian estimators for not identically distributed observations. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no.* 4, 703–711. (W. Hoeffding) **52** #15798 62F10 (62F20)

(*with* Ibragimov, I. A.) Some problems of statistical data processing in communications. *Proceedings of the IEEE-USSR Joint Workshop on Information Theory* (*Moscow*, 1975), *pp.* 86–92. *Inst. Electr. Electron. Engrs., New York*, 1976. (A. Ja. Dorogovcev) **57** #5334 93E10 (94A05)

(*with* Ibragimov, I. A.) Asymptotic behavior of statistical estimates of the location parameter for samples with unbounded density. (Russian. English summary) Problems in the theory of probability distributions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **55** (1976), 175–184, 201. (W. Hoeffding) **54** #1452 62F10 (62E20)

(*with* Ibragimov, I. A.) Estimation of infinite-dimensional parameter in Gaussian white noise. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 5, 1053–1055. (A. Ja. Dorogovcev) **58** #3250 62M10

(*with* Ibragimov, I. A.) A statistical estimation problem in Gaussian white noise. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 6, 1300–1302. (A. Ja. Dorogovcev) **58** #3251 62M10

Stochastic approximation methods in nonlinear regression models. (Russian summary) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 1, 95–106. (V. Dupač) **58** #24781 62L20

(*with* Ševerdjaev, A. Ju.) A class of estimates for the shift parameter. (Russian) *Problemy Peredači Informacii* **13** (1977), *no.* 2, 55–61. (Author's summary) **58** #26436 93E10

(*with* Zjablov, V. V.; Samarov, A. M.) Problems of estimation when the resources of a statistic are limited. (Russian) *Problemy Peredači Informacii* **13** (1977), *no.* 3, 32–44. (S. Kotz) **57** #14239 62F10

(*with* Samarov, A. M.) Estimation by means of statistics that take a finite number of values. (Russian) *Problemy Peredači Informacii* **13** (1977), *no.* 4, 22–28. (L. A. Anorina) **58** #3163 62F10

(*with* Ibragimov, I. A.) A uniform condition for local asymptotic normality. (Russian. English summary) Studies in statistical estimation theory, I. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **74** (1977), 108–117, 147, 148–149. (W. Hoeffding) **58** #13458 62E20

See also **Symposium: Information Theory**, **50** #9416 *and* **Problems in the theory of probability distributions**, **52** #4355

Hasofer, A. M. On the derivative and the upcrossings of the Rayleigh process. *Austral. J. Statist.* **12** (1970), 150–151. (J. B. Robertson) **45** #7804 60G15

The joint distribution of the envelope of a Gaussian process and its derivative. *Austral. J. Statist.* **15** (1973), 215–216 (1974). **49** #9924 60G15

The upcrossing rate of a class of stochastic processes. *Studies in probability and statistics* (*papers in honour of Edwin J. G. Pitman*), *pp.* 153–159. *North-Holland, Amsterdam*, 1976. (Georg Lindgren) **54** #8825 60G17

(*with* Adler, Robert J.) Level crossings for random fields. *Ann. Probability* **4** (1976), 1, 1–12. (Werner Fieger) **53** #9352 60G15

The mean number of maxima above high levels in Gaussian random fields. *J. Appl. obability* **13** (1976), *no.* 2, 377–379. (Georg Lindgren) **53** #9354 60G15

Upcrossings of random fields. Spatial patterns and processes (Proc. Conf., anberra, 1977). *Adv. Appl. Probab.* **1978**, *suppl.*, 14–21. (Georg Lindgren) **58** #13313 G15

See also **Studies in the history of statistics and probability**, **51** #1889

enoph, Jean-Marie Localisation des zéros de polynômes réciproques. *Séminaire elange-Pisot-Poitou*, 13*e année* (1971/72), *Théorie des nombres*, *Fasc.* 2, *Exp. No. G*1, 4 *. Secrétariat Mathématique*, *Paris*, 1973. (M. Marden) **52** #13758 12D10 (30A08)

Localisation des zéros de polynômes par rapport au cercle unité. *Séminaire elange-Pisot-Poitou* (13*e année*: 1971/72), *Théorie des nombres*, *Fasc.* 2, *Exp. No.* 24, 8 *. Secrétariat Mathématique*, *Paris*, 1973. (P. Abellanas) **55** #5597 12D10

Dennis C. Recognizing manifolds among generalized manifolds. *Proc. Amer. Math. oc.* **34** (1972), 311–313. (D. R. McMillan, Jr.) **45** #4426 57B99

The ends of product manifolds. *Proc. Amer. Math. Soc.* **36** (1972), 267–271. (H. W. ambert) **46** #6363 57A15

R. (*with* Ansorge, Rainer) ★Konvergenz von Differenzenverfahren für lineare und chtlineare Anfangswertaufgaben. Lecture Notes in Mathematics, Vol. 159. *pringer-Verlag*, *Berlin-New York*, 1970. viii + 145 *pp.* (Gilbert Strang) **45** #1398 5L05

Konvergenz von differenzenverfahren für halblineare Anfangswertaufgaben. *umerische Lösung nichtlinearer partieller Differential- und Integrodifferentialgleichungen agung*, *Math. Forschungsinst.*, *Oberwolfach*, 1971), *pp.* 99–116. *Lecture Notes in Math.*, *ol.* 267, *Springer*, *Berlin*, 1972. (B. Kellogg) **51** #4687 65M10

(*with* Ansorge, Rainer; Geiger, C.) Existenz und numerische Erfaßbarkeit erallgemeinerter Lösungen halblinearer Anfangswertaufgaben. (English and Russian ummaries) *Z. Angew. Math. Mech.* **52** (1972), *no.* 12, 597–605. (A. R. Mitchell) **2** #12346 65M05

Bemerkungen zur Stabilität von Differenzenverfahren für lineare und halblineare nfangswertaufgaben. *Numerische Behandlung nichtlinearer Integrodifferential- und ifferentialgleichungen* (*Tagung*, *Math. Forschungsinst.*, *Oberwolfach*, 1973), *pp.* 19–31. *ecture Notes in Math.*, *Vol.* 395, *Springer*, *Berlin*, 1974. (Philip Brenner) **50** #11800 5N10

(*with* Kreth, Horst) Stabilität und Konvergenz von Mehrschrittverfahren zur umerischen Lösung quasilinearer Anfangswertprobleme. (English and Russian ummaries) *Z. Angew. Math. Mech.* **54** (1974), 353–358. (Gilbert Strang) **49** #10162 5M10

ab, Joseph C. A simply solvable class of simultaneous linear equations. *IEEE Trans. omputers* **C-22** (1973), 866–867. (R. P. Tewarson) **50** #8931 65F05

an, A. R. (*with* Moussa, A. R.) Two-photon absorption in the presence of an electric ield. (Italian and Russian summaries) *Nuovo Cimento B*(11) **28** (1975), *no.* 1, 27–38. (F. . Auluck) **52** #7353 81.30

assan, Ahmad Y. *See* **Al-Hassan, Ahmad Y.**

an, Ahmad Yusuf *See* **Al-Hassan, Ahmad Y.**

an, Ali Hussain On the completion of a Noetherian ring in the natural topology. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 4, 483–485. (William D. Blair) **56** #2998 3H05

an, Badie T. M. The cut locus of a Finsler manifold. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 739–744 (1974). (Juergen Kern) **0** #14614 53C60

A theorem on compact Finsler surfaces. (Arabic summary) *Proc. Math. Phys. Soc. Egypt No.* 40 (1975), 1–6. (N. Prakash) **52** #1590 53C60

Isometric immersions of a complete Finsler space into a Finsler space. (Arabic summary) *Proc. Math. Phys. Soc. Egypt No.* 40 (1975), 15–18. (N. Prakash) **52** #1591 53C60

an, Hassan A. Z. *See* **Studies in elasticity and plasticity**, **48** #3334

an, Jean-Claude (*with* Baras, Pierre; Véron, Laurent) Compacité de l'opérateur définissant la solution d'une équation d'évolution non homogène. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 14, A799–A802. (Authors' summary) **55** #3869 47D05 (34G05)

-Hassan, M. *See* **Hage-Hassan, M.**

an, M. H. A. Generalized Rosenbluth potentials. *Phys. A* **90** (1978), *no.* 2, 351–359. (Author's summary) **57** #8597 81.31

an, Mohammed F. (*with* Singh, Madan G.) The optimization of non-linear systems using a new two level method. *Automatica–J. IFAC* **12** (1976), *no.* 4, 359–363. (B. L. Ovsievič) **55** #2146 90C30

(*with* Singh, Madan G.) A comparison of two hierarchical optimization methods. *Internat. J. Systems Sci.* **7** (1976), *no.* 6, 603–611. (J. P. Babary) **54** #1604 65K05

(*with* Singh, Madan G.) A two level prediction algorithm for non-linear systems. *Automatica--J. IFAC* **13** (1977), *no.* 1, 95–96. (B. L. Ovsievič) **56** #2546 93C10

(*with* Singh, Madan G.) Local and global optimal control for non-linear systems using two-level methods. *Internat. J. Systems Sci.* **8** (1977), *no.* 12, 1375–1383. (Norihiko Adachi) **57** #11878 93C10

(*with* Salut, Gérard; Singh, Madan G.; Titli, André) A decentralized computational algorithm for the global Kalman filter. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 2, 262–268. (Authors' summary) **58** #15566 93E10 (93A15, 93E25)

(*with* Singh, Madan G.) A hierarchical structure for computing near optimal decentralized control. *IEEE Trans. Systems Man Cybernet.* **8** (1978), *no.* 7, 575–579. (Bension Kurtaran) **58** #12598 49B15 (93A15)

san, S. D. (*with* Kamel, A. A.) A perturbation treatment for optimal slightly nonlinear systems with linear control and quadratic criteria. *J. Optimization Theory Appl.* **11** (1973), 386–404. (V. F. Dem′janov) **51** #6540 49D99

san, S. S. (*with* Saunders, R.; Bullough, R. K.) Propagational effects in an ab initio theory of super-radiance from extended systems. *J. Phys. A* **9** (1976), *no.* 10, 1725–1730. (M. M. Skriganov) **56** #14392 81.65

san, Sayed D. (*with* Nayfeh, Ali Hasan) The method of multiple scales and non-linear dispersive waves. *J. Fluid Mech.* **48** (1971), 463–475. (J. C. J. Nihoul) **46** #8535 76.46

Hassan Attija Huseĭn Estimation of the exponential growth of the solutions of certain linear partial differential equations with a highest order term. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 12, 2279–2280, 2303. (A. Haimovici) **55** #13055 35B40

Hassanein, Khatab M. (*with* Sebaugh, Jeanne L.) Estimation of the parameters of the logistic distribution from grouped samples. *Skand. Aktuarietidskr.* **1973**, 1–10. (A. C. Cohen) **52** #6976 62F10 (62D05)

Linear estimation of the parameters of the logistic distribution by selected order statistics for very large samples. *Statist. Hefte* (*N.F.*) **15** (1974), *no.* 1, 65–70. (Author's summary) **55** #13645 62F10

Simultaneous estimation of the location and scale parameters of the gamma distribution by linear functions of order statistics. *Scand. Actuar. J.* **1977**, *no.* 2, 88–93. (Mir Ali) **56** #1554 62F10

Hassard, Brian (*with* Chang, T. S.; Ludford, G. S. S.) An exact solution in the stability of m.h.d. Couette flow. *Proc. Roy. Soc. London Ser. A* **327** (1972), 269–278. (E. A. Boyd) **46** #10292 76.35

(*with* Hussein, D. A.) On Cesàro function spaces. *Tamkang J. Math.* **4** (1973), 19–25. (R. Rao Chivukula) **48** #12025 46E30

(*with* Chang, T. S.; Ludford, G. S. S.) Expansion functions with boundary-layer behavior and the Orr-Sommerfeld equation. *J. Math. Anal. Appl.* **46** (1974), 463–477. (E. A. Boyd) **49** #11944 76.41

(*with* Wan, Y. H.) Bifurcation formulae derived from center manifold theory. *J. Math. Anal. Appl.* **63** (1978), *no.* 1, 297–312. (J. E. Marsden) **58** #7719 58F10

Bifurcation of periodic solutions of the Hodgkin-Huxley model for the squid giant axon. *J. Theoret. Biol.* **71** (1978), *no.* 3, 401–420. (Brian D. Sleeman) **57** #18870 92A05

Hasse, Helmut On a question of S. Chowla. *Acta Arith.* **18** (1971), 275–280. (*errata insert*) (S. Chowla) **48** #3891 10F35

(*with* Chowla, S.) Application of a theorem of Hasse to a problem on diophantine equations. *J. Reine Angew. Math.* **252** (1972), 44–50. (E. Grosswald) **45** #5076 10B99

★Mathematische Abhandlungen. Band 1. Herausgegeben von Heinrich Wolfgang Leopoldt und Peter Roquette. *Walter de Gruyter*, *Berlin-New York*, 1975. xv + 535 *pp.* (1 *plate*) (J. S. Joel) **57** #5648a 01A75 (12–03)

★Mathematische Abhandlungen. Band 2. Herausgegeben von Heinrich Wolfgang Leopoldt und Peter Roquette. *Walter de Gruyter*, *Berlin-New York*, 1975. xv + 525 *pp.* (J. S. Joel) **57** #5648b 01A75 (12–03)

★Mathematische Abhandlungen. Band 3. Herausgegeben von Heinrich Wolfgang Leopoldt und Peter Roquette. *Walter de Gruyter*, *Berlin-New York*, 1975. x + 532 *pp.* (1 *plate*) (J. S. Joel) **57** #5648c 01A75 (12–03)

An algorithm for determining the structure of the 2-Sylow-subgroups of the divisor class group of a quadratic number field. *Symposia Mathematica*, *Vol. XV* (*Convegno di Strutture in Corpi Algebrici*, *INDAM*, *Rome*, 1973), *pp.* 341–352. *Academic Press*, *London*, 1975. (William C. Waterhouse) **52** #8082 12A50 (12A25)

(*with* Bernstein, Leon) Ein formales Verfahren zur Herstellung parameter-abhängiger Scharen quadratischer Grudeinheiten. *J. Reine Angew. Math.* **276** (1975), 206–212. (K. Lakkis) **51** #12783 12A45

(*with* Baica, Malvina) Putting last digits first yields multiple. (Italian summary) Collection of articles dedicated to Mauro Picone on the occasion of his ninetieth birthday. *Rend. Mat.* (6) **8** (1975), 31–36. (H. L. Abbott) **51** #8019 10A30

Ein Analogon zu den ganzzahligen pythagoräischen Dreiecken. *Elem. Math.* **32** (1977), *no.* 1, 1–6. (Heiko Harborth) **55** #5521 10B05

(*with* Prichett, Gordon D.) A conjecture on digital cycles. *J. Reine Angew. Math.* **298** (1978), 8–15. (V. C. Harris) **58** #10696 10A30

(*with* Prichett, Gordon D.) The determination of all four-digit Kaprekar constants. *J. Reine Angew. Math.* **299/300** (1978), 113–124. (A. J. van der Poorten) **58** #5489 10A30

See also **Collection: Hasse, Helmut**, **48** #212; **Collection: Hasse, Helmut**, **49** #4702; **Collection: Hasse, Helmut**, **51** #2817 *and* **Leopoldt, Heinrich Wolfgang**, **58** #87

Hasse, Maria Normale Untergruppoide und normale Unterkategorien. I. *Wiss. Z. Techn. Univ. Dresden* **21** (1972), 755–758. (K. Drbohlav) **53** #3053 18A10 (20L10)

Über die Unterhalbgruppen der freien Halbgruppen. *Wiss. Z. Techn. Univ. Dresden* **23** (1974), 1063–1064. (H.-J. Hoehnke) **51** #8293 20M05

Zum Begriff des allgemeinen Produkts von Kategorien. *S.-B. Sächs. Akad. Wiss. Leipzig Math.-Natur. Kl.* **111** *no.* 3, 30 *pp.* (1975). (H.-J. Hoehnke) **51** #8196 18A20

Hasse, Rainer W. The method of generating functions for the calculation of matrix elements in the deformed-harmonic oscillator basis. *Ann. Physics* **80** (1973), 118–141. (K. J. Le Couteur) **49** #1963 81.33

Hasselblad, Victor *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9427

Hassell, M. P. (*with* Comins, H. N.) Discrete time models for two-species competition. *Theoret. Population Biology* **9** (1976), *no.* 2, 202–221. (H. A. Lauwerier) **54** #9731 92A15

Hasselman, T. K. (*with* Hart, Gary C.) A minimization method for treating convergence in modal synthesis. *AIAA J.* **12** (1974), 316–323. (F. V. Pohle) **48** #7570 65F15

Hasselmann, Dieter E. Wind-wave generation by energy and momentum flux to the forced components of a wave field. *J. Fluid Mech.* **85** (1978), *no.* 3, 543–572. (From the summary) **57** #18449 76.35

Hassett, Matthew J. A characterization of the orders of regressive ω-groups. *J. Austral. Math. Soc.* **14** (1972), 379–382. (A. Nerode) **47** #4780 02F40

A closure property of regressive isols. *Rocky Mountain J. Math.* **2** (1972), *no.* 1, 1–24. (J. Barback) **45** #1761 02F25

Extension pathology in regressive isols. *Compositio Math.* **26** (1973), 31–39. (H. Gonshor) **47** #3158 02F40 (02F45)

Hässig, Kurt ★Stochastische lineare Programmierung und ihre Anwendungsmöglichkeiten in der Wirtschaft. Dissertation der Hochschule St. Gallen für Wirtschafts- und Sozialwissenschaften zur Erlangung der Würde eines Doktors der Wirtschaftswissenschaften. Dissertation No. 399. *Hochschule St. Gallen*, *St. Gallen*, 1971. ii + 150 *pp.* (A. Prékopa) **52** #2581 90C15 (90A05)

Verallgemeinerte Netzwerkflussprobleme. *Sechste Oberwolfach-Tagung über*

Operations Research (1973), *Teil I*, *pp.* 103–120. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. (Rainer Burkard) **56** #2287 90B10

Die Bestimmung einer fundamentalen Basis von Schleifen in stark zusammenhängenden Graphen. (English summary) *Z. Operations Res. Ser. A-B* **18** (1974), A51–A58. (Jean-Claude Bermond) **51** #242 05C20

Ein Markieralgorithmus zur Lösung von allgemeinen Transportproblemen mit einem Bündel. (English summary) *Z. Operations Res. Ser. A-B* **18** (1974), A105–A116. (M. Mañas) **51** #14914 90B10

(*with* Müller, Horst) Die *k* kürzesten Wege in einem schleifenfreien Graphen und die Anwendung zur Bestimmung subkritischer Wege in der Terminplanung. *Operations Research Verfahren, Band XX, pp.* 31–36. *Hain, Meisenheim am Glan*, 1975. (Authors' summary) **57** #18783 90B10 (05C35)

Theorie verallgemeinerter Flüsse und Potentiale. *Siebente Oberwolfach-Tagung über Operations Research* (1974), *pp.* 85–98. *Operations Research Verfahren, Band XXI, Hain, Meisenheim am Glan*, 1975. (Rainer Burkard) **56** #8434 05C99

Hasslacher, Brosl (*with* Dashen, Roger F.; Neveu, André) Semiclassical bound states in an asymptotically free theory. *Phys. Rev. D* (3) **12** (1975), *no.* 8, 2443–2458. (K. J. Le Couteur) **57** #18563 81.34 (34E20)

(*with* Neveu, André) Non-linear quantum field theory. Conference on the Theory and Application of Solitons (Tucson, Ariz., 1976). *Rocky Mountain J. Math.* **8** (1978), *no.* 1-2, 341–369. (R. A. Minlos) **58** #14576 81.35

Hasstedt, Sandra A stochastic model for a closed biochemical system at equilibrium. *J. Theoret. Biol.* **70** (1978), *no.* 2, 199–212. (J. P. Kernevez) **57** #15549 92A05

Hastie, R. J. (*with* Connor, J. W.; Taylor, J. B.) Shear, periodicity, and plasma ballooning modes. *Phys. Rev. Lett.* **40** (1978), *no.* 6, 396–399. (Authors' summary) **56** #14048 76.35

Hastings, Alan Spatial heterogeneity and the stability of predator-prey systems. *Theoret. Population Biology* **12** (1977), *no.* 1, 37–48. (Author's summary) **56** #14826 92A15

Hastings, Harold M. Simplicial topological resolutions. *Proceedings of the Thirteenth Biennial Seminar of the Canadian Mathematical Congress* (*Dalhousie Univ., Halifax, N.S.*, 1971), *Vol.* 2, *pp.* 66–77. *Canad. Math. Congr., Montreal, Que.*, 1972. (J. P. May) **51** #11509a (E **51** #11509b) 55H15 (57F35)

A smash product for spectra. *Bull. Amer. Math. Soc.* **79** (1973), 946–951. (J. P. May) **49** #8001 55B20

Correction to: "Simplicial topological resolutions" (Proceedings of the Thirteenth Biennial Seminar of the Canadian Mathematical Congress, Dalhousie Univ., Halifax, N.S., 1971) Vol. 2, pp. 66–77. Canad. Math. Congr., Montreal, Que. 1972). *Canad. Math. Bull.* **17** (1974), 307. (J. P. May) **51** #11509b 55H15 (57F35)

Fibrations of compactly generated spaces. *Michigan Math. J.* **21** (1974), 243–251 (1975). (E. Fadell) **51** #4227 55D05

On function spectra. *Proc. Amer. Math. Soc.* **44** (1974), 186–188. (J. P. May) **49** #8002 55B20

Stabilizing tensor products. *Proc. Amer. Math. Soc.* **49** (1975), 1–7. (R. M. F. Moss) **50** #14740 55E10 (18D10)

(*with* Edwards, David A.) ★Čech and Steenrod homotopy theories with applications to geometric topology. Lecture Notes in Mathematics, Vol. 542. *Springer-Verlag, Berlin-New York*, 1976. vii+296 *pp.* (Claude Schochet) **55** #1347 55D99 (55B05)

(*with* Edwards, David A.) Whitehead theorems in proper homotopy theory. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 1, 59–60. (E. M. Brown) **52** #11899 55D10

(*with* Edwards, David A.) Generalized Steenrod homology theories. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 2, 328–330. (Jerome Kaminker) **55** #4140 55B20

(*with* Edwards, David A.) On topological methods in homological algebra. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 389–393. (Timothy Porter) **54** #12864 18G25 (55J99)

Function spaces for the homotopy category of CW complexes. *Rocky Mountain J. Math.* **6** (1976), *no.* 1, 117–118. (Pierre J. Malraison, Jr.) **53** #5696 18D15 (55D99)

(*with* Edwards, David A.) Every weak proper homotopy equivalence is weakly properly homotopic to a proper homotopy equivalence. *Trans. Amer. Math. Soc.* **221** (1976), *no.* 1, 239–248. (P. W. H. Lemmens) **53** #14481 55D10

(*with* Edwards, David A.) Why the *R*-completion works. NSF-CBMS Regional Conference in Topology (Univ. Tennessee, Knoxville, Tenn., 1974). *General Topology and Appl.* **7** (1977), *no.* 2, 179–184. (Jerrold W. Grossman) **56** #13208 55D15

(*with* Edwards, David A.) Classifying open principal fibrations. *Trans. Amer. Math. Soc.* **240** (1978), 213–220. (Joel M. Cohen) **57** #17642 55F35

Hastings, N. A. J. (*with* Mello, J. M. C.) Tests for suboptimal actions in discounted Markov programming. *Management Sci.* **19** (1972/73), 1019–1022. (Ulrich Rieder) **48** #13277 (E **50** #1732) 90C45

★Dynamic programming (with management applications). Operational Research Series. *Crane, Russak & Co. Inc., New York*, 1973. 173 *pp.* (I. V. Romanovskiĭ) **55** #12117 90C40

(*with* Mello, J. M. C.) Erratum: "Tests for suboptimal actions in discounted Markov programming" (Management Sci. **19** (1972/73), 1019–1022). *Management Sci.* **20** (1973/74), 1143. (Ulrich Rieder) **50** #1732 90C40

(*with* Peacock, J. B.) ★Statistical distributions. A handbook for students and practitioners. *Halsted Press* [*John Wiley & Sons*], *New York-Toronto, Ont.*, 1975. xiii+130 *pp.* (Editors) **50** #11592 62E99

A test for nonoptimal actions in undiscounted finite Markov decision chains. *Management Sci.* **23** (1975/76), *no.* 1, 87–92. (Author's summary) **55** #11935 90A05

(*with* Bestwick, Paul F.) A new bound for machine scheduling. *Operational Res. Quart.* **27** (1976), *no.* 2, *part* 2, 479–487. (Albert Schild) **54** #4622 90B35

(*with* van Nunen, Johannes Arnoldus Elisabeth Emmanuel) The action elimination algorithm for Markov decision processes. *Markov decision theory* (*Proc. Adv. Sem., Amsterdam*, 1976), *pp.* 161–170. *Math. Centre Tracts, No.* 93, *Math. Centr., Amsterdam*, 1977. (K. Hinderer) **58** #15199 90C40

(*with* Mello, J. M. C.) ★Decision networks. *Wiley-Interscience* [*John Wiley & Sons*], *Chichester-New York-Brisbane*, 1978. ix+196 *pp. ISBN* 0-471-99531-2 (P. Jambor) **58** #9177 90B10 (90D35)

Hastings, Stuart On the uniqueness and asymptotic behavior of a similarity solution for a compressible boundary layer. *Arch. Rational Mech. Anal.* **42** (1971), 128–136. (H. K. Wilson) **51** #984 34B15

(*with* Siegel, S.) On some solutions of the Falkner-Skan equation. *Mathematika* (1972), 76–83. (K. Stewartson) **48** #4401 34B30 (76.34)

On a third order differential equation from biology. *Quart. J. Math. Oxford Ser.* **23** (1972), 435–448. (H. P. McKean, Jr.) **48** #2497 34C35 (92A05)

Reversed flow solutions of the Falkner-Skan equation. *SIAM J. Appl. Math.* (1972), 329–334. (K. Stewartson) **46** #5754 34C99

A note on saddle point behavior for ordinary and functional differential equations *J. Math. Anal. Appl.* **42** (1973), 761–768. (A. F. Izé) **47** #9018 34K15

The existence of periodic solutions to Nagumo's equation. *Quart. J. Math. Oxford Ser.* (2) **25** (1974), 369–378. (J. Smoller) **50** #10442 34C25 (35L05)

Some mathematical problems from neurobiology. *Amer. Math. Monthly* **82** (1975 *no.* 9, 881–895. (B. D. Sleeman) **52** #2633 92A05 (34C25)

On travelling wave solutions of the Hodgkin-Huxley equations. *Arch. Rationa Mech. Anal.* **60** (1975/76), *no.* 3, 229–257. (J. Smoller) **53** #6123 35Q99 (92A05)

(*with* Murray, J. D.) The existence of oscillatory solutions in the Field-Noyes mode for the Belousov-Zhabotinskii reaction. *SIAM J. Appl. Math.* **28** (1975), 678–688. (A. d. Castro Brzezicki) **51** #2391 70.35 (34C15)

On the existence of homoclinic and periodic orbits for the Fitzhugh-Nagum equations. *Quart. J. Math. Oxford Ser.* (2) **27** (1976), *no.* 105, 123–134. (J. Smoller **52** #14568 35B10 (34C25)

(*with* Greenberg, James M.) Progressive waves in materials exhibiting long rang memory. *SIAM J. Appl. Math.* **30** (1976), *no.* 1, 31–41. (Cataldo Agostinelli) **52** #16229 73.45

Periodic plane waves for the Oregonator. *Studies in Appl. Math.* **55** (1976), *no.* 293–299. (Ernest G. Kalnins) **58** #11937 35K99 (82.35)

(*with* Tyson, John J.; Webster, Dallas) Existence of periodic solutions for negativ feedback cellular control systems. *J. Differential Equations* **25** (1977), *no.* 1, 39–64. (O Gürel) **58** #9374 92A05 (34C25)

On the uniqueness and global asymptotic stability of periodic solutions for a thir order system. Proceedings of the Regional Conference on the Application of Topological Methods in Differential Equations (Boulder, Colo., 1976). *Rocky Mountai J. Math.* **7** (1977), *no.* 3, 513–538. (K. Kreith) **57** #10096 34C25 (92A05)

(*with* Greenberg, James M.) Spatial patterns for discrete models of diffusion i excitable media. *SIAM J. Appl. Math.* **34** (1978), *no.* 3, 515–523. (William W. Hager **58** #4408 92A05

See also **Advances in differential and integral equations**, **50** #10389

Hastings, W. Keith Variance reduction and non-normality. *Biometrika* **61** (1974), 143–149 (J. N. K. Rao) **52** #12173 62E25 (62D05)

Hastings, William W. A Carleson measure theorem for Bergman spaces. *Proc. Amer Math. Soc.* **52** (1975), 237–241. (Arne Stray) **51** #11082 46E15 (30A78, 32A30)

Commuting subnormal operators simultaneously quasisimilar to unilateral shifts. *Illinois J. Math.* **22** (1978), *no.* 3, 506–519. (L. A. Coburn) **58** #23716 47B20 (32A30)

Hastings-James, R. (*with* Sarkar, S. K.; Aatre, V. K.) Observers for systems with extended equations of state. *Matrix Tensor Quart.* **26** (1975/76), *no.* 3, 106–109. (Zbl 332 #93012) **58** #4492 93B05

Hasumi, Morisuke A remark on extreme points in H^1 on polydiscs. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 3, 25–28 (1971). (W. E. Kirwan) **45** #591 32A30 (46E15)

(*with* Takahasi, Sin-ei) An abstract Wiener-Lévy theorem on Fourier transforms. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 5 (1973), 47–52. (K. Yale) **48** #6940 46J10

Extreme points and unicity of extrèmum problems in H^1 on polydiscs. *Pacific J. Math.* **44** (1973), 523–535. (J. Kajiwara) **47** #7055 32A30

Invariant subspaces on open Riemann surfaces. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **24** (1974), *no.* 4, vii, 241–286 (1975). (S. Fisher) **51** #901 30A78

A note on Korovkin sets. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 7 (1975), 39–41. (S. J. Sidney) **52** #1125 41A65 (46E25)

Invariant subspaces on open Riemann surfaces. II. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **26** (1976), *no.* 2, viii, 273–299. (S. Fisher) **53** #11062 30A78

The Fatou theorem for open Riemann surfaces. *Duke Math. J.* **43** (1976), *no.* 4, 731–746. (Y. Kusunoki) **54** #5459 30A50

Theory of invariant subspaces. (Japanese) Function algebras and their applications. *Sûgaku* **28** (1976), *no.* 1, 47–57, 87–95. (Kiyoko Nishizawa) **58** #30274 46J15 (30A78, 43A75, 60G25)

Unique Hahn-Banach extensions and simultaneous extensions. *Proc. Amer. Math. Soc.* **62** (1977), *no.* 2, 281–286. (D. J. Patil) **56** #1029 46B05 (46E15)

Hasuo, Yutaka On the homotopy groups with coefficients. *Rep. Fac. Sci. Kagoshima Univ. No.* 4 (1971), 17–24. (J. C. Becker) **46** #9972 55E05

On the generalized Hurewicz theorem. *Rep. Fac. Sci. Kagoshima Univ. No.* 9 (1976), 51–54. (I. Pop) **58** #7625 55E05

Hata, Shiroh (*with* Shibata, Hiroshi; Ohmatsu, Shigeru) On the modeling in the diffusion processes and its application to the control problems. (Japanese. English summary) *Systems and Control* **16** (1972), 225–235. (Tohru Katayama) **49** #2190 93E20

(*with* Shibata, Hiroshi; Ohmatsu, Shigeru) Optimal filter for a linear distributed-parameter system subject to state dependent noise by functional analysis. (Japanese. English summary) *Systems and Control* **16** (1972), 809–817. (Authors' summary) **47** #3090 94A05

(*with* Hidaka, Shunichi; Shibata, Hiroshi) An iterative estimation for states and parameters of nonlinear system. *Systems-Computers-Controls* **3** (1972), *no.* 4, 1–8 (1973). (H. Taylor) **49** #12139 93E10

(*with* Ohmatsu, Shigeru; Kawakami, Hakuhei; Shibata, Hiroshi) Numerical analysis of the optimal control for a stochastic distributed parameter system. *Bull. Univ. Osaka Prefecture Ser. A* **22** (1973), *no.* 1, 49–56. (Authors' summary) **56** #11439 93E20

(*with* Ohmatsu, Shigeru; Shibata, Hiroshi) Digital simulation of the optimal filter for a stochastic distributed parameter system. *Bull. Univ. Osaka Prefecture Ser. A* **22** (1973), *no.* 2, 131–138. (R. S. Bucy) **50** #4073 93E10

(*with* Shibata, Hiroshi) L_2-bounded stability for a stochastic system. *Internat. J. Control* (1) **18** (1973), 1275–1280. (Authors' summary) **54** #7079 93E15

(*with* Takashima, Yoshinao; Maruoka, Takaharu) An optimal control for a system th time delay. (Japanese. English summary) *Systems and Control* **17** (1973), 515–522. Kato) **52** #5124 93C30 (93C15)

(*with* Maruoka, Takaharu; Takashima, Yoshinao) A hybrid computation of timal feedback gains for time-delay systems. *Bull. Univ. Osaka Prefecture Ser. A* **23** 974), 7–16. (D. H. Chyung) **52** #7636 93C15

(*with* Omatu, Sigeru; Shibata, Hiroshi) Optimal boundary control for a linear ochastic distributed parameter system using functional analysis. *Information and ntrol* **24** (1974), 264–278. (N. U. Ahmed) **54** #2313 93E20

(*with* Takashima, Yoshinao; Maruoka, Takaharu) A method of calculating the timal feedback gains for a control system with time-delay. (Japanese. English mmary) *Systems and Control* **18** (1974), 234–240. (Kunihiko Ichikawa) **52** #7625 C05

(*with* Mayeda, Hiroshi; Shibata, Hiroshi) Analyses of stochastic stability for screte-time distributed parameter systems. *Bull. Univ. Osaka Prefecture Ser. A* **24** 975), *no.* 2, 167–173. (G. N. Milʹšteĭn) **56** #18066 93E15

(*with* Shibata, Hiroshi) Stochastic stability for a multiloop nonlinear system. *IEEE rans. Automatic Control* **AC-21** (1976), *no.* 4, 600–601. (Ludwig Arnold) **54** #7080 E15

a, Kazuyuki On the divisibility by 2 of the eigenvalues of Hecke operators. *Proc. pan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 1, 37–40. (A. N. Andrianov) **57** #236 D15

Congruences of the eigenvalues of Hecke operators. *Proc. Japan Acad. Ser. A Math. ci.* **53** (1977), *no.* 4, 125–128. (R. A. Rankin) **56** #11902 10D05

Periods of primitive forms. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 5, 74–177. (O. M. Fomenko) **58** #21946 10D15

a, Minoru (*with* Kuwahara, Michigoshi) A new circle criterion for the stability of onlinear control system. *Mem. Fac. Engrg. Kyoto Univ.* **34** (1972), 221–233. (S. eljavskiĭ (RŽMat **1973** #3 B306)) **50** #721 34H05 (93D10)

(*with* Kuwahara, Michigoshi) The asymptotic stability of the linear systems with eriodic coefficients. I. Continuous systems. (Japanese. English summary) *Systems and ontrol* **17** (1973), 223–231. (Authors' summary) **47** #3076 93D99

(*with* Kuwahara, Michigoshi) The asymptotic stability of linear control systems vith periodic coefficients. II. Second order and third order discrete systems. (Japanese. nglish summary) *Systems and Control* **19** (1975), *no.* 11, 605–611. (Yuzo Yamane) 3 #10416 93D99

An analysis of a queueing system. (Japanese) *Systems and Control* **20** (1976), *no.* 9, 07–508. (Takehisa Fujisawa) **58** #13398 60K25

keyama, Ittatsu (*with* Outa, Mitsuo; Nishimura, Masafumi) A probabilistic unified heory for an arbitrary nonstationary random process having quantized levels. Japanese) *Systems and Control* **19** (1975), *no.* 6, 342–344. (H. Kawashima) **54** #6258 0G35

mov, A. Rational approximations of functions with a convex derivative. (Russian) *Mat. Sb.* (*N.S.*) **98(140)** (1975), *no.* 2(10), 268–279, 334. (V. A. Popov) **53** #6161 41A20

The rational approximation of convex functions of the class Lipα. (Russian) *Mat. Zametki* **18** (1975), *no.* 6, 845–854. (V. A. Popov) **53** #6162 41A20

Rational approximations of convex functions. (Russian) *Mat. Zametki* **21** (1977), *no.* 3, 355–370. (V. A. Popov) **56** #6208 41A20

anaka, H. (*with* Inooka, Hikaru) Equivalent cost functions in optimal control for linear systems. *Rep. Inst. High Speed Mech. Tôhoku Univ.* **23** (1971), 157–176. (N. Harris McClamroch) **53** #12677 93C05

anaka, Michio The estimation of spectra and cross-spectra on short time series data. *Internat. Econom. Rev.* **13** (1972), 679–704. (E. J. Hannan) **51** #11895 62M15

The underestimation of variations in the forecast series: a note. *Internat. Econom. Rev.* **16** (1975), 151–160. (C. W. J. Granger) **53** #4937 90A20 (62M10)

On the global identification of the dynamic simultaneous equations model with stationary disturbances. *Internat. Econom. Rev.* **16** (1975), *no.* 3, 545–554. (Andrew P. Sage) **53** #15312a (E **53** #15312b) 90A20 (93E10)

Corrigendum: "On the global identification of the dynamic simultaneous equations model with stationary disturbances" (Internat. Econom. Rev. **16** (1975), no. 3, 545–554). *Internat. Econom. Rev.* **17** (1976), *no.* 1, 241. (Andrew P. Sage) **53** #15312b 90A20 (93E10)

Several efficient two-step estimators for the dynamic simultaneous equations model with autoregressive disturbances. *J. Econometrics* **4** (1976), *no.* 2, 189–204. (Takeshi Amemiya) **55** #9475 62P20

Hypothesis-testing in the large macro-economic models. *Internat. Econom. Rev.* **18** (1977), *no.* 3, 607–627. (G. Tintner) **56** #9891 62P20 (90A15)

tano, Kaoru Notes on Hausdorff dimensions of Cartesian product sets. *Hiroshima Math. J.* **1** (1971), 17–25. (G. Freilich) **46** #5559 28A35

tch, Dorian M. (*with* Benson, Alvin K.) A further link(s) with inequivalent representations in quantum field theory. *Internat. J. Theoret. Phys.* **12** (1975), 321–332. (A. O. Barut) **51** #12192 81.47

tch, Douglas E. (*with* Shanebrook, J. Richard) Application of fractional differentiation to the modeling of hodograph linearities. *Fractional calculus and its applications* (*Proc. Internat. Conf., Univ. New Haven, West Haven, Conn.*, 1974), *pp.* 289–293. *Lecture Notes in Math., Vol.* 457, *Springer, Berlin*, 1975. (R. K. Gupta) **57** #14832 76.26

tcher, Allen E. The second obstruction for pseudo-isotopies. *Bull. Amer. Math. Soc.* **78** (1972), 1005–1008. (K. W. Kwun) **46** #6395 57D80 (18F25, 57D50)

(*with* Wagoner, John B.) ★Pseudo-isotopies of compact manifolds. With English and French prefaces. Astérisque, No. 6. *Société Mathématique de France, Paris*, 1973. i+275 *pp.* (F. Laudenbach) **50** #5821 57D50

Pseudo-isotopy and K_2. *Algebraic K-theory, II*: "*Classical*" *algebraic K-theory and connections with arithmetic* (*Proc. Conf., Seattle Res. Center, Battelle Memorial Inst.*, 1972), *pp.* 328–336. *Lecture Notes in Math., Vol.* 342, *Springer, Berlin*, 1973. (John B. Wagoner) **51** #4278 57D50 (18F25)

Parametrized *h*-cobordism theory. (French summary) Colloque International sur l'Analyse et la Topologie Différentielle (Colloq. Internat. CNRS, No. 210, Strasbourg, 1972), *Ann. Inst. Fourier* (*Grenoble*) **23** (1973), *no.* 2, 61–74. (F. Laudenbach) **50** #1267 57D50 (57D80, 58D05)

Concordance and isotopy of smooth embeddings in low codimensions. *Invent. Math.* **21** (1973), 223–232. (C. L. Seebeck, III) **48** #12570 57D80 (57D40)

(*with* Quinn, Frank) Bordism invariants of intersections of submanifolds. *Trans. Amer. Math. Soc.* **200** (1974), 327–344. (R. E. Stong) **50** #5806 57C35 (57D40)

Higher simple homotopy theory. *Ann. of Math.* (2) **102** (1975), *no.* 1, 101–137. (Laurence Taylor) **52** #4305 57C10

(*with* Lawson, Terry C.) Stability theorems for "concordance implies isotopy" and "*h*-cobordism implies diffeomorphism". *Duke Math. J.* **43** (1976), *no.* 3, 555–560. (J. P. E. Hodgson) **54** #3721 57D80 (57D50, 57C10)

Homeomorphisms of sufficiently large P^2-irreducible 3-manifolds. *Topology* **15** (1976), *no.* 4, 343–347. (F. Laudenbach) **54** #8633 57A10

Hatcher, T. *See* **Foundations of coding theory**, **57** #15737

Hatcher, William (*with* Corcoran, John; Herring, John M.) Variable binding term operators. *Z. Math. Logik Grundlagen Math.* **18** (1972), 177–182. (E. W. Chapin, Jr.) **46** #5098 02B10

Hatcher, William S. Birkhoff categories. *Rev. Roumaine Math. Pures Appl.* **15** (1970), 1421–1423. (C. M. Ringel) **46** #7348 18B99

Les identités dans les catégories. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A495–A496. (H. Gonshor) **46** #1871 18B05

Foundations as a branch of mathematics. Proceedings of the First Symposium on Exact Philosophy (McGill Univ., Montreal, Que., 1971). *J. Philos. Logic* **1** (1972), *no.* 3–4, 349–358. (Paul Ernest) **55** #2472 02A05 (00A25)

(*with* Coray, Giovanni) A logical framework for large file information handling. *Information Sci.* **8** (1975), 27–38. (K. H. V. Booth) **50** #15476 68A50

(*with* Shafaat, Ahmad) Categorical languages for algebraic structures. *Z. Math. Logik Grundlagen Math.* **21** (1975), *no.* 5, 433–438. (S. Comer) **52** #10408 02H10

(*with* Rus, Teodor) Context-free algebras. *J. Cybernet.* **6** (1976), *no.* 1–2, 65–77. (M. Novotný) **57** #14621 68A30

See also **Castonguay, Charles**, **55** #2473

Haţegan, C. (*with* Grama, N.) A treatment of the regular and irregular solutions of the radial Schrödinger equation. (French summary) *Rev. Roumaine Phys.* **20** (1975), *no.* 10, 1099–1110. (Lindsay Dodd) **53** #9942 81.34

Ha T'en Ngoan Convergence of the solutions of boundary value problems for a sequence of elliptic equations. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 3(195), 183–184. (V.-V. Olariu) **57** #3622 35J40

Convergence of the solutions of boundary value problems for a sequence of elliptic systems. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 5, 83–92. (Ju. V. Kostarčuk) **57** #13172 35J55 (34A30, 73.35)

Hatiašvili, C. S. (*with* Puhov, G. Ė.) ★Локальные математические модели систем управления. (Russian) [Local mathematical models of control systems] "*Naukova Dumka*", *Kiev*, 1971. 200 *pp.* (Authors' introduction) **55** #5263 93C05 (68A45)

Hatiašvili, G. M. Saint-Venant problems for homogeneous anisotropic beams. (Russian. Georgian and English summaries) *Sakharth. SSSR Mecn. Akad. Moambe* **78** (1975), *no.* 1, 57–60. (A. Radu) **54** #11911 73.35

The problem of the torsion of composite beams with rectilinear anisotropy of general form. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **16** (1976), *no.* 1 *Vyčisl. Mat. i Programmirovanie*, 127–136. **58** #25255 73.35

The deformation of homogeneous and composite anisotropic cylinders. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **17** (1977), *no.* 1, *Vyčisl. Mat. i Programmirovanie*, 201–223. (Author's summary) **58** #19559 73.35

Hatipov, A. È.-A. A trigonometric treatise of Omar Khayyām (?). (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 181 (1970), 83–84. (A. Ahmedov) **45** #4930 01A30

Omar Khayyām and Newton's binomial. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 181 (1970), 84–88. (A. Ahmedov) **45** #4931 01A30

New data on al-Kushchi. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 181 (1970), 88–94. (A. Ahmedov) **45** #4932 01A30

Tensor methods in analytic geometry. (Russian) Questions on differential equations. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 191 (1970), 193–196. (Editors) **57** #3973 50B99

(*with* Ataev, U.) al-Qushchī's treatise on simple fractions. (Russian) Questions on differential equations, number theory, algebra and geometry. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 202 (1972), 42–43. (G. Matvievskaja (RŽMat **1972** #9 A8)) **58** #26776a 01A30

(*with* Ataev, U.) al-Qushchī's treatise on geometry. (Russian) Questions on differential equations, number theory, algebra and geometry. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 202 (1972), 229–233. (G. Matvievskaja (RŽMat **1972** #9 A9)) **58** #26777 01A30

The originality of the ancient culture of the nations of Central Asia. (Russian) Questions on the history of mathematics and astronomy, I. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 229 (1972), 5–7. (Editors) **58** #41 01A30

(*with* Pulati, A.) Abū'l-Rayḥān al-Bīrūnī. (Russian) Questions on the history of mathematics and astronomy, I. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 229 (1972), 8–15. (Editors) **58** #4803 01A30

al-Qushchī—a student of Ulugbeg (new information). (Russian) Questions on the history of mathematics and astronomy, I. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 229 (1972), 16–19. (Editors) **58** #4804 01A30

(*with* Pulati, A.) The treatises of Mahdum A'zam (preliminary report). (Russian) Questions on the history of mathematics and astronomy, I. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 229 (1972), 19–24. (Editors) **58** #10014 01A30

The madrasah Shir-Dor. (Russian) Questions on the history of mathematics and astronomy, I. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 229 (1972), 57–60. (Editors) **58** #42 01A30

Doctrines concerning number in the Middle Ages. (Russian) Questions on the history of mathematics and astronomy, I. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 229 (1972), 98–101. (Editors) **58** #4805 01A30

The commentary of al-Bīrjandī on the astronomical tables of Ulugbeg. Questions on the history of mathematics and astronomy, I. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 229 (1972), 119. (Editors) **58** #4806 01A30

See also **al-Qushchī, Ala ad-Dīn ibn Muḥammed**, (Not reviewed); **Abstracts: Conference of the Faculties on Advances in Research**, **48** #3665; **Questions on the**

history of mathematics and astronomy, **52** #5273 *and* **al-Qushchī, Ala ad-Dīn ibn Muhammed**, **58** #10013a (E **58** #10013b)

Hatko, Andrzej (*with* Wierzbicki, Andrzej P.) Computational methods in Hilbert space for optimal control problems with delays. *Fifth Conference on Optimization Techniques* (*Rome*, 1973), *Part I*, *pp*. 304–318. *Lecture Notes in Comput. Sci.*, *Vol*. 3, *Springer*, *Berlin*, 1973. (From the authors' summary) **56** #6527 49D99

Hátle, Jaroslav (*with* Likeš, Jirí) ★Základy počtu pravděpodobnosti a matematické statistiky. (Czech) [Foundations of probability theory and mathematical statistics] *SNTL–Nakladatelství Technické Literatury*, *Prague*; *Nakladatel'stvo Alfa*, *Bratislava*, 1971. 463 *pp*. (editors) **53** #11814 62-01 (60-01)

(*with* Likeš, Jirí) ★Základy počtu pravděpodobnosti a matematické statistiky. (Czech) [Foundations of probability theory and mathematical statistics] Second edition, unrevised. *SNTL–Nakladatelství Technické Literatury*, *Prague*; *Nakladate'stvo Alfa*, *Bratislava*, 1974. 463 *pp*. (Editors) **53** #11815 62-01 (60-01)

Hatori, Mitsutoshi (*with* Taki, Yasuo) Digital communication using Hadamard transformation. *Electron. Commun. Japan* **52** (1969), *no*. 5, 79–87. (Not reviewed) 94A05

Hatoyama, Yukio Markov maintenance models with control of queue. *J. Operations Res. Soc. Japan* **20** (1977), *no*. 3, 164–181. (Andor Dobó) **57** #9028 90B25

Hatsell, Charles P. (*with* Nolte, Loren W.) Some geometric properties of the likelihood ratio. *IEEE Trans. Information Theory* **IT-17** (1971), 616–618. (Authors' summary) **46** #8347 62F10

(*with* Nolte, Loren W.) Optimal detection of a signal with time-varying carrier phase. *IEEE Trans. Aerospace and Electron. Systems* **AES-10** (1974), 788–793. (Stuart Schwartz) **55** #7582 94A15

(*with* Lee, Sang C.; Nolte, Loren W.) A generalized likelihood ratio formula: arbitrary noise statistics for doubly composite hypotheses. *IEEE Trans. Information Theory* **IT-23** (1977), *no*. 5, 637–640. (K. S. Miller) **57** #2712 93E10

Hatsopoulos, George N. (*with* Gyftopoulos, Elias P.) A unified quantum theory of mechanics and theromodynamics. I. Postulates. *Found. Phys*. **6** (1976), *no*. 1, 15–31. (H. Wakita) **57** #8520a 81.00

(*with* Gyftopoulos, Elias P.) A unified quantum theory of mechanics and thermodynamics. IIa. Available energy. *Found. Phys*. **6** (1976), *no*. 2, 127–141. (H. Wakita) **57** #8520b 81.00

(*with* Gyftopoulos, Elias P.) A unified quantum theory of mechanics and thermodynamics. IIb. Stable equilibrium states. *Found. Phys*. **6** (1976), *no*. 4, 439–455. (H. Wakita) **57** #8520c 81.00

(*with* Gyftopoulos, Elias P.) A unified quantum theory of mechanics and thermodynamics. III. Irreducible quantal dispersions. *Found. Phys*. **6** (1976), *no*. 5, 561–570. (H. Wakita) **57** #8520d 81.00

Hatsukade, Shigeo New representation of rotation and Lorentz groups based on a model of non-Cantorian set theory. *Rep. Mathematical Phys*. **3** (1972), *no*. 3, 173–191. (C. W. Kilmister) **47** #2925 81.02

Hatsuse, Kohei Affine manifolds admitting certain local loops. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No*. 6 (1974), 23–27. (F. Brickell) **49** #9775 53C05

On certain compact submanifolds of Euclidean space. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No*. 9 (1977), 55–59. (K. Lamotke) **56** #16655 57D70 (53C40)

Hatta, Kenji (*with* Michiwaki, Yoshimasa; Hamada, Toshio; Ōyama, Makoto) For a problem on elementary geometry. *Res. Rep. Nagaoka Tech. College* **8** (1972), 153–157. (J. Böhm) **47** #8224 01A25 (50B10)

(*with* Michiwaki, Yoshimasa; Hamada, Toshio; Ōyama, Makoto) Some problems on elementary geometry. *Res. Rep. Nagaoka Tech. College* **9** (1973), 127–133. (E. B. Allen) **50** #1811 01A25 (50B20)

Hatta, L. (*with* Wayment, Stanley G.) A derivative to match the v-integral. *J. Reine Angew. Math*. **257** (1972), 16–28. (A. de Korvin) **46** #7463 28A15

(*with* Wayment, Stanley G.) A Radon-Nikodým theorem for the v-integral. *J. Reine Angew. Math*. **259** (1973), 137–146. (W. J. Wilbur) **47** #426 28A15

(*with* Edwards, J. R.; Wayment, Stanley G.) A v-integral characterization for the dual of the Lipschitz functions. *Rev. Roumaine Math. Pures Appl*. **18** (1973), 885–891. (D. H. Tucker) **48** #2339 28A45

Hatta, Tatsuo A recommendation for a better tariff structure. *Econometrica* **45** (1977), *no*. 8, 1859–1869. (Ronald W. Shephard) **56** #14590 ,90A15

Hattingh, J. M. (*with* Crowder, Harlan P.) Partially normalized pivot selection in linear programming. *Computational practice in mathematical programming*, *pp*. 12–25. *Math. Programming Studies*, *Vol*. 4, *North-Holland*, *Amsterdam*, 1975. (Charles E. Blair) **55** #2123 90C05

Hattori, Akio Smooth S^1-action and bordism. *Geometry of manifolds* (*Proc. Sympos.*, *RIMS*, *Kyôto Univ.*, *Kyoto*, 1972), *pp*. 30–35. *R.I.M.S. Sem. Rep. No*. 158, *Res. Inst. Math. Sci. Kyôto Univ.*, *Kyoto*, 1972. (R. E. Stong) **53** #6594 57D85 (57E15)

(*with* Taniguchi, Hajime) Smooth S^1-action and bordism. *J. Math. Soc. Japan* **24** (1972), 701–731. (C. B. Thomas) **46** #8245 57D90 (57E15)

(*with* Kimura, Tosihusa) On the Euler integral representations of hypergeometric functions in several variables. *J. Math. Soc. Japan* **26** (1974), 1–16. (E. J. Akutowicz) **49** #10904 32A25 (14C30, 33A30)

The fixed point set of an involution and theorems of the Borsuk-Ulam type. *Proc. Japan Acad*. **50** (1974), 537–541. (R. E. Stong) **51** #6786 55C35

Equivariant characteristic numbers and integrality theorem for unitary T^n-manifolds. *Tôhoku Math. J*. (2) **26** (1974), 461–482. (R. E. Stong) **50** #5824 57D85

Equivariant characteristic numbers and integrality theorem for unitary T^n-manifolds. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf.*, *Tokyo*, 1973), *pp*. 225–229. *Univ. Tokyo Press*, *Tokyo*, 1975. (Editors) **51** #9087 57D85

Topology of C^n minus a finite number of affine hyperplanes in general position. *J. Fac. Sci. Univ. Tokyo Sect. IA Math*. **22** (1975), *no*. 2, 205–219. (I. N. Iomdin) **52** #788 32C10 (32C40)

(*with* Yoshida, Tomoyoshi) Lifting compact group actions in fiber bundles. *Japan. J. Math*. (*N.S.*) **2** (1976), *no*. 1, 13–25. (G. E. Bredon) **57** #1523 57E10 (55F40)

(*with* Ihara, Yasutaka; Itô, Seizô; Iwahori, Nagayoshi; Shioda, Tetsuji; Tamura, I.) Mathematical contributions of Professor Yukiyosi Kawada. *J. Fac. Sci. Univ. Tokyo Sect. IA Math*. **24** (1977), *no*. 1, i–vi. (Editors) **55** #7693 01A70

The fixed point set of a smooth periodic transformation. I. *J. Fac. Sci. Univ. Tokyo Sect. IA Math*. **24** (1977), *no*. 1, 137–165. (R. E. Stong) **56** #3859 57D85

See also **Manifolds—**, **50** #11236

Hattori, Akira Certain cohomology associated with Galois extensions of commutative rings. *Sci. Papers College Gen. Ed. Univ. Tokyo* **24** (1974), 79–91. (S. Yuan) **50** #9929 16A16 (13A20)

Note on the cohomology theory of associative algebras and ring extensions. *Sci. Papers College Gen. Ed. Univ. Tokyo* **26** (1976), *no*. 1, 7–14. (S. Yuan) **55** #3035 18H15

On groups $H^n(S, G)$ and the Brauer group of commutative rings. *Sci. Papers College Gen. Ed. Univ. Tokyo* **28** (1978/79), *no*. 1, 1–20. (M. Orzech) **58** #16626 13A20 (13B05, 13D99)

See also **Theory of numbers**, **56** #2953

Hattori, Chuichiro (*with* Kobayashi, Makoto; Kondo, Hiroki; Maskawa, Toshihide) Nonlinear realizations of groups and chiral transformations in the quark model. *Progr. Theoret. Phys*. **43** (1970), 1334–1342. (Anthony Joseph) **46** #1224 81.22

Hattori, Mitsuhiro Existence of digital extensions of semi-modular state charts. *J. Math. Soc. Japan* **23** (1971), 417–434. (Ronald E. Prather) **53** #2530 94A20

Hattori, Yoshio (*with* Ozawa, Takao; Hirao, Shigeharu) Some properties of multicolored-branch graphs. *Mem. Fac. Engrg. Kyoto Univ*. **35** (1973), 381–392. (C. L. Liu) **52** #166 05C15

(*with* Kokame, Hideki; Muraoka, Takatoshi) An extended maximum principle for systems with unknown parameters. *Tech. Rep. Inst. Atom. Energy Kyoto Univ. No*. 162 (1973), 17 *pp*. (N. U. Ahmed) **48** #12206 49B10 (93E05)

Hatunceva, M. V. Estimates for quantiles in the central limit theorem. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **19** (1974), 626–632. (S. A. Book) **50** #8650 60F05

Hatvani, L. On the stability of the zero solution of certain second order non-linear differential equations. *Acta Sci. Math*. (*Szeged*) **32** (1971), 1–9. (J. Kaplan) **46** #5761 34D05

On the asymptotic behaviour of the solutions of $(p(t)x')' + q(t)f(x) = 0$. *Publ. Math Debrecen* **19** (1972), 225–237 (1973). (B. S. Lalli) **48** #4409 34C10

On the strong stability by Lyapunov's direct method. *Acta Sci. Math*. (*Szeged*) 37 (1975), *no*. 3-4, 241–251. (T. A. Burton) **54** #3110 34D20

On certain indications of stability with two Liapunov functions. *Prikl. Mat. Meh*. **39** (1975), *no*. 1, 172–177 (*Russian*); *translated as J. Appl. Math. Mech*. **39** (1975), *no*. 1, 160–166. (B. S. Lalli) **52** #3676 34D20

The application of differential inequalities to stability theory. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh*. **30** (1975), *no*. 3, 83–89. (Wolfdietrich Müller) **52** #928 34D20

(*with* Pintér, L.) On perturbation of unstable second order linear differential equations. *Proc. Amer. Math. Soc*. **61** (1976), *no*. 1, 36–38 (1977). (John M. Bownds) **54** #10770 34D10

(*with* Krámli, András) A condition for non-asymptotical stability. *Differential equations* (*Colloq.*, *Keszthely*, 1974), *pp*. 269–276. *Colloq. Math. Soc. János Bolyai*, *Vol*. 15, *North-Holland*, *Amsterdam*, 1977. (James S. Muldowney) **57** #16844 34D05

Hatvany, Csaba Extensions of analytical algebras. *Bul. Şti. Tehn. Inst. Politehn. "Traian Vuia" Timişoara* **22(36)** (1977), *no*. 1, 39–40. (Bruno Kramm) **57** #10007 32G05 (13D10)

On the cohomology of analytical algebras. *Period. Math. Hungar*. **9** (1978), *no*. 1-2, 11–36. (Bruno Kramm) **57** #16702 32G05 (14D15, 32B05)

Hatványi, L. *See* **Hatvani, L.**

Hatyb, A. R. (*with* Kakičev, V. A.) Some generalizations of Kolosov-Mushelišvili boundary value problems. (Russian) *Functional analysis*, *theory of functions and their applications*, *No*. 1 (*Russian*), *pp*. 101–116, 7. *Dagestan. Gos. Univ.*, *Makhachkala*, 1974. (V. G. Kravčenko) **56** #8861 30A88

Hatze, Herbert The complete optimization of a human motion. *Math. Biosci*. **28** (1976), *no*. 1-2, 99–135. (Author's summary) **58** #4410 92A05 (90C50)

Hatzopoulos, M. (*with* Evans, David J.) On the direct solution of preconditioned linear equations. *Bull. Soc. Math. Grèce* (*N.S.*) **16** (1975), 30–44. (W. Börsch-Supan) **56** #9948 65F35

(*with* Evans, David J.) A note on the LU factorization of a symmetric matrix. *Comm. ACM* **18** (1975), 278–279. (Marvin Marcus) **52** #8154 15A21 (65F30)

(*with* Evans, David J.) The solution of certain banded systems of linear equations using the folding algorithm. *Comput. J*. **19** (1976), *no*. 2, 184–187. (Robert Todd Gregory) **55** #4620 65F05

Haubitz, I. Programme zum Zeichnen von allgemeinen Flächenstücken. (English summary) *Computing* **18** (1977), *no*. 4, 295–315. (Wolfgang Böhm) **57** #11208 68A45 (50D15, 53A10, 65S05)

Haubitz, Imme Nichtlineare Zusammenhänge in Bündeln von Grassmann-Kegeln. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. I. *Tensor* (*N.S.*) **24** (1972), 123–160. (A. Verona) **50** #8590 58A30 (53C05)

(*with* Barthel, Woldemar) Zur metrischen Differentialgeometrie auf Mannigfaltigkeiten mit p-Areal und nichtlinearem Zusammenhang für einfache p-Vektoren. *Jahresber. Deutsch. Math.-Verein*. **75** (1973), *no*. 1, 9–41. (Zbl **263** #53044) **58** #30870 53B40

Zur metrischen Differentialgeometrie auf den Bündeln der einfachen p-Vektoren und $(n-p)$-Vektoren. (English summary) *Ann. Mat. Pura Appl*. (4) **109** (1976), 89–115. (V. V. Gol'dberg) **54** #13765 53B40

Metrische Zusammenhänge und Torsion bei einfachen p-Vektoren. (English summary) *Manuscripta Math*. **22** (1977), *no*. 3, 271–287. (A. Kawaguchi) **57** #17577 53C60 (14M15, 58B20)

Hauck, Jürgen Zur Präzisierung des Begriffes berechenbare reelle Funktion. *Z. Math. Logik Grundlagen Math*. **17** (1971), 295–300. (Arnold Oberschelp) **47** #8264 02E15

Berechenbare gleichmässige Stetigkeit in der konstruktiven Analysis von Klaua. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 523–526. (G. E. Minc) **49** #2300 02E15

Berechenbare gleichmässige Finitheit rekursiver Funktionale. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 527–529. (G. E. Minc) **49** #2321 02F43

Funktional-Rekursion. *Z. Math. Logik Grundlagen Math.* **18** (1972), 31–36. (R. L. odstein) **45** #4968 02F20

Berechenbare reelle Funktionen. *Z. Math. Logik Grundlagen Math.* **19** (1973), –140. (B. van Rootselaar) **48** #5830 02E15 (02F20)

Turingmaschinen und berechenbare reelle Funktionen. (Russian, English and nch summaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. mboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no.* 6, 797–799. (Author's nmary) **58** #5130 02F29

Iterationsverfahren in der konstruktiven Analysis. (Russian, English and French nmaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. mboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no.* 6, 799–800. (Author's nmary) **58** #5103 02E15

Berechenbare reelle Funktionenfolgen. *Z. Math. Logik Grundlagen Math.* **22** (1976), . 3, 265–282. (Zbl **358** #02039) **58** #5104 02E15

, Peter Endliche auflösbare Gruppen mit normalem $\mathfrak{F}$-Injektor. *Arch. Math.* (*Basel*) (1977), *no.* 2, 117–129. (T. O. Hawkes) **56** #468 20D10

, Walter W., Jr. (*with* Donner, Allan) Wald's test as applied to hypotheses in logit alysis. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 360, *part* 1, 851–853. (B. K. Ghosh) #10884 62F05

schild, M. Arithmetiken für komplexe Kreise. (English summary) *Computing* (*Arch. ektron. Rechnen*) **13** (1974), *no.* 3-4, 299–312. (G. Alefeld) **52** #15979 65E05

schild, Wilfried Zur Darstellungstheorie von SIN-Gruppen. *Math. Ann.* **210** (1974), 7–276. (A. Kleppner) **50** #4810 22D10

(*with* Kaniuth, Eberhard) Harmonische Analyse auf Gruppen mit dlich-dimensionalen irreduziblen Darstellungen. *Math. Z.* **144** (1975), *no.* 3, 239–256. . Leptin) **52** #10951 22D15 (43A40)

Edward J., Jr. Distributed parameter optimal design. *Transactions of the venteenth Conference of Army Mathematicians* (*U. S. Army Missile Command, edstone Arsenal, Ala.*, 1971), *pp.* 859–879. *U. S. Army Research Office* (*Durham, N. C.*), *eport No.* 72-1, *U. S. Army Res. Office-Durham, Durham, N. C.*, 1972. (P. Stavroulakis) #7045 93C20

(*with* Pan, K. C.; Streeter, T. D.) A computational method for optimal structural esign. I. Piecewise uniform structures. *Internat. J. Numer. Methods Engrg.* **5** (1972), *no.* 171–184. (Ulrich Eckhardt) **54** #4098a 65K05 (90C30)

(*with* Pan, K. C.; Streeter, T. D.) A computational method for optimal structural esign. II. Continuous problems. *Internat. J. Numer. Methods Engrg.* **9** (1975), *no.* 3, 49–667. (Ulrich Eckhardt) **54** #4098b 65K05 (90C30)

(*with* Arora, J. S.) Efficient optimal design of structures by generalized steepest escent programming. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 4, 747–766. uthors' summary) **56** #9982 65K05 (49D99)

(*with* Arora, J. S.; Matsui, K.) A steepest-descent method for optimization of echanical systems. *J. Optimization Theory Appl.* **19** (1976), *no.* 3, 401–424. (Bernard emaire) **54** #11779 65K05

(*with* Kwak, B. M.) Optimum design in the presence of parametric uncertainty. *J. ptimization Theory Appl.* **19** (1976), *no.* 4, 527–546. (Gerard G. L. Meyer) **55** #2160 0C50

(*with* Kwak, B. M.) Parametric optimal design. *J. Optimization Theory Appl.* **20** 1976), *no.* 1, 13–35. (Joachim Hirche) **55** #6849 65K05

(*with* Chand, R.; Rim, K.) Analysis of unbonded contact problems by means of uadratic programming. *J. Optimization Theory Appl.* **20** (1976), *no.* 2, 171–189. (Ulrich ckhardt) **54** #9277 73.65 (65K05)

(*with* Feng, T. T.) Optimization of distributed parameter structures under dynamic oads. *Control and dynamic systems, Advances in theory and applications, Vol.* 13, *pp.* 07–246. *Academic Press, New York*, 1977. (D. F. Lawden) **57** #5283 93C20

(*with* Feng, T. T.; Arora, J. S.) Optimal structural design under dynamic loads. *nternat. J. Numer. Methods Engrg.* **11** (1977), *no.* 1, 39–52. (Authors' summary) 6 #10315 73.49

(*with* Chand, R.; Pan, K.) Multibody elastic contact analysis by quadratic rogramming. *J. Optimization Theory Appl.* **21** (1977), *no.* 2, 189–198. (S.-F. Sburlan) 5 #11788 73.65 (90C20)

(*with* Komkov, Vadim) Sensitivity analysis in distributed-parameter mechanical ystem optimization. *J. Optimization Theory Appl.* **23** (1977), *no.* 3, 445–464. (Bernard Lemaire) **57** #18967 93C20 (47Bxx, 49B30, 90C25)

(*with* Reiss, Robert) Extremum principles for linear initial-value problems of mathematical physics. *Internat. J. Engrg. Sci.* **16** (1978), *no.* 4, 231–251. (B. Vujanović) **57** #7339 49H05

(*with* Feng, T. T.) Optimal design of dynamically loaded continuous structures. *Internat. J. Numer. Methods Engrg.* **12** (1978), *no.* 2, 299–317. (Norman P. Coleman, Jr.) **58** #3884 73.49 (90C50)

See also **Transactions: Conference of Army Mathematicians**, **49** #4735 *and* **Transactions: Conference of Army Mathematicians**, **49** #4737

gazeau, Y. (*with* Charrier, Pierre) On the degeneracy of linear time-invariant delay differential systems. *J. Math. Anal. Appl.* **52** (1975), *no.* 1, 42–55. (V. M. Popov) **52** #12902 93C30 (34H05)

ge, E. H. Time correlation functions from the Boltzmann equation. *Phys. Rev. Lett.* **28** (1972), 1501–1503. (Author's summary) **51** #14830 82.45

(*with* Martin-Löf, Anders) Fluctuating hydrodynamics and Brownian motion. *J. Statist. Phys.* **7** (1973), 259–281. (G. Papanicolaou) **54** #14685 82.60 (76.60)

What can one learn from Lorentz models? *Transport phenomena* (*Sitges Internat. School Statist. Mech., Sitges*, 1974), *pp.* 337–367. *Lecture Notes in Phys., Vol.* 31, *Springer, Berlin*, 1974. (F. Rocca) **53** #10048 82.00

(*with* Velarde, M. G.) Fluctuating hydrodynamics and Brownian motion. II. Note on the slip boundary condition. *J. Statist. Phys.* **10** (1974), 103–105. (G. Papanicolaou) **54** #14686 76.60 (82.60)

gen, Rolf B. (*with* Barut, Asim O.) On conformally invariant spinor field equations. (French summary) *Canad. J. Phys.* **51** (1973), 787–788. (Authors' summary) **52** #7361 81.35

(*with* Barut, Asim O.) Conformally invariant massive spinor equations. I. (Italian and Russian summaries) *Nuovo Cimento A* (11) **18** (1973), 495–510. (J. G. Taylor) **52** #9913 81.53

(*with* Barut, Asim O.) Conformally invariant massive and massless spinor equations. II. Solutions of the wave equations. (Italian and Russian summaries) *Nuovo Cimento A* (11) **18** (1973), 511–531. (J. G. Taylor) **52** #9914 81.53

(*with* Fronsdal, Christian) Elementary particles in a curved space. III. *Phys. Rev. D* (3) **12** (1975), *no.* 12, 3810–3818. (A. Peres) **52** #12637 81.53

Hauger, Günther (*with* Zimmermann, Wolfgang) Quasi-Frobenius-Moduln. *Arch. Math.* (*Basel*) **24** (1973), 379–386. (B. Stenström) **48** #11193 16A36

(*with* Zimmermann, Wolfgang) Dichte Ringe. *Math. Ann.* **210** (1974), 1–6. (Victor Camillo) **50** #2244 16A48

(*with* Zimmermann, Wolfgang) Sur un théorème de densité. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 23, Ai, A1575–A1577. (M. Djabali) **51** #12946 16A64

Aufsteigende Kettenbedingung für zyklische Moduln und perfekte Endomorphismenringe. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 275–278. (V. C. Cateforis) **54** #7540 16A46

(*with* Zimmermann, Wolfgang) Lokalisierung und Moritas F_h-Bedingung. *Comm. Algebra* **4** (1976), *no.* 3, 199–217. (J. Lambek) **53** #499 16A08 (18E35)

Einfache Derivationspolynomringe. *Arch. Math.* (*Basel*) **29** (1977), *no.* 5, 491–496. (R. Cohn) **57** #3195 16A56 (12H05)

Haugh, Larry D. Checking the independence of two time series. *Proceedings of the Annual Meeting of the American Statistical Association, Business and Economic Statistics Section* (*St. Louis, Mo.*, 1974), *pp.* 392–397. *Amer. Statist. Assoc., Washington, D.C.*, 1975. (Peter M. Robinson) **52** #7050 62M10

Checking the independence of two covariance-stationary time series: a univariate residual cross-correlation approach. *J. Amer. Statist. Assoc.* **7** (1976), *no.* 354, 378–385. (A. Morris Walker) **54** #6420 62M10

(*with* Box, George E. P.) Identification of dynamic regression (distributed lag) models connecting two time series. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 357, 121–130. (Andrew Harvey) **56** #4084 62M10

(*with* Pierce, David A.) Causality in temporal systems: characterizations and a survey. *J. Econometrics* **5** (1977), *no.* 3, 265–293. (C. W. J. Granger) **56** #1631 62M10

Haughton, D. M. (*with* Ogden, R. W.) On the incremental equations in non-linear elasticity. I. Membrane theory. *J. Mech. Phys. Solids* **26** (1978), *no.* 2, 93–110. (From the summary) **58** #19636a 73.53

(*with* Ogden, R. W.) On the incremental equations in non-linear elasticity. II. Bifurcation of pressurized spherical shells. *J. Mech. Phys. Solids* **26** (1978), *no.* 2, 111–138. (From the summary) **58** #19636b 73.53

Haupt, Otto (*with* Künneth, Hermann) Über sogenannte entartete Mengen bei Juelschen Problemen in der Ebene. *Manuscripta Math.* **3** (1970), 391–412. (G. Ewald) **45** #7663 53C70 (52A40)

Untere Schranken für die Anzahl der $\mathfrak{f}$-singulären Punkte ebener Bogen und Kurven. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), *pp.* 233–249. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (G. Ewald) **52** #426 14N05 (14H35)

(*with* Künneth, Hermann) Ordnungstreue Erweiterung ebener Bogen und Kurven vom schwachen Ordnungswert Drei. *Akad. Wiss. Lit. Mainz Abh. Math.-Natur. Kl.* **1972**, *no.* 4, 37 *pp.* (H. Salzmann) **47** #9508 53C75

Über verallgemeinerte um- und einbeschriebene Schmiegkreise ebener Kurven. Collection of articles dedicated to Stanisław Gołąb on his 70th birthday, I. *Demonstratio Math.* **6** (1973), 105–126. (P. Scherk) **50** #1188 53C75

Vierscheitelsätze in der ebenen hyperbolischen Geometrie. *Geometriae Dedicata* **1** (1973), *no.* 4, 399–414. (P. B. Kirkpatrick) **49** #7968 53C75

(*with* Aumann, Georg) ★Einführung in die reelle Analysis. Band I: Funktionen einer reellen Veränderlichen. Dritte völlig neugestaltete Auflage des Werkes Haupt-Aumann-Pauc, Differentialund Integralrechnung. *Walter de Gruyter, Berlin-New York*, 1974. 320 *pp.* (Editors) **50** #4836 26–02

(*with* Künneth, Hermann) Über einen 2n-Scheitelsatz. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1974**, 59–72 (1975). (P. Scherk) **52** #15327a 53C75

(*with* Künneth, Hermann) Über den 2n-Scheitelsatz von Herrn S. B. Jackson. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1974**, 145–166 (1975). (P. Scherk) **52** #15327b 53C75

(*with* Künneth, Hermann) Bestimmung der Bogen dritter Ordnung, insbesondere der ordnungstreu erweiterbaren, in topologisch projektiven Ebenen. *J. Reine Angew. Math.* **274/275** (1975), 391–406. (H. Salzmann) **51** #13960 53C75

Über ordnungshomogene Bogen. *Bayer. Akad. Wiss. Math.-Nat. Kl. Sitzungsber.* **1976**, 125–141 (1977). (C. M. Petty) **58** #18312 53C75

Hermann Künneth zum Gedenken. *Jber. Deutsch. Math.-Verein.* **78** (1976/77), *no.* 2, 61–66. (Editors) **54** #7177 01A70

See also **Fundamentals of mathematics**, **49** #8786

Haupt, P. Homogene Deformationen in thermorheologisch einfachen Stoffen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, *T*84–*T*89. (L. Jentsch) **54** #1806 73.45

(*with* Bertram, A.) A note on Andreussi-Guidugli's theory of thermomechanical constraints in simple materials. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 1, 47–51. (Authors' summary) **56** #13977 73.53

Einschränkende Redingungen für die Materialfunktionen der finiten linearen Thermoviskoelastizität. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematic und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T112–T114. (R. Kodnár) **53** #15063 73.49

Hauptfleisch, G. J. (*with* Fuchs, László) Note on pure-projectivity of modules. *Ann. Scuola Norm. Sup. Pisa* (3) **27** (1973), 339–344. (Samuel H. Cox, Jr.) **52** #5736 16A50

Torsion free abelian groups with isomorphic endormorphism rings. *Arch. Math.* (*Basel*) **24** (1973), 269–273. (K. Faltings) **48** #442 20K20

A note on central group extensions. *J. Austral. Math. Soc.* **15** (1973), 428–429. (Peter M. Neumann) **48** #4130 20F25

On the construction of loops with prescribed properties. *Math. Colloq. Univ. Cape Town* **8** (1973), 175–180. (D. A. Robinson) **54** #12945 20N05

On the construction of loops with prescribed properties. (Afrikaans summary) *Tydskr. Natuurwetenskap.* **13** (1973), 17–19. (D. A. Robinson) **48** #459 20N05

(*with* Loonstra, Frans) An extension theory for modules. (Afrikaans summary) *Tydskr. Natuurwetenskap.* **14** (1974), 1–4. (K. W. Roggenkamp) **50** #4663 16A62

(*with* Vermeulen, J.) Skew-linear functions. (Afrikaans. English summary) *Tydskr. Natuurwetenskap.* **14** (1974), 44–47. (H. de Vries) **51** #5785 20F55

Flat modules in terms of commutative diagrams. (Afrikaans) *Algebra Symposium* (*Univ. Pretoria, Pretoria*, 1975), 94–97. *Univ. Pretoria, Pretoria*, 1975. (T. de W. Jooste) **58** #28069 16A50

(*with* Vermeulen, J.) Homogeneous loops. (Afrikaans. English summary) *Tydskr. Natuurwetenskap.* **15** (1975), *no.* 3, 68–73. (J. Heidema) **55** #553 20N05

(*with* Döman, D.) Filtered-projective and semiflat modules. *Quaestiones Math.* **1** (1976), *no.* 2, 197–217. (Jonathan Golan) **56** #8621 16A50

(*with* Pretorius, J. G.) On the factorization of morphisms in the category R-mod. (Afrikaans summary) *Tydskr. Natuurwetenskap.* **17** (1977), *no.* 2, 37–40. (B. Stenström) **56** #12070 16A64

(*with* Loonstra, Frans) On modules over rings of type (n, k). *Acta Math. Acad. Sci. Hungar.* **31** (1978), *no.* 1-2, 15–19. (W. G. Leavitt) **57** #12603 16A64

Hauptman, Herbert (*with* Gross, Fred) On a functional equation related to the Weierstrass sigma function. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 11, 1022–1032. (S. M. Shah) **57** #6385 30A20 (39A20, 33A25)

(*with* Green, Edward A.) Pairs in $P2_1$: probability distributions which lead to unique estimates of the two-phase structure seminvariants in the interval $(-\pi, \pi)$. *Acta Cryst. Sect. A* **34** (1978), *no.* 2, 230–241. (Authors' summary) **58** #25705 82.60

Hauptmann, Harry ★Schätz- und Kontrolltheorie in stetigen dynamischen Wirtschaftsmodellen mit System- und Beobachtungsfehlern. Lecture Notes in Economics and Mathematical Systems, Vol. 60. *Springer-Verlag, Berlin-New York*, 1971. iv + 104 *pp.* (S. E. Moskowitz) **52** #2654 93A10 (90A15)

Gleichgewichtspunkte eines Oligopolmodells. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I*, *pp.* 134–140. *Operations Research Verfahren, Band XVIII*, *Hain, Meisenheim am Glan*, 1974. (Jaap Wessels) **56** #2577 93E05 (90A15, 90D15)

Stability of a market equilibrium. *Siebente Oberwolfach-Tagung über Operations Research* (1974), *pp.* 103–112. *Operations Research Verfahren, Band XXI*, *Hain, Meisenheim am Glan*, 1975. (G. Tintner) **54** #9626 90A15

On the identifiability of continuous time economic models. *Mathematical economics and game theory*, *pp.* 473–486. *Lecture Notes in Econ. and Math. Systems*, *Vol.* 141, *Springer, Berlin*, 1977. (P. C. B. Phillips) **55** #14365 93E10 (90A15)

See also **Symposium: Operations Research**, **58** #25852a *and* **Symposium: Operations Research**, **58** #25852b

Hauptmann, Wolfgang Gruppen mit einer Automorphismengruppe die transitiv auf den Untergruppen von Primzahlordnung operiert. *Mitt. Math. Sem. Giessen No.* 101 (1973), iv + 41 *pp.* (H. Kurzweil) **48** #2230 20B25

Affine Räume und Gruppenräume. *Arch. Math.* (*Basel*) **29** (1977), *no.* 6, 670–671. (J. André) **57** #3225 20B25 (50D05)

Geometrische Strukturen und transitive Permutationsgruppen. Dem Andenken an Karl Maruhn gewidmet. *Mitt. Math. Sem. Giessen Heft* 123 (1977), 151–160. (J. André) **56** #11829 05B30 (50D05)

See also **Higman, D. G.**, **57** #9810

Haurie, Alain Jeux quantitatifs multi-étages à M joueurs équilibres de Nash, Pareto-optimalité, C-optimalité. (English summary) *Rev. CETHEDEC No.* 30 (1972), 83–108. (G. Owen) **49** #2117 90D20

(*with* Dussaix, Anne-Marie) Un modèle dynamique de négociation sous forme d'un jeu semi-différentiel. *Rev. Française Automat. Informat. Recherche Opérationnelle* **6** (1972), *Sér.* V-1, 65–86. (J. H. Case) **55** #12150 90D25 (90A05)

(*with* Goffin, Jean-Louis) Necessary conditions and sufficient conditions for Pareto optimality in a multicriterion perturbed system. *Fifth Conference on Optimization Techniques* (*Rome*, 1973), *Part I*, *pp.* 184–193. *Lecture Notes in Comput. Sci.*, *Vol.* 3, *Springer, Berlin*, 1973. (From the authors' introduction) **56** #11014 90C99 (90D35)

(*with* Polis, Michael P.; Yansouni, Pierre) On the optimal control on an infinite planning horizon of consumption, pollution, population and natural resource use. *Fifth Conference on Optimization Techniques* (*Rome*, 1973), *Part II*, *pp.* 251–263. *Lecture Notes in Comput. Sci.*, *Vol.* 4, *Springer, Berlin*, 1973. (Authors' summary) **56** #10814 90A15

On Pareto optimal decisions for a coalition of a subset of players. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 2, 144–149. (Author's summary) **57** #18860 90D35

Optimalité dans un système multicritère et perturbé avec application à des systèmes de commande linéaires à coûts quadratiques. (Loose English summary) *Rev. Française Automat. Informat. Recherche Opérationnelle* **7** (1973), *No.* R-2, 91–105. (A. Blaquière) **50** #1741 90D12

(*with* Delfour, Michel C.) Individual and collective rationality in a dynamic Pareto equilibrium. Differential games: a collection of articles. *J. Optimization Theory Appl.* **13** (1974), 290 302. (J. H. Case) **50** #12291 90D20

On some properties of the characteristic function and the core of a multistage game of coalitions. *IEEE Trans. Automatic Control* **AC-20** (1975), 238–241. (Bojan Popovic) **55** #7439 90D15

(*with* Goffin, Jean-Louis) On the computation of the characteristic function of a game without side payments. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 106A-106D. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #17850 90D12

(*with* Polis, Michael P.) Comments on "A nonlinear economic control problem with a linear feedback solution" (IEEE Trans. Automat. Control **AC-20** (1975), no. 2, 184–191) by D. G. Luenberger. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 6, 885-886. (Andrew P. Sage) **56** #11226b 93C10 (90A15)

Optimal control on an infinite time horizon: the turnpike approach. *J. Math. Econom.* **3** (1976), *no.* 1, 81–102. (Edwin Burmeister) **53** #5097 93C15 (90A15)

A note on nonzero-sum differential games with bargaining solution. Differential game issue. *J. Optimization Theory Appl.* **18** (1976), *no.* 1, 31–39. (A. I. Subbotin) **55** #2174 90D25

(*with* Brock, William A.) On existence of overtaking optimal trajectories ove infinite time horizon. *Math. Oper. Res.* **1** (1976), *no.* 4, 337–346. (A. A. Piontkov **56** #14975 93C99

(*with* Duguay, C. R.) Étude analytique du flux des patients dans une unité de s à l'aide d'un modèle Markovien. (Loose English summary) *Rev. Française Autom Informat. Recherche Opérationnelle Sér. Verte* **10** (1976), *no.* V-3, 7–25. (Auth summary) **56** #7909 90B15

(*with* Goffin, Jean-Louis) On the characterization and the computation of characteristic function of a game without side payments. *Optimization techniques* (*P 8th IFIP Conf., Würzburg*, 1977), *Part* 1, *pp.* 245–254. *Lecture Notes in Control Informat. Sci.*, *Vol.* 6, *Springer, Berlin*, 1978. (Kåre M. Mjelde) **58** #15232 90D1

See also **Conference: Optimization Techniques**, **48** #5759

Haus, Hermann A. Steady-state quantum analysis of linear systems. *Proc. IEEE* **58** (19 1599–1611. (B. I. Sadovnikov) **47** #6395 94A20

(*with* Kogelnik, H.) Electromagnetic momentum and momentum flow in dielec waveguides. *J. Opt. Soc. Amer.* **66** (1976), *no.* 4, 320–327. (T. Kahan) **54** #1198 78.35

Haus, J. W. (*with* Raveché, Harold J.) Computer studies of dynamics in one dimensi Hard rods. *J. Chem. Phys.* **68** (1978), *no.* 11, 4969–4976. (Authors' summary) **58** #14867 82.65

Hauschild, Henning Bordismentheorie stabil gerahmter G-Mannigfaltigkeiten. *Math.* **139** (1974), 165–171. (H. Suzuki) **50** #14808 57D85

Äquivariante Transversalität und äquivariante Bordismentheorien. *Arch. Ma* (*Basel*) **26** (1975), *no.* 5, 536–546. (K. Lamotke) **53** #6601 57E15 (57D85, 57D 58C25)

Allgemeine Lage und äquivariante Homotopie. *Math. Z.* **143** (1975), *no.* 2, 155–1 (T. tom Dieck) **52** #6758 57D85 (55E45)

Äquivariante Homotopie. I. *Arch. Math.* (*Basel*) **29** (1977), *no.* 2, 158–165. (T. to Dieck) **57** #7626 57E15 (55D40)

Zerspaltung äquivarianter Homotopiemengen. *Math. Ann.* **230** (1977), *no.* 3, 279–292. (H. Scheerer) **58** #18451 55G37 (57E15)

Hauschild, Kurt (*with* Rautenberg, Wolfgang) Universelle Interpretierbarkeit in Verbänden. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berl Math.-Natur. Reihe* **19** (1970), 575–577. (W. Schwabhäuser) **48** #8220 02G05 (02H15, 06A35)

(*with* Wolter, Helmut) Einige Anwendungen des Königschen Graphensatzes in d mathematischen Logik. *Z. Math. Logik Grundlagen Math.* **16** (1970), 265–269. (M Makkai) **46** #7013 02G99

(*with* Rautenberg, Wolfgang) Interpretierbarkeit in der Gruppentheorie. *Algeb Universalis* **1** (1971/72), 136–151. (S. Comer) **46** #39 02G05

Entscheidbarkeit in der Theorie bewerteter Graphen. (Russian and English summaries) *Elektron. Informationsverarbeit. Kybernetik* **7** (1971), 485–492. (U. Felgne **47** #8279 02G05

Nichtaxiomatisierbarkeit von Satzmengen durch Ausdrücke spezieller Gestalt. *Fund. Math.* **72** (1971), *no.* 3, 245–253. (D. H. Potts) **48** #88 02G10

(*with* Herre, Heinrich; Rautenberg, Wolfgang) Entscheidbarkeit der elementar Theorie der endlichen Bäume und verwandter Klassen endlicher Strukturen. (Russia English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **2** (1972), 497–502. (U. Felgner) **50** #6818 02G05 (05C30)

Universalität in der Ringtheorie. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natu Reihe* **21** (1972), 505–506. (A. Sochor) **48** #8221 02G05 (06A70)

(*with* Herre, Heinrich; Rautenberg, Wolfgang) Entscheidbarkeit der monadische Theorie 2. Stufe der n-separierten Graphen. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 507–511. (U. Felgner **50** #79 02G05 (02H10, 05C30)

(*with* Melis, Erika) Zusammenhänge zwischen Axiomatisierbarkeit und Definierbarkeit in elementaren Theorien mit eingeschränktem Wohlordnungsschema. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 519–521. (M. Yasuhara **48** #5843 02G10

Über die Universalität axiomatisierbarer Fragmente der Zahlentheorie. *Z. Math Logik Grundlagen Math.* **18** (1972), 255–259. (G. E. Minc) **46** #8831 02H10

(*with* Herre, Heinrich; Rautenberg, Wolfgang) Interpretierbarkeit und Entscheidbarkeit in der Graphentheorie. II. *Z. Math. Logik Grundlagen Math.* **18** (1972), 457–480. (U. Felgner) **48** #3737 02H15 (05C10)

(*with* Rautenberg, Wolfgang) Entscheidungsprobleme der Theorie zweier Äquivalenzrelationen mit beschränkter Zahl von Elementen in den Klassen. Collectio of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday. I. *Fund. Math.* **81** (1973), *no.* 1, 35–41. (W. Schwabhäuser) **49** #2338 (EA **49**) 02H05 (02G05)

Rekursive Unentscheidbarkeit der Theorie der pythagoräischen Körper. (English summary) Collection of articles dedicates to Andrzej Mostowski on his sixtieth birthday, VII. *Fund. Math.* **82** (1974/75), 191–197. (G. Cherlin) **50** #9567 02G05 (02H15, 12L05)

Entscheidbarkeit in der Theorie baumartiger Graphen. (Russian, English and French summaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no.* 6, 764–768. (Author's summary) **58** #5395 05C99 (02G05)

Zur Übertragbarkeit von Entscheidbarkeitsresultaten elementarer Theorien. (Russian, English and French summaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no.* 6, 780–783. (Author's summary) **58** #5151 02G05

Über zwei Spiele und ihre Anwendungen in der Modelltheorie. (Russian, English and French summaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no.* 6, 783–788. (Author's summary) **58** #5152 02G05 (02H10, 05C99)

Hauschild, Volker ★Hauptorbiten bei topologischen Aktionen kompakter Liegruppen. Inaugural-Dissertation zur Erlangung des Doktorgrades der Hohen Mathematisch-Naturwissenschaftlichen Fakultät der Rheinischen Friedrich-Wilhelms-Universität, Bonn, 1975. Bonner Mathematische Schriften, No. 92.

athematisches Institut der Universität Bonn, Bonn, 1976. vi+93 *pp*. (A. L. Oniščik) #1524 57E10

orff, Felix *See* **Theory of sets and topology (in honour of Felix Hausdorff, 68–1942)**, **48** #21

n, Jutta Abelian torsion groups with artinian primary components and their tomorphisms. *Fund. Math.* **71** (1971), *no.* 3, 273–283. (P. F. Dubois) **45** #2015 K10

Automorphisms of abelian *p*-groups and hypo residual finiteness. *Rend. Sem. Mat. niv. Padova* **45** (1971), 145–156. (Paul F. Dubois) **46** #7384 20E15

On the normal structure of automorphism groups of Abelian *p*-groups. *J. London ath. Soc.* (2) **5** (1972), 409–413. (P. Hill) **48** #2275 20K30

Near central automorphisms of abelian torsion groups. *Trans. Amer. Math. Soc.* **4** (1972), 199–215. (J. D. Tarwater) **46** #9193 20K10

Primary abelian groups and the normal structure of their automorphism groups. *onference on Group Theory* (*Univ. Wisconsin-Parkside, Kenosha, Wis.*, 1972), *pp.* 9–122. *Lecture Notes in Math.*, *Vol.* 319, *Springer*, *Berlin*, 1973. (R. J. Ensey) 1 #13080 20K30

The automorphism group of an abelian *p*-group and its normal *p*-subgroups. *Trans. mer. Math. Soc.* **182** (1973), 159–164. (K. Faltings) **48** #4154 20K30

The normal structure of the automorphism group of an abelian *p*-group. *Symposia athematica, Vol. XIII* (*Convegno di Gruppi Abeliani, INDAM, Rome*, 1972), *pp.* 21–24. *cademic Press, London*, 1974. (R. J. Ensey) **50** #10117 20K30

The automorphism group of an abelian *p*-group and its noncentral normal bgroups. *J. Algebra* **30** (1974), 459–472. (J. D. Tarwater) **50** #508 20K30

Structural relations between general linear groups and automorphism groups of belian *p*-groups. *Proc. London Math. Soc.* (3) **28** (1974), 614–630. (J. D. Dixon) **0** #509 20K30

(*with* Johnson, Johnny A.) A non-commutative minimally non-Noetherian ring. *ath. Scand.* **36** (1975), *no.* 2, 313–316. (S. Williamson) **52** #488 16A46

Automorphism groups of abelian *p*-groups. *Proc. Amer. Math. Soc.* **48** (1975), 7–72. (R. J. Ensey) **50** #13317 20K30

On automorphism groups and endomorphism rings of abelian *p*-groups. *Trans. mer. Math. Soc.* **210** (1975), 123–128. (J. D. Tarwater) **51** #13081 20K30

(*with* Johnson, Johnny A.) Abelian groups with many automorphisms. *Rend. Sem. at. Univ. Padova* **55** (1976), 1–5. (K. Faltings) **57** #6229 20K30

The Jacobson radical of some endomorphism rings. *Abelian group theory* (*Proc. econd New Mexico State Univ. Conf., Las Cruces, N.M.*, 1976), *pp.* 332–336. *Lecture otes in Math., Vol.* 616, *Springer, Berlin*, 1977. (Wolfgang Liebert) **57** #6230 0K30

(*with* Johnson, Johnny A.) Characterization of the primary abelian groups, bounded odulo the divisible subgroup, by the radical of their endomorphism rings. *Arch. Math. Basel*) **29** (1977), *no.* 6, 566–570. (Wolfgang Liebert) **57** #6231 20K30

How automorphism groups reveal Ulm invariants. *J. Algebra* **44** (1977), *no.* 1, 9–28. (K. Faltings) **56** #499 20K30

The Jacobson radical of endomorphism rings of totally projective groups of finite type. *J. Reine Angew. Math.* **292** (1977), 19–24. (Reinhard Knörr) **56** #8604 16A21 (20K30)

(*with* Johnson, Johnny A.) Ideals and radicals of some endomorphism rings. *Pacific J. Math.* **74** (1978), *no.* 2, 365–372. (S. S. Page) **58** #771 16A21 (20K30)

ser, A. (*with* Loh, N. K.) Identification of optimal filter gain with application to colored noise. *Modeling and simulation* (*Proc. Sixth Annual Pittsburgh Conf., Univ. Pittsburgh, Pittsburgh, Pa.*, 1975), *Vol.* 6, *Part* 1, *pp.* 191–195. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1975. (Arunabha Bagchi) **56** #18050 93E10

ser, Isidore (*with* Malhiot, R. J.) Spherically symmetric static space-times which admit stationary Killing tensors of rank two. *J. Mathematical Phys.* **15** (1974), 816–823. (J. K. Beem) **49** #8586 83.53

Type-*N* gravitational field with twist. *Phys. Rev. Lett.* **33** (1974), *no.* 18, 1112–1113; *erratum, ibid.* **33** (1974), *no.* 25, 1525. (Author's summary) **52** #4916 83.35

(*with* Malhiot, R. J.) Structural equations for Killing tensors of order two. II. *J. Math. Phys.* **16** (1975), 1625–1629. (Kotik K. Lee) **51** #9738 83.53

(*with* Malhiot, R. J.) Structural equations for Killing tensors of order two. I. *J. Mathematical Phys.* **16** (1975), 150–152. (Kotik K. Lee) **50** #9290 83.53

(*with* Malhiot, R. J.) On space-time Killing tensors with a Segre characteristic [(11)(11)]. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1306–1312. (J. Charles-Renaudie) **53** #15268 83.53

(*with* Ernst, Frederick J.) Field equations and integrability conditions for special type *N* twisting gravitational fields. *J. Math. Phys.* **19** (1978), *no.* 9, 1816–1822. (J. D. Zund) **58** #14918 83.53

(*with* Malhiot, R. J.) Forms of all spacetime metrics which admit [(11) (11)] Killing tensors with nonconstant eigenvalues. *J. Mathematical Phys.* **19** (1978), *no.* 1, 187–194. (Authors' summary) **58** #20210 83.53 (53C50)

Type N gravitational field with twist. II. *J. Mathematical Phys.* **19** (1978), *no.* 3, 661–667. (Author's summary) **58** #14925 83.53

(*with* Ernst, Frederick J.) On the generation of new solutions of the Einstein-Maxwell field equations from electrovac spacetimes with isometries. *J. Mathematical Phys.* **19** (1978), *no.* 6, 1316–1323. (L. K. Patel) **58** #4154 83.35

user, John R. Testing the accuracy, usefulness, and significance of probabilistic choice models: an information-theoretic approach. *Operations Res.* **26** (1978), *no.* 3, 406–421. (From the summary) **58** #15006 90A05

usman, Alan (*with* Foster, Tom) Is everything a class? *Philos. Studies* **32** (1977), *no.* 4, 371–376. (Editors) **58** #16097 02A05

usman, Jerry A. An instrumental variable approach to full information estimators for linear and certain nonlinear econometric models. *Econometrica* **43** (1974), *no.* 4, 727–738. (Author's summary) **55** #13707 62P20

Errors in variables in simultaneous equation models. *J. Econometrics* **5** (1977), *no.* 3, 389–401. (Peter Schmidt) **55** #9476 62P20

(*with* Wise, David A.) A conditional probit model for qualitative choice: discrete decisions recognizing interdependence and heterogeneous perferences. *Econometrica* **46** (1978), *no.* 2, 403–426. (Michael D. Intriligator) **57** #4999 90A05

ausman, Miriam (*with* Shapiro, Harold N.) On the mean square distribution of primitive roots of unity. *Comm. Pure Appl. Math.* **26** (1973), 539–547. (J. Knopfmacher) **48** #8418 10H35

Primitive roots satisfying a co-prime condition. *Amer. Math. Monthly* **83** (1976), *no.* 9, 720–723. (T. C. Brown) **54** #10114 10A10

(*with* Shapiro, Harold N.) Perfect ideals over the Gaussian integers. *Comm. Pure Appl. Math.* **29** (1976), *no.* 3, 323–341. (W.-D. Geyer) **54** #12704 12A05 (10A25)

Domains of dominance. *Math. Mag.* **49** (1976), *no.* 2, 92–94. (J. Gopala Krishna) **52** #14293 30A66

Hausmann, D. (*with* Korte, Bernhard) Worst-case behaviour of polynomial bounded algorithms for independence systems. *Z. Angew. Math. Mech.* **58** (1978), *no.* 7, T477–T479. (From the introduction) **58** #25978 90C10 (90–04)

Hausmann, Jean-Claude Plongements de sphères d'homologie. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A963–965. (L. S. Husch) **47** #4276 57D40 (57A35, 57C35)

Groupes de sphères d'homologie entière. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1397–1400. (R. E. Stong) **49** #8026 57C25

Stabilité partielle pour l'homologie de groupes spéciaux linéaires. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 16, Ai, A687–A690. (H. Bass) **52** #8225 18H10

h-cobordismes entre variétés homéomorphes. *Comment. Math. Helv.* **50** (1975), 9–13. (F. Laudenbach) **51** #4279 57D80

Homology sphere bordism and Quillen plus construction. *Algebraic K-theory* (*Proc. Conf., Northwestern Univ., Evanston, Ill.*, 1976), *pp.* 170–181. *Lecture Notes in Math., Vol.* 551, *Springer, Berlin*, 1976. (A. A. Ranicki) **57** #10713 57D60 (18F25)

Homological surgery. *Ann. of Math.* (2) **104** (1976), *no.* 3, 573–584. (Laurence R. Taylor) **54** #11356 57D65

Variétés avec une homologie et un groupe fondamental donnés. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 5, Ai, A241–A244. (Oscar Burlet) **55** #4189 57C25 (57D55)

On odd dimensional surgery with finite fundamental group. *Proc. Amer. Math. Soc.* **62** (1977), *no.* 2, 199–205. (V. P. Snaith) **55** #6449 57D65

(*with* Kervaire, Michel A.) Sous-groupes derivés des groupes de noeuds. *Enseign. Math.* (2) **24** (1978), *no.* 1-2, 111–123. (J. P. Levine) **58** #7643 57C45

See also **Knot theory**. **58** #31084

Hausner, Melvin On a non-standard construction of Haar measure. *Comm. Pure Appl. Math.* **25** (1972), 403–405. (R. B. Kirk) **46** #2010 28A70 (02H25)

Hausrath, Alan R. Stability in the critical case of purely imaginary roots for neutral functional differential equations. *J. Differential Equations* **13** (1973), 329–357. (R. F. Datko) **48** #11729 34K20

(*with* Fink, James P.; Hall, William S.) A convergent two-time method for periodic differential equations. *J. Differential Equations* **15** (1974), 459–498. (W. M. Greenlee) **49** #9359 34E10

Stability of ratio limits for a system of differential equations modelling a learning theory. *J. Differential Equations* **16** (1974), 126–143. (S. C. Tefteller) **50** #711 34E99 (68A45)

Stability properties of a class of differential equations modeling predator-prey relationships. *Math. Biosci.* **26** (1975), *no.* 3/4, 267–281. (Colin W. Clark) **52** #7581 92A05

(*with* Fink, James P.; Hall, William S.) Discontinuous periodic solutions for an autonomous nonlinear wave equation. *Proc. Roy. Irish Acad. Sect. A* **75** (1975), *no.* 16, 195–226. (M. S. P. Eastham) **52** #14567 35B10 (35L60)

(*with* Fink, James P.; Hall, William S.) Discontinuous periodic solutions of an autonomous wave equation. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. I*, *pp.* 267–271. *Academic Press, New York*, 1976. (Editors) **58** #29063 35B10 (35L05)

(*with* Hall, William S.) A Rayleigh wave equation. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 333–338. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (Mitsuhiro Nakao) **58** #17446 35B10 (35L10)

Haussling, H. J. Viscous flows of stably stratified fluids over barriers. *J. Atmospheric Sci.* **34** (1977), *no.* 4, 589–602. (R. Manohar) **56** #10422 76.65

Haussmann, U. The inversion theorem and Plancherel's theorem in a Banach space. *Pacific J. Math.* **43** (1972), 585–600. (Edwin Hewitt) **49** #5726 43A35

(*with* Falb, P.) Bochner's theorem in infinite dimensions. *Pacific J. Math.* **43** (1972), 601–618. (Edwin Hewitt) **49** #5725 43A35

Haussmann, U. G. Optimal stationary control with state and control dependent noise. *SIAM J. Control* **9** (1971), 184–198. (W. D. Collins) **45** #3109 93E20

Stabilization of linear systems with multiplicative noise. *Stability of stochastic dynamical systems* (*Proc. Internat. Sympos., Univ. Warwick, Coventry*, 1972), *pp.* 125–130. *Lecture Notes in Math., Vol.* 294, *Springer, Berlin*, 1972. (Editors) **58** #9693 93E15

Stability of linear systems with control dependent noise. *SIAM J. Control* **11** (1973), 382–394. (Jan C. Willems) **47** #8179 93E15

On the principle of competitive exclusion. *Theoret. Population Biology* **4** (1973), 31–41; *erratum, ibid.* **4** (1973), 248. (R. Grimmer) **50** #3996 92A15 (34D05)

On the existence of moments of stationary linear systems with multiplicative noise. *SIAM J. Control* **12** (1974), 99–105. (M. Zakai) **49** #6990 93E20

General necessary conditions for optimal control of stochastic systems. Stochastic systems: modeling, identification and optimization, II (Proc. Sympos., Univ. Kentucky, Lexington, Ky., 1975). *Math. Programming Stud. No.* 6 (1976), 30–48. (Agostino Villa) **56** #18072 93E20

(*with* Anderson, W. J.; Boyarsky, Abraham) A new stochastic time optimal control problem. *SIAM J. Control Optimization* **16** (1978), *no.* 1, 1–15. (A. B. Schwarzkopf) **58** #15612 93E20

On the stochastic maximum principle. *SIAM J. Control Optimization* **16** (1978), *no.* 2, 236–251. (Jean-Michel Bismut) **58** #4578 93E20

Functionals of Itô processes as stochastic integrals. *SIAM J. Control Optimization* **16** (1978), *no.* 2, 252–269. (Tamer Başar) **57** #14136 60H05

Haußmann, Werner Mehrdimensionale Hermite-Interpolation. *Iterationsverfahren, Numerische Mathematik, Approximationstheorie* (*Tagung Numer. Method. Approximationstheorie, Oberwolfach*, 1969), *pp.* 147–160. *Internat. Schriftenreihe Numer.*

Math., *Vol.* 15, *Birkhäuser*, *Basel*, 1970. (John M. Karon) **51** #6221 41A05

On interpolation with derivatives. *SIAM J. Numer. Anal.* **8** (1971), 483–485. (D. C. Gilles) **47** #2229 41A05

Hermite-Interpolation mit Čebyšev-Unterräumen. *Numerische Methoden der Approximationstheorie*, *Band* 1 (*Tagung*, *Oberwolfach*, 1971), *pp.* 49–55. *Internat. Schriftenreihe Numer. Math.*, *Band* 16, *Birkhäuser*, *Basel*, 1972. (John M. Karon) **52** #3795 41A05

Tensorproduktmethoden bei mehrdimensionaler Interpolation. *Math. Z.* **124** (1972), 191–198. (A. B. Németh) **45** #7349 41A05

(*with* Münch, Heinz Josef) On the construction of multivariate spline systems. *Approximation theory* (*Proc. Internat. Sympos.*, *Univ. Texas*, *Austin*, *Tex.*, 1973), *pp.* 373–378. *Academic Press*, *New York*, 1973. (Walter Schempp) **48** #11854 41A15

(*with* Pottinger, Peter) Zur Konvergenz mehrdimensionaler Interpolationsverfahren. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Ljubljana, 1972). *Z. Angew. Math. Mech.* **53** (1973), T195–T197. (A. B. Neméth) **50** #864 41A63

(*with* Münch, Heinz Josef) Topological spline systems. *Spline-Funktionen* (*Tagung*, *Math. Forschungsinst.*, *Oberwolfach*, 1973), *pp.* 109–127. *Bibliographisches Inst.*, *Mannheim*, 1974. (Franz-Jürgen Delvos) **54** #13390 41A15

On multivariate spline systems. *J. Approximation Theory* **11** (1974), 285–305. (J. W. Jerome) **50** #10618 41A15

Spline-Systeme und beste Approximation von stetigen linearen Funktionalen. *Rev. Anal. Numér. Théor. Approx.* **4** (1975), *no.* 1, 13–18. (Author's summary) **58** #29614 41A15 (41A50)

(*with* Knoop, Hans-Bernd) Konvergenzordnung einer Folge positiver linearer Operatoren. *Rev. Anal. Numér. Théor. Approx.* **4** (1975), *no.* 2, 123–130 (1976). (Editors) **58** #29653 41A35

(*with* Pottinger, Peter) On multivariate approximation by continuous linear operators. *Constructive theory of functions of several variables* (*Proc. Conf.*, *Math. Res. Inst.*, *Oberwolfach*, 1976), *pp.* 101–108. *Lecture Notes in Math.*, *Vol.* 571, *Springer*, *Berlin*, 1977. (C. Micchelli) **58** #1912 41A63

(*with* Pottinger, Peter) On the construction and convergence of multivariate interpolation operators. *J. Approximation Theory* **19** (1977), *no.* 3, 205–221. (C. de Boor) **55** #6093 41A65

Hautot, A. P. Sur la complétude de l'ensemble des fonctions propres de l'atome d'hydrogène relativiste. (English summary) *Physica* **53** (1971), 154–156. (P. Singer) **47** #8037 81.46

The exact motion of a charged particle in the magnetic field $B=(x^2+y^2)^{-1/2}(-\gamma y/(x^2+y^2), \gamma x/(x^2+y^2), \alpha)$. *Physica* **58** (1972), 37–44. (J. Hoschek) **50** #9281 83.35

Hautot, André Sur les solutions polynomiales de l'équation différentielle $z(1-z)(\alpha-z)P_n'' + (az^2+bz+c)P_n' + (d+ez+fz^2)P_n=0$. *Bull. Soc. Roy. Sci. Liège* **40** (1971), 7–12. (D. V. V. Wend) **45** #8900 34A05

Sur des combinaisons linéaires d'un nombre fini de fonctions transcendantes comme solutions d'équations différentielles du second ordre. *Bull. Soc. Roy. Sci. Liège* **40** (1971), 13–23. (D. V. V. Wend) **45** #8901 34A05

Sur la solubilité de l'équation de Schrödinger. *Bull. Soc. Roy. Sci. Liège* **43** (1974), 348–395. (Z. Janković) **50** #15678 81.35

Some comments on a recent paper of Glasser. *J. Mathematical Phys.* **15** (1974), 268. (R. P. Boas, Jr.) **55** #741b 33A70

A new method for the evaluation of slowly convergent series. *J. Mathematical Phys.* **15** (1974), 1722–1727. (Hans-Jürgen Albrand) **53** #9575 65B10 (82.65)

New applications of Poisson's summation formula. *J. Phys. A* **8** (1975), 853–862. (Author's summary) **54** #9516 82.42

Sur la structure et la stabilité des centres de la sensibilité photographique. *Bull. Soc. Roy. Sci. Liège* **45** (1976), *no.* 5–8, 183–200. (M. Lawrence Glasser) **55** #11876 82.06

(*with* Possoz, Louis) Sur une méthode de résolution approchée de l'équation de Schrödinger. *Bull. Soc. Roy. Sci. Liège* **46** (1977), *no.* 9–10, 245–305. (J. R. Cannon) **57** #4529 65L99 (81.65)

Hautus, M. L. J. (*with* Kalman, Rudolph E.) Realization of continuous-time linear dynamical systems: rigorous theory in the style of Schwartz. *Ordinary differential equations* (*Proc. NRL-MRC Conf.*, *Math. Res. Center*, *Naval Res. Lab.*, *Washington*, *D.C.*, 1971), *pp.* 151–164. *Academic Press*, *New York*, 1972. (Stephen J. Hegner) **57** #18930 93B15

(*with* Olsder, Geert Jan) A uniqueness theorem for linear control systems with coinciding reachable sets. *SIAM J. Control* **11** (1973), 412–416. (O. Hájek) **48** #3552 93C05

Necessary conditions for multiple constraint optimization problems. *SIAM J. Control* **11** (1973), 653–669. (Henry Hermes) **48** #9506 49B35

Input regularity of cascaded systems. *IEEE Trans. Automatic Control* **AC-20** (1975), 120–123. (Peter A. Cook) **55** #10094 93B25

The formal Laplace transform for smooth linear systems. *Mathematical systems theory* (*Proc. Internat. Sympos.*, *Internat. Centre Mech. Sci.*, *Udine*, 1975), *pp.* 29–47. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer*, *Berlin*, 1976. (Author's summary) **58** #33195 93A10 (44A10)

(*with* Heymann, Michael; Stern, Ronald J.) Weak-invariance and rest points in control systems. *Dynamical systems* (*Proc. Internat. Sympos.*, *Univ. Florida*, *Gainesville*, *Fla.*, 1976), *pp.* 71–87. *Academic Press*, *New York*, 1977. (Ethelbert N. Chukwu) **57** #19006 93D99 (34H05)

A simple proof of Heymann's lemma. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.*5, 885–886. (Editors) **56** #14878 93B05

(*with* Heymann, Michael) Rest point theorems for autonomous control systems. *J. Math. Anal. Appl.* **58** (1977), *no.* 1, 98–112. (Eleanor M. James) **55** #3927 49E05

Formal and convergent solutions of ordinary differential equations. *Nederl. Akad. Wetensch. Indag. Math.* **40** (1978), *no.* 2, 216–229. (D. A. Lutz) **58** #6423 34A20

(*with* Heymann, Michael) Linear feedback—an algebraic approach. *SIAM J. Control Optimization* **16** (1978), *no.* 1, 83–105. (Peter A. Cook) **57** #15604 93B25 (93C55)

See also **van Lint, Jacobus H.**, **50** #4311

Haüy, René-Just *See* **Wiederkehr, Karl Heinrich**, **58** #21188

Havas, George (*with* Cannon, John J.; Dimino, Lucien A.; Watson, Jane M.) Implementation and analysis of the Todd-Coxeter algorithm. *Math. Comp.* **27** (1973 463–490. (Hale F. Trotter) **49** #390 20–04

A Reidemeister-Schreier program. *Proceedings of the Second International Conference on the Theory of Groups* (*Australian Nat. Univ.*, *Canberra*, 1973), *pp.* 347–35 *Lecture Notes in Math.*, *Vol.* 372, *Springer*, *Berlin*, 1974. (F. Levin) **51** #13002 20–04

(*with* Wall, G. E.; Wamsley, J. W.) The two generator restricted Burnside group of exponent five. *Bull. Austral. Math. Soc.* **10** (1974), 459–470. (R. R. Struik) **51** #3298 20D15 (20F40)

(*with* Cannon, John J.) Defining relations for the Held-Higman-Thompson simpl group. *Bull. Austral. Math. Soc.* **11** (1974), 43–46. (F. A. Sherk) **50** #13242 20D0

Computer aided determination of a Fibonacci group. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 2, 297–305. (E. F. Robertson) **54** #12907 20F05

(*with* Ascione, Judith A.; Leedham-Green, C. R.) A computer aided classificatio of certain groups of prime power order. *Bull. Austral. Math. Soc.* **17** (1977), *no.* 2 257–274. (Authors' summary) **57** #9808a (E **57** #9808bc) 20–04 (20D15)

(*with* Ascione, Judith A.; Leedham-Green, C. R.) Corrigendum: "A compute aided classification of certain groups of prime power order" (Bull. Austral. Math. Soc. **17** (1977), no. 2, 257–274). *Bull. Austral. Math. Soc.* **17** (1977), *no.* 2, 317–319. (Authors' summary) **57** #9808b 20–04 (20D15)

(*with* Ascione, Judith A.; Leedham-Green, C. R.) Microfiche supplement to "A computer aided classification of certain groups of prime power order" (Bull. Austral Math. Soc. **17** (1977), no. 2, 257–274; ibid. **17** (1977), no. 2, 317–319). *Bull. Austral. Math. Soc.* **17** (1977), *no.* 2, 320. (Authors' summary) **57** #9808c 20–04 (20D15)

Havas, Peter Separation of variables in the Hamilton-Jacobi, Schrödinger, and related equations. I. Complete separation. *J. Mathematical Phys.* **16** (1975), 1461–1468. (W Israel) **53** #7274 81.35 (35A25)

Separation of variables in the Hamilton-Jacobi, Schrödinger, and related equations II. Partial separation. *J. Mathematical Phys.* **16** (1975), *no.* 12, 2476–2489. (W. Israel **53** #7275 81.35 (35A25)

On theories of gravitation with higher-order field equations. *General Relativity and Gravitation* **8** (1977), *no.* 8, 631–645. (W. B. Bonnor) **56** #4629 83.35

(*with* Plebański, Jerzy F.) Conformal extensions of the Galilei group and thei relation to the Schrödinger group. *J. Mathematical Phys.* **19** (1978), *no.* 2, 482–488. (A O. Barut) **57** #2245 81.22

Havel, Ivan On one-sided context-sensitive grammars. *Automatentheorie und formale Sprachen* (*Tagung*, *Math. Forschungsinst.*, *Oberwolfach*, 1969), *pp.* 221–225. *Bibliographisches Inst.*, *Mannheim*, 1970. (Horst Reichel) **48** #3305 68A30

(*with* Liebl, Petr) On imbedding the dichotomic tree into the cube. (Czech. English summary) *Časopis Pěst. Mat.* **97** (1972), 201–205. (J. Sedláček) **46** #5152 05C05

(*with* Morávek, Jaroslav) *B*-valuations of graphs. *Czechoslovak Math. J.* **22**(97) (1972), 338–351. (G. Laman) **45** #3232 05C99 (94A20)

(*with* Liebl, Petr) Embedding the polytomic tree into the *n*-cube. (Czech summary) *Časopis Pěst. Mat.* **98** (1973), 307–314, 316. (L. W. Beineke) **48** #3777 05C05

On the tenth Hilbert problem. (Czech) *Pokroky Mat. Fyz. Astronom.* **18** (1973), 185–192. (Editors) **56** #15382 02F50 (02F25, 10N05, 10B15)

Embedding certain trees into cubes. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos.*, *Prague*, 1974), *pp.* 257–261. *Academia*, *Prague*, 1975. (R. L. Graham) **52** #5461 05C10

Havel, Ivan M. (*with* Harrison, Michael A.) Real-time strict deterministic languages. *SIAM J. Comput.* **1** (1972), *no.* 4, 333–349. (Horst Reichel) **48** #1522 68A30

(*with* Harrison, Michael A.) On a family of deterministic grammars (extended abstract). *Automata, languages and programming* (*Proc. Sympos.*, *Rocquencourt*, 1972), *pp.* 413–441. *North-Holland*, *Amsterdam*, 1973. (Editors) **51** #2355 68A30

(*with* Štěpánková, Olga) Some results concerning the situation calculus. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School*, *Štrbské Pleso*, 1973), *pp.* 321–326. *Math. Inst.*, *Slovak Acad. Sci.*, *Bratislava*, 1973. (Editors) **56** #10210 68A45

(*with* Harrison, Michael A.) Strict deterministic grammars. *J. Comput. System Sci.* **7** (1973), 237–277. (Sheila A. Greibach) **47** #7959 68A30

Automata theory motivated by problem solving. *ACM SIGACT News* **6** (1974), *no.* 2, 18–23. (Editors) **58** #3694 68A25 (68A45)

(*with* Harrison, Michael A.) On the parsing of deterministic languages. *J. Assoc. Comput. Mach.* **21** (1974), 525–548. (Miroslav Hladky) **50** #9059 68A30

Finite branching automata. *Kybernetika* (*Prague*) **10** (1974), 281–302. (A. D. Koršunov) **52** #2280 68A25

Nondeterministically recognizable sets of languages. *Mathematical foundations of computer science* (*Fourth Sympos.*, *Mariánské Lázně*, 1975), *pp.* 252–257. *Lecture Notes in Comput. Sci.*, *Vol.* 32, *Springer*, *Berlin*, 1975. (Erol Gelenbe) **52** #13023 94A30 (68A25, 68A30)

(*with* Štěpánková, Olga) A logical theory of robot problem solving. *Artificial Intelligence* 7 (1976), *no.* 2, 129–161. (K. D. Günther) **54** #1741 68A45

(*with* Geller, Matthew M.; Harrison, Michael A.) Normal forms of deterministic grammars. *Discrete Math.* **16** (1976), *no.* 4, 313–321. (S. A. Greibach) **54** #14454 68A30

(*with* Štěpánková, Olga) Incidental and state-dependent phenomena in robot problem solving. *Kybernetika* (*Prague*) **13** (1977), *no.* 6, 421–438. (Masaharu Mizumoto) **57** #8212 68A45

Havel, Jan (*with* Nedoma, Petr; Přibyl, Václav) Random sequences of true-random and pseudo-random type and some methods of their mixing. (Czech summary) *Ekonom.-Mat. Obzor* **8** (1972), 58–77. (B. Granovskiĭ (RŽMat **1972** #8 V177)) **51** #4622 65C10 (10K05)

(*with* Nedoma, Petr; Přibyl, Václav; Rejda, Zbyněk) Some experimental methods for stochastic problems solution. *Transactions of the Sixth Prague Conference on Information Theory*, *Statistical Decision Functions*, *Random Processes* (*Tech. Univ.*, *Prague*, 1971; *dedicated to the memory of Antonin Špaček*), *pp.* 249–261. *Academia*, *Prague*, 1973. **50** #3527 65C99

Havel, Václav Zur Theorie der Zassenhausschen Verfeinerungen zweier Reihen von rlegungen. II. Verknüpfte und angeschaltete Verfeinerungen. *Acta Fac. Rerum Natur. iv. Comenian. Math. Publl.* 23 (1969), 1–5 (1970). (B. M. Schein (Šaĭn)) **45** #1770 A20 (20L10)

Zur Theorie der Zassenhausschen Verfeinerungen zweier Reihen von Zerlegungen. . Kartesische Strukturen. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* 23)69), 7–11 (1970). (B. M. Schein (Šaĭn)) **45** #1771 04A20 (20L10)

Ternary halfgroupoids and coordinatization. *Mat. Časopis Sloven. Akad. Vied* **19**)69), 102–109. (H. A. Thurston) **46** #286 20N10 (50A20)

Coupled systems of type **T**. *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 113–115. . Artzy) **46** #2531 50A20

Incidence presystems. *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 166–171. (R. tzy) **46** #4360 50D35

Near domains as linear pseudo ternaries. *Czechoslovak Math. J.* **21(96)** (1971), 4–347. (K. Drbohlav) **46** #3673 20N10

Nichtinjektive Homomorphismen von Viergeweben. *Abh. Math. Sem. Univ. amburg* **37** (1972), 6–19. (T. G. Ostrom) **46** #786 50D35

Professor Karel Zahradnik (on the 125th anniversary of his birth). (Serbo-Croatian) *asnik Mat. Ser. III.* **8(28)** (1973), 335–337. (Ju. M. Gaĭduk) **49** #2232 01A70

A general coordinatization principle for projective planes with comparison of Hall d Hughes frames and with examples of generalized oval frames. *Czechoslovak Math.* **24(99)** (1974), 664–673. (R. Artzy) **50** #11018 50D35

Universality property of free groupoid extensions of half-groupoids and its ometrical meaning. *Czechoslovak Math. J.* **25(100)** (1975), *no.* 4, 562–567. (F. Radó) #430 20L05

Über die Bestimmung eines Gewebeepimorphismus durch das Urbild eines chtsingulären Punktes. *Abh. Math. Sem. Univ. Hamburg* **45** (1976), 100–109. (J. ndré) **54** #1081 50D50

Note on weak epimorphisms of 3-nets without singular points. (Loose Russian mmary) *Časopis Pěst. Mat.* **101** (1976), *no.* 1, 60–68. (From the text) **58** #11200 N99

Generalization of one Baer's theorem for nets. (Loose Russian summary) *Časopis ěst. Mat.* **101** (1976), *no.* 4, 375–378. (From the text) **58** #18116 50D35

Homomorphisms of nets of fixed degree, with singular points on the same line. oose Russian summary) *Czechoslovak Math. J.* **26(101)** (1976), *no.* 1, 43–54. (David . Drake) **52** #13436 05B25 (50D35)

Kleine Desargues-Bedingung in Geweben. (Loose Russian summary) *Časopis Pěst. at.* **102** (1977), *no.* 2, 144–165. (Author's summary) **58** #18117 50D35 (20N05)

lka, Bedřich (*with* Miller, Miroslav) On the identity of the field diffracted by the ansparent object and reconstructed from its hologram. *Acta Tech. ČSAV* **22** (1977), *o.* 6, 681–689. (Aloknath Chakrabarti) **58** #8821 78.45

lka, František Über Beziehungen der darstellenden Geometrie und Nomographie zu inander. (Czech summary) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **37** 1972), 51–56. (L. Bitay) **50** #1549 65S05

nner, Arthur (*with* Craine, Roger) A stochastic optimal control technique for models vith estimated coefficients. *Econometrica* **45** (1977), *no.* 4, 1013–1021. (Andrew P. Sage) **6** #2606 93E20

r, William E. Locally contractible spaces that are absolute neighborhood retracts. *roc. Amer. Math. Soc.* **40** (1973), 280–284. (C. J. Himmelberg) **48** #9645 54C55

A covering property for metric spaces. *Topology Conference* (*Virginia Polytech. Inst. nd State Univ., Blacksburg, Va.*, 1973), *pp.* 108–113. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin*, 1974. (P. W. Harley, III.) **51** #1756 54E35 (54C65)

Monotone mappings of a two-disk onto itself which fix the disk's boundary can be anonically approximated by homeomorphisms. *Pacific J. Math.* **50** (1974), 477–483. B. L. Brechner) **50** #3254 57E05

The closure of the space of homeomorphisms on a manifold. *Trans. Amer. Math. Soc.* **195** (1974), 401–419. (Robert A. McCoy) **50** #14817 57E05 (57A20)

Topological description of the space of homeomorphisms on closed 2-manifolds. *llinois J. Math.* **19** (1975), *no.* 4, 632–635. (R. C. Kirby) **52** #4320 57E05

Mappings between ANRs that are fine homotopy equivalences. *Pacific J. Math.* **58** (1975), *no.* 2, 457–461. (D. R. McMillan, Jr.) **52** #6724 57A15

(*with* Geoghegan, Ross) On the space of piecewise linear homeomorphisms of a manifold. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 145–151. (Kenneth C. Millett) **53** #6599 57E05 (57C99)

erkamp, Richard Sturm-Liouville-Probleme mit schwach singulären Koeffizientenfunktionen. I. Eigenwertproblem. (English summary) *Numer. Math.* **27** (1976/77), *no.* 4, 471–484. (Joachim A. Nitsche) **56** #7214 65L15

Zum Nullstellensatz von Krein für Haar'sche Räume. *J. Approx. Theory* **23** (1978), *no.* 2, 104–107. (Menachem Dishon) **58** #12107 41A20

erland, U. A method for the recursive computation of *F*-statistics. (German and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 5, 721–727. (M. Atiqullah) **54** #14250 62J10

erlik, Ivan (*with* Kostyrko, Pavel) Note to a problem of H. Steinhaus. (Slovak and Russian summaries) *Acta Fac. Rerum Natur. Univ. Comenian. Math.* **30** (1975), 63–70. (M. S. Cheema) **52** #5550 10A30

et, Jean-François Espérances conditionnelles permutables à un groupe d'automorphismes sur une algèbre de von Neumann. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 18, *A*ii, *A*1095–*A*1098. (Jőzsef Szücs) **54** #947 46L10

iar, Alfonz *N*-Schrägverbände und Quasiordnungen. (Loose English summary) *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 240–248. (V. S. Krishnan) **48** #5934 06A20

On a generalized distributivity in modular lattices. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* 29 (1974), 35–42. (Joel Berman) **50** #6945 06A23

idi, H. M. Orthogonal equivalence of matrices. (Russian) *Mat. Issled.* **7** (1972), *no.* 2(24), 262–271, 294. (A. Lee) **47** #6730 15A21

vie, Tore Error derivation in Romberg integration. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 516–527. (J. Kofroň) **49** #8284 65D30

Remarks on an expansion for integrals of rapidly oscillating functions. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 16–29. (Y. L. Luke) **48** #1435 65D30

Some expansions for integrals with weight functions. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 306–313. (Author's summary) **52** #4585 65D30

Romberg integration as a problem in interpolation theory. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **17** (1977), *no.* 4, 418–429. (Author's summary) **57** #10993 65D05 (65D30)

Havin, V. P. (*with* Akilov, G. P.; Makarov, B. M.) ★Элементарное введение в теорию интеграла. (Russian) [Elementary introduction to the theory of the integral] *Izdat. Leningrad. Univ., Leningrad*, 1969. 350 *pp.* (See RŽMat **1970** #5 V142K) 28–01

(*with* Vinogradov, S. A.; Goluzina, M. G.) Multipliers and divisors of Cauchy-Stieltjes type integrals. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **19** (1970), 55–78. (L. I. Hedberg) **45** #562 30A86

A generalization of the Privalov-Zygmund theorem on the modulus of continuity of the conjugate function. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **6** (1971), *no.* 2-3, 252–258; *ibid.* **6** (1971), *no.* 4, 265–287. (L. I. Hedberg) **46** #2066 30A78 (30A72)

Impossibility of the Carleman approximation of functions continuous on the unit circle by the boundary values of functions analytic and uniformly continuous in the unit disk. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **22** (1971), 161–170. (C. C. White) **45** #903 46J10 (30A82)

(*with* Maz'ja, V. G.) A nonlinear potential theory. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 6(168), 67–138. (G. Albinus) **53** #13610 31C15

(*with* Maz'ja, V. G.) On the theory of nonlinear potentials and (p,l)-capacity. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1972), 46–51, 150. (N. Boboc) **49** #7465 31B15

(*with* Maz'ja, V. G.) Approximation in the mean by harmonic functions. (Russian) Investigations on linear operators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **30** (1972), 91–105. (Ju. A. Šaškin) **48** #6449 31B05 (41A30)

(*with* Maz'ja, V. G.) Application of the (p,l)-capacity to certain problems of the theory of exceptional sets. (Russian) *Mat. Sb.* (*N.S.*) **90(132)** (1973), 558–591, 640. (G. Wildenhain) **51** #3449 30A72 (42A20, 46E15)

(*with* Vladimirov, D. A.; Gavurin, M. K.; Natanson, G. I.; Romanovskiĭ, I. V.) Boris Zaharovič Vulih (on the occasion of his sixtieth birthday). (Russian) *Vestnik Leningrad. Univ. No.* 7 *Mat. Meh. Astronom. Vyp.* 2 (1973), 158–159. **48** #3685 01A70

Weak completeness of the space L^1/H^1_0. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1973), 77–81, 172. (M. Rabindranathan) **49** #9602 46E15 (30A78)

(*with* Maz'ja, V. G.) The solutions of the Cauchy problem for the Laplace equation (uniqueness, normality, approximation). (Russian) *Trudy Moskov. Mat. Obšč.* **30** (1974), 61–114. (G. Albinus) **52** #6000 31B25

The spaces H^∞ and L^1/H^1_0. (Russian) Investigations on linear operators and the theory of functions, IV. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **39** (1974), 120–148. (D. Sarason) **50** #965 46E15 (46J15)

(*with* Vinogradov, S. A.) Free interpolation in H^∞ and in certain other classes of functions. I. (Russian. English summary) Investigations on linear operators and the theory of functions, V. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **47** (1974), 15–54, 184–185, 191. (J. Siciak) **52** #14307 30A80

(*with* Florinskaja, L. V.) ★Теория меры и интеграла. Вып. 2. (Russian) [Theory of measure and integral. No. 2] Интеграл. [Integral] Edited by B. M. Makarov. *Izdat. Leningrad. Univ., Leningrad*, 1975. 211 *pp.* (Not reviewed) 26–01 (28–01)

Approximation in L^p by the solutions of certain systems of linear differential equations. (Russian. English summary) Collection of articles dedicated to the memory of Academician V. I. Smirnov. *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1, (1975), 150–158, 192. (Pavel Doktor) **52** #11575 46E35 (41A30)

(*with* Vinogradov, S. A.) Free interpolation in H^∞ and in certain other classes of functions. II. (Russian. English summary) Investigations on linear operators and theory of functions, VI. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **56** (1976), 12–58, 195. (J. Siciak) **58** #11425 30A78 (46E15)

See also **Investigations in linear operators and function theory**, **46** #7927; **Linear operators and operator equations**, **49** #4718; **Investigations in linear operators and function theory**, **49** #5761; **Carleson, Lennart**, **50** #4932 (EA 57) ; **Transactions of the Moscow Mathematical Society**, **52** #10314 *and* **Investigations on linear operators and the theory of functions**, **52** #14241 (EA 53)

Havinson, S. Ja. Some approximation theorems involving the values of the coefficients of the approximating functions. (Russian) *Dokl. Akad. Nauk. SSSR* **196** (1971), 1283–1286. (Á. Elbert) **45** #784 41A65

A notion of completeness that takes into account the magnitude of the coefficients of the approximating polynomials. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **6** (1971), *no.* 2-3, 221–234. (G. Albinus) **45** #5641 41A65

(*with* Romanova, Z. S.) Approximation properties of subspaces of finite dimension in the space L_1. (Russian) *Mat. Sb.* (*N.S.*) **89(131)** (1972), 3–15, 165. (Hans-Jürgen Albrand) **46** #7882 46E35 (41A65)

The representation of extremal functions in the classes of E_q by the functions of Green and Neumann. (Russian) *Mat. Zametki* **16** (1974), 707–716. (I. P. Ramadanov) **51** #5920 30A40

The distribution of zeros of extremal functions in the classes E_p, in finitely connected domains. (Russian) *Mat. Zametki* **16** (1974), 879–885. (W. C. Royster) **52** #735 30A40 (30A08, 30A78)

A universal potential for compact sets of capacity zero, and other approximation characteristics of sparse sets. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **10** (1975), *no.* 4, 356–372, 387. (L. I. Hedberg) **54** #2993 31B15

Extremal functions in problems on the distortion of lengths and areas under transformations by bounded analytic functions. (Russian) *Moskov. Inž.-Storitel. Inst. Sb. Trudov No.* 130 (1975), 3–6. (T. Giec) **56** #15911 30A40

Removable singularities of analytic functions of the V. I. Smirnov class. (Russian) *Some problems in modern function theory* (*Proc. Conf. Modern Problems of Geometric Theory of Functions, Inst. Math., Acad. Sci. USSR, Novosibirsk*, 1976) (*Russian*), *pp.*

160–166. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1976. (Editors) **58** #22532 30A44

(*with* Muradjan, O. A.) The values of the coefficients of the polynomials in the Weierstrass approximation theorem. (Russian) *Mat. Zametki* **22** (1977), *no.* 2, 269–276. (V. Veselinov) **57** #963 41A10

Havkin, V. P. (*with* Grinberg, A. I.) An estimate of the relay correlation function when the realizations are misaligned. (Russian) *Avtometrija* **1974**, *no.* 2, 85–87. **50** #4129 94A20

Havlát, T. (*with* Ochranová, R.; Křetínský, M.) Control structures in programming. *Scripta Fac. Sci. Natur. UJEP Brunensis—Math.* **8** (1978), *no.* 10, 41–57. (Authors' summary) **58** #25080 68A05

Havlíček, Karel In memoriam: Vladimír Mahel. (Czech) *Časopis Pěst. Mat.* **102** (1977), *no.* 1, 95–99. (Editors) **55** #10204 01A70

See also **Švec, Alois**, **47** #8228 *and* **Grundlagen der Geometrie und algebraische Methoden**, **48** #12227

Havlíček, M. (*with* Exner, Pavel) Note on the description of an unstable system. *Czechoslovak J. Phys.* **23B** (1973), 594–600. (Jean-Paul Marchand) **52** #2470 81.47

(*with* Exner, Pavel) On the minimal canonical realizations of the Lie algebra $O_C(n)$. *Ann. Inst. H. Poincaré Sect. A (N.S.)* **23** (1975), *no.* 4, 313–333. (R. Mirman) **53** #4774 81.22 (22E70)

(*with* Exner, Pavel) Matrix canonical realizations of the Lie algebra $o(m,n)$. I. Basic formulae and classification. *Ann. Inst. H. Poincaré Sect. A (N.S.)* **23** (1975), *no.* 4, 335–347. (R. Mirman) **53** #4775 81.22 (22E70)

Remark on the integrability of some representations of the semisimple Lie algebras. *Rep. Mathematical Phys.* **7** (1975), *no.* 1, 85–86. (H. de Vries) **52** #3436 22E70

(*with* Laßner, Wolfgang) Canonical realizations of the Lie algebras $\mathrm{gl}(n,R)$ and $\mathrm{sl}(n,R)$. I. Formulae and classification. *Rep. Mathematical Phys.* **8** (1975), *no.* 3, 391–399. (F. W. Lemire) **53** #13328 17B10 (22E70)

(*with* Exner, Pavel; Laßner, Wolfgang) Canonical realizations of classical Lie algebras. *Czechoslovak J. Phys.* **26B** (1976), *no.* 11, 1213–1228. (Anthony J. Bracken) **55** #3014 17B35 (81.17)

(*with* Laßner, Wolfgang) Canonical realizations of the Lie algebra $\mathrm{sp}(2n, R)$. *Internat. J. Theoret. Phys.* **15** (1976), *no.* 11, 867–876. (Anthony J. Bracken) **55** #11829 81.22

(*with* Laßner, Wolfgang) On the "near to minimal" canonical realizations of the Lie algebra C_n. *Internat. J. Theoret. Phys.* **15** (1976), *no.* 11, 877–884. (Anthony J. Bracken) **55** #11830 81.22

(*with* Laßner, Wolfgang) Canonical realizations of the Lie algebras $\mathrm{gl}(n,R)$ and $\mathrm{sl}(n,R)$. II. Casimir operators. *Rep. Mathematical Phys.* **9** (1976), *no.* 2, 177–185. (F. W. Lemire) **54** #10354 17B10 (22E70)

(*with* Laßner, Wolfgang) Matrix canonical realizations of the Lie algebra $\mathrm{u}(p, q)$. *Rep. Mathematical Phys.* **12** (1977), *no.* 1, 1–8. (Philip Huddleston) **56** #15845 22E70 (22E60)

Havlová, J. On periodic solutions of nonlinear parabolic equations. *Proceedings of the Fourth Conference on Nonlinear Oscillations* (*Prague*, 1967), *pp.* 169–172. *Academia, Prague*, 1968. (O. Vejvoda) **50** #744 35B10

Havnen, Johan Completely monotonic functions on *n*-dimensional lattices. *Math. Scand.* **33** (1973), 314–322 (1974). (J. P. R. Christensen) **50** #8031 46E05

Havner, Kerry S. A discrete model for the prediction of subsequent yield surfaces in polycrystalline plasticity. (Russian) *Internat. J. Solids and Structures* **7** (1971), 719–730. (H. G. Hopkins) **48** #13111 82.65

On convergence of a discrete aggregate model in polycrystalline plasticity. (Russian summary) *Internat. J. Solids and Structures* **7** (1971), 1269–1275. (H. G. Hopkins) **49** #6754 73.65

(*with* Patel, H. P.) On convergence of the finite-element method for a class of elastic-plastic solids. *Quart. Appl. Math.* **34** (1976), *no.* 1, 59–68. (Authors' summary) **56** #7447 73.65

On uniqueness criteria and minimum principles for crystalline solids at finite strain. (German summary) *Acta Mech.* **28** (1977), *no.* 1–4, 139–151. (Author's summary) **57** #18515 80.49

(*with* Shalaby, A. H.) A simple mathematical theory of finite distortional latent hardening in single crystals. *Proc. Roy. Soc. London Ser. A* **358** (1977), *no.* 1692, 47–70. (J. L. Nowinski) **58** #8632 73.00

Havránek, Tomáš A generalization of the propositional calculus for purposes of the theory of logical nets with probabilistic elements. *Kybernetika* (*Prague*) **10** (1974), 13–43. (H. Jürgensen) **49** #8770 94A35 (02B05)

The computation of characteristic vectors of logical-probabilistic expressions. *Kybernetika* (*Prague*) **10** (1974), 80–94. (H. Jürgensen) **49** #12213 94A35

An application of logical-probabilistic expressions to the realization of stochastic automata. *Kybernetika* (*Prague*) **10** (1974), 241–257. (H. Jürgensen) **49** #12214 94A35

The approximation problem in computational statistics. *Mathematical foundations of computer science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp.* 258–265. *Lecture Notes in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (From the author's introduction) **55** #1822 68A25 (62–04)

Statistical quantifiers in observational calculi: an application in GUHA-methods. *Theory and Decision* **6** (1975), 213–230. (Author's summary) **57** #12187 02C99 (68A40)

Statistics and computability. *Kybernetika* (*Prague*) **12** (1976), *no.* 5, 303–315. (H. P. Edmundson) **56** #4230 68A20 (02E15, 62A99)

Some aspects of automatic systems of statistical inference. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 221–229. *Reidel, Dordrecht*, 1977. (G. E. Minc) **58** #19418 68A45

Towards a model theory of statistical theories. Foundations of probability and statistics, III. *Synthese* **36** (1977), *no.* 4, 441–458. (Editors) **58** #27464 02H99 (62A99)

On simultaneous inference in multidimensional contingency tables. (Russian summary) *Apl.-Mat.* **23** (1978), *no.* 1, 31–38. (Author's summary) **58** #24730 62H15 (68A45)

Havrda, Jan ★Matematické programování. (Czech) [Mathematical programming] *Stá Nakladatelství Technické Literatury, Prague*, 1972. 162 *pp.* (K. Zimmermann) **50** #122 90Cxx

On the generalization of the concept of the projector. (Czech. English summar *Časopis Pěst. Mat.* **98** (1973), 265–268. (L. Janos) **51** #13656 46C05 (47B99)

Orthogonality on sets. (Czech. English summary) *Časopis Pěst. Mat.* **100** (1975), 4, 339–354. (H. F. J. Lowig) **54** #7338 06A25

Havsteen, B. (*with* Busse, H.-G.) Nonlinear patterns in chemical networks as symmetr of transformation groups. *Z. Naturforsch.* **32a** (1977), *no.* 12, 1457–1464. (Khaw Tahir Shah) **58** #13161 58F05 (35A30)

Ha Vuĭ (*with* Knjazev, P. N.) The weak convergence of operators. (Russian) *Vescī Ak Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 2, 23–27, 138–139. (A. B. Buc **52** #15061 47A55

el-Hawary, M. E. *See* **El-Hawary, M. E.**

Hawes, D. M. *See* **Operational Research**, **49** #12059

Hawes, Joan L. Newton's revival of the aether hypothesis and the explanation of gravitational attraction. *Notes and Records Roy. Soc. London* **23** (1968), 200–21 (Editors) **58** #26961 01A50

Hawk, I. L. (*with* Hardcastle, D. L.) Finite-difference solution to the Schroedinger equation for the ground state and first-excited state of helium. *J. Computational Ph* **21** (1976), *no.* 2, 197–207. **57** #2350 81.65

Hawkes, Alan G. Point spectra of some mutually exciting point processes. *J. Roy. Stat Soc. Ser. B* **33** (1971), 438–443. (David Oakes) **50** #11432 60G55

Spectra of some mutually exciting point processes with associated variables. *Stochastic point processes: statistical analysis, theory, and applications* (*Conf., IBM Re Center, Yorktown Heights, N.Y.*, 1971), *pp.* 261–271. *Wiley-Interscience, New York*, 197 (David Oakes) **50** #11433 60G55

(*with* Oakes, David) A cluster process representation of a self-exciting process. *Appl. Probability* **11** (1974), 493–503. (J. Kerstan) **51** #14262 60G55

(*with* Kingman, J. F. C.; Taylor, Samuel James; Walker, A. M.; Cox, D. R Smith, Adrian; Hill, Bruce M.; Burville, P. J.; Leonard, Tom) Random discrete distribution. With a discussion by S. J. Taylor, A. G. Hawkes, A. M. Walker, D. R Cox, A. F. M. Smith, B. M. Hill, P. J. Burville, T. Leonard and a reply by the author. *J Roy. Statist. Soc. Ser. B* **37** (1975), 1–22. (Mir Ali) **51** #4505 62E99

See also **Besag, Julian**, **51** #9409

Hawkes, J. (*with* Gardner, R. J.) Majorizing sequences and approximation. *Ark. Mat.* (1976), *no.* 2, 197–211. (J. Hoffmann-Jørgensen) **58** #1890 41A45 (28A75, 60D05)

Hawkes, John Some dimension theorems for the sample functions of stable processes. *Indiana Univ. Math. J.* **20** (1970/71), 733–738. (S. Orey) **45** #1251 60J60

On the Hausdorff dimension of the intersection of the range of a stable process wit a Borel set. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **19** (1971), 90–102. (N. C Jain) **45** #1252 60J60

The measure of the range of a subordinator. *Bull. London Math. Soc.* **5** (1973), 21–28. (S. J. Taylor) **47** #7820 60J30

On the covering of small sets by random intervals. *Quart. J. Math. Oxford Ser.* (2 **24** (1973), 427–432. (S. J. Taylor) **48** #3097 60D05

(*with* Pruitt, William E.) Uniform dimension results for processes with independen increments. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 277–288 (Joseph Horowitz) **50** #14948 60J30 (60G17)

Local times and zero sets for processes with infinitely divisible distributions. *J London Math. Soc.* (2) **8** (1974), 517–525. (Bert Fristedt) **50** #14949 60J30 (60G17, 60J55)

Hausdorff measure, entropy, and the independence of small sets. *Proc. London Math. Soc.* (3) **28** (1974), 700–724. (S. J. Taylor) **50** #4899 28A75 (60J30)

On the comparison of measure functions. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), *no.* 3, 483–491. (Bert Fristedt) **52** #3487 28A75 (60J30)

Some algebraic properties of small sets. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), *no.* 102, 195–201. (S. J. Taylor) **51** #10591 28A75

On the potential theory of subordinators. *Z. Warscheinlichkeitstheorie und Verw. Gebiete* **33** (1975/76), *no.* 2, 113–132. (Bert Fristedt) **52** #9389 60J30 (60J45)

Intersections of Markov random sets. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **37** (1976/77), *no.* 3, 243–251. (Joseph Horowitz) **58** #3064 60J30

A characteristic function and a problem of Kingman. *Bull. London Math. Soc.* **9** (1977), *no.* 1, 61–64. (N. H. Bingham) **54** #14038 60E05 (60J25)

Moments of last exit times. *Mathematika* **24** (1977), *no.* 2, 266–269. (P. W. Millar) **58** #7865 60J30

Local properties of some Gaussian processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **40** (1977), *no.* 4, 309–315. (Simeon M. Berman) **56** #16759 60G15 (60G17, 60J65)

Multiple points for symmetric Lévy processes. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 1, 83–90. (W. E. Pruitt) **57** #4316 60G17 (60J30)

(*with* Jenkins, John D.) Infinitely divisible sequences. *Scand. Actuar. J.* **1978**, *no.* 2, 65–76. (Jozef L. Teugels) **58** #18761 60K05 (40A25)

Hawkes, Nigel *See* **Seminar: Trends in Mathematical Modelling**, **55** #9590

Hawkes, Richard M. (*with* Moore, John B.) Performance of Bayesian parameter estimators for linear signal models. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 4, 523–527. (Paul Shaman) **55** #2298 93E10

(*with* Moore, John B.) An upper bound on the mean-square error for Bayesian parameter estimators. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 5, 610–615. (K. S. Miller) **54** #4784 93E10 (94A05)

(*with* Moore, John B.) Performance bounds for adaptive estimation. Special issue on adaptive systems. *Proc. IEEE* **64** (1976), *no.* 8, 1143–1150. (Arunabha Bagchi) **55** #2299 93E10

(*with* Moore, John B.) Analysis of a detection-estimation algorithm using cone bounds. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras*, 1976), *Vol.* 2, *pp.* 376–380. *Hemisphere, Washington, D.C.*, 1977. (Authors' summary) **58** #15567 93E10 (94A05)

Hawkes, Trevor O. Skeletal classes of soluble groups. *Arch. Math.* (*Basel*) **22** (1971), 577–589. (A. R. Camina) **46** #248 20D10

Closure operations for Schunck classes. Collection of articles dedicated to the emory of Hanna Neumann, III. *J. Austral. Math. Soc.* **16** (1973), 316–318. (H. chtell) **50** #13256 20D10

On the Fitting length of a soluble linear group. *Pacific J. Math.* **44** (1973), 537–540. R. Camina) **47** #6845 20D10

On the automorphism group of a 2-group. *Proc. London Math. Soc.* (3) **26** (1973), 7–225. (Peter M. Neumann) **47** #3527 20D45 (20D15)

Two applications of twisted wreath products to finite soluble groups. *Trans. Amer. ath. Soc.* **214** (1975), 325–335. (D. J. S. Robinson) **52** #562 20D10

The family of Schunck classes as a lattice. *J. Algebra* **39** (1976), *no.* 2, 527–550. (A. Camina) **53** #10917 20D10

A Fitting class construction. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 3, 7–446. (S. Oates Macdonald) **55** #488 20D10

Bounding the nilpotent length of a finite group. I. *Proc. London Math. Soc.* (3) **33** 976), *no.* 2, 329–360. (Richard Davitt) **54** #2789 20D10

(*with* Doerk, Klaus) On the residual of a direct product. *Arch. Math.* (*Basel*) **30** 978), *no.* 5, 458–468. (R. W. Carter) **58** #16873 20D10

ing, Stephen W. Stable and generic properties in general relativity. *General Relativity nd Gravitation* **1** (1970/71), *no.* 4, 393–400. (Bernd Schmidt) **52** #12699 83.53

The definition and occurrence of singularities in general relativity. *Proceedings of iverpool Singularities Symposium, II* (1969/1970), 275–279. *Lecture Notes in Math., ol.* 209, *Springer, Berlin*, 1971. (Juergen Kern) **50** #3865 83.53

Black holes in general relativity. *Comm. Math. Phys.* **25** (1972), 152–166. (H. Rund) **5** #3037 83.53

Black holes in the Brans-Dicke theory of gravitation. *Comm. Math. Phys.* **25** (1972), 67–171. (H. Rund) **45** #3038 83.53

(*with* Ellis, G. F. R.) ★The large scale structure of space-time. Cambridge onographs on Mathematical Physics, No. 1. *Cambridge University Press, London-New ork*, 1973. xi + 391 *pp.* (Michael P. Ryan, Jr.) **54** #12154 83.58

(*with* Collins, C. B.) Why is the universe isotropic? *Astrophys. J.* **180** (1973), 17–334. (L. F. Oster) **47** #4594 85.35

(*with* Bardeen, James M.; Carter, Brandon) The four laws of black hole mechanics. *omm. Math. Phys.* **31** (1973), 161–170. (W. B. Bonnor) **48** #13116 83.35

A variational principle for black holes. *Comm. Math. Phys.* **33** (1973), 323–334. (H. und) **48** #10420 83.53

(*with* Sachs, Rainer Kurt) Causally continuous spacetimes. *Comm. Math. Phys.* **35** 1974), 287–296. (H. Rund) **48** #13180 83.57

Particle creation by black holes. *Comm. Math. Phys.* **43** (1975), *no.* 3, 199–220. (P. W. Davies) **52** #2517 (E **52** #9960) 83.53

Erratum: "Particle creation by black holes"(Comm. Math. Phys. **43** (1975), no. 3, 199–220). *Comm. Math. Phys.* **46** (1976), *no.* 2, 206. (Editors) **52** #9960 83.53

(*with* King, A. R.; McCarthy, Patrick J.) A new topology for curved space-time which incorporates the causal, differential, and conformal structures. *J. Mathematical Phys.* **17** (1976), *no.* 2, 174–181. (S. Nanda) **52** #16528 83.57

Breakdown of predictability in gravitational collapse. *Phys. Rev. D.* (3) **14** (1976), *no.* 10, 2460–2473. (B. K. Nayak) **57** #8892 83.53

Zeta function regularization of path integrals in curved spacetime. *Comm. Math. Phys.* **55** (1977), *no.* 2, 133–148. (Author's summary) **58** #25823 83.58 (58G10)

Gravitational instantons. *Phys. Lett. A* **60** (1977), *no.* 2, 81–83. (Author's summary) **57** #4965 83.53

(*with* Gibbons, G. W.) Cosmological event horizons, thermodynamics, and particle creation. *Phys. Rev. D* (3) **15** (1977), *no.* 10, 2738–2751. (Michael P. Ryan, Jr.) **56** #17671 83.35

(*with* Gibbons, G. W.; Perry, M. J.) Path integrals and the indefiniteness of the gravitational action. *Nuclear Phys. B* **138** (1978), *no.* 1, 141–150. (George Leibbrandt) **58** #14874 83.30

(*with* Pope, C. N.) Generalized spin structures in quantum gravity. *Phys. Lett. B* 73 (1978), *no.* 1, 42–43. (Authors' summary) **58** #14718 81.53

See also **Black holes/Les astres occlus**, **53** #12441 *and* **Quantum gravity (Oxford Sympos., Chilton, 1974)**, **56** #17537

wkins, Benjamin S. A compendium of C. S. Peirce's 1866–1885 work. *Notre Dame J. Formal Logic* **16** (1975), 109–115. (Carolyn Eisele) **54** #7185 02–03

wkins, D. J. 'Pseudodiagonalisation' and the inverse-Nyquist-array method. *Proc. Inst. Elec. Engrs.* **119** (1972), 337–342. (Edward J. Davison) **50** #12372 93C45

wkins, David Random sieves. II. *J. Number Theory* **6** (1974), 192–200. (P. Erdős) **49** #10655 10K20 (10H30)

wkins, Douglas M. On the choice of segments in piecewise approximation. *J. Inst. Math. Appl.* **9** (1972), 250–256. (N. N. Abdelmalek) **46** #8379 65D15

Analysis of a slippage test for the chisquared distribution. *South African Statist. J.* **6** (1972), 11–17. (D. R. Truax) **47** #4385 62G10

On the investigation of alternative regressions by principal component analysis. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **22** (1973), 275–286. (W. Uhlmann) **49** #1691 62J05

Repeated testing for outliers. *Statistica Neerlandica* **27** (1973), 1–10. (Author's summary) **50** #15081 62F05

A note on the distribution of times reported by a low resolution interval timer. *Amer. Statist.* **28** (1974), 56–57. (D. J. Daley) **51** #9339 (E **52** #9480) (E **52** #9479) 62G05

Letter to the editor. Comment on "Random time intervals" (Amer. Statist. **29** (1975), no. 4, 173–174) by D. W. Turner. *Amer. Statist.* **29** (1975), *no.* 4, 174. (Editors) **52** #9480 62G05

Relations between ridge regression and eigenanalysis of the augmented correlation matrix. *Technometrics* **17** (1975), *no.* 4, 477–480. (George P. H. Styan) **53** #11894 62J05 (62H10)

(*with* Kotz, Samuel) A clocking property of the exponential distribution. *Austral. J. Statist.* **18** (1976), *no.* 3, 170–172. (D. N. Shanbhag) **57** #1730 62E10

The subset problem in multivariate analysis of variance. *J. Roy. Statist. Soc. Ser. B* **38** (1976), *no.* 2, 132–139. (C. W. Chen) **55** #6694 (E **57** #7869) 62H15 (62J10)

Point estimation of the parameters of piecewise regression models. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **25** (1976), *no.* 1, 51–57. (Jeffrey A. Robinson) **54** #3984 62J05

Comment on: "A new statistic for testing suspected outliers" (Comm. Statist. **4** (1975), no. 8, 737–752) by M. L. Tiku. *Comm. Statist.–Theory Methods* **A6** (1977), *no.* 5, 435–438. (Anthony O'Hagan) **55** #11467 62F05

Testing a sequence of observations for a shift in location. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 357, 180–186. (H. E. Reinhardt) **56** #9778 62F05

Corrigendum: "The subset problem in multivariate analysis of variance" (J. Roy. Statist. Soc. Ser. B **38** (1976), no. 2, 132–139). *J. Roy. Statist. Soc. Ser. B* **39** (1977), *no.* 3, 394. (Editors) **57** #7869 62H15 (62J10)

(*with* Perold, André F.) On the joint distribution of left- and right-sided outlier statistics. *Utilitas Math.* **12** (1977), 129–143. (I. Guttman) **57** #10876 62E15 (62G30)

See also **Turner, D. W.**, (Not reviewed)

Hawkins, G. S. *See* **Place of astronomy in the ancient world**, **57** #15838

Hawkins, J. B. (*with* Ben-Israel, Adi) On generalized matrix functions. *Linear and Multilinear Algebra* **1** (1973), *no.* 2, 163–171. (M. Pearl) **48** #8523 15A15

Hawkins, Thomas New light on Frobenius' creation of the theory of group characters. *Arch. History Exact Sci.* **12** (1974), 217–243. (Peter M. Neumann) **56** #5161 01A55 (20–03)

★Lebesgue's theory of integration. Its origins and development. Reprint of the original. *Chelsea Publishing Co., New York*, 1975. xv + 227 *pp.* (Editors) **54** #2904 28–01

The theory of matrices in the 19th century. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B.C.*, 1974), *Vol.* 2, *pp.* 561–570. *Canad. Math. Congress, Montreal, Que.*, 1975. (Editors) **58** #27009 01A55 (15–03)

Cauchy and the spectral theory of matrices. (German summary) *Historia Math.* **2** (1975), 1–29. (D. J. Struik) **57** #9418 01A55

Mathematical progress without fusion. Proceedings of the American Academy Workshop on the Evolution of Modern Mathematics (Boston, Mass., 1974). *Historia Math.* **2** (1975), *no.* 4, 563–566. (Peter M. Neumann) **57** #15825 00A25 (01A55)

The Friedrich Engel Archive in Giessen. *Historia Math.* **3** (1976), *no.* 2, 213–214. (Editors) **58** #16064 01A75

Another look at Cayley and the theory of matrices. *Arch. Internat. Histoire Sci.* **27** (1977), *no.* 100, 82–112. (Peter M. Neumann) **58** #10105 01A55

Hawley, George O. *See* **Applied mathematics**, **52** #13097

Hawlitschek, K. Randwertaufgaben mit beweglichen Rändern für eine spezielle Differentialgleichung. *Z. Angew. Math. Mech.* **52** (1972), *no.* 11, 543–547. (J. R. Cannon) **56** #7263 65N99

Haworth, Bryan A. *See* **Mešalkin, L. D.**, **50** #3279

Haworth, R. C. (*with* McCoy, Robert A.) Baire spaces. *Dissertationes Math.* (*Rozprawy Mat.*) **141** (1977), 73 *pp.* (J. C. Oxtoby) **55** #4106 54E99

Hawranek, Jacek (*with* Tokarz, Marek) Matrices for predicate logics. *Rep. Math. Logic No.* 9 (1977), 27–30. (Wieslaw Dziobiak) **58** #27306 02C05 (02B99)

Hax, Arnoldo C. (*with* Meal, Harlan C.) Hierarchical integration of production planning and scheduling. *Logistics, pp.* 53–69. *North-Holland/TIMS Stud. Management Sci., Vol.* 1, *North-Holland, Amsterdam*, 1975. (From the authors' summary) **57** #15392 90B35

Hay, George A. (*with* Holft, Charles C.) A general solution for linear decision rules: an optimal dynamic strategy applicable under uncertainty. *Econometrica* **43** (1975), 231–259. (Authors' summary) **55** #14249 90D35

Hay, Louise A discrete chain of degrees of index sets. *J. Symbolic Logic* **37** (1972), 139–149. (A. H. Lachlan) **47** #8270 02F25

A note on frame extensions. *J. Symbolic Logic* **37** (1972), 543–545. (J. L. Gersting) **47** #6462 02F40

Index sets in O'. (Russian summary) *Algebra i Logika* **12** (1973), 713–729, 736. (Barry Cooper) **55** #2530 02F25

The class of recursively enumerable subsets of a recursively enumerable set. *Pacific J. Math.* **46** (1973), 167–183. (Thomas McLaughlin) **52** #13342 02F25

The halting problem relativized to complements. *Proc. Amer. Math. Soc.* **41** (1973), 583–587. (C. G. Jockusch, Jr.) **48** #5837 02F30 (02F25)

Discrete ω-sequences of index sets. *Trans. Amer. Math. Soc.* **183** (1973), 293–311. (J. C. Owings, Jr.) **50** #1859 02F25

A noninitial segment of index sets. *J. Symbolic Logic* **39** (1974), 209–224. (Manuel Lerman) **50** #6813 02F25 (02F30)

Index sets universal for differences of arithmetic sets. *Z. Math. Logik Grundlagen Math.* **20** (1974), 239–254. (Barry Cooper) **55** #2531 02F25

(*with* Manaster, Alfred B.; Rosenstein, Joseph G.) Small recursive ordinals, many-one degrees, and the arithmetical difference hierarchy. *Ann. Math. Logic* **8** (1975), 297–343. (S.-C. Liu) **53** #7748 02F35 (02F20)

Rice theorems for d.r.e. sets. *Canad. J. Math.* **27** (1975), 352–365. (Barry Cooper) **55** #2532 02F25

Spectra and halting problems. *Z. Math. Logik Grundlagen Math.* **21** (1975), 167–176. (A. L. Selman) **51** #10056 02F25 (02G05)

Boolean combinations of r.e. open sets. *J. Symbolic Logic* **41** (1976), *no.* 1, 235–238. (S.-C. Liu) **55** #89 02F25

(*with* Atkin, A. O. L.; Larson, Richard Gustavus) Construction of Knut Vik designs. *J. Stat. Plann. Inference* **1** (1977), *no.* 3, 289–297. (A. Hedayat) **58** #10526 05B30

(*with* Manaster, Alfred B.; Rosenstein, Joseph G.) Concerning partial recursive similarity transformations of linearly ordered sets. *Pacific J. Math.* **71** (1977), *no.* 1, 57–70. (Robert M. Baer) **56** #2806 02F25 (06A05)

Hayabara, Sirō The theory of discrete analytic functions. (Japanese) *Sûgaku* **27** (1975), *no.* 3, 193–200. (C. Tanaka) **57** #12869 30A95

Hayakawa, Kantaro (*with* Kumano-go, Hitoshi) Complex powers of a system of pseudo-differential operators. *Proc. Japan Acad.* **47** (1971), 359–364. (R. D. Moyer) **46** #2497 47G05 (35S05)

Some results on the Fourier image of special classes of distributions. *Osaka J. Math.* **9** (1972), 499–512. (Zbl **253** #46098) **58** #30179 46F10

On nonexistence of global solutions of some semilinear parabolic differential equations. *Proc. Japan Acad.* **49** (1973), 503–505. (J. A. Goldstein) **49** #3333 35K60

On the limit state of solutions of some semilinear diffusion equations. *Osaka J. Math.* **12** (1975), *no.* 3, 767–776. (From the author's introduction) **57** #13125 35B40 (35K55)

Hayakawa, Takesi On the distribution of the latent roots of a complex Wishart matrix (non-central case). *Ann. Inst. Statist. Math.* **24** (1972), 1–17. (P. Fortunati) **49** #11716 62H10

On the derivation of the asymptotic distribution of the generalized Hotelling's T_0^2. *Ann. Inst. Statist. Math.* **24** (1972), 19–32. (Robert Hultquist) **48** #3184 62H10

On the distribution of the multivariate quadratic form in multivariate normal samples. *Ann. Inst. Statist. Math.* **24** (1972), 205–230. (C. G. Khatri) **48** #7464 62H10

The asymptotic distributions of the statistics based on the complex Gaussian distribution. *Ann. Inst. Statist. Math.* **24** (1972), 231–244. (C. G. Khatri) **49** #10050 62H10

Note on the asymptotic distributions of the functions of a multivariate quadratic form in normal sample. *Ann. Inst. Statist. Math.* **24** (1972), 509 -515. (N. Giri) **49** #10051 62H10

An asymptotic expansion for the distribution of the determinant of a multivariate quadratic form in a normal sample. *Ann. Inst. Statist. Math.* **25** (1973), 395–406. (N. Giri) **49** #4161 62H10

The likelihood ratio criterion for a composite hypothesis under a local alternative. *Biometrika* **62** (1975), *no.* 2, 451–460. (M. Csorgo) **52** #4510 62F20 (62E20)

The new test criterion for the homogeneity of parameters of several populations. *Ann. Inst. Statist. Math.* **28** (1976), *no.* 3, 309–328. (B. K. Ghosh) **55** #11468 62F05

The likelihood ratio criterion and the asymptotic expansion of its distribution. *Ann. Inst. Statist. Math.* **29** (1977), *no.* 3, 359–378. (Edward M. Carter) **57** #14225 62E20 (62F05, 62H10)

Hayasaka, Minoru Tensor fields lifted to contangent bundles and differential concomitants of tensor fields in the base manifolds. *Kōdai Math. Sem. Rep.* **23** (1971), 160–167. (H. W. Guggenheimer) **45** #2606 53A55

Hayasaka, Shigeru On the axiom of mathematical induction. (Japanese. English summary) *Res. Rep. Miyagi Tech. College No.* 2 (1965), 75–83. (K. Inoue) **53** #12919 02G10 (02D99)

Hayasaka, Takanori (*with* Saito, Sadao) The existence of perfect 4-sequences of playing cards. *Res. Rep. Miyagi Tech. College No.* 12 (1975), 87–92. (S. Hitotumatu) **54** #104 05–04 (05A05)

(*with* Saito, Sadao) The generalized Langford sequence. *Res. Rep. Miyagi Tech. College No.* 12 (1975), 93–98. (S. Hitotumatu) **54** #105 05–04 (05B30, 10A40)

(*with* Saito, Sadao) Some notes on the (s, n)-sequence. *Res. Rep. Miyagi Tech. College No.* 13 (1976), 129–132. (Authors' summary) **58** #261 05A15

(*with* Saito, Sadao) The extension of the generalized Langford sequence. *Res. Rep. Miyagi Tech. College No.* 13 (1976), 133–135. (Authors' summary) **58** #273 05A99

(*with* Saito, Sadao) A perfect (s, n)-sequence based on $F(k, i)$. *Res. Rep. Miyagi Tech. College No.* 14 (1977), 101 -108. (D. P. Roselle) **58** #10706 10A40 (05A19)

Hayase, Minoru (*with* Niwa, Shohei; Sugiura, Ichiro) Stability of linear time-varying systems with state dependent noise. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 5, 775–776. (G. N. Mil′šteĭn) **56** #11421 93E15

Hayashi, Chihiro (*with* Ueda, Y.; Kawakami, Hiroshi) Solution of Duffing's equation using mapping concepts. *Proceedings of the Fourth Conference on Nonlinear Oscillations* (*Prague*, 1967), *pp.* 25–40. *Academia*, *Prague*, 1968. (R. A. Struble) **49** #5481 34C25

(*with* Ueda, Y.) Behavior of solutions for certain types of nonlinear differential equations of the second order. (Polish and Russian summaries) *Nonlinear vibration problems*, *No.* 14 (*Proc. Sixth Internat. Conf. Nonlinear Oscillations*, *Poznań*, 1972, *Part I*), *pp.* 341–351. *PWN–Polish Sci. Publ.*, *Warsaw*, 1973. (Authors' summary) **56** #8996 34C30

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969

Hayashi, Chikio Two dimensional quantification based on the measure of dissimilarity among three elements. *Ann. Inst. Statist. Math.* **24** (1972), 251–257. (T. N. Bhargava) **50** #6060 62H30 (68A45, 92A25)

Hayashi, Eiichi Topogeneous orders and δ-mappings. *Bull. Nagoya Inst. Tech.* **21** (1969), 89–92. (Anne K. Steiner) **46** #4486 54E05

Regularity and regular-closedness in certain proximity spaces. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **23** (1971), 81–86. (K. Nagami) **47** #7700 54E05

On proximity spaces. (Japanese) *Sûgaku* **25** (1973), *no.* 1, 52–71. (Editors) **58** #30982 54E05

More on topologies defined by local properties. *Bull. Nagoya Inst. Tech.* **26** (1974), 129–133. (D. C. Kent) **58** #7529 54A10

Products of Steiner's quasi-proximity spaces. *Proc. Amer. Math. Soc.* **51** (1975), 225–230. (S. A. Naimpally) **51** #6739 54E05

Hayashi, Elmer K. An elementary method for estimating error terms in additive number theory. *Proc. Amer. Math. Soc.* **52** (1975), 55–59. (Karl-Heinz Indlekofer) **51** #12761 10J99

Factoring integers whose digits are all ones. *Math. Mag.* **49** (1976), *no.* 1, 19–22. (J. Chidambaraswamy) **53** #7926 10A30

(*with* Baxley, John V.) Indeterminate forms of exponential type. *Amer. Math. Monthly* **85** (1978), *no.* 6, 484–486. (G. A. Heuer) **58** #11261 26A06

Hayashi, H. (*with* Prasad, Jagdish) On the uniform approximation of smooth functions by Jacobi polynomials. *Canad. J. Math.* **25** (1973), 216–223. (A. E. Danese) **47** #682 41A10 (33A65)

(*with* Prasad, Jagdish) On the uniform convergence of Fourier-Jacobi series. *SIAM J. Numer. Anal.* **10** (1973), 23–27. (Authors' summary) **47** #1244 42A56

Hayashi, Heima On Takagi's basis in prime cyclotomic fields. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 265–270. (S. I. Gendler) **46** #5279 12A35

On a criterion for power residuacity. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 211–220. (E. Grosswald) **51** #5464 10A15

On a simple proof of Eisenstein's reciprocity law. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **28** (1974), 93–99. (J. B. Roberts) **50** #7000 10A15

Note on the class numbers of the quadratic number fields $\mathbf{Q}(\sqrt{-p})$, $\mathbf{Q}(\sqrt{-2p})$ and $\mathbf{Q}(\sqrt{2p})$ with a prime number $p \equiv 1 \bmod 2^2$. *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 13 (1977), *part* 1, 1–8. (T. Lepistö) **58** #5588 12A50 (12A25)

Hayashi, Kenji Gravitational interactions of the proton and the electron: the possibl existence of a massless scalar particle. (Italian and Russian summaries) *Nuovo Cimento A* (11) **16** (1973), 639–673. (Corneliu Eftimiu) **52** #2471 81.47

Restrictions on gauge theory of gravitation. *Phys. Lett. B* **65** (1976), *no.* 5, 437–440 (Author's summary) **56** #17675 83.53

(*with* Shirafuji, Takeshi) Spacetime structure explored by elementary particles microscopic origin for the Riemann-Cartan geometry. *Progr. Theoret. Phys.* **57** (1977), *no.* 1, 302–317. (Authors' summary) **58** #9068 83.53

(*with* Kasuya, Masahiro; Shirafuji, Takeshi) Elementary particles and Weyl's gauge field. *Progr. Theoret. Phys.* **57** (1977), *no.* 2, 431–440. (Authors' summary) **55** #5153 83.53 (81.22)

(*with* Kasuya, Masahiro; Shirafuji, Takeshi) Conformal phase group and electromagnetism. *Progr. Theoret. Phys.* **57** (1977), *no.* 5, 1781–1794. (A. O. Barut) **57** #8555 81.22

(*with* Shirafuji, Takeshi) Gravity, nonintegrable phase factor and motion associated with a closed curve. *Progr. Theoret. Phys.* **58** (1977), *no.* 1, 353–361. (Authors' summary) **57** #11611 83.53

Direct transformations between codes for planted plane trees. *TRU Math.* **13** (1977), *no.* 1, 59–74. (R. C. Read) **57** #9579 05C05

(*with* Azuma, Shinji) Code for multi-rooted plane trees. *TRU Math.* **13** (1977), *no.* 1, 75–87. (R. C. Read) **57** #9580 05C05

See also **Skovgaard, Ove; et al.**, **50** #15256 *and* **Skovgaard, Ove; et al.**, **50** #1525

Hayashi, Kiyoshi (*with* Kikuchi, Norio; Kaminogo, Takashi) The boundary layer equation $x''' + 2xx'' + 2\lambda(1 - x'^2) = 0$ for $\lambda > -0.19880$. *Keio Engrg. Rep.* **28** (1975), *no.* 9, 87–97 (L. D. Fountain) **54** #7929 34A45 (34B15)

On the Nagumo's equation. *Keio Math. Sem. Rep. No.* 2 (1977), 1–6. (Brian D. Sleeman) **56** #12421 34C25 (92A05)

Hayashi, Makoto On a generalization of F. M. Markel's theorem. *Hokkaido Math. J.* **4** (1975), *no.* 2, 278–280. (W. Lederman) **51** #8218 20B10

A remark on G. Glauberman's theorem. *J. Math. Soc. Japan* **27** (1975), 256–257. (Koichiro Harada) **53** #605 20D20

Hayashi, Mikihiro On the decompositions of function algebras. *Hokkaido Math. J.* **3** (1974), 1–22. (Richard Rochberg) **50** #14238 46J10

Slice product of uniform algebras. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 7 (1975), 43–46. (S. J. Sidney) **52** #1317 46J10

Point derivations on commutative Banach algebras and estimates of the $A(X)$-metric norm. *J. Math. Soc. Japan* **27** (1975), 24–42. (Mohammed Akkar) **51** #3906 46J05 (30A98)

Implicit function theorem for Banach algebras. *J. London Math. Soc.* (2) **13** (1976), *no.* 1, 155–161. (E. L. Stout) **53** #3709 46J05 (58C10, 58C15)

Smoothness of analytic functions at boundary points. *Pacific J. Math.* **67** (1976), *no.* 1, 171–202. (Anthony G. O'Farrell) **54** #13083 30A72 (46J15, 30A98)

On approximation by rational functions. (Japanese) Approximation theory in functional analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaısekikenkyûsho Kôkyûroku No.* 265 (1976), 10 27. (Jun Tomiyama) **57** #17291 46J10 (30–02)

Hayashi, Mitsutoshi On some number theoretic function. *Mem. Osaka Inst. Tech. Ser. A* **16** (1971), 63–69. (K. Thanigasalam) **46** #3423 10A20

On lifting of the convolution rings associated with the algebraic number fields. *Mem. Osaka Inst. Tech. Ser. A* **19** (1974/75), *no.* 3, 143–147. (Clifford Queen) **55** #30 12A65

The convolution ring on some semigroup. *Mem. Osaka Inst. Tech. Ser. A* **21** (1976), *no.* 1, 1–7. (Ron Brown) **54** #12613 10A20

On some incidence functions of an incidence algebra. *Mem. Osaka Inst. Tech. Ser. A* **23** (1978/79), *no.* 2, 347–356. (Kenneth Yocom) **58** #27726 10A20

Hayashi, Susumu Some derived rules of intuitionistic second order arithmetic. *Proc. Japan Acad.* **53** (1977), *no.* 3, 110–112. (B. van Rootselaar) **55** #12478 02C15 (02D99)

A note on provable well-orderings in first order systems with infinitary inference rules. *Tsukuba J. Math.* **1** (1977), 125–135. (From the introduction) **58** #16189 02D05

Hayashi, Takeshi On derivation trees of indexed grammars: an extension of the *uvwxy*-theorem. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 61–92. (V. I. Konstantinov) **54** #4199 68A30

Hayashi, Terumine (*with* Inagaki, Yasuyoshi; Fukumura, Teruo) Some notes on stability problems of probabilistic automata. *J. Cybernet.* **1** (1971), *no.* 2, 94–114. (A. Paz) **46** #3248 94A35

Hayashi, Tsuruichi The "Fukudai" and determinants in Japanese mathematics. (Japanese summary) With a note: "Concerning Tsuruichi" (Japanese) by Kazuo Shimodaira. *Sûgakushi Kenkyû No.* 59 (1973), 37–57. (Editors) **58** #26732 01A25 (01A45)

Hayashi, Yoshimi Nonimmersions of the products of lens spaces. (Japanese. English summary) *Res. Rep. Kushiro Tech. College* **8** (1974), 181–183. (David Handel) **58** #13078 57D40

Hayashi, Yoshio The Dirichlet problem for the two-dimensional Hemholtz equation for an open boundary. *J. Math. Anal. Appl.* **44** (1973), 489–530. (J. S. Asvestas) **48** #5511 78.35

The expansion theory of the Dirichlet problem for the Helmholtz equation for an open boundary. *J. Math. Anal. Appl.* **61** (1977), *no.* 2, 331–340. (Zbl **367** #35018) **58** #29150 35J05

Three-dimensional Dirichlet problem for the Helmholtz equation for an open boundary. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 5, 159–162. (Gottfried Anger) **57** #6808 35J05

(*with* Munakata, Tsunehiro; Kaneko, Shuji) A study of a control technique for discrete quantized optimal control systems. (Japanese. English summary) *Systems and Control* **21** (1977), *no.* 5, 285–294. (Masao Ikeda) **58** #33332 93C55 (49A35, 93C10)

On finding all extreme partitions. *Keio Engrg. Rep.* **31** (1978), *no.* 8, 87–98. (H. Gupta) **58** #10712 10A45 (05A17)

Hayashi, Yuichi (*with* Shintani, Hisayoshi) A posteriori error estimates and iterative methods in the numerical solution of systems of ordinary differential equations. *Hiroshima Math. J.* **8** (1978), *no.* 1, 101–121. (J. Hurt) **57** #3503 34B15 (65L10)

Hayashida, Kazunari A remark on the elliptic boundary value problem in an angular main. *Publ. Res. Inst. Math. Sci.* **6** (1970), 237–256. (From the author's introduction) #10830 35J25

On a mixed problem for hyperbolic equations with discontinuous boundary nditions. *Publl. Res. Inst. Math. Sci.* **7** (1971/72), 57–67. (R. Hersh) **46** #7719 L20

On the singular boundary value problem for elliptic equations. *Trans. Amer. Math. oc.* **184** (1973), 205–221. (H. Beckert) **48** #6662 35J25

, Eric (*with* Donio, Jean; Tenenhaus, Michel) Le Problème Bayesien: application es modèles Bayesiens séquentiels au problème de l'aide à l'action médicale. (English, erman, Italian and Spanish summaries) *Metra* **9** (1970), 237–259, 320, 324, 328, 332. ana Zvárová) **50** #3512 62P10

en, John L. A characterization of the finite simple group $\mathrm{PSp}_4(3)$. *Canad. J. Math.* **25** 973), 539–553. (W. Ledermann) **47** #6840 20D05

A characterization of the finite simple groups $\mathrm{PSp}_4(3^m)$, m odd. *Illinois J. Math.* **18** 974), 622–648. (J. L. Alperin) **50** #4732 20D05

A characterization of $PSp_4(3^m)$ by the the centralizer of an element of order three. *roceedings of the Conference on Finite Groups* (*Univ. Utah*, *Park City*, *Utah*, 1975), *pp.* 5–102. *Academic Press*, *New York*, 1976. (J. L. Alperin) **53** #3100 20D05

(*with* Winter, David L.) Finite groups admitting an automorphism trivial on a ylow 2-subgroup. *Canad. J. Math.* **29** (1977), *no.* 4, 889–896. (W. J. Wong) **56** #12110 20D05

(*with* Winter, David L.) Finite simple groups containing a self-centralizing element f order 6. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 202–204. (Koichiro Harada) **6** #8687 20D05

en, T. L. (*with* Suffridge, Teddy J.) Biholomorphic maps in Hilbert space have a ixed point. *Pacific J. Math.* **38** (1971), 419–422. (Soo Bong Chae) **46** #4288 32A99 46G20)

(*with* Williams, Lynn R.; Wells, James H.) On the extension of Lipschitz-Hölder naps on L^P spaces. *Studia Math.* **39** (1971), 29–38. (F. Cunningham, Jr.) **46** #9711 6E30 (26A87)

Continued fractions in Banach spaces. Proceedings of the International Conference n Padé Approximants, Continued Fractions and Related Topics (Univ. Colorado, Boulder, Colo., 1972; dedicated to the memory of H. S. Wall). *Rocky Mountain J. Math.* (1974), 367–370. (E. P. Merkes) **49** #3579 47A99 (40A15)

(*with* Massey, Frank J., III) Nonlinear holomorphic semigroups. *Pacific J. Math.* **57** (1975), *no.* 2, 423–439. (A. Pazy) **52** #11678 47H15 (35K15)

(*with* Suffridge, Teddy J.) Fixed points of holomorphic maps in Banach spaces. *Proc. Amer. Math. Soc.* **60** (1976), 95–105 (1977). (Soo Bong Chae) **54** #5917 47H10 (58C10)

See also **Proceedings: Infinite Dimensional Holomorphy**, **48** #9397

dock, Roger The inverse of a linear operator. *J. Phys. A* 7 (1974), 2120–2124 (Author's summary) **53** #12348 81.47

(*with* Temple, W. B.) Self-avoiding paths on a generalized Cayley tree. *J. Phys. A* **8** (1975), 697–709. (F. Harary) **51** #7914 05C05

don, Brian J. Systems states for a series of finite queues. *Operations Res.* **20** (1972), 1137–1141. (C. Mohan) **48** #9883 60K25

don, Richard Sur les espaces $M(T)$ et $M^\infty(T)$. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A989–A991. (H. Buchwalter) **47** #3930 46A05

Sur un problème de H. Buchwalter. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1077–A1080. (H. Buchwalter) **47** #3931 46A05 (54D50)

(*with* Fremlin, D. H.; Garling, D. J. H.) Bounded measures on topological spaces. *Proc. London Math. Soc.* (3) **25** (1972), 115–136. (A. Badrikian) **49** #9144 28A32

Three examples in the theory of spaces of continuous functions. *Publ. Dép. Math.* (*Lyon*) **9** (1972), *no.* 1, 99–103. (From the author's introduction) **48** #2739 46E10

Compactness in $C_s(T)$ and applications. *Publ. Dép. Math.* (*Lyon*) **9** (1972), *no.* 1, 105–113. (Harold H. McFaden) **48** #6907 46E10

(*with* Wassermann, Simon) A commutation result for tensor products of C^*-algebras. *Bull. London Math. Soc.* **5** (1973), 283–287. (S. Sakai) **48** #6951 46L05

Trois exemples dans la théorie des espaces de fonction continues. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A685–A687. (H. Buchwalter) **48** #4675 46A07 (46E10)

On compactness in spaces of measures and measurecompact spaces. *Proc. London Math. Soc.* (3) **29** (1974), 1–16. (D. H. Fremlin) **50** #14190 46E27 (28A32, 54C35)

On a problem of Pełczyński: Milutin spaces, Dugundji spaces and AE(0-dim). *Studia Math.* **52** (1974), 23--31. (Z. Semadeni) **54** #6069 54C35 (46E15, 54C55)

A new proof that every Polish space is the extreme boundary of a simplex. *Bull. London Math. Soc.* **7** (1975), 97–100. (A. J. Lazar) **50** #10778 46E10 (46A99)

Some more characterizations of Banach spaces containing l_1. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 2, 269–276. (Robert E. Huff) **54** #11031 46B05

On the Stone-Weierstrass theorem for the strict and superstrict topologies. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 273–278. (Jürgen Batt) **54** #8250 46E10

An extreme point criterion for separability of a dual Banach space, and a new proof of a theorem of Corson. *Quart. J. Math. Oxford* (2) **27** (1976), *no.* 107, 379–385. (Robert F. Wheeler) **58** #12293 46B05 (46A99, 46G10)

Embedding ${}^{\tau}_{d}$ in Dugundji spaces, with an application to linear topological classification of spaces of continuous functions. *Studia Math.* **56** (1976), *no.* 3, 229–242. (James Hagler) **54** #6070 54C35 (46E15)

(*with* Ditor, Seymour, Z.) On absolute retracts, $P(S)$, and complemented subspaces of $\mathcal{C}(D_1^\tau)$. *Studia Math.* **56** (1976), *no.* 3, 243–251. (Robert F. Wheeler) **54** #6071 54C35 (46E15, 54C55)

On Banach spaces which contain $l^1(\tau)$ and types of measures on compact spaces. *Israel J. Math.* **28** (1977), *no.* 4, 313–324. (James Hagler) **58** #23514 46B99

Injective Banach lattices. *Math. Z.* **156** (1977), *no.* 1, 19–47. (D. H. Fremlin) **57** #13438 46A40 (46B99)

Sur les espaces de Banach injectifs qui sont des biduaux. *Séminaire Choquet*, 16*e année* (1976/77), *Initiation à l'analyse*, *Exp. No.* 16, 2 *pp.* *Secrétariat Math.*, *Paris*, 1978. (H. H. Schaefer) **58** #12302 46B99 (46A40)

Sur les espaces de Banach réticules injectifs. *Séminaire Choquet*, 16*e année* (1976/77), *Initiation à l'analyse*, *Exp. No.* 14, 2 *pp.* *Secrétariat Math.*, *Paris*, 1978. (H. H. Schaefer) **58** #17777 46A40

See also **Saint-Raymond, Jean**, **57** #17216

Hayek, Alfred (*with* Sidériadès, Lefteri; Jitapunkul, Somshai) Sur deux exemples numériques de récurrences conservatives du deuxième ordre. *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 4, A261–A264. (Authors' summary) **55** #2266 93D05

Hayek, Nácere On the recurrence relations of the Bessel-Clifford functions. (Spanish) *Proc. Eighth Annual Reunion of Spanish Mathematicians* (*Santiago*, 1967) (*Spanish*), *pp.* 40–46. *Publ. Inst. "Jorge Juan" Mat.*, *Madrid*, 1969. **54** #7905 33A40

On the Hankel transform. (Spanish) *Proc. Eighth Annual Reunion of Spanish Mathematicians* (*Santiago*, 1967) (*Spanish*), *pp.* 47–60. *Publ. Inst. "Jorge Juan" Mat.*, *Madrid*, 1969. (Editors) **54** #8179 44A15

Bessel-Clifford functions of several variables. (Spanish) *Proceedings of the Ninth Annual Conference of Spanish Mathematicians* (*Granada*, 1968) (*Spanish*), *pp.* 50–56. *Inst. "Jorge Juan" Mat.*, *Madrid*, 1971. (A. de Castro Brzezicki) **50** #13657 33A40

Hayes, Allan Uniformities with totally ordered bases have paracompact topologies. *Proc. Cambridge Philos. Soc.* **74** (1973), 67–68. (A. H. Stone) **47** #4213 54D20

Hayes, C. A. (*with* Pauc, C. Y.) ★Derivation and martingales. Ergebnisse der Mathematik und ihrer Grenzgebiete, Band 49. *Springer-Verlag*, *New York-Berlin*, 1970. vii + 203 *pp.* (See Zbl **192**, 406) 28A15 (60G45)

Hayes, C. A., Jr. Derivation in Orlicz spaces. *J. Reine Angew. Math.* **253** (1972), 162–174. (K. Sundaresan) **46** #5557 28A15 (46E30)

Derivation of the integrals of $L^{(q)}$-functions. *Pacific J. Math.* **64** (1976), *no.* 1, 173–180. (M. de Guzmán) **55** #584 26A24 (28A15)

Necessary and sufficient conditions for the derivation of integrals of L_ψ-functions. *Trans. Amer. Math. Soc.* **223** (1976), 385–395. (M. de Guzmán) **55** #585 26A24 (28A15)

Hayes, David L. (*with* McCarthy, Donald J.) Subgroups of the power semigroup of a group. *J. Combinatorial Theory Ser. A* **14** (1973), 173–186. (W. E. Deskins) **46** #9171 20F15

Hayes, David R. (*with* Rubin, L.) Addendum to: "A proof of the Newton-Cotes quadrature formulas with error term". *Amer. Math. Monthly* **78** (1971), 988. (Editors) **45** #4635 65D30

Adelic analysis in additive number theory. *Proceedings of the* 1972 *Number Theory Conference* (*Univ. Colorado*, *Boulder*, *Colo.*), *pp.* 106–107. *Univ. Colorado*, *Boulder*, *Colo.*, 1972. (From the author's introduction) **54** #5148 10J10

(*with* Carlitz, Leonard) Permutations with coefficients in a subfield. *Acta Arith.* **21** (1972), 131–135. (R. J. McEliece) **46** #3490 12C05

The Galois group of x^n+x-t. *Duke Math. J.* **40** (1973), 459–461. (Yasumasa Akagawa) **47** #3354 12C05

Explicit class field theory for rational function fields. *Trans. Amer. Math. Soc.* **189** (1974), 77–91. (Bostwick F. Wyman) **48** #8444 12A65 (12A90)

Hayes, J. G. Curve fitting by polynomials in one variable. *Numerical approximation to functions and data* (*Conf.*, *Inst. Math. Appl.*, *Canterbury*, 1967), *pp.* 43–64. *Athlone*, *London*, 1970. (See Zbl **212**, 173; MR **58** #24836) 65D10

Algorithms for curve and surface fitting. *Software for numerical mathematics* (*Proc. Conf.*, *Inst. Math. and Appl.*, *Loughborough Univ. Tech.*, *Loughborough*, 1973), *pp.* 219–233. *Academic Press*, *London*, 1974. (Gerhard Merz) **50** #15268 65D10

(*with* Halliday, J.) The least-squares fitting of cubic spline surfaces to general data sets. *J. Inst. Math. Appl.* **14** (1974), 89–103. (M. Marsden) **51** #14521 65D10

Some practical applications in discrete multivariate approximation. *Multivariate approximation* (*Sympos.*, *Univ. Durham*, *Durham*, 1977), *pp.* 229–260. *Academic Press*, *London*, 1978. (From the summary) **58** #31754 65D99

See also **Discussion: Curve and surface fitting**, **50** #15271 *and* **Numerical approximation to functions and data**, **58** #24836

Hayes, John K. (*with* Kahaner, David K.; Kellner, Richard G.) An improved method for numerical conformal mapping. *Math. Comp.* **26** (1972), 327–334; *suppl.*, *ibid.* **26** (1972), *no.* 118, *loose microfiche suppl.* A1–B14. (D. Gaier) **46** #334 30A28

(*with* Kellner, Richard G.) The eigenvalue problem for a pair of coupled integral equations arising in the numerical solution of Laplace's equation. *SIAM J. Appl. Math.* **22** (1972), 503–513. (H. Brunner) **46** #4764 65R05

(*with* Kahaner, David K.; Kellner, Richard G.) A numerical comparison of integral equations of the first and second kind for conformal mapping. *Math. Comp.* **29** (1975), 512–521. (D. Gaier) **51** #7259 65E05 (30A28)

Hayes, John P. A NAND model for fault diagnosis in combinational logic networks. *IEEE Trans. Computers* **C-20** (1971), 1496–1506. **55** #7601 94A20

On realizations of Boolean functions requiring a minimal or near-minimal number of tests. *IEEE Trans. Computers* **C-20** (1971), 1506–1513. (A. D. Koršunov) **47** #1550 94A20

Minimization of fanout in switching networks. 15*th Annual Symposium on Switching and Automata Theory* (*Univ. New Orleans*, *New Orleans*, *La.*, 1974), *pp.* 133–139. *IEEE Comput. Soc.*, *Long Beach*, *Calif.*, 1974. (Jaroslav Nešetřil) **56** #18140 94A20

On modifying logic networks to improve their diagnosability. *IEEE Trans. Computers* **C-23** (1974), 56–62. (W.-K. Chen) **50** #12464 94A20

Detection of pattern-sensitive faults in random-access memories. *IEEE Trans. Computers* **C-24** (1975), 150–157. (W.-K. Chen) **51** #2350 68A25 (94A20)

The fanout structure of switching functions. *J. Assoc. Comput. Mach.* **22** (1975), *no.* 4, 551–571. (W.-K. Chen) **52** #10251 94A20

Transition count testing of combinational logic circuits. Special issue on fault-tolerant computing. *IEEE Trans. Computers* **C-25** (1976), *no.* 6, 613–620. (B. Hazeltine) **54** #4836 94A20

A graph model for fault-tolerant computing systems. *IEEE Trans. Computers* **C-25** (1976), *no.* 9, 875–884. (G. Saucier) **55** #2379 94A20 (68A99)

On the properties of irredundant logic networks. *IEEE Trans. Computers* **C-25** (1976), *no.* 9, 884–892. (R. Shirtladze) **58** #4668 94A20

Enumeration of fanout-free Boolean functions. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 4, 700–709. (Stephen H. Y. Hung) **55** #12331 94A20

Check sum methods for test data compression. *J. Design Automat. Fault–Tolerant Comput.* **1** (1976/77), *no.* 1, 3–17. (Chantal Robach) **54** #12383 94A20

Generation of optimal transition count tests. *IEEE Trans. Computers* **C-27** (1978), *no.* 1, 36–41. (Ljudmil Dakovski) **57** #11948 94A20

Path complexity of logic networks. *IEEE Trans. Computers* **C-27** (1978), *no.* 5, 459–462. (Mark Karpovsky) **57** #11949 94A20

Hayes, Linda (*with* Fox, L.; Mayers, D. F.) The double eigenvalue problem. *Topics in numerical analysis* (*Proc. Roy. Irish Acad. Conf., University Coll., Dublin*, 1972), *pp.* 93–112. *Academic Press, London*, 1973. (K. Najzar) **49** #10159 65L15

(*with* Wasserstrom, E.) Solution of non-linear eigenvalue problems by the continuation method. *J. Inst. Math. Appl.* **17** (1976), *no.* 1, 5–14. (Alan L. Andrew) **52** #15984 65F15

See also **Wilkinson, J. H.**, **50** #15318

Hayes, Michael On a theorem of Muskhelishvili. *J. Elasticity* **2** (1972), *no.* 3, 201–204. (Editors) **57** #14728 73.35

(*with* Rivlin, Ronald S.) Energy propagation in a Cauchy elastic material. *Quart. Appl. Math.* **30** (1972), 219–222. (J. W. Craggs) **46** #4829 73.35

(*with* Horgan, Cornelius O.) On the Dirichlet problem for incompressible elastic materials. (French summary) *J. Elasticity* **4** (1974), *no.* 1, 17–25. (Authors' summary) **57** #14727 73.35

(*with* Horgan, Cornelius O.) On the displacement boundary-value problem for inextensible elastic materials. *Quart. J. Mech. Appl. Math.* **27** (1974), 287–297. (J. Mazumdar) **52** #2327 73.35

A note on plane waves in linear conservative systems. *Quart. J. Mech. Appl. Math.* **28** (1975), *no.* 3, 329–332. (Alan Jeffrey) **54** #9307 76.35

(*with* Horgan, Cornelius O.) On mixed boundary-value problems for inextensible elastic materials. (French summary) *Z. Angew. Math. Phys.* **26** (1975), *no.* 3, 261–272. (I. M. Longman) **52** #7263 73.35

On wave propagation in a deformed Mooney-Rivlin material. *Quart. Appl. Math.* **34** (1976/77), *no.* 3, 319–321. (E. Goldhagen) **58** #8697 73.53

Energy flux for plane waves in linear conservative systems. *J. Austral. Math. Soc. Ser. B* **20** (1977), *no.* 1, 106–113. (I. M. Longman) **57** #8299 73.35

Hayes, Patrick ★Mathematical methods in the social and managerial sciences. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1975. xvi+460 *pp.* (Rubin Saposnik) **53** #7370 90–01 (92A99)

Hayes, Patrick J. Computation and deduction. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School, Štrbské Pleso*, 1973), *pp.* 105–117. *Math. Inst., Slovak Acad. Sci., Bratislava*, 1973. (V. P. Orevkov) **53** #15006 68A40

Simple and structural redundancy in non-deterministic computation. *Automata, languages and programming* (*Second Colloq., Univ. Saarbrücken, Saarbrücken*, 1974), *pp.* 601–611. *Lecture Notes in Comput. Sci., Vol.* 14, *Springer, Berlin*, 1974. (Thomas G. Szymanski) **55** #1865 68A45

See also **Cybernetics collection**, **50** #1765

Hayes, Robert L. *See* **Operational Research**, **49** #12059

Hayes, Sandra Approximation für Okasche Paare von Garben homogener Räume. (English summary) *Manuscripta Math.* **13** (1974), 153–173. (H. Kerner) **49** #10916 32E15 (32L10)

Homotopie für Okasche Paare von Garben homogener Räume. *Math. Ann.* **207** (1974), 181–212. (H. Kerner) **49** #630 32E10 (32L10, 32M10)

Über einige lokale Homotopieeigenschaften füereell- und komplex-analytische Okasche Paare. (English summary) *Manuscripta Math.* **15** (1975), 193–209. (H. Röhrl) **53** #5952 32L05

Hayes, Stanley E. Extensions of T^0. *Notre Dame J. Formal Logic* **13** (1972), 501–505. (Charles C. Morgan) **48** #64 02C10

(*with* Mauldin, R. Daniel) On the Stieltjes integrability of dense subsets of $C[a, b]$. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1623–1624. (T. A. Botts) **47** #6961 26A42

Generalized Stieltjes integrals. *Advances in Math.* **12** (1974), 402–415. (T. A. Botts) **49** #5287 28A30

Hayes, Wallace D. Group velocity and nonlinear dispersive wave propagation. *Proc. Roy. Soc.* (*London*) *Ser. A* **332** (1973), 199–221. (E. V. Laitone) **49** #1906 76.35

See also **Nonlinear waves**, **50** #7759

Hayes-Roth, Frederick Schematic classification problems and their solution. *Pattern Recognition* **6** (1974), 105–113. (K. D. Günther) **50** #3670 68A45

Uniform representations of structured patterns and an algorithm for the induction of contingency-response rules. *Information and Control* **33** (1977), *no.* 2, 87–116. (Shinichi Tamura) **55** #1866 68A45

See also **Pattern-directed inference systems**, **57** #11215

Hayez, B. (*with* Horsthemke, W.; Malek-Mansour, M.) An asymptotic expansion of the nonlinear master equation. *J. Statist. Phys.* **16** (1977), *no.* 2, 201–215. (Mayer Humi) **56** #7674 82.35

Hayhurst, G. *See* **Proceedings: IFAC World Congress**, **50** #12338

Haykin, Simon S. *See* **Detection and estimation**, **55** #5301

Hayli, Avram *See* **Proceedings: Conference on the Numerical Solution of Ordinary Differential Equations**, **49** #4257

Haymaker, Richard W. (*with* Chodos, Alan) Linearly rising trajectories in an infinite-component field theory. *Phys. Rev. D* (3) **2** (1970), 793–801. (K. Chadan) **48** #13047 81.34

Hayman, W. K. ★Transfinite diameter and its applications. Notes by K. R. Unni. Second printing Matscience Report, No. 45. *Institute of Mathematical Sciences, Madras*, 1966. ii+61 *pp.* (Editors) **52** #14272 30A44

Tauberian theorems for multivalent functions. *Proceedings of the NRL Conference on Classical Function Theory* (*Math. Res. Center, Naval Res. Lab., Washington, D.C.*, 1970), *pp.* 33–58. *Math. Res. Center, Naval Res. Lab., Washington, D.C.*, 1970. (Editors) **50** #593 30A36

Subharmonic functions in R^m. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 601–605. *Gauthier-Villars, Paris*, 1971. (Ü. Kuran) **54** #13100 31B05

Differential inequalities and local roots. (Russian) *Continuum mechanics and related problems of analysis* (*on the occasion of the eightieth birthday of Academician N. I. Mushelišvili*) (*Russian*), *pp.* 591–595. *Izdat. "Nauka", Moscow*, 1972. (Z. Rubinstein) **53** #5838 30A08

On the Valiron deficiencies of integral functions of infinite order. *Ark. Mat.* **10**, 163–172 (1972). (Fred Gross) **48** #2392 30A70

Edward Foyle Collingwood. *Bull. London Math. Soc.* **4** (1972), 55–65. (Editors) **46** #1536 01A70

(*with* Storvick, D. A.) A question of M. L. Cartwright. *J. London Math. Soc.* (2) 5 (1972), 419–422. (J. E. McMillan) **47** #5238 30A30

(*with* Rudolfer, S. M.) On the relation between some metric invariants for Markov shifts. Collection of articles dedicated to the memory of Alfréd Rényi, I. *Period. Math. Hungar.* **2** (1972), 133–148. (U. Krengel) **48** #4269 28A65 (60J05)

Angular value distribution of power series with gaps. *Proc. London Math. Soc.* (3) **24** (1972), 590–624. (M. E. Noble) **46** #5623 (EA **47**) 30A70

(*with* Nicholls, Peter J.) On the minimum modulus of functions with given coefficients. *Bull. London Math. Soc.* **5** (1973), 295–301. (S. Fisher) **48** #4301 30A40

Differential inequalities and local valency. *Pacific J. Math.* **44** (1973), 117–137. (A. Edrei) **47** #5240 30A32 (30A66, 34A40, 34C10)

Research problems in function theory: progress on the previous problems. *Proceedings of the Symposium on Complex Analysis* (*Univ. Kent, Canterbury*, 1973), *pp.* 143–154. *London Math. Soc. Lecture Note Ser., No.* 12, *Cambridge Univ. Press, London*, 1974. (Editors) **52** #8385 30–02

Research problems in function theory: new problems. *Proceedings of the Symposium on Complex Analysis* (*Univ. Kent, Canterbury*, 1973), *pp.* 155–180. *London Math. Soc. Lecture Note Ser., No.* 12, *Cambridge Univ. Press, London*, 1974. (Editors) **52** #8386 30–02

The local growth of power series: a survey of the Wiman-Valiron method. *Canad. Math. Bull.* **17** (1974), *no.* 3, 317–358. (L. R. Sons) **52** #5965 30A66

On a theorem of Tord Hall. *Duke Math. J.* **41** (1974), 25–26. (Y. Kusunoki) **49** #611 31A05

The minimum modulus of integral functions of order one. *J. Analyse Math.* **28** (1975), 171–212. (See Zbl **321** #30030) 30A64

(*with* Weitsman, Allen) On the coefficients and means of functions omitting values. *Math. Proc. Cambridge Philos. Soc.* **77** (1975), 119–137. (Victor I. Levin) **50** #13495 30A44

(*with* Ortiz, Eduardo L.) An upper bound for the largest zero of Hermite's function with applications to subharmonic functions. *Proc. Roy. Soc. Edinburgh Sect. A* **75** (1975/76), *no.* 3, 182–197. (Y. L. Luke) **56** #708 33A65

(*with* Kennedy, P. B.) ★Subharmonic functions. Vol. I. London Mathematical Society Monographs, No. 9. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1976, xvii+284 *pp.* (D. H. Armitage) **57** #665 31B05

On the domains where a harmonic or subharmonic function is positive. *Advances in complex function theory* (*Proc. Sem., Univ. Maryland, College Park, Md.*, 1973–1974), 24–55. *Lecture Notes in Math., Vol.* 505, *Springer, Berlin*, 1976. (R. M. Hervé) **54** #7809 31B05

(*with* Korenblum, Boris) An extension of the Riesz-Herglotz formula. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **2** (1976), 175–201. (W. H. J. Fuchs) **57** #6446 30A86

Some mathematical achievements of John Edensor Littlewood. Papers presented at the Symposium on Excitement in Mathematics (Cambridge, 1975). *Bull. Inst. Math. Appl.* **12** (1976), *no.* 7, 196–198. (Editors) **58** #27108 01A70

Alexander Dinghas. *Bull. London Math. Soc.* **8** (1976), *no.* 3, 299–306. (Editors) **53** #12841 01A70

(*with* Friedland, Shmuel) Eigenvalue inequalities for the Dirichlet problem on spheres and the growth of subharmonic functions. *Comment. Math. Helv.* **51** (1976), *no.* 2, 133–161. (Ü. Kuran) **54** #568 31B05

(*with* Hansen, Lowell J.) On the growth of functions omitting large sets. *J. Analyse Math.* **30** (1976), 208–214. (D. F. Shea) **55** #10697 30A78

(*with* Brannan, D. A.; Fuchs, Wolfgang H. J.; Kuran, Ü.) A characterization of harmonic polynomials in the plane. *Proc. London Math. Soc.* (3) **32** (1976), *no.* 2, 213–229. (J. Lelong-Ferrand) **53** #833 31A05 (30A66)

Beiträge von Alexander Dinghas zur Theorie der subharmonischen Funktionen. *Ansprachen und Vorträge des Gedenkkolloquiums für Alexander Dinghas* (*Freie Univ. Berlin, Berlin*, 1975), *pp.* 9–21. *Math. Inst. der Freie Univ. Berlin, Berlin*, 1977. (Editors) **58** #11456 31–03 (01A70)

Values and growth of functions regular in the unit disk. *Complex analysis* (*Proc. Conf., Univ. Kentucky, Lexington, Ky.*, 1976), *pp.* 68–75. *Lecture Notes in Math., Vol.* 599, *Springer, Berlin*, 1977. (Albert E. Livingston) **58** #11365 30A40

Some bounds for principal frequency. *Applicable Anal.* **7** (1977/78), *no.* 3, 247–254. (Adib A. Fralalla) **58** #11468 31B15

(*with* Essén, Matts R.; Huber, A.) Slowly growing subharmonic functions. I. *Comment. Math. Helv.* **52** (1977), *no.* 3, 329–356. (E. F. Beckenbach) **57** #16630 31A05

(*with* Patterson, S. J.; Pommerenke, Christian) On the coefficients of certain automorphic functions. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 3, 357–367. (Marvin I. Knopp) **58** #6223a 30A58

On Iversen's theorem for meromorphic functions with few poles. *Acta Math.* **141** (1978), *no.* 1-2, 115–145. (V. Ganapathy Iyer) **58** #11409 30A68 (30A70)

See also **Proceedings: Symposium on Complex Analysis**, **52** #5944 *and* **Patterson, S. J.**, **58** #6223b

Haymond, R. E. (*with* Boland, W. Robert) The numerical solution of Fredholm integral equations with rapidly varying kernels. *Appl. Math. Comput.* **3** (1977), *no.* 1, 25–38. (G. F. Miller) **54** #14410 65R05

Hayne, Roger M. Uniqueness in the Cauchy problem for parabolic equations. *Trans. Amer. Math. Soc.* **241** (1978), 373–399. (Sergio Levoni) **57** #16983 35K15

Hayne, W. J. (*with* Esary, James D.) Properties of an approximate hazard transform. *Naval Res. Logist. Quart.* **22** (1975), 41–53. (H. Taylor) **51** #14924 90B25 (93B35)

(*with* Marshall, Kneale T.) Two-characteristic Markov-type manpower flow models. *Naval Res. Logist. Quart.* **24** (1977), *no.* 2, 235–255. (Frank A. Haight) **56** #10886 90B15

Haynsworth, Emilie (*with* Fiedler, M.) Cones which are topheavy with respect to a norm. *Linear and Multilinear Algebra* **1** (1973), 203–211. (J. de Pillis) **51** #5630 15A60

(*with* Burns, Fennell; Fiedler, M.) Polyhedral cones and positive operators. *Linear Algebra and Appl.* **8** (1974), *no.* 6, 547–559. (A. Ben-Israel) **56** #8598 15A48 (52A25) (*with* Carlson, David H.; Markham, Thomas L.) A generalization of the Schur mplement by means of the Moore-Penrose inverse. *SIAM J. Appl. Math.* **26** (1974), –175. (B. Levinger) **50** #344 15A09

(*with* Burns, Fennell; Carlson, David H.; Markham, Thomas L.) Generalized erse formulas using the Schur complement. *SIAM J. Appl. Math.* **26** (1974), 254–259. P. Tewarson) **48** #8519 15A09 (65F20)

(*with* Fiedler, M.; Pták, Vlastimil) Extreme operators on polyhedral cones. llection of articles dedicated to Olga Taussky Todd. *Linear Algebra and Appl.* **13** 76), *no.* 1/2, 163–172. (George P. Barker) **52** #13892 15A48 (47B55)

James H. Reductions of ideals in commutative rings. *Trans. Amer. Math. Soc.* **177** 73), 51–63. (T. S. Shores) **48** #2126 13A15

Reductions of ideals in Prüfer domains. *Proc. Amer. Math. Soc.* **52** (1975), 81–84. illiam James Lewis) **51** #12830 13F05

R. Duane (*with* Polge, Robert J.) Numerical technique for the convolution of ecewise polynomial functions. *IEEE Trans. Computers* **C-22** (1973), 970–975. (Amnon rak) **50** #8927 65D30

Richard O. Multi-dimensional extension of the Chebyshev polynomials. *Math. omp.* **27** (1973), 621–624. (C. W. Clenshaw) **48** #11851 41A10

T. E. Irreducible semigroups are monotone. *Semigroup Forum* **10** (1975/76), *no.* 1, –31. (L. E. Ward, Jr.) **52** #5851 22A15

Compact normal bands of groups. *Semigroup Forum* **10** (1975), *no.* 1, 67–75. (A. Y. . Lau) **52** #611 20M10 (22A15)

Trees and monotone structures. *Semigroup Forum* **13** (1976/77), *no.* 4, 377–383. (L. Ward, Jr.) **55** #3147 22A15 (06A20)

ML-semigroups. *Semigroup Forum* **14** (1977), *no.* 3, 277–282. (A. B. Paalman-de liranda) **57** #6278 22A15

Hereditarily unicoherent continua and monotone structures. *Semigroup Forum* **15** 977/78), *no.* 2, 119–124. (R. J. Koch) **57** #4134 54F55 (22A15)

Semigroups over generalized trees. *J. Austral. Math. Soc. Ser. A* **25** (1978), *no.* 2, 77–188. (Mohan S. Putcha) **58** #989 22A15 (54Fxx)

William L. ★Statistics for the social sciences. Second edition. *Holt, Rinehart and inston, Inc., New York-Montreal, Que.-London*, 1973. xxi + 954 *pp.* (Editors) **0** #15008 62–01

rd-Hays, Wm. *See* **Orchard-Hays, Wm.**

on, G. E. (*with* Rosenbrock, Howard H.) Dynamical indices of a transfer function natrix. *Internat. J. Control* **20** (1974), 177–189. (Edward J. Davison) **50** #12344 3B05

Properties of dynamical indices. *Internat. J. Control* **22** (1975), *no.* 2, 289–293. (E. . Roxin) **53** #2460 93C15

(*with* Rosenbrock, Howard H.) The general problem of pole assignment. *Internat. . Control* **27** (1978), *no.* 6, 837–852. (S. P. Bhattacharyya) **58** #15429 93B99

vood, K. H. *See* **Operational research**, **53** #12542

a, Jack C. (*with* Pfaffenberger, Roger C.; Chan, K. Hung) On some considerations in liscrete regression. *Proceedings of the Annual Meeting of the American Statistical Association, Business and Economic Statistics Section* (*St. Louis, Mo.*, 1974), *pp.* 401–406. *Amer. Statist. Assoc., Washington, D. C.*, 1975. (Susan D. Horn) **55** #4533 62J05

ckiĭ, V. E. (*with* Gavrilov, M. A.; Kuznecov, O. P.) Description and analysis of switching circuits with large numbers of input variables. *Avtomat. i Telemeh.* **1969**, *no.* 10, 108–115 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 10, 1643–1650. **56** #11567 94A20

(*with* Zaharov, V. N.; Pospelov, D. A.) ★Системы управления: задание, проектирование, реализация. (Russian) [Control systems: mission, design, realization] Second edition, revised and augmented. *Izdat. "Ènergija", Moscow*, 1977. 423 *pp.* (Editors) **58** #15323 93–01

alija, G. Ja. ★Namdvil richvtha theoria. (Georgian) [Theory of real numbers] *Thbilisis Universitetis Gamomcemloba, Tbilisi*, 1974. 203 *pp.* (*errata insert*) (Not reviewed) 26–01

The means of the moduli of analytic functions in doubly connected domains. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 6, 1287–1290. (L. A. Aksent′ev) **53** #5850 30A36

an, M. I. *See* **Hazāns, M.**

ankina, N. P. An estimate of the necessary number of terms of a series in solving linear systems of differential equations with polynomial coefficients. (Russian) *Mathematical methods in specialized computer technology* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 83–89. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (I. Šelihova (RŽMat **1970** #7 B806)) **45** #9496 65L99

Certain error estimates in the solution of systems of linear differential equations with variable coefficients. (Russian) *Mathematical methods in specialized computer technology* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 90–98. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (Author's introduction) **45** #9497 65L99

zanov, A. M. (*with* Zubarev, D. N.) A generalized Focker-Planck equation and the construction of projection operators for different methods for the reduced description of the nonequilibrium state. (Russian. English summary) *Teoret. Mat. Fiz.* **34** (1978), *no.* 1, 69–80. (Ju. M. Širokov) **58** #9009 82.47

zanov, I. S. Locally finite groups in which every infinite nonabelian subgroup has a finite index in its normalizer. (Russian) Group theory and some questions of algebra. *Perm. Gos. Univ. Učen. Zap. No.* 343 (1975), 63–66, 104. (D. I. Zaĭcev) **56** #12127 20E25

Groups with extremal centralizers of involutions. (Russian) Group theory and some questions of algebra. *Perm. Gos. Univ. Učen. Zap. No.* 343 (1975), 67–84, 104–105. (*loose errata*) (D. I. Zaĭcev) **56** #12128 20E25

zanov, M. B. The first case of Fermat's theorem. (Russian) *Algebra and number theory, No.* 1 (*Russian*), *pp.* 40–41. *Kabardino-Balkarsk. Gos. Univ., Nalchik*, 1973. (L. A. Kogan) **55** #10380 10B15

zanov, V. B. (*with* Kublanovskaja, V. N.) A certain inverse problem of matrix eigenvalues. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **23** (1971), 84–93. (J. Segethová) **46** #4703 65F15

A remark on Danilevskiĭ's method. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **35** (1973), 142–145. (J. Segethova) **50** #8939 65F15

(*with* Kublanovskaja, V. N.; Mihaĭlov, V. B.) On the eigenvalue problem of a nonregular λ-matrix. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **58** (1976), 80–92, 161. (Authors' summary) **57** #18053 65F15

(*with* Kublanovskaja, V. N.; Smirnova, T. N.) On the solution of the eigenvalue problem of sparse matrices. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov* (*LOMI*) **58** (1976), 92–110, 161. (G. F. Miller) **58** #19075 65F15

See also **Numerical methods and functional analysis**, **49** #6540

Hazanova, Ž. M. A certain method of factoring a polynomial. (Russian) *Differential equations and numerical analysis, No.* 1 (*Russian*), *pp.* 27–33. *Izdat. Saratov. Univ., Saratov*, 1972. (Jean-Pierre Duport) **49** #4239 65H05 (94A20)

Hazanovič, È. S. (*with* Žabin, I. K.) Determination of the optimal structure of technological means and the technique of information processing. (Russian) *Èkonom. i Mat. Metody* **5** (1969), 240–251. (From the authors' introduction) **45** #1673 94A20

Hazanovič, T. N. (*with* Borodin, I. P.) Response of a thermodynamical system to a slowly varying mechanical perturbation. (Russian. English summary) *Teoret. Mat. Fiz.* **21** (1974), 130–136. (Authors' summary) **57** #4852 80.41 (81.47)

Hazāns, M. Duality and continuous bases in *l*-spaces. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 225–263. *Izdat. "Zinatne", Riga*, 1971. (Á. Császár) **47** #5547 46A15

Boundedness principles and a two-sided closed graph theorem for *l*-spaces. (Rusian. Latvian and English summaries) *Latvian mathematical yearbook*, 12 (*Russian*), *pp.* 179–193. *Izdat. "Zinatne", Riga*, 1973. (A. Császár) **48** #9333 46A30

Nonlinear evolution equations in locally convex spaces. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 1309–1312; *correction, ibid.* **215** (1974), *nos.* 4,5,6, vii. (P. P. Zabreĭko) **49** #3622 47H15

The global existence of a continuous solution of an initial-boundary value problem for a quasilinear first order equation. (Russian) *Differencial′nye Uravnenija* **10** (1974), 1478–1485, 1540–1541. (S. N. Kružkov) **51** #1092 35F30

The dissipativity of abstract operators that are generated by first order quasilinear differential operators. (Russian. Latvian summary) *Latvian mathematical yearbook*, 16 (*Russian*), *pp.* 241–261, 276. *Izdat. "Zinatne" Riga*, 1975. (S. Fučík) **52** #1449 47H99 (34G05, 47F05)

Problems with one-sided boundary conditions for quasilinear elliptic or parabolic equations. (Russian) *Studies in the theory of differential and difference equations* (*Russian*), *pp.* 131 -160. *Latv. Gos. Univ., Riga*, 1976. (J. S. Joel) **58** #17501 35J60 (35K55)

Differentiability of nonlinear semigroups, and classical solvability of nonlinear boundary value problems for the equation $\varphi(u_t)=u_{xx}$. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 4, 805–808. (S. Fučík) **53** #11233 35K60 (47H15)

Hazel, Terence George (*with* Wexler, Alvin) Variational formulation of the Dirichlet boundary condition. *IEEE Trans. Microwave Theory Tech.* **20** (1972), 385–390. (A. Ishimaru) **50** #1642 (E **50** #1643) 78.49 (35Q05)

See also **Coen, Shimon**, **50** #1643

Hazeltine, R. D. (*with* Case, Kenneth M.) Fourier transform methods in linear transport theory. *J. Mathematical Phys.* **12** (1971), 1970–1980. (M. Drăganu) **45** #3026 82.45

(*with* Hinton, F. L.) Theory of plasma transport in toroidal confinement systems. *Rev. Modern Phys.* **48** (1976), *no.* 2, *part* 1, 239–308. (F. C. Auluck) **57** #8760 82.45

Hazen, Allen Semantics for S4.2. *Notre Dame J. Formal Logic* **13** (1972), 527–528. (J. Bacon) **48** #1884 02C10

Expressive completeness in modal language. *J. Philos. Logic* **5** (1976), *no.* 1, 25–46. (M. J. Cresswell) **54** #7203 02C10

Hazen, È. M. (*with* Konev, V. V.) Construction of Bayes estimates of the parameters of linear Markovian processes. *Avtomat. i Telemeh.* **1970**, *no.* 10, 35–46 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 10, 1564–1574. (Authors' summary) **46** #1008 62F15

(*with* Benenson, Z. M.) Information measures in problems of hypothesis recognition. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 179–184, 478. *Izdat. "Nauka", Moscow*, 1972. (Editors) **48** #9923 62F05 (94A15)

(*with* Ulanov, G. M.; Ul′janov, S. V.) Information estimates for risk in problems of processing large blocks of information. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 291–293. (S. Kullback) **47** #8199 94A15

Risk increase informational estimates under observed data reduction in sequential analysis. (Russian summary) *Problems of Control and Information Theory/Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 1, 35–45. (T. Nemetz) **50** #6626 94A05

(*with* Petrov, B. N.; Ulanov, G. M.; Ul′janov, S. V.) The value of information. Semiotic aspects of the informational theory of control and cybernetics. II. (Russian) *Engineering cybernetics, Vol.* 6, *Book* 1 (*Russian*), *pp.* 59–393, 395. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (Authors' summary) **58** #20656 93A99 (94A15)

(*with* Parondžanov, S. D.) A study of certain recurrent algorithms for the estimation of parameters and for self-instruction. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1975**, *no.* 6, 30–38. (Authors' summary) **57** #19052 94A05 (68A45)

(*with* Petrov, B. N.; Ulanov, G. M.; Gol′denblat, I. I.; Kočubievskiĭ, I. D.; Ul′janov, S. V.) Informational aspects of the qualitative theory of dynamical systems. (Russian) *Engineering cybernetics, Vol.* 7 (*Russian*), *pp.* 5–201, 444. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1976. (Vadim Komkov) **58** #9557 93C10 (80.02)

(*with* Petrov, B. N.; Ulanov, G. M.; Ul′janov, S. V.) ★Информационно-семантические проблемы в процессах управления и организации. (Russian) [Information and semantic problems in control and organization processes] *Izdat. "Nauka", Moscow*, 1977. 451 *pp.* (R. G. Buharaev) **57** #15712 93E20

Hazen, H. L. *See* **Automatic control: classical linear theory**, **52** #16755

Hazewinkel, Michiel (*with* Manin, Ju. I.) ★Cubic forms: algebra, geometry, arithmetic. Translated from Russian by M. Hazewinkel. North-Holland Mathematical Library, Vol. 4. *North-Holland Publishing Co., Amsterdam-London*; *American Elsevier Publishing Co.*, *New York*, 1974. vii + 292 *pp*. *ISBN* 0-7204-2456-9 (Editors) **57** #343 14M20 (14G25, 10B15)

On norm maps for one dimensional formal groups. I. The cyclotomic Γ-extension. *J. Algebra* **32** (1974), 89–108. (K. Shiratani) **50** #2185 14L05 (12B25, 14G20)

On norm maps for one dimensional formal groups. II. *G*-extensions of local fields with algebraically closed residue field. Collection of articles dedicated to Helmut Hasse on his seventh-fifth birthday, II. *J. Reine Angew. Math.* **268/269** (1974), 222–250. (K. Shiratani) **55** #12732 14L05 (12B25)

Local class field theory is easy. *Advances in Math.* **18** (1975), *no.* 2, 148–181. (William C. Waterhouse) **52** #10688 12B25

A universal formal group and complex cobordism. *Bull. Amer. Math. Soc.* **81** (1975), *no.* 5, 930–933. (R. E. Stong) **51** #8126 14L05 (57D90)

(*with* Kalman, Rudolph E.) On invariants, canonical forms and moduli for linear, constant, finite dimensional, dynamical systems. *Mathematical systems theory* (*Proc. Internat. Sympos., Internat. Centre Mech. Sci., Udine*, 1975), *pp.* 48–60. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer, Berlin*, 1976. (From the introduction) **58** #33222 93A99 (14D20)

Constructing formal groups. I. The local one dimensional case. *J. Pure Appl. Algebra* **9** (1976/77), *no.* 2, 131–149. (P. S. Landweber) **57** #3140a 14L05

Constructing formal groups. II. The global one dimensional case. *J. Pure Appl. Algebra* **9** (1976/77), *no.* 2, 151–161. (P. S. Landweber) **57** #3140b 14L05

A universal isomorphism for *p*-typical formal groups and operations in Brown-Peterson cohomology. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 3, 195–199. (P. S. Landweber) **53** #6535 55B20 (57D90, 14L05)

Degenerating families of linear dynamical systems. I. *Proceedings of the* 1977 *IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 258–264. *Inst. Electrical Electron. Engrs., New York*, 1977. (Author's summary) **58** #20659 93B05

Representations of quivers and moduli of linear dynamical systems. *The* 1976 *Ames Research Center* (*NASA*) *Conference on Geometric Control Theory* (*Moffett Field, Calif.*, 1976), *pp.* 277–289. *Lie Groups: History Frontiers and Appl., Vol. VII, Math Sci Press, Brookline, Mass.*, 1977. (Sheila Brenner) **58** #789 16A64 (93B25)

Une théorie de Cartier-Dieudonné pour les *A*-modules formels. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 12, A655–A657. (Author's summary) **55** #361 14L05

"Tapis de Cartier" pour les *A*-modules formels. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 13, A739–A740. (Author's summary) **55** #12734 14L05

On norm maps for one dimensional formal groups. III. *Duke Math. J.* **44** (1977), *no.* 2, 305–314. (K. Shiratani) **55** #12733 14L05 (12B25)

Constructing formal groups. III. Applications to complex cobordism and Brown-Peterson cohomology. *J. Pure Appl. Algebra* **10** (1977/78), *no.* 1, 1–18. (P. S. Landweber) **57** #3140c 14L05

(*with* Hesselink, Wim H.; Siersma, Dirk; Veldkamp, Ferdinand D.) The ubiquity of Coxeter-Dynkin diagrams (an introduction to the *A-D-E* problem). *Nieuw Arch. Wisk.* (3) **25** (1977), *no.* 3, 257–307. (J. S. Joel) **58** #10879 14B05 (16A64, 17B10, 17B20, 20H15, 32C40, 58C25)

Some examples concerning linear continuity of solutions to programming problems. *Operations Res.* **25** (1977), *no.* 4, 715–719. (D. M. Topkis) **58** #15178 90C30

(*with* van de Vel, Marcel) On almost-fixed-point theory. *Canad. J. Math.* **30** (1978), *no.* 4, 673–699. (Benjamin Halpern) **58** #13004 55C20

See also **Demazure, Michel; et al.**, **46** #1800

Hazin, L. G. On the stability of Hamiltonian systems in the presence of resonances. *Prikl. Mat. Meh.* **35** (1971), 423–431 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 384–391, (1972). (John M. Ball) **48** #12938 70.34

Regular polygons of point vortices, and the resonance instability of stationary states. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 4, 799–802. (E. Zeidler) **55** #7091 76.35

(*with* Šnol′, È. È.) Nonexistence of an algebraic criterion of asymptotic stability under resonance 1:3. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 45 (1977), 31 *pp.* (From the publisher's description) **58** #32181 70.34

(*with* Hazina, G. G.) The nonexistence of an algebraic criterion for asymptotic stability in the case of resonance 1 : 1. (Russian) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 112 (1977), 23 *pp.* (Authors' summary) **58** #17349 34D05

(*with* Šnol′, È. È.) The simplest cases of algebraic unsolvability in problems on asymptotic stability. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 6, 1309–1311. (A. Morimoto) **58** #17348 34D05 (58F10)

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969

Hazina, G. G. Certain stability questions in the presence of resonances. *Prikl. Mat. Meh.* **38** (1974), 56–65 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 43–51. (Alan Jupp) **52** #922 34D05 (93D99)

(*with* Hazin, L. G.) The nonexistence of an algebraic criterion for asymptotic stability in the case of resonance 1 : 1. (Russian) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 112 (1977), 23 *pp.* (Authors' summary) **58** #17349 34D05

Hazlerigg, A. D. G. (*with* Sinha, P. K.) Noninteracting control by output feedback and dynamic compensation. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 1, 76–79. (Authors' summary) **58** #15426 93B99

Hazlewood, D. G. On integers all of whose prime factors are small. *Bull. London Math. Soc.* **5** (1973), 159-163. (H.-J. Kanold) **49** #2615 10H30 (10H15, 10H25)

Sums over positive integers with few prime factors *J. Number Theory* **7** (1975), 189–207. (J. W. Porter) **51** #8052 10H25

On *k*-free integers with small prime factors. *Proc. Amer. Math. Soc.* **52** (1975), 40–44. (D. Rearick) **51** #10256 10H25

On sums over Gaussian integers. *Trans. Amer. Math. Soc.* **209** (1975), 295–310. (J. Knopfmacher) **51** #8059 10H99

On ideals having only small prime factors. *Rocky Mountain J. Math.* **7** (1977), *no.* 4, 753–768. (Roy Fuller) **56** #2941 10H25 (10H15)

Hazlewood, L. J. An alternative strategy for cautious adaptive quadrature. *J. Inst. Math. Appl.* **20** (1977), *no.* 4, 505-518. (I. P. Mysovskih) **57** #11003 65D30

Hazod, Wilfried Uber Wurzeln und Logarithmen beschränkter Masse. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **20** (1971), 259–270. (H. Heyer) **47** #7776 60B15 (43A10)

Eine Produktformel für Halbgruppen von Wahrscheinlichkeitsmassen auf Lie-Gruppen. *Monatsh. Math.* **76** (1972), 295–299. (P. R. Chernoff) **47** #7514 47D05 (43A70, 60B15)

Über die Lévy-Hinčin-Formel auf lokalkompakten topologischen Gruppen. *Wahrscheinlichkeitstheorie und Verw. Gebiete* **25** (1972/73), 301–322. (N. H. Binghar **48** #12622 60B15

(*with* Schmetterer, L.) Über einige mit der Wahrscheinlichkeitstheorie zusammenhängende Probleme der Gruppentheorie. Collection of articles dedicated Helmut Hasse on his seventy-fifth birthday. *J. Reine Angew. Math.* **262/263** (197 144–152. (H. Heyer) **52** #8317 22A05 (60B15)

Über Faltungshalbgruppen von Wahrscheinlichkeitsmassen. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **181** (1973), 29–47. (H. Heyer) **49** #1002 43A (60B15)

Symmetrische Gaussverteilungen sind diffus. (English summary) *Manuscripta Ma* **14** (1974), 283–295. (J. H. B. Kemperman) **51** #6906 60B15

Poissonmasse auf lokalkompakten Halbgruppen. *Monatsh. Math.* **78** (1974), 25–4 (H. Heyer) **49** #8074 60B15

Einige Sätze über unendlich teilbare Wahrscheinlichkeitsmaße auf lokalkompakte Gruppen. *Arch. Math.* (*Basel*) **26** (1975), 297–312. (I. Csiszár) **51** #9139 60B15

Über Faltungshalbgruppen von Wahrscheinlichkeitsmaßen. II. Einige Klassen topologischer Gruppen. *Monatsh. Math.* **79** (1975), 25–45. (H. Heyer) **51** #11010 43A10 (60B15)

Bemerkungen zum Bang-Bang-Problem für stochastische Matrizen. (English summary) *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** (1976), *no.* 1, 39–4 (Martin Jacobsen) **53** #11756 60J10

Subordination von Gauss- und Poissonmassen. (English summary) *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** (1976), *no.* 1, 45–55. (Jacques Farau **54** #6222 60B15

★Stetige Faltungshalbgruppen von Wahrscheinlichkeitsmassen und erzeugende Distributionen. Lecture Notes in Mathematics, Vol. 595. *Springer-Verlag, Berlin-Ne York*, 1977. xiii + 157 *pp.* *ISBN* 3-540-08259-X (Jacques Faraut) **58** #7770 60B1 (43A05, 43A35)

Probabilities on totally disconnected locally compact groups. *Symposia Mathematica, Vol. XXI* (*Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Convegn Sui Gruppi e Anelli Ordinati, INDAM, Rome*, 1975), *pp.* 219–243. *Academic Press London*, 1977. (V. M. Maksimov) **58** #7769 60B15 (22D05, 43A05)

Hazony, Dov (*with* Kerry, Ubabuike J.) Active synthesis of all-pole transfer functions wit recurrent canonic *RC* ladders. *IEEE Trans. Circuit Theory* **CT-18** (1971), 626–630. (N. Bhargava) **47** #6394 94A20

(*with* Burke, V.; Duffin, Richard J.) Distortionless wave propagation in inhomogeneous media and transmission lines. *Quart. Appl. Math.* **34** (1976/77), *no.* 183–194. (Authors' summary) **56** #4430 78.35 (94A05)

Hazra, P. K. On the structure of singular weighing designs. *Comm. Statist.* **2** (1973 575–579. (D. V. Chopra) **48** #10003 62K99

(*with* Banerjee, Kali S.) On the augmentation procedure in singular weighin designs. *J. Amer. Statist. Assoc.* **68** (1973), 392–393. (H. Bandemer) **51** #7179 62K05

Ha Zuï Hoaï (*with* Nguyẽñ-van-khuê) Holomorphic mappings on Banach manifolds. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 4, 87. (J. S. Joel) **48** #3072 58B05 (32K05, 58D15)

Hdeib, H. Z. (*with* Pareek, C. M.) A note on the product of paracompact spaces. *Math Japon.* **22** (1977/78), *no.* 4, 465–469. (C. E. Aull) **57** #13852 54D30

He, Zuo Xiu (*with* Huang, Tao) A possible new composite quantum field theory. (Chinese English summary) *Acta Phys. Sinica* **23** (1974), *no.* 2, 113–152. (Etang Chen) **56** #10584 81.47

(*with* Huang, Tao) The composite field theory, and the straton model. I. (Chinese English summary) *Acta Phys. Sinica* **23** (1974), *no.* 4, 264–291. (Etang Chen) **57** #868 81.47

(*with* Huang, Tao) A new formulation of the quantum theory of the composite fields. *Sci. Sinica* **18** (1975), *no.* 4, 502–516. (Robert L. Warnock) **56** #14267 81.3

(*with* Chen, Shi; Guo, Han Ying; Zou, Zhen Long) On Yang's spherically symmetric, static gravitational field. *Sci. Sinica* **19** (1976), *no.* 2, 199–206. (Editors) **56** #7735 83.53

(*with* Zou, Zhen Long; Chen, Shi; Guo, Han Ying) A spherically symmetric sta model in the gravitational gauge theory. *Acta Astronom. Sinica* **17** (1976), 147–15 (*Chinese*); *translated as Chinese Astronom.* **1** (1977), *no.* 2, 292–301. (M. A. H. MacCallum) **57** #8874 83.53

Ḫažalia, Gr. *See* **Hažalija, G. Ja.**

al-Ḫāzinī, Abū 'l-Fatḥ 'Abu ar-Rahmān al-Mansūr *See* **Rožanskaja, M. M.; et al.**, **58** #15849

Heacox, Harry C., Jr. (*with* Purdom, Paul W., Jr.) Analysis of two time-sharing queueing models. *J. Assoc. Comput. Mach.* **19** (1972), 70–91. (Bent Natvig) **53** #10247 90B30 (60K20)

Head, A. K. (*with* Wood, W. W.) The motion of dislocations. *Proc. Roy. Soc. London Ser. A* **336** (1974), 191–209. (F. R. N. Nabarro) **50** #1606 73.45

Head, T. R. An algebraic characterization of multiplicative semigroups of real valued functions. *Semigroup Forum* **14** (1977), *no.* 1, 93–94. (K. D. Magill, Jr.) **55** #10591 20M20

Head, Tom Groups of sequences and direct products of countable groups. *J. Natur. Sci. and Math.* **10** (1970), 45–47. (C. F. Miller, III) **47** #345 20F25 (20K25)

Embedded ordinals in modular algebraic lattices. *Algebra Universalis* **1** (1971/72), 200–203. (J. E. McLaughlin) **46** #5194 06A30

A semigroup-theoretic view of projective class groups. *Proc. Japan Acad.* **47** (1971), *suppl. I*, 831–836. (T. Tamura) **47** #374 20M10 (20C05)

Preservation of coproducts by $\mathrm{Hom}_R(M, -)$. *Rocky Mountain J. Math.* **2** (1972), *no.* 2, 235–237. (G. Michler) **45** #3458 16A62

★Modules: a primer of structure theorems. Contemporary Undergraduate Mathematics Series. *Brooks/Cole Publishing Co.*, [*A Division of Wadsworth Publishing Co., Inc.*], *Monterey, Calif.*, 1974. x + 150 *pp.* (B. J. Müller) **51** #3230 16A64 (13C10)

(*with* Kuroki, Nobuaki) Greatest regular images of tensor products of commutative semigroups. *Kōdai Math. Sem. Rep.* **26** (1974/75), 132–136. (H. B. Hamilton) **51** #13092 20M10

Grothendieck groups of rings of finite-valued functions. *J. Natur. Sci. and Math.* **16** (1976), *no.* 1-2, 97–102. (Robert Piacenza) **57** #9755 16A54

(*with* Blattner, Meera) Automata that recognize intersections of free submonoids. *Information and Control* **35** (1977), *no.* 3, 173–176. (István Babcsányi) **57** #503 20M35 (94A30)

(*with* Blattner, Meera) Single-valued a-transducers. *J. Comput. System Sci.* **156** (1977), *no.* 3, 310–327. (Kenneth B. Salomon) **57** #2783 94A30 (68A30)

Heading, John Further exact and approximate considerations of the barrier problem. *J. Inst. Math. Appl.* **10** (1972), 312–324. (F. W. J. Olver) **49** #1927 78.34

Generalized zilch and the Jordan canonical form. *Linear Algebra and Appl.* **6** (1973), 19–36. (N. D. Sengupta) **47** #1382 78.55

Barriers bounded by a transition point of order greater than unity. *Physica* **77** (1974), 263–278. (George Zipfel, Jr.) **51** #7510 81.34

The Stokes phenomenon and generalized contiguous transformations of some generalized hypergeometric functions. *Proc. Cambridge Philos. Soc.* **76** (1974), 423–442. (Y. L. Luke) **49** #10985 34E99 (33A30)

★Ordinary differential equations—theory and practice. An elementary, integrated, applied treatment based on the wave equation. *Elek Science, London*, 1975. x+342 *pp.* *ISBN* 0-236-17723-0 (J. S. Joel) **58** #28734 34–01 (69.00)

Construction of generalized anisotropic zilch. *Linear Algebra and Appl.* **11** (1975), *no.* 3, 277–289. (Kishin Mariwalla) **52** #9816 78.35

Further transformable nth order differential equations with transition points of particular order m. *Math. Proc. Cambridge Philos. Soc.* **77** (1975), 145–157. (E. Pinney) **50** #7711 34E20

Barriers bounded by two transition points of arbitrary odd order. *Proc. Roy. Soc. Edinburgh Sect. A* **73** (1975), 51–64. (F. W. J. Olver) **52** #8591 34E20 (34A20)

A six-fold generalization of ionospheric reciprocity. *Quart. J. Mech. Appl. Math.* **28** (1975), 185–206. (A. Ishimaru) **51** #4855 78.35

Energy flux invariants expressed in terms of complex amplitudes appearing in general solutions of nth order differential equations. *Quart. J. Mech. Appl. Math.* **28** (1975), *no.* 4, 427–448. (Ll. G. Chambers) **52** #11167 34A25

Invariant properties of wave propagation in n-dimensional space. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 3, 563–571. (Maurice Bouix) **53** #4745 78.35

Resolution of the mystery behind Chandrasekhar's black hole transformations. *J. Phys. A* **10** (1977), *no.* 6, 885–897. (Andrew King) **56** #10719 83.53

Deductions from some artificial refractive index profiles based on the elementary functions. *Math. Proc. Cambridge Philos. Soc.* **81** (1977), *no.* 1, 121–132. (E. Pinney) **55** #4939 78.34

Properties of two-way transmission in generalized wave propagation problems. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 3, 485–488. (J. F. Heyda) **56** #9017 34E99 (76.34)

Transformations between second order linear differential equations and a reinterpretation of recurrence relations between Bessel functions with algebraic coefficients. *Proc. Roy. Soc. Edinburgh Sect. A* **79** (1977/78), *no.* 1-2, 87–105. (Wolfgang Hahn) **58** #1329 34A25 (83.33)

Global phase-integral methods. *Quart. J. Mech. Appl. Math.* **30** (1977), *no.* 3, 281–302. (V. M. Babič) **56** #16083 34E20 (41A60)

Calculation of transmission coefficients for generalized propagation problems. *J. Inst. Math. Appl.* **21** (1978), *no.* 4, 387–400. (T. K. Caughey) **57** #18386 73.35

General theorems relating to wave propagation governed by self-adjoint and Hermitian self-adjoint differential operators of order $2n$. *Proc. Roy. Soc. London Ser. A* **360** (1978), *no.* 1701, 279–300. (R. K. Rathy) **58** #11608 34B25

Headley, V. B. A multidimensional nonlinear Gronwall inequality. *J. Math. Anal. Appl.* **47** (1974), 250–255. (D. Boyd) **49** #10837 26A86

(*with* Barwell, Victor K.) On the distribution of the zeros of generalized Airy functions. *Math. Comp.* **29** (1975), 863–877. (F. W. J. Olver) **51** #14528 65D20 (33A70)

Heagy, E. C. (*with* Shawyer, Bruce L. R.) On integral Abel-type and logarithmic methods of summability. *Canad. Math. Bull.* **20** (1977), *no.* 2, 207–213. (Amnon Jakimovski) **57** #6939 40D25

(*with* Shawyer, Bruce L. R.) On strong integral summability. *Proc. Edinburgh Math. Soc.* (2) **21** (1978/79), *no.* 1, 73–78. (F. P. Cass) **58** #1810 40C10

Heal, E. R. (*with* Windham, M. P.) Finitely generated F-algebras with applications to Stein manifolds. *Pacific J. Math.* **51** (1974), 459–465. (W. R. Zame) **50** #13605 32E25 (32E10, 46J15)

Healy, J. B. (*with* Dashen, Roger F.; Muzinich, I. J.) Potential scattering with confined channels. *Ann. Physics* **102** (1976), *no.* 1, 1–70. (Teruo Ikebe) **57** #2306 81.47

(*with* Dashen, Roger F.; Muzinich, I. J.) Theory of multichannel potential scattering with permanently confined channels. *Phys. Rev. D* (3) **14** (1976), *no.* 10, 2773–2789. (K. T. Mahanthappa) **56** #17575 81.35

Healy, John D. (*with* Gleser, Leon Jay) Estimating the mean of a normal distribution with known coefficient of variation. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 356, 977–981. (Rasul A. Khan) **55** #11474 62F10 (62C15)

Healy, M. J. R. *See* **Kemp, K. O.**, **47** #4363

Healy, W. P. On the isotropic averaging of fifth-order Cartesian tensors. *J. Phys. A* **8** (1975), *no.* 9, L87–L89. (J. S. Joel) **52** #6595 53A45

Centre of mass motion in non-relativistic quantum electrodynamics. *J. Phys. A* **10** (1977), *no.* 2, 279–298. (P. J. Roberts) **56** #4526 81.47

Heap, B. R. The production of graphs by computer. *Graph theory and computing*, *pp.* 47–62. *Academic Press, New York*, 1972. (P. K. Stockmeyer) **52** #13506 05C99 (68A10)

Heaps, H. S. A theory of relevance for automatic document classification. *Information and Control* **22** (1973), 268–278. (C. Tartia) **48** #3319 68A50

(*with* Cumberbatch, J.) A disease-conscious method for sequential diagnosis by use of disease probabilities without assumption of symptom independence. (French summary) *Internat. J. Bio-Med. Comput.* **7** (1976), *no.* 1, 61–78. (M. E. Wise) **53** #9570 62P99

Heaps, N. S. On the numerical solution of the three-dimensional hydrodynamical equations for tides and storm surges. *Mém. Soc. Roy. Sci. Liège Coll. in-8^o* (6) **2** (1972), 143–180. (P. C. Jain) **47** #8005 76.65

On formulating a non-linear numerical model in three dimensions for tides and storm surges. *Computing methods in applied sciences* (*Second Internat. Sympos., Versailles*, 1975), *pp.* 368–387. *Lecture Notes in Phys., Vol.* 58, *Springer, Berlin*, 1976. (Jiří Nedoma) **56** #4712 86.65

Heard, E. A. Kahane's construction and the weak sequential completeness of L^1. *Proc. Amer. Math. Soc.* **44** (1974), 96–100. (Joel H. Shapiro) **51** #1368 46E30

Heard, Melvin L. Estimating solutions of some functional equations. *Funkcial. Ekvac.* **15** (1972), 13–17. (P. Javor) **47** #7256 39A15 (34K99)

A family of solutions of the IVP for the equation $x'(t)=ax(\lambda t)$, $\lambda>1$. *Aequationes Math.* **9** (1973), 273–280. (V. Staikos) **48** #4450 34K05

Asymptotic behavior of solutions of the functional differential equation $x'(t)=ax(t)+bx(t^\alpha),\alpha>1$. *J. Math. Anal. Appl.* **44** (1973), 745–757. (R. E. Fennell) **48** #11730 34K20

A change of variables for functional differential equations. *J. Differential Equations* **18** (1975), 1–10. (Thomas S. Angell) **52** #8605 34K05

See also **Advances in differential and integral equations**, **50** #10389

Heard, William B. (*with* Jurkevich, Igor) On the reduction of certain integrals occurring in Kopal's Fourier theory of eclipsing binaries. *Astrophys. and Space Sci.* **52** (1977), *no.* 1, 237–238. (Editors) **56** #10732 85.42

Hearn, Donald W. (*with* Elzinga, D. Jack) The minimum covering sphere problem. *Management Sci.* **19** (1972), 96–104. (M. Mañas) **46** #10408 90C20

(*with* Elzinga, D. Jack) Geometrical solutions for some minimax location problems. *Transportation Sci.* **6** (1972), 379–394. (A. Göpfert) **50** #1720 90C25

(*with* Elzinga, D. Jack) A note on a minimax location problem. *Transportation Sci.* **7** (1973), 100–103. (G. Owen) **49** #8646 90C05

(*with* Elzinga, D. Jack) The minimum sphere covering a convex polyhedron. *Naval Res. Logist. Quart.* **21** (1974), 715–718. (Kailash C. Kapur) **51** #5009 90C25

(*with* Elzinga, D. Jack; Randolph, W. D.) Minimax multifacility location with Euclidean distances. *Transportation Sci.* **10** (1976), *no.* 4, 321–336. (C. B. Garcia) **56** #4845 90C30

Hearne, Thomas M. (*with* Wagner, Carl G.) Minimal covers of finite sets. *Discrete Math.* **5** (1973), 247–251. (D. J. Kleitman) **47** #3185 05A05

(*with* Wagner, Carl G.) Boolean subtractive algebras. *Notre Dame J. Formal Logic* **15** (1974), 317–324. (R. Güting) **50** #2009 06A40

Hearon, John Z. (*with* London, Wayne P.) Path lengths and initial derivatives in arbitrary and Hessenberg compartmental systems. *Math. Biosci.* **14** (1972), 121–134. (L. I. Rubinstein) **46** #6853 92A05 (34A30)

Compartmental matrices with single root and nonnegative nilpotent matrices. *Math. Biosci.* **14** (1972), 135–142. (R. A. Brualdi) **46** #5355 15A21

(*with* London, Wayne P.) Estimation of the number of precursors in a sequence of first order reactions. *Math. Biosci.* **14** (1972), 281–295. (L. I. Rubinstein) **46** #6854 92A05

Residence times in compartmental systems and the moments of a certain distribution. *Math. Biosci.* **15** (1972), 69–77. (L. I. Rubinstein) **46** #6855 92A05

A note on open linear systems. *Bull. Math. Biology* **36** (1974), 97–99. (M. Heymann) **52** #16743 93A10

Problem 73-20, "A special class of matrices", by J. F. Foley. *SIAM Rev.* **16** (1974), 548–549. (B. Levinger) **51** #12898 15A51

Properties of the Leslie population matrix. *Bull. Math. Biology* **38** (1976), *no.* 2, 199–203. (D. Rosenblatt) **58** #4449 92A15

Bounds on the roots of a polynomial. *Math. Mag.* **49** (1976), *no.* 5, 240–242. (M. Marden) **54** #10576 30A08

Minimum polynomials and control in linear systems. *J. Res. Nat. Bur. Standards* **82** (1977), *no.* 2, 129–132. (Author's summary) **58** #33352 93C99

Nonsingular solutions of $TA-BT=C$. *Linear Algebra and Appl.* **16** (1977), *no.* 1, 57–63. (Elwyn L. Jones) **56** #15676 15A24 (93B05, 93B25)

Hearsey, B. V. (*with* Kent, Darrell C.) Convergence structures. *Portugal. Math.* **31** (1972), 105–118. (H. J. Biesterfeldt, Jr.) **48** #4983 54A20

Hearsey, Bryan V. Regularity in convergence spaces. *Portugal. Math.* **30** (1971), 201–213. (H. J. Biesterfeldt, Jr.) **46** #6260 54A20

Hearst, Eliot *See* **Charness, Neil**, **58** #32024

Heath, Clark W., Jr. (*with* Larsen, Richard J.; Holmes, Charles L.) A statistical test for measuring unimodal clustering: a description of the test and of its application to cases of acute leukemia in metropolitan Atlanta, Georgia. (French summary) *Biometrics* **29** (1973), 301–309. (H. Chernoff) **49** #11712 62G10

Heath, D. *See* **Brunel, Antoine**, **53** #8454

Heath, D. J. (*with* Wood, A. D.) Perturbation of a singular value problem arising from torsional vibration of an inhomogeneous cylinder. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp.* 382–387. *Lecture Notes in Math., Vol.* 415, *Springer, Berlin*, 1974. (Tommaso Ruggeri) **54** #14502 73.35

Heath, David C. (*with* Sudderth, William D.) On a theorem of de Finetti, oddsmaking, and game theory. *Ann. Math. Statist.* **43** (1972), 2072–2077. (K. S. Fu) **50** #3960 90D10 (62C05)

(*with* Pruitt, William E.; Sudderth, William D.) Subfair red-and-black with a limit. *Proc. Amer. Math. Soc.* **35** (1972), 555–560. (N. C. Jain) **46** #8683 90D99

Functions possessing restricted mean value properties. *Proc. Amer. Math. Soc.* **41** (1973), 588–595. (D. L. Burkholder) **48** #11538 31B05

Skorokhod stopping via potential theory. *Séminaire de Probabilités, VIII* (*Univ. Strasbourg, année universitaire* 1972-1973), *pp.* 150–154. *Lecture Notes in Math., Vol.* 381, *Springer, Berlin*, 1974. (Hermann Rost) **51** #4426 60J45

(*with* Fristedt, Bert E.) Searching for a particle on the real line. *Advances in Appl. Probability* **6** (1974), 79–102. (P. Warren) **49** #2115 90D10

(*with* Sudderth, William D.) Continuous-time gambling problems. *Advances in Appl. Probability* **6** (1974), 651–665. (Michael Orkin) **50** #8684 60G40 (93E20)

(*with* Berry, Donald A.; Sudderth, William D.) Red-and-black with unknown win probability. Collection of articles dedicated to Jerzy Neyman on his 80th birthday. *Ann. Statist.* **2** (1974), 602–608. (H. Chernoff) **54** #11483 60G40

Skorokhod stopping in discrete time. *Séminaire de Probabilités, IX* (*Seconde Partie,* *Univ. Strasbourg, Strasbourg, années universitaires* 1973/1974 *et* 1974/1975), *pp.* 515–517. *Lecture Notes in Math., Vol.* 465, *Springer, Berlin,* 1975. (Hermann Rost) **54** #14117 60J45

(*with* Sudderth, William D.) De Finetti's theorem on exchangeable variables. *Amer. Statist.* **30** (1976), *no.* 4, 188–189. (A. Fuchs) **58** #18692 60F99

Interpolation of martingales. *Ann. Probability* **5** (1977), *no.* 5, 804–806. (Louis Blake) **56** #6846 60G45

(*with* Sudderth, William D.) On finitely additive priors, coherence, and extended admissibility. *Ann. Statist.* **6** (1978), *no.* 2, 333–345. (R. J. Buehler) **57** #4380 62A05 (62C10)

Heath, J. M. (*with* Wake, G. C.) Nonlinear eigenvalue problems with mixed boundary conditions. *J. Math. Anal. Appl.* **48** (1974), 721–735. (J. B. McLeod) **50** #7808 35J65

Heath, Philip R. Groupoid operations and fibre-homotopy equivalence. I. *Math. Z.* **130** (1973), 207–233. (G. J. Porter) **51** #6809 55F65

Note on Dold-Weinzweig fibrations and duality. *Bol. Soc. Brasil. Mat.* **5** (1974), *no.* 1, 7–9. (G. J. Porter) **52** #1677 55D05

Change of base point and fibrations. *Topology and its applications* (*Proc. Conf., Memorial Univ. Newfoundland, St. John's, Nfld.,* 1973), *pp.* 147–149. *Lecture Notes in Pure and Appl. Math., Vol.* 12, *Dekker, New York,* 1975. (G. J. Porter) **51** #6789 55D05 (55E15)

Groupoid operations and fibre homotopy equivalence. II. Naturality. *An. Acad. Brasil. Ci.* **47** (1975), *no.* 1, 19–25. (Pierre J. Malraison, Jr.) **54** #13904 55D10

(*with* Booth, Peter I.; Piccinini, Renzo A.) Section and base-point functors. *Math. Z.* **144** (1975), *no.* 3, 181–184. (Pierre J. Malraison, Jr.) **52** #6704 55D05

Groupoid operations. III. Cofibre homotopy functors. *An. Acad. Brasil. Ci.* **48** (1976), *no.* 3, 403–405. (Pierre J. Malraison, Jr.) **58** #13014 55D99 (18D15)

(*with* Kamps, Klaus Heiner) Induced homotopy in structured categories. (Italian summary) *Rend. Mat.* (6) **9** (1976), *no.* 1, 71–84. (Pierre J. Malraison, Jr.) **54** #13905 55D10 (18D20)

(*with* Booth, Peter I.; Piccinini, Renzo A.) Restricted homotopy classes. *An. Acad. Brasil. Ci.* **49** (1977), *no.* 1, 1–8. (Peter J. Eccles) **57** #7586 55D99

Homotopy equivalence of a cofibre fibre composite. *Canad. J. Math.* **29** (1977), *no.* 6, 1152–1156. (P. W. H. Lemmens) **56** #16616 55D05

Heath, R. A. (*with* Link, S. W.) A sequential theory of psychological discrimination. *Psychometrika* **40** (1975), 77–105. (Nanak Chand) **53** #11928 62P15

Heath, R. F. W. *See* **Numerical methods in fluid dynamics, 49** #10260

Heath, Robert W. On p-spaces, q-spaces, r-spaces and "s" spaces. *Proceedings of the Auburn Topology Conference* (*Auburn Univ., Auburn, Ala.,* 1969; *dedicated to F. Burton Jones on the occasion of his* 60*th birthday*), *pp.* 123–134. *Auburn Univ., Auburn, Ala.,* 1969. (Jacob Kofner) **52** #9189 54E20

On a non-stratifiable countable space. *Topology Conference* (*Proc. General Topology Conf., Emory Univ., Atlanta, Ga.,* 1970), *pp.* 119–122. *Dept. Math., Emory Univ., Atlanta, Ga.,* 1970. (C. R. Borges) **49** #6175 54E20

(*with* Hodel, R. E.) Characterizations of σ-spaces. *Fund. Math.* **77** (1973), *no.* 3, 271–275. (Douglas Harris) **47** #9549 54Exx

(*with* Lutzer, David J.; Zenor, Phillip) Monotonically normal spaces. *Trans. Amer. Math. Soc.* **178** (1973), 481–493. (C. R. Borges) **51** #9030 54E20

Some remarks on extension theorems in monotonically normal spaces. *TOPO 72—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.,* 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 201–206. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin,* 1974. (J. Dugundji) **50** #8422 54C20

Some comments on simultaneous extensions of mappings on closed subsets. *Topology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.,* 1973), *pp.* 114–119. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin,* 1974. (C. R. Borges) **51** #6703 54C20

(*with* Lutzer, David J.) The Dugundji extension theorem and collectionwise normality. (Russian summary) *Bull. Acad. Polon. Sci Sér. Sci. Math. Astronom. Phys.* **22** (1974), 827–830. (John W. Green) **51** #11424 54D15 (54C20, 54E30)

(*with* Lutzer, David J.) Dugundji extension theorems for linearly ordered spaces. *Pacific J. Math.* **55** (1974), 419–425. (J. Dugundji) **51** #6704 54C20

(*with* Lutzer, David J.; Zenor, Phillip) On continuous extenders. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.,* 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 203–213. *Academic Press, New York,* 1975. (C. R. Borges) **50** #11134 54C20

(*with* Lindgren, William F.) Weakly uniform bases. *Houston J. Math.* **2** (1976), *no.* 1, 85–90. (George M. Reed) **52** #15364 54D20

A construction of a quasi-metric Souslin space with a point-countable base. *Set-theoretic topology* (*Papers, Inst. Medicine and Math., Ohio Univ., Athens, Ohio,* 1975–1976), *pp.* 219–224. *Academic Press, New York,* 1977. (Gary Gruenhage) **56** #6631 54H05 (54E35)

(*with* Lindgren, William F.) On generating non-orthocompact spaces. *Set-theoretic topology* (*Papers, Inst. Medicine and Math., Ohio Univ., Athens, Ohio,* 1975–1976), *pp.* 225–237. *Academic Press, New York,* 1977. (B. M. Scott) **56** #3792 54D20 (54D30)

See also **TOPO 72—general topology and its applications, 49** #1457

Heath, Steven H. The existence of finite Bolyai-Lobachevsky planes. *Math. Mag.* **43** (1970), 244–249. (G. Tallini) **45** #7584 50C05

Heath-Brown, D. R. (*with* Evelyn, Cecil John Alvin) Arithmetical functions and inversion formulae. *J. London Math. Soc.* (2) **9** (1974/75), 54–56. (D. Rearick) **51** #321 10A20 (10H10)

On the density of the zeros of the Dedekind zeta-function. *Acta Arith.* **33** (1977), *no.* 2, 169–181. (Gutti J. Babu) **55** #7950 10H10 (12A70)

Hybrid bounds for Dirichlet L-functions. *Invent. Math.* **47** (1978), *no.* 2, 149–170. (Matti Jutila) **58** #5549 10H10 (12A70)

The differences between consecutive primes. *J. London Math. Soc.* (2) **18** (1978), *no.* 1, 7–13. (V. C. Harris) **58** #10787 10H15

Almost-primes in arithmetic progressions and short intervals. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 3, 357–375. (H.-E. Richert) **58** #10789 10H20 (10H30)

Heathcote, C. R. A test of goodness of fit for symmetric random variables. *Austral. J Statist.* **14** (1972), 172–181. (M. Knott) **50** #11618 62G10 (62E20)

(*with* Pitman, J. W.) An inequality for characteristic functions. *Bull. Austral. Math Soc.* **6** (1972), 1–9. (R. A. Mureika) **47** #4305 60E05

(*with* Chambers, R. L.) A linear model with errors lacking a variance. I. *Austral. J. Statist.* **17** (1975), *no.* 3, 173–185. (T. D. Dwivedi) **56** #1598 62J05

(*with* Feigin, Paul David) The empirical characteristic function and the Cramér-vo Mises statistic. *Sankhyā Ser. A* **38** (1976), *no.* 4, 309–325. (M. Knott) **57** #14253 62G10 (62E20)

The integrated squared error estimation of parameters. *Biometrika* **64** (1977), *no.* 2 255–264. (B. W. Stuck) **58** #13469 62F10 (62G35)

Heathcote, Elizabeth (*with* Ghosal, Amitava) On dynamic optimization problems. *Cybernetica* **15** (1972), 290–305. (H. Taylor) **48** #1718 90C99

(*with* Finch, Peter D.) Characters for summary functions associated with Cartesia products. *Bull. Austral. Math. Soc.* **9** (1973), 411–415. (R. M. Cormack) **49** #9991b 62A99 (62P20, 82.62)

Heatherly, Henry E. One-sided ideals in near-rings of transformations. *J. Austral. Math Soc.* **13** (1972), 171–179. (John D. P. Meldrum) **46** #219 16A76

Near domains of composite characteristic. *Elem. Math.* **28** (1973), 150–152. (Stev Ligh) **48** #11220 16A76

Matrix near-rings. *J. London Math. Soc.* (2) **7** (1973), 355–356. (John D. P Meldrum) **48** #8573 16A76

(*with* Hunkler, Richard) Convergence of $\{\frac{1}{n}\}$ and the Archimedean property. *Math. Student* **41** (1973), 201–205. (B. K. Lahiri) **50** #10164 26A03

Near-rings without nilpotent elements. *Publ. Math. Debrecen* **20** (1973), 201–20 (1974). (John D. P. Meldrum) **48** #11221 16A76

Distributive near-rings. *Quart. J. Math. Oxford Ser.* (2) **24** (1973), 63–70. (R Gorton) **47** #5057 16A76

Regular near-rings. *J. Indian Math. Soc.* (*N.S.*) **38** (1974), *no.* 1, 2, 3, 4, 345–354 (1975). (J. R. Clay) **53** #3035 16A76

Ordered fields of arbitrary cardinality. *Math. Student* **42** (1974), 223–224 (1975) (Jacques Lévy-Bruhl) **53** #378 12J15

(*with* Olivier, Horace) Near integral domains. *Monatsh. Math.* **78** (1974), 215–222 (G. Betsch) **51** #5678 (EA **52**) 16A76

Semiring multiplications on commutative monoids. *Publ. Math. Debrecen* **21** (1974) 119–123. (E. Ja. Gabovič) **50** #9986 16A78 (20M25)

(*with* Ligh, Steve) Pseudo-distributive near-rings. *Bull. Austral. Math. Soc.* **12** (1975), *no.* 3, 449–456. (Howard E. Bell) **51** #8181 16A76

(*with* Olivier, Horace) Near integral domains. II. *Monatsh. Math.* **80** (1975), *no.* 2 85–92. (G. Betsch) **53** #3036 16A76

The additive group of a finite near-field is elementary abelian. *Kyungpook Math. J* **18** (1978), *no.* 1, 3–4. (J. L. Zemmer) **58** #16621 12K05 (16A76)

Heatley, A. H. (*with* Lawson, J. Douglas) An economical variation of Newton's metho for systems of equations. *Proceedings of the Third Manitoba Conference on Numerica Mathematics* (*Winnipeg, Man.,* 1973), *pp.* 287–292. *Utilitas Math., Winnipeg, Man.,* 1974 (J. E. Dennis, Jr.) **49** #8329 65H10

(*with* Lawson, J. Douglas) Analysis of water distribution networks. *Proceedings o the Fifth Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.,* 1975), *pp.* 385–400. *Congressus Numerantium No. XVI, Utilitas Math. Publ., Winnipeg, Man.,* 1976. (S. Bhargava) **54** #2345 94A20

Heaviside, Oliver *See* **Moore, Douglas H., 57** #3759

Hebalkar, Prakash G. A graph model for analysis of deadlock prevention in systems with parallel computations. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana,* 1971), *Vol.* 1: *Foundations and systems, pp.* 498–503. *North-Holland, Amsterdam,* 1972. (A. T. Amin) **53** #7629 94A20 (68A99)

Hebbar, H. Vishnu (*with* Pakshirajan, R. P.) Limit theorems for extremes of absolute values of Gaussian sequences. *Sankhyā Ser. A* **39** (1977), *no.* 2, 191–195. (Y. Mittal) **58** #2988 60F05 (60G10)

Hebbare, S. P. Rao (*with* Patwardhan, G. A.; Vartak, M. N.) Row and column Schur designs. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 6, 692–697. (Authors' summary) **58** #21677 05B05

(*with* Patwardhan, G. A.) On some constructions of modular Hadamard matrices. *J. Combinatorial Theory Ser. A* **20** (1976), *no.* 2, 258–263. (S. K. Tharthare) **53** #12990 05B20

Graceful cycles. *Utilitas Math.* **10** (1976), 307–317. (David M. Jackson) **55** #7849 05C99

(*with* Patwardhan, G. A.) Partial Kronecker product and its applications in modular Hadamard matrices. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 3, 309–313. (W. D. Wallis) **57** #9570 05B20

Hebden, M. D. (*with* Fletcher, R.; Grant, J. A.) The calculation of linear best L_p approximations. *Comput. J.* **14** (1971), 276–279. (D. C. Handscomb) **46** #3084 65D15

(*with* Fletcher, R.; Grant, J. A.) The continuity and differentiability of the parameters of best linear L_p approximations. *J. Approximation Theory* **10** (1974), 69–73. (E. Price) **54** #5695 41A50

(*with* Fletcher, R.; Grant, J. A.) Linear minimax approximation as the limit of best L_p-approximation. *SIAM J. Numer. Anal.* **11** (1974), 123–136. (H. Werner) **49** #8276 65D15 (41A45)

See also **Software for numerical mathematics, 50** #6095

Hebenstreit, H. Oberflächenwellen bei verschiedenen Anregungsformen. (English summary) *Acta Phys. Austriaca* **44** (1976), *no.* 3-4, 259–277. (I. M. Longman) **53** #15101 78.35

Heber, Gerhard (*with* Weber, Gerhard) ★Grundlagen der Quantenphysik. Teil 1: Quantenmechanik. Teubner Studienbücher. *B. G. Teubner, Stuttgart,* 1971. vi + 158 *pp.* (Editors) **51** #7492 81.00

(*with* Weber, Gerhard) ★Grundlagen der Quantenphysik. Teil 2: Quantenfeldtheorie. Teubner Studienbücher. *B. G. Teubner, Stuttgart,* 1971. vi + 178 *pp.* (Editors) **51** #7493 81.00

See also **Landau, L. D.; et al., 49** #11884; **Landau, L. D.; et al., 49** #11970; **Landau, L. D.; et al., 49** #12004 *and* **Landau, L. D.; et al., 55** #4961

bert, D. J. ★Compactness methods, Brownian motion, and nonlinear analysis. Lecture Notes in Mathematics, No. 2. *Department of Mathematics, University of Pittsburgh, Pittsburgh, Pa.*, 1973. v + 111 *pp.* (S. R. S. Varadhan) **54** #6216 60–02 (47Hxx)

bert, D. J., Jr. Vector valued measures and decomposing maps. *Vector and operator valued measures and applications* (*Proc. Sympos., Alta, Utah*, 1972), *pp.* 127–132. *Academic Press, New York*, 1973. (Editors) **58** #28410 28A45

A general theorem for decomposition of linear random processes. *Proc. Amer. Math. Soc.* **38** (1973), 331–336. (S. J. Taylor) **47** #8804 28A40 (60G20)

Nonlinear parabolic equations and probability. *Bull. Amer. Math. Soc.* **80** (1974), 965–969. (A. Friedman) **50** #5196 35K60 (60J60)

Probability methods and nonlinear analysis. *J. Functional Analysis* **17** (1974), 239–262. (S. N. Kružkov) **50** #8183 47H15 (35K55, 60J99)

ebgen, M. Eine scaling-invariante Pivotsuche für Intervallmatrizen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **12** (1974), *no.* 2, 99–106. (H. Ratschek) **53** #1932 65F05

Ein Iterationsverfahren, welches die optimale Intervall-Einschliessung des Inversen eines M-Matrixintervalls liefert. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **12** (1974), *no.* 2, 107–115. (B. Levinger) **53** #4502 65F10

eble, M. P. Non compact Lie groups of transformation and invariant operator measures on homogeneous spaces in Hilbert space. *Transformation groups* (*Proc. Conf., Univ. Newcastle upon Tyne, Newcastle upon Tyne*, 1976), *pp.* 267–278. *London Math. Soc. Lecture Note Series, No.* 26, *Cambridge Univ. Press, Cambridge*, 1977. (Author's introduction) **58** #31278 58F99 (53C65)

echeltjen, Peter *See* **Jahrestagung: Gesellschaft für Informatik**, **48** #1502

echler, Stephen H. Classifying almost-disjoint families with applications to $\beta N-N$. *Israel J. Math.* **10** (1971), 413–432. (Mary Powderly) **46** #1594 04A15 (54D40)

On two problems in combinatorial set theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 429–431. (A. Máté) **47** #3179 04A20 (28A05)

Short complete nested sequences in $\beta N\setminus N$ and small maximal almost-disjoint families. *General Topology and Appl.* **2** (1972), 139–149. (L. Bukovský) **46** #7028 02K05 (02K25, 04A20, 54D40)

Directed graphs over topological spaces: Some set theoretical aspects. *Israel J. Math.* **11** (1972), 231–248. (A. C. Shershin) **45** #6662 05C99 (05A20)

On monads in saturated enlargements. *Israel J. Math.* **12** (1972), 49–50. (M. Benda) **46** #3290 02H13

Independence results concerning the number of nowhere dense sets necessary to cover the real line. *Acta Math. Acad. Sci. Hungar.* **24** (1973), 27–32. (E. Harzheim) **47** #1611 02K05 (04A15)

Large superuniversal metric spaces. *Israel J. Math.* **14** (1973), 115–148. (L. Bukovský) **48** #2967 54A25 (04A10)

Exponents of some N-compact spaces. *Israel J. Math.* **15** (1973), 384–395. (L. Bukovský) **50** #97 02K05 (02K35, 04A20, 54A25)

Powers of singular cardinals and a strong form of the negation of the generalized continuum hypothesis. *Z. Math. Logik Grundlagen Math.* **19** (1973), 83–84. (J. M. Plotkin) **47** #1617 02K35 (02K25)

On the existence of certain cofinal subsets of ${}^{\omega}\omega$. *Axiomatic set theory* (*Proc. Sympos. Pure Math., Vol. XIII, Part II, Univ. California, Los Angeles, Calif.*, 1967), *pp.* 155–173. *Amer. Math. Soc., Providence, R.I.*, 1974. (John K. Truss) **50** #12716 02K05 (02K15, 02K25)

A dozen small uncountable cardinals. *TOPO 72—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.*, 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 207–218. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin*, 1974. (D. V. Čudnovs′kiĭ) **51** #5314 04A10 (54A25)

On a game for which both players have a winning strategy. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 751–753. (Paul E. Howard) **50** #6849 02K20 (02K30)

(*with* Kainen, Paul C.) On the immersion of digraphs in cubes. *Israel J. Math.* **18** (1974), 221–233. (F. R. K. Chung) **50** #12790 05C20

(*with* Erdős, Paul) On maximal almost-disjoint families over singular cardinals. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. I*, *pp.* 597–604. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (L. Bukovský) **51** #12530 04A20 (02K05)

On a notion of weak compactness in non-regular spaces. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 215–237. *Academic Press, New York*, 1975. (N. Hindman) **50** #11151 54D35 (54F05)

On some weakly compact spaces and their products. *General Topol. Appl.* **5** (1975), 83–93. (C. R. Borges) **51** #6727 54D30 (02K05, 54A25)

On a ubiquitous cardinal. *Proc. Amer. Math. Soc.* **52** (1975), 348–352. (D. V. Čudnovs′kiĭ) **52** #1602 54A25 (02K25, 54D99)

On $N^{\aleph_1}$ and the almost-Lindelöf property. *Proc. Amer. Math. Soc.* **52** (1975), 353–355. (D. V. Čudnovs′kiĭ) **52** #1603 02K25 (02K05, 28A35)

Two R-closed spaces revisited. *Proc. Amer. Math. Soc.* **56** (1976), 303–309. (Mary Powderly) **53** #9148 54D25 (54A25)

On infinite graphs with a specified number of colorings. *Discrete Math.* **19** (1977), *no.* 3, 241–255 (1978). (Jaroslav Nešetřil) **58** #16363 05C15

Generalizations of almost disjointness, c-sets, and the Baire number of $\beta N-N$. *General Topology and Appl.* **8** (1978), *no.* 1, 93–110. (James Baumgartner) **57** #12217 02K05 (02K25, 04A20, 54A25, 54D35)

Hecht, C. (*with* Bucy, Richard S.; Senne, K. D.) New methods for nonlinear filtering. (Loose French summary) *Rev. Française Automat. Informat. Recherche Opérationnelle* **7** (1973), *No.* J-1, 3–54. (N. U. Ahmed) **48** #13431 94A05

Hecht, Henryk (*with* Schmid, W.) A proof of Blattner's conjecture. *Invent. Math.* **31** (1975), *no.* 2, 129–154. (N. R. Wallach) **53** #715 22E45

The characters of some representations of Harish-Chandra. *Math. Ann.* **219** (1976), *no.* 3, 213–226. (Gerard Schiffmann) **55** #573 22E45

(*with* Schmid, W.) On integrable representations of a semisimple Lie group. *Math. Ann.* **220** (1976), *no.* 2, 147–149. (Kenneth Johnson) **53** #3203 22E45

Hecht, K. T. Summation relation for U(N) Racah coefficients. *J. Mathematical Phys.* **15** (1974), 2148–2156. (Author's summary) **57** #6306 22E70

A simple class of $U(N)$ Racah coefficients and their application. *Comm. Math. Phys.* **41** (1975), 135–156. (Author's summary) **51** #7500 81.22

(*with* Braunschweig, D.) Branching rules for the subgroups of the unitary group. *J. Mathematical Phys.* **19** (1978), *no.* 3, 720–722. (J. F. Cornwell) **57** #3273 20G05 (81.22)

Hecht, Konrad Die Sylvesterkapelle zu Goldbach. Ein Schlüsselbau für Mass und Zahl in der Baukunst des frühen Mittelalters. *Abh. Braunschweig. Wiss. Ges.* **28** (1977), 137–186. (Editors) **58** #21066 01A35

Hecht, Matthew S. (*with* Ullman, Jeffrey D.) Flow graph reducibility. *SIAM J. Comput.* **1** (1972), *no.* 2, 188 202. (Petre Preoteasa) **46** #6641 68A05

Topological sorting and flow graphs. *Information processing* 74 (*Proc. IFIP Congr., Stockholm*, 1974), *pp.* 494–499. *North-Holland, Amsterdam*, 1974. (Author's summary) **58** #3617 68A05

(*with* Ullman, Jeffrey D.) Characterizations of reducible flow graphs. *J. Assoc. Comput. Mach.* **21** (1974), 367–375. (A. T. Amin) **56** #11844 05C20 (94A20)

(*with* Ullman, Jeffrey D.) A simple algorithm for global data flow analysis problems. *SIAM J. Comput.* **4** (1975), *no.* 4, 519–532. (Robert Wagner) **52** #9662 68A05

(*with* Frederickson, Greg N.; Kim, Chul E.) Approximation algorithms for some routing problems. 17*th Annual Sympoisum on Foundations of Computer Science* (*Houston, Tex.*, 1976), *pp.* 216–227. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (R. E. Stearns) **56** #10870 90B10 (68A20, 68A10)

★Flow analysis of computer programs. Programming Languages Series. *North-Holland, New York-Amsterdam-Oxford*, 1977. xiii + 232 *pp.* *ISBN* 0-444-00210-3 (A. V. Anīsīmov) **57** #8120 68A05

(*with* Frederickson, Greg N.; Kim, Chul E.) Approximation algorithms for some routing problems. *SIAM J. Comput.* **7** (1978), *no.* 2, 178–193. (R. E. Stearns) **58** #9172 90B10 (68A10)

Hecht, T. (*with* Katriňák, Tibor) Equational classes of relative Stone algebras. *Notre Dame J. Formal Logic* **13** (1972), 248–254. (G. Grätzer) **45** #5039 06A35

(*with* Katriňák, Tibor) Free double Stone algebras. *Lattice theory* (*Proc. Colloq., Szeged*, 1974), *pp.* 77–95. *Colloq. Math. Soc. János Bolyai, Vol.* 14, *North-Holland, Amsterdam*, 1976. (R. Balbes) **56** #203 06A35

(*with* Katriňák, Tibor) Principal congruences of p-algebras and double p-algebras. *Proc. Amer. Math. Soc.* **58** (1976), 25–31. (Evelyn Nelson) **53** #13053 06A25

(*with* Głazek, Kazimierz; Katriňák, Tibor) On weak homomorphisms of Stone algebras. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp.* 145–159. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam*, 1977. (James B. Nation) **58** #458 08A25

Hecht, V. (*with* Rzehak, H.) Languages and translation techniques for extensive use of parallel operations. (German summary) *Computing* **14** (1975), *no.* 1-2, 15–27. (Immo O. Kerner) **53** #2082 68A99

Heck, Horace (*with* Roberts, Stephen) A note on the extension of a result on scheduling with secondary criteria. *Naval Res. Logist. Quart.* **19** (1972), 403–405. (Authors' summary) **47** #2998 90B35

Heck, Josef Zufallsgraphen. *Graphen-Sprachen und Algorithmen auf Graphen* (*Erste Fachtagung über Graphentheoretische Konzepte der Informatik, Berlin*, 1975), *pp.* 197–208. *Appl. Comput. Sci., Vol.* 1, *Hanser, Munich*, 1976. (M. Aigner) **58** #10612 05C99 (68A10)

Ein Algorithmus zur Lösung des Chinese Postman Problems. *Graphen, Algorithmen, Datenstrukturen* (*Zweite Fachtagung Graphentheoretische Konzepte der Informatik, Göttingen*, 1976), *pp.* 183–216. *Appl. Comput. Sci., Vol.* 4, *Hanser, Munich*, 1976. (E. Ja. Gabovič) **58** #5370 05C35 (68A10, 90B10)

Hecke, Erich ★Vorlesungen über die Theorie der algebraischen Zahlen. Second edition of the 1923 original, with an index. *Chelsea Publishing Co., Bronx, N.Y.*, 1970. viii + 274 *pp.* (Editors) **50** #4524 12–XX (01A75)

★Mathematische Werke. Mit einer Vorbemerkung von B. Schoenberg, einer Anmerkung von Carl Ludwig Siegel, und einer Todesanzeige von Jakob Nielsen. Zweite durchgesehene Auflage. *Vandenhoeck & Ruprecht, Göttingen*, 1970. 956 *pp.* (1 *plate*) (Editors) **51** #7795 01A75

Heckenbach, A. (*with* Heimes, K. A.) Real solutions of $y''=Ay^2+2By+C$. *Amer. Math. Monthly* **83** (1976), *no.* 2, 129–131. (H. Herold) **53** #3391 34A25

Heckendorff, Hartmut (*with* Döhler, R.) Versuchspläne der Kovarianzanalyse unter Minimierung der Versuchsanzahl zur Schätzung des Varianzanteils. (Russian summary) *Biometrische Z.* **17** (1975), *no.* 4, 217–223. (Authors' summary) **56** #9843 62J10

Minimal-erschöpfende σ-Algebren in der sequentiellen Statistik. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **18** (1976), *no.* 4, 455–459. (R. A. Wijsman) **54** #14174 62B05

Hecker, H. A characterization of the asymptotic normality of linear combinations of order statistics from the uniform distribution. *Ann. Statist.* **4** (1976), *no.* 6, 1244–1246. (M. M. Siddiqui) **54** #11617 62E20 (62G30, 60F05)

Hecker, Hans-Dietrich Allgemeine Trennbarkeitsbegriffe bei metamathematischen Untersuchungen. *Z. Math. Logik Grundlagen Math.* **17** (1971), 205–217. (A. Nerode) **46** #1576 02F25

Rekursive Untrennbarkeit bei elementaren Theorien. *Z. Math. Logik Grundlagen Math.* **17** (1971), 443–464. (S. Feferman) **48** #3726 02G05

Eine Bemerkung zur Berechnungs kompliziertheit auf Registermaschinen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **11** (1975), *no.* 7-8, 437–438. (I. Hal Sudborough) **52** #4705 68A20

Zur Programmkomplexität rekursiv aufzählbarer Mengen. *Z. Math. Logik Grundlagen Math.* **22** (1976), *no.* 3, 239–244. (Zbl **359** #02036) **58** #5122 02F25 (68A20)

See also **Eršov, Ju. L.**, **48** #8215; **Eršov, Ju. L.**, **52** #10393; **Eršov, Ju. L.**, **55** #10257; **Eršov, Ju. L.**, **55** #10258; **Eršov, Ju. L.**, **55** #12489 *and* **Trahtenbrot, B. A.**, **58** #10356

Heckman, James J. Dummy endogenous variables in a simultaneous equation system. *Econometrica* **46** (1978), *no.* 4, 931–959. (G. Tintner) **58** #3277 62P20

Heckman, Randall K. (*with* Chivukula, Ramamohana Rao) Convolutions and factorization theorems. *Compositio Math.* **28** (1974), 143–157. (Paul Milnes) **49** #7701 43A20

Heckmann, Otto Copernicus und die moderne Astronomie. *Nova Acta Leopoldina* (*N.F.*) **38** (1973), *no.* 215, 19 *pp.* (1974). (Editors) **58** #20987 01A05 (85.01)

Hečko, Ivan A revised direct decomposition method. (Slovak. English summary) *Ekonom.-Mat. Obzor* **12** (1976), *no.* 1, 57–73. (Author's summary) **56** #7949 90C05

Heckscher, Stevens Some metric and topological properties of certain linear spaces of measurable functions. *Studia Math.* **43** (1972), 157–172. (W. A. J. Luxemburg) **47** #5576 46E30 (46A45)

★The duality theory of Köthe spaces. *Swarthmore College, Swarthmore, Pa.*; *University of Pennsylvania, Philadelphia, Pa.*, 1973. iii+90 *pp.* (Alan L. Macdonald) **56** #6363 46E30 (46A45)

Hecquet, Gérard Utilisation de la méthode d'Euler-Cauchy pour la démonstration d'un théorème de L. Cesari. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A712–A715. (L. Cesari) **45** #658 34C99

Contribution à la recherche des solutions périodiques en x_1 de l'équation $u_{x_1\cdots x_n}=f(x_1,\cdots,x_n,u,u_{x_1},\cdots,u_{x_n},u_{x_1x_2},\cdots,u_{x_2\cdots x_n})$. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A997–A1000. (M. H. Protter) **47** #9027a 35B10

Contribution à la recherche des solutions périodiques en x_1 et x_2 de l'équation $u_{x_1\cdots x_n}=f(x_1,\cdots,x_n,u,u_{x_1},\cdots,u_{x_n},\cdots,u_{x_2\cdots x_n})$. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1047–A1050. (M. H. Protter) **47** #9027b 35B10

À propos d'un article de Dan Petrovanu sur les solutions périodiques d'un système aux différentielles totales (Ann. Mat. Pura Appl. (4) **82** (1969), 83–96). (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 1-2, 40–47 (1975). (C. Vaghi) **54** #7995 35B10

Existence globale des solutions de quelques problèmes aux limites. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 239–248. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #29131 35G30

Sur l'existence des solutions périodiques en x de l'équation $u_{x^2y^2}=f(x,y,u,u_x,u_y,u_{x^2},u_{xy},u_{y^2},u_{x^2y},u_{xy^2})$. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Teil* 1, *pp.* 339–345. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (O. Vejvoda) **58** #22965 35B10

Étude de quelques problèmes d'existence globale concernant l'équation $\partial^{r+s}u/\partial x^r\partial y^s=f(x,y,u,\partial u/\partial x,\partial u/\partial y,\cdots,\partial^{p+q}u/\partial x^p\partial y^q,\ldots)$ $\{0\le p\le r,0\le q\le s,p+q<r+s\}$. *Ann. Mat. Pura Appl.* (4) **113** (1977), 173–197. (J. Kopáček) **57** #10255 35L35

Étude de quelques problèmes d'existence globale concernant l'équation $u_{xxy}-u_{xyy}=f(x,y,u,u_x,u_y,u_{xy})$. *Applicable Anal.* 7 (1977/78), *no.* 1, 29–41. (Maria Cinquini-Cibrario) **58** #23001 35G20

Hector, D. (*with* Cohen, J.; Bleistein, Norman) Ray method expansions for surface and internal waves in inhomogeneous oceans of variable depth. *Studies in Appl. Math.* **51** (1972), *no.* 2, 121–137. (Authors' summary) **52** #12527 76.41

Hector, Gilbert Ouverts incompressibles et théorème de Denjoy-Poincaré pour les feuilletages. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A159–A162. (A. Aeppli) **45** #1186 57D30

Ouverts incompressibles et structure des feuilletages de codimension 1. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A741–A744. (A. Aeppli) **45** #1187 57D30

Sur les feuilletages presque sans holonomie. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1703–A1706. (P. Molino) **46** #2687 57D30

Actions de groupes de difféomorphismes de $\{0,1\}$. *Géométrie différentielle* (*Colloq., Univ. Santiago de Compostela, Santiago de Compostela*, 1972), *pp.* 14–22. *Lecture Notes in Math., Vol.* 392, *Springer, Berlin*, 1974. (P. Molino) **50** #14780 57D30

Quelques exemples de feuilletages espèces rares. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **26** (1976), *no.* 1, xi, 239–264. (C. S. Hartman) **54** #1249 57D30

Feuilletages en cylindres. *Geometry and topology* (*Proc. III Latin Amer. School of Math., Inst. Mat. Pura Aplicada CNPq, Rio de Janeiro*, 1976), *pp.* 252–270. *Lecture Notes in Math., Vol.* 597, *Springer, Berlin*, 1977. (Robert Roussarie) **56** #9547 57D30

Leaves whose growth is neither exponential nor polynomial. *Topology* **16** (1977), *no.* 4, 451–459. (Elmar Vogt) **57** #4194 57D30

Hector, M. *See* **Reeb, Georges H., 51** #1841

Hedayat, A. (*with* Seiden, Esther) On a method of sum composition of orthogonal Latin squares. *Atti del Convegno di Geometria Combinatoria e sue Applicazioni* (*Univ. Perugia, Perugia*, 1970), *pp.* 239–256. *Ist. Mat., Univ. Perugia, Perugia*, 1971. (Charles C. Lindner) **49** #4804 05B15

(*with* Federer, Walter T.) On embedding and enumeration of orthogonal Latin squares. *Ann. Math. Statist.* **42** (1971), 509–516. (M. Atiqullah) **45** #2871 62K15

(*with* Shrikhande, S. S.) Experimental designs and combinatorial systems associated with Latin squares and sets of mutually orthogonal Latin squares. *Sankhyā Ser. A* **33** (1971), 423–432. (Authors' summary) **47** #1214 62K10 (05B15)

(*with* Seiden, Esther; Federer, Walter T.) Some families of designs for multistage experiments: mutually balanced Youden designs when the number of treatments is prime power or twin primes. I. *Ann. Math. Statist.* **43** (1972), 1517–1527. (I. M. Chakravarti) **49** #10087 62K10

An algebraic property of the totally symmetric loops associated with Kirkman-Steiner triple systems. *Pacific J. Math.* **40** (1972), 305–309. (Charles C. Lindner) **46** #3340 05B15

An application of sum composition: a self orthogonal Latin square of order ten. *J. Combinatorial Theory Ser. A* **14** (1973), 256–260. (Charles C. Lindner) **48** #125 05B15

(*with* Federer, Walter T.) Pairwise and variance balanced incomplete block designs. *Ann. Inst. Statist. Math.* **26** (1974), 331–338. (From the authors' introduction) **54** #6398 62K10

(*with* John, Peter W. M.) Resistant and susceptible BIB designs. *Ann. Statist.* **2** (1974), 148–158. (I. M. Chakravarti) **49** #10086 62K10

(*with* Raktoe, B. L.; Federer, Walter T.) On a measure of aliasing due to fitting an incomplete model. *Ann. Statist.* **2** (1974), 650–660. (Authors' summary) **55** #6730 62K15

(*with* Eccleston, J. A.) On the theory of connected designs: characterization and optimality. *Ann. Statist.* **2** (1974), 1238–1255. (H. Bandemer) **50** #15112 62K05

(*with* Seiden, Esther) On the theory and application of sum composition of Latin squares and orthogonal Latin squares. *Pacific J. Math.* **54** (1974), *no.* 2, 85–113 (Damaraju Raghavarao) **51** #10125 05B15 (62K10)

(*with* Federer, Walter T.; Raktoe, B. L.) Minimal unbiased designs for linea parametric functions. *A survey of statistical design and linear models* (*Proc. Internat Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *pp.* 145–153. *North-Holland Amsterdam*, 1975. (Damaraju Raghavarao) **51** #9393 62K15

(*with* Afsarinejad, K.) Repeated measurements designs. I. *A survey of statistica design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.* 1973), *pp.* 229–242. *North-Holland, Amsterdam*, 1975. (Bhagwandas) **51** #11869 62K99

(*with* Federer, Walter T.) On the nonexistence of Knut Vik designs for all ever orders. *Ann. Statist.* 3 (1975), 445–447. (K. Sarkadi) **51** #4577 62K10 (05B05)

(*with* Afsarinejad, K.) Some contributions to the theory of multistage Youde design. *Ann. Statist.* 3 (1975), 707–711. (D. V. Chopra) **52** #12245 62K10 (05B05

(*with* Raghavarao, D.; Seiden, Esther) Further contributions to the theory of *F*-squares design. *Ann. Statist.* 3 (1975), 712–716. (K. Sarkadi) **53** #165 05B15 (62K10)

(*with* Raghavarao, D.) 3-way BIB designs. *J. Combinatorial Theory Ser. A* **18** (1975), 207–209. (J. B. Kelly) **51** #2939 05B05

Hadamard matrices and their applications. *Proceedings of the Eighth Nationa Mathematics Conference* (*Arya-Mehr Univ. Tech., Tehran*, 1977), *pp.* 170–183. *Arya-Mehr Univ. Tech., Tehran*, 1977. (G. H. J. Van Rees) **58** #27561 05B2 (05–03)

(*with* Foody, W.) On theory and applications of BIB designs with repeated blocks. *Ann. Statist.* **5** (1977), *no.* 5, 932–945. (D. A. Sprott) **57** #1788 62K10 (62D05, 05B20)

(*with* Raktoe, B. L.; Talwar, Prem P.) Examination and analysis of residuals: a test for detecting a monotonic relation between mean and variance in regression through the origin. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 6, 497–506. (D. A. Sprott) **56** #16933 62J05

A complete solution to the existence and nonexistence of Knut Vik designs and orthogonal Knut Vik designs. *J. Combinatorial Theory Ser. A* **22** (1977), *no.* 3, 331–337. (Noboru Hamada) **55** #12548 05B30

(*with* Bradley, Ralph A.) Optimal designs for two non-interactive treatments. *Technometrics* **19** (1977), *no.* 1, 53–57. (E. J. Williams) **56** #1612 62K05

(*with* Afsarinejad, K.) Repeated measurements designs. II. *Ann. Statist.* **6** (1978), *no.* 3, 619–628. (Bhagwandas) **58** #8058 62K05

A generalization of sum composition: self orthogonal Latin square design with sub self orthogonal Latin square designs. *J. Combinatorial Theory Ser. A* **24** (1978), *no.* 2, 202–210. (J. Dénes) **58** #283 05B15

Hedberg, Lars Inge Bounded point evaluations and capacity. *J. Functional Analysis* **10** (1972), 269–280. (W. P. Ziemer) **50** #4980 30A98 (30A82, 46E15)

Non-linear potentials and approximation in the mean by analytic functions. *Math. Z.* **129** (1972), 299–319. (L. Zalcman) **48** #6430 30A82 (31B15)

On certain convolution inequalities. *Proc. Amer. Math. Soc.* **36** (1972), 505–510. (Bent E. Peterson) **47** #794 46E30 (46E35)

Approximation in the mean by analytic functions. *Trans. Amer. Math. Soc.* **163** (1972), 157–171. (Author's summary) **55** #5866 30A82

Approximation in the mean by solutions of elliptic equations. *Duke Math. J.* **40** (1973), 9–16. (David R. Adams) **47** #633 35J99 (31C15, 35A35)

Removable singularities and condenser capacities. *Ark. Mat.* **12** (1974), 181–201. (David R. Adams) **50** #13496 30A44 (31A15)

See also **Summer School: Topological Algebra Theory**, **49** #11188

Hedberg, Torbjörn Continuous functions whose graphs are Helson sets. *Thin sets in harmonic analysis* (*Sem. Inst. Mittag-Leffler, Univ. Stockholm, Stockholm*, 1969–1970), *pp.* 41–50, 177–180. *Lecture Notes in Pure and Appl. Math., Vol.* 2, *Dekker, New York*, 1971. (C. McGehee) **55** #13164 43A46

On the uniqueness of summable trigonometric series and integrals. *Ark. Mat.* **9**, 223–241 (1971). (G. Sunouchi) **47** #9161 42A92 (41A40, 42A48)

A Phragmén-Lindelöf type theorem for a certain class of generalized subharmonic functions. *Math. Scand.* **28** (1971), 202–206. (M. Ohtsuka) **47** #5282 31B25

Distributions with bounded potentials and absolutely convergent Fourier series. *Ark. Mat.* **10**, 49–57 (1972). (J. L. Griffith) **47** #5277 31B15 (42A68)

See also **Shapiro, Harold S.**, **55** #10902

Hedelin, Per Can the zero-lag filter be a good smoother? *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 4, 490–499. (S. G. Tzafestas) **57** #15689 93E10

Heden, Olof Perfect codes in antipodal distance-transitive graphs. *Math. Scand.* **35** (1974), 29–37. (N. J. A. Sloane) **51** #7710 94A10 (05C99)

A generalised Lloyd theorem and mixed perfect codes. *Math. Scand.* **37** (1975), *no.* 1, 13–26. (J. H. van Lint) **52** #10222 94A10

A new construction of group and nongroup perfect codes. *Information and Control* **34** (1977), *no.* 4, 314–323. (N. J. A. Sloane) **56** #5040 94A10

Hedenius, Ingemar *See* **Logic and value**, **48** #3691

Hedetniemi, Stephen T. Characterizations and constructions of minimally 2-connected graphs and minimally strong digraphs. *Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1971), *pp.* 257–282. *Louisiana State Univ., Baton Rouge, La.*, 1971. (G. Chartrand) **47** #8340 05C20

(*with* Slater, Peter J.) Line graphs of triangleless graphs and iterated clique graphs. *Graph theory and applications* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1972; *dedicated to the memory of J. W. T. Youngs*), *pp.* 139–147. *Lecture Notes in Math., Vol.* 303, *Springer, Berlin*, 1972. (J. W. Moon) **49** #151 05C99

(*with* Cockayne, Ernest J.) Interpolation systems. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 117–129. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. (Ian Anderson) **51** #12590 05C15

(*with* Fleck, A. C.; Oehmke, Robert H.) $\mathfrak{S}$-semigroups of automata. *J. Assoc. Comput. Mach.* **19** (1972), 3–10. (P. Deussen) **48** #3641 94A30 (20M35)

(*with* Goodman, Seymour E.) Hamilton sufficiency conditions based on subgraph structures. *Proceedings of the Fourth Southeastern Conference on Combinatorics, Graph*

Theory, and Computing (*Florida Atlantic Univ., Boca Raton, Fla.*, 1973), *pp.* 291–296. *Utilitas Math., Winnipeg, Man.*, 1973. (C. St. J. A. Nash-Williams) **50** #9703 05C99

(*with* Goodman, Seymour E.) On Hamiltonian walks in graphs. *Proceedings of the Fourth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1973), *pp.* 335–342. *Utilitas Math., Winnipeg, Man.*, 1973. (J. A. Bondy) **50** #9691 05C35

Hereditary properties of graphs. *J. Combinatorial Theory Ser. B* **14** (1973), 94–99. (J. Mitchem) **47** #4861 05C99

(*with* Goodman, Seymour E.) Eulerian walks in graphs. *SIAM J. Comput.* **2** (1973), 16–27. (J. W. Moon) **47** #3252 05C99

(*with* Goodman, Seymour E.) On the Hamiltonian completion problem. *Graphs and combinatorics* (*Proc. Capital Conf., George Washington Univ., Washington, D.C.*, 1973), *pp.* 262–272. *Lecture Notes in Math., Vol.* 406, *Springer, Berlin*, 1974. (A. J. Schwenk) **51** #10156 05C35

(*with* Goodman, Seymour E.; Slater, Peter J.) Some results on the optional and non-optional Hamiltonian completion problem. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1974), *pp.* 423–448. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.*, 1974. (L. V. Quintas) **51** #262 05C35

(*with* Cockayne, Ernest J.) Independence graphs. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1974), *pp.* 471–491. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.*, 1974. (J. W. Moon) **50** #9642 05Cxx

(*with* Goodman, Seymour E.) Sufficient conditions for a graph to be Hamiltonian. *J. Combinatorial Theory Ser. B* **16** (1974), 175–180. (H. V. Kronk) **50** #9690 05C35

(*with* Goodman, Seymour E.) On Hamiltonian walks in graphs. *SIAM J. Comput.* **3** (1974), 214–221. (A. T. Amin) **55** #5480 05C35

(*with* Mitchell, S.; Goodman, Seymour E.) Some linear algorithms on trees. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 467–483. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (A. C. Shershin) **53** #4609 68A10 (05C05)

(*with* Cockayne, Ernest J.) Optimal domination in graphs. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), *no.* 11, 855–857. (Diane Johnson) **52** #5482 05C99

(*with* Goodman, Seymour E.; Slater, Peter J.) Advances on the Hamiltonian completion problem. *J. Assoc. Comput. Mach.* **22** (1975), 352–360. (Jean-Claude Bermond) **52** #184 05C35

(*with* Cockayne, Ernest J.) A linear algorithm for the maximum weight of an independent set in a tree. *Proceedings of the Seventh Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1976), *pp.* 217–228. *Congressus Numerantium, No. XVII, Utilitas Math., Winnipeg, Man.*, 1976. (Takao Ozawa) **55** #10300 05C05 (68A10)

(*with* Cockayne, Ernest J.) Disjoint independent dominating sets in graphs. *Discrete Math.* **15** (1976), *no.* 3, 213–222. (B. Manvel) **53** #13037 05C99

(*with* Slater, Peter J.; Goodman, Seymour E.) On the optional Hamiltonian completion problem. *Networks* **6** (1976), *no.* 1, 35–51. (Authors' summary) **57** #2998 05C35

(*with* Goodman, Seymour E.; Tarjan, Robert Endre) b-matchings in trees. *SIAM J. Comput.* **5** (1976), *no.* 1, 104–108. (Herbert J. Bernstein) **53** #12067 68A10 (05C35)

(*with* Cockayne, Ernest J.) Which trees do not have disjoint matchings. *Utilitas Math.* **9** (1976), 329–337. (Authors' summary) **54** #119 05C05

(*with* Goodman, Seymour E.) ★Introduction to the design and analysis of algorithms. McGraw-Hill Computer Science Series. *McGraw-Hill Book Co., New York-Auckland-Bogotá*, 1977. xi+371 *pp.* (From the preface) **58** #8421 68–01

(*with* Beyer, T.; Proskurowski, Andrzej; Mitchell, S.) Independent domination in trees. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 321–328. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (Curtis R. Cook) **58** #5304 05C05 (68A20)

(*with* Mitchell, S.) Edge domination in trees. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 489–509. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (From the introduction) **58** #13894 68A10 (68A20)

(*with* Spresser, Diane M.) A property of trees in terms of unique connected subgraphs. *J. Graph Theory* **1** (1977), *no.* 4, 335–337. (S. F. Kapoor) **57** #156 05C05

(*with* Cockayne, Ernest J.) Disjoint cliques in regular graphs of degree seven and eight. *J. Combinatorial Theory Ser. B* **24** (1978), *no.* 2, 233–237. (Dennis P. Geller) **58** #375 05C99

Hedlund, Gustav Arnold (*with* Coven, Ethan M.) Sequences with minimal block growth. *Math. Systems Theory* **7** (1973), 138–153. (R. Ellis) **48** #1199 54H20

See also **Recent advances in topological dynamics**, **51** #6880

Hedlund, James H. Limits of nilpotent and quasinilpotent operators. *Michigan Math. J.* **19** (1972), 249–255. (C. R. Putnam) **46** #2478 47B99

Strongly strictly cyclic weighted shifts. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 119–121. (A. Lambert) **53** #6349 47B37

Hedman, Bruce A sufficient condition for n-short-connectedness. *Math. Mag.* **47** (1974), 156–157. (G. Chartrand) **52** #186 05C35

n-bathycenters. *Geometriae Dedicata* **5** (1976), *no.* 1, 51–70. (G. Ewald) **55** #11144 52A10 (50D15)

Hedrick, Mark Blondeau The permanent at a minimum on certain classes of doubly stochastic matrices. *Bull. Amer. Math. Soc.* **80** (1974), 836–838. (D. London) **50** #13083 15A51

p-minors of a doubly stochastic matrix at which the permanent achieves a minimun. *Linear Algebra and Appl.* **10** (1975), 177–179. (A. Lee) **50** #13084 15A51

Nonnegative matrices each of whose positive diagonals has the same sum. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 399–403. (Thomas L. Markham) **54** #2696 15A48

Hedrlín, Z. Extensions of structrures and full embeddings of categories. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 319–322. *Gauthier-Villars, Paris*, 1971. (H. Gonshor) **54** #7575 18B15

(*with* Chvátal, Václav; Erdős, Paul) Ramsey's theorem and self-complementary graphs. *Discrete Math.* **3** (1972), 301–304. (F. Harary) **47** #1674 05C99 (94A10)

Hedstrom, G. W. Some numerical experiments with Dafermos's method for nonlinear hyperbolic equations. *Numerische Lösung nichtlinearer partieller Differential- und Integrodifferentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1971), *pp.* 117–138. *Lecture Notes in Math., Vol.* 267, *Springer, Berlin*, 1972. (Nima Geffen) **50** #9169 76.65

(*with* Burden, Richard L.) The distribution of the eigenvalues of the discrete Laplacian. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 475–488. (V. Thomée) **48** #12870 65N25

The accuracy of Dafermos' method for nonlinear hyperbolic equations. *Proceedings of Equadiff III* (*Third Czechoslovak Conf. Differential Equations and their Applications, Brno*, 1972), *pp.* 175–178. *Folia Fac. Sci. Natur. Univ. Purkynianae Brunensis, Ser. Monograph., Tomus* 1, *Purkyně Univ., Brno*, 1973. (E. D. Conway) **49** #11063 35L65 (65M99)

Models of difference schemes for $u_t + u_x = 0$ by partial differential equations. *Math. Comp.* **29** (1975), *no.* 132, 969–977. (V. Thomée) **52** #9631 65M15

(*with* Chin, Raymond C. Y.) A dispersion analysis for difference schemes: tables of generalized Airy functions. *Math. Comp.* **32** (1978), *no.* 144, 1163–1170. (Philip Brenner) **58** #13753 65M10

Hedstrom, John R. Domains of Krull type and ideal transforms. *Math. Nachr.* **53** (1972), 101–118. (M. Nagata) **47** #8502 13A15

G-domains and property (T). *Math. Nachr.* **56** (1973), 125–129. (J. W. Brewer) **48** #6092 13G05

Integral closure of generalized quotient rings. *Math. Nachr.* **69** (1975), 145–148. (From the author's text) **56** #3042 16A08

(*with* Houston, Evan G., Jr.) Pseudo-valuation domains. II. *Houston J. Math.* **4** (1978), *no.* 2, 199–207. (W. Heinzer) **58** #5615b 13A15 (13G05)

(*with* Houston, Evan G., Jr.) Pseudo-valuation domains. *Pacific J. Math.* **75** (1978), *no.* 1, 137–147. (W. Heinzer) **58** #5615a 13A15 (13G05)

Hée, Jean-Yves Une condition d'existence d'un p-complément normal dans un groupe fini. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 13, Aii, A877–A879. (U. Schoenwaelder) **51** #8242 20D15

van Hee, Kees M. Approximations in Bayesian controlled Markov chains. *Markov decision theory* (*Proc. Adv. Sem., Amsterdam*, 1976), *pp.* 171–182. *Math. Centre Tracts, No.* 93, *Math. Centr., Amsterdam*, 1977. (Jaap Wessels) **58** #4346 90C40

(*with* Hordijk, Arie; van der Wal, J.) Successive approximations for convergent dynamic programming. *Markov decision theory* (*Proc. Adv. Sem., Amsterdam*, 1976), *pp.* 183–211. *Math. Centre Tracts, No.* 93, *Math. Centr., Amsterdam*, 1977. (Jaap Wessels) **58** #4347 90C40

(*with* Groenewegen, Lucas Petrus Jozef) Markov decision processes and quasi-martingales. *Recent developments in statistics* (*Proc. European Meeting Statisticians, Grenoble*, 1976), *pp.* 453–459. *North-Holland, Amsterdam*, 1977. (A. A. Juškevič) **57** #18839 90C40 (60G45)

★Bayesian control of Markov chains. Proefschrift, Technische Hogeschool Eindhoven, Eindhoven, March 10, 1978. With a Dutch summary. *Mathematisch Centrum, Amsterdam*, 1978. iii+193 *pp.* (*loose supplement*) (From the introduction) **58** #20471 90C40 (93E20)

Markov strategies in dynamic programming. *Math. Oper. Res.* **3** (1978), *no.* 1, 37–41. (H. Taylor) **58** #4348 90C40

Heed, Joseph J. (*with* Kelly, Lucille) An interesting sequence of Fibonacci sequence generators. *Fibonacci Quart.* **13** (1975), 29–30. (D. G. Cantor) **52** #13601 10A10

(*with* Kelly, Lucille A.) Entry points of the Fibonacci sequence and the Euler ϕ function. *Fibonacci Quart.* **16** (1978), *no.* 1, 47–50. (H. London) **57** #5889 10A35

Heegaard, Poul *See* **Lie, Sophus**, **52** #13276; **Lie, Sophus**, **52** #13277; **Lie, Sophus**, **52** #13278; **Lie, Sophus**, **52** #13279; **Lie, Sophus**, **52** #13280 *and* **Lie, Sophus**, **52** #13281

Heelan, Patrick A. Complementarity, context dependence, and quantum logic. *Found. Phys.* **1** (1970/71), 95–110. (R. Piziak) **47** #8014 81.02

Quantum and classical logic: their respective roles. Symposium on Problems of Quantum Theory. *Synthese* **21** (1970), *no.* 1, 2–33. (S. Gudder) **55** #4966 81.02

Heenen, P.-H. (*with* Baye, D.) Étude de quelques problèmes liés à une théorie complètement antisymétrisée de la matrice R. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **60** (1974), 444–457. (Editors) **50** #3839 82.47

Heerema, Nickolas Exponential automorphisms of complete local rings. *Math. Z.* **122** (1971), *no.* 4, 299–306. (William C. Waterhouse) **54** #2633 13B10

(*with* Deveney, James Kevin) Galois theory for fields K/k finitely generated. *Trans. Amer. Math. Soc.* **189** (1974), 263–274. (S. Yuan) **48** #8462 12F15 (12F10)

(*with* Thwing, Henry W.) Fields of constants of integral derivations on a p-adic field. *Trans. Amer. Math. Soc.* **195** (1974), 277–290. (James K. Deveney) **52** #8102 12F15

A modular Galois theory. *Conference on Commutative Algebra—1975* (*Queen's Univ., Kingston, Ont.*, 1975), *pp.* 95–105. *Queen's Papers on Pure and Applied Math., No.* 42, *Queen's Univ., Kingston, Ont.*, 1975. (James K. Deveney) **52** #13763 12F15

The derivation and automorphism ramification series of complete idealadic rings. *Amer. J. Math.* **97** (1975), *no.* 3, 815–827. (James K. Deveney) **52** #510 16A72 (12B10)

(*with* Kreimer, H. F.) Modularity vs. separability for field extensions. *Canad. J. Math.* **27** (1975), *no.* 5, 1176–1182. (William C. Waterhouse) **52** #13764 12F15

(*with* Deveney, James Kevin) A Galois theory for inertial automorphisms of p-adic fields. *J. Algebra* **36** (1975), *no.* 3, 339–347. (G. Frei-Imfeld) **52** #5629 12B15

(*with* Tucker, David) Modular field extensions. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 301–306. (James K. Deveney) **53** #5551 12F15

pth powers of distinguished subfields. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 2, 287–292. (James K. Deveney) **52** #13762 12F15

Heersink, Rudolf (*with* Florian, Helmut) Über eine partielle Differentialgleichung mit $P+2$ Variablen und deren Zusammenhang mit den allgemeinen Kugelfunktionen. (English summary) *Manuscripta Math.* **12** (1974), 339–349. (J. Mitchell) **51** #8599 (EA

52) 35C10 (33A45)

Partial differential equations with complex variables. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 245–250. (B. Hellwig) **52** #14651 35J99

Operatoren bei einer inhomogenen partiellen Differentialgleichung. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **183** (1975), *no.* 8-10, 361–372. (Vojislav Marić) **53** #8636 35C15

Lösungsdarstellungen mittels Differentialoperatoren für das Dirichlet-problem der Gleichung $\Delta u+c(x,y)u=0$. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 228–238. *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (G. Albinus) **57** #6809 35J05 (35C99)

Über Lösungsdarstellungen und funktionentheoretische Methoden bei elliptischen Differentialgleichungen. *Ber. Math.-Statist. Sekt. Forsch. Graz No.* 67 (1976), 79 *pp.* (St. Ruscheyweyh (Zbl **343** #35020)) **58** #29233 35J99 (35C99)

Characterization of certain differential operators in the solution of linear partial differential equations. *Glasgow Math. J.* **17** (1976), *no.* 2, 83–88. (Zbl **328** #35007) **58** #1545 35C15

Isolierte Singularitäten von Lösungen gewisser elliptischer Differentialgleichungen. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T236–T238. (J. Chrastina) **56** #814 35A20

Heesch, H. Chromatic reduction of the triangulations T_e, $e=e_5+e_7$. *J. Combinatorial Theory Ser. B* **13** (1972), 46–55. (H. V. Kronk) **46** #3359 05C15

Hefez, Abramo (*with* Lazzeri, Fulvio) La matrice di intersezione di un polinomio di Pham-Brieskorn. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **55** (1973), 1–3 (1974). (Editors) **57** #9696 14B05 (32C40)

(*with* Lazzeri, Fulvio) The intersection matrix of Brieskorn singularities. *Invent. Math.* **25** (1974), 143–157. (Helmut Hamm) **53** #418 14B05 (32C40)

Heffes, Harry (*with* Forys, L. J.; Holtzman, J. M.; Horing, S.; Messerli, E. J.; Schwartz, M. I.; Stiles, J. A.) A study of the analysis and control of the flow of air traffic. I, II, III. *Networks* **1** (1971/72), 15–42; *ibid.* **1** (1971/72), 209–243; *ibid.* **1** (1971/72), 303–331. **46** #8650 90B15

Analysis of first-come first-served queuing systems with peaked inputs. *Bell System Tech. J.* **52** (1973), 1215–1228. (P. R. Milch) **48** #9884 60K25

(*with* Holtzman, J. M.) Peakedness of traffic carried by a finite trunk group with renewal input. *Bell System Tech. J.* **52** (1973), 1617 1642. (S. Ekberg) **49** #9984 90Bxx (60K30)

On the output of a $GI/M/N$ queuing system with interrupted Poisson input. *Operations Res.* **24** (1976), *no.* 3, 530–542. (Jos H. A. de Smit) **54** #1419 60K25

Heffron, W. G., Jr. *See* **Control in space, 48** #13320

el-Hefnawi, Mohamed Mahmoud *See* **El-Hefnawi, Mohamed Mahmoud**

Hegazi, A. S. (*with* Bakri, M. M.; El-Batanouny, F. M.) Eigenfunctions of the two-body transformation between laboratory and centre-of-mass co-ordinates. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 12, 423–426. (From the text) **58** #8620 70.53

Hegde, Shanker *See* **Collection: Srinivasiengar, C. N., 49** #4701

Hegde, V. S. (*with* Amur, Krishna) A generalisation of Minkowski formulas for a hypersurface of a Riemannian space. C. N. Srinivasiengar dedication volume. *Progr. Math.* (*Allahabad*) **6** (1972), *no.* 1, 89–99. (Y. Katsurada) **48** #12415 53C40

(*with* Amur, Krishna) Euclidean vector fields on hypersurfaces in Euclidean space and integral formulas. *Tensor* (*N.S.*) **27** (1973), 109–117. (Y. Katsurada) **48** #12425 53C45

(*with* Amur, Krishna) Conformality of Riemannian manifolds to spheres. *J. Differential Geometry* **9** (1974), 571–576. (F. Brickell) **51** #11341 53C20

(*with* Amur, Krishna) Some conditions for conformality of Riemannian manifolds to spheres. *Tensor* (*N.S.*) **28** (1974), 102–106. (C.-C. Hsiung) **51** #8985 53C20

Hege, Vijaya S. A note on unicluster sampling designs. *Calcutta Statist. Assoc. Bull.* **21** (1972), 77–81. (V. P. Godambe) **53** #9448 62D05

Hegedűs, Cs. J. Laurent expansion of an inverse of a function matrix. *Period. Math. Hungar.* **6** (1975), 75–86. (L. Fox) **51** #9461 65F30

A method for calculating the reciprocal coefficients of function matrices. (German summary) *Computing* **16** (1976), *no.* 1-2, 29–37. (Colin M. Campbell) **55** #4607 65D20

On finding the closest ray of a polyhedral cone to a given vector. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T330–T331. (Tomas Gal) **56** #2392 90C30

Hegedus, D. H. (*with* Cowin, Stephen C.) Bone remodeling. I. Theory of adaptive elasticity. (German summary) *J. Elasticity* **6** (1976), *no.* 3, 313–326. (C.-C. Wang) **58** #8628a 73.00

(*with* Cowin, Stephen C.) Bone remodeling. II. Small strain adaptive elasticity. (German summary) *J. Elasticity* **6** (1976), *no.* 4, 337–352. (C.-C. Wang) **58** #8628b 73.00

Hegedűs, J. (*with* Kovač, Ju. Ī.) A certain two-sided iteration method of solving a boundary value problem with lag. (Russian) *Acta Sci. Math.* (*Szeged*) **36** (1974), 69–89. (K. Smítalová) **51** #6087 34K10

(*with* Kovač, Ju. Ī.) A certain two-sided iteration method for the solution of a boundary value problem for a differential equation with retarded argument that is given in implicit form. (Russian) *Acta Sci. Math.* (*Szeged*) **36** (1974), 357–368. (Tadeusz Dłotko) **51** #10808 34K10

On a two-sided iterative method. *Differential equations* (*Colloq., Keszthely*, 1974), *pp.* 277–290. *Colloq. Math. Soc. János Bolyai, Vol.* 15, *North-Holland, Amsterdam*, 1977. (Peter Lancaster) **58** #19111 65J05 (34A45)

On the problem of the choice of first approximants in a two-sided iteration method. *Acta Sci. Math.* (*Szeged*) **39** (1977), *no.* 3-4, 273–289. **58** #28768 34A45

Hegedüs, Miklós (*with* Szép, Jenö) ★On equilibrium systems. I. Report DM 73-4. *Department of Mathematics, Karl Marx University of Economics, Budapest*, 1973. 37 *pp.* (Editors) **53** #2319 90A15

★Fixed point theorems in metric spaces, and their applications. I. Report DM 1973-1. *Karl Marx University of Economics, Budapest*, 1973. i + 29 *pp.* (Heinrich Steinlein) **55** #11228a 54H25

(*with* Szép, Jenö) Equilibrium systems. I. (Hungarian. English and Russian summaries) *Szigma-Mat.-Közgazdasági Folyóirat* **6** (1973), 254–272. (Authors' summary) **48** #13201 90A15

(*with* Szép, Jenö) ★On equilibrium systems. II. Report DM 74-3. *Department of Mathematics, Karl Marx University of Economics, Budapest*, 1974. 30 *pp.* (Edito **53** #2321 90A15

★Fixed point theorems in metric spaces, and their applications. II. Report D 1975-1. *Karl Marx University of Economics, Budapest*, 1974. i + 36 *pp.* (Heinrich Steinlein) **55** #11228b 54H25

(*with* Szép, Jenö) Equuilibrium systems. II. (Hungarian. English and Russian summaries) *Szigma–Mat.-Közgazdasági Folyóirat* **7** (1974), 177–190. (Authors' summary) **53** #2320 90A15

(*with* Szép, Jenö) Equilibrium systems. III. (Hungarian. English and Russian summaries) *Szigma—Mat.-Közgazdasági Folóirat* **8** (1975), *no.* 2–3, 101–110. (Autho summary) **55** #7327 90A15

Hegelund, Flemming (*with* Swanstrøm, Peter) Molecular properties. *Computational techniques in quantum chemistry and molecular physics* (*Proc. NATO Adv. Study In Ramsau*, 1974), *pp.* 299–345. *NATO Advanced Study Inst. Ser., Ser. C: Math. and Ph Sci., Vol.* 15, *Reidel, Dordrecht*, 1975. (J. V. Greenman) **56** #10634 82.02 (81.47)

Hegemann, Victor (*with* Johnson, Dallas E.) Procedures to generate random matrices wi noncentral distributions. *Comm. Statist.* **3** (1974), 691–699. (Authors' summary) **50** #11590 62E25 (62H10)

Hegenbarth, Friedrich Examples of free involutions on manifolds. *Math. Ann.* **224** (197 *no.* 2, 117–128. (Allan Edmonds) **55** #1370 57E15

Hegerfeldt, Gerhard C. (*with* Melsheimer, Olaf) The form of representations of the canonical commutation relations for Bose fields and connection with finitely ma degrees of freedom. *Comm. Math. Phys.* **12** (1969), 304–323. (Zbl **183** #289) **58** #88 81.34

Decomposition into irreducible representations for the canonical commutati relations. (Italian and Russian summaries) *Nuovo Cimento B*(11) **4** (1971), 225–244. (Araki) **46** #4882 81.46

(*with* Borchers, Hans-Jürgen) The structure of space-time transformations. *Com Math. Phys.* **28** (1972), 259–266. (R. Göbel) **49** #12027 83.53

On canonical commutation relations and infinite-dimensional measures. *J. Mathematical Phys.* **13** (1972), 45–50. (H. Araki) **45** #9615 81.46

Gårding domains and analytic vectors for quantum fields. *J. Mathematical Phys.* (1972), 821–827. (H. Araki) **45** #9616 81.46

(*with* Borchers, Hans-Jürgen) Über ein Problem der Relativitätstheorie: Wann si Punktabbildungen des R^n linear? *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl.* **1972**, 205–229. (R. I. Pimenov) **46** #8619 83.50 (12A40, 14N99)

The Lorentz transformations: Derivation of linearity and scale factor. (Italian a Russian summaries) *Nuovo Cimento A*(11) **10A** (1972), 257–267. (M. Carmeli) **46** #8610 83.22

(*with* Klauder, John R.) Fields without partners. (Italian and Russian summarie *Nuovo Cimento A*(11) **10** (1972), 723–738. (H. Wakita) **48** #3409 81.47

From Euclidean to relativistic fields and on the notion of Markoff fields. *Com Math. Phys.* **35** (1974), 155–171. (T. Neubrunn) **50** #1669 81.60

Smoothing operators for field domains. *J. Mathematical Phys.* **15** (1974), 621–6 (H. Wakita) **49** #1982 81.47

(*with* Klauder, John R.) Field product renormalization and Wilson-Zimmerma expansion in a class of model field theories. (Italian and Russian summaries) *Nuo Cimento A*(11) **19** (1974), 153–172. (H. Wakita) **52** #9899 81.47

Extremal decomposition of Wightman functions and of states on nuclear *-algebr by Choquet theory. *Comm. Math. Phys.* **45** (1975), *no.* 2, 133–135. (Edward Azo **56** #12921 46L25

Prime field decompositions and infinitely divisible states on Borchers' tensor algebra. *Comm. Math. Phys.* **45** (1975), *no.* 2, 137–151. (Author's summary) **55** #50 81.60

Functional characterization of Markov fields and examples of non-Markovi Euclidean fields. (Italian and Russian summaries) *Nuovo Cimento B*(11) **25** (197 538–546. (T. Neubrunn) **52** #16361 81.46

Probability measures on distribution spaces and quantum field theoretical model *Rep. Mathematical Phys.* **7** (1975), *no.* 3, 403–409. (H. Wakita) **53** #15155 81.28

(*with* Nappi, Chiara Rosanna) Mixing properties in lattice systems. *Comm. Mat Phys.* **53** (1977), *no.* 1, 1–7. (Authors' summary) **58** #25659 82.06

Correlation inequalities for Ising ferromagnets with symmetries. *Comm. Mat Phys.* **57** (1977), *no.* 3, 259–266. (Author's summary) **58** #20119 82.60

(*with* Baumann, Klaus) Is the Wick square infinitely divisible? *J. Mathematic Phys.* **18** (1977), *no.* 1, 171–172. (Thomas Spencer) **58** #25760 83.53

See also **Elementary particle physics: multiparticle aspects, 48** #1597

Hegerich, Robert L. (*with* Greenberg, Harold) A branch search algorithm for the knapsa problem. *Management Sci.* **16** (1969/70), 327–332. (Gerard Meyer) **46** #1082 65K05

Hegering, Heinz-Gerd Zum Rivlin-Problem der simultanen inversen Tschebyscheff-Approximation. *J. Approximation Theory* **10** (1974), 131–150. (David Sprecher) **50** #5303 41A50

Heghinian, Sylva M. (*with* Lee, Austin F. S.) A shift of the mean level in a sequence independent normal random variables—a Bayesian approach. *Technometrics* **19** (197 *no.* 4, 503–506. (Shelemyahu Zacks) **57** #10896 62F15

Hegner, Stephen J. Duality theory for discrete-time linear systems. *J. Comput. System Sc* **17** (1978), *no.* 1, 116–143. (E. G. Manes) **58** #15398 93B25 (93E10)

Hehenberger, Michael (*with* Brändas, Erkki) Determination of Weyl's m-coefficient for continuous spectrum. *Ordinary and partial differential equations* (*Proc. Conf., Uni Dundee, Dundee*, 1974), *pp.* 316–322. *Lecture Notes in Math., Vol.* 415, *Springer, Berli* 1974. (C. A. Swanson) **55** #756 34B20

Hehl, Friedrich W. How does one measure torsion of space-time? *Phys. Lett.* **36a** (1971 225–226. (J. R. Robinson) **46** #8624 83.53

(*with* von der Heyde, Paul) Spin and the structure of space-time. *Ann. Inst. Poincaré Sect. A*(*N.S.*) **19** (1973), 179–196. (H. Treder) **54** #14718 83.53

Spin and torsion in general relativity. I. Foundations. *General Relativity an Gravitation* **4** (1973), *no.* 4, 333–349. (R. Roşca) **53** #7354 83.53

Spin and torsion in general relativity. II. Geometry and field equations. *Gener Relativity and Gravitation* **5** (1974), *no.* 5, 491–516. (R. Roşca) **54** #4534 83.53

(*with* von der Heyde, Paul; Kerlick, G. David) General relativity with spin an torsion and its deviations from Einstein's theory. *Phys. Rev. D* (3) **10** (1974), 1066–1069. (Authors' summary) **53** #10137 83.53

(*with* Kerlick, G. David; von der Heyde, Paul) On a new metric affine theory of gravitation. *Phys. Lett. B* **63** (1976), *no.* 4, 446–448. (M. Sachs) **54** #2096 83.53

On the energy tensor of spinning massive matter in classical field theory and general relativity. *Rep. Mathematical Phys.* **9** (1976), *no.* 1, 55–82. (Elisa Udeshini Brinis) **54** #6865 83.53

(*with* von der Heyde, Paul; Kerlick, G. David; Nester, James M.) General relativity with spin and torsion: foundations and prospect. *Rev. Modern Phys.* **48** (1976), *no.* 3, 393–416. (M. Carmeli) **55** #11902 83.53

(*with* Kerlick, G. David; Lord, Eric A.; Smalley, Larry L.) Hypermomentum and the microscopic violation of the Riemannian constraint in general relativity. *Phys. Lett. B* **70** (1977), *no.* 1, 70–72. (Authors' summary) **57** #11599 83.49

(*with* Kerlick, G. David) Metric-affine variational principles in general relativity. I. Riemannian space-time. *Gen. Relativity Gravitation* **9** (1978), *no.* 8, 691–710. (Authors' summary) **58** #20182 83.49

(*with* Ne'eman, Y.; Nitsch, J.; von der Heyde, Paul) Short-range confining component in a quadratic Poincaré gauge theory of gravitation. *Phys. Lett. B* **78** (1978), *no.* 1, 102–106. (Authors' summary) **58** #20211 83.53

(*with* Lord, Eric A.; Ne'eman, Y.) Hypermomentum in hadron dynamics and in gravitation. *Phys. Rev. D* (3) **17** (1978), *no.* 2, 428–433. (Authors' summary) **57** #4860 81.22

eiberg, Charles H. A proof of a conjecture by Karamata. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **12(26)** (1971), 41–44. (Henryk Fast) **46** #3700 26A12

Functions with asymptotically infinite differences. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **12(26)** (1971), 45–49. (Henryk Fast) **46** #3701 26A12

Norms of powers of absolutely convergent Fourier series of several variables. *J. Functional Analysis* **14** (1973), 382–400. (G. W. Hedstrom) **51** #8733 42A92

Norms of powers of absolutely convergent Fourier series: an example. *Pacific J. Math.* **66** (1976), *no.* 1, 131–152. (B. Schreiber) **55** #13154 42A92

eiberg, J. L. *See* **Euclid**, (Not reviewed); **Euclid**, (Not reviewed); **Euclid**, (Not reviewed); **Euclid**, (Not reviewed); **Euclid**, **50** #6769 *and* **Archimedes**, **58** #27138

eiberger, R. (*with* Fix, George J.) An algorithm for the ill-conditioned generalized eigenvalue problem. *SIAM J. Numer. Anal.* **9** (1972), 78–88. (J. Stoer) **46** #4699 65F15

eiberger, Richard M. Linear models for cell means and reciprocal within cell variances. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 351, *part* 1, 618–623. (U. B. Paik) **52** #15869 62J10

Posterior moments of scalar functions of a covariance matrix. *Comm. Statist.–Simulation Comput.* **B5** (1976), *no.* 2/3, 107–140. (Michael Titterington) **55** #1616 62H10 (65C05, 62F15)

eichelheim, Peter Some remarks on Stolt's theorems for Pellian equations. *Ark. Mat.* **12** (1974), 167–171. (Ezra Brown) **50** #12910 10B05

The general solution in positive integers of the equation $a^2-ab+b^2=c^2$. *J. Recreational Math.* **8** (1975/76), *no.* 4, 249–251. (R. Steiner) **56** #5418 10B05

an der Heide, R. (*with* Hoogstraten, H. W.) A perturbation method for non-linear dispersive waves with an application to water waves. *J. Engrg. Math.* **6** (1972), 341–353. (L. M. Hocking) **51** #2456 76.41

eidel, J. W. Periodic solutions of $x''+f(x)x'^{2n}+g(x)=0$ with arbitrarily large period. *Ann. Polon. Math.* **24** (1970/71), 343–348. (J. A. Marlin) **46** #3910 (E **47** #560) 34C25

Rate of growth of nonoscillatory solutions for the differential equation $\ddot{y}+q(t)|y|^\gamma \operatorname{sgn} y=0$, $0<\gamma<1$. *Quart. Appl. Math.* **28** (1971), 601–606. (C. A. Swanson) **46** #446 34C10

A Liapunov function for a generalized Liénard equation. *J. Math. Anal. Appl.* **39** (1972), 192–197. (D. Willett) **48** #645 34D20

A counterexample in nonlinear boundary value problems. *Proc. Amer. Math. Soc.* **34** (1972), 133–137. (Jagdish Chandra) **45** #2239 34B15

(*with* Hinton, Don B.) The existence of oscillatory solutions for a nonlinear differential equation. *SIAM J. Math. Anal.* **3** (1972), 344–351. (P. C. Das) **49** #5472 34C10

Addenda to: "Periodic solutions of $x''+f(x)x'^{2n}+g(x)=0$ with arbitrarily large period". *Ann. Polon. Math.* **27** (1973), 163–165. (J. A. Marlin) **47** #560 34C25

(*with* Hallam, Thomas G.; Loper, David E.) Some third order initial value problems arising in magnetohydrodynamics. *Indiana Univ. Math. J.* **23** (1973/74), 1077–1096. (Clarence M. Ablow) **49** #4406 76.34

(*with* Kiguradze, I. T.) Oscillatory solutions for a generalized sublinear second order differential equation. *Proc. Amer. Math. Soc.* **38** (1973), 80–82. (J. S. Bradley) **46** #9440 34C10

A third order differential equation arising in fluid mechanics. (German and Russian summaries) *Z. Angew. Math. Mech.* **53** (1973), *no.* 3, 167–170. (L. Erbe) **53** #3398 34B15

(*with* Stafford, R. A.) A new comparison theorem for scalar Riccati equations. *Bull. Amer. Math. Soc.* **80** (1974), 754–757. (R. A. Struble) **49** #7516 34C10

A second-order nonlinear boundary value problem. *J. Math. Anal. Appl.* **48** (1974), 493–503. (L. Erbe) **51** #13336 34B15

(*with* Jones, Gary D.) Asymptotic characterization of solutions of a boundary value problem arising in fluid mechanics. *Z. Angew. Math. Mech.* **55** (1975), 191–192. (I. Kiguradze) **52** #11176 34B15

Heidema, Clare E. Generalized pseudosurface embeddings of graphs and associated block designs. *Theory and applications of graphs* (*Proc. Internat. Conf., Western Mich. Univ., Kalamazoo, Mich.*, 1976), *pp.* 255–270. *Lecture Notes in Math., Vol.* 642, *Springer, Berlin*, 1978. (J. E. Graver) **58** #10492 05B05 (05C10)

Heidema, J. The lattice of radical ideals in a commutative ring is distributive. (Afrikaans. English summary) *Tydskr. Natuurwetenskap.* **10** (1970), 245–249. **45** #5120 13A15

Aspects of model theory. (Afrikaans. English summary) *Tydskr. Natuurwetenskap.* **12** (1972), 37–49. (B. M. Schein (Šaĭn)) **51** #5288 02H05 (02–02)

(*with* Broere, I.) Abstract ideal theory. (Afrikaans) *Algebra Symposium* (*Univ. Pretoria, Pretoria*, 1975), *pp.* 19–44. *Univ. Pretoria, Pretoria*, 1975. (T. de W. Jooste) **58** #28081 16A66 (06A23, 13A15)

See also **Conference: Mathematical Logic**, **48** #5804

Heideman, J. C. (*with* Levy, A. V.) Sequential conjugate-gradient-restoration algorithm for optimal control problems. I. Theory. *J. Optimization Theory Appl.* **15** (1975), 203–222. (Kailash C. Kapur) **50** #10971 49D30 (65K05)

(*with* Levy, A. V.) Sequential conjugate-gradient-restoration algorithm for optimal control problems. II. Examples. *J. Optimization Theory Appl.* **15** (1975), 223–244. (Kailash C. Kapur) **50** #10972 49D30 (65K05)

Heideman, N. J. H. Duality and fractional integration in Lipschitz spaces. *Studia Math.* **50** (1974), 65–85. (G. O. Okikiolu) **49** #9597 46E05 (26A33)

Heidemann, Dirk On the extension of cylinder measures to τ-smooth measures in linear spaces. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 59–65 (1977). (S. A. Čobanjan) **54** #10548 28A40 (60B05)

Heidemann, Klaus ★Experimente zur Booleschen Algebra. PHYWE-Schriftenreihe. *Industrie-Druck GMBH Verlag, Göttingen*, 1972. 103 *pp.* + *inside back cover.* (Editors) **52** #12995 94A20

Heidemann, U. (*with* Mäurer, Helmut) Optimale Steuerprozesse mit Zustandsbeschränkungen. *Optimization and optimal control* (*Proc. Conf., Oberwolfach*, 1974), *pp.* 244–260. *Lecture Notes in Math., Vol.* 477, *Springer, Berlin*, 1975. (Editors) **58** #18032 49A20

an der Heiden, Uwe (*with* Hadeler, K. P.; Rothe, F.) Nonhomogeneous spatial distributions of populations. *J. Math. Biol.* **1** (1974/75), *no.* 2, 165–176. (John M. Chadam) **52** #16721 92A15 (35K55)

On manifolds of equilibria in the selection model for multiple alleles. *J. Math. Biol.* **1** (1974/75), *no.* 4, 321–330. (C. P. Bruter) **52** #12851 92A15 (92A10)

Dominated extension of nonnegative linear functionals. *Arch. Math.* (*Basel*) **26** (1975), *no.* 4, 402–406. (S. Simons) **51** #11054 46A40

Existence of periodic solutions of a nerve equation. *Biol. Cybernet.* **21** (1976), *no.* 1, 37–39. (Author's summary) **57** #16828 34C25 (92A05)

(*with* Hadeler, K. P.; Schumacher, Konrad) Generation of the nervous impulse and periodic oscillations. *Biol. Cybernet.* **23** (1976), *no.* 4, 211–218. (J. Myron Hood) **58** #15279 92A05

Stability properties of neural and cellular control systems. *Math. Biosci.* **31** (1976), *no.* 3-4, 275–283. (Author's summary) **58** #33083 92A05 (34C25)

Structures of excitation and inhibition. *Theoretical approaches to complex systems* (*Proc. Sympos., Tübingen*, 1977), *pp.* 75–88. *Lecture Notes in Biomath., Vol.* 21, *Springer, Berlin*, 1978. (Juan Lin) **58** #9375 92A05

Heider, Charles H. An N-step, 2-variable search algorithm for the component placement problem. *Naval Res. Logist. Quart.* **20** (1973), 699–724. (P. Brock) **48** #13226 90B30 (65K05)

Heidler, Klaus (*with* Börger, Egon) Die m-Grade logischer Entscheidungsprobleme. *Arch. Math. Logik Grundlangenforsch.* **17** (1975/76), *no.* 3-4, 105–111. (Wolfgang Thomas) **57** #2895 02F30 (02G05)

Die Unentscheidbarkeit des Eck-Dominoproblems. *Math.-Phys. Semesterber.* **23** (1976), *no.* 2, 237–250. (L. W. Szczerba) **55** #5427 02G05 (52A45)

(*with* Hermes, Hans; Mahn, Friedrich-K.) ★Rekursive Funktionen. *Bibliographisches Institut Mannheim-Vienna-Zurich*, 1977. vii + 236 *pp.* *ISBN* 3-411-01535-7 (G. Wechsung) **58** #5108 02Fxx

Die Unentscheidbarkeit des Halteproblems auf der Grundlage der Programmiersprache BASIC. *Math.-Phys. Semesterber.* **25** (1978), *no.* 1, 52–78. (David B. Benson) **57** #11144 68–01 (02F15)

Heidorn, G. E. Automatic programming through natural language dialogue: a survey. *IBM J. Res. Develop.* **20** (1976), *no.* 4, 302–313. (S. Huzino) **55** #1766 68–02

Heidrich, Arnošt J. J. On finite differences, permutations, and quadratic residues. *J. Number Theory* **9** (1977), *no.* 4, 413–419. (K. S. Williams) **56** #11879 10A10

Heidrich, Carl H. *See* **Semantics and communication**, **49** #4731

Heidrich, J. (*with* Kazes, E.) Derivative analyticity relations. *Lett. Nuovo Cimento* (2) **12** (1975), 365–367. (Authors' summary) **53** #15161 81.30

Heidrich, W. *See* **Moiseev, N. N.**, **50** #9311 *and* **Timofeev, B. B.; et al.**, **57** #11848

Heidt, M. Die numerische Lösung linearer Differentialgleichungen zweiter Ordnung mit konstanten Koeffizienten. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), *no.* 2, 143–154. (Abbas I. Abdel Karim) **52** #16042 65L99

Heĭfec, È. P. (*with* Osipov, È. P.) The energy-momentum spectrum in the $P(\varphi)_2$ quantum field theory. *Comm. Math. Phys.* **56** (1977), *no.* 2, 161–172. (Jean-Paul Marchand) **58** #8934 81.47

(*with* Osipov, È. P.) The energy-momentum spectrum in the Yukawa$_2$ quantum field theory. *Comm. Math. Phys.* **57** (1977), *no.* 1, 31–50. (G. Costa) **57** #2311 81.47

Heĭfec, M. I. (*with* Bodanskiĭ, E. D.) Statistical estimates of drifting trihedron orientation determination errors. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1975**, *no.* 3, 28–34 (*Russian*); *translated as Mechanics of Solids* **10** (1975), *no.* 3, 23–28. (V. G. Kolomiec) **53** #2099 70.60 (70.34)

Heĭfec, S. A. (*with* Derbenëv, Ja. S.) Derivation of a kinetic equation for a model system with discrete spectrum without the correlation damping. (Russian. English summary) *Teoret. Mat. Fiz.* **31** (1977), *no.* 2, 220–232. (Authors' summary) **58** #32666 82.45

Heĭfec, S. B. (*with* Taft, V. A.) Application of a generalization of Hill's method to the investigation of stability of linear systems with variable parameters. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 5, 163–170 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 5, 854–861. (Guy Jumarie) **50** #6600 93D99

(*with* Taft, V. A.) The application of the generalized Hill method to the investigation of systems with distributed and periodic parameters. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy No.* 433 *Mat. Metody i Primenen. v Zadačah Transporta* (1973), 104–110, 155. (Russell C. Thompson) **50** #6188 65P05

Heifets, Edward P. *See* **Heĭfec, È. P.**

Heĭfic, A. I. Representation of analytic functions of infinite order in an open halfplane. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **6** (1971), *no.* 6, 472–476. (W. C. Royster) **47** #479 30A86

A generalization of E. Titchmarsh's theorem on entire functions with negative zeros. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 2(129), 99–105. (G. Halász) **47** #8851 30A64

A certain class of functions analytic in the half-plane and of completely regular growth in curvilinear domains. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.*

17 (1973), 130–140, 245. (Peter Russev) **48** #11516 30A78

Indicators of functions analytic in an open half-plane, and of order less than one, that are of completely regular growth in interior angles. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 4, 899–910. (R. P. Boas, Jr.) **52** #8426 30A64

Subharmonic functions of completely regular growth in the half-plane. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 2, 282–285. (Ü. Kuran) **58** #1188 31A05

van Heijenoort, Jean ★El desarrollo de la teoría de la cuantificación. (Spanish) [The development of the theory of quantification] Instituto de Investigaciones Filosóficas, Universidad Nacional Autónoma de México, Cuaderno 32. [Institute of Philosophical Research, Autonomous National University of Mexico, Mem. No. 32] *Instituto de Investigaciones Filosóficas, Universidad Nacional Autónoma de México, Mexico City*, 1976. 57 *pp.* (Mario Bunge) **53** #5239 02–03 (02B10)

Set-theoretic semantics. *Logic Colloquium* 76 (*Oxford*, 1976), *pp.* 183–190. *Studies in Logic and Found. Math., Vol.* 87, *North-Holland, Amsterdam*, 1977. (Haim Gaifman) **58** #10270 02A05 (02H10)

Sense in Frege. *J. Philos. Logic* **6** (1977), *no.* 1, 93–102. (Perry Smith) **58** #4990a 02A05 (00A25, 02–03)

Frege on sense identity. *J. Philos. Logic* **6** (1977), *no.* 1, 103–108. (Perry Smith) **58** #4990b 02A05 (00A25, 02–03)

See also **Herbrand, Jacques**, **51** #2844

Heijting, A. *See* **Heyting, A.**

Heikkilä, Ossi (*with* Halme, Aarne; Hämäläinen, Raimo P.; Laaksonen, Osmo) On synthesizing a state regulator for analytic non-linear discrete-time systems. *Internat. J. Control* **20** (1974), 497–515. (Kailash C. Kapur) **50** #4044 93C55

Heikkilä, Seppo On the complete integrability of the first order total differential equation. *Ann. Acad. Sci. Fenn. Ser. A I No.* 495 (1971), 33 *pp.* (Shui-Nee Chow) **45** #8967 34G05 (46G05)

On the method of successive approximations for functional differential equations of retarded type. *Rend. Accad. Naz. XL* (4) **24/25** (1973/74), 239–251 (1975). (Yiannis Sficas) **54** #677 34K05

On radial and total solutions of total differential equations. *Acta Univ. Oulu. Ser. A Sci. Rerum Natur. No.* 30 *Math. No.* 9 (1975), 20 *pp.* (M. Artola) **57** #6698 34G05 (35R20)

(*with* Seikkala, Seppo) On the estimation of solutions to functional differential equations. *Acta Univ. Oulu. Ser. A Sci. Rerum Natur. No.* 35 *Math. No.* 11 (1975), 9 *pp.* (M. Artola) **57** #6715 34K05

On the method of successive approximations for Volterra integral equations. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **1** (1975), *no.* 1, 39–47. (J. M. Cushing) **52** #8846 45L05

On mild and strict solutions of nonlinear functional differential equations. *Rend. Accad. Naz. XL* (5) **1/2** (1975/76), 43–54 (1977). (Marshall Slemrod) **57** #929 35R20 (34K05)

(*with* Seikkala, Seppo) On fixed points through cluster values of iterates. *Nonlinear Anal.* **1** (1976/77), *no.* 6, 603–606. (S. Swaminathan) **58** #31024 54H25

(*with* Seikkala, Seppo) On the estimation of successive approximations in abstract spaces. *J. Math. Anal. Appl.* **58** (1977), *no.* 2, 378–383. (Jerome Eisenfeld) **55** #13302 47H10 (65J05)

Heil, Erhard Eine Verschärfung der Bieberbachschen Ungleichung und einige andere Abschätzungen für ebene konvexe Bereiche. *Elem. Math.* **27** (1972), 4–8. (Z. Nádeník) **45** #2574 52A40

Sechsscheitelsätze für Ovale. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 439–447. (L. A. Santaló) **48** #9549 52A10

Geometrische Behandlung der Hill'schen Differentialgleichung. *Symposia Mathematica, Vol. XI* (*Convegno di Geometria, INDAM, Rome*, 1972), *pp.* 337–346. *Academic Press, London*, 1973. (J. W. Heidel) **48** #11680 34C25

★Differentialformen und Anwendungen auf Vektoranalysis, Differentialgleichungen, Geometrie. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1974. v + 202 *pp.* (H. W. Guggenheimer) **50** #11055 53A45 (58A10)

(*with* Laugwitz, Detlef) Finsler spaces with similarity are Minkowski spaces. *Tensor* (*N.S.*) **28** (1974), 59–62. (H. Rund) **50** #8392 53C60

Eigenvalue estimates for Hill's equation. *J. Differential Equations* **18** (1975), 179–187. (H. Hochstadt) **51** #6013 34B05

(*with* Douglas, Volker; Lübbert, Christoph) Geradenfamilien, Enveloppen und Evoluten. *J. Reine Angew. Math.* **283/284** (1976), 370–383. (P. Scherk) **53** #6476 53C70 (52A10)

Ungleichungen für die Quermassintegrale polarer Körper. (English summary) *Manuscripta Math.* **19** (1976), *no.* 2, 143–149. (W. J. Firey) **53** #9035 52A20

Heil, Wolfgang H. A counterexample to a generalized loop theorem. *Yokohama Math. J.* **19** (1971), *no.* 2, 141–142. (James W. Cannon) **53** #14496 57A10

On certain fiberings of $M^2 \times S^1$. *Proc. Amer. Math. Soc.* **34** (1972), 280–286. (R. J. Milgram) **46** #2675 55F05

(*with* Gordon, C. McA.) Simply-connected branched coverings of S^3. *Proc. Amer. Math. Soc.* **35** (1972), 287–288. (R. H. Fox) **45** #5989 55A25

On Kneser's conjecture for bounded 3-manifolds. *Proc. Cambridge Philos. Soc.* **71** (1972), 243–246. (W. Haken) **47** #1060 57A10

Corrigendum: "On 3-manifolds with sufficiently large decompositions" (Canad. J. Math. **23** (1971), 746–748). *Canad. J. Math.* **25** (1973), 1120. (W. Haken) **50** #3230 57A10

Almost sufficiently large Seifert fiber spaces. *Michigan Math. J.* **20** (1973), 217–223. (J. S. Birman) **51** #14060 57A10

Testing 3-manifolds for projective planes. *Pacific J. Math.* **44** (1973), 139–145. (E. M. Brown) **48** #3054 57A10 (55A05)

3-manifolds that are sums of solid tori and Seifert fiber spaces. *Proc. Amer. Math. Soc.* **37** (1973), 609–614. (B. G. Casler) **50** #8526 57A10

Elementary surgery on Seifert fiber spaces. *Yokohama Math. J.* **22** (1974), 135–139. (W. A. LaBach) **51** #11515 57A10

Some finitely presented non-3-manifold groups. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 497–500. (J. S. Birman) **55** #11236 55A05 (57A10)

(*with* Gordon, C. McA.) Cyclic normal subgroups of fundamental groups of 3-manifolds. *Topology* **14** (1975), *no.* 4, 305–309. (Benny Evans) **53** #4067 57A1

On punctured balls in manifolds. *Pacific J. Math.* **68** (1977), *no.* 1, 81–83. (Paul Duvall) **56** #3844 57A35

Heilbronn, Hans Arnold (*with* Davenport, Harold) On the density of discriminants cubic fields. II. *Proc. Roy. Soc. London Ser. A* **322** (1971), *no.* 1551, 405–420. (J. Armitage) **58** #10816 12A30 (12A45, 12A75)

On real simple zeros of Dedekind ζ-functions. *Proceedings of the Number Theo Conference* (*Univ. Colorado, Boulder, Colo.*, 1972), *pp.* 108–110. *Univ. Colorado, Boulde Colo.*, 1972. (Larry J. Goldstein) **52** #10616 10H10 (12A70)

On real zeros of Dedekind ζ-functions. *Canad. J. Math.* **25** (1973), 870–873. (Kubota) **48** #6061 12A70

See also **Chalk, J. H. H.**, **53** #10531; **Cassels, J. W. S.; et al.**, **55** #7687; **Collected papers: Hardy, Godfrey Harold**, **58** #16072 *and* **Collected papers: Hard Godfrey Harold**, **58** #16073

Heilbrunner, S. Das Problem der 'unendlichen Modi' in ALGOL 68. *Vierte Jahrestagur der Gesellschaft für Informatik* (*Berlin*, 1974), *pp.* 131–139. *Lecture Notes in Comput. Sc Vol.* 26, *Springer, Berlin*, 1975. (Immo O. Kerner) **52** #7185 68A05

Heiler, Siegfried ★Wirtschaftsprognosen auf der Grundlage der Theorie schwach stationärer Prozesse. Wirtschaftswissenschaftliche Schriften, Heft 10. *Verlag Ant Hain, Meisenheim am Glan*, 1971. iii + 100 *pp.* (P. Laurie Davies) **54** #6421 62M (60G10, 90A20)

Some recent developments in the analysis of component models for economic tim series. (German, French and Russian summaries) *Statist. Hefte* (*N.F.*) **18** (1977), *no.* 154–180. (From the introduction and summary) **58** #8088 62M10 (90A20)

Wahrscheinlichkeitstheoretische Grundlagen für Komponentenmodelle bei ökonomischen Zeitreihen. *Statist. Hefte* (*N.F.*) **18** (1977), *no.* 4, 281–286. (P. Laur Davies) **58** #13579 62M99 (90A20)

Heilig, B. (*with* Menges, Günter; Zwer, R.) Das Heidelberger Modell–ein zweiter Bericht insbesondere über die wirtschaftsstatistischen Grundlagen. (English, French and Russian summaries) *Statist. Hefte* (*N.F.*) **17** (1976), *no.* 4, 230–266. (Authors' summary **56** #4759 90A15

Heilmann, Ole J. (*with* Kleitman, Daniel J.; Lieb, Elliott H.; Sherman, Seymour) Som positive definite functions on sets and their application to the Ising model. *Discret Math.* **1** (1971/72), *no.* 1, 19–27. (T. Arai) **46** #10342 82.05 (05A05)

Location of the zeros of the grand partition function of certain classes of lattic gases. *Studies in Appl. Math.* **50** (1971), 385–390. (E. G. Straus) **46** #3327 05A1 (82.62)

(*with* Lieb, Elliott H.) Theory of monomer-dimer systems. *Comm. Math. Phys.* **2** (1972), 190–232. (Authors' summary) **45** #6337 82.05

The use of reflection as symmetry operation in connection with Peierls' argument. *Comm. Math. Phys.* **36** (1974), 91–114. (Author's summary) **49** #1998 82.05

(*with* van Kampen, N. G.) Stochastic nonlinear differential equations. I. *Physica* **7** (1974), 279–289. (A. N. V. Rao) **54** #1377 60H10

(*with* Abraham, Douglas B.) Lattice models for hydrogen-bounded solvents. *J Statist. Phys.* **13** (1975), *no.* 6, 15–41. (Ole J. Heilmann) **56** #7666a 82.05

(*with* Abraham, Douglas B.) Lattice models of hydrogen-bounded solvents. II. *J Statist. Phys.* **13** (1975), *no.* 6, 461–472. (Ole J. Heilmann) **56** #7666b 82.05

(*with* Kjaer, K. H.) The Kirkwood-Salsburg equations for lattice gases with har cores. *Phys. Lett. A* **58** (1976), *no.* 5, 287–289. (J. E. Lowther) **54** #6815 82.47

Heilmann, Wolf-Rüdiger On the closedness of a class of decision functions. (Germa summary) *Operations Research Verfahren, Band XX, pp.* 26–30. *Hain, Meisenheim an Glan*, 1975. (Author's summary) **56** #14558 90A05

Generalized linear programming in Markovian decision problems. *Dynamisch Optimierung* (*Tagung, Inst. Angew. Math., Univ. Bonn, Bonn*, 1976), *pp.* 33–39. *Bonne Math. Schriften, No.* 98, *Inst. Angew. Math., Univ. Bonn, Bonn*, 1977. (È. I. Kistauri **58** #26024 90C40 (90C05)

Linear programming of dynamic programs with unbounded rewards. (Germar summary) *Operations Research Verfahren, XXIV, pp.* 94–105. *Hain, Meisenheim*, 1977 (Author's summary) **58** #32945 90C15 (90C05)

Optimal selectors for stochastic linear programs. *Appl. Math. Optim.* **4** (1977/78), *no.* 2, 139–142. (Author's summary) **57** #15439 90C15

Stochastische dynamische Optimierung als Spezialfall linearer Optimierung in halbgeordneten Vektorräumen. *Manuscripta Math.* **23** (1977/78), *no.* 1, 57–66. (K Hinderer) **58** #15200 90C40

Solving stochastic dynamic programming problems by linear programming—an annotated bibliography. (German summary) *Z. Operations Res. Ser. A-B* **22** (1978), *no.* 1, A43–A53. (Author's summary) **57** #2558 90C15

Heim, Roland *See* **Theoretical approaches to complex systems**, **57** #15541

Heĭman, V. K. *See* **Hayman, W. K.**

Heimann, Bodo Zur Abschirmung von periodischen und zufälligen Einwirkungen durch ein mechanisches Schwingungssystem mit mehreren Freiheitsgraden. *Monatsb. Deutsch. Akad. Wiss. Berlin* **13** (1971), 9–18. (B. Dolapčiev) **46** #6668 70.34 (70.60)

Berechnung stationärer Schwingungen eines nichtlinearen Schwingungssystems ohne vorherige Hauptachsentransformation. *Wiss. Z. Techn. Univ. Dresden* **20** (1971), 771–780. (K. Forster) **46** #10262 70.65

Übertragung von Zufallsfunktionen durch nichtlineare (trägheitslose) Systeme. *Beiträge zur Schwingungstheorie, pp.* 1–18. *Schr. Zentralinst. Math. Mech. Akad. Wiss. der DDR, Heft* 19, *Akademie-Verlag, Berlin*, 1974. (H. S. Witsenhausen) **51** #9183 60G35 (93E10)

Heimann, David (*with* Neuts, Marcel F.) The single server queue in discrete time-numerical analysis. IV. *Naval Res. Logist. Quart.* **20** (1973), 753–766. (D. Stoyan (Zbl **281** #60110)) **51** #7045 60K25 (65C99)

Heimann, P. M. "Geometry and nature": Leibniz and Johann Bernoulli's theory of motion. *Centaurus* **21** (1977), *no.* 1, 1–26. (Editors) **58** #26962 01A50

Heimbeck, Günter Zur gruppentheoretischen Kennzeichnung elliptischer Bewegungsgruppen. *Arch. Math.* (*Basel*) **28** (1977), *no.* 4, 374–377. (H. Lüneburg) **56** #5743 20H15 (50C05)

Endliche verallgemeinerte metrische Ebenen mit starren Richtelementen. *Arch. Math.* (*Basel*) **30** (1978), *no.* 1, 27–39. (F. A. Sherk) **57** #13673 50C25 (50A15)

mendinger, Catherine La dimension de Gel'fand-Kirillov. *Groupe d'Étude d'Algèbre* (*Marie-Paule Malliavin*, *2e année*: 1976/77), *Exp. No.* 2, 19 *pp. Secrétariat Math.*, *Paris*, 1978. (Anthony Joseph) **58** #643 13C15

mer, Richard L. (*with* Langenbach, Herbert) The stamp problem. *J. Recreational Math.* 7 (1974), *no.* 3, 235–250. (R. L. Graham) **58** #5474a 10–04

See also **Kierstead, Friend H., Jr., 58** #5474b

imes, K. A. On the solute distribution at a moving phase boundary. *Quart. Appl. Math.* **30** (1972/73), 341–344. (S. Bhargava) **54** #1898 80.35

(*with* Heckenbach, A.) Real solutions of $y''=Ay^2+2By+C$. *Amer. Math. Monthly* **83** (1976), *no.* 2, 129–131. (H. Herold) **53** #3391 34A25

Green's functions for linear second order systems. *SIAM J. Math. Anal.* **9** (1978), *no.* 1, 207–214. (J. A. Goldstein) **57** #3547 34G05

imes, Reinhard (*with* Stöcker, Ralph) Coverings of surfaces. *Arch. Math.* (*Basel*) **30** (1978), *no.* 2, 181–187. (M. L. Curtis) **58** #12995 55A10

in, Carl A. The Poincaré sphere sample space. *Found. Phys.* 7 (1977), *no.* 7–8, 597–608. (R. Piziak) **55** #14026 81.62

in, James L. The convertibility of $\operatorname{Ext}^n_R(-,A)$. *Trans. Amer. Math. Soc.* **195** (1974), 243–264. (R. E. MacRae) **50** #13008 13D99

in, Olaf ★Graphentheorie für Anwender. B.I.-Hochschultaschenbücher, Band 83. *Bibliographisches Institut*, *Mannheim-Vienna-Zurich*, 1977. 141 *pp.* (From the author's foreword) **55** #7817 05Cxx (94A20)

in, W. Innere Lie-Tripelsysteme und $\mathfrak{T}$-Ternäre Algebren. *Math. Ann.* **213** (1975), 195–202. (Joseph C. Ferrar) **51** #12969 17B60

A construction of Lie algebras by triple systems. *Trans. Amer. Math. Soc.* **205** (1975), 79–95. (Joseph C. Ferrar) **52** #13963 17B60

A connection between Lie algebras of type F_4 and Cayley algebras. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 5, 419–425. (I. L. Kantor) **55** #448 17E05

eindel, Lee E. Integer arithmetic algorithms for polynomial real zero determination. *J. Assoc. Comput. Mach.* **18** (1971), 533–548. (E. Frank) **45** #9480 65H05

Computation of powers of multivariate polynomials over the integers. *J. Comput. System Sci.* **6** (1972), 1–8. (P. E. O'Neil) **46** #10241 68A20

Congruence arithmetic algorithms for polynomial real zero determination. *J. Comput. System Sci.* **9** (1974), 109–128. (James Howland) **50** #6139 65H05 (68–XX)

(*with* Anderson, Peter Gordon; Garey, Michael R.) Computational aspects of deciding if all roots of a polynomial lie within the unit circle. (German summary) *Computing* **16** (1976), *no.* 4, 293–304. (Eliahu I. Jury) **53** #4516 65H05

eindl, Gerhard Spline-Funktionen mehrerer Veränderlicher. I. Definition und Erzeugung durch Integration. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1969**, *part II*, 49–63 (1970). (E. Kreyszig) **46** #4067 41A15

Über normminimale Steuerungen von L-Prozessen und lineare Optimierung bei normbeschränkten Steuerungen. (English summary) *Manuscripta Math.* **9** (1973), 323–331. (Author's summary) **56** #14928 93C05

Spline-Funktionen als Interpolationsfunktionen mit betragsminimalen n-ten Ableitungen und die Approximation von Peanofunktionalen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Ljubljana, 1972). *Z. Angew. Math. Mech.* **53** (1973), T161–T162. (David A. Sprecher) **49** #9485 41A15

Über lineare Optimierungsprobleme, die sich auf Probleme der glattesten Interpolation zurückführen lassen. (English summary) *Spline-Funktionen* (*Tagung des Math. Forschungsinst.*, *Oberwolfach*, 1973), *pp.* 129–148. *Bibliographisches Inst.*, *Mannheim*, 1974. (Helmut Brass) **54** #6454 65D15 (41A15)

Ein Existenzsatz für konvexe Optimierungsprobleme. *Optimization and optimal control* (*Proc. Conf.*, *Oberwolfach*, 1974), *pp.* 145–149. *Lecture Notes in Math.*, *Vol.* 477, *Springer*, *Berlin*, 1975. (Editors) **58** #2533 49A50 (46G99)

Ein Problem der Bestapproximation in geordneten Vektorräumen. *Approximation theory* (*Proc. Internat. Colloq.*, *Inst. Angew. Math.*, *Univ. Bonn*, *Bonn*, 1976), *pp.* 213–221. *Springer*, *Berlin*, 1976. (Editors) **58** #29681 41A50 (41A65)

eindler, M. Zur Konstruktion der Greenschen Funktion für die Diffusion von Neutronen in geschichteten Medien. (English summary) *Acta Phys. Austriaca* **45** (1976), *no.* 1-2, 111–124. (Hans Kaper) **54** #4455 82.35

eine, Günter (*with* Berger, Arno; Elster, Karl-Heinz) Zur Klassifizierung von Lösungsverfahren in der mathematischen Optimierung. *Wiss. Z. Techn. Hochsch. Ilmenau* **18** (1972), *no.* 3, 121–133. (M. Vlach) **48** #1707 90C30

eine, J. Existence of locally unbounded topological fields, and field topologies which are not the intersection of bounded ring topologies. *J. London Math. Soc.* (2) **5** (1972), 481–487. (M. E. Shanks) **47** #8499 12J20

Ringtopologien auf nichtalgebraischen Körpern. *Math. Ann.* **199** (1972), 205–211. (M. E. Shanks) **47** #8500 12J20 (13J99)

(*with* Warner, Seth) Ring topologies on the quotient field of a Dedekind domain. *Duke Math. J.* **40** (1973), 473–486. (M. E. Shanks) **47** #8501 12J20 (13J20)

Ring topologies of type N on fields. *General Topology and Appl.* **3** (1973), 135–148. (A. W. Hager) **48** #3938 12J99

Heine, Rolf *See* **Operational Research, 49** #12059

Heine, Volker ★Group theory in quantum mechanics. An introduction to its present usage. Third revised reprinting. International Series in Natural Philosophy, Vol. 91. *Pergamon Press*, *Oxford-New York-Toronto*, *Ont.*, 1977. ix + 468 *pp.* (Editors) **55** #13969 81.00

Heinecke, A. (*with* Gaul, Wolfgang) Einige Aspekte in der Zuordnungstheorie. (English summary) *Z. Operations Res. Ser. A-B* **19** (1975), *no.* 3, A89–A99. (András Frank) **55** #12115 90C35 (05B35)

Heinekamp, Albert Über Leibniz' Logik und Metaphysik. Zu Martin Schneiders "Analysis und Synthesis bei Leibniz" (Dissertation, Univ. Bonn, Bonn, 1974). (French summary) *Studia Leibnitiana* **8** (1976), *no.* 2, 265–287. (F. C. Kreiling) **58** #15903 01A45 (00A25, 05A05)

Heineken, Hermann Normalizer condition and nilpotent normal subgroups. *J. London Math. Soc.* (2) **4** (1971/72), 458–460. (R. W. Carter) **45** #6925 20F15

Über gewisse perfekte supplementierbare Subnormalteiler. *Rend. Sem. Mat. Univ. Padova* **46** (1971), 417–420. (J. J. Burckhardt) **46** #7374 20D25

Maximale p-Untergruppen lokal endlicher Gruppen. *Arch. Math.* (*Basel*) **23** (1972), 351–361. (B. A. F. Wehrfritz) **47** #3539 20E25

(*with* Baer, Reinhold) Radical groups of finite abelian subgroup rank. *Illinois J. Math.* **16** (1972), 533–580. (J. E. Roseblade) **48** #6251 20E25

(*with* Mohamed, Ismail J.) Groups with normalizer condition. *Math. Ann.* **198** (1972), 179–187. (D. E. Taylor) **48** #11334 20F15

(*with* Liebeck, Hans) On p-groups with odd order automorphism groups. *Arch. Math.* (*Basel*) **24** (1973), 464–471. (D. E. Taylor) **49** #2967 20F55

(*with* Mohamed, I. J.) Non-nilpotent groups with normalizer condition. *Proceedings of the Second International Conference on the Theory of Groups* (*Australian Nat. Univ.*, *Canberra*, 1973), *pp.* 357–360. *Lecture Notes in Math.*, *Vol.* 372, *Springer-Berlin*, 1974. (D. E. Taylor) **50** #10079 20E15

(*with* Strambach, Karl) Gruppen auf ebenen nichtkompakten Netzen. *Abh. Math. Sem. Univ. Hamburg* **42** (1974), 255–265. (H. Salzmann) **51** #740 20H15

(*with* Liebeck, Hans) The occurrence of finite groups in the automorphism group of nilpotent groups of class 2. *Arch. Math.* (*Basel*) **25** (1974), 8–16. (F. Levin) **50** #2337 20E15

(*with* Wilson, John S.) Locally soluble groups with Min-n. Collection of articles dedicated to the memory of Hanna Neumann, VII. *J. Austral. Math. Soc.* **17** (1974), 305–318. (B. Amberg) **50** #7351 20E25

(*with* Daues, G.) Dualitäten und Gruppen der Ordnung p-u6. *Geometriae Dedicata* **4** (1975), *no.* 2/3/4, 215–220. (J. F. Humphreys) **53** #5733 20D15

Automorphism groups of torsionfree nilpotent groups of class two. *Symposia Mathematica*, *Vol. XVII* (*Convegno sui Gruppi Infiniti*, *INDAM*, *Roma*, 1973), *pp.* 235–250. *Academic Press*, *London*, 1976. (K. A. Hirsch) **54** #7645 20F55

Lie-Algebren mit SI-Bedingungen. *J. Reine Angew. Math.* **283/284** (1976), 438–440. (I. Stewart) **53** #5683 17B65

Gruppen mit kleinen abelschen Untergruppen. *Arch. Math.* (*Basel*) **29** (1977), *no.* 1, 20–31. (L. Procházka) **57** #460 20E20

Heinen, James A. (*with* Michel, Anthony N.) Quantitative stability of dynamical systems. *Internat. J. Systems Sci.* **1** (1970/71), *no.* 4, 303–306. (R. M. Cooper) **46** #9469 34D20

(*with* Michel, Anthony N.) Comparison theorems for set stability of differential equations. *Internat. J. Systems Sci.* **2** (1971/72), 319–324. (P. Hartman) **47** #5386 34D20

A technique for solving the extended Liapunov matrix equation. *Proc. IEEE* **59** (1971), 295–296. (L. W. Ehrlich) **48** #5360 65F30

Sufficient conditions for controllability based on direct and inverse Liapunov theory. (French summary) *Automatic Control Theory Appl.* **1** (1972), *no.* 2, 1–5. (Edward J. Davison) **49** #6962 93B05

(*with* Michel, Anthony N.) Quantitative and practical stability of systems. (French summary) *Automatic Control Theory Appl.* **1** (1972), *no.* 3, 9–15. (Marshall Slemrod) **51** #12388 93D99

(*with* Michel, Anthony N.) Quantitative Mengen-Stabilität von Systemen. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **20** (1972), *no.* 3, 114–121. (O. Gürel) **47** #3070 93D05

(*with* Wilansky, Albert) A theorem on set inclusion in metric spaces. *Amer. Math. Monthly* **80** (1973), 46–48. (J. Mack) **47** #4226 54E35

(*with* Dimino, James F.) Set stability of differential equations with time delay. *Internat. J. Systems Sci.* **4** (1973), 249–253. (C. H. Anderson) **48** #11731 34K20

Strengthened theorems for set stability of differential equations. *Internat. J. Systems Sci.* **4** (1973), 511–516. (S. Leela) **48** #6581 34D20

(*with* Crum, Larry A.) Simultaneous reduction and expansion of multidimensional Laplace transform kernels. *SIAM J. Appl. Math.* **26** (1974), 753–771. (J. L. Griffith) **50** #5387 44A30

(*with* DasGupta, Chaitali) Sufficient conditions for controllability of discrete-time systems based on Liapunov theory. *Automatic Control Theory Appl.* **4** (1976), *no.* 1, 14–17. (Alan Bradshaw) **54** #4741 93B05

The inverse Liapunov problem of finite time stability. *Internat. J. Systems Sci.* **7** (1976), *no.* 4, 473–478. (P. C. Parks) **53** #13755 34D20

See also **Gilmer, Robert; et al., 48** #5755

Heiner, Ronald A. (*with* Packard, Dennis J.) Ranking functions and independence conditions. *J. Econom. Theory* **16** (1977), *no.* 1, 84–102. (Maurice Salles) **56** #14561 90A05

Heinhold, Josef (*with* Kulisch, Ulrich) ★Analogrechnen. Eine Einführung. Informatik, 168/168a*. *Bibliographisches Institut*, *Mannheim-Zurich*, 1969. 241 *pp.* + i. (Editors) **52** #4684 68–02 (65–02)

(*with* Riedmüller, Bruno; Fischer, Herbert) ★Aufgaben und Lösungen zur linearen Algebra und analytischen Geometrie. Teil 1. *Carl Hanser Verlag*, *Munich*, 1970. 223 *pp.* (Editors) **50** #13069 15–01

(*with* Riedmüller, Bruno; Fischer, Herbert) ★Aufgaben und Lösungen zur linearen Algebra und analytischen Geometrie. Teil 2. *Carl Hanser Verlag*, *Munich*, 1971. iv + 317 *pp.* (Editors) **50** #13070 15–01

(*with* Riedmüller, Bruno) ★Lineare Algebra und analytische Geometrie. Teil 1. *Carl Hanser Verlag*, *Munich*, 1971. vii + 215 *pp.* (Editors) **50** #13071 15–01

(*with* Riedmüller, Bruno) ★Lineare Algebra und analytische Geometrie. Teil 2. *Carl Hanser Verlag*, *Munich*, 1973. viii + 319 *pp.* (Editors) **50** #13072 15–01

Schmiegungsoperationen in der Praxis der konformen Abbildung. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 203–222. *Greek Math. Soc.*, *Athens*, 1974. (E. Reich) **57** #6389 30A28 (30A30)

(*with* Riedmüller, Bruno) ★Lineare Algebra und analytische Geometrie. Teil 1. Zweite verbesserte Auflage. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag*, *Munich-Vienna*, 1975. viii + 215 *pp.* *ISBN* 3-446-12030-0 (Editors) **56** #15665 15–01 (00A05)

★Einführung in die Höhere Mathematik, Teil I. Unter Mitwirkung von Bruno Riedmüller. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag*, *Munich-Vienna*, 1976. viii + 334 *pp.* (J. S. Joel) **55** #10173 00A05

(*with* Behringer, Fred Alois) ★Einführung in die höhere Mathematik. Teil II. Infinitesimalrechnung. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag*, *Munich-Vienna*, 1976. xii + 563 *pp.* (J. S. Joel) **55** #10174 00A05 (26–01) (*with* Gaede, Karl-Walter) ★Grundzüge des Operations Research. I. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag, Munich-Vienna*, 1976. 151 *pp. ISBN* 3-446-12122-6 (Peter Bod) **57** #8979 90–01

(*with* Riedmüller, Bruno; Fischer, Herbert) ★Aufgaben und Lösungen zur linearen Algebra und analytischen Geometrie. Teil 1. Dritte erweiterte und verbesserte Auflage. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag, Munich-Vienna*, 1977. iv+279 *pp. ISBN* 3-446-12486-1 (Editors) **58** #15762 00A05 (15–01)

Heinich, Henri Intégration pour une mesure à valeurs dans un groupe topologique. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **7** (1971), 177–192. (Author's summary) **46** #322 28A45 (46G10, 60G45)

Espérance conditionnelle pour les fonctions vectorielles. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A935–A938. (K. Bichteler) **48** #8742 28A45

Intégration dans certains espaces de Riesz à distance concave. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **10** (1974), 185–200. (K. Bichteler) **51** #14259 60G45 (28A45)

Mesures à valeurs dans un espace de Banach complètement réticulé. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **10** (1974), 339–344. (K. Bichteler) **55** #5836 28A45

G-mesures. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 137–139. (Tim Traynor) **52** #8375 28A45

Heinicke, A. G. Triples and localizations. *Canad. Math. Bull.* **14** (1971), 333–339. (L. Š. Ioffe) **47** #6776 16A64 (18E35)

On the ring of quotients at a prime ideal of a right noetherian ring. *Canad. J. Math.* **24** (1972), 703–712. (G. Michler) **45** #8681 16A08

(*with* Chatters, A. W.) Localization at a torsion theory in hereditary Noetherian rings. *Proc. London Math. Soc.* (3) **27** (1973), 193–204. (S. Williamson) **50** #4642 16A08

Heinig, Georg Inversion of periodic Jacobi matrices. (Russian) *Mat. Issled.* **8** (1973), *no.* 1(27), 180–200, 242. (S. G. Samko) **47** #7493 47B35

The inversion and the spectrum of matrix-valued singular integral operators. (Russian) *Mat. Issled.* **8** (1973), *no.* 3(29), 106–121, 182. (F. Smithies) **49** #5942 47G05 (47A60)

(*with* Gohberg, Israel C.) The inversion of finite Toeplitz matrices. (Russian) *Mat. Issled.* **8** (1973), *no.* 3(29), 151–156, 183. (F. Smithies) **49** #5913 47B35

The inversion and the spectrum of matrix Wiener-Hopf operators. (Russian) *Mat. Sb.* (*N.S.*) **91(133)** (1973), 253–266, 288. (M. Rabindranathan) **49** #11305 47B35

(*with* Gohberg, Israel C.) Inversion of finite Toeplitz matrices consisting of elements of a noncommutative algebra. (Russian) *Rev. Roumaine Math. Pures Appl.* **19** (1974), 623–663. (A. Devinatz) **50** #5526 47B35

Über die Invertierung und das Spektrum von singulären Integraloperatoren mit Matrixkoeffizienten. 5. *Tagung über Probleme und Methoden der Mathematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *Heft* 1, *pp.* 52–59. *Wiss. Schr. Techn. Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt*, 1975. (Robert L. Warnock) **56** #9201 45E05

(*with* Gohberg, Israel C.) The resultant matrix and its generalizations. I. The resultant operator for matrix polynomials. (Russian) *Acta Sci. Math.* (*Szeged*) **37** (1975), 41–61. (L. de Branges) **52** #1371 47A60 (15A15)

(*with* Gohberg, Israel C.) On matrix integral operators on a finite interval with kernels depending on the difference of the arguments. (Russian) *Rev. Roumaine Math. Pures Appl.* **20** (1975), 55–73. (A. Devinatz) **52** #1395 47B35 (45F05)

(*with* Gohberg, Israel C.) The resultant matrix and its generalizations. II. The continual analogue of the resultant operator. (Russian) *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 189–209. (L. de Branges) **54** #13606 47A65

Periodische Jacobimatrizen im entarteten Fall. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **18** (1976), *no.* 4, 419–423. (Richard E. Frankfurt) **54** #11096 47B35

(*with* Rost, Karla) Über homogene Gleichungen vom Faltungstyp auf einem endlichen Intervall. *Demonstratio Math.* **10** (1977), *no.* 3-4, 791–806. (Authors' introduction) **58** #23408 45E10

The notion of Bezoutian and of resultant for operator pencils. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 3, 94–95. (E. R. Cekanovs'kiĭ) **57** #7208 47A10

Über Block-Hankelmatrizen und den Begriff der Resultante für Matrixpolynome. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **19** (1977), *no.* 4, 513–519. (J. G. Horne) **58** #16721 15A21

Endliche Toeplitzmatrizen und zweidimensionale Wiener-Hopf-Operatoren mit homogenem Symbol. I. Eigenschaften endlicher Toeplitzmatrizen. *Math. Nachr.* **82** (1978), 29–52. (A. Devinatz) **58** #7184a 47B35

Endliche Toeplitzmatrizen und zweidimensionale diskrete Wiener-Hopf-Operatoren mit homogenem Symbol. II. Über die normale Auflösbarkeit einer Klasse zweidimensionaler Wiener-Hopf-Operatoren. *Math. Nachr.* **82** (1978), 53–68. (A. Devinatz) **58** #7184b 47B35

Heinig, Hans P. Remarks on interpolation in spaces with weights. *Conference on the Theory of Ordinary and Partial Differential Equations* (*Univ. Dundee, Dundee*, 1972), *pp.* 279–285. *Lecture Notes in Math., Vol.* 280, *Springer, Berlin*, 1972. (Joseph M. Lambert) **54** #3384 46E30 (46M35)

On a multiplier transform. *Aequationes Math.* **9** (1973), 71–74. (I. Fenyő) **47** #4056 47B99 (42A68, 44A35)

(*with* Tam, K. Kuen) On the existence of solution of the Greenspan-Carrier equation. *J. Austral. Math. Soc.* **15** (1973), 373–384. (K. Stewartson) **48** #2478 34B15 (76.34)

Some extensions of Hardy's inequality. *SIAM J. Math. Anal.* **6** (1975), 698–713. (J. Calvert) **51** #13163 26A87 (44A10)

Weighted maximal inequalities for ℓ^r-valued functions. *Canad. Math. Bull.* **19** (1976), *no.* 4, 445–453. (Calixto P. Calderón) **56** #3223 26A87

Heinkel, Bernard Une condition suffisante pour la continuité presque sûre des trajectoires de certains processus gaussiens. *Séminaire de Probabilités, VII* (*Univ. Strasbourg, année universitaire* 1971–1972), *pp.* 77–94. *Lecture Notes in Math., Vol.* 321, *Springer, Berlin*, 1973. (Michael Marcus) **52** #9353 60G15

Théorèmes de dérivation du type de celui de Lebesgue et continuité presque sûre des trajectoires de certains processus gaussiens. *Séminaire de Probabilités, VIII* (*U Strasbourg, année universitaire* 1972–1973), *pp.* 155–171. *Lecture Notes in Math.,* 381, *Springer, Berlin*, 1974. (Michael Marcus) **52** #9354 60G15

Un théorème de la limite centrale dans $C(S)$. École d'Été de Calcul des Probabilités de Saint-Flour (Saint-Flour, 1976). *Ann. Sci. Univ. Clermont No.* 61 *M No.* 14 (1976), 37–42. (Evarist Giné M.) **57** #1594 60B10

Théorème central-limite et loi du logarithme itéré dans $C(S)$. (English summary *R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 13, Aii, A711–A713. (H. Bergstr **53** #6674 60F05

Mesures majorantes et théorème de la limite centrale dans $C(S)$. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **38** (1977), *no.* 4, 339–351. (M. G. H **55** #13539 60F05 (60G15)

Heĭnman, V. B. *See* **Nomography collection**, **50** #6198

Heinrich, Bernd Zur Anwendung des Differenzenverfahrens bei Aufgaben mit fr Rand. *Beiträge Numer. Math.* **6** (1977), 81–95. (R. Kodnár) **58** #31894 65N20

Heinrich, E. (*with* Metzler, Wolfgang) Die Werte der Franz-Reidemeister-Torsion torsionsberandenden Mannigfaltigkeiten. *J. Reine Angew. Math.* **270** (1974), 115– (R. C. Lacher) **52** #6727 57C10

Heinrich, Helmut Numerische Behandlung nichtlinearer Gleichungen. *Überblicke Mathematik, Band* 2, *pp.* 99–129. *B. I.-Hochschultaschenbücher, No.* 232/232*a*, *Bibliographisches Inst., Mannheim*, 1969. (Gerhard Merz) **52** #16010 65J05

Zur verallgemeinerten Schurschen Ungleichung für nichtnormale Matrizen. *Angew. Math. Mech.* **55** (1975), 179–181. (H. Minc) **52** #8167 15A60

See also **Collection: Heinrich, Helmut**, **51** #2818; **Bittner, Leonhard; et al.**, **51** #2835 *and* **Opitz, G.; et al.**, **55** #7702

Heinrich, Inge (*with* Zassenhaus, Hans J.) Über die Ordnungen von Wohlfahrt. *A Math.* (*Basel*) **23** (1972), 469–481. (A. Dress) **48** #4137 20G05

Heinrich, J. C. (*with* Frey, A. E.; Hall, Charles A.) On an exact boundary technique. *Inst. Math. Appl.* **20** (1977), *no.* 2, 191–198. (J. R. Cannon) **56** #13709 65N30

(*with* Hall, Charles A.) A finite element that satisfies natural boundary conditi exactly. *J. Inst. Math. Appl.* **21** (1978), *no.* 2, 237–250. (N. N. Janenko) **58** #1922 65N30

Heinrich, Katherine A non-imbeddable proper colouring. *Combinatorial mathematics,* (*Proc. Fourth Australian Conf., Univ. Adelaide, Adelaide*, 1975), *pp.* 93–115. *Lect Notes in Math., Vol.* 560, *Springer, Berlin*, 1976. (L. R. Welch) **58** #331 05C15

Proper 3-colourings of K_6. *Ars Combinatoria* **1** (1976), *no.* 1, 191–213. (Auth summary) **54** #132 05C15

Latin squares composed of four disjoint subsquares. *Combinatorial mathematics* (*Proc. Fifth Austral. Conf., Roy. Melbourne Inst. Tech., Melbourne*, 1976), *pp.* 118–1 *Lecture Notes in Math., Vol.* 622, *Springer, Berlin*, 1977. (Noboru Hamada) **57** #12 05B15

Subsquares in Latin squares. *Proceedings of the Eighth Southeastern Conference Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge,* 1977), *pp.* 329–344. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, M* 1977. (Charles C. Lindner) **58** #10503 05B15

Self-orthogonal Latin squares with self-orthogonal subsquares. *Ars Combinatori* (1977), 251–266. (David A. Drake) **58** #284 05B15

Approximation to a self-orthogonal Latin square of order 6. *Ars Combinatori* (1977), 17–24. (Charles C. Lindner) **58** #285 05B15

Proper colourings of K_{15}. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 4, 465–4 (A. P. Street) **58** #5331 05C15

Near-orthogonal Latin squares. *Utilitas Math.* **12** (1977), 145–155. (K. Yamamc **58** #16342 05B15

(*with* Van Rees, G. H. J.) Some constructions for equidistant permutation arrays index one. *Utilitas Math.* **13** (1978), 193–200. (N. Ito) **58** #10504 05B15

Heinrich, Peter Verallgemeinerung eines Satzes von Chartrand und Kapoor über Poten zusammenhängender Graphen. *Math. Nachr.* **54** (1972), 85–97. (H. Sachs) **47** #654 05C35

Abzählbar-unendliche Graphen mit Hamiltonscher dritter Potenz. *Math. Nachr.* (1978), 231–239. (H. Sachs) **58** #16399 05C35

Heinrich, R. (*with* Rapoport, S. M.) Metabolic regulation and mathematical models. *Pr Biophys. Molecular Biol.* **32** (1977), *no.* 1, 1–82. **58** #26132 92A05

Heinrich, Stefan Linear-topological properties of operator spaces. *General topology and relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Symp Prague*, 1976), *Part B*, *pp.* 156–158, *Soc. Czechoslovak Mathematicians and Physicis Prague*, 1977. (A. Pietsch) **56** #16421 47B10 (47D15)

Some properties of operator spaces. *Serdica* **3** (1977), *no.* 2, 168–175. (N. J. Kalt **58** #17794 46B99 (47D15)

Heinrich, W. (*with* Schmidt, Günter) Zum Einfluss höherer Näherungen bei parametererregten Schwingungen. *Monatsb. Deutsch. Akad. Wiss. Berlin* **13** (197 557–561. (Jochen Werner) **46** #7633 34C15

(*with* Hennig, Klaus) ★Zufallsschwingungen mechanischer Systeme. *Akademie-Verlag, Berlin*, 1977. ix+228 *pp.* (H. Parkus) **57** #2034 70.60

Heinrich, Winfried (*with* Bachmann, Karl-Heinz; Beyer, Otfried; Boseck, Helmut; Göhler, Wilhelm; Junge, Heinz; Lorenz, Günter; Oberländer, Siegfried; Pietzsch, Günter; Steger, Arndt; Thiele, Helmut; Walsch, Werner; Wussing, H.; Berthold, Günter; Bock, Hans; Dück, Werner; Görke, Lilly; Hellwich, Manfred; Kästner, Herbert; Neigenfind, Fritz; Peschel, Manfred; Rossberg, H.-J.; Sulanke, Rolf; Vah Hans; Wussing, Gerlinde) ★Handbuch der Mathematik Mit einer Einleitung v Hans Reichardt. *Buch und Zeit Verlagsgesellschaft M.B.H., Cologne*, 1972. 739 (From the publisher's foreword) **56** #5108 00A20

Heinrichs, Wolfgang Betrachtungen zu notwendigen und hinreichenden Optimalitätsbedingungen für Funktionale auf linearen Räumen. *Beiträge Anal. Heft* (1976), 27–29. (G. M. Ewing) **56** #1173 49B30

Anwendung allgemeiner Optimalitätsbedingungen auf die Tschebyscheff-Approximation. *Z. Angew. Math. Mech.* **58** (1978), *no.* 8, 356–35 (Avraham A. Melkman) **58** #12129 41A50

Heinrih, S. The reflexivity of the Banach space $L(E,F)$. (Russian) *Funkcional. Anal. Priložen.* **8** (1974), *no.* 2, 97–98. (A. Pełczyński) **49** #7735 46B10 (47D15)

The differentiability of the norm in spaces of operators. (Russian) *Funkcional. Ana i Priložen.* **9** (1975), *no.* 4, 93–94. (G. J. O. Jameson) **52** #11657 47D15 (46B05)

Approximation properties in tensor products. (Russian) *Mat. Zametki* **17** (1975), 459–466. (J. Gil de Lamadrid) **54** #956 46M05

The weak sequential completeness of Banach operator ideals. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 5, 1160–1167, 1199. (A. Pietsch) **55** #3874 47D15 (46L20)

ns, Albert E. The generalized radiation problem. *Topics in analysis* (*Colloq. Math. Anal., Jyväskylä*, 1970), *pp.* 166–177. *Lecture Notes in Math., Vol.* 419, *Springer, Berlin,* 1974. (S. A. Tersenov) **51** #10910 35Q99

The fundamental solution in axially symmetric potential theory. *Proc. London Math. Soc.* (3) **29** (1974), 735–749. (R. C. MacCamy) **51** #6308 (E **57** #6467) 45D05 (31A10)

The Stokes stream function in axially symmetric potential theory. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 3, 310–314. (Manfred W. Kracht) **52** #14701 35Q99

Corrigendum: "The fundamental solution in axially symmetric potential theory" (Proc. London Math. Soc. (3) **29** (1974), 735–749). *Proc. London Math. Soc.* (3) **35** (1977), *no.* 1, 180. (Editors) **57** #6467 31B05

ins, Maurice A note on the Löwner differential equations. *Pacific J. Math* **39** (1971), 173–177. (Z. Rubinstein) **46** #3771 30A36

Some remarks concerning nonnegative harmonic functions. Collection of articles dedicated to J. L. Walsh on his 75th birthday, II. *J. Approximation Theory* **5** (1972), 118–122. (E. C. Schlesinger) **49** #9225 31A05

On a theorem of Study concerning conformal maps with convex images. II. *Math. Scand.* **32** (1973), 245–257 (1974). (B. G. Eke) **49** #551 30A32

On WSN functions and a theorem of R. Nevanlinna concerning bounded analytic functions. *Kōdai Math. Sem. Rep.* **26** (1974/75), 245–257. (M. Hervé) **52** #3534 30A72

Nonpersistence of the Grenzkreis phenomenon for Pick-Nevanlinna interpolation on annuli. *Ann. Acad. Sci. Fenn. Ser. A I Math. No.* 596 (1975), 21 *pp.* (V. Ganapathy Iyer) **52** #759 30A80

Carathéodory bodies. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **2** (1976), 203–232. (S. Fisher) **58** #1137 30A52 (30A40)

Concerning the uniqueness lemma for absolutely continuous functions. *Acta Sci. Math.* (*Szeged*) **39** (1977), *no.* 1-2, 93–94. (Clifford E. Weil) **56** #3205 26A24

A minimum theorem concerning holomorphic maps of Riemann surfaces. *J. London Math. Soc.* (2) **15** (1977), *no.* 2, 232–238. (M. Nakai) **57** #12842 30A46

On the finite angular derivatives of an analytic function mapping the open unit disk into itself. *J. London Math. Soc.* (2) **15** (1977), *no.* 2, 239–254. (Tatsuo Fuji'i'e) **56** #618 30A72

eintz, Joos *See* **Komplexität von Entscheidungsproblemen—ein Seminar**, **57** #18232

eintze, Ernst The curvature of $SU(5)/Sp(2)\times S^1$. *Differentialgeometrie im Grossen* (*Ber. Tagung, Math. Forschungsinst., Oberwolfach*, 1969), *pp.* 155–161. *Ber. Math. Forschungsinst. Oberwolfach, Heft* 4, *Bibliographisches Inst., Mannheim*, 1971. (T. Nagano) **53** #4107 57F15 (53C30)

Krümmung und Topologie des Raumes $\mathrm{SU}(5)/(\mathrm{Sp}(2)\times S^1)$. *Bonn. Math. Schr. No.* 46 (1971), v+56 *pp.* (Rolf Sulanke) **52** #9261 57F15 (53C30)

The curvature of $\mathrm{SU}(5)/(\mathrm{Sp}(2)\times S^1)$. *Invent. Math.* **13** (1971), 205–212. (W. F. Pohl) **45** #2610 53C30

Riemannsche Solvmannigfaltigkeiten. *Geometriae Dedicata* **1** (1973), *no.* 2, 141–147. (Ph. Tondeur) **46** #8123 53C20

On homogeneous manifolds of negative curvature. *Math. Ann.* **211** (1974), 23–34. (K. Nomizu) **50** #5695 53C30 (22E25)

Compact quotients of homogeneous negatively curved riemannian manifolds. *Math. Z.* **140** (1974), 79–80. (F. Brickell) **51** #11359 53C30

(*with* Brüning, Jochen) Représentations des groupes d'isométries dans les sous-espaces propres du laplacien. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 20, A921–A923. (Authors' summary) **58** #18262 53C20 (57E15, 58G99)

eintzmann, H. *See* **General relativity and cosmology**, **49** #8567

einy, Robert L. Approximations to moments of surpluses and deficits under time dependent models. *Sankhyā Ser. A* **37** (1975), *no.* 1, 93–112. (Jiří Anděl) **55** #9449 62M10

einz, C. Das d'Alembertsche Prinzip in der Kontinuumsmechanik. (English summary) *Acta Mech.* **10** (1970), 111–129. (Author's summary) **46** #2940 70.35

einz, Erhard Instabile Flächen konstanter mittlerer Krümmung. Vortrag, gehalten auf der DMV-Tagung in Stuttgart 1971. *Jber. Deutsch. Math.-Verein.* **74** (1972/73), *Abt.* 1, 123–130. (Editors) **58** #12745 53A10

Elementare Bemerkung zur isoperimetrischen Ungleichung im $\mathbf{R}^3$. *Math. Z.* **132** (1973), 319–322. (J. Hersch) **48** #2328 26A84 (35Bxx)

(*with* von Wahl, Wolf) Zu einem Satz von F. E. Browder über nichtlineare Wellengleichungen. *Math. Z.* **141** (1975), 33–45. (W. Watzlawek) **51** #1510 47H15 (35L60)

Ein Regularitätssatz für schwache Lösungen nichtlinearer elliptischer Systeme. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1975**, *no.* 1, 1–13. (G. Albinus) **52** #3727 35J45 (35D10)

Über die Regularität der Lösungen nichtlinearer Wellengleichungen. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1975**, *no.* 2, 15–26. (R. Glassey) **56** #9085 35L30

Heinz, Hans-Peter Un principe de maximum-minimum pour les valeurs critiques d'une fonctionnelle non linéaire. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1317–A1318. (R. S. Palais) **46** #8259 58B05 (55C30)

Distributions invariant under a group of diffeomorphisms. *Manuscripta Math.* **12** (1974), 249–269. (J. E. Marsden) **52** #6779 58D05 (46F10)

Über das Verzweigungsverhalten eines nichtlinearen Eigenwertproblems in der Nähe eines unendlich vielfachen Eigenwertes der Linearisierung. (English summary) *Manuscripta Math.* **19** (1976), *no.* 2, 105–132. (Ulrich Kosel) **54** #1035 47H15

See also **Sarreither, Paul**, **58** #12560

Heinz, Michael Stochastische Automaten als Grundlage stochastischer Lernmodelle. (Russian, English and French summaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no.* 6, 742–744. (Editors) **58** #20920 94A35

Zur Teilbaumkomplexität von verschiedenen Klassen von Lindenmayer-Baumsprachen. *Algorithmische Kompliziertheit, Lern- und Erkennungsprozesse* (*Zweites Internat. Sympos., Friedrich-Schiller-Univ., Jena*, 1976), *pp.* 35–43. *Friedrich-Schiller-Universität, Jena*, 1976. (Jürgen Dassow) **56** #13805 68A30

Zur Teilwortkomplexität für Wörter und Folgen über einem endlichen Alphabet. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 1–2, 27–38. (P. Gács) **57** #18246 68A30

Heinz, Tony F. Topological properties of orthostochastic matrices. *Linear Algebra and Appl.* **20** (1978), *no.* 3, 265–269. (D. J. Hartfiel) **57** #9729 15A57 (15A51)

Heinz, Ulrich (*with* Müller, Angelika; Müller, Berndt; Greiner, Walter) On gravitation theories with limiting curvature. *J. Phys. A* **11** (1978), *no.* 9, 1781–1798. (Richard Baumeister) **58** #25825 83.58 (58C25)

Heinz, Walter Ein Verfahren zur Bestimmung der isolierten Nullstellen von Polynomen in z und z^*. *Math. Nachr.* **65** (1975), 219–222. (M. Marsden) **53** #366 12D10 (30A08)

Heinzer, William (*with* Ohm, Jack) Defining families for integral domains of real finite character. *Canad. J. Math.* **24** (1972), 1170–1177. (M. Griffin) **46** #9031 13G05

(*with* Abhyankar, Shreeram Shankar; Eakin, Paul M.) On the uniqueness of the coefficient ring in a polynomial ring. *J. Algebra* **23** (1972), 310–342. (P. Samuel) **46** #5300 13B25

(*with* Ohm, Jack) On the Noetherian-like rings of E. G. Evans. *Proc. Amer. Math. Soc.* **34** (1972), 73–74. (Robert Gilmer) **45** #3385 13E05

(*with* Ohm, Jack) The finiteness of I when $R[X]/I$ is R-flat. II. *Proc. Amer. Math. Soc.* **35** (1972), 1–8. (W. V. Vasconcelos) **46** #5304 13C05

Locally affine ring extensions of a noetherian domain. *Proc. Amer. Math. Soc.* **35** (1972), 377–380. (R. E. MacRae) **46** #3499 13B99

(*with* Ohm, Jack) Noetherian intersections of integral domains. *Trans. Amer. Math. Soc.* **167** (1972), 291–308. (J. W. Brewer) **45** #5156 16A02 (13E05)

(*with* Brewer, James W.; Montgomery, Philip; Rutter, Edgar A., Jr.) Krull dimension of polynomial rings. *Conference on Commutative Algebra* (*Univ. Kansas, Lawrence, Kan.*, 1972), *pp.* 26–45. *Lecture Notes in Math., Vol.* 311, *Springer, Berlin,* 1973. (Philip B. Sheldon) **49** #2696 13B25

(*with* Eakin, Paul M.) A cancellation problem for rings. *Conference on Commutative Algebra* (*Univ. Kansas, Lawrence, Kan.*, 1972), *pp.* 61–77. *Lecture Notes in Math., Vol.* 311, *Springer, Berlin*, 1973. (E. Enochs) **50** #2157 13F15

Noetherian intersections of integral domains. II. *Conference on Commutative Algebra* (*Univ. Kansas, Lawrence, Kan.*, 1972), *pp.* 107–119. *Lecture Notes in Math., Vol.* 311, *Springer, Berlin*, 1973. (J. W. Brewer) **49** #5005 13G05

(*with* Ohm, Jack) An essential ring which is not a v-multiplication ring. *Canad. J. Math.* **25** (1973), 856–861. (M. Griffin) **48** #6093 13G05

(*with* Eakin, Paul M.) More noneuclidian PID's and Dedekind domains with prescribed class group. *Proc. Amer. Math. Soc.* **40** (1973), 66–68. (P. Samuel) **47** #8516 13D15

Minimal primes of ideals and integral ring extensions. *Proc. Amer. Math. Soc.* **40** (1973), 370–372. (Robert Gilmer) **47** #8503 13A15

(*with* Brewer, James W.) Associated primes of principal ideals. *Duke Math. J.* **41** (1974), 1–7. (M. Nagata) **49** #267 13A15

Hilbert integral domains with maximal ideals of preassigned height. *J. Algebra* **29** (1974), 229–231. (M. Griffin) **50** #309 13G05

(*with* Brewer, James W.) Ideals I of $R[X]$ for which $R[X]/I$ is R-projective. *Proc. Amer. Math. Soc.* **43** (1974), 21–25. (R. E. MacRae) **48** #8468 13A15

(*with* Gilmer, Robert) A non-Noetherian two-dimensional Hilbert domain with principal maximal ideals. *Michigan Math. J.* **23** (1976), *no.* 4, 353–362 (1977). (T. Albu) **56** #5529 13G05

(*with* Arnold, Jimmy T.; Gilmer, Robert) Some countability conditions in a commutative ring. *Illinois J. Math.* **21** (1977), *no.* 3, 648–665. (T. Albu) **57** #310 13E99

(*with* Gilmer, Robert) Cardinality of generating sets for ideals of a commutative ring. *Indiana Univ. Math. J.* **26** (1977), *no.* 4, 791–798. (Melvin Henriksen) **56** #2982 13A15

(*with* Gilmer, Robert) On the divisors of monic polynomials over a commutative ring. *Pacific J. Math.* **78** (1978), *no.* 1, 121–131. (James A. Huckaba) **58** #22047 13F20

Heise, M. Representations of some finite algebras of Fermi operators. *Rep. Mathematical Phys.* **4** (1973), 217–222. (H. Wakita) **48** #3403 81.46

Heise, Ulrich (*with* Heise, Werner; Kroll, Hans-Joachim) Über die Existenz endlicher Möbius-*m*-Strukturen. (Italian and English summaries) *Rend. Ist. Mat. Univ. Trieste* **3** (1971), 135–139 (1972). (M. J. Kallaher) **50** #8293 50D45 (05B05)

Nachweis der Eigenwerte 0 und -1 in den Spektren von Integraloperatoren der ebenen Elastizitätstheorie. (English summary) *Acta. Mech.* **15** (1972), 177–190. (F. Erdogan) **51** #2424 73.47

Numerical properties of integral equations in which the given boundary values and the sought solutions are defined on different curves. *Comput. & Structures* **8** (1978), *no.* 2, 199–205. (Vadim Komkov) **58** #19616 73.45

The spectra of some integral operators for plane elastostatical boundary value problems. *J. Elasticity* **8** (1978), *no.* 1, 47–79. (R. Muki) **58** #8681 73.45

Heise, Werner Bericht über κ-affine Geometrien. (English summary) *J. Geometry* **1** (1971), 197–224. (F. Bachmann) **47** #5702 50A20

(*with* Timm, Jürgen) κ-affine Räume. (English summary) *Manuscripta Math.* **4** (1971), 31–37. (F. Bachmann) **45** #4251 50A15

(*with* Heise, Ulrich; Kroll, Hans-Joachim) Über die Existenz endlicher Möbius-*m*-Strukturen. (Italian and English summaries) *Rend. Ist. Mat. Univ. Trieste* **3** (1971), 135–139 (1972). (M. J. Kallaher) **50** #8293 50D45 (05B05)

(*with* Karzel, Helmut) Eine Charakterisierung der ovoidalen Kettengeometrien. (English summary) *J. Geometry* **2** (1972), 69–74. (K.-A.Schmitt) **46** #2540 50D20

Es gibt keine 4-affine Ebene der Ordnung 4. *J. Reine Angew. Math.* **252** (1972), 104–106. (G. J. Schellekens) **45** #7585 50D45

Freie quasiaffine Ebenenerweiterungen. *Jber. Deutsch. Math.-Verein.* **74** (1972/73), *Abt.* 1, 84–85. (Editors) **58** #7382 50D35

Das Lemma von Zorn. Eine vergleichende Untersuchung geometrischer, algebraischer und topologischer Hüllensysteme. *Math.-Phys. Semsterber.* **19** (1972), 73–82. (A. Appert) **51** #7881 04A25 (*with* Karzel, Helmut) Laguerre- und Minkowski-*m*-Strukturen. (Italian and English summaries) *Rend. Ist. Mat. Univ. Trieste* **4** (1972), 139–147. (G. D. Chakerian) **48** #9545 50D45

(*with* Groh, Hansjoachim) 3-ovals in Moebius planes. *Geometriae Dedicata* **1** (1973), *no.* 4, 426–433. (F. C. Piper) **49** #11383 50D45

(*with* Sörensen, Kay) Freie Minkowski-Ebenenerweiterungen. (English summary) *J. Geometry* 3 (1973), 1–4. (J. André) **48** #7112 50D45

(*with* Karzel, Helmut) Symmetrische Minkowski-Ebenen. (English summary) *J. Geometry* **3** (1973), 5–20. (J. André) **48** #7110 50D45

(*with* Karzel, Helmut) Vollkommen fanosche Minkowski-Ebenen. (English summary) *J. Geometry* **3** (1973), 21–29. (J. André) **48** #7111 50D45

(*with* Halder, Heinz-Richard) On the existence of finite chain-*m*-structures and *k*-arcs in finite projective spaces. *Geometriae Dedicata* **3** (1974/75), 483–486. (N. S. Mendelsohn) **52** #6563 50D35

Minkowski-Ebenen gerader Ordnung. (English summary) *J. Geometry* **5** (1974), 83. (R. Artzy) **49** #9735 50–XX

A combinatorial characterization of PGL(2, 2^q). *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 142-143. (Ulrich Dempwolff) **58** #5864 20B20 (20G40)

(*with* Sörensen, Kay) Scharf *n*-fach transitive Permutationsmengen. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 144–145. (M. J. Kallaher) **51** #13102 20M20

On sharply *k*-ply transitive sets of permutations. *J. Geometry* **6** (1975), *no.* 2, 185. (Editors) **52** #124 05A15 (50D05)

(*with* Halder, Heinz-Richard) ★Einführung in die Kombinatorik. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag, Munich-Vienna*, 1976. xii+302 *pp.* (Jaroslav Nešetřil) **58** #16316 05–01

Optimal codes, *n*-arcs and Laguerre geometry. *Acta Informat.* **6** (1976), *no.* 4, 403-406. (G. Robert Redinbo) **54** #12356 94A10

(*with* Seybold, Hans) Das Existenzproblem der Möbius-, Laguerre- und Minkowski-Erweiterungen endlicher affiner Ebenen. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1975**, 43–58 (1976). (M. J. Kallaher) **54** #114 05B25 (50D45)

Über die Abzähltheorie von Pólya und de Bruijn. *Beiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg*, 1976), *pp.* 141–145. *Lehrbücher u. Monographien aus dem Gebiete der Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäuser, Basel*, 1977. (N. G. de Bruijn) **58** #5252 05A15

(*with* Kunde, Harald) On the number of derangements of a sharply *k*-ply transitive set of permutations. *Aequationes Math.* **15** (1977), *no.* 1, 107–108. (S. Brent Morris) **57** #134 05A15

See also **Atti: Convegno di Geometria Combinatoria e sue Applicazioni**, **48** #8244

Heisenberg, Werner Karl Bemerkungen zur neuen Tamm-Dancoff-Methode. (Russian and English summaries) *Problems of theoretical physics* (*in memory of I. E. Tamm*) (*Russian*), *pp.* 34–36, 483, 490. *Nauka, Moscow*, 1972. (Editors) **58** #32534 81.35

See also **Montaldi, Emilio**, (Not reviewed); **Einstein collection**, **51** #4922; **Dimitrov, Hr.**, **53** #45; **Obituary: Heisenberg, Werner Karl**, **53** #2609; **Dürr, Hans-Peter**, **53** #7687; **Sánchez del Río, Carlos**, **53** #7688; **Urban, Paul**, **53** #7689; **Bednář, Miroslav**, **58** #10157; **Jammer, Max**, **58** #21300 *and* **Kajantie, K.**, **58** #27114

Heisey, Richard E. Contracting spaces of maps on the countable direct limit of a space. *Trans. Amer. Math. Soc.* **193** (1974), 389–411. (C. Bessage) **51** #4150 54C35

Partitions of unity and a closed embedding theorem for (C^p, b^*)-manifolds. *Trans. Amer. Math. Soc.* **206** (1975), 281–294. (Jean-Paul Penot) **53** #1625 58B05 (58C20)

Manifolds modelled on R^∞ or bounded weak-* topologies. *Trans. Amer. Math. Soc.* **206** (1975), 295–312. (Jean-Paul Penot) **53** #1626 58B05 (58C20)

Stability, open embeddings, and classification of bounded weak-* manifolds. *General Topology and Appl.* **6** (1976), *no.* 3, 327–338. (N. Desolneux-Moulis) **54** #11373 58B05 (57A35, 57A20)

A factorization of the direct limit of Hilbert cubes. *Proc. Amer. Math. Soc.* **54** (1976), 255–260. (P. W. Harley, III) **54** #6146 57A20

Open subsets of R^∞ are stable. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 377–380. (C. Bessaga) **54** #13923 57A20 (58B05)

Heĭsin, V. E. Iterative estimation of the states of a dynamic object. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 3, 40–46 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 3, 403–409. (S. R. Liberty) **49** #6965 93B30

(*with* Lapin, B. A.) On filtering in nonlinear systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 4, 193–199 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 4, 735–740. (Author's summary) **56** #15034 93E10

Filtration of random errors in realization of iterative methods. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 5, 146 151 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 5, 123–128. (Author's summary) **54** #1537 65C99 (93E10)

The convergence of operator processes under random perturbations. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 7 *Mat. Meh. Astronom. Vyp.* 2 (1974), 80-89, 172. (B. Bereanu) **56** #13626 65K05 (62L20)

Iterative minimization procedures in conditions of extremum drift. *Avtomat. i Telemeh.* **1976**, *no.* 11, 91–101 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 11, *part* 1, 1704–1713 (1977). (Zbl **354** #93076) **57** #19039 93E25

(*with* Katkovnik, V. Ja.) Iterative algorithms of optimization for tracking the drift of an extremum. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no.* 6, 34–40, 92. (Authors' summary) **58** #15627 93E25

Heisler, Brother Joseph Diagonal forms over finite fields. *J. Number Theory* **6** (1974), 50–51. (S. D. Cohen) **48** #11065 12C05 (10C10)

Heisler, David B. On the restriction map in the cohomology of groups. *Comm. Algebra* **5** (1977), *no.* 6, 643 663. (Chih-Han Sah) **55** #8150 18H10

Heiss, K.-P. *See* **Operations Research-Verfahren**, **48** #3447

Heithecker, Jörg Äquivariantes kontrolliertes Schneiden und Kleben. *Math. Ann.* **217** (1975), *no.* 1, 17-28. (J. A. Schafer) **51** #14110 57D85

Äquivarianter Bordismus mit Vektorfeld. *Math. Ann.* **234** (1978), *no.* 1, 1–8. (Ulrich Koschorke) **57** #13983 57D85

Heitler, Walter Wahrheit und Richtigkeit in den exakten Wissenschaften. *Akad. Wiss. Lit. Mainz Abh. Math.-Natur. Kl.* **1972**, *no.* 3, 22 *pp.* (Editors) **58** #26668 00A25

Heitmann, Raymond C. PID's with specified residue fields. *Duke Math. J.* **41** (1974), 565 582. (J. J. Malone) **51** #5584 13F10

(*with* Levy, L. S.) $1\frac{1}{2}$ and 2 generator ideals in Prüfer domains. *Rocky Mountain* *Math.* **5** (1975), 361–373. (Robert Gilmer) **52** #3141 13F05

(*with* Brewer, James W.; Lady, E. L.; Rutter, Edgar A., Jr.) Finite presentation simple flat algebras. *J. Algebra* **40** (1976), *no.* 2, 532–540. (J. Ohm.) **54** #5214 13C10 (14A05)

Generating ideals in Prüfer domains. *Pacific J. Math.* **62** (1976), *no.* 1, 117–126. (V. Vasconcelos) **53** #10784 13F05

Prime ideal posets in Noetherian rings. *Rocky Mountain J. Math.* **7** (1977), *no.* 667–673. (Stephen McAdam) **56** #2992 13E05

A connected absolutely flat scheme. *Rocky Mountain J. Math.* **7** (1977), *no.* 775–776. (J. W. Brewer) **56** #11994 14A15

Heitsch, James L. (*with* Bott, Raoul) A remark on the integral cohomology of *B* *Topology* **11** (1972), 141–146. (P. Molino) **45** #2738 57D30

A cohomology for foliated manifolds. *Bull. Amer. Math. Soc.* **79** (1973), *no.* 1283–1285 (1974). (I. Vaisman (Zbl **282** #57014)) **58** #24289 57D30

Deformations of secondary characteristic classes. *Topology* **12** (1973), 381–388. (Suzuki) **47** #9639 57D30

(*with* Lawson, H. Blaine, Jr.) Transgressions, Chern-Simons invariants and t classical groups. *J. Differential Geometry* **9** (1974), 423–434. (R. L. Bishop) **50** #5812 57D20

A cohomology for foliated manifolds. *Comment. Math. Helv.* **50** (1975), 197–218. Vaisman) **51** #9081 57D30 (32C35)

A remark on the residue theorem of Bott. *Indiana Univ. Math. J.* **25** (1976), *no.* 1139–1147. (James B. Carrell) **56** #8924 32L05 (57D30, 57D20, 32C30)

Residues and characteristic classes of foliations. *Bull. Amer. Math. Soc.* **83** (197 *no.* 3, 397–399. (B. Cenkl) **55** #11270 57D30 (57D20)

See also **Differential geometry**, **51** #6863

Heitsch, Wolfram On logical analysis of methods. *Formal methods in the methodology* *empirical sciences* (*Proc. Conf., Warsaw*, 1974), *pp.* 199–205. *Synthese Library*, 10 *Reidel, Dordrecht*, 1976. (From the text) **58** #27332 02C10

★Mathematik und Weltanschauung. Zweite Auflage. *Akademie-Verlag, Berli* 1978. xi+348 *pp.* (*loose errata*) (Manfred Kochen) **58** #10271 02A05 (00A25)

Heitz, Raymond Sur les groupes $\mathbf{K}_{\mathrm{Top}}(\mathbf{S}_n)$. *Publ. Dép. Math.* (*Lyon*) **13** (1976), *no.* 103–132. (F. Laudenbach) **56** #16639 57A55 (57A70, 57D60)

Hejcman, J. Uniform dimension and rings of bounded uniformly continuous functions *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 379–386. *Colloq. Math. Soc. Jáno* *Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (J. Dugundji) **50** #8475 54F (54C35)

Hejcman, Jan Remarks on dimensions of mappings. *General topology and its relations* *modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *p* 181–182. *Academia, Prague*, 1972. (J. M. Aarts) **51** #6758 54F45

A lemma on finite-dimensional covers. *Seminar Uniform Spaces* (*Prague*, 1973–1974), *pp.* 191–194. *Mat. Ústav Československé Akad. Věd, Prague*, 1975. (Ol Njåstad) **52** #11841 (EA **53**) 54E15

Dimensions and partitions of unity. *Seminar Uniform Spaces* (*Prague*, 1973–197 *pp.* 195–200. *Mat. Ústav Československé Akad. Věd, Prague*, 1975. (Stojan Nede **52** #11865 54F45

Covering dimensions and partitions of unity. *General topology and its relations* *modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Pragu* 1976), *Part B*, *pp.* 159–163. *Soc. Czechoslovak Mathematicians and Physicists, Pragu* 1977. (M. G. Charlambous) **56** #16590 54F45

Hejhal, Dennis A. ★Theta functions, kernel functions, and Abelian integrals. Memoirs o the American Mathematical Society, No. 129. *American Mathematical Society, Providence, R.I.*, 1972. iii+112 *pp.* (C. Earle) **51** #8403 30A46

Linear extremal problems for analytic functions. *Acta. Math.* **128** (1972), *no.* 1- 91–122. (S. Fisher) **52** #3507 30A48 (30A42)

Fonctions thêta, fonctions noyau, et intégrales abéliennes. *C. R. Acad. Sci. Par* *Sér. A-B* **275** (1972), A97–A100. (Y. Kusunoki) **46** #2040 30A58

Sur les problèmes linéaires extrémaux pour les fonctions analytiques. *C. R. Aca* *Sci. Paris Sér. A-B* **275** (1972), A329–A332. (W. E. Kirwan) **46** #9332 30A40

Classification theory for Hardy classes of analytic functions. *Ann. Acad. Sci. Fen* *Ser. A I No.* 566 (1973), 29 *pp.* (See Zbl **289** #30038) 30A78

Some remarks on kernel functions and Abelian differentials. *Arch. Rational Mech* *Anal.* **52** (1973), 199–204. (G. G. Weill) **49** #9192 30A52

Monodromy groups and linearly polymorphic functions. *Discontinuous groups an* *Riemann surfaces* (*Proc. Conf., Univ. Maryland, College Park, Md.*, 1973), *pp.* 247 261 *Ann. of Math. Studies, No.* 79, *Princeton Univ. Press, Princeton, N.J.*, 1974. (G. G. Weill **50** #7512 30A52

Linear extremal problems for analytic functions with interior side conditions. *Ann* *Acad. Sci. Fenn. Ser. A I Math. No.* 586 (1974), 36 *pp.* (T. Giec) **52** #14270 30A3

A remark on the Lindelöf hypothesis. *Bull. Amer. Math. Soc.* **80** (1974), 695–699 (E. Grosswald) **49** #2589 10H05 (10K35)

Sur les paramètres accessoires pour l'uniformisation de Schottky. *C. R. Acad. Sc* *Paris Sér. A* **279** (1974), 695–697. (H. Renggli) **51** #13215a 30A46 (32G15)

Sur les paramètres accessoires pour l'uniformisation de Schottky. *C. R. Acad. Sc* *Paris Sér. A* **279** (1974), 713–716. (H. Renggli) **51** #13215b 30A46 (32G15)

Universal covering maps for variable regions. *Math. Z.* **137** (1974), 7–20. (C. Earle **50** #2482 30A46

Monodromy groups and linearly polymorphic functions. *Acta Math.* **135** (1975), *no* 1, 1–55. (R. Gérard) **57** #3380 30A52 (14D05, 14H15)

On Schottky and Teichmüller spaces. *Advances in Math.* **15** (1975), 133–156. (H. M Farkas) **50** #10328 32G15 (30A46)

Monodromy groups for higher-order differential equations. *Bull. Amer. Math. Soc* **81** (1975), 590 592. (L. Greenberg) **51** #884 30A58 (32G15, 34A20)

The Selberg trace formula for congruence subgroups. *Bull. Amer. Math. Soc.* **81** (1975), 752 755. (R. A. Rankin) **51** #8035 10D05

Quelques remarques au sujet des fontions linéairement polymorphes sur une surface de Riemann. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A637-A640. (Helmut Köditz) **51** #3427 30A52 (32G15)

Quelques remarques à propos des séries de Poincaré sur les groupes de Schottky (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 6, Aii, A341–A344

J. Spilker) **52** #8417 30A58 (10D05)

★The Selberg trace formula for $\mathrm{PSL}(2,R)$. Vol. I. Lecture Notes in Mathematics, ol. 548. *Springer-Verlag, Berlin-New York*, 1976. vi+516 *pp*. (Audrey A. Terras) 5 #12641 10D15 (10H10)

Sur les paramètres accessoires pour l'uniformisation fuchsienne. (English summary) *R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no*. 8, Ai, A403–A406. (H. H. Martens) 3 #3294 30A46

The Selberg trace formula and the Riemann zeta function. *Duke Math. J.* **43** (1976), o. 3, 441–482. (Larry J. Goldstein) **54** #2591 10D15 (10H10)

The variational theory of linearly polymorphic functions. *J. Analyse Math.* **30** 1976), 215–264. (Helmut Köditz) **56** #3286 30A46 (14D05)

Sur les séries de Poincaré des groupes fuchsiens. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no*. 11, A607–A610. (Author's summary) **55** #2755 0D10 (30A58)

Monodromy groups and Poincaré series. *Bull. Amer. Math. Soc.* **84** (1978), *no*. 3, 39–376. (Marvin I. Knopp) **58** #11383 30A58

Sur certaines séries de Dirichlet dont les pôles sont sur les lignes critiques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no*. 6, A383–A385. (Author's summary) **58** #16558 10H10 (10D25)

H ý, Milan (*with* Znám, Štefan) Coset decomposition of Abelian groups. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* **25** (1971), 15–19. (E. Toubassi) **46** #3644 20K99

Klein hyperbottle. *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no*. 4, 369–371. (W. Metzler) **55** #6437 57A65

Independence in Klein spaces. (Russian summary) *Math. Slovaca* **26** (1976), *no*. 3, 161–170. (L. Klukovits) **54** #10108 08A25

H manek, J. Scattering theory of the linear Boltzmann-operator. *Methoden und Verfahren der mathematischen Physik, Band* 9, *pp*. 183–201. *Bibliographisches Institut, Mannheim*, 1973. (J. Weidmann) **51** #1159 35P25 (47F05)

Scattering theory of the linear Boltzmann operator. *Comm. Math. Phys.* **43** (1975), *no*. 2, 109–120. (Tapas Mazumdar) **52** #2497 82.47

Stark stetige Halbgruppen und Gruppen als Lösungen von Cauchy-Problemen in der mathematischen Physik. (English summary) *Monatsh. Math.* **82** (1976), *no*. 2, 151–162. (K. Yosida) **55** #3870 47D05 (35Q99)

H Kan Čer The Tricomi problem for a certain equation of mixed type with two perpendicular lines of degeneracy. (Russian) *Dinamika Splošn. Sredy Vyp*. 16 *Nestacionarnye Problemy Gidrodinamiki* (1974), 112–119, 123. (Author's summary) **56** #12633 35M05

A mixed boundary value problem for two degenerate elliptic equations. (Russian) *Dinamika Splošn. Sredy Vyp*. 24 *Dinamika Židk. so Svobod. Granicami* (1976), 115–123, 171. (From the text) **58** #1619 35J70

The Gellerstedt problem for a certain equation of mixed type. (Russian) *Dinamika Splošn. Sredy Vyp*. 26 *Kraevye Zadači Vyroždajuščih. Uravn. Gidrodinamiki* (1976), 134–141, 163. (Author's summary) **57** #17016 35M05

Uniqueness of the solution of a singular Tricomi problem for a certain equation of mixed type with two lines of degeneracy. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no*. 1, 42–48, 98. (Megumi Saigo) **56** #12634 35M05

Uniqueness of the solution of the Gellerstedt problem for an equation of mixed type. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no*. 6, 1426–1429, 1439. (Megumi Saigo) **57** #6872 35M05

kimov, K. A method of expansion in two variables for a certain integro-differential equation, and its connection with the averaging method. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp*. 22 (1973), 24–32, 196. (Author's summary) **58** #23430 45J05 (34K15)

(*with* Filatov, A. N.) Certain algorithms for the construction of higher approximations for systems of integro-differential equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1139–1141, 1152. (D. Baĭnov) **50** #2842 45J05 (34C30)

(*with* Kurbanov, P.) A study of Mathieu's equation in the presence of damping. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp*. 23 (1974), 82–89, 224. (E. S. Čičkin) **57** #6608 34B30

Justification of the averaging principle for a certain integrodifferential equation. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp*. 34 (1975), 28–30, 197. (From the author's text) **57** #3788 45J05

Some methods for the approximate construction of the solutions of integro-differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No*. 37 (1975), 8–11, 141. (RŽMat **1976** #8 B1204) **58** #29947 45J05

(*with* Èšmatov, H.) Averaging in certain systems of integrodifferential equations with slow and fast variables. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no*. 5, 695–699, 719. (Erwin Kozakiewicz) **55** #3714 45J05 (34K15)

(*with* Filatov, A. N.) On the freezing method in the theory of integro-differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No*. 39 (1976), 3–10, 197. (RŽMat **1976** #8 B479) **58** #29942 45J05

Application of the freezing method for the investigation of integro-differential equations that describe parametric oscillations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No*. 40 (1976), 48–61, 177. (RŽMat **1976** #11 B449) **58** #29948 45J05

(*with* Maksudov, R.) The averaging of certain integro-differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No*. 41 (1976), 17–26, 185. (RŽMat **1977** #1 B424) **58** #29953 45J05

A way of constructing higher approximations by the freezing method. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No*. 42 (1976), 104–111, 189. (RŽMat **1977** #4 B385.) **58** #29910 45E05

ekimova, M. A. (*with* Rožkov, V. I.) A method for studying the periodic solutions of systems of difference and differential-difference equations with small lag. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no*. 10, 1770–1780, 1917. (Erwin Kozakiewicz) **56** #807 34K25

ekker, V. The construction of a cubature formula for the disc that is accurate for polynomials of degree eight. (Russian) *Metody Vyčisl.* **9** (1974), 3–6, 180. (Editors) **52** #12301 65D30

The construction of cubature formulas for the disk. (Russian) *Metody Vyčisl.* **10** (1976), 73–80, 186. (D. D. Stancu) **58** #19047 65D30

Heladze, Š, V. A remark on a theorem of Katznel'son. (Russian) *Works of Young Scientists at Tbilisi State University, Physics, Mathematics and Natural Science Series*, 2 (*Russian*), *pp*. 24–29. *Izdat. Tbilis. Univ., Tbilisi*, 1974. (J. Lukeš) **58** #12158 42A20

The divergence everywhere of Fourier-Walsh series. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), 305–307. (F. Móricz) **51** #10990 42A56

(*with* Sanadze, D. K.) The convergence of multiple Fourier-Walsh series. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **80** (1975), *no*. 2, 285–288. (A. Olevskiĭ) **54** #5728 42A56

The convergence of Fourier series almost everywhere and in L. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 3, 535–537. (F. Schipp) **55** #3660 42A20

(*with* Sanadze, D. K.) Convergence and divergence of multiple Fourier-Walsh series. (Russian) Collection of articles on the theory of functions, 8: Boundary problems on the theory of functions. Problems of convergence of multiple Fourier series. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **55** (1977), 93–106. (J. Németh) **58** #23332 42A56

Divergence everywhere of Fourier series in bounded Vilenkin systems. (Russian) Questions of the theory of functions and mathematical physics. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **58** (1978), 224–242. (G. M. Fel'dman) **58** #29803 42A60

Helašvili, A. A. A two-particle condition for unitarity, and a representation of the elastic scattering amplitude of spin particles. (Russian. Georgian and English summaries) *Thbilis. Univ. Šrom. A* **5(147)** (1972), 61–67. **53** #15176 81.35

The representation $(1, 8)\oplus(8, 1)$ in the Hamiltonian of hadrons using the example of the SU_3 sigma model. (Russian) International Conference: Mathematical Problems of Quantum Field Theory and Quantum Statistics (Moscow, 1972), Part II. *Trudy Mat. Inst. Steklov.* **136** (1975), 312–322, 440–441. (A. U. Klimyk) **57** #14975 81.22

See also **Works: Young Scientists at Tbilisi State University**, **56** #23

el-Helbawy, Abdalla T. *See* **El-Helbawy, Abdalla T.**

Helbig, Hermann A new method for deductive answer finding in a question. *Information processing* 77 (*Proc. IFIP Congr., Toronto, Ont.*, 1977), *pp*. 389–393. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam*, 1977. (John K. Debenham) **58** #8561 68A45

Helbig, M. (*with* Boehm, Carl; Engelfriet, Joost; Kool, A. I. M.; Leepin, Peter; Neuburger, Edgar; Wilkie, A. D.) Thoughts on the harmonization of some proposals for a new international actuarial notation. *Bl. Dtsch. Ges. Versicherungsmath.* **12** (1975/76), *no*. 2, 99–129. (Jacques Janssen) **54** #9026a 62P05

(*with* Boehm, Carl; Engelfriet, Joost; Kool, A. I. M.; Leepin, Peter; Neuburger, Edgar; Wilkie, A. D.) Translation of some sections of C. W. Jordan, Society of Actuaries textbook on life contingencies, 1967, into the publication language proposed in the paper "Some thoughts on a harmonization of some proposals for a new international actuarial notation" (Bl. Dtsch. Ges. Versicherungsmath. **12** (1975/76), no. 2, 99–129). *Bl. Dtsch. Ges. Versicherungsmath.* **12** (1975/76), *no*. 3, 275–282. (Jacques Janssen) **54** #9026b 62P05

Helbig Hansen, Keld (*with* Krarup, Jakob) Improvements of the Held-Karp algorithm for the symmetric traveling-salesman problem. *Math. Programming* **7** (1974), 87–96. (G. D. Byrne) **50** #11776 65K05

Helbing, Mario Otto Un capitolo del *De motu* di Francesco Buonamici e alcune informazioni sull'autore e sulle sue opere. (English summary) *Physis—Riv. Internaz. Storia Sci.* **18** (1976), *no*. 1, 41–63. (Author's summary) **58** #15873 01A40

Held, A. (*with* Geroch, Robert; Penrose, R.) A space-time calculus based on pairs of null directions. *J. Mathematical Phys.* **14** (1973), 874–881. (S. Deser) **48** #1645 83.53

A coordinate system based on a twisting null geodesic congruence. *Proc. Roy. Soc.* (*London*) *Ser. A* **332** (1973), 415–417. (Juergen Kern) **48** #13146 83.53

A formalism for the investigation of algebraically special metrics. I. *Comm. Math. Phys.* **37** (1974), 311–326. (Homer G. Ellis) **54** #14719a 83.53

(*with* Voorhees, Burton H.) Some zero rest mass test fields in general relativity. *Internat. J. Theoret. Phys.* **10** (1974), 179–187. (Authors' summary) **55** #7279 83.53

A formalism for the investigation of algebraically special metrics. II. *Comm. Math. Phys.* **44** (1975), *no*. 2, 211–222. (Homer G. Ellis) **54** #14719b 83.53

Killing vectors in empty space algebraically special metrics. I. *General Relativity and Gravitation* **7** (1976), *no*. 2, 177–198. (Robert Malhiot) **58** #14926 83.53

Killing vectors in empty space algebraically special metrics. II. *J. Mathematical Phys.* **17** (1976), *no*. 1, 39–45. (Author's summary) **58** #32774 83.53

Held, Dieter The simple groups related to M_{24}. II. Collection of articles dedicated to the memory of Hanna Neumann, I. *J. Austral. Math. Soc.* **16** (1973), 24–28. (David R. Mason) **48** #6232 20D05

Held, Michael (*with* Wolfe, Philip; Crowder, Harlan P.) Validation of subgradient optimization. *Math. Programming* **6** (1974), 62–88. (Romesh Saigal) **49** #6609 65K05 (90C05)

Held, René P. (*with* Suter, Ueli) Die Bestimmung der unitären K-Theorie von SO(n) mit Hilfe der Atiyah-Hirzebruch-Spektralreihe. *Math. Z.* **122** (1971), 33–52. (J. A. Schafer) **45** #1191 57F35 (55H25)

(*with* Sjerve, Denis K.) Sur certains complexes de Thom et le J-homomorphisme. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1293–A1295. (M. F. Atiyah) **47** #5871 55E50

(*with* Sjerve, Denis K.) On the Spanier conjecture. *Comment. Math. Helv.* **47** (1972), 75–91. (W. Metzler) **46** #4527 55D10

(*with* Suter, Ueli) On torsion in unitary K-theory of compact Lie groups. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 493–495 (1974). (A. Verona) **51** #4217 55B15 (57F10)

(*with* Sjerve, Denis K.) À propos du type d'homotopie stable des espaces projectifs tronqués. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1665–A1668. (M. F. Atiyah) **48** #5069 55E50

(*with* Sjerve, Denis K.) On the stable homotopy type of Thom complexes. *Canad. J. Math.* **25** (1973), 1285–1294. (R. M. F. Moss) **49** #3911 55D15 (55F50)

(*with* Sjerve, Denis K.) On the homotopy properties of Thom complexes. *Math. Z.* **135** (1973/74), 315–323. (J. A. Schafer) **49** #6237 55F10

(*with* Suter, Ueli) On the unitary K-theory of compact Lie groups with finite fundamental group. *Quart. J. Math. Oxford Ser.* (2) **24** (1973), 343–356. (J. W. Vick) **48** #5110 57F10 (55B15)

(*with* Suter, Ueli) L'anneau de Grothendieck des groupes orthogonaux projectifs.

C. R. Acad. Sci. Paris Sér. A **279** (1974), 213–216. (Richard R. Patterson) **51** #4247 55F50 (55F10)

(*with* Suter, Ueli) Stable vector bundles over the projective orthogonal groups. *Comment Math. Helv.* **50** (1975), 93–114. (Richard R. Patterson) **51** #4246 55F50 (57F10)

Held, W. Die Collatzschen Einschliessungssätze für Eigenwerte bei Differentialgleichungen. *Numerische Behandlung von Eigenwertaufgaben (Tagung, Math. Forschungsinst., Oberwolfach*, 1972), *pp.* 47–55. *Internat. Schriftenreihe Numer. Math., Band* 24, *Birkhäuser, Basel*, 1974. (Rudolf Gorenflo) **53** #7046 65L15 (34B25)

Bemerkungen zu einem Einschließ-ungssatz von L. Collatz. *Numerische Methoden der Approximationstheorie, Band* 2 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1973), *pp.* 63–66. *Internat. Schriftenreihe Numer. Math., Band* 26, *Birkhäuser, Basel*, 1975. (L. Collatz) **52** #12342 65L15

van Helden, Albert *See* **Van Helden, Albert**

van Helden, Albert A note about Christiaan Huygens's *De Saturni luna observatio nova. Janus* **62** (1975), *no.* 1-3, 13–15. (Editors) **58** #21126 01A45

king-Hele, D. G. *See* **King-Hele, D. G.**

Helemskiĭ, A. Ja. A locally compact abelian group with trivial two-dimensional Banach cohomology is compact. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 1004–1007. (M. Hasumi) **46** #4110 43A95 (22B99, 46H25)

The global dimension of a functional Banach algebra is different from one. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 2, 95–96. (M. Hasumi) **46** #4202 46J05 (46H25)

(*with* Sinaĭ, Ja. G.) A description of differentiations in algebras the type of algebras of local observables of spin systems. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 4, 99–100. (W. Faris) **47** #6233 81.46

A certain method of computing and estimating the global homology dimension of Banach algebras. (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 122–135. (B. R. Gelbaum) **45** #9135 46H05 (55B99)

A certain class of flat Banach modules and its applications. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27** (1972), *no.* 1, 29–36. (B. R. Gelbaum) **45** #4148 46H25 (46M99)

The global dimension of a Banach function algebra is different from one. (Russian) Analysis in infinite-dimensional spaces. *Trudy Kaf. Teorii Funkciĭ i Funkcional. Anal. Moskov. Gos. Univ. No.* 1 (1974), 39–58. (B. R. Gelbaum) **53** #1273 46J20 (46M20)

Representation by Hamiltonians of derivations that act from the algebra of local observables of a spin system. (Russian) *Mat. Zametki* **21** (1977), *no.* 1, 93–98. (James D. Fabrey) **56** #10562 81.46

(*with* Golovin, Ju. O.) The homological dimension of certain modules over a tensor product of Banach algebras. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 1, 54–61. (B. R. Gelbaum) **56** #6427 46M10 (46H25)

Lower values that admit the global homology dimension of functional Banach algebras. (Russian) *Trudy Sem. Petrovsk. No.* 3 (1978), 223–242. (E. R. Deal) **58** #2348 46M20 (46J05)

Helfenstein, H. G. A flat nonmetrizable connexion. *Canad. Math. Bull.* **15** (1972), 205–206. (C. Di Comite) **46** #6201 53B05

(*with* Katz, E.) Intermediate flexibility of surfaces. *Compositio Math.* **25** (1972), 71–78. (R. L. Bishop) **47** #9495 53C45

The Hurwitz relation for tori. *Monatsh. Math.* **76** (1972), 300–305. (C. Earle) **52** #737 30A46 (14H30)

Helffer, Bernard ★Théorèmes de Sobolev dans les espaces de Sobolev avec poids. Thèse de 3ème cycle. Rapport No. M87.0572. *Centre de Mathématiques de l'École Polytechnique, Paris*, 1972. 59 *pp.* (J. Peetre) **55** #8782 46E35

(*with* Kannai, Yakar) Determining factors and hypoellipticity of ordinary differential operators with double "characteristics". *Colloque International CNRS sur les Èquations aux Dérivées Partielles Linèaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp.* 197–216. *Astérisque*, 2 *et* 3. *Soc. Math. France, Paris*, 1973. (L. Cattabriga) **53** #6081 35H05

Une classe d'opérateurs hypoelliptiques. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A531–A533. (H. Kumano-go) **48** #4486 35H05

(*with* Zuily, Claude) Non-hypoellipticité d'une classe d'opérateurs différentiels. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A1061–A1063. (H. Kumano-go) **49** #3308 35H05

(*with* Zuily, Claude) Non hypoellipticité des opérateurs différentiels du type de Fuchs. *Séminaire Goulaouic-Schwartz* 1973–1974: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 5, 6 *pp. Centre de Math., École Polytech., Paris*, 1974. (Cesare Parenti) **53** #8639 35H05 (47F05)

Opérateurs pseudo-différentiels et résolubilité locale (d'après R. Beals et C. Feffermann). *Séminaire Goulaouic-Schwartz* 1973–1974: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 7, 11 *pp. Centre de Math., École Polytech., Paris*, 1974. (Ju. V. Egorov) **53** #14224 47G05 (35D05, 35S05)

Sur l'hypoellipticité d'une classe d'opérateurs paraboliques dégénérés. (English summary) *Sur quelques équations aux dérivées partielles singulières, pp.* 79–105, 123. *Astérisque, No.* 19, *Soc. Math. France, Paris*, 1974. (C. Harvey) **51** #1097 35H05

(*with* Zuily, Claude) Non hypoellipticité d'une classe d'opérateurs différentiels. (English summary) *Sur quelques équations aux dérivées partielles singulières, pp.* 107–122, 124. *Astérisque, No.* 19, *Soc. Math. France, Paris*, 1974. (C. Harvey) **51** #1098 35H05

(*with* Bolley, Pierre; Camus, Jacques) Hypoellipticité partielle d'une classe d'opérateurs elliptiques et dégénérés. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 775–778. (C. Harvey) **51** #3685 35J30

★Sur une classe d'opérateurs hypoelliptiques à caractéristiques multiples. Rapport No. M187.0275. *Centre de Mathématiques de l'École Polytechnique, Paris*, 1975. 12 *pp.* (Editors) **54** #8746 58G15 (35H05)

(*with* Bolley, Pierre; Camus, Jacques) Sur une classe d'opérateurs partiellement hypoelliptiques. *Séminaire Goulaouic-Lions-Schwartz* 1974–1975: *Équations aux dérivées partielles linéaires et non linéaires, Exp. No.* 13, 17 *pp. Centre Math., École Polytech., Paris*, 1975. (J. S. Joel) **55** #837 35H05 (35D05)

Sur une classe d'opérateurs pseudodifférentiels hypoelliptiques à caractéristiques doubles. D'après L. Hörmander [Ann. of Math. (2) **83** (1966), 129–209]. *Séminaire Goulaouic-Lions-Schwartz* 1974–1975: *Equations aux derivées partielles linéaires et linéaires, Exp. No.* 22, 18 *pp. Centre Math., École Polytech., Paris*, 1975. (Edit **52** #11662 47G05

Sur l'hypoellipticité d'opérateurs pseudo-différentiels à caractéristiques dou (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 19, Aii, A801–A (J. S. Joel) **55** #840 35H05 (58G15, 35S05)

(*with* Boutet de Monvel, Louis; Grigis, Alain) Parametrixes d'opérateurs pseudo-différentiels à caractéristiques multiples. *Journées: Équations aux Dérivées Partielles de Rennes* (1975), *pp.* 93–121. *Astérisque, No.* 34-35, *Soc. Math. France, P* 1976. (Ju. V. Egorov) **58** #12046 35S05 (35J70, 58G15)

Invariants associés à une classe d'opérateurs pseudodifférentiels et applicatio l'hypoellipticité. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **26** (1976), *no.* 55–70. (Bent. E. Petersen) **54** #1318 58G15 (35H05)

(*with* Rodino, Luigi) Elliptic pseudo differential operators degenerate on a symplectic submanifold. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 4, 619–622. (Ce Parenti) **53** #11210 35H05 (35S05)

Construction de paramétrixes pour des opérateurs pseudo-différentiels caractéristiques sur la réunion de deux cônes lisses. (English summary) *C. R. Acad. Paris Sér. A-B* **283** (1976), *no.* 4, *A*iii, *A*193–*A*195. (R. D. Moyer) **54** #8002 35

(*with* Bolley, Pierre; Camus, Jacques) Remarques sur l'hypoellipticité. (Eng summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 14, *A*ii, *A*979–*A*982. (Auth summary) **54** #13290 35H05

(*with* Bolley, Pierre; Camus, Jacques) Sur une classe d'operateurs partielle hypoelliptiques. *J. Math. Pures Appl.* (9) **55** (1976), *no.* 2, 131–171. (H. Kumano- **55** #838 35H05

Sur une classe d'opérateurs hypoelliptiques à caractéristiques multiples. *J. M Pures Appl.* (9) **55** (1976), *no.* 2, 207–215. (H. Kumano-go) **55** #1384 58G15 (35H05)

(*with* Rodino, Luigi) Opérateurs differentiels ordinaires intervenant dans l'étude l'hypoellipticité. (Italian summary) *Boll. Un. Mat. Ital. B* (5) **14** (1977), *no.* 2, 491– (Author's summary) **57** #857 35H05

Hypoellipticité microlocale: présentation historique. *Bull. Soc. Math. France Su Mém. No.* 51-52 (1977), 5–12. (A. S. Dynin) **57** #854 35H05 (58G15)

Sur l'hypoellipticité des opérateurs pseudodifferentiels à caractéristiques multi (perte de 3/2 dérivées). *Bull. Soc. Math. France Suppl. Mém. No.* 51-52 (1977), 13– (A. S. Dynin) **57** #855 35H05 (58G15)

Construction de paramétrixes pour des opérateurs pseudodifférentiels caractéristiques sur la réunion de deux cônes lisses. *Bull. Soc. Math. France Su Mém. No.* 51-52 (1977), 63–123. (A. S. Dynin) **57** #856 35H05 (58G15)

(*with* Bolley, Pierre; Camus, Jacques) Hypoellipticité partielle pour des opérate dégénérés non-Fuchsiens. *Comm. Partial Differential Equations* **2** (1977), *no.* 1, 1– (Ju. V. Egorov) **55** #8535 35H05

Addition de variables et application à la régularité. *Ann. Inst. Fourier* (*Grenoble*) (1978), *no.* 2, vii, 221–231. (Makhlouf Derridj) **58** #1566 35H05

(*with* Nourrigat, Jean François) Hypoellipticité pour des opérateurs sur des grou de Lie nilpotents. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no* A395–A398. (Authors' summary) **58** #24395 58G05 (35H05)

Helfrich, Hans-Peter Optimale lineare Approximation beschränkter Mengen in normier Räumen. *J. Approximation Theory* **4** (1971), 165–182. (J. Blatter) **45** #4034 41A

Fehlerabschätzungen für das Galerkinverfahren zur Lösung von Evolutionsgleichungen. (English summary) *Manuscripta Math.* **13** (1974), 219–235. (Thomée) **50** #8983 65L05

Charakterisierung des *K*-Funktionales zwischen Hilberträumen und nichtunifor Fehlerschranken. (English summary) *Finite Elemente* (*Tagung, Inst. für Angew. Ma Univ. Bonn, Bonn*, 1975), *pp.* 31–41. *Bonn. Math. Schrift., No.* 89, *Inst. Angew. Ma Univ. Bonn, Bonn*, 1976. (Robert D. Brown) **57** #3843 46E35 (65M15)

Interpolation zwischen Unterräumen eines Hilbertraumes. *Arch. Math.* (*Basel*) (1978), *no.* 2, 188–199. (H. Triebel) **58** #2351 46M35

Helgason, R. V. (*with* Kennington, Jeff L.) A product form representation of the inverse a multicommodity cycle matrix. *Networks* **7** (1977), *no.* 4, 297–322. (András Frar **57** #2507 90B10 (90C50)

Helgason, Sigurdur Some geometric properties of differential operators. *Sci. Islandica* (1968), 41–43. (J. S. Joel) **57** #13384 43A85 (58G99)

Group representations and symmetric spaces. *Actes du Congrès International Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 313–319. *Gauthier-Villars, Paris*, 1971. (J. Joel) **57** #7042 43A85 (22E30)

Spherical functions, spherical representations and correspondence theorems for spherical Fourier transform. *Colloque sur les Fonctions Sphériques et la Théorie Groupes* (*Univ. Nancy, Nancy*, 1971), *Exp. No.* 3, 6 *pp. Inst. Élie Cartan, Univ. Nan Nancy*, 1971. (Jacques Faraut) **56** #12774 43A90

Representations of semisimple Lie groups. *Theory of group representations fourier analysis* (*Centro Internaz. Mat. Estivo* (*C.I.M.E.*), *II Ciclo, Montecatini Ter* 1970), *pp.* 65–118. *Edizioni Cremonese, Rome*, 1971. (R. A. Gangolli) **45** #2094 22E45

A formula for the radial part of the Laplace-Beltrami operator. *J. Different Geometry* **6** (1971/72), 411–419. (H. H. Johnson) **46** #618 43A85 (28A70, 53C30

★Analysis on Lie groups and homogeneous spaces. Conference Board of t Mathematical Sciences Regional Conference Series in Mathematics, No. 14. *Americ Mathematical Society, Providence, R.I.*, 1972. vi + 64 *pp.* (E. Thoma) **47** #5179 22E45 (22E30, 43A90)

Harmonic analysis in the non-Euclidean disk. *Conference on Harmonic Analys* (*Univ. Maryland, College Park, Md.*, 1971), *pp.* 151–156. *Lecture Notes in Math., V* 266, *Springer, Berlin*, 1972. (S. G. Gindikin) **53** #14027 43A85

Conical distributions and group representations. *Symmetric spaces* (*Short Course Washington Univ., St. Louis, Mo.*, 1969–1970), *pp.* 141–156. *Pure and Appl. Math., V* 8, *Dekker, New York*, 1972. (Khélifa Harzallah) **54** #8169 43A85 (22E45)

Geometric reduction of differential operators. *Symposia Mathematica, Vol. X* (*Convegno di Geometria Differenziale, INDAM, Rome*, 1971), *pp.* 107–115. *Academ Press, London*, 1972. (Editors) **50** #10696 43A90

Élie Cartan's symmetric spaces. (Danish) *Danish Mathematical Society* (1923–1973 *pp.* 93–101. *Dansk Mat. Forening, Copenhagen*, 1973. (Editors) **58** #12842 53C35

Functions on symmetric spaces. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, Mass.*, 1972), *pp.* 101–146. *Amer. Math. Soc., Providence, R.I.*, 1973. (Kenneth Johnson) **49** #11154 43A85 (22E30)

The surjectivity of invariant differential operators on symmetric spaces. I. *Ann. of Math.* (2) **98** (1973), 451–479. (Kenneth Johnson) **51** #3804 43A85 (22E30)

Paley-Wiener theorems and surjectivity of invariant differential operators on symmetric spaces and Lie groups. *Bull. Amer. Math. Soc.* **79** (1973), 129–132. (R. Carroll) **47** #720 43A85 (22E30, 35R99, 46F10)

Remarque sur R. G. McLenaghan: "On the validity of Huygens principle for second order partial differential equations with four independent variables. I. Derivation of necessary conditions" (Ann. Inst. H. Poincaré Sect. A (N.S.) **20** (1974), 153–188). *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **21** (1974), 347. (P. Günther) **51** #6155 35L10 (58G99, 83.53)

Eigenspaces of the Laplacian; integral representations and irreducibility. *J. Functional Analysis* **17** (1974), 328–353. (H. H. Johnson) **51** #3353 22E30 (43A85)

The eigenfunctions of the Laplacian on a two-point homogeneous space: integral representations and irreducibility. *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Part 2, Stanford Univ., Stanford, Calif.*, 1973), *pp.* 357 360. *Amer. Math. Soc., Providence, R.I.*, 1975. (Editors) **51** #13136 22E45

Solvability of invariant differential operators on homogeneous manifolds. *Differential operators on manifolds* (*Centro Internaz. Mat. Estivo* (*C.I.M.E.*), *III Ciclo, Varenna*, 1975), *pp.* 281–310. *Cremonese, Rome*, 1975. (Editors) **58** #29860 43A85

A duality for symmetric spaces with applications to group representations. II. Differential equations and eigenspace representations. *Advances in Math.* **22** (1976), *no.* 2, 187–219. (A. Morimoto) **55** #3169 22E45 (22E30, 43A85)

Solvability questions for invariant differential operators. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 517–527. *Academic Press, New York*, 1977. (Editors) **58** #11222 22E30 (43A85, 58G99)

Invariant differential equations on homogeneous manifolds. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 5, 751–774. (G. L. Litvinov) **56** #3579 43A85 (22E30, 58G99)

Some results on eigenfunctions on symmetric spaces and eigenspace representations. *Math. Scand.* **41** (1977), *no.* 1, 79–89. (Mitsuo Sugiura) **58** #17696 43A90 (22E30)

lgason, Thorkell Aspects of the theory of hypermatroids. *Hypergraph Seminar* (*Proc. First Working Sem., Ohio State Univ., Columbus, Ohio*, 1972; *dedicated to Arnold Ross*), *pp.* 191–213. *Lecture Notes in Math., Vol.* 411, *Springer, Berlin*, 1974. (R. A. Brualdi) **51** #7909 05B35

On combinatorial line-geometries. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Roma*, 1973), *Tomo I*, *pp.* 265–275. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (M. J. Piff) **56** #5336 05B35

lgert, Hermann Josef Srivastava codes. *IEEE Trans. Information Theory* **IT-18** (1972), 292–297. (I. M. Chakravarti) **48** #10643 94A10

Noncyclic generalizations of BCH and Srivastava codes. *Information and Control* **21** (1972), 280–290. (R. J. McEliece) **48** #5719 94A10

(*with* Stinaff, Russell D.) Minimum-distance bounds for binary linear codes. *IEEE Trans. Information Theory* **IT-19** (1973), 344–356. (Authors' summary) **51** #7711 94A10

(*with* Stinaff, R. D.) Shortened BCH codes. *IEEE Trans. Information Theory* **IT-19** (1973), 818–820. (S. Guiaşu) **50** #16081 94A10

Alternant codes. *Information and Control* **26** (1974), *no.* 4, 369–380. (N. J. A. Sloane) **53** #15550 94A10

Binary primitive alternant codes. *Information and Control* **27** (1975), 101–108. (Ian Blake) **50** #12437 94A10

Decoding of alternant codes. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 4, 513–514. (Sami Harari) **57** #5454 94A10

ell, Otto (*with* Knof, Hans) Berechnung von Eigenschaften zweiatomiger Moleküle Ein- und Zweizentrenintegrale mit Slater-Funktionen. (English summary) *Z. Naturforsch.* **28a** (1973), 142–173. (P. J. Roberts) **53** #7267 81.33

ell, Pavol (*with* Chvátal, Václav; Kučera, Luděk; Nešetřil, Jaroslav) Every finite graph is a full subgraph of a rigid graph. *J. Combinatorial Theory Ser. B* **11** (1971), 284–286. (H. V. Kronk) **45** #3227 05C99

Full embeddings into some cateogries of graphs. *Algebra Universalis* **2** (1972), 129–141. (Václav Chvátal) **47** #4862 05C99

(*with* Rosa, Alexander) Graph decompositions, handcuffed prisoners and balanced *P*-designs. *Discrete Math.* **2** (1972), *no.* 3, 229–252. (Authors' summary) **46** #1615 05B05

(*with* Nešetřil, Jaroslav) Groups and monoids of regular graphs (and of graphs with bounded degrees). *Canad. J. Math.* **25** (1973), 239–251. (J. Sichler) **49** #123 05C25

Absolute retracts in graphs. *Graphs and combinatorics* (*Proc. Capital Conf., George Washington Univ., Washington, D. C.*, 1973), *pp.* 291–301. *Lecture Notes in Math., Vol.* 406, *Springer, Berlin*, 1974. (Paul C. Kainen) **53** #5350 05C10

On some strongly rigid families of graphs and the full embedding they induce. *Algebra Universalis* **4** (1974), 108–126. (L. W. Beineke) **51** #228 05C10

(*with* Harary, Frank) Generalized Ramsey theory for graphs. V. The Ramsey number of a digraph. *Bull. London Math. Soc.* **6** (1974), 175–182. (F. R. K. Chung) **49** #8893 (E **50** #12782) 05C15

Absolute planar retracts and the four color conjecture. *J. Combinatorial Theory Ser. B* **17** (1974), 5–10. (Ruth Bari) **51** #10149 05C15

Subdirect products of bipartite graphs. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. II*, *pp.* 857–866. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (Hugo S. Sun) **51** #7956 05C99

On some independence results in graph theory. *Proceedings of the Conference on Algebraic Aspects of Combinatorics* (*Univ. Toronto, Toronto, Ont.*, 1975), *pp.* 89–122. *Congressus Numerantium, No. XIII, Utilitas Math., Winnipeg, Man.*, 1975. (A. Pultr) **52** #7960 05C25

(*with* Kotzig, Anton; Rosa, Alexander) Some results on the Oberwolfach problem (decomposition of complete graphs into isomorphic quadratic factors). *Aequationes Math.* **12** (1975), 1–5. (D. K. Ray-Chaudhuri) **52** #197 05C99

(*with* Harary, Frank) Corrections: "Generalized Ramsey theory for graphs. V. The Ramsey number of a digraph" (Bull. London Math. Soc. **6** (1974), 175–182). *Bull. London Math. Soc.* **7** (1975), 87–88. (Editors) **50** #12782 05C15

Graph retractions. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Roma*, 1973), *Tomo II*, *pp.* 263–268. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (Author's summary) **58** #27586 05C10 (05C15)

(*with* Miller, Donald J.) On forbidden quotients and the achromatic number. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 283–292. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (H. V. Kronk) **53** #2752 05C99

(*with* Miller, Donald J.) Graph with given achromatic number. *Discrete Math.* **16** (1976), *no.* 3, 195–207. (Andreas Blass) **56** #173 05C15

(*with* Alspach, Brian R.; Brown, T. C.) On the density of sets containing no *k*-element arithmetic progression of a certain kind. *J. London Math. Soc.* (2) **13** (1976), *no.* 2, 226–234. (H.-J. Kanold) **54** #5166 10L10

See also **Problems: Combinatorics**, **52** #5430 *and* **Algorithmic aspects of combinatorics**, **57** #12236

Helland, Inge S. The condition for extinction with probability one in a birth, death and migration process. *Advances in Appl. Probability* **7** (1975), 61–65. (Andrew D. Barbour) **50** #14970 60J80

(*with* Nilsen, Trygve S.) On a general random exchange model. *J. Appl. Probability* **13** (1976), *no.* 4, 781–790. (George L. O'Brien) **55** #4436 60K99

Continuity of a class of random time transformations. *Stochastic Processes Appl.* **7** (1978), *no.* 1, 79–99. (Torgny Lindvall) **58** #7765 60B10 (60J75, 60J80)

Helle, Renate *See* **Smirnov, V. I.**, **55** #5807

Hellegouarch, Yves Points d'ordre fini des variétés abéliennes de dimension un. *Colloque de Théorie des Nombres* (*Univ. Bordeaux, Bordeaux*, 1969), *pp.* 107–112. *Bull. Soc. Math. France, Mém.* 25, *Soc. Math. France, Paris*, 1971. (M. Bašmakov) **51** #5607 14K15 (10B10)

Sur un théorème de Maillet. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A477–A478. (M. Fried) **45** #3416 14G05

Sur l'équation diophantienne $x_1^{p^h}+x_2^{p^h}=cx_3^{p^h}$. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1385–A1387. (M. Fried) **45** #3317 10B15

Une généralisation du théorème de Hahn-Banach. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1615–A1618. (B. Rodriguez-Salinas) **46** #646 46B99

Points d'ordre $2p^h$ sur les courbes elliptiques. *Acta Arith.* **26** (1974/75), *no.* 3, 253–263. (Loren D. Olson) **52** #412 14G25 (10D05, 14G05, 14K15)

Remarques au sujet de la note précédente. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1089. (Benno Fuchssteiner) **50** #14170 46A99

See also **Sarmant-Durix, Marie-Claude**, **53** #2955

Helleman, Robert H. G. (*with* Montroll, Elliott W.) On a nonlinear perturbation theory without secular terms. I. Classical coupled anharmonic oscillators. *Physica* **74** (1974), 22–74. (Robert Faure) **52** #9731 70.34

(*with* Montroll, Elliott W.) On a nonlinear perturbation theory without secular terms. II. Carleman embedding of nonlinear equations in an infinite set of linear ones. *Topics in statistical mechanics and biophysics: a memorial to Julius L. Jackson*, *pp.* 75–110. *AIP Conf. Proc., No.* 27, *Amer. Inst. Phys., New York*, 1976. (P. Hagedorn) **56** #17301 70.41

(*with* Eminhizer, Charles R.; Montroll, Elliott W.) On a convergent nonlinear perturbation theory without small denominators or secular terms. *J. Mathemtical Phys.* **17** (1976), *no.* 1, 121–140. (P. Hagedorn) **52** #9741 70.41 (34C25)

On the iterative solution of a stochastic mapping. *Statistical mechanics and statistical methods in theory and application* (*Proc. Sympos., Univ. Rochester, Rochester, N.Y.*, 1976), *pp.* 343–370. *Plenum, New York*, 1977. (Koichiro Matsuno) **58** #9015 82.60 (34C25, 58F15)

(*with* Bountis, Tassos) Exact statistical mechanics of some classical 1*D* systems. *J. Mathematical Phys.* **19** (1978), *no.* 2, 477–481. (F. C. Auluck) **57** #2353 82.26

Hellen, T. K. Numerical integration considerations in two and three dimensional isoparametric finite elements. *The mathematics of finite elements and applications, II* (*Proc. Second Brunel Univ. Conf. Inst. Math. Appl., Uxbridge*, 1975), *pp.* 511–524. *Academic Press, New York*, 1976. (From the introduction) **58** #19048 65D30 (65N30)

Heller, Alex Abstract homotopy in categories of fibrations and the spectral sequence of Eilenberg and Moore. *Illinois J. Math.* **16** (1972), 454–474. (A. Dold) **46** #9988 55H20

Principal bundles and group extensions with applications to Hopf algebras. *J. Pure Appl. Algebra* **3** (1973), 219–250. (J. P. May) **48** #6213 18F15

Adjoint functors and bar constructions. *Advances in Math.* **12** (1974), 8–31. (Harold Hastings) **48** #12585 57F30 (18A40, 55F20)

(*with* Eilenberg, Samuel) Limit properties of stochastic matrices. *Contributions to algebra* (*collection of papers dedicated to Ellis Kolchin*), *pp.* 135–149. *Academic Press, New York*, 1977. (D. Rosenblatt) **57** #9727 15A51 (05B20, 60F20, 94A20)

See also **Algebra, topology, and category theory**, **53** #12817

Heller, Bedřich (*with* Vojtášek, Stanislav) Die Kontraktion der Trajektorien autonomer Systeme in der Phasenebene. (English summary) *Acta Tech. ČSAV* **17** (1972), 288–294. (M. Bertolino) **49** #714 34C05

(*with* Veverka, Antonín) Zur Problematik der Unterharmonischen und Oberharmonischen in nicht linearen Differentialgleichungen zweiter Ordnung. (English summary) *Acta Tech. ČSAV* **17** (1972), 477–485. (D. V. V. Wend) **50** #13727 34C15

(*with* Paderta, Bedřich) Functional equations of some types of distribution functions used in statistics. *Acta Tech. ČSAV* **19** (1974), 162–169. (S. M. Samuels) **49** #11687 62E10

Heller, D. E. (*with* Stevenson, David; Traub, J. F.) Accelerated iterative methods for the solution of tridiagonal systems on parallel computers. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 4, 636–654. (R. H. Bartels) **55** #6809 65F10 (15-04)

Heller, Don A determinant theorem with applications to parallel algorithms. *SIAM J. Numer. Anal.* **11** (1974), 559–568. (Author's summary) **50** #1487 65F30

Some aspects of the cyclic reduction algorithm for block tridiagonal linear systems.

SIAM J. Numer. Anal. **13** (1976), *no.* 4, 484–496. (Jo Ann Howell) **55** #11588 65F10

Heller, Eric J. (*with* Rescigno, Thomas N.; Reinhardt, William P.) Extraction of scattering information from Fredholm determinants calculated in an L^2 basis: A Chebyschev discretization of the continuum. *Phys. Rev. A* (3) **8** (1973), 2946–2951. (Authors' summary) **50** #15679 81.35

Time dependent variational approach to semiclassical dynamics. *J. Chem. Phys.* **64** (1976), *no.* 1, 63–73. (Editors) **56** #4540 81.49

Wigner phase space method: analysis for semiclassical applications. *J. Chem. Phys.* **65** (1976), *no.* 4, 1289–1298. (A. Altenberger) **53** #15117 81.00

Heller, J. E. (*with* Cruz, José B., Jr.) An algorithm for minimax parameter optimization. (French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 325–335. (A. Majthay) **49** #6935 90C30

Heller, Jerrold A. Feedback decoding of convolutional codes. *Advances in communication systems, Vol.* 4, *pp.* 261–278. *Academic Press, New York*, 1975. (From the author's text) **57** #5402 94A10

Heller, M. (*with* Reinhardt, M.) Meaningless questions in cosmology and relativistic astrophysics. *Z. Naturforsch.* **31a** (1976), *no.* 11, 1271–1276. (Julian I. Palmore) **56** #14494 83.00

Heller, Michał Global time problem in relativistic cosmology. *Ann. Soc. Sci. Bruxelles Sér. I* **89** (1975), *no.* 4, 522–532. (Richard Sigal) **52** #7447 83.53

(*with* Staruszkiewicz, Andrzej) A physicist's view on the polemics between Leibniz and Clarke. *Organon No.* 11 (1975), 205–213. (Editors) **58** #10043 01A45 (01A60)

The influence of Mach's thought on contemporary relativistic physics. *Organon No.* 11 (1975), 271–283. (Author's summary) **58** #9034 83.01

Heller, Ralph Table errata: "Ueber die Besselschen Funktionen $J_0(x)$ und $J_1(x)$" (Programmabhandlung No. 284, Oberrealschule Kiel, Kiel, 1890) by E. Meissel. *Math. Comp.* **30** (1976), *no.* 135, 677. (Editors) **52** #15943 65A05

Heller, Rolf Two predator-prey difference equations considering delayed population growth and starvation. *J. Theoret. Biol.* **70** (1978), *no.* 4, 401–413. (H. A. DeKleine) **57** #15568 92A15

Heller, Sidney An asymptotic solution of the difference equation $a_{n+1}-a_n=a_{[n/2]}$. *J. Math. Anal. Appl.* **34** (1971), 464–469. (P. E. Guenther) **45** #2343 39A10

Heller, Siegfried Lösung einer Fermatschen Dreiecksaufgabe für Torricelli. *Arch. Internat. Histoire Sci.* **23** (1970), *no.* 90-91, 67–79. (See Zbl **219** #10026) 01A45

See also **Hofmann, Joseph Ehrenfried**, (Not reviewed); **Behnke, Heinrich**, **51** #5235 *and* **Scriba, Christoph J.**, **57** #15926

Heller, Walter Perrin Transactions with set-up costs. *J. Econom. Theory* **4** (1972), *no.* 3, 465–478. (From the author's introduction) **56** #7838 90A15

The holding of money balances in general equilibrium. *J. Econom. Theory* **7** (1974), *no.* 1, 93–108. (Edwin Burmeister) **57** #9001 90A15

Tâtonnement stability of infinite horizon models with saddle-point instability. *Econometrica* **43** (1975), 65–80. (Author's summary) **56** #2240 90A15

Hellerman, Eli (*with* Rarick, Dennis C.) Reinversion with the preassigned pivot procedure. *Math. Programming* **1** (1971), 195–216. (Authors' summary) **45** #2895 65K05

See also **Sparse matrices and their applications**, **48** #10075 *and* **Computational practice in mathematical programming**, **52** #2573

Hellerman, Herbert (*with* Cavallo, Roger) On the solution of multiattribute problems involving counting in intersecting sets. *Internat. J. Comput. Information Sci.* **6** (1977), *no.* 1, 1–7. (R. C. Mullin) **54** #10018 04–04 (68A25)

Hellerman, Leo A measure of computational work. *IEEE Trans. Computers* **C-21** (1972), 439–446. (John T. Gill) **48** #12891 (E **50** #11851) (E **50** #11846) (E **57** #19118) 68A20

A discussion of "A measure of computational work" (IEEE Trans. Computers **C-21** (1972), 439–446). *IEEE Trans. Computers* **C-23** (1974), 208–211. (John T. Gill) **50** #11846 68A20

See also **Welch, Terry A.**, **50** #11851 *and* **Mase, Kenichi**, **57** #19118

Hellerstein, Simon (*with* Yang, Chung Chun) Half-plane Tumura-Clunie theorems and the real zeros of successive derivatives. *J. London Math. Soc.* (2) **4** (1971/72), 469–481. (Y. Komatu) **46** #3793 30A70

(*with* Shea, Daniel F.) An extremal problem concerning entire functions with radially distributed zeros. *Proceedings of the Sýmposium on Complex Analysis* (*Univ. Kent, Canterbury*, 1973), *pp.* 81–87. *London Math. Soc. Lecture Note Ser., No.* 12, *Cambridge Univ. Press, London*, 1974. (I. N. Baker) **52** #14296 30A70

(*with* Williamson, Jack) Derivatives of entire functions and a question of Pólya. *Bull. Amer. Math. Soc.* **81** (1975), 453–455. (Fred Gross) **50** #13518 30A64

(*with* Williamson, Jack) Successive derivatives of entire functions. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 1, 105–108. (A. Edrei) **57** #630 30A66

(*with* Williamson, Jack) Derivatives of entire functions and a question of Pólya. *Trans. Amer. Math. Soc.* **227** (1977), 227–249. (Fred Gross) **55** #8353 30A64

(*with* Williamson, Jack) Derivatives of entire functions and a question of Pólya. II. *Trans. Amer. Math. Soc.* **234** (1977), *no.* 2, 497–503. (Fred Gross) **58** #1151 30A66

(*with* Shea, Daniel F.) Minimal deficiencies for entire functions with radially distributed zeros. *Proc. London Math. Soc.* (3) **37** (1978), *no.* 1, 35–55. (M. O. Gonzalez) **58** #6247 30A70

Helleseth, Tor Some results about the cross-correlation function between two maximal linear sequences. *Discrete Math.* **16** (1976), *no.* 3, 209–232. (R. J. McEliece) **55** #2341 94A10 (12C05)

Some two-weight codes with composite parity-check polynomials. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 5, 631–632. (R. J. McEliece) **54** #9833 94A10

(*with* Kløve, Torleiv; Mykkeltveit, Johannes) The weight distribution of irreducible cyclic codes with block length $n_1((q^l-1)/N)$. *Discrete Math.* **18** (1977), *no.* 2, 179–211. (R. J. McEliece) **56** #5041 94A10

The weight enumerator polynomials of some classes of codes with composite parity-check polynomials. *Discrete Math.* **20** (1977/78), *no.* 1, 21–31. (J.-M. Goethals) **57** #5403 94A10

(*with* Kløve, Torleiv; Mykkeltveit, Johannes) On the covering radius of binary codes. *IEEE Trans. Inform. Theory* **24** (1978), *no.* 5, 627–628. (Authors' summary) **58** #20786 94A10

All binary 3-error-correcting BCH codes of length 2^m-1 have covering radius 5. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 2, 257–258. **58** #20785 94A

Hellinckx, Leon (*with* Buelens, P. F.) Time-optimal control of linear multivariable syste *Chem. Engrg. J.* **5** (1973), *no.* 2, 137–144. (R. Leonard Brown) **52** #16756 93 (93C15)

(*with* van den Bosch, Bruno) A new method for the estimation of parameter differential equations. *AIChE J.* **20** (1974), *no.* 2, 250–255. (Edward J. Davi **52** #12894 93C15

(*with* Buelens, P. F.) Optimal control of linear multivariable systems with quadr performance index, and the inverse optimal control problem. *Internat. J. Contro* (1974), 113–127. (W. M. Wonham) **50** #16002 93C05

(*with* Buelens, P. F.; Van Rompay, P. V.) Bang-bang control with quadratic performance index. *Internat. J. Control* **27** (1978), *no.* 4, 525–537. (Eleanor M. Ja **58** #15447 93C15

Helling, H. Diskrete Untergruppen von SL$_2$ ($\mathfrak{R}$). *Invent. Math.* **17** (1972), 217–229. Vinberg) **48** #2427 32G15 (14H15, 20H05, 22E40)

Note über das Geschlecht gewisser arithmetischer Gruppen. *Math. Ann.* **205** (19 173–179. (K. G. Ramanathan) **48** #10986 10D05 (20H05)

Eine Kennzeichnung von Charakteren auf Gruppen und assoziativen Algebr *Comm. Algebra* **1** (1974), 491–501. (A. O. Morris) **50** #381 16A26

Über den Raum der kompakten Riemannschen Flächen vom Geschlecht 2. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, I *Reine Angew. Math.* **268/269** (1974), 286–293. (L. Keen) **50** #13613 32G15 (14 30A46)

Hellinger, Steven J. Equilibrium arrival rates at a partially-obstructed intersection. *Stu in Appl. Math.* **53** (1974), 65–71. (Author's summary) **57** #11698 90B20

Helliwell, J. B. The propagation of small disturbances in radiative magnetogasdynami *Arch. Rational Mech. Anal.* **47** (1972), 380–388. (E. G. Broadbent) **49** #1904 76

Helliwell, William S. (*with* Lubard, Stephen C.) An implicit method for three dimensio viscous flow with application to cones at angle of attack. *Comput. & Fluids* **3** (19 83–101. (M. G. Hall) **52** #2404 76.65

A fast implicit iterative numerical method for solving multidimensional par differential equations. *AIAA J.* **16** (1978), *no.* 7, 663–666. (A. R. Gourlay) **57** #18 65P05

Hellman, C. Doris *See* **Rosen, Edward**, **56** #2760 *and* **Obituary: Hellman, C. Doris**, **57** #12142

Hellman, Geoffrey Finitude, infinitude, and isomorphism of interpretations in some nominalistic calculi. *Noûs* **3** (1969), *no.* 4, 413–425. (From the introduction) **58** #5 02C99 (02H10)

Hellman, Martin E. (*with* Cover, T. M.) On automata in a random medium. (Russia Symposium on Information Theory (Dubna, 1969). *Problemy Peredači Informaci* (1970), *no.* 2, 21–30. (A. D. Koršunov) **48** #5742 94A30 (68A45)

(*with* Horos, John A.) A confidence model for finite-memory learning syster *IEEE Trans. Information Theory* **IT-18** (1972), 811–813. (O. Gulyás) **52** #4473 62C05

(*with* Cover, T. M.) A review of recent results on learning with finite memo *Second International Symposium on Information Theory* (*Tsahkadsor*, 1971), *pp.* 289–2 *Akadémiai Kiadó, Budapest*, 1973. (Editors) **58** #3756 68A35

(*with* Davis, Charles R.) On tree coding with a fidelity criterion. *Proceedings of Eighth Hawaii International Conference* (*Univ. Hawaii, Honolulu, Hawaii*, 1975), 86–88. *Western Periodicals Co., North Hollywood, Calif.*, 1975. (S. Guiaşu) **54** #1236 94A15

(*with* Davis, Charles R.) On tree coding with a fidelity criterion. *IEEE Tra Information Theory* **IT-21** (1975), 373–378. (I. M. Chakravarti) **51** #15165 94A1

Convolutional source encoding. *IEEE Trans. Information Theory* **IT-21** (1975), 6, 651–656. (Suguru Arimoto) **52** #7701 94A10

(*with* Leung-Yan-Cheong, Sik K.) Concerning a bound on undetected error probability. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 2, 235–237. (F. MacWilliams) **52** #12967 94A10

(*with* Diffie, Whitfield) New directions in cryptography. *IEEE Trans. Informat Theory* **IT-22** (1976), *no.* 6, 644–654. (J. S. Joel) **55** #10141 94A10

(*with* Cover, T. M.; Freedman, Michael A.) Optimal finite memory learning algorithms for the finite sample problem. *Information and Control* **30** (1976), *no.* 49–85. (T. Nemetz) **53** #9719 68A25 (62F15, 94A30)

An extension of the Shannon theory approach to cryptography. *IEEE Tra Information Theory* **IT-23** (1977), *no.* 3, 289–294. (Author's summary) **58** #26535 94A15 (94A10)

(*with* Carleial, Aydano B.) A note on Wyner's wiretap channel. *IEEE Tra Information Theory* **IT-23** (1977), *no.* 3, 387–390. (Michele Elia) **58** #4628 94A15

(*with* Leung-Yan-Cheong, Sik K.) The Gaussian wire-tap channel. *IEEE Tra Inform. Theory* **24** (1978), *no.* 4, 451–456. (M. C. Cheng) **58** #20816 94A15

(*with* Pohlig, Stephen C.) An improved algorithm for computing logarithms ov GF(p) and its cryptographic significance. *IEEE Trans. Information Theory* **IT-** (1978), *no.* 1, 106–110. (W. E. Clark) **58** #4617 94A10 (68A20)

See also **Mathematics: periodical collection of translations of foreign articles**, **56** #14

Hellman, Olavi Bertel On the optimal search for a randomly moving target. *SIAM Appl. Math.* **22** (1972), 545–552. (N. L. Johnson) **46** #8363 62L99

See also **Järvi, Timo; et al.**, **57** #9435

Hellums, J. D. (*with* George, W. D.) Hydrodynamic stability in plane Poiseuille flow w finite amplitude disturbances. *J. Fluid Mech.* **51** (1972), 687–704. (Murli M. Gup **47** #2911 76.65

Hellwich, Manfred (*with* Bachmann, Karl-Heinz; Beyer, Otfried; Boseck, Helmut; Göhler, Wilhelm; Heinrich, Winfried; Junge, Heinz; Lorenz, Günter; Oberländer, Siegfried; Pietzsch, Günter; Steger, Arndt; Thiele, Helmut; Walsch, Werner; Wussing, H.; Berthold, Günter; Bock, Hans; Dück, Werner; Görke, Lilly; Kästn Herbert; Neigenfind, Fritz; Peschel, Manfred; Rossberg, H.-J.; Sulanke, Rolf; Vahl Hans; Wussing, Gerlinde) ★Handbuch der Mathematik Mit einer Einleitung v Hans Reichardt. *Buch und Zeit Verlagsgesellschaft M.B.H., Cologne*, 1972. 739 *p*, (From the publisher's foreword) **56** #5108 00A20

See also **Fundamentals of mathematics**, **49** #8787; **Kleine Enzyklopadie:**

Mathematik, **51** #7768; **Mathematics at a glance**, **51** #7769 *and* **Kleine Enzyklopädie: Mathematik**, **56** #28

wig, G. *See* **Fundamentals of mathematics**, **49** #8788

wig, Günter ★Höhere Mathematik. I. Eine Einführung. I. Teil. I-Hochschultaschenbücher, No. 553/a/b. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1971. 284+ix *pp*. (Editors) **50** #4830 26–01

★Höhere Mathematik. Band I: Eine Einführung. 2. Teil. B.I.-Hochschultaschenbücher, Band 560. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1972. *pp*. i-x *and* 285–411. (Editors) **50** #10160 26–01

★Partial differential equations. An introduction. Translated from the German by Eberhard Gerlach. Second edition. Mathematische Leitfäden. *B. G. Teubner, Stuttgart*, 1977. xi+259 *pp*. *ISBN* 3-519-12213-8 (M. H. Protter) **57** #6757 35–01

wig, K.-E. (*with* Krausser, D.) Propositional systems and measurements. I, II. *Internat. J. Theoret. Phys.* **9** (1974), 277–289; *ibid*. **10** (1974), 261–272. (Authors' summary) **54** #12003 81.06

(*with* Sietmann, R. H.) More about operators generated by partial isometries. (German summary) *Ann. Physik* (7) **33** (1976), *no*. 3, 199–206. (Paul A. Benioff) **54** #9449 81.47

(*with* Krausser, D.) Propositional systems and measurements. III. Quasitensorproducts of certain orthomodular lattices. *Internat. J. Theoret. Phys.* **16** (1977), *no*. 10, 775–793. (Authors' summary) **58** #14463 81.06

(*with* Cycon, H.) Conditional expectations in generalized probability theory. *J. Mathematical Phys.* **18** (1977), *no*. 6, 1154–1161. (M. J. Mączyński) **55** #9766 81.60

See also **Foundations of quantum mechanics**, **52** #7333

wig, Klaus ★Die Lösung ganzzahliger investitionstheoretischer Totalmodelle durch Partialmodelle. Mathematical Systems in Economics, 4. *Verlag Anton Hain, Meisenheim am Glan*, 1973. vi+77 *pp*. (D. Hochstädter) **48** #13197 90A15

(*with* Moeschlin, Otto) A note on a production problem in a multisectoral economic model. *Production theory* (*Proc. Internat. Sem., Univ. Karlsruhe, Karlsruhe*, 1973), *pp*. 101–107. *Lecture Notes in Econom. and Math. Systems, Vol*. 99, *Springer, Berlin*, 1974. (Michael D. Intriligator) **51** #12298 90A15

(*with* Hülsmann, J.) Über ein Modell der Investitionsprogrammplanung unter Unsicherheit. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I, pp*. 141–146. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. (See Zbl **368** #90004; MR **54** #6892) 90A15

See also **Operations Research Verfahren**, **58** #32841

wig, Martin F. (*with* Foley, Duncan K.) A note on the budget constraint in a model of borrowing. *J. Econom. Theory* **11** (1975), *no*. 2, 305–314. (From the authors' introduction) **55** #9858 90A15

A model of borrowing and lending with bankruptcy. *Econometrica* **45** (1977), *no*. 8, 1879–1906. (Giovanni M. Zambruno) **57** #5016 90A15

wig, Zdzisław H. Estimation of the correlation coefficients by means of the single-argument normal distribution function. (Polish. Russian and English summaries) *Przegląd Statyst.* **19** (1972), 121–142. (M. Hušková) **46** #4653 62H20

An application of an orthogonal transformation to the determination of the admissible values of explanatory variables in an econometric model. (Polish. Russian and English summaries) Papers presented at the Conference on Econometric Forecasting (Jeleniów, 1973). *Przegląd Statyst.* **21** (1974), 307–322. (P. Vondráček) **51** #7588 90A15 (62P20)

★Elementy rachunku prawdopodobieństwa i statystyki matematycznej. (Polish) [Elements of probability theory and mathematical statistics] Sixth edition, revised. *Państwowe Wydawnictwo Naukowe, Warsaw*, 1975. 312 *pp*. (Editors) **54** #3777 60–01 (62–01)

The transitivity of the correlation relation of random variables, and some econometric implications obtained therefrom. (Polish. Russian and English summaries) *Przegląd Statyst.* **23** (1976), *no*. 1, 3–20. (Author's summary) **54** #11719 62P20

The effect of a catalysis in an econometric model, its detection and elimination. (Polish. Russian and English summaries) *Przegląd Statyst.* **24** (1977), *no*. 2, 179–191. (Author's summary) **57** #1821 62P20

Amplifying effect in a stochastic linear model. (Russian summary) *Systems Sci.* **3** (1977), *no*. 1, 77–90. (D. G. Kabe) **58** #13511 62H20 (62J05)

See also **Collection: Hellwig, Zdzisław H.**, **54** #12415 *and* **Bukietyński, Władysław; et al.**, **55** #45

lly, Walter *See* **Traffic science**, **48** #13219

lm, H. (*with* Krishnan, K. R.; Mukundan, R.; Perreault, D. A.; Bittel, Raymond H.) Synchronization of a digital communication network by discrete-control-correction. *Internat. J. Systems Sci.* **5** (1974), 1107–1118. (M. D. Srinath) **51** #15213 93C55 (94A20)

lm, H. A. *See* **Applications of Walsh functions**, **48** #8080

lm, John (*with* Young, Paul D.) On size vs. efficiency for programs admitting speed-ups. *J. Symbolic Logic* **36** (1971), 21–27. (Forbes D. Lewis) **46** #5119 02F10 (94A30)

(*with* Meyer, Albert R.; Young, Paul D.) On orders of translations and enumerations. *Pacific J. Math.* **46** (1973), 185–195. (M. B. Pour-El) **48** #1898 02F25

See also **Complexity of computations and algorithms**, **51** #2325

elm, Werner E. Gaussian random elements in certain Orlicz sequence spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no*. 5, 507–514. (Z. G. Gorgadze) **57** #1600 60B99 (60G15)

elman, Glen Completeness of the normal typed fragment of the λ-system *U. J. Philos. Logic* **6** (1977), *no*. 1, 33–46. (From the introduction) **58** #5079 02C20

elmberg, Gilbert Einige Diskrepanzabschätzungen für Punktfolgen im $\mathbf{R}^s$. *Monatsh. Math.* **75** (1971), 223–238. (J. H. H. Chalk) **45** #5091 10F40

On the converse of Hopf's ergodic theorem. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **21** (1972), 77–80. (B. Weiss) **46** #5573 28A65

Über Transformationen ohne invariante Wahrscheinlichkeit (Ergänzung zu einer Arbeit von Krengel). *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **39** (1977), *no*. 4, 269–276. (Zbl **364** #28018) **58** #28429 28A65

elmers, K. (*with* v. Dewitz, H.) Algebraische Lösung des Eigenwertproblems im $N\Theta\Theta$-Sektor des Lee-Modells. (English summary) *Z. Naturforsch.* **27a** (1972), 1172–1176. (Authors' summary) **52** #16425 82.35

Helmers, Merrilee K. (*with* Gilliland, Dennis C.) On continuity of the Bayes response. *IEEE Trans. Inform. Theory* **24** (1978), *no*. 4, 506–508. (George T. Duncan) **58** #18809 62C05 (62C25)

Helmers, R. The order of the normal approximation for linear combinations of order statistics with smooth weight functions. *Ann. Probability* **5** (1977), *no*. 6, 940–953. (Jon A. Wellner) **56** #16916 62G30 (62E20)

Helmes, Kurt The range of a vector-valued measure. *Proc. Amer. Math. Soc.* **45** (1974), 309–310. (Igor Kluvánek) **50** #4883 28A45

Helmholtz, H. *See* **Albring, W.**, **50** #9489

von Helmholtz, Hermann *See* **Turner, R. Steven**, **58** #27053

Helminger, J. Über die Spannweite bei korrelierten Zufallsveränderlichen. *Arch. Math.* (*Basel*) **30** (1978), *no*. 6, 629–650. (Walter Schlee) **58** #13451 62E15 (62N10)

Helms, H. J. *See* **Modeling and performance evaluation of computer systems**, **56** #4212

Helms, Jay (*with* Kagiwada, Harriet H.; Kalaba, Robert E.; Niedercorn, John) Fitting differential equation models to observed economic data. I. Quasilinearization. *Appl. Math. Comput.* **4** (1978), *no*. 2, 139–145. (I. Norman Katz) **58** #9136 90A15

Helms, Lester L. ★Einführung in die Potentialtheorie. Deutsche Übersetzung aus dem Englischen von Jürgen Bliedtner. *Walter de Gruyter, Berlin-New York*, 1973. 305 *pp*. (Editors) **50** #623 31–XX

Stochastic formation of hierarchies. *J. Appl. Probability* **10** (1973), 27–38. (Donald A. Dawson) **53** #1783 60K35

Ergodic properties of several interacting Poisson particles. *Advances in Math.* **12** (1974), 32–57. (F. Spitzer) **49** #9986 60K35

★Introduction to potential theory. Reprint of the 1969 edition. Pure and Applied Mathematics, Vol. XXII. *Robert E. Krieger Publishing Co., Huntington, N.Y.*, 1975. xi+282 *pp*. *ISBN* 0-88275-224-3 (Editors) **57** #659 31–02

Helms, Ronald W. The average estimated variance criterion for the selection-of-variables problem in general linear models. *Technometrics* **16** (1974), 261–273. (E. J. Hannan) **49** #6506 62J05

Helmstädter, Ernst *See* **Quantitative Wirtschaftsforschung**, **58** #32843

Helmstetter, Jacques Algèbres symétriques à gauche. *C. R. Acad. Sci. Paris Sér. A-B* **272** (1971), A1088–A1091. (H. R. Alagia) **45** #327 17B05

Groupe de Clifford pour des formes quadratiques de rang quelconque. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no*. 4, *A*175–*A*177. (Author's summary) **56** #15558 10C05 (15A66)

Helpman, Elhanan (*with* Laffont, Jean-Jacques) On moral hazard in general equilibrium theory. *J. Econom. Theory* **10** (1975), *no*. 1, 8–23. (Andrew Postlewaite) **53** #10195 90A15

Solutions of general equilibrium problems for a trading world. *Econometrica* **44** (1976), *no*. 3, 547–559. (Amoz Kats) **55** #2159 90C50 (90A15)

Macroeconomic policy in a model of international trade with a wage restriction. *Internat. Econom. Rev.* **17** (1976), *no*. 2, 262–277. (Wolfgang Mayer) **54** #12172 90A15

Helps, J. D. (*with* Daly, P.) A lower bound for the one-dimensional Helmholtz equation. *Internat. J. Electron.* **40** (1976), *no*. 2, 163–167. (J. S. Colonias) **53** #14938 65N25

Helson, Henry The differential equation of an inner function. *Studia Math.* **35** (1970), 311–321. (R. G. Douglas) **45** #5797 47A45

Cocycles in harmonic analysis. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp*. 477–481. *Gauthier-Villars, Paris*, 1971. (K. Yale) **55** #990 43A75

Flows on tori. *Visiting scholars' lectures* (*Texas Tech Univ., Lubbock, Tex.*, 1970/71), *pp*. 59–70. *Math. Ser., No*. 9, *Texas Tech Press, Texas Tech Univ., Lubbock, Tex.*, 1971. (J. H. Neuwirth) **51** #1293 43A70 (46J15)

(*with* Kahane, Jean-Pierre) Compact groups with ordered duals. III. *J. London Math. Soc.* (2) **4** (1971/72), 573–575. (K. Yale) **45** #7391 43A40

Invariant subspaces of the weighted shift. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf., Tihany*, 1970), *pp*. 271–277. *Colloq. Math. Soc. János Bolyai*, 5, *North-Holland, Amsterdam*, 1972. (R. Arens) **51** #3922 47A15 (46H05)

Boundedness from measure theory. *Linear operators and approximation* (*Proc. Conf. Math. Res. Inst., Oberwolfach*, 1971), 129–137. *Internat. Ser. Numer. Math., Vol*. 20, *Birkhauser, Basel*, 1972. (D. A. Herrero) **57** #1075 46A99 (28A70)

Structure of Blaschke cocycles. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, V. *Studia Math.* **44** (1972), 493–500. (M. Hasumi) **49** #7707 43A70

Convergence of Dirichlet series. *L'analyse harmonique dans le domaine complexe* (*Actes Table Ronde Internat., Centre Nat. Recherche Sci., Montpellier*, 1972), *pp*. 153–160. *Lecture Notes in Math., Vol*. 336, *Springer, Berlin*, 1973. 1973. (Yves Meyer) **52** #8059 10H15

Compact groups with ordered duals. IV. *Bull. London Math. Soc.* **5** (1973), 67–69. (K. Yale) **47** #7340 43A70 (46J15)

Analyticity on compact abelian groups. *Algebras in analysis* (*Proc. Instructional Conf. and NATO Advanced Study Inst., Birmingham*, 1973), *pp*. 1–62. *Academic Press, London*, 1975. (K. Yale) **55** #989 43A75 (28A65)

Compact groups with ordered duals. V. *Bull. London Math. Soc.* **8** (1976), *no*. 2, 140–144. (K. Yale) **54** #5749a 43A75

Compact groups with ordered duals. VI. *Bull. London Math. Soc.* **8** (1976), *no*. 3, 278–281. (K. Yale) **54** #5749b 43A75

See also **Sarason, Donald**, **52** #6849

Helstrom, Carl W. (*with* Liu, Jane W. S.; Gordon, James P.) Quantum-mechanical communication theory. *Proc. IEEE* **58** (1970), 1578–1598. (L. L. Campbell) **46** #6910 94A05 (81.94)

Cramér-Rao inequalities for operator-valued measures in quantum mechanics. *Internat. J. Theoret. Phys.* **8** (1973), 361–376. (Author's summary) **51** #9705 81.47 (81.62)

"Simultaneous measurement" from the standpoint of quantum estimation theory. *Found. Phys.* **4** (1974), 453–463. (S. Gudder) **56** #10583 81.47

(*with* Kennedy, Robert S.) Noncommuting observables in quantum detection and estimation theory. *IEEE Trans. Information Theory* **IT-20** (1974), 16–24. (S. Ikehara) **50** #16070 94A05 (81.47)

Quantum Bayes estimation of the amplitude of a coherent signal. *IEEE Trans. Information Theory* **IT-20** (1974), 374–376. (S. Ikehara) **51** #5148 94A05

Estimation of a displacement parameter of a quantum system. *Internat. J. Theoret. Phys.* **11** (1974), 357–378. (Author's summary) **54** #9450 81.47

An introduction to quantum estimation theory. *Multivariate analysis, IV (Proc. Fourth Internat. Sympos., Dayton, Ohio,* 1975), *pp.* 371–385. *North-Holland, Amsterdam,* 1977. (Paul A. Benioff) **57** #2346 81.62

Comments on: "Detection of a coherent signal of known phase" (Information and Control **28** (1975), 35–53), by R. A. Klemm. *Information and Control* **35** (1977), *no.* 2, 114–118. (Author's summary) **58** #33485 94A05

Helton, Burrell W. The solution of a nonlinear Gronwall inequality. *Proc. Amer. Math. Soc.* **38** (1973), 337–342. (V. Ganapathy Iyer) **46** #9287 28A45 (26A86)

A product integral solution of a Riccati equation. *Pacific J. Math.* **56** (1975), *no.* 1, 113–130. (W. D. L. Appling) **54** #3067 34A99 (26A39, 45A05)

The solution of a Stieltjes-Volterra integral equation for rings. *Pacific J. Math.* **64** (1976), *no.* 2, 419–436. (J. A. Nohel) **58** #12237 45D05

A special integral and a Gronwall inequality. *Trans. Amer. Math. Soc.* **217** (1976), 163–181. (Ralph Henstock) **53** #10998 26A42 (26A86)

Helton, F. Joanne (*with* Helton, J. William) Scattering theory and non linear systems. *Category theory applied to computation and control (Proc. First Internat. Sympos., San Francisco, Calif.,* 1974), *pp.* 164–169. *Lecture Notes in Comput. Sci., Vol.* 25, *Springer, Berlin,* 1975. (R. M. DeSantis) **52** #7598 93A10

The semigroup of an algebra automaton. *J. Comput. System Sci.* **12** (1976), *no.* 1, 13–24. (Eckehart Hotzel) **55** #3126 20M35 (68A25)

Helton, J. William Unitary operators on a space with an indefinite inner product. *J. Functional Analysis* **6** (1970), 412–440. (From the author's introduction) **54** #3485 47B50

Operators unitary in an indefinite metric and linear fractional transformations. *Acta Sci. Math. (Szeged)* **32** (1971), 261–266. (Ralph S. Phillips) **47** #9342 47B50

Operators with a representation as multiplication by × on a Sobolev space. *Hilbert space operators and operator algebras (Proc. Internat. Conf., Tihany,* 1970), *pp.* 279–287. (*loose errata*) *Colloq. Math. Soc. János Bolyai,* 5, *North-Holland, Amsterdam,* 1972. (Richard Bagby) **51** #3929 47A45

Passive network realization using abstract operator theory. *IEEE Trans. Circuit Theory* **CT-19** (1972), 518–520. (Eric Nordgren) **51** #7732 94A20 (47A45)

The characteristic functions of operator theory and electrical network realization. *Indiana Univ. Math. J.* **22** (1972/73), 403–414. (E. A. Nordgren) **46** #6072 47A45 (94A20)

(*with* Zemanian, A. H.) The cascade loading of passive Hilbert ports. *SIAM J. Appl. Math.* **23** (1972), 292–306. (V. K. Balakrishnan) **48** #3540 93A99 (94A20)

Infinite dimensional Jordan operators and Sturm-Liouville conjugate point theory. *Trans. Amer. Math. Soc.* **170** (1972), 305–331. (E. Müller-Pfeiffer) **46** #7943 47A65 (34B25, 47B40, 47E05)

(*with* Howe, Roger E.) Integral operators: commutators, traces, index and homology. *Proceedings of a Conference Operator Theory (Dalhousie Univ., Halifax, N.S.,* 1973), *pp.* 141–209. *Lecture Notes in Math., Vol.* 345, *Springer, Berlin,* 1973. (James A. Deddens) **52** #11652 47B47 (47G05)

(*with* Douglas, Ronald G.) Inner dilations of analytic matrix functions and Darlington synthesis. *Acta Sci. Math. (Szeged)* **34** (1973), 61–67. (D. Sarason) **48** #900 47A20 (94A20)

Continuity of linear fractional transformations on an operator algebra. *Proc. Amer. Math. Soc.* **40** (1973), 217–218. (R. G. Douglas) **48** #2789 46L15 (47A99)

Discrete time systems, operator models, and scattering theory. *J. Functional Analysis* **16** (1974), 15–38. (M. S. Livšic) **56** #3652 47A40 (93C25)

(*with* Helton, F. Joanne) Scattering theory and non linear systems. *Category theory applied to computation and control (Proc. First Internat. Sympos., San Francisco, Calif.,* 1974), *pp.* 164–169. *Lecture Notes in Comput. Sci., Vol.* 25, *Springer, Berlin,* 1975. (R. M. DeSantis) **52** #7598 93A10

(*with* Howe, Roger E.) Traces of commutators of integral operators. *Acta Math.* **135** (1975), *no.* 3-4, 271–305. (M. F. Atiyah) **55** #11106 47G05 (47B47, 58G10)

(*with* Ralston, James V.) The first variation of the scattering matrix. *J. Differential Equations* **21** (1976), *no.* 2, 378–394. (Teruo Ikebe) **55** #6033 (E **58** #1745) 35P25

Systems with infinite-dimensional state space: the Hilbert space approach. Recent trends in system theory. *Proc. IEEE* **64** (1976), *no.* 1, 145–160. (Ju. I. Ljubič) **54** #4764 90C25

A spectral factorization approach to the distributed stable regular problem; the algebraic Riccati equation. *SIAM J. Control Optimization* **14** (1976), *no.* 4, 639–661. (B. P. Molinari) **57** #11892 93D15 (93C25)

An operator algebra approach to partial differential equations; propagation of singularities and spectral theory. *Indiana Univ. Math. J.* **26** (1977), *no.* 6, 997–1018. (R. D. Moyer) **58** #13223 58G15 (35P05, 47G05)

See also **Ralston, James V., 58** #1745

Helton, Jon C. Existence theorems for sum and product integrals. *Proc. Amer. Math. Soc.* **36** (1972), 407–413. (W. D. L. Appling) **47** #2013 26A39

Bounds for products of interval functions. *Pacific J. Math.* **49** (1973), 377–389. (C. Vinti) **50** #13416 28A10

Some interdependencies of sum and product integrals. *Proc. Amer. Math. Soc.* **37** (1973), 201–206. (S. Foglio) **46** #7454 26A39

An existence theorem for sum and product integrals. *Proc. Amer. Math. Soc.* **39** (1973), 149–154. (W. D. L. Appling) **47** #5596 46G99 (26A45)

Product integrals and exponentials in commutative Banach algebras. *Proc. Amer. Math. Soc.* **39** (1973), 155–162. (W. D. L. Appling) **47** #5190 26A39 (46J99)

Existence of sum and product integrals. *Trans. Amer. Math. Soc.* **182** (1973), 165–174. (W. D. L. Appling) **50** #4855 26A39

Product integrals and inverses in normed rings. *Pacific J. Math.* **51** (1974), 155–166. (A. Revuz) **54** #11064 46H99 (46G99)

Mutual existence of product integrals. *Proc. Amer. Math. Soc.* **42** (1974), 96–103. (W. D. L. Appling) **50** #2418 26A39

Mutual existence of sum and product integrals. *Pacific J. Math.* **56** (1975), *no.* 2, 495–516. (W. D. L. Appling) **53** #8894 46G10 (46H99)

Product integrals and the solution of integral equations. *Pacific J. Math.* **58** (19 *no.* 1, 87–103. (J. W. Neuberger) **52** #6341 45D05

Solution of integral equations by product integration. *Proc. Amer. Math. Soc* (1975), 401–406. (J. W. Neuberger) **53** #8844 45N05

Mutual existence of product integrals in normed rings. *Trans. Amer. Math. Soc.* (1975), 353–363. (W. D. L. Appling) **52** #8376 28A45 (46G99)

(*with* Stuckwisch, Stephen) Numerical approximation of product integrals. *J. M Anal. Appl.* **56** (1976), *no.* 2, 410–437. (Gheorghe Coman) **55** #1708 65D30

Two generalizations of the Gronwall inequality by product integration. *Ro Mountain J. Math.* **7** (1977), *no.* 4, 733–749. (B. G. Pachpatte) **56** #8771 26 (46G99)

Existence of integrals and the solution of integral equations. *Trans. Amer. M Soc.* **229** (1977), 307–327. (J. W. Neuberger) **56** #3589 45A05

Solution of two Volterra integral equations. *Rocky Mountain J. Math.* **8** (1978), 3, 547–554. (James V. Herod) **57** #17173 45N05 (45D05)

Heltzig, Herbert F. (*with* Oberst, Eberhard) Vergleich Boolescher Funktionen. (Eng and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **9** (1973), 61- (A. A. Mullin) **51** #2796 94A20

Helversen-Pasotto, Anna Série discrète de $GL(3, F_q)$ et sommes de Gauss. *C. R. Acad. Paris Sér. A-B* **275** (1972), A263–A266. (L. Solomon) **47** #6833 20C20 (20G40)

Sur l'indice de Schur des représentations de $GL(n, \mathrm{F}_q)$. (English summary) *C. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 5, Ai, A233–A235. (G. Lusztig) **55** #305 20C30

L'identité de Barnes pour les corps finis. (English summary) *C. R. Acad. Sci. P Sér. A-B* **286** (1978), *no.* 6, *A*297–*A*300. (Author's summary) **57** #16266 12 (10G05)

Helzer, Garry Semi-primary split rings. *Pacific J. Math.* **44** (1973), 541–552. (M. Laplaza) **47** #8657 18G99 (16A62)

A relativistic version of the Gauss-Bonnet formula. *J. Differential Geometr* (1974), 507–512. (H. Rund) **50** #1183 53C50

Hemalatha, K. *See* **Milne-Thomson anniversary issue, 48** #10739

Hemami, H. (*with* Camana, P. C.) Nonlinear feedback in simple locomotion systen *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 6, 855–860. (Authors' summa **58** #33392 93D15

(*with* Camana, P. C.; Stockwell, C. W.) Determination of feedback for hum posture control without physical intervention. *J. Cybernet.* **7** (1977), *no.* 3-4, 199-2 (G. S. Ladde) **58** #4404 92A05

Hembd, H. (*with* Kschwendt, H.) Solution of the transport integral equation with anisotropic scattering. *J. Computational Phys.* **10** (1972), 534–553. (M. Drăganu) **50** #3835 82.45

See also **Methoden und Verfahren der mathematischen Physik, 50** #9

Hemdan, H. T. Solution of the 'cube' functional equation in terms of 'trilinear' coefficier *Canad. Math. Bull.* **19** (1976), *no.* 2, 181–191. (Hiroshi Haruki) **54** #13361 39A2

Hemion, Geoffrey (*with* McPherson, James M.) Locally prime arcs with finite penetrat index. *Bull. Amer. Math. Soc.* **80** (1974), 531–534. (B. J. Ball) **48** #9698 55A30

(*with* McPherson, James M.) A local factorization theorem for arcs with fi penetration index. *Geometric tiopology (Proc. Conf., Park City, Utah,* 1974), *pp.* 259–275. *Lecture Notes in Math., Vol.* 438, *Springer, Berlin,* 1975. (O. G. Harro **53** #4038 55A30

Equivalence relations for incompressible surfaces. *Topology* **15** (1976), *no.* 1, 41– (John Hempel) **53** #4069 57A10

Hemker, P. W. ★A method of weighted one-sided differences for stiff boundary va problems with turning points. Mathematisch Centrum, Afdeling Numerieke Wiskun NW 9/74. *Mathematisch Centrum, Amsterdam,* 1974. iii + 15 *pp.* (P. G. Ciarlet) **50** #3587 65L10

★The numerical solution of a singular perturbation problem in the domain exter of a circle. Mathematisch Centrum, Afdeling Numerieke Wiskunde NW 11/74. *Mathematisch Centrum, Amsterdam,* 1974. iii + 36 *pp.* (W. F. Ames) **52** #4673 65N99

★A numerical study of stiff two-point boundary problems. Mathematical Cen Tracts, No. 80. *Mathematisch Centrum, Amsterdam,* 1977. ix + 178 *pp.* *ISBN* 90-6196-146-7 (W. H. Enright) **58** #8294 65L10 (34B05, 34E15)

Hemleben, Johannes ★Johannes Kepler in Selbstzeugnissen und Bilddokumenten. Rowohlts Monographien, No. 183. *Rowohlt, Reinbek,* 1971. 157 *pp.* (Editors) **51** #100 01A45 (01A70)

van Hemmen, J. L. Essential singularities in the density of states of some random system *Phys. Lett. A* **64** (1977), *no.* 2, 177–179. (Author's summary) **56** #14468 82.60

van Hemmen, Leo A generalization of Rayleigh's theorem for the infinite harmonic crysta *J. Statist. Phys.* **18** (1978), *no.* 1, 53–58. (Chung Y. Shen) **58** #14775 82.34 (58F2

Hemmer, P. C. Nonnegativity of the Yukawa Hamiltonian. *J. Mathematical Phys.* (1973), 1140. (Author's summary) **48** #1624 81.47

(*with* Lebowitz, Joel L.) Systems with weak long-range potentials. *Phase transitio and critical phenomena, Vol. 5b, pp.* 107–203. *Academic Press, London,* 1976. (A. Rajagopal) **58** #19880 80.60

(*with* Velarde, Manuel G.) Multiple steady states for the Degn-Harrison reacti scheme of a bacterial culture. *Z. Phys. B* **31** (1978), *no.* 1, 111–116. (Authors' summar **58** #20068 82.34 (92A05)

Hemmerle, William J. (*with* Hartley, H. O.) Computing maximum likelihood estimates f the mixed A.O.V. model using the *W* transformation. *Technometrics* **15** (1973), 819 83 (Robert Hultquist) **49** #1695 62J10

Nonorthogonal analysis of variance using iterative improvement and balance residuals. *J. Amer. Statist. Assoc.* **69** (1974), 772–778. (Burt S. Holland) **52** #2057 62J10

An explicit solution for generalized ridge regression. *Technometrics* **17** (1975), *no.* 309–314. (D. G. Kabe) **53** #4390 62J05

Iterative nonorthogonal analysis of covariance. *J. Amer. Statist. Assoc.* **71** (1976 *no.* 353, 195–199. (Federico O'Reilly) **54** #6392 62J10

(*with* Lorens, J. A.) Improved algorithm for the *W*-transform in variance component estimation. *Technometrics* **18** (1976), *no.* 2, 207–211. (A. M. Matha **54** #1576 65F30 (62-04, 62J10)

He erling, Armin Turing-Maschinen und Zellularräume in der Ebene. (English and ussian summaries) *Elektron. Informationsverarbeit. Kybernetik* **12** (1976), *no.* 8/9, 9–402. (Rolf Lindner) **54** #4863 94A30 (02–XX, 68A25)

Vergleich einiger Kodierungen der natürlichen Zahlen bezüglich der regulären tscheidbarkeit von Zahlenmengen. (English and Russian summaries) *Elektron. formationsverarbeit. Kybernetik* **13** (1977), *no.* 4-5, 217–230. (R. N. Goss) **56** #8337 F10 (94A10, 94A30)

Allgemeine Untersuchungen zur Entscheidbarkeit und Trennbarkeit bezüglich odierungen. (English and Russian summaries) *Elektron. Informationsverarbeit. ybernetik* **13** (1977), *no.* 6, 295–309. (Egon Börger) **58** #10455 04A05

Zur verallgemeinerten Realisierbarkeit von Pseudomusterfunktionen durch ellularräume. (English and Russian summaries) *Elektron. Informationsverarbeit. bernetik* **13** (1977), *no.* 10, 523–528. (E. Ikaunieks) **58** #26607 94A30

Realisierung der Verbandsoperationen für Regularitätsklassen von Kodierungen. nglish and Russian summaries) *Elektron. Informationsverarb. Kybernet.* **14** (1978), *no.* 145–152. (Author's summary) **58** #16217 02F10 (06A20)

He ning, Fredric W. (*with* Vande Linde, V. David) An optimal control problem in anach space. *J. Math. Anal. Appl.* **39** (1972), 647–654. (H. O. Fattorini) **46** #9836 9A40

(*with* Vande Linde, V. David) Necessary conditions for Chebyshev-Bolza optimal ontrol problems. *J. Franklin Inst.* **296** (1973), 123–135. (J. Warga) **49** #1279 9B10

He ning, R. V. *See* **Hamming, R. W.**

Heminger, Robert L. More on line isomorphisms on pseudographs. *Proceedings of the econd Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana tate Univ., Baton Rouge, La.*, 1971), *pp.* 297–314. *Louisiana State Univ., Baton Rouge, a.*, 1971. (H. A. Jung) **47** #8358 05C99

Isomorphism-induced line isomorphisms on pseudographs. *Czechoslovak Math. J.* **1(96)** (1971), 672–679. (H. A. Jung) **45** #3233 05C99

Line digraphs. *Graph theory and applications* (*Proc. Conf., Western Michigan Univ., alamazoo, Mich.*, 1972; *dedicated to the memory of J. W. T. Youngs*), *pp.* 149–163. *ecture Notes in Math., Vol.* 303, *Springer, Berlin*, 1972. (M. Aigner) **51** #243 5C20

(*with* Bondy, John Adrian) Reconstructing infinite graphs. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 79–84. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. J. Sedláček) **50** #4388 05C99

On Whitney's line graph theorem. *Amer. Math. Monthly* **79** (1972), 374–378. (H. A. Jung) **45** #8562 05C99

(*with* Greenwell, D. L.) Forbidden subgraphs for graphs with planar line graphs. *Discrete Math.* **2** (1972), 31–34. (F. Harary) **45** #6658 05C99

(*with* Wilson, E. L.; Plummer, M. D.) A family of path properties for graphs. *Math. Ann.* **197** (1972), 107–122. (Rudolf Halin) **46** #5174 05C35

(*with* Greenwell, D. L.; Klerlein, Joseph B.) Forbidden subgraphs. *Proceedings of the Fourth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1973), 389–394. *Utilitas Math., Winnipeg, Man.*, 1973. (L. W. Beineke) **50** #6924 05C99

(*with* Greenwell, D. L.) Reconstructing the *n*-connected components of a graph. *Aequationes Math.* **9** (1973), 19–22. (B. Manvel) **52** #5488 05C99

(*with* Zelinka, Bohdan) Line isomorphisms on dipseudographs. *J. Combinatorial Theory Ser. B* **14** (1973), 105–121. (H. A. Jung) **47** #3230 05C20

(*with* Bondy, John Adrian) Reconstructing infinite graphs. *Pacific J. Math.* **52** (1974), 331–340. (A. J. Schwenk) **50** #9646 05C05

Digraphs with periodic line digraphs. *Studia Sci. Math. Hungar.* **9** (1974), 27–31 (1975). (A. C. Shershin) **52** #2948 05C20

On the automorphism group of a line graph. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 415–418. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (Czerniakiewicz) **53** #192 05C25

(*with* Bondy, John Adrian) Almost reconstructing infinite graphs. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 69–73. *Academia, Prague*, 1975. (R. L. Graham) **52** #5480 05C99

(*with* Beineke, Lowell W.) Infinite digraphs isomorphic with their line digraphs. *J. Combinatorial Theory Ser. B* **21** (1976), *no.* 3, 245–256. (K. B. Reid) **58** #5339 05C20

(*with* Bondy, John Adrian) Graph reconstruction—a survey. *J. Graph Theory* **1** (1977), *no.* 3, 227–268. (F. Harary) **58** #372 05C99

(*with* Klerlein, Joseph B.) Line pseudo-digraphs. *J. Graph Theory* **1** (1977), *no.* 4, 365–377. (L. W. Beineke) **57** #5812 05C20

See also **Problems: Combinatorial mathematics**, **53** #141

mmingsen, Erik (*with* Reddy, William L.) Montgomery-Samelson coverings on manifolds. *Duke Math. J.* **38** (1971), 635–640. (R. H. Rosen) **46** #4524 55C35

(*with* Reddy, William L.) Branched coverings without regular points over branch point images. *Illinois J. Math.* **18** (1974), 124–130. (P. T. Church) **48** #7254 55A10 (54C10)

emon, Denis Optimal use of extraneous information concerning a nuisance parameter. *Biometrika* **64** (1977), *no.* 1, 51–57. (A. C. Cohen) **56** #13431 62F10 (62K05)

Estimation et dispositifs expérimentaux dans le cas d'observations tronquées en nombre aléatoire. Cas Poisson-normal. *Rev. Statist. Appl.* **25** (1977), *no.* 3, 43–54. (Author's summary) **58** #24685 62F10

empel, C. G. *See* **Logic, methodology and philosophy of science**, **55** #7657

empel, Carl G. Rudolf Carnap, logical empiricist. Collection of articles in honor of Rudolf Carnap. *Synthese* **25** (1973), 256–268. (Editors) **57** #12119 01A70 (02A05)

See also **Structure of scientific theories**, **52** #13085 *and* **Essays in honor of Carl G. Hempel**, **55** #69

empel, Joachim A. On a superlinear differential equation. *Indiana Univ. Math. J.* **26** (1977), *no.* 2, 265–275. (T. L. Sherman) **56** #12410 34C10

A nonoscillation theorem for the first variation and applications. *J. Differential Equations* **24** (1977), *no.* 2, 226–234. (J. S. W. Wong) **57** #781 34C10

empel, John (*with* Jaco, William) 3-manifolds which fiber over a surface. *Amer. J. Math.* **94** (1972), 189–205. (L. Neuwirth) **45** #4417 55F05

Residual finiteness of surface groups. *Proc. Amer. Math. Soc.* **32** (1972), 323. (B. Maskit) **45** #4418 55A05 (20J99)

One sided incompressible surfaces in 3-manifolds. *Geometric topology* (*Proc. Conf., Park City, Utah*, 1974), *pp.* 251–258. *Lecture Notes in Math., Vol.* 438, *Springer, Berlin*, 1975. (John Bryant) **53** #6562 57A10

Free cyclic actions on $S^1 \times S^1 \times S^1$. *Proc. Amer. Math. Soc.* **48** (1975), 221–227. (Wolfgang H. Heil) **50** #14754 57A10 (57E25)

★3-Manifolds. Ann. of Math. Studies, No. 86. *Princeton University Press, Princeton, N. J.*; *University of Tokyo Press, Tokyo*, 1976. xii + 195 *pp.* (J. S. Birman) **54** #3702 57A10

Hempel, Lorenz (*with* Böhm, Franz; Kirchheim, Alfred; Krause, Heinz; Weise, Gotthard) ★Mathematische Standardmodelle der Operationsforschung. Zweite erweiterte Auflage. Die Arbeit des Autorenkollektivs wurde koordiniert von Heinz Krause. *Verlag Die Wirtschaft, Berlin*, 1972. 719 *pp.* (F. Weinberg) **48** #3445 90–01

Hempenius, A. L. A note on the relationship between the feasible regions of several types of chance constraints. *Statistica Neerlandica* **27** (1973), 185–186. (M. Yamasaki) **50** #6493 90C15

Hemperly, John C. The parabolic contribution to the number of linearly independent automorphic forms on a certain bounded domain. *Amer. J. Math.* **94** (1972), 1078–1100. (F. Hirzebruch) **53** #11110 32N10 (32N15, 10D20)

Cusp forms and the index theorem for manifolds with boundary. *Math. Ann.* **217** (1975), *no.* 3, 221–228. (F. Hirzebruch) **55** #11315 58G10 (32N10, 10D20)

Hénaut, Alain Prolongement d'un morphisme d'espaces analytiques complexes. *Fonctions de plusieurs variables complexes, II* (*Sém. François Norguet*, 1974-1975), *pp.* 274–281. *Lecture Notes in Math., Vol.* 482, *Springer, Berlin*, 1975. (G. Trautmann) **52** #11108 32D15 (32C35)

Platitude des revêtements analytiques ramifiés à deux feuillets d'une variété analytique complexe de dimension finie. *Fonctions de plusieurs variables complexes, II* (*Sém. François Norguet, Janvier 1974–Juin 1975*), *pp.* 358–366. *Lecture Notes in Math., Vol.* 482, *Springer, Berlin*, 1975. (James B. Carrell) **54** #7867 32H99 (57D30)

Prolongement d'un morphisme d'espaces analytiques complexes. *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A559–A562. (G. Trautmann) **51** #929 32D15 (32C35)

Henderson, C. R. (*with* Urquhart, N. S.; Weeks, David L.) Estimation associated with linear models: a revisitation. *Comm. Statist.* **1** (1973), 303–330. (J. W. L. Cole) **48** #9996 62J05

(*with* Searle, S. R.; Schaeffer, L. R.) The invariance and calculation of Method 2 for estimating variance components. (French summary) *Biometrics* **30** (1974), 583–588. (D. V. Chopra) **54** #1494 62J10

Henderson, D. J. (*with* Davison, S. G.; Glasser, M. Lawrence) Indefinite integrals of products of Bessel functions. *Utilitas Math.* **5** (1974), 227–237. (R. K. Saxena) **51** #3576 33A40

Henderson, D. K. Tangency as an equivalence relation: an approach to differential calculus. *New Zealand Math. Mag.* **11** (1974), 12–21. (R. S. Booth) **49** #10826 26A06

Henderson, D. S. (*with* Levy, M. R.) An extended operator precedence parsing algorithm. *Comput. J.* **19** (1976), *no.* 3, 229–233. (Ju. G. Karpov) **56** #7343 68A30

(*with* Wright, C. J.) A Schmidt type process for the solution of $Ax = b$. (German summary) *Computing* **16** (1976), *no.* 3, 231–237. (R. P. Tewarson) **53** #1933 65F05

(*with* Wassyng, A.) A new method for the solution of $Ax = b$. *Numer. Math.* **29** (1977/78), *no.* 3, 287–289. (R. P. Tewarson) **57** #11012 65F05

Henderson, David W. Applications of infinite-dimensional manifolds to quotient spaces of complete ANR's. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 748–753. (D. E. Sanderson) **46** #6263 54B15 (54C55, 57A20)

Corrections and extensions of two papers about infinite-dimensional manifolds. *General Topology and Appl.* **1** (1971), 321–327. (D. E. Sanderson) **45** #2754 57A20

Some questions in the dimension theory of infinite dimensional spaces. *Symposium on Infinite-Dimensional Topology* (*Louisiana State Univ., Baton Rouge, La.*, 1967), *pp.* 131–136. *Ann. of Math. Studies, No.* 69, *Princeton Univ. Press, Princeton, N. J.*, 1972. (Richard M. Schori) **54** #8591 54F45 (57A20)

(*with* Geoghegan, Ross) Stable function spaces. *Amer. J. Math.* **95** (1973), 461–470. (D. E. Sanderson) **49** #4029 58D15 (57A20)

A simplicial complex whose product with any ANR is a simplicial complex. *General Topology and Appl.* **3** (1973), 81–83. (S. Mardešić) **47** #4208 54C55

Z-sets in ANR's. *Trans. Amer. Math. Soc.* **213** (1975), 205–216. (D. E. Sanderson) **52** #11830 54C55 (57A20)

Henderson, Douglas (*with* Barker, J. A.; Smith, William Robert) Perturbation theory in classical statistical mechanics. *Utilitas Math.* **1** (1972), 211–234. (S. Harris) **47** #2952 82.42

(*with* Barker, J. A.) What is "liquid"? Understanding the states of matter. *Rev. Modern Phys.* **48** (1976), *no.* 4, 587–671. (H. S. Green) **56** #17630 82.02

(*with* Smith, William Robert) Exact analytical formulas for the distribution functions of charged hard spheres in the mean spherical approximation. *J. Statist. Phys.* **19** (1978), *no.* 2, 191–200. (From the summary) **58** #20141 (E **58** #20142) 82.65

See also **Blum, Lesser**, **58** #20142

Henderson, F. M. *See* **Philip, John R.**, **53** #4465

Henderson, George W. Continua which cannot be mapped onto any non planar circle-like continuum. *Colloq. Math.* **23** (1971), 241–243, 326. (C. E. Burgess) **46** #6323 54F20

(*with* Ummel, Brian R.) The nonexistence of complex Haar systems of nonplanar locally connected spaces. *Proc. Amer. Math. Soc.* **39** (1973), 640–641. (D. E. Wulbert) **47** #3892 41A65 (54C35)

Henderson, J. (*with* Orzech, Morris) Cotorsion modules for torsion theories. *Report of the Algebra Group*, *pp.* 87–99. *Queen's Papers in Pure and Appl. Math., No.* 36, *Queen's Univ., Kingston, Ont.*, 1973. (J. D. Fuelberth) **48** #11213 16A64

Henderson, J. G. (*with* Xirokostas, D. A.) Extremum control of dynamic systems in the presence of random disturbances and noise. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control(IFAC), London*, 1966), *Vol.* 1, 13–14, *Paper* 7B, 11 *pp. Inst. Mech. Engrs., London*, 1967 (V. N. Ingolkin) **52** #7647 93C40

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360b

Henderson, J. R. (*with* Dean, R. A.) The 1-width of (0, 1)-matrices having constant row sum 3. *J. Combinatorial Theory Ser. A* **16** (1974), 355–370. (N. J. Pullman) **48** #11155 15A36

Permanents of (0,1)-matrices having at most two zeros per line. *Canad. Math. Bull.* **18** (1975), *no.* 3, 353–358. (R. A. Brualdi) **53** #2978 15A15

(*with* Dean, R. A.) A general upper bound for 1-widths. *J. Combinatorial Theory Ser. A* **18** (1975), 236–238. (R. A. Brualdi) **50** #9624 05B20

Henderson, Janice A. (*with* Aaboe, Asger) The Babylonian theory of lunar latitude and eclipses according to system A. *Arch. Internat. Histoire Sci.* **25** (1975), *no.* 97, 181–222. (Editors) **58** #26692 01A15

Henderson, Le Roy F. Theorem on entropy production on either side of shock branching. *Z. Angew. Math. Mech.* **54** (1974), 281–282. (Rishi Ram) **50** #3742 76.35

(*with* Atkinson, J. D.) Multi-valued solutions of steady-state supersonic flow. I. Linear analysis. *J. Fluid Mech.* **75** (1976), *no.* 4, 751–764. (M. Honda) **53** #15081 76.35

Henderson, Peter B. (*with* Steiglitz, Kenneth) A problem in single-machine sequencing with nonlinear delay costs. *Management Sci.* **22** (1975/76), *no.* 12, 1342–1350. (Jan Weglarz) **55** #14178 90B35

(*with* Zalcstein, Yechezkel) Characterization of the synchronization languages for PV systems (preliminary draft). *17th Annual Symposium on Foundations of Computer Science* (*Houston, Tex.*, 1976), *pp.* 9–18. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (K. H. V. Booth) **56** #10106 68A05

(*with* Cherniavsky, John C.; Keohane, John) On the equivalence of URE$_\infty$-flow graphs and reducible flow graphs. *Proceedings of the 1976 Conference on Information Sciences and Systems* (*Tenth Annual Meeting, Johns Hopkins Univ., Baltimore, Md.*, 1976), *pp.* 423–428. *Dept. Electr. Engrg., John Hopkins Univ., Baltimore, Md.*, 1976. (W. B. Jones) **58** #3607 68A05

(*with* Zalcstein, Yechezkel) A graph-theoretic characterization of the PV$_{\text{chunk}}$ class of synchronizing primitives. *SIAM J. Comput.* **6** (1977), *no.* 1, 88–108. (Richard A. DeMillo) **58** #8441 68A05

Henderson, R. *See* **Proceedings: Session of the International Statistical Institute**, **49** #8144

Henderson, T. L. (*with* Lainiotis, Demetrios G.) Digital matched filters for detecting Gaussian signals in Gaussian noise. *Information Sci.* **4** (1972), 233–249. (J. Capon) **46** #3184 94A05

Henderson, William Priority queues with general input and mixtures of Erlang service time distributions. *J. Operations Res. Soc. Japan* **15** (1972), 77–91. (M. L. Chaudhry) **47** #5984 60K25

Alternative approaches to the analysis of the $M/G/1$ and $G/M/1$ queues. *J. Operations Res. Soc. Japan* **15** (1972), 92–101. (M. L. Chaudhry) **47** #5985 60K25

An inequality from applied probability. *J. Austral. Math. Soc. Ser. A* **25** (1978), *no.* 3, 269–274. (S. J. Taylor) **58** #13267 60E05

Hendrichson, N. N. *See* **Winter, Eduard J.**, **58** #21156

Hendricks, John Robert The third-order magic cube complete. *J. Recreational Math.* **5** (1972), *no.* 1, 43–49. (Stephen H. Y. Hung) **55** #135 05B15

Magic tessaracts and N-dimensional magic hypercubes. *J. Recreational Math.* **6** (1973), *no.* 3, 193–201. (Heiko Harborth) **56** #5325a 05B15

Errata: "Magic tessaracts and N-dimensional magic hypercubes" (J. Recreational Math. **6** (1973), no. 3, 193–201). *J. Recreational Math.* **7** (1974), *no.* 1, 80. (Heiko Harborth) **56** #5325b 05B15

Hendricks, W. J. Hausdorff dimension in a process with stable components—an interesting counterexample. *Ann. Math. Statist.* **43** (1972), *no.* 2, 690–694. (Author's summary) **54** #14113 60J30

The stationary distribution of an interesting Markov chain. *J. Appl. Probability* **9** (1972), 231–233. **45** #1265 60J10

A dimension theorem for sample functions of processes with stable components. *Ann. Probability* **1** (1973), 849–853. (S. J. Taylor) **54** #14114 60J30

An extension of a theorem concerning an interesting Markov chain. *J. Appl. Probability* **10** (1973), 886–890. (J. F. C. Kingman) **50** #11454 60J10

Multiple points for a process in R^2 with stable components. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 113–128. (Bert Fristedt) **50** #14950 60J30 (60J45)

An account of self-organizing systems. *SIAM J. Comput.* **5** (1976), *no.* 4, 715–723. (K. H. V. Booth) **56** #7344 68A35

Hendrickson, Arlo D. (*with* Buehler, Robert J.) Proper scores for probability forecasters. *Ann. Math. Statist.* **42** (1971), 1916–1921. (I. J. Good) **47** #2982 90A99

(*with* Mayer, Lawrence S.) A method for constructing an optimal regression design after an initial set of input values has been selected. *Comm. Statist.* **2** (1973), 465–477. (D. V. Chopra) **48** #7493 62K05

Hendrickson, Joseph H. Temporally inhomogeneous scattering theory for modified wave operators. *J. Mathematical Phys.* **16** (1975), 768–771. (Teruo Ikebe) **52** #6216 35P25

n-body scattering into cones with long-range time-dependent potentials. *J. Mathematical Phys.* **17** (1976), *no.* 5, 729–733. (Author's summary) **55** #3830 47A40

Hendrickson, Richard W. (*with* Hahn, Gerald J.) A table of percentage points of the distribution of the largest absolute value of k Student t variates and its applications. *Biometrika* **58** (1971), 323–332. (Authors' summary) **47** #2716 62E15 (62Q05)

Hendriks, Harrie La stratification naturelle de l'espace des fonctions différentiables réelles n'est pas la bonne. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A618–A620. (E. A. Feldman) **46** #6396 57D35 (54C35, 58D15)

Applications de la théorie d'obstruction en dimension 3. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1101–A1104. (K. W. Kwun) **47** #7744 57A10 (57A35)

(*with* Laudenbach, François) Scindement d'une équivalence d'homotopie en dimension 3. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1275–A1278. (K. W. Kwun) **47** #7745 57A10

(*with* Laudenbach, François) Scindement d'une équivalence d'homotopie en dimension 3. *Ann. Sci. École Norm. Sup.* (4) **7** (1974), 203–217 (1975). (A. Černavskiĭ) **51** #1827 57A10

★Les équivalences d'homotopie en dimension 3. Thèse de doctorat d'état. Publications Mathématiques d'Orsay, No. 133-7535. *U. E. R. Mathématique, Université Paris XI, Orsay*, 1975. iii + 189 *pp.* (*not consecutively paged*) (Allen E. Hatcher) **55** #6432 57A10

Une obstruction pour scinder une équivalence d'homotopie en dimension 3. *Ar Sci. École Norm. Sup.* (4) **9** (1976), *no.* 3, 437–467. (Allen E. Hatcher) **54** #8634 57A10

Obstruction theory in 3-dimensional topology: classification theorems. *Bull. Am Math. Soc.* **83** (1977), *no.* 4, 737–738. (Richard Holzsager) **55** #11256 57A15 (55D10)

Applications de la théorie d'obstruction en dimension 3. *Bull. Soc. Math. Fran Mém. No.* 53 (1977), 81–196. (J. P. E. Hodgson) **57** #13952 57A10

Obstruction theory in 3-dimensional topology: an extension theorem. *J. Lond Math. Soc.* (2) **16** (1977), *no.* 1, 160–164. (Oscar Burlet) **56** #13222 57A10 (55D1

On the existence of a free subgroup of finite index. *J. Pure Appl. Algebra* (1977/78), *no.* 3, 227–232. (Author's summary) **58** #28213 20J05 (20F30)

Corrigendum: "Obstruction theory in 3-dimensional topology: an extension theorem" (J. London Math. Soc. (2) **16** (1977), no. 1, 160–164). *J. London Math. Sc* (2) **18** (1978), *no.* 1, 192. (Editors) **58** #18460 57A10

Hendrix, G. G. (*with* Stedry, Andrew C.) The elementary redundancy-optimization problem: a case study in probabilistic multiple-goal programming. *Operations Res.* (1974), *no.* 3, 639–653. (Authors' summary) **58** #4355 90C50 (93A10)

Hendrix, Michael D. (*with* Long, Paul E.) Properties of C-continuous functions. *Yokohama Math. J.* **22** (1974), 117–123. (G. L. Cain, Jr.) **50** #5725 54C10

Hendry, David F. The consequences of mis-specification of dynamic structure, autocorrelation, and simultaneity in a simple model with an application to the demar for imports. With appendices and discussions. *Modelling the economy* (*Conf., Soc. Sc Res. Council, London Graduate School of Business Stud., London*, 1972), *pp.* 286–32 *Heinemann, London*, 1975. (G. Tintner) **56** #1647 62P20

(*with* Tremayne, Andrew R.) Estimating systems of dynamic reduced form equations with vector autoregressive errors. *Internat. Econom. Rev.* **17** (1976), *no.* 463–471. (Jacob Paroush) **54** #6440 62P20

The structure of simultaneous equations estimators. *J. Econometrics* **4** (1976), *no.* 51–88. (V. K. Srivastava) **55** #1691 62P20 (62M10)

See also **Anderson, T. W.**, **53** #14764 *and* **Lyttkens, Ejnar**, **56** #4104

Hendry, Herbert E. Another system of natural deduction. *Notre Dame J. Formal Logic* 1 (1975), *no.* 4, 491–495. (Alex Blum) **53** #5248 02B10

Ramsey sentences for infinite theories. *Philos. Sci.* **42** (1975), *no.* 1, 28. (From th author's text) **56** #15400 02G15

(*with* Hart, Allan M.) Some observations on a method of McKinsey. *Notre Dam J. Formal Logic* **19** (1978), *no.* 3, 395–396. (Perry Smith) **58** #5026 02C05 (02B0

Hendry, J. A. (*with* Hennell, M. A.) The global element method applied to a discontinuo nuclear potential. *J. Comput. Phys.* **28** (1978), *no.* 3, 376–394. (Authors' summar **58** #25691 82.49 (82.65)

Hendry, W. L. A Volterra integral equation of the first kind. *J. Math. Anal. Appl.* (1976), *no.* 1, 266–278. (Robert L. Wheeler) **54** #3319 45D05

Hendy, M. D. Applications of a continued fraction algorithm to some class numb problems. *Math. Comp.* **28** (1974), 267–277. (K. Lakkis) **48** #8440 12A50 (10F2 12A25)

Prime quadratics associated with complex quadratic fields of class number two *Proc. Amer. Math. Soc.* **43** (1974), 253–260. (Paul Hartung) **49** #2648 12A25 (12A50)

Euclid and the fundamental theorem of arithmetic. (German and Japanese summaries) *Historia Math.* **2** (1975), 189–191. (Author's summary) **58** #26701 01A20 (12–03)

The distribution of ideal class numbers of real quadratic fields. *Math. Comp.* **2** (1975), *no.* 132, 1129–1134. (A. M. Cohen) **53** #13157 (E **53** #13158) 12A2 (12A50)

Corrigendum: "The distribution of ideal class numbers of real quadratic fields (Math. Comp. **29** (1975), no. 132, 1129–1134). *Math. Comp.* **30** (1976), *no.* 135, 679. (A M. Cohen) **53** #13158 12A25 (12A50)

★Class number divisors for some real quadratic fields. Occasional Publications i Mathematics, No. 5. *Department of Mathematics, Massey University, Palmerston North* 1977. i + 3 *pp.* (T. Metsänkylä) **57** #3099 12A25 (12A50)

Stolarsky's distribution of the positive integers. *Fibonacci Quart.* **16** (1978), *no.* 1 70–80. (B. Garrison) **57** #5890 10A35

(*with* Jeans, N. S.) Determining the fundamental unit of a pure cubic field give any unit. *Math. Comp.* **32** (1978), *no.* 143, 925–935. (T. Metsänkylä) **57** #12451 12A30 (12A45)

Henery, R. J. Solution of Fredholm equations with symmetric difference kernels. *J. Ins Math. Appl.* **19** (1977), *no.* 1, 29–37. (Carl C. Grosjean) **55** #13839 65R05 (45B05

Hengartner, Walter Famille de traces sur les sous-espaces d'une fonction plurisousharmonique ou entière dans $\mathbf{C}^n$. *Séminaire Pierre Lelong* (*Analyse*) (*anné* 1967-1968), *pp.* 81–93. *Lecture Notes in Math., Vol.* 71, *Springer, Berlin*, 1968. (G Coeuré) **52** #3606 32F05

(*with* Theodorescu, Radu) Concentration functions. I. *Symposia Mathematica, Vol IX* (*Convegno di Calcolo delle Probabilità, INDAM, Rome* 1971), *pp.* 79–106. *Academi Press, London*, 1972. (G. Sîmboan) **49** #1555 60E05

(*with* Gauthier, Paul M.) The value distribution of most functions of one or severa complex variables. *Ann. of Math.* (2) **96** (1972), 31–52. (A. Hirschowitz) **46** #5662 32A20 (32H25)

(*with* Theodorescu, Radu) Concentration functions. II. (Italian summary) *Att Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **52** (1972), 346–349. (Authors summary) **54** #11446 60E05

(*with* Schober, Glenn) Points extrémaux des familles de fonctions univalentes. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A837–A838. (F. R. Keogh) **45** #7038 30A36

(*with* Theodorescu, Radu) ★Concentration functions. Probability and Mathematical Statistics, No. 20. *Academic Press* [*A Subsidiary of Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1973. xii + 139 *pp.* (H. Bergström) **48** #9781 60E05 (60Bxx, 60Fxx)

(*with* Schober, Glenn) A remark on level curves for domains convex in one direction. Collection of articles dedicated to Eberhard Hopf on the occasion of his 70th irthday. *Applicable Anal.* **3** (1973), 101–106. (Paul Eenigenburg) **52** #14260 30A32

(*with* Gauthier, Paul M.) Approximation sur les fermés par des fonctions nalytiques sur une surface de Riemann. *C. R. Acad. Bulgare Sci.* **26** (1973), 731–732. Horst Tietz) **49** #5363 30A82

(*with* Gauthier, Paul M.) Local harmonic majorants of functions subharmonic in he unit disc. *J. Analyse Math.* **26** (1973), 405–412. (E. C. Schlesinger) **48** #8816 31A05

(*with* Schober, Glenn) Extreme points for some classes of univalent functions. *Trans. Amer. Math. Soc.* **185** (1973), 265–270. (Louis Brickman) **49** #559 30A36

(*with* Theodorescu, Radu) Concentration and information. *Théories de information* (*Colloq. Information et Questionnaires, Marseille-Luminy*, 1973), *pp.* 99–110. *Lecture Notes in Math., Vol.* 398, *Springer, Berlin*, 1974. (I. Csiszár) **51** #9147 60E05 (94A15)

(*with* Schober, Glenn) Propriétés des points d'appui des familles compactes de fonctions univalentes. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 551–553. (Horst Tietz) **51** #880 30A38

(*with* Satyanarayan Rao, Aribindi) On the spectrum of almost periodic solutions of an abstract differential equation. *J. Austral. Math. Soc.* **18** (1974), 385–387. (R. A. Struble) **51** #3637 34G05

(*with* Satyanarayan Rao, Aribindi) On the existence of a unique almost periodic solution of an abstract differential equation. *J. London Math. Soc.* (2) **8** (1974), 577–581. (J. Prouse) **50** #13785 34G05

(*with* Schober, Glenn) Compact families of univalent functions and their support points. *Michigan Math. J.* **21** (1974), 205–217 (1975). (T. Giec) **51** #898 30A74 (46E10)

(*with* Gauthier, Paul M.) Uniform approximation on closed sets by functions analytic on a Riemann surface. *Approximation theory* (*Proc. Conf. Inst. Math., Adam Mickiewicz Univ., Poznań*, 1972), *pp.* 63–69. *Reidel, Dordrecht*, 1975. (C. Wang) **58** #6263 30A82

(*with* Gauthier, Paul M.) Traces des fonctions méromorphes de plusieurs variables complexes. *Rencontre sur l'analyse complexe à plusieurs variables et les systèmes surdéterminés* (*Textes Conf., Univ. Montréal, Montreal, Que.*, 1974), *pp.* 21–47. *Presses Univ. Montréal, Montreal, Que.*, 1975. (Authors' introduction) **58** #1221 32A20 (32H99)

(*with* Brown, Léon; Gauthier, Paul M.) Continuous boundary behaviour for functions defined in the open unit disc. *Nagoya Math. J.* **57** (1975), 49–58. (J. A. Cima) **51** #8422 30A72

(*with* Grassmann, E. G.; Schober, Glenn) Support points of the class of close-to-convex functions. *Canad. Math. Bull.* **19** (1976), *no.* 2, 177–179. (From the text) **58** #6202 30A32

(*with* Schober, Glenn) Some new properties of support points for compact families of univalent functions in the unit disk. *Michigan Math. J.* **23** (1976), *no.* 3, 207–216 (1977). (G. V. Kuz′mina) **58** #11361 30A36

(*with* Gauthier, Paul M.) Complex approximation and simultaneous interpolation on closed sets. *Canad. J. Math.* **29** (1977), *no.* 4, 701–706. (R. B. Burckel) **58** #28520 30A82

See also **Analytic methods in mathematical physics, 48** #5746

ngrussamee, D. *See* **Numerical methods in fluid dynamics, 49** #10260

ngst, Martin ★Einführung in die mathematische Statistik und ihre Anwendung. B·I-Hochschultaschenbücher, No. 42/42a. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1967. 259 *pp.* (Editors) **50** #11549 62–01

See also **Handbuch: Meyers, 51** #7770 *and* **Handbuch: Meyers, 51** #7771

nhapl, W. A transformation of marked graphs. *Information Processing Lett.* **2** (1973), 26–29. (Petre Preoteasa) **49** #8414 68A05

nin, Claude G. Computational techniques for optimizing systems with standby redundancy. *Naval Res. Logist. Quart.* **19** (1972), 293–308. (I. T. Frisch) **49** #12067 90B25 (65K05)

(*with* Doutriaux, Jerôme) On computing the generalized coefficient of internal stability. (French summary) *INFOR—Canad. J. Operational Res. and Information Processing* **11** (1973), 253–266. (Tomas Gal) **48** #5633 90B35

Optimal allocation of unreliable components for maximizing expected profit over time. *Naval Res. Logist. Quart.* **20** (1973), 395–403. (C. Mohan) **48** #10463 90B25

(*with* Perrakis, Stylianos) The evaluation of risky investments with random timing of cash returns. *Management Sci.* **21** (1974/75), *no.* 1, 79–86. (Authors' summary) **55** #11945 90A05 (90A10)

enin, F. (*with* Prigogine, I.; George, Cl.) Dynamical and statistical descriptions of *N*-body systems. (French summary) *Physica* **45** (1969), 418–434. (A. Corciovei) **46** #1266 82.47

(*with* De Haan, M.) On some properties of the Mandel-Turner equation. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **59** (1973), 365–381. (S. Harris) **48** #10406 82.47

(*with* De Haan, M.) Collision operator in the physical representation, the Friedrichs model. *Physica* **67** (1973), 197–237. (Kishin Mariwalla) **51** #7548 82.47

Asymptotic evolution in Kac's model. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **60** (1974), 686–720. (R. A. Minlos) **51** #12242 82.60

Entropy and entropy production for the Kac's model. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **60** (1974), 721–761. (R. A. Minlos) **51** #12243 82.60

Entropy, dynamics and molecular chaos, Kac's model. *Physica* **77** (1974), 220–246. (G. Papanicolaou) **50** #15797 82.60

(*with* Prigogine, I.) Entropy, dynamics, and molecular chaos. *Proc. Nat. Acad. Sci. U.S.A.* **71** (1974), 2618–2622. (G. Papanicolaou) **49** #8564 82.60

eniņa, I. (*with* Reiziņš, L. È.) The history of certain propositions in the general theory of differential equations that were proved by P. Bohl. (Russian) *Latvijas PSR Zinātņu Akad. Vēstis* **1973**, *no.* 10(315), 127–131. (E. Leimanis) **49** #3252 34–03 (01A60, 34A15)

See also **Bohl, Piers, 50** #6768

enk, T. (*with* Baranyi, A.) On the stability of sinusoidal oscillations. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band II*, 1, *pp.* 39–45. *Abh. Akad. Wiss. DDR. Abt. Math.-Natur.-Tech., No. 5N, Akademie-Verlag, Berlin*, 1977. (From the introduction) **58** #19818 78.34

on Henke, Friedrich Wilhelm (*with* Indermark, Klaus; Weihrauch, Klaus) Hierarchies of primitive recursive wordfunctions and transductions defined by automata. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 549–561. *North-Holland, Amsterdam*, 1973. (George Tourlakis) **55** #1840 68A30

★Primitiv-rekursive Transformationen. Gesellschaft für Mathematik und Datenverarbeitung, Bonn, Ber. No. 92. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1974. 51 *pp.* (G. Wechsung) **51** #107 02F47 (02F20)

(*with* Indermark, Klaus; Rose, Gene F.; Weihrauch, Klaus) On primitive recursive wordfunctions. (German summary) *Computing* **15** (1975), *no.* 3, 217–234. (Paul Axt) **54** #2434 02F20 (02F15, 68A15)

Formal transformations and the development of programs. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnica*, 1977), *pp.* 288–296. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (From the author's introduction) **57** #14577 68A05

Towards automation of proofs by induction. *Theoretical computer science* (*Third GI Conf., Darmstadt*, 1977), *pp.* 208–214. *Lecture Notes in Comput. Sci., Vol.* 48, *Springer, Berlin*, 1977. (John K. Debenham) **58** #13991 68A40

Henke, H. Eine Methode zur Lösung spezieller Randwertaufgaben der Mathieuschen Differentialgleichung. *Z. Angew. Math. Mech.* **52** (1972), 250–251. (F. M. Arscott) **46** #2144 34B30 (33A55)

Henke, M. Optimale Rangstrategien in sequentiellen Auswahlprozessen. (English summary) *Unternehmensforschung* **13** (1969), 258–273. (D. Siegmund) **50** #3484 62L10

Expectations and variances of stopping variables in sequential selection processes. *J. Appl. Probability* **10** (1973), 786–806. (John C. Gittins) **51** #2205 62L15

Henke, Wolfgang Isometrische Immersionen der Kodimension 2 von Raumformen. (English summary) *Manuscripta Math.* **19** (1976), *no.* 2, 165–188. (Ph. Tondeur) **53** #9086 53C40 (57D35)

Über die isometrische Fortsetzbarkeit isometrischer Immersionen der Standard-m-Sphäre $S^m(\subset \mathbf{R}^{m+1})$ in $\mathbf{R}^{m+2}$. *Math. Ann.* **219** (1976), *no.* 3, 261–276. (Samuel I. Goldberg) **53** #11541 53C40

Über die Existenz isometrischer Immersionen der Kodimension 2 von sphärischen Raumformen in Standard-Räume. *Math. Ann.* **222** (1976), *no.* 1, 89–95. (R. L. Bishop) **54** #13792 53C40

Henkin, G. M. The Banach spaces of analytic functions in a ball and in a bicylinder are nonisomorphic. (Russian) *Funkcional. Anal. i Priložen.* **2** (1968), *no.* 4, 82–91. (Editors) **54** #3378 46E15 (32E25)

(*with* Mitjagin, B. S.) Linear separation of singularities, and a problem of the isomorphism of spaces of holomorphic functions. (Russian) *Uspehi Mat. Nauk* **25** (1970), *no.* 6(156), 227–228. (Editors) **56** #9244 46E10 (32A10)

(*with* Romanov, A. V.) Exact Hölder estimates of the solutions of the $\bar{\delta}$-equation. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **35** (1971), 1171–1183. (J.-M. Kantor) **45** #2200 35N15 (32F15)

A uniform estimate for the solution of the $\bar{\partial}$-problem in a Weil region. (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 3(159), 211–212. (J.-M. Kantor) **45** #3753 35N15

Continuation of bounded holomorphic functions from submanifolds in general position in a strictly pseudoconvex domain. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 540–567. (E. J. Akutowicz) **46** #7558 32F15 (32D05)

An analytic polyhedron is not holomorphically equivalent to a strictly pseudoconvex domain. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 1026–1029. (R. O. Wells, Jr.) **48** #6467 32F15

Estimates of the Hölder index of a mapping that increases dimension. (Russian) *Mathematical economics and functional analysis* (*Russian*), *pp.* 258–262. *Izdat. "Nauka", Moscow*, 1974. (Editors) **56** #12197 26A69

(*with* Čirka, E. M.) Boundary properties of holomorphic functions of several complex variables. (Russian) *Current problems in mathematics, Vol.* 4 (*Russian*), *pp.* 12–142. (*errata insert*) *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (S. I. Pinčuk) **57** #16698 32F15

Solutions with bounds for the equations of H. Lewy and Poincaré-Lelong. Construction of functions of Nevanlinna class with given zeros in a strongly pseudoconvex domain. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 4, 771–774. (J. S. Joel) **57** #6511 32F15 (35N15)

(*with* Tumanov, A. E.) Interpolation submanifolds of pseudoconvex manifolds. (Russian) *Mathematical programming and related questions* (*Proc. Seventh Winter School, Drogobych*, 1974), *Theory of functions and functional analysis* (*Russian*), *pp.* 74–86. *Central. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow*, 1976. (Editors) **58** #22665 32E30

H. Lewy's equation, and analysis on a pseudoconvex manifold. II. (Russian) *Mat. Sb.* (*N.S.*) **102(144)** (1977), *no.* 1, 71–108, 151. (S. I. Pinčuk) **57** #12907 32F15

H. Lewy's equation and analysis on pseudoconvex manifolds. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 3(195), 57–118, 247. (S. I. Pinčuk) **56** #12318 32F15 (35N15)

(*with* Gindikin, S. G.) Transformation de Radon pour la d''-cohomologie des domaines q-linéairement concaves. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 4, A209–A212. (Authors' summary) **58** #22668 32F10

See also **Wells, R. O., Jr., 58** #17210

Henkin, Leon (*with* Monk, J. Donald; Tarski, Alfred) ★Cylindric algebras. Part I. With an introductory chapter: General theory of algebras. Studies in Logic and the Foundations of Mathematics, Vol. 64. *North-Holland Publishing Co., Amsterdam-London*, 1971. vi + 508 *pp.* (A. Preller) **47** #3171 02J15 (02–01)

Internal semantics and algebraic logic. *Truth, syntax and modality* (*Proc. Conf. Alternative Semantics, Temple Univ., Philadelphia, Pa.*, 1970), *pp.* 111–127. *Studies in Logic and the Foundations of Math., Vol.* 68, *North-Holland, Amsterdam*, 1973. (D. Monk) **52** #13381 02J15

(*with* Monk, J. Donald) Cylindric algebras and related structures. *Proceedings of the Tarski Symposium* (*Proc. Sympos. Pure Math., Vol. XXV, Univ. California, Berkeley, Calif.*, 1971), *pp.* 105–121. *Amer. Math. Soc., Providence, R.I.*, 1974. (S. Comer) **51** #12522 02J15

(*with* Resek, Diane) Relativization of cylindric algebras. Collection of articles dedicated to Andrzej Mostowski on his sixtieth birthday, VIII. *Fund. Math.* **82** (1974/75), 363–383. (D. Monk) **51** #2906 02J15

Mathematical foundations for mathematics. (Polish) Translated from the English (Amer. Math. Monthly **78** (1971), 463–487). *Wiadom. Mat.* (2) **18** (1974), 55–80. (Not reviewed) 00A05

Are logic and mathematics identical? (Spanish) Translated from the English (Science **138** (1962), 788–794). *Bol. Mat.* **9** (1975), *no.* 2, 65–89. (Editors) **53** #7773 02Jxx

The logic of equality. *Amer. Math. Monthly* **84** (1977), *no.* 8, 597–612. (D. Monk) **57** #12345 08A25 (02–01)

See also **Proceedings: Tarski Symposium**, **50** #1829 *and* **Logic, methodology and philosophy of science**, **55** #7657

Henkin, M. Z. (*with* Volynskiĭ, È. I.) A search algorithm for the solution of a general mathematical programming problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 1, 61–71, 276. (A. B. Pevnyĭ) **53** #15380 90C30

(*with* Volynskiĭ, È. I.) Nonlinear auxiliary problems in mathematical programming. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 6, 1590–1595, 1630. (A. I. Şchiop) **56** #7197 65K05

(*with* Volynskiĭ, È. I.; Žiteĭskaja, T. P.) An efficient algorithm for the solution of a general mathematical programming problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 2, 88–91. (Ulrich Eckhardt) **56** #10987 90C30

Henkin, V. È. Hamiltonian cycles in certain classes of generalized Petersen graphs. (Russian) *Upravljaemye Sistemy No.* 10 (1972), 48–61. (See RŽMat **1973** #5 V491) 05C35

Hamilton cycles in Cayley graphs for quasigroups do not always exist. (Russian) Quasigroups and combinatorics. *Mat. Issled. Vyp.* 43 (1976), 190–195, 210. (D. Ja. Kesel'man) **57** #5815 05C25 (05C35)

Henle, J. M. (*with* Kleinberg, Eugene M.) A combinatorial proof of a combinatorial theorem. *Acta Math. Acad. Sci. Hungar.* **26** (1975), 3–7. (James D. Halpern) **52** #7911 04A20

Some consequences of an infinite-exponent partition relation. *J. Symbolic Logic* **42** (1977), *no.* 4, 523–526. (James Baumgartner) **58** #10461 04A20 (02K35, 04A25)

(*with* Kleinberg, Eugene M.) A flipping characterization of Ramsey cardinals. *Z. Math. Logik Grundlagen Math.* **24** (1978), *no.* 1, 31–36. (Thomas J. Jech) **58** #5238 04A20 (02K35)

Henle, Michael A Lebesgue decomposition theorem for C^*-algebras. *Canad. Math. Bull.* **15** (1972), 87–91. (A. M. Sinclair) **47** #2380 46L05

Dissection of generating functions. *Studies in Appl. Math.* **51** (1972), 397–410. (D. A. Klarner) **50** #4321 05A15

Binomial enumeration on dissects. *Trans. Amer. Math. Soc.* **202** (1975), 1–39. (R. Stanley) **50** #9601 05A15

Henley, Ernest J. (*with* Williams, R. A.) ★Graph theory in modern engineering. Computer aided design, control, optimization, reliability analysis. Mathematics in Science and Engineering, Vol. 98. *Academic Press, New York-London*, 1973. xvi + 303 *pp.* (S. L. Hakimi) **50** #12465 94A20

Henn, Rudolph (*with* Opitz, Otto) ★Konsum- und Produktionstheorie. II. Lecture Notes in Economics and Mathematical Systems, Vol. 71. *Springer-Verlag, Berlin-New York*, 1972. iv + 134 *pp.* (G. Morton) **52** #9990 90A15

(*with* Förstner, Karl; Bamberg, Günter) ★Einführung in die Wahrscheinlichkeitsrechnung. *Verlag Anton Hain, Meisenheim am Glan*, 1973. xi + 365 *pp.* (Editors) **49** #9884 60–01

(*with* Krug, Eugen) On efficient points of a stochastic production correspondence. *Production theory* (*Proc. Internat. Sem., Univ. Karlsruhe, Karlsruhe*, 1973), *pp.* 221–230. *Lecture Notes in Econom. and Math. Systems, Vol.* 99, *Springer, Berlin*, 1974. (From the authors' introduction) **55** #7310 90A15 (90B30)

Zeitgerechte Prozessorzuteilung in einer harten Realzeitumgebung. *GI—6. Jahrestagung* (*Stuttgart*, 1976), *pp.* 343–359. *Informatik-Fachberichte, Band* 5, *Springer, Berlin*, 1976. (Horst Reichel) **57** #9037 90B35

(*with* Kischka, P.) Über einige Anwendungen der semiinfiniten Optimierung. (English summary) *Z. Operations Res. Ser. A-B* **20** (1976), *no.* 1, A39–A58. (Klaus Lommatzsch) **54** #4681 90C50

(*with* Moeschlin, Otto) The scientific work of Oskar Morgenstern. *Mathematical economics and game theory*, *pp.* 1–9. *Lecture Notes in Econ. and Math. Systems*, *Vol.* 141, *Springer, Berlin*, 1977. (Editors) **55** #5353 01A70

Antwortzeitgesteuerte Prozessorzuteilung unter strengen Zeitbedingungen. (English summary) *Computing* **19** (1977/78), *no.* 3, 209–220. (Armin Cremers) **57** #9038 90B35 (68A99)

See also **Operations Research-Verfahren**, **48** #3446; **Operations Research-Verfahren**, **48** #3447; **Oberwolfach-Tagung: Operations Research**, **48** #3448; **Operations Research-Verfahren**, **48** #3449; **Oberwolfach-Tagung: Operations Research**, **48** #3450; **Operations Research-Verfahren**, **48** #3451; **Oberwolfach-Tagung: Operations Research**, **48** #3452; **Operations Research-Verfahren**, **48** #3453; **Oberwolfach-Tagung: Operations Research**, **48** #3454; **Oberwolfach-Tagung: Operations Research**, **48** #3455; **Production theory**, **49** #8609; **Operations Research-Verfahren**, **50** #9307; **Operations Research-Verfahren**, **50** #9308; **Oberwolfach-Tagung: Operations Research**, **50** #9309; **Oberwolfach-Tagung: Operations Research**, **50** #9310; **Mathematical economics and game theory**, **55** #5184; **Theory and applications of economic indices**, **57** #2497; **Optimization and operations research**, **58** #20280 *and* **Quantitative Wirtschaftsforschung**, **58** #32843

Henna, Jõgi On the estimation of mixing ratio of two distributions. *Bull. Sci. Engrg. Div. Univ. Ryukyus Mat. Natur. Sci. No.* 19 (1975), 43–51. (Ramesh C. Gupta) **52** #6977 62F10

Note on sample mean in the dependent case. *Bull. Sci. Engrg. Div. Univ. Ryukyus Math. Natur. Sci. No.* 20 (1975), 9–14. (W. Hoeffding) **54** #14207 62F10 (62D05)

Hennart, J. P. A new method for fast reactor group diffusion calculations. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **61** (1975), *no.* 2, 140–172. (B. Vujanovic) **51** #12125 76.49

(*with* Mund, E. H.; Hallet, P.) An algorithm for the interpolation of functions using quintic splines. *J. Comput. Appl. Math.* **1** (1975), *no.* 4, 279–288. (Authors' summary) **56** #7111 65D05

Piecewise polynomial multiple collocation methods for initial value problems. *Differential equations* (*Third Mexico-U.S. Sympos., Mexico City*, 1975) (*Spanish*), *pp.* 253–254. *Math. Notes and Sympos., Vol.* 2, *Fondo de Cultura Económ., Mexico City*, 1976. (See Zbl **355** #65055; MR **55** #7659) 65L05

(*with* Hallet, P.; Mund, E. H.) A Galerkin method with modified piecewise polynomials for solving a second-order boundary value problem. *Numer. Math.* (1976/77), *no.* 1, 11–20. (Frank G. Hagin) **55** #9547 65L10 (34A50)

One-step piecewise polynomial multiple collocation methods for initial value problems. *Math. Comp.* **31** (1977), *no.* 137, 24–36. (R. S. Varga) **55** #4681 65L

Henneaux, Marc (*with* Spindel, Philippe; Schomblond, Christiane) Invariance relativ de la théorie des champs sur un espace-temps courbe. (English summary) *Acad. R. Belg. Bull. Cl. Sci.* (5) **63** (1977), *no.* 2, 179–186. (J. Rosen) **57** #15099 81.53 (83.

Forme hamiltonienne des équations d'Einstein-Dirac. (English summary) *Ac Roy. Belg. Bull. Cl. Sci.* (5) **63** (1977), *no.* 4, 379–391. (W. B. Bonnor) **57** #1870 83.49

Henneberg, L. *See* **Festschrift: Weber, Heinrich**, **50** #12626

Henneberger, K. (*with* Röseler, J.) Bloch electrons in the electric field: existence a properties of the solutions of the auxiliary equation stated by Wannier. (German a Russian summaries) *Z. Angew. Math. Mech.* **54** (1974), 303–309. (C. J. Eliezer) **50** #15684 81.35

Hennefeld, Julien O. The non-conjugacy of certain algebras of operators. *Pacific J. Ma* **43** (1972), 111–113. (Robert S. Doran) **47** #2385 46L20

A decomposition for $B(X)^*$ and unique Hahn-Banach extensions. *Pacific J. Ma* **46** (1973), 197–199. (D. Dean) **51** #6492 47D15 (46B05)

On nonequivalent normalized unconditional bases for Banach spaces. *Proc. Am Math. Soc.* **41** (1973), 156–158. (W. J. Davis) **47** #9251 46B15

Finding a maximal subalgebra on which the two Arens products agree. *Pacific Math.* **59** (1975), *no.* 1, 93–98. (P. Civin) **52** #15012 46H05

Asymptotic nonbases which are not subsets of maximal asymptotic nonbases. *Pr Amer. Math. Soc.* **62** (1976), *no.* 1, 23–24 (1977). (Melvyn B. Nathanson) **58** #22005 10L05

Compact extremal operators. *Illinois J. Math.* **21** (1977), *no.* 1, 61–65. (T. Gillespie) **55** #1138 47D15 (47B05)

Hennekemper, Wilhelm (*with* Frank, Günter; Polloczek, Gisela) Über die Nullstellen meromorpher Funktionen und deren Ableitungen. *Math. Ann.* **225** (1977), *no.* 145–154. (H.-J. Runckel) **55** #3257 30A70

Henneken, P. L. *See* **Hennequin, P. L.**

Hennell, M. A. (*with* Watt, J. M.; Yates, D.; Delves, L. M.; Foxley, E.; Brailsford, I Progress with an ALGOL 68 numerical algorithms library. *Proceedings of the F Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Ma* 1975), *pp.* 637–646. *Congressus Numerantium, No. XVI, Utilitas Math. Publ., Winnip Man.*, 1976. (J. E. L. Peck) **53** #9709 68A10

(*with* Hendry, J. A.) The global element method applied to a discontinuous nucl potential. *J. Comput. Phys.* **28** (1978), *no.* 3, 376–394. (Authors' summary) **58** #256 82.49 (82.65)

See also **Modern numerical methods for ordinary differential equations**, **57** #144

Henneman, F. Pell's equation. (Dutch) *Nieuw Tijdschr. Wisk.* **60** (1972/73), *no.* 1, 1– (R. Tijdeman) **56** #5419 10B05

Gauss' law of errors and the method of least squares; a historical sketch. (Dutc *Nieuw Tijdschr. Wisk.* **64** (1976/77), *no.* 4, 205–209. (Editors) **57** #15894 01A55

Henneman, W. H. (*with* Bledsoe, W. W.; Boyer, R. S.) Computer proofs of limit theore *Artificial Intelligence* 3 (1972), 27–60. (I. Kramosil) **51** #7386 68A40

Henneman, William *See* **McNaughton, Robert; et al.**, **51** #7756

Hennequin, P. L. (*with* Altaber, J. L.) Réflexions sur les méthodes de Monte-Carlo. *Act du Cinquième Congrès de l'AFIRO* (*Lille*, 1966), *pp.* 211–217. *Assoc. Française Inform Recherches Opérationnelles* [*AFIRO*], *Paris*, 1966. (J. H. Halton) **45** #9441 65C05

(*with* Tortrat, A.) ★Теория вероятностей и некоторые ее приложения. (Russia [Probability theory and some of its applications] Translated from the French by S. Zalgaller and O. V. Šalaevskiĭ. Edited by Ju. V. Linnik. *Izdat. "Nauka", Moscow*, 197 472 *pp.* (Editors) **50** #11336 60–01

Mathématiques et décisions: aide ou illusion? (English summary) *Publ. Économétriques* **9** (1976), *no.* 2, 1–49, 129. (Jean Larisse) **55** #9349 62C05 (62A9

See also **École d'Été: Probabilités: Processus Stochastiques**, **50** #1301; **École d'Ét Probabilités de Saint-Flour**, **50** #1302; **Probabilités sur les structures algébriques**, **50** #1303; **Symposia: Probability and Applications**, **52** #12020; **École d'Été: Probabilités de Saint-Flour**, **53** #11685 *and* **École d'Été: Probabilités de Saint-Flou** **56** #1381

Henner, E. K. (*with* Šapošnikov, I. G.) An approximation in the theory of nonequilibriu processes. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 156 *Kibernet.-Mat. Metody Issle Processov i Struktur* (1976), 11–17. (K. Kumar) **57** #11531 82.35

Henner, V. E. A multi-machine power system Liapunov function using the generaliz Popov criterion. *Internat. J. Control* **19** (1974), 969–976. (W. D. Collins) **49** #12130 93D10

Hennessy, M. C. B. (*with* Ashcroft, Edward) Parameter-passing mechanisms and nondeterminism. *Conference Record of the Ninth Annual ACM Symposium on Theory Computing* (*Boulder, Colo.*, 1977), *pp.* 306–311. *Assoc. Comput. Mach., New York*, 197 (From the introduction) **57** #18190 68A05

Hennessy, T. R. A comparative approach to Laplace transform inversion. *J. Comput. App Math.* **4** (1978), *no.* 2, 89–91. (Robert Piessens) **58** #13628 65D20 (44A10)

Henniart, Guy Représentations de degré 2 de Gal $(\bar{Q}_2/Q_2)$. (English summary) *C. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 21, A1329–A1332. (Author's summar **56** #259 10D15 (14G25, 22E50)

Hennie, Fred ★Introduction to computability. Addison-Wesley Series in Computer Science and Information Processing. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1977. ix + 374 *pp.* (Cristian Calude) **56** #11767 02F1 (68–01)

Hennig, C. (*with* Bunke, Helga; Schmidt, Wolfgang H.) Weighted combination of prio and sample information and parameter estimation. (German and Russian summaries) *Math. Operationsforsch. Statist.* 7 (1976), *no.* 5, 665–672. (L. B. Klebanov) **55** #1555 62C10

Hennig, G. R. (*with* Miele, Angelo) Sequential gradient-restoration algorithm for optima control problems with bounded state. *J. Optimization Theory Appl.* **12** (1973), 61–98. **48** #3247 65K05

ig, J. D. (*with* Doebner, H. D.) On dynamical groups: classification of Lie algebras ith Galilei subalgebras. *J. Mathematical Phys.* **15** (1974), 602–608. (Anthony Joseph) **9** #4455 81.17

(*with* Doebner, H. D.) Poincaré subalgebras in SO(4, 2) and SL(5, R). *Rep. athematical Phys.* **5** (1974), 321–326. (L. O'Raifeartaigh) **52** #12570 81.22

ig, Klaus Zur Berechnung der Eigenwerte flacher schubweicher Membranen. *onatsb. Deutsch. Akad. Wiss. Berlin* **13** (1971), 580–589. (Yi-Yuan Yu) **46** #10283 3.65 (73.35)

(*with* Martins, Hartmut) Zur Berechnung von Kontinuumsschwingungen bei ufälliger Fremderregung. *Beiträge zur Schwingungstheorie, pp.* 71–91. *Schr. Zentralinst. ath. Mech. Akad. Wiss. der DDR, Heft* 19, *Akademie-Verlag, Berlin*, 1974. (G. N. il'šteĭn) **51** #5121 93E10

(*with* Heinrich, W.) ★Zufallsschwingungen mechanischer Systeme. *kademie-Verlag, Berlin*, 1977. ix + 228 *pp.* (H. Parkus) **57** #2034 70.60

See also **Beiträge: Schwingungstheorie**, **49** #10493

ing, H. B. Series approximations to powers of π. *Portugal. Math.* **32** (1973), 171–177. G. U. Brauer) **47** #4409 65B10

ingsen, H.-P. Restringierte Newtonverfahren zur unrestringierten Optimierung. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I, pp.* 147–156. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. Wolfgang Wetterling) **56** #9989 65K05

ingsen, Inge (*with* Billingsley, Patrick) Hausdorff dimension of some ontinued-fraction sets. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **31** (1974/75), 163–173. (F. Schweiger) **51** #5535 10K10

nion, Hubert Sur le mouvement d'une particule lourde soumise à des collisions dans un ystème infini de particules légères. *Publications des Séminaires de Mathématiques (Univ. Rennes, Rennes), année* 1970–1971, *Fasc.* 1: *Probabilités, pp.* 87–131. *Dép. Math. et Informat., Univ. Rennes, Rennes*, 1970. (Editors) **52** #9418 60K35

Sur le mouvement d'une particule lourde soumise à des collisions dans un système infini de particules légères. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A455–A457. (J. A. Beekman) **46** #4623 60J65 (70.60)

Sur le mouvement d'une particule lourde soumise à des collisions dans un système infini de particules légères. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **25** (1972/73), 123–154. (Richard Holley) **52** #1935 60K35

Sur la récurrence et la transience dans les espaces homogènes. *Séminaire de Probabilités, I (Univ. Rennes, Rennes*, 1976), *Exp. No.* 9, 25 *pp. Dépt. Math. Informat., Univ. Rennes, Rennes*, 1976. (Bernard Roynette) **58** #7858 60J15 (22D05)

Marches aléatoires sur les espaces homogènes des groupes nilpotents à génération finie. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 21, Aii, A1241–A1242. (Bernard Roynette) **55** #1482 60J15 (60B15)

Marches aléatoires sur les espaces homogènes des groupes nilpotents à génération finie. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **34** (1976), *no.* 3, 245–267. (Bernard Roynette) **53** #4236 60J15 (60B15)

(*with* Roynette, Bernard) Un théorème de dichotomie pour les marches aléatoires sur les espaces homogènes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 5, A399–A401. (Authors' summary) **56** #3950 60J15

nion, Pierre-Yves (*with* Alais, Pierre) Interaction non linéaire paramétrique de deux modes acoustiques d'ondes planes atténuées inhomogènes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 17, Bi, B385–B387. (E. Pinney) **53** #15076 76.35

nno, Jaak Group-like Menger systems. (Russian. English summary) Mathematics and theoretical mechanics, VI. *Tallin. Polütehn. Inst. Toimetised Seer. A No.* 312 (1971), 95–110. (Rainer Mlitz) **54** #5079 08A05

Green's equivalences in Menger systems. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 277 (1971), 37–46. (G. Pollák) **51** #8001 08A25

Densely imbedded right ideals of Menger systems. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **21** (1972), 131–141. (*loose errata*) (S. Lajos) **45** #6730 08A25

Dense embeddings in Menger systems. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **21** (1972), 231–238. (G. Pollák) **48** #10945 08A05 (20N15)

Densely imbedded left ideals of the Menger systems. I. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 123–130. (Author's summary) **58** #16459 08A05

Densely imbedded left ideals of Menger systems. II. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 365–372. (Author's summary) **56** #15529 08A05 (20M10)

Free U-systems. (Russian. English summary) *Tallin. Polütehn. Inst. Toimetised Seer. A No.* 345 (1973), 29–40. (V. A. Artamonov) **56** #15532 08A10

Imbedding of Ω-systems in Ω-systems with a minimal number of generators. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **23** (1974), 326–335. (*loose errata*) (Rainer Mlitz) **52** #3018 08A25

Free G-commutative Menger systems. (Russian. English and loose Russian summaries) Mathematics and theoretical mechanics, VIII. *Tallin. Polütehn. Inst. Toimetised No.* 373 (1975), 19–26. (Teo Sturm) **53** #7903 08A10

On the completeness of idempotent functions on infinite sets. *Ann. Univ. Turku. Ser. A I No.* 170 (1976), 9 *pp.* (T. C. Wesselkamper) **53** #12870 02C05 (94A20)

On the complexity of multiplaced functions. (German and Russian summary) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 11, 585–593. (Author's summary) **58** #32055 68A20

énon, Michel Integrals of the Toda lattice. *Phys. Rev. B* (3) **9** (1974), 1921–1923. (Author's summary) **53** #12410 82.34

Problèmes numériques liés à la recherche des solutions des transformations ponctuelles conservatives. *Transformations ponctuelles et leurs applications (Colloq. Internat. CNRS, No.* 229, *Toulouse*, 1973), *pp.* 387–400. *Éditions Centre Nat. Recherche Sci., Paris*, 1976. (J. S. Joel) **58** #14049 70.34 (39A12, 58F15, 65Q05)

(*with* Pomeau, Yves) Two strange attractors with a simple structure. *Turbulence and Navier-Stokes equations (Proc. Conf., Univ. Paris-Sud, Orsay*, 1975), *pp.* 29–68. *Lecture Notes in Math., Vol.* 565, *Springer, Berlin*, 1976. (John Guckenheimer) **56** #6742 58F10 (76.65, 34C25, 65L05)

A family of periodic solutions of the planar three-body problem, and their stability. *Celestial Mech.* **13** (1976), *no.* 3, 267–285. (Author's summary) **57** #18320 70.34

A two-dimensional mapping with a strange attractor. *Comm. Math. Phys.* **50** (1976), *no.* 1, 69–77. (P. Fischer) **54** #10917 40A05

(*with* Hitzl, Donald L.) The stability of second species periodic orbits in the restricted problem ($\mu = 0$). *Acta Astronaut.* **4** (1977), *no.* 9-10, 1019–1039. (Authors' summary) **58** #19479 70.34

(*with* Hitzl, Donald L.) Critical generating orbits for second species periodic solutions of the restricted problem. *Celestial Mech.* **15** (1977), *no.* 4, 421–452. (Joseph Ford) **56** #17285 70.34

See also **Proceedings: Oberwolfach Conference on Celestial Mechanics**, **47** #7979

Henoud, Leïla ★Formes quadratiques sur un anneau local. D. E. A. de Mathématiques (Algèbre), Université Claude Bernard-Lyon 1, Centre d'Études Mathématiques de Beyrouth. *Université Claude Bernard, Lyon*, 1971. iii + 53 *pp.* (Joel Cunningham) **52** #391 13H99 (13C05)

★Autour de la non ramification. Thèse présentée devant l'Université Claude Bernard-Lyon 1 pour obtenir le Diplome de Docteur de Spécialité (3e Cycle) de Mathématiques Pures. *Université Claude Bernard, Lyon*, 1973. vi + 69 *pp.* (*Loose errata and summary*) (M. A. Knus) **51** #5565 12F10 (12B10)

(*with* Flamant, Maurice) Éléments de trace nulle dans une extension cyclique non ramifiée. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A1147–A1150. (Tadayuki Matsuoka) **48** #11082 13B20 (12F10)

(*with* Flamant, Maurice) Extensions cycliques non ramifiées. *Publ. Dép. Math. (Lyon)* **11** (1974), *no.* 3, 71–139. (J. Browkin) **51** #12805 12F05 (10C05, 13B25)

Henrard, Jacques Proof of a conjecture of E. Strömgren. *Celestial Mech.* **7** (1973), 449–457. (Richard P. McGehee) **51** #1880 58F05

Lyapunov's center theorem for resonant equilibrium. *J. Differential Equations* **14** (1973), 431–441. (J. A. Morrison) **48** #4428 34C35

Geometrical singularities in perturbation theory. *Computational methods in nonlinear mechanics (Proc. Internat. Comf., Austin, Tex.*, 1974), *pp.* 213–220. *Texas Inst. Comput. Mech., Austin, Tex.*, 1974. (Giorgio E. O. Giacaglia) **53** #9795 70.65

Virtual singularities in the artificial satellite theory. *Celestial Mech.* **10** (1974), 437–449. (R. H. Wilson, Jr.) **50** #11894 70.34

(*with* Roels, Jacques) Equivalence for Lie transforms. *Celestial Mech.* **10** (1974), 497–512. (J. Hoschek) **50** #11908 70.53

(*with* Meyer, Kenneth R.) Averaging and bifurcations in symmetric systems. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 133–145. (W. S. Loud) **56** #8985 34C20

Hill's problem in lunar theory. *Celestial Mech.* **17** (1978), *no.* 2, 195–204. (Author's summary) **58** #19478 70.34

Henrard, Paul Classes of cotheories. *The Proceedings of the Bertrand Russell Memorial Conference (Uldum, Denmark*, 1971), *pp.* 217–220. *Bertrand Russell Memorial Logic Conf., Leeds*, 1973. **54** #4967 02H05

Le "forcing-compagnon" sans "forcing". *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A821–A822. (A. B. Slomson) **47** #3165 02H05

Weak elimination of quantifiers and cotheories. *Logic Colloquim '73 (Bristol*, 1973), *pp.* 395–398. *Studies in Logic and the Foundations of Mathematics, Vol.* 80, *North-Holland, Amsterdam*, 1975. (A. B. Slomson) **52** #76 02H05

See also **Comptes Rendus: Semaine d'Étude en Théorie des Modèles**, **57** #9452 *and* **Six days of model theory**, **57** #9453

Henrich, Christopher J. The $\bar\partial$ equation with polynomial growth on a Hilbert space. *Duke Math. J.* **40** (1973), 279–306. (R. D. Moyer) **47** #9279 46G05 (35N15, 35R15, 58G99)

How to find the top rootform of a complex simple Lie algebra. *J. Reine Angew. Math.* **265** (1974), 138–141. (E. M. Luks) **51** #627 17B20

The Gel'fand states of certain representations of U(n) and the decomposition of products of representations of U(2). *J. Mathematical Phys.* **16** (1975), *no.* 11, 2271–2288. (Philip H. Butler) **52** #5891 22E70

On the numerical evaluation of a sum involving binomial coefficients. *Numer. Math.* **24** (1975), 81–83. (Author's summary) **51** #11932 65D20

Henrichon, Ernest (*with* Owen, Joel; Brick, Donald B.) A non parametric approach to pattern recognition. *Pattern Recognition* **2** (1970), *no.* 3, 227–234. (W. H. Schoendorf) **53** #7160 68A45 (62H30)

Henrichs, Rolf Wim Ein maximales Maß, dessen Träger keine Extremalpunkte enthält. *Arch. Math. (Basel)* **25** (1974), 502-504. (Paul Milnes) **51** #788 22D10 (43A35)

Maximale Integralzerlegungen invarianter positiv definiter Funktionen auf diskreten Gruppen. *Math. Ann.* **208** (1974), 15–31. (A. Hulanicki) **50** #2391 22D25

Die Frobeniuseigenschaft *FP* für diskrete Gruppen. *Math. Z.* **147** (1976), *no.* 2, 191–199. (Pierre Eymard) **53** #8324 22D30

Über Fortsetzung positiv definiter Funktionen. *Math. Ann.* **232** (1978), *no.* 2, 131–150. (Pierre Eymard) **58** #2022 43A35 (22D10)

Henrici, Peter Circular arithmetic and the determination of polynomial zeros. *Conference on Applications of Numerical Analysis (Univ. Dundee, Dundee*, 1971), *pp.* 86–92. *Lecture Notes in Math., Vol.* 228, *Springer, Berlin*, 1971. (A. S. Householder) **50** #1496 65H10

(*with* Gargantini, Irene) Circular arithmetic and the determination of polynomial zeros. *Numer. Math.* **18** (1971/72), 305–320. (N. N. Abdelmalek) **46** #2843 65H05

An algorithm for the incomplete decomposition of a rational function into partial fractions. (German summary) *Z. Angew. Math. Phys.* **22** (1971), 751–755. (P. Brock) **46** #1050 65D15

★Elemente der numerischen Analysis. I. Übersetzung aus dem Englischen: Götz Alefeld. B·I·-Hochschultaschenbücher, No. 551. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1972. 1–228 *pp.* (Editors) **49** #11751 65–01

★Elemente der numerischen Analysis. II. Übersetzung aus dem Englischen: Götz Alefeld. B·I·-Hochschultaschenbücher, No. 562. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1972. iv + 229–425 *pp.* (Editors) **49** #11752 65–01

★Applied and computational complex analysis. Volume 1: Power series—integration—conformal mapping—location of zeros. Pure and Applied Mathematics. *Wiley-Interscience [John Wiley & Sons], New York-London-Sydney*, 1974. xv + 682 *pp.* (M. Marden) **51** #8378 30–02 (65E05)

Computational complex analysis. *The influence of computing on mathematical research and education* (*Proc. Sympos. Appl. Math., Vol.* 20, *Univ. Montana, Missoula, Mont.*, 1973), *pp.* 79–86. *Amer. Math. Soc., Providence, R.I.*, 1974. (D. Gaier) **50** #2450 30-01 (00A25, 65E05)

(*with* Hoffmann, Christian) Chess champ's chances: an exercise in asymptotics. *SIAM Rev.* **17** (1975), 559–564. (J. G. Wendel) **51** #1885 60-01

Einige Anwendungen der schnellen Fouriertransformation. (English summary) *Moderne Methoden der numerischen Mathematik* (*Tagung 200-Jahrfeier, Tech. Univ. Clausthal, Clausthal*, 1975), *pp.* 111–124. *Internat. Ser. Numer. Math., Vol.* 32, *Birkhäuser, Basel*, 1976. (Author's summary) **58** #25052 65T05 (65D99)

★Error propagation for difference methods. Reprint of the 1963 edition. *Robert E. Krieger Publishing Co., Huntington, N. Y.*, 1977. vii + 73 *pp.* (Editors) **54** #11796 65L99 (65G05)

★Applied and computational complex analysis. Vol. 2. Special functions—integral transforms—asymptotics—continued fractions. *Wiley Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1977. ix + 662 *pp. ISBN* 0-471-01525-3 (A. E. Heins) **56** #12235 30-02 (33-02, 44A10)

Note on a theorem of Saff and Varga. *Padé and rational approximation* (*Proc. Internat. Sympos., Univ. South Florida, Tampa, Fla.*, 1976), *pp.* 157–161. *Academic Press, New York*, 1977. (Geneva G. Belford) **57** #6951 41A05

See also **Future of applied mathematics**, **48** #10749; **Corrington, Murlan S.**, **53** #4452; **Numerische Prozeduren aus Nachlass und Lehre von Heinz Rutishauser**, **58** #8132; **Rutishauser, Heinz**, **58** #19010a *and* **Rutishauser, Heinz**, **58** #19010b

Henrici-Kaufmann, Marie-Louise ★Die Lagrange-Bürmann-Formel bei Systemen von formalen Potenzreihen. Mit einer englischen Zusammenfassung. Abhandlung zur Erlangung des Titels eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich. Diss. ETH No. 5773. *Juris Druck + Verlag, Zurich*, 1976. 171 *pp. ISBN* 3-260-04193-1 (K. Kiyek) **57** #6007 13J05

Henriksen, Melvin On difficulties in embedding lattice-ordered integral domains in lattice-ordered fields. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 183–185. *Academia, Prague*, 1972. (D. G. Johnson) **50** #6967 06A70

On a class of regular rings that are elementary divisor rings. *Arch. Math.* (*Basel*) **24** (1973), 133–141. (H. H. Storrer) **52** #479 (EA **52**) 16A30

Two classes of rings generated by their units. *J. Algebra* **31** (1974), 182–193. (H. H. Storrer) **50** #2238 16A42 (16A30)

A simple characterization of commutative rings without maximal ideals. *Amer. Math. Monthly* **82** (1975), 502–505. (William James Lewis) **54** #12734 13-01

(*with* Chinburg, Ted) Sums of kth powers in the ring of polynomials with integer coefficients. *Bull. Amer. Math. Soc.* **81** (1975), 107–110. (J. Knopfmacher) **51** #421 10M05 (10B35)

Uniformly closed ideals of uniformly closed algebras of extended real-valued functions. *Symposia Mathematica, Vol. XVII* (*Convegno sugli Anelli di Funzioni Continue, INDAM, Roma*, 1973), *pp.* 49–53. *Academic Press, London*, 1976. (Donald Plank) **55** #1292 54C40

(*with* Chinburg, Ted) Sums of k-th powers in the ring of polynomials with integer coefficients. *Acta Arith.* **29** (1976), *no.* 3, 227–250. (W. J. Ellison) **53** #7942 10B35 (12E99, 10J05)

(*with* Chinburg, Ted) Multiplicatively periodic rings. *Amer. Math. Monthly* **83** (1976), *no.* 7, 547–549. (E. M. Patterson) **53** #13323 16A70

Tychonoff spaces that have a compactification with countable remainder. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 164–167. *Soc. Czech. Mathematicians and Physicists, Prague*, 1977. (J. R. Isbell) **56** #13165 54D40

Semiprime ideals of f-rings. *Symposia Mathematica, Vol. XXI* (*Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Convegno sui Gruppi e Anelli Ordinati, INDAM, Rome*, 1975), *pp.* 401–409. *Academic Press, London*, 1977. (D. G. Johnson) **58** #435 06A70

Conditions that guarantee that all nilpotents commute with every element of an alternative ring. *Algebra Universalis* **7** (1977), *no.* 1, 119–132. (M. F. Smiley) **55** #3022 17D05

Henriksen, R. N. (*with* Bicknell, G. V.) Self-similar growth of primordial black holes. I. Stiff equation of state. *Astrophys. J.* **219** (1978), *no.* 3, *part* 1, 1043–1057. (P. C. Vaidya) **58** #9098 85.53

Henrion, R. La théorie de la variation seconde et ses applications en commande optimale. *Acad. Roy. Belg. Cl. Sci. Mém. Coll. in-8⁰* (2) **41** (1974), *no.* 7, 208 *pp.* (1975). (I. Muntean) **55** #5267 93C15

Henrion, Romain Coupling of state variables in the optimal low thrust orbital transfer problem. *Fifth Conference on Optimization Techniques* (*Rome*, 1973), *Part I*, *pp.* 345–359. *Lecture Notes in Comput. Sci., Vol.* 3, *Springer, Berlin*, 1973. (From the author's introduction) **56** #14978 93C99 (49B99)

Henriques, A. B. (*with* Kellett, B. H.; Moorhouse, R. G.) General three-spinor wave functions and the relativistic quark model. *Ann. Physics* **93** (1975), *no.* 1-2, 125–151. (R. Delbourgo) **52** #9859 81.22

marques Henriques, J. *See* **Marques Henriques, J.**

Henriques de Brito, Eliana Rocha *See* **Medeiros, Luiz Adauto; et al.**, **57** #3844

Henry, Bruce R. L_p averages and the nonlinear renewal equation. *Duke Math. J.* **36** (1969), 547–558. (S. Orey) **48** #8323 60K05 (45G99)

Escape from the unit interval under the transformation $x \mapsto \lambda x(1-x)$. *Proc. Amer. Math. Soc.* **41** (1973), 146–150. (W. A. Al-Salam) **48** #473 26A18

Rôle d'une procédure de transmission dans un système de transmission de données. Description d'une procédure. (English summary) *Bull. Direction Études Recherches Sér. C Math. Informat.* **1976**, *no.* 2, *suppl.*, 4, 71–89. (I. Kaufmann) **57** #19125 94A20

Henry, Christian Arbres algébriques et programmation. *Les arbres en algèbre et en programmation* (*Troisième Colloq., Lille*, 1978), *pp.* 175–188. *Univ. Sci. Tech. Lille, Lille*, 1978. (Luigia Aiello) **58** #19297 68A05

Henry, Claude Non-linear evolution equations in mathematical economics. *Techniques of optimization* (*Fourth IFIP Colloq. Optimization Techniques, Los Angeles, Calif.*, 1971), *pp.* 175–181. *Academic Press, New York*, 1972. (John R. Haddock) **54** #2149 90A15 (34A10)

Differential equations with discontinuous right-hand side for planning procedu *J. Econom. Theory* **4** (1972), *no.* 3, 545–551. (From the author's introduction) **56** #7 90A15 (34A10, 93C15)

An existence theorem for a class of differential equations with multivalued right-hand side. *J. Math. Anal. Appl.* **41** (1973), 179–186. (F. S. Van Vleck) **49** #68 34A10

Problèmes d'existence et de stabilité pour des processus dynamiques considérés économie mathématique. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 97–100. (Colin Clark) **48** #13198 90A15

(*with* Champsaur, Paul; Drèze, Jacques H.) Stability theorems with economic applications. *Econometrica* **45** (1977), *no.* 2, 273–294. (Authors' summary) **56** #14 90A15 (93D05)

Henry, Daniel B. (*with* Cannon, John R.; Kotlow, Daniel B.) Continuous differentiabi of the free boundary for weak solutions of the Stefan problem. *Bull. Amer. Math.* **80** (1974), 45–48. (M. H. Protter) **48** #11768 35K05

Linear autonomous neutral functional differential equations. *J. Differential Equations* **15** (1974), 106–128. (C. H. Anderson) **49** #3284 34K05

(*with* Cannon, John R.; Kotlow, Daniel B.) Classical solutions of the one-dimensional, two-phase Stefan problem. *Ann. Mat. Pura Appl.* (4) **107** (19 311–341 (1976). (K. Hawlitschek) **53** #11231 35K20

Gradient flows defined by parabolic equations. *Nonlinear diffusion* (*NSF-CB Regional Conf., Univ. Houston, Houston, Tex.*, 1976), *pp.* 122–128. *Res. Notes Math.,* 14, *Pitman, London*, 1977. (Akira Asada) **56** #16699 58F99 (35K55)

Henry, Dennis (*with* Byrd, Michael E.) Sugihara's criterion and some structural parall between E→ and S3→. *Z. Math. Logik Grundlagen Math.* **24** (1978), *no.* 2, 187–1 (Charles Kielkopf) **58** #21463 02C10

Henry, Desmond Paul ★Medieval logic and metaphysics. A modern introduction. *Hutchinson University Library, London*, 1972. xiii + 133 *pp.* (Editors) **58** #10264 02-03 (01A35, 02A05)

The singular syllogisms of Garlandus Compotista. Collection of articles dedicat to the memory of Martin Grabmann. *Rev. Internat. Philos.* **29** (1975), *no.* 3, 243–2 (Mary J. Sirridge) **55** #12409 01A35 (02-03, 02A05)

Henry, J. *See* **Control in space**, **48** #8041 *and* **Control in space**, **48** #13320

Henry, J. P. *See* **Henry, Jean Paul Georges**

Henry, J. W. (*with* Smith, Ed R.) Noniterative integral-equation approach to scatteri problems. *Phys. Rev. A* (3) **7** (1973), 1585–1590. (Authors' summary) **50** #15691 81.45

Henry, Jackson N. (*with* Taylor, Donald Curtis) The $\bar{\beta}$ topology for W^*-algebras. *Paci J. Math.* **60** (1975), *no.* 1, 123–139. (Ole A. Nielsen) **52** #11614 46L10

Computation of rational product approximations. *Internat. J. Numer. Metho Engrg.* **10** (1976), *no.* 6, 1289–1298. (G. D. Taylor) **56** #16997 65D10

Comparison of algorithms for multivariate rational approximation. *Math. Comp.* (1977), *no.* 138, 485–494. (G. D. Taylor) **56** #4120 65D15

Henry, Jean Paul Georges Un théorème sur la multiplicité des idéaux jacobiens. *T papers on Jacobian ideals*, *pp.* 21–41. *Centre Math. École Polytech., Paris*, 1972. (Edito **56** #8560 14B05 (32C40)

Henry, Jean-Pierre Georges (*with* Lê Dũng Tráng) Limites d'espaces tangents. *Fonctio de plusieurs variables complexes, II* (*Sém. François Norguet*, 1974-1975), *pp.* 251–26 *Lecture Notes in Math., Vol.* 482, *Springer, Berlin*, 1975. (André Galligo) **52** #14363 32C40 (14B05)

(*with* Teissier, Bernard) Suffisance des familles de jets et équisinularité. *Fonctio de plusieurs variables complexes, II* (*Sém. François Norguet, Janvier* 1974–*Juin* 1975), *p* 351–357. *Lecture Notes in Math., Vol.* 482, *Springer, Berlin*, 1975. (Joseph Lipma **54** #5496 32C40

(*with* Briançon, Joël; Speder, Jean-Paul) Les conditions de Whitney en un poi sont analytiques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* Aii, A279–A282. (J. S. Joel) **54** #13123 32C40 (14D15)

Sur les idéaux jacobiens des courbes planes. (English summary) *Ann. Inst. Fourie* (*Grenoble*) **27** (1977), *no.* 3, xi, 193–210. (Peter Giblin) **57** #703 32C40 (14B05)

Henry, Michael Stratifiable spaces, semi-stratifiable spaces, and their relation throug mappings. *Pacific J. Math.* **37** (1971), 697–700. (D. J. Lutzer) **47** #1032 54E20

(*with* Guthrie, J. A.) Sequential spaces and quasi-perfect mappings. *TOPO 72—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.*, 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 159–16 *Lecture Notes in Math., Vol.* 378, *Springer, Berlin*, 1974. (V. Kannan) **51** #1747 54D55 (54C10)

(*with* Guthrie, J. A.) Metrization and paracompactness in terms of real functions *Bull. Amer. Math. Soc.* **80** (1974), 720. (C. R. Borges) **49** #6149 54D20

(*with* Guthrie, J. A.) Characterizing topological properties by real functions. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated Math. Sect. Polish Acad. Sci.*), *pp.* 189–196. *Academic Press, New York*, 1975. (R Engelking) **51** #6705 54C30

(*with* Guthrie, J. A.) Metrization, paracompactness, and real-valued functions *Fund. Math.* **95** (1977), *no.* 1, 49–54. (C. R. Borges) **55** #9041 54E35 (54D20)

Henry, Myron S. (*with* Stein, F. Max) On the uniform convergence of a best approximat solution of the Riccati matrix equation. *Rend. Circ. Mat. Palermo* (2) **18** (1969 307–312. (W. T. Reid) **45** #7144 34A45

Approximate solutions of functional differential equations. *Numerische, insbesondere approximationstheoretische Behandlung von Funktionalgleichungen* (*Tagung Math. Forschungsinst., Oberwolfach*, 1972), *pp.* 144–152. *Lecture Notes in Math., Vol.* 333 *Springer, Berlin*, 1973. (E. L. Albasiny) **55** #4699 65L99

Best approximate solutions on finite point sets of nonlinear differential equations. *J. Approximation Theory* **7** (1973), 256–264. (G. D. Byrne) **49** #4260 65L10

(*with* Brown, J. A.) Best rational product approximations of functions. *J. Approximation Theory* **9** (1973), 287–294. (Wiesław Pleśniak) **58** #12108a 41A20

(*with* Weinstein, Stanley E.) Best rational product approximations of functions. II. *J. Approximation Theory* **12** (1974), 6–22. (Wiesław Pleśniak) **58** #12108b 41A20

(*with* Brown, J. A.) Best Chebyshev composite approximation. *SIAM J. Numer. Anal.* **12** (1975), 336–344. (Geneva G. Belford) **52** #3828 41A50

Applications of approximation theory to functional differential equations.

Differential equations (*Third Mexico-U.S. Sympos., Mexico City*, 1975) (*Spanish*), *pp.* 255–274. *Math. Notes and Sympos., Vol.* 2, *Fondo de Cultura Económ., Mexico City*, 1976. (J. Kato) **56** #16098 34K05

(*with* Schmidt, Darrell) Continuity theorems for the product approximation operator. *Theory of approximation, with applications* (*Proc. Conf., Univ. Calgary, Calgary, Alta.*, 1975; *dedicated to the memory of Eckard Schmidt*), *pp.* 24–42. *Academic Press, New York*, 1976. (V. Murgescu) **54** #8120 41A65

(*with* Wiggins, Kenneth L.) Applications of approximation theory to the initial value problem. *J. Approximation Theory* **17** (1976), *no.* 1, 66–85. (Jack Williams) **54** #1612 65L05 (41A50)

(*with* Allinger, Glenn) Approximate solutions of differential equations with deviating arguments. *SIAM J. Numer. Anal.* **13** (1976), *no.* 3, 412–426. (Syvert P. Nørsett) **53** #9667 65L99

(*with* Roulier, John A.) Geometric convergence of Chebyshev rational approximations on the half line. *Padé and rational approximation* (*Proc. Internat. Sympos., Univ. South Florida, Tampa, Fla.*, 1976), *pp.* 265–274. *Academic Press, New York*, 1977. (V. N. Malozemov) **57** #17090 41A25 (41A20)

(*with* Schmidt, Darrell) Continuity theorems for the rational product approximation operator. *J. Approximation Theory* **19** (1977), *no.* 2, 135–142. (V. Murgescu) **55** #6074 41A35

(*with* Roulier, John A.) Uniform Lipschitz constants on small intervals. *J. Approximation Theory* **21** (1977), *no.* 3, 224–235. (N. Passell) **57** #6983 41A50 (41A10)

(*with* Roulier, John A.) Geometric convergence of Chebyshev rational approximations on [0, + ∞]. *J. Approximation Theory* **21** (1977), *no.* 4, 361–374. (Hans-Peter Blatt) **57** #6970 41A20

(*with* Roulier, John A.) Lipschitz and strong unicity constants for changing dimension. *J. Approximation Theory* **22** (1978), *no.* 1, 85–94. (Martin Bartelt) **58** #1894 41A50

Hry-Labordère, A. (*with* Zerhouni, Chahid M.) Décision bayésienne avec information incomplète. (English, German, Italian and Spanish summaries) *Metra* **11** (1972), 669–685, 725–726. (D. V. Lindley) **49** #9994 62C05

(*with* Kaufmann, A.) ★Méthodes et modèles de la recherche opérationnelle. Tome 3. L'Économie d'Entreprise, No. 27. *Dunod, Paris-Brussels-Montreal, Que.*, 1974. xiv + 398 *pp.* (M. Schäuble (Zbl **321** #90038)) **57** #18752 90–01 (90C10)

★Analyse de données. Applications et méthodes pratiques. *Masson, Paris-New York-Barcelona*, 1977. vii + 95 *pp. ISBN* 2-225-46131-1 (Simon Dahan) **56** #16929 62H99 (92A99)

(*with* Kaufmann, A.) ★Integer and mixed programming: theory and applications. Translated from the French by Henry C. Sneyd. Mathematics in Science and Engineering, Vol. 137. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1977. ix + 379 *pp. ISBN* 0-12-402365-7 (P. Jambor) **58** #15141 90C10 (90–01)

(*with* Kaufmann, A.) ★Методы и модели исследования операций: Целочисленное программирование. (Russian) [Methods and models of operations research: Integer programming] Translated from the French by B. T. Vavilov, E. V. Babičeva and G. G. Ustinčenko. Edited by N. P. Buslenko. *Izdat. "Mir", Moscow*, 1977. 432 *pp.* (A. Aganbegjan) **58** #15142 90C10

nschen, Lawrence J. (*with* Overbeek, Ross A.; Wos, L.) A theorem-proving language for experimentation. *Comm. ACM* **17** (1974), 308–314. (K. H. V. Booth) **49** #6698 68A40

(*with* Wos, L.) Unit refutations and horn sets. *J. Assoc. Comput. Mach.* **21** (1974), 590–605. (John T. Gill) **50** #11874 68A40

Semantic resolution for Horn sets. Special issue on automated theorem proving. *IEEE Trans. Computers* **C-25** (1976), *no.* 8, 816–822. (Gábor Dávid) **56** #1841 68A40

See also **Special issue: Automated theorem proving, 54** #4209

enschke, K. (*with* Bunke, Helga; Strüby, R.; Wisotzki, C.) Parameter estimation in nonlinear regression models. *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 1, 23–40. (Ivar Petersen) **58** #18856 62F10

ensler, Gary L. Asymptotically efficient nonparametric estimation of regression and scale parameters. *Comm. Statist.* **4** (1975), *no.* 9, 821–837. (Rudolph J. Beran) **52** #6991 62G05 (62G20)

(*with* Mehrotra, Kishan G.; Michalek, Joel) A note on some exact efficiency calculations for survival distributions. *Biometrika* **64** (1977), *no.* 3, 635–637. (Authors' summary) **58** #3265 62N05

(*with* Mehrotra, Kishan G.; Michalek, Joel) A goodness of fit test for multivariate normality. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 1, 33–41. (Rashid Ahmad) **56** #1577 62G10 (62H15)

ensley, Douglas (*with* Richards, Ian) On the incompatibility of two conjectures concerning primes. *Analytic number theory* (*Proc. Sympos. Pure Math., Vol. XXIV, St. Louis Univ., St. Louis, Mo.*, 1972), *pp.* 123–127. *Amer. Math. Soc., Providence, R.I.*, 1973. (Nina Spears) **49** #4950 10H15 (10H25)

(*with* Richards, Ian) Primes in intervals. *Acta Arith.* **25** (1973/74), 375–391. (J. W. Porter) **53** #305 10H15

An asymptotic inequality concerning primes in contours for the case of quadratic number fields. *Acta Arith.* **28** (1975/76), *no.* 1, 69–79. (T. M. Apostol) **52** #3084 10H15

An inequality related to the large sieve. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 1, 22–29. (D. Suryanarayana) **52** #13684 10H25 (10H30)

The logarithmic center of a planar region. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 266–270. (Teruo Ikegami) **53** #11070 31A10

Polynomials which take Gaussian integer values at Gaussian integers. *J. Number Theory* **9** (1977), *no.* 4, 510–524. (Philip A. Leonard) **58** #5577 10M05 (12A20)

Simple continued fractions and special relativity. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 2, 219–220. (F. T. Howard) **57** #224 10A30

Fibonacci tilting and hyperbolas. *Fibonacci Quart.* **16** (1978), *no.* 1, 37–40. (R. P. Bambah) **58** #5494 10A35

An almost-prime sieve. *J. Number Theory* **10** (1978), *no.* 2, 250–262. (S. Ikehara) **58** #557 10H30

Henson, C. Ward A family of countable homogeneous graphs. *Pacific J. Math.* **38** (1971), 69–83. (P. Erdős) **46** #3377 05C99

Countable homogeneous relational structures and $\aleph_0$-categorical theories. *J. Symbolic Logic* **37** (1972), 494–500. (M. Benda) **48** #94 02H05

The nonstandard hulls of a uniform space. *Pacific J. Math.* **43** (1972), 115–137. (W. A. J. Luxemburg) **47** #2559 54E15 (02H25)

(*with* Moore, L. C., Jr.) The nonstandard theory of topological vector spaces. *Trans. Amer. Math. Soc.* **172** (1972), 405–435. (W. A. J. Luxemburg) **46** #7836 (E **48** #2708) 46A15 (02H25)

On the nonstandard representation of measures. *Trans. Amer. Math. Soc.* **172** (1972), 437–446. (L. D. Kugler) **47** #3631 28A25 (02H25)

Edge partition properties of graphs. *Canad. J. Math.* **25** (1973), 603–610. (P. Erős) **51** #12615 05C99

(*with* Moore, L. C., Jr.) Invariance of the nonstandard hulls of locally convex spaces. *Duke Math. J.* **40** (1973), 193–205. (W. A. J. Luxemburg) **51** #8775 46A05 (02H25)

Type-raising operations on cardinal and ordinal numbers in Quine's "new foundations". *J. Symbolic Logic* **38** (1973), 59–68. (N. H. Williams) **47** #6488 02K15

Permutation methods applied to Quine's "new foundations". *J. Symbolic Logic* **38** (1973), 69–76. (D. Pincus) **47** #8295 02K05 (02K10)

(*with* Moore, L. C., Jr.) Erratum to "The nonstandard theory of topological vector spaces" (Trans. Amer. Math. Soc. **172** (1972), 405–435). *Trans. Amer. Math. Soc.* **184** (1973), 509. (W. A. J. Luxemburg) **48** #2708 46A15

(*with* Moore, L. C., Jr.) Semi-reflexivity of the nonstandard hulls of a locally convex space. *Victoria Symposium on Nonstandard Analysis* (*Univ. Victoria, Victoria, B.C.*, 1972), *pp.* 71–84. *Lecture Notes in Math., Vol.* 369, *Springer, Berlin*, 1974. (See Zbl **276** #46006; MR **57** #12159) 46A05 (46A25)

(*with* Moore, L. C., Jr.) Invariance of the nonstandard hulls of a uniform space. *Victoria Symposium on Nonstandard Analysis* (*Univ. Victoria, Victoria, B.C.*, 1972), *pp.* 85–98. *Lecture Notes in Math., Vol.* 369, *Springer, Berlin*, 1974. (Labib Haddad) **58** #2784 54J05 (02H25)

(*with* Moore, L. C., Jr.) Nonstandard hulls of the classical Banach spaces. *Duke Math. J.* **41** (1974), 277–284. (P. A. Loeb) **51** #3867 46B05 (02H25)

The isomorphism property in nonstandard analysis and its use in the theory of Banach spaces. *J. Symbolic Logic* **39** (1974), 717–731. (W. A. J. Luxemburg) **50** #12713 02H25 (46B05)

(*with* Moore, L. C., Jr.) Subspaces of the nonstandard hull of a normed space. *Trans. Amer. Math. Soc.* **197** (1974), 131–143. (P. A. Loeb) **51** #1351 46B99 (02H25)

When do two Banach spaces have isometrically isomorphic nonstandard hulls? *Israel J. Math.* **22** (1975), *no.* 1, 57–67. (W. A. J. Luxemburg) **52** #6386 46B10 (02H25)

The monad system of the finest compatible uniform structure. *Proc. Amer. Math. Soc.* **51** (1975), 163–170. (Labib Haddad) **51** #6779 54J05 (02H25, 54E15)

Nonstandard hulls of Banach spaces. *Israel J. Math.* **25** (1976), *no.* 1-2, 108–144. (J.-L. Krivine) **57** #1089 46B99 (02H25)

(*with* Jockusch, Carl G., Jr.; Rubel, Lee A.; Takeuti, Gaisi) First order topology. *Dissertationes Math.* (*Rozprawy Mat.*) **143** (1977), 40 *pp.* (Frank Wattenberg) **55** #5434 02H15 (54J05, 54H99)

Henss, D. *See* **Fremdwörterbuch naturwissenschaftlicher und mathematischer Begriffe, 50** #12554

Henstock, Ralph ★Linear analysis. *Plenum Press, New York*; *Butterworths, London*, 1967. x + 441 *pp.* (P. Szeptycki (Zbl **172**, #390)) **54** #7725 28–02 (46–02, 40–02)

Integration by parts. *Aequationes Math.* **9** (1973), 1–18. (T. A. Botts) **47** #3608 26A42 (26A63, 28A25)

(*with* de Foglio, Susana F. L.) The *N*-variational integral and the Schwartz distributions. III. *J. London Math. Soc.* (2) **6** (1973), 693–700. (J. L. Griffith) **48** #2755 46F10 (26A39)

Integration in product spaces, including Wiener and Feynman integration. *Proc. London Math. Soc.* (3) **27** (1973), 317–344. (J. A. Beekman) **49** #9145 28A35

Additivity and the Lebesgue limit theorems. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 223–241. *Greek Math. Soc., Athens*, 1974. (S. Foglio) **57** #6355 28A25

Hensz, Ewa On the perfectness of the Cesàro, Borel and Abel limitation methods of sequences. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astornom. Phys.* **23** (1975), *no.* 10, 1079 1081. (Amnon Jakimovski) **52** #14737 40H05

On some theorem of Mercer. (Polish summary) *Bull. Soc. Sci. Lettres Łódź* **25** (1975), *no.* 7, 2 *pp.* (Amnon Jakimovski) **54** #787 40G05

On a subclass of infinitely divisible distributions on Hilbert space. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 6, 579–583. (V. M. Kruglov) **57** #4279 60B15 (60E05)

(*with* Jajte, Ryszard) On a class of limit laws. (Russian summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 1, 215–221. (Thomas A. O'Connor) **57** #10763 60E05 (60F05)

Hentges, G. (*with* Benichou, M.; Gauthier, J. M.; Ribière, G.) The efficient solution of large-scale linear programming problems—some algorithmic techniques and computational results. *Math. Programming* **13** (1977), *no.* 3, 280–322. (Irinel Dragan) **58** #24931 65K05 (90C05)

Hentja, T. (*with* Kutepov, V. P.) Heuristic methods for compiling schedules for a certain class of parallel algorithms. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 183 (1974), 62–72. (Not reviewed) 68A10

Hentov, A. A. The permanent rotations of an equatorial satellite in a geomagnetic field. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 405–418. (K. Magnus) **46** #6669 70.34 (70.35, 86.35)

Hentschke, Siegbert Erweiterungen des Satzes von Holditch. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 8–10, 451–458. (H. R. Müller) **55** #8962 53A05

Gemeinsame Invarianten von Kreis- und Strahlenkongruenzen. *Arch. Math.* (*Basel*)

27 (1976), *no.* 4, 441–448. (Gr. Stanilov) **55** #3991 53A25

Hentzel, Irvin Roy Nil semi-simple $(-1, 1)$ rings. *J. Algebra* **22** (1972), 442–450. (J. W. Overbeck) **46** #3586 17E05

(*with* Slater, Michael) On the Andrunakievich lemma for alternative rings. *J. Algebra* **27** (1973), 243–256. (D. Rodabaugh) **48** #11237 17D05

The characterization of $(-1, 1)$ rings. *J. Algebra* **30** (1974), 236–258. (I. P. Šestakov) **54** #5305 17A30

Alternative rings without nilpotent elements. *Proc. Amer. Math. Soc.* **42** (1974), 373–376. (E. J. Taft) **48** #6200 17D05

Generalized right alternative rings. *Pacific J. Math.* **60** (1975), *no.* 2, 95–102. (Harry F. Smith) **53** #557 17A30

(*with* Piacentini Cattaneo, Giulia Maria) Generalization of right alternative rings. *Trans. Amer. Math. Soc.* **207** (1975), 143–161. (I. P. Šestakov) **51** #5684 17A30

(*with* Piacentini Cattaneo, Giulia Maria) Semi-prime generalized right alternative rings. *J. Algebra* **43** (1976), *no.* 1, 14–27. (Harry F. Smith) **54** #10364 17D05

(*with* Piacentini Cattaneo, Giulia Maria) A note on generalizing alternative rings. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 6–8. (Armin Thedy) **52** #13967 17D05

Processing identities by group representation. *Computers in nonassociative rings and algebras (Special session, 82nd Annual Meeting Amer. Math. Soc., San Antonio, Tex.,* 1976), *pp.* 13–40. *Academic Press, New York,* 1977. (R. L. Kruse) **57** #3204 17A30

Applying group representation to nonassociative algebras. *Ring theory (Proc. Conf., Ohio Univ., Athens, Ohio,* 1976), *pp.* 133–141. *Lecture Notes in Pure and Appl. Math., Vol.* 25, *Dekker, New York,* 1977. (Ralph K. Amayo) **55** #8120 17A30 (16A26)

(*with* Piacentini Cattaneo, Giulia Maria) Simple (γ, δ) algebras are associative. *J. Algebra* **47** (1977), *no.* 1, 52–76. (D. Rodabaugh) **56** #430 17A30

(*with* Piacentini Cattaneo, Giulia Maria; Floyd, Denis) Alternator and associator ideal algebras. *Trans. Amer. Math. Soc.* **229** (1977), 87–109. (Michael Rich) **56** #5674 17E05

A generalization of anti-commutative rings arising from 2-varieties. *Comm. Algebra* **6** (1978), *no.* 11, 1109–1114. (Peter Seibt) **58** #818 17E05

Hentzschel, Jürgen (*with* Wenzel, Horst) Zur Existenz von Lösungen gewisser nichtlinearer parabolischer Differentialgleichungen. *Wiss. Z. Techn. Univ. Dresden* **20** (1971), 955–956. (K. Hawlitschek) **47** #9072 35K55

(*with* Wenzel, Horst) Eine Modifikation des Schauderschen Fixpunktsatzes und deren Anwendung auf Existenzprobleme partieller Differentialgleichungen. *Wiss. Z. Techn. Univ. Dresden* **21** (1972), 759–760. (D. E. Edmunds) **48** #9113 35K20

Zur numerischen Lösung der Sickergleichung. 5. *Tagung über Probleme und Methoden der Mathematischen Physik (Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt,* 1975), *Heft* 1, *pp.* 179–183. *Wiss. Schr. Techn. Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt,* 1975. (Radu Bădescu) **55** #11796 76.35

Henze, Dirk Über Eindeutigkeitsfragen bei nichtlinearer L^1- und Tschebyscheff-Approximation. (English summary) *Computing (Arch. Elektron. Rechnen)* **6** (1970), 330–338. (H. Werner) **45** #4592 41A50 (65D99)

Henze, Ernst ★Einführung in die Masstheorie. B. I.-Hochschultaschenbücher, No. 505 a/b. *Bibliographisches Institut, Mannheim-Vienna-Zürich,* 1971. 235 *pp.* (See Zbl **217**, 378) 28–01

(*with* Homuth, Horst H.) ★Einführung in die Codierungstheorie. *Friedr. Vieweg & Sohn, Braunschweig,* 1974. 91 *pp.* (Giuseppe Longo) **50** #16082 94A10

(*with* Massé, Jean-Claude; Theodorescu, Radu) On multiple Markov chains. *J. Multivariate Anal.* **7** (1977), *no.* 4, 589–593. (M. Iosifescu) **57** #1661 60J25

Hepp, K. (*with* Lieb, Elliott H.) On the superradiant phase transition for molecules in a quantized radiation field: The Dicke Maser model. *Ann. Physics* **76** (1973), 360–404. (T. Arai) **48** #7865 82.41

(*with* Lieb, Elliott H.) Equilibrium statistical mechanics of matter interacting with the quantized radiation field. *Phys. Rev. A* (3) **8** (1973), 2517–2525. (Authors' summary) **50** #15788 82.46

★Теория перенормировок. (Russian) [Renormalization theory] Translated from the French by V. N. Suško. Edited by M. K. Polivanov. *Izdat. "Nauka", Moscow,* 1974. 255 *pp.* (Editors) **50** #12067 81.47

The classical limit for quantum mechanical correlation functions. *Comm. Math. Phys.* **35** (1974), 265–277. (H. Wakita) **48** #10373 81.47

(*with* Lieb, Elliott H.) The laser: a reversible quantum dynamical system with irreversible classical macroscopic motion. *Dynamical systems, theory and applications (Rencontres, Battelle Res. Inst., Seattle, Wash.,* 1974), *pp.* 178–207. *Lecture Notes in Phys., Vol.* 38, *Springer, Berlin,* 1975. (From the introduction) **58** #20100 82.47 (58F15)

Results and problems in irreversible statistical mechanics of open systems. *International Symposium on Mathematical Problems in Theoretical Physics (Kyoto Univ., Kyoto,* 1975), *pp.* 138–150. *Lecture Notes in Phys.,* 39. *Springer, Berlin,* 1975. (Editors) **58** #32696 82.60

Two models for Josephson oscillators. *Ann. Phys. (New York)* **90** (1975), 285–294. (Lawrence E. Thomas) **51** #12204 81.47

(*with* Braun, W.) The Vlasov dynamics and its fluctuations in the $1/N$ limit of interacting classical particles. *Comm. Math. Phys.* **56** (1977), *no.* 2, 101–113. (H. Wakita) **57** #15147 82.60

See also **Constructive quantum field theory**, **52** #16310; **Mathematics of contemporary physics**, **53** #7 *and* **Salam, Abdus**, **57** #4870

Heppes, Aladár (*with* Groemer, Helmut) Packing and covering properties of split disks. *Studia Sci. Math. Hungar.* **10** (1975), *no.* 1–2, 185–189. (J. B. Wilker) **57** #17514 52A45 (52A10)

(*with* Mályusz, K.; Stahl, János) On the solution of a sorting problem. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **2** (1976), *no.* 3–4, 233–235 (1977). (Authors' summary) **57** #18798 90B99

(*with* Lugosi, Gábor) Production scheduling to minimize the set-up time of parallel machines with alternative choices. (Hungarian. English summary) *Alkamaz. Mat. Lapok* **2** (1976), *no.* 1–2, 83–91. (Authors' summary) **55** #14179 90B35

Heppner, Ernst Die maximale Ordnung primzahl-unabhängiger multiplikativer Funktionen. *Arch. Math. (Basel)* **24** (1973), 63–66. (S. L. Segal) **47** #8462 10H25

Über die Iteration von Teilerfunktionen. *J. Reine Angew. Math.* **265** (1974), 176–182. (András Sárközi) **49** #2607 10H25

On the iteration of multiplicative functions. *Topics in number theory (Proc. Colloq Debrecen,* 1974), *pp.* 81–86. *Colloq. Math. Soc. János Bolyai, Vol.* 13, *North-Hollan Amsterdam,* 1976. (T. M. Apostol) **56** #284 10H25

Über ein Problem von J. M. Ash, P. Erdős und L. A. Rubel: "Very slowly varyin functions" (Aequationes Math. **8** (1972), 191–192). *Acta Math. Acad. Sci. Hungar.* **2** (1976), *no.* 3-4, 299–300. (A. M. Bruckner) **54** #7710 26A12

Über die Summe der Ziffern natürlicher Zahlen. *Ann. Univ. Sci. Budapest. Eötvo Sect. Math.* **19** (1976), 41–43 (1977). (K. Thanigasalam) **58** #21931 10B35 (10J9 10K10)

Bemerkungen über Lücken zwischen Primzahlen. *Arch. Math. (Basel)* **27** (1976), *no* 5, 492–494. (Karl-Heinz Indlekofer) **58** #27841 10H15

Über die Dichte der Ordnungen einfacher Gruppen. *Math. Z.* **149** (1976), *no.* 17–18. (Editors) **57** #5929 10H25 (20D05)

Über Primzahlen der Form $n2^n+1$ bzw. $p2^p+1$. (English summary) *Monatsh Math.* **85** (1978), *no.* 2, 99–103. (G. J. Rieger) **58** #27859 10H30

Herapath, J. *See* **Mendoza, Eric**, **58** #27029

Hérault, Daniel *See* **Gladkiĭ, A. V.**, **54** #14455a *and* **Gladkiĭ, A. V.**, **54** #14455b

dal soglio-Hérault, L. *See* **Dal Soglio-Hérault, L.**

Hérault, L. *See* **Borel, Armand; et al.**, **52** #8337

Herb, Rebecca A. (*with* O'Brian, Nigel R.) A characterization of unipotent, semisimpl and regular elements in a reductive algebraic group. *Bull. London Math. Soc.* **8** (1976) *no.* 3, 233–238. (David Birkes) **56** #15786 20G20

Character formulas for discrete series on semisimple Lie groups. *Nagoya Math. J* **64** (1976), 47–61. (A. U. Klimyk) **54** #10498 22E45

A uniqueness theorem for tempered invariant eigendistributions. *Pacific J. Math* **67** (1976), *no.* 1, 203–208. (P. C. Trombi) **58** #6076 22E45

(*with* Sally, Paul J., Jr.) Singular invariant eigendistributions as characters. *Bull Amer. Math. Soc.* **83** (1977), *no.* 2, 252–254. (H. Kraljević) **58** #1024 22E45

Herbach, L. *See* **Proceedings: Session of the International Statistical Institute**, **49** #8144

Herbach, L. H. (*with* Blumenthal, Saul; Greenwood, J. A.) The transient reliability behavior of series systems or superimposed renewal processes. *Technometrics* **15** (1973) 255–269. (A. P. Basu) **48** #12764 62N05

(*with* Blumenthal, Saul; Greenwood, J. A.) A comparison of the bad as old an superimposed renewal models. *Management Sci.* **23** (1976/77), *no.* 3, 280–285. (Authors' summary) **55** #11535 62N05

engel-Herbert, H. *See* **Engel-Herbert, H.**

Herbert, H. G. An infinite discrete dam with dependent inputs. *J. Appl. Probability* (1972), 404–413. (F. G. Foster) **50** #8757 60K30

Some approximate results for storage systems with continuous inputs. *J. Appl Probability* **11** (1974), 332–344. (Peter J. Brockwell) **51** #9266 60K30

A note on first emptiness in a discrete storage system with Markovian inputs. *SIAM J. Appl. Math.* **28** (1975), 657–661. (Anthony G. Pakes) **50** #14999 60K30

Herbert, Nick (*with* Karush, Jack I.) Generalization of Bell's theorem. *Found. Phys.* (1978), *no.* 3-4, 313–317. (Authors' summary) **57** #8525 81.02

Herbin, Gérard (*with* Fauchon, Jean; Martineau, Gérard) Étude de la variable aléatoir $|Z|^q$ avec $q \in N$ et $L(Z) = N(m, \sigma)$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 8, *A*iv, *A*663–*A*666. (Author's summary) **54** #14186 62E15

Herbold, R. J. (*with* Varga, Richard S.) The effect of quadrature errors in the numerical solution of two-dimensional boundary value problems by variational techniques. *Aequationes Math.* **7** (1971), 36–58. (F. Odeh) **45** #8028 65N15

Herbrand, Jacques ★Logical writings. A translation of the *Écrits logiques*, edited by Jean van Heijenoort and including contributions by Claude Chevalley and Albert Lautman. *Harvard University Press, Cambridge, Mass.,* 1971. viii+312 *pp.* (1 *plate*) (Editors) **51** #2844 01A75 (02Dxx)

See also **Venneri, Betty**, (Not reviewed) *and* **Venneri, Betty**, (Not reviewed)

Herbst, Ira W. One-particle operators and local internal symmetries. *J. Mathematical Phys.* **12** (1971), 2480–2490. (K. Veselić) **46** #4888 81.47

On the asymptotic behavior of Wightman functions in space-like directions. *Comm. Math. Phys.* **27** (1972), 235–239. (W. Faris) **47** #1400 81.47

On the connectedness structure of the Coulomb *S*-matrix. *Comm. Math. Phys.* **35** (1974), 181–191. (K. Chadan) **50** #3814 81.47

Classical scattering with long range forces. *Comm. Math. Phys.* **35** (1974), 193–214. (K. Chadan) **50** #3815 81.47

On canonical quantum field theories. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1210–1221. (Charles L. Hammer) **53** #12349 81.47

(*with* Avron, J. E.) Spectral and scattering theory of Schrödinger operators related to the Stark effect. *Comm. Math. Phys.* **52** (1977), *no.* 3, 239–254. (Teruo Ikebe) **57** #8666 81.47

Spectral theory of the operator $(p^2+m^2)^{1/2} - Ze^2/r$. *Comm. Math. Phys.* **53** (1977), *no.* 3, 285–294. (K. Veselić) **55** #9790 82.47

Unitary equivalence of stark Hamiltonians. *Math. Z.* **155** (1977), *no.* 1, 55–70. (H. Wakita) **56** #7623 81.47

(*with* Simon, Barry) Stark effect revisited. *Phys. Rev. Lett.* **41** (1978), *no.* 2, 67–69. (Authors' summary) **58** #14542 81.30

(*with* Sloan, Alan D.) Perturbation of translation invariant positivity preserving semigroups on $L^2(\mathbf{R}^N)$. *Trans. Amer. Math. Soc.* **236** (1978), 325–360. (T. Kato) **57** #10496 47D05 (35P99, 81.47)

Herbut, Fedor (*with* Šijački, Djordje; Vujičić, Milan) Generalized semidirect product in group extensions. *J. Mathematical Phys.* **13** (1972), 1755–1759. (J. S. Rose) **49** #5190 20F25

(*with* Vujičić, Milan; Vujičić, Gradimir) Canonical form for matrices under unitary congruence transformations. I. Conjugate-normal matrices. *SIAM J. Appl. Math.* **23** (1972), 225–238. (H. Ratschek) **47** #6733 15A21

(*with* Vujičić, Milan; Šijački, Djordje) Minimal extensions as generalized semidirect products. *J. Mathematical Phys.* **14** (1973), 1121–1124. (Philip H. Butler) **48** #431 20F25 (81.22)

(*with* Vujičić, Milan; Šijački, Djordje) Generalized semidirect product in group unifications. *J. Mathematical Phys.* **14** (1973), 1516–1518. (F. R. Halpern) **48** #5521 81.20

(*with* Vujičić, Milan; Božović, Ivan B.; Šijački, Djordje) Generalized semidirect product. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Théor., Marseille*, 1974), *Vol.* 2, *pp.* 441–446. *Centre Nat. Recherche Sci., Centre Phys. Théor., Marseille*, 1974. (Philip Huddleston) **57** #2229 81.20

(*with* Vujičić, Milan; Božović, Ivan B.) On the subgroup structure of non-symmorphic space groups and their construction. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Theor., Marseille*, 1974), *Vol.* 2, *pp.* 447–453. *Centre Nat. Recherche Sci., Centre Phys. Theor., Marseille*, 1974. (J. S. Birman) **56** #15740 20–04

Minimal-disturbance measurement as a specification in von Neumann's quantal theory of measurement. *Internat. J. Theoret. Phys.* **11** (1974), 193–204. (Author's summary) **54** #9429 81.46

(*with* Loncke, Philippe; Vujičić, Milan) Canonical form for matrices under unitary congruence transformations. II. Congruence-normal matrices. *SIAM J. Appl. Math.* **26** (1974), 794–805. (H. Ratschek) **49** #9008 15A21

See also **Foundations of quantum mechanics**, **52** #7333

rceg, Dragoslav (*with* Surla, Katarina; Pejović, Pavle) A certain approach to the numerical solution of a Fredholm integral equation of the second kind by means of a computer. (Serbo-Croatian. English summary) *Mat. Vesnik* **12(27)** (1975), *no.* 3, 257–263. (Authors' summary) **55** #6899 65R05

(*with* Surla, Katarina) Some possibilities in solving operator equations using non stationary iterative method. *Mat. Vesnik* **1(14)(29)** (1977), *no.* 4, 371–377. (Abbas I. Abdel Karim) **57** #14437 65J05

(*with* Stanković, Bogoljub) Approximate solutions of the operator linear differential equation. II. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 77–86. (Hans-Jürgen Glaeske) **57** #13400b 44A40 (46F10)

See also **Biography: Herceg, Dragoslav**, **52** #13246

n Hercke, J. J. *See* **Van Hercke, J. J.**

rczeg, János (*with* Bizam, György) ★Jatek és logika. (Hungarian) [Play and logic] *Müszaki Kiadó, Szeged*, 1971. 339 *pp.* (Editors) **52** #13295 02–01

(*with* Bizam, György) ★Игра и логика. (Russian) [Play and logic] 85 логических задач. [85 logical problems] Translated from the Hungarian by Ju. A. Danilov. *Izdat. "Mir", Moscow*, 1975. 359 *pp.* (Editors) **52** #13296 02–01

(*with* Bizam, György) ★Logik mach Spass. 85 Aufgaben mit Lösungen. Übersetzt aus dem Ungarischen von Johanna Raab. *Akadémiai Kiadó, Budapest*, 1976. 391 *pp.* (Editors) **54** #2410 02–01

rczyński, Ryszard *See* **Symposium: Advanced Problems and Methods in Fluid Mechanics**, **49** #4401 *and* **Statistical theories for solids, fluids and gases**, **55** #9772

rda, Hans A characterization of circles and other closed curves. *Amer. Math. Monthly* **81** (1974), 146–149. (H. T. Croft) **48** #12290 52A10

A characterization of spheres among convex 3-bodies. *Colloq. Math.* **33** (1975), *no.* 1, 103–104. (J. Bokowski) **53** #9040 52A40

A characterization of spheres among compact 3-bodies satisfying Crofton's theorem. *Colloq. Math.* **36** (1976), *no.* 2, 235–236. (W. J. Firey) **57** #7495 53C65

erden, R. *See* **Livšic, M. S.**, **49** #12116

erdman, Terry L. (*with* Burns, John A.) Adjoint semigroup theory for a Volterra integrodifferential system. *Bull. Amer. Math. Soc.* **81** (1975), *no.* 6, 1099–1102. (John M. Bownds) **52** #8836 45J05

Existence and continuation properties of solutions of a nonlinear Volterra integral equation. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. II*, *pp.* 307–310. *Academic Press, New York*, 1976. (From the text) **58** #29898 45D05

(*with* Burns, John A.) Adjoint semigroup theory for a class of functional differential equations. *SIAM. J. Math. Anal.* **7** (1976), *no.* 5, 729–745. (James V. Herod) **54** #5578 34K05 (47D05)

erer, Wojchiech Hahn decomposition of measures with values in a topological group. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 203–205. (C. Chou) **46** #7471 28A45 (22A99)

(*with* Christensen, Jens Peter Reus) On the existence of pathological submeasures and the construction of exotic topological groups. *Math. Ann.* **213** (1975), 203–210. (Tim Traynor) **54** #495 28A10 (22D10, 28A60)

On the extension of measure with values in a topological group. *Comment. Math. Prace Mat.* **19** (1976), *no.* 1, 73–80. (Tim Traynor) **54** #10551 28A45

erfeld, Klaus Peter Extremalprobleme bei konformer Abbildung eines Kreisringes. *Mitt. Math. Sem. Giessen No.* 96 (1972), ii + iii + 82 *pp.* (See Zbl **242** #30020) 30A60

erfort, Peter Linear stability analysis for the Taylor problem with oscillating outer cylinder. *Fluid dynamics transactions* (*Proc.* 10*th Sympos. Advanced Problems and Methods in Fluid Mechanics, Rynia*, 1971), *Vol.* 6, *Part II*, *pp.* 283–293. *Państw. Wydawn. Nauk., Warsaw*, 1971. (L. M. Hocking) **56** #17414 76.35

Stabilitätsuntersuchung an einer oszillierenden Couette-Strömung. I. Nichtlineare Theorie. *Z. Angew. Math. Phys.* **23** (1972), 373–383. (R. Nardini) **47** #6191 76.35

Stabilitätsuntersuchung an einer oszillierenden Couette-Strömung. II. Lineare Theorie. *Z. Angew. Math. Phys.* **23** (1972), 384–391. (R. Nardini) **47** #6192 76.35

Herfort, Wolfgang Untersuchung zu Kommutatorgruppen und Bohrkompaktifizierung in zentralen und kompakten Gruppen. *Monatsh. Math.* **77** (1973), 211–224. (Herbert Abels) **49** #457 (EA **49**) 22C05

Untersuchungen zur Kommutatorgruppe in zentralen und kompakten topologischen Gruppen. II. *Monatsh. Math.* **78** (1974), 341–346. (Herbert Abels) **50** #533 22C05 (20F35)

On the commutator subgroup of a nonconnected central group. *Monatsh. Math.* **85** (1978), *no.* 1, 49–51. (Ky Fan) **57** #12758 22A05

Herget, Charles J. (*with* Lee, Chih Hsiao) Regions of constrained maximum likelihood parameter identifiability. *Proceedings of the IEEE Conference on Decision and Control including the 14th Symposium on Adaptive Processes* (*Houston, Tex.*, 1975), *pp.* 771–779. *Inst. Electr. Electron. Engrs., New York*, 1975. (Seihaku Higuchi) **56** #11385 93E10

(*with* Lee, Chio Hsiao) Regions of constrained maximum likelihood parameter identifiability. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 4, 556–560. (Andor Dobó) **54** #4785 93E10

Herget, Paul *See* **Copernicus and modern dynamical astronomy**, **48** #10246

Herget, Wilfried Über die Funktionalgleichung $f(x)=d^{m-1}\sum_{i=0}^{d-1} f(x+i/d)$ in den Körpern $\mathbf{Z}_p$. (English summary) *Manuscripta Math.* **23** (1977/78), *no.* 2, 131–141. (A. J. van der Poorten) **58** #5481 10A20 (12C05, 39A40)

Hering, Christoph Über Translationsebenen, auf denen die Gruppe SL$(2,q)$ operiert. *Atti del Convegno di Geometria Combinatoria e sue Applicazioni* (*Univ. Perugia, Perugia*, 1970), *pp.* 259–261. *Ist. Mat., Univ. Perugia, Perugia*, 1971. (F. Wilke) **50** #1116 50D30

On finite groups operating doubly transitively on their involutions. *Arch. Math.* (*Basel*) **22** (1971), 456–458. (J. L. Alperin) **45** #6914 20D99

On shears of translation planes. *Abh. Math. Sem. Univ. Hamburg* **37** (1972), 258–268. (G. Pickert) **46** #4353 50D30

Eine Bemerkung über Streckungsgruppen. *Arch. Math.* (*Basel*) **23** (1972), 348–350. (T. G. Ostrom) **47** #2487 50D35

On 2-groups operating on projective planes. *Illinois J. Math.* **16** (1972), 581–595. (F. C. Piper) **48** #12276 50D35 (20B25, 50A15)

(*with* Kantor, William M.; Seitz, Gary M.) Finite groups with a split *BN*-pair of rank 1. I. *J. Algebra* **20** (1972), 435–475. (J. H. Walter) **46** #243 20C30

On subgroups with trivial normalizer intersection. *J. Algebra* **20** (1972), 622–629. (W. M. Kantor) **48** #385 20B05

On linear groups which contain an irreducible subgroup of prime order. *Proceedings of the International Conference Projective Planes* (*Washington State Univ., Pullman, Wash.*, 1973), *pp.* 99–105. *Washington State Univ. Press, Pullman, Wash.*, 1973. (Ulrich Dempwolff) **51** #8279 20G40 (50B25)

On finite line transitive affine planes. *Geometriae Dedicata* **1** (1973), *no.* 4, 387–398. (M. V. D. Burmester) **48** #12275 50D35

On involutorial elations of projective planes. *Math. Z.* **132** (1973), 91–97. (P. J. Lorimer) **48** #4084 20B25 (50D35)

On composition factors of finite doubly transitive permutation groups. *Permutations* (*Actes Colloq., Univ. René-Descartes, Paris*, 1972), *pp.* 37–41. *Gauthier-Villars, Paris*, 1974. (H. Lüneburg) **50** #13214 20B20

Transitive linear groups and linear groups which contain irreducible subgroups of prime order. *Geometriae Dedicata* **2** (1974), 425–460. (G. I. Lehrer) **49** #439 20H30

On projective planes of type VI. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Rome*, 1973), *Tomo II*, *pp.* 29–53. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (J. Yaqub) **57** #7367 50D35

The Lenz-Barlotti type III. *Foundations of geometry* (*Proc. Conf., Univ. Toronto, Toronto, Ont.*, 1974), *pp.* 88–113. *Univ. Toronto Press, Toronto, Ont.*, 1976. (A. Barlotti) **53** #11483 50D35

(*with* Walker, Michael) Perspectivities in irreducible collineation groups of projective planes. I. *Math. Z.* **155** (1977), *no.* 2, 95–101. (T. G. Room) **56** #15466 05B25 (50D30)

Hering, Franz A generalization of the arithmetic-geometric mean inequality and an application to finite sequences of zeros and ones. *Israel J. Math.* **11** (1972), 14–30. (S. G. Williamson) **46** #1610 05A17

Eine Verallgemeinerung der Ungleichung vom arithmetischen und geometrischen Mittel. *Monatsh. Math.* **77** (1973), 31–42. (E. F. Beckenbach) **49** #5277 26A87

Hering, Heinrich Asymptotic behaviour of immigration-branching processes with general set of types. I. Critical branching part. *Advances in Appl. Probability* **5** (1973), 391–416. (Anthony G. Pakes) **54** #3870a 60J80

Supercritical Markov branching processes with general set of types. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 1–16. (K. B. Athreya) **57** #10837a 60J80

Erratum: "Supercritical Markov branching processes with general set of types" (Z. Wahrscheinlichkeitstheorie und Verw. Gebiete **26** (1973), 1–16). *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 172. (Editors) **57** #10837b 60J80

Limit theorem for critical branching diffusion processes with absorbing barriers. *Math. Biosci.* **19** (1974), 355–370. (H. Kesten) **49** #6387 60J80

Asymptotic behaviour of immigration-branching processes with general set of types. II. Supercritical branching part. *Advances in Appl. Probability* **7** (1975), *no.* 3, 468–494. (Anthony G. Pakes) **54** #3870b 60J80

(*with* Asmussen, Søren) Strong limit theorems for supercritical immigration-branching processes. *Math. Scand.* **39** (1976), *no.* 2, 327–342 (1977). (Norman Kaplan) **55** #11409 60J80

(*with* Asmussen, Søren) Strong limit theorems for general supercritical branching processes with applications to branching diffusions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **36** (1976), *no.* 3, 195–212. (Norman Kaplan) **54** #8900 60J80

Minimal moment conditions in the limit theory for general Markov branching processes. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **13** (1977), *no.* 4, 299–319. (Norman Kaplan) **58** #7889 60J80

Subcritical branching diffusions. *Compositio Math.* **34** (1977), *no.* 3, 289–306. (Søren Asmussen) **55** #11412 60J80

(*with* Asmussen, Søren) Some modified branching diffusion models. *Math. Biosci.* **35** (1977), *no.* 3-4, 281–299. (Authors' summary) **58** #33121 92A15

Refined positivity theorem for semigroups generated by perturbed differential operators of second order with an application to Markov branching processes. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 2, 253–259. (Anthony G. Pakes) **57** #6912a 35R99 (47D05, 60J35, 60J80)

Uniform primitivity of semigroups generated by perturbed elliptic differential operators. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 2, 261–268. (Anthony G. Pakes) **57** #6912b 35R99 (47D05, 60J35, 60J80)

Hering, Hermann Über Koeffizientenbeschränkungen affektloser Gleichungen. *Math. Ann.* **195** (1972), 121–136. (W. J. Ellison) **46** #1767 12F10

Zur Seltenheit der reduziblen Gleichungen. *Math. Ann.* **195** (1972), 137–142. (W. J. Ellison) **46** #1766 12E05

Zur Teilbarkeit in Ringen. *Elem. Math.* **30** (1975), 32–36. (J. B. Roberts) **51** #426 12A15

Bemerkungen zum Satz vom Umfangswinkel. *Praxis Math.* **19** (1977), *no.* 6, 150–152. (O. Bottema) **58** #7356 50B05

Heringer, Hans Jürgen ★Formale Logik und Grammatik. Germanistische Arbeitshefte, No. 6. *Max Niemeyer Verlag, Tübingen*, 1972. vi + 104 *pp.* (Editors) **52** #13299 02–01

Heringson, È. (*with* Abel, M. A.) Certain properties of the algebra $C_0(X,A)$. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 374 (1975), 79–89. (S. J. Sidney) **54** #3422 46J25

Héritier, Françoise Systèmes omaha de parenté et d'alliance. Étude en ordinateur du fonctionnement matrimonial réel d'une société africaine. With a comment by John Adams. *Genealogical mathematics* (*Proc. MSSB Conf., Univ. Texas, Houston, Tex.*, 1974), *pp.* 197–213. *Mouton, Paris*, 1974. (D. Vaida) **52** #16730 92A20

Herivel, John The influence of Fourier on British mathematics. *Centaurus* **17** (1972), *no.* 1, 40–57. (I. Grattan-Guinness) **56** #15304 01A55

Herkenrath, U. Markov processes under continuity assumptions. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 10, 1419–1431. (Serban Grigorescu) **57** #7770 60J05 (47A35, 60J20)

Herlt, Eduard Folgerungen aus der Energie-Impuls-Bilanz starr rotierender idealer fluider Medien für die Quellen der äusseren Kerr-Lösung. (English summary) *Ann. Physik* (7) **24** (1970), 177–187. (O. R. Burggraf) **45** #6258 76.35

Static and stationary axially symmetric gravitational fields of bounded sources. I. Solutions obtainable from the van Stockum metric. *Gen. Relativity Gravitation* **9** (1978), *no.* 8, 711–719. (Alan Barnes) **58** #20212 83.53

Zum Problem axialsymmetrischer stationärer Vakuumfelder in der Einsteinschen Gravitationstheorie. (Russian and English summaries) *Wiss. Z. Friedrich-Schiller-Univ. Jena Math.-Natur. Reihe* **27** (1978), *no.* 2-3, 329–334. (J. D. Zund) **58** #20169 83.35

Herman, D. (*with* Sivan, Raphael) An extension of a theorem by Rosenbrock. *IEEE Trans. Automatic Control* **AC-19** (1974), 88. (Hsi-han Yeh) **51** #2700 93C05

Herman, E. A. (*with* Cordes, Heinz O.) Gel'fand theory of pseudo differential operators. *Amer. J. Math.* **90** (1968), 681–717. (From the authors' introduction) **56** #12991 47G05 (35S05)

Herman, Gabor T. Every finite sequential machine is linearly realizable. *Theory of machines and computations* (*Proc. Internat. Sympos., Technion, Haifa*, 1971), *pp.* 209–227. *Academic Press, New York*, 1971. (A. V. Palagin) **56** #5077 94A25

Linear regular languages. II. The problem of synthesis. *Acta Cybernet.* **1** (1971), 41–56. (M. A. Harrison) **47** #1557 94A30 (68A30)

When is a sequential machine the realization of another? *Math. Systems Theory* **5** (1971), 115–127. (A. Paz) **46** #1487 94A25

Polar organisms with apolar individual cells. *Logic, methodology and philosophy of science, IV* (*Proc. Fourth Internat. Congress, Bucharest*, 1971), *pp.* 665–675. *Studies in Logic and Foundations of Math., Vol.* 74, *North-Holland, Amsterdam*, 1973. (J. D. Cowan) **57** #15577 92A05

(*with* Jackowski, Janice A.) A decision procedure using discrete geometry. *Discrete Math.* **5** (1973), 131–144. (J. Hartmanis) **48** #5832 02F15 (02G05, 94A25)

(*with* Lee, Kwok Pun; van Leeuwen, Jan; Rozenberg, Grzegorz) Characterization of unary developmental languages. *Discrete Math.* **6** (1973), 235–247. (Eugene S. Santos) **48** #7667 68A30

A biologically motivated extension of ALGOL-like languages. *Information and Control* **22** (1973), 487–502. (S. Ginsburg) **47** #9895 68A30

On universal computer-constructors. *Information Processing Lett.* **2** (1973), 61–64. (F. Gécseg) **48** #10202 68A25

(*with* Feliciangeli, Horacio) Algorithms for producing grammars from sample derivations: a common problem of formal language theory and developmental biology. *J. Comput. System Sci.* **7** (1973), 97–118. (D. Vaida) **50** #15450 68A30 (92A05)

(*with* Bedian, Vahe) Formal language theoretical approach to intracellular behavior. *L systems* (*Third Open House, Comput. Sci. Dept., Aarhus Univ., Aarhus*, 1974), *pp.* 69–71, 327–338. *Lecture Notes in Computer Science, Vol.* 15, *Springer, Berlin*, 1974. (Jill Humphries) **54** #2240 92A10 (68A30)

Recurrence systems. *L systems* (*Third Open House, Comput. Sci. Dept., Aarhus Univ., Aarhus*, 1974), *pp.* 189–200, 327–338. *Lecture Notes in Comput. Sci., Vol.* 15, *Springer, Berlin*, 1974. (K. P. Lee) **54** #6567 68A30 (92A05)

Closure properties of some families of languages associated with biological systems. *Information and Control* **24** (1974), 101–121. (Branislav Rovan) **51** #2356 68A30

(*with* Liu, Wu Hung; Rowland, Stuart; Walker, Adrian) Synchronization of growing cellular arrays. *Information and Control* **25** (1974), 103–122. (B. P. Zeigler) **50** #4155 94A30 (92A05)

(*with* Walker, Adrian) Context free languages in biological systems. *Internat. J. Comput. Math.* **4** (1974/75), *no.* 4, 369–391. (Derick Wood) **52** #12423 68A30

(*with* Lindenmayer, Aristid; Rozenberg, Grzegorz) Description of developmental languages using recurrence systems. *Math. Systems Theory* **8** (1974/75), *no.* 4, 316–341. (Branislav Rovan) **53** #2037 68A30

(*with* Aitchison, Peter W.) A decision procedure using the geometry of convex sets. *Mathematika* **21** (1974), 199–206. (J. Hartmanis) **54** #9990 02F15 (52A20, 02G05, 68A25)

(*with* Rozenberg, Grzegorz) ★Developmental systems and languages. With a contribution by Aristid Lindenmayer. *North-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publishing Co., Inc., New York*, 1975. xvi+363 *pp. ISBN* 0-7204-2806-8 (Zbl **306** #68045) **58** #13968 68A30

(*with* Lee, Kwok Pun) Counterexamples in the theory of interactive developmental languages. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 67–72. *IEEE Computer Soc., New York*, 1975. (Juhani Karhumäki) **58** #8522 68A30

(*with* Vitányi, Paul M. B.) Growth functions associated with biological development. *Amer. Math. Monthly* **83** (1975), *no.* 1, 1–15. (A. C. Trajstman) **52** #16692 92A05 (68A30)

A relaxation method for reconstructing objects from noisy X-rays. *Math. Programming* **8** (1975), 1–19. (P. Brock) **51** #7269 65F20

Using formal language theory to model biological processes. *Applied computation theory: analysis, design, modeling*, *pp.* 530–564. *Prentice-Hall, Englewood Cliffs, N.J.*, 1976. (Roland Vollmar) **57** #18247 68A30 (93A05)

(*with* Lent, Arnold) A computer implementation of a Bayesian analysis of image reconstruction. *Information and Control* **31** (1976), *no.* 4, 364–384. (R. L. Kashyap) **55** #6992 68A45 (94A05)

(*with* Walker, Adrian) On the stability of some biological schemes with cellular interactions. *Theoret. Comput. Sci.* **2** (1976), *no.* 1, 115–130. (Jan van Leeuwen) **54** #9171 68A30

(*with* Naparstek, Abraham) Fast image reconstruction based on a Radon inversion formula appropriate for rapidly collected data. *SIAM J. Appl. Math.* **33** (1977), *no.* 3, 511–533. (Sidney Berkowitz) **58** #4411 92A05 (68A45, 94A05)

(*with* Lent, Arnold; Lutz, Peter H.) Relaxation method for image reconstruction. *Comm. ACM* **21** (1978), *no.* 2, 152–158. (J. J. Buckley) **58** #19419 68A45 (92A05)

See also **Complexity of computations and algorithms**, **51** #2325

Herman, H. Extension of Lanczos' method of fundamental eigenvalue approximation. *Trans. ASME Ser. E. J. Appl. Mech.* **42** (1975), 484–489. (Francesco G. Lerda) **52** #12343 65L15

A method of solution of some elliptic P.D.E.'s. *J. Engrg. Math.* **10** (1976), *no.* 4, 363–376. (H. F. Weinberger) **58** #13802 65N99 (35J99)

Herman, Joan E. (*with* Chung, Fan Rong K.) Some results on hook lengths. *Discrete Math.* **20** (1977/78), *no.* 1, 33–40. (J. S. Frame) **57** #3232 20C30

Herman, L. (*with* Piziak, Robert) Modal propositional logic on an orthomodular basis. I. *J. Symbolic Logic* **39** (1974), 478–488. (Gary M. Hardegree) **51** #61 02C10

(*with* Marsden, Edwin L., Jr.; Piziak, Robert) Implication connectives in orthomodular lattices. *Notre Dame J. Formal Logic* **16** (1975), 305–328. (D. E. Catlin) **53** #7243 (EA **54**) 81.06 (06A30)

Herman, Louis Semi-orthogonality in Rickart rings. *Pacific J. Math.* **39** (1971), 179–186. (G. Krause) **46** #5380 16A30

Herman, Maurice (*with* Devaux, Claude) Remarques sur l'utilisation de la méthode des harmoniques sphériques dans les calculs de transfert radiatif. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), B849–B852. (A. Corciovei) **46** #1216 80.35 (80.65)

Herman, Michael-Robert Sur le groupe des difféomorphismes du tore. (English summary) Colloque International sur l'Analyse et la Topologie Différentielle (Colloques Internationaux CNRS, Strasbourg, 1972). *Ann. Inst. Fourier* (*Grenoble*) **23** (1973), *no.* 2, 75–86. (G. R. Belickiĭ) **52** #11988 58D05

Sur le groupe des difféomorphismes **R**-analytiques du tore. *Differential topology and geometry* (*Proc. Colloq., Dijon*, 1974), *pp.* 36–42. *Lecture Notes in Math., Vol.* 484, *Springer, Berlin*, 1975. (G. R. Belickiĭ) **54** #8708 58D05

Sur l'algèbre de Lie des champs de vecteurs R-analytiques du tore. *Differential topology and geometry* (*Proc. Colloq., Dijon*, 1974), *pp.* 43–49. *Lecture Notes in Math., Vol.* 484, *Springer, Berlin*, 1975. (G. R. Belickiĭ) **54** #8723 58F05 (57D25)

Sur le groupe des difféomorphismes **R**-analytiques de **R**. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), *no.* 4, 351–355. (G. R. Belickiĭ) **52** #11989 58D05

Sur les mesures invariantes. *International Conference on Dynamical Systems in Mathematical Physics* (*Rennes*, 1975), *pp.* 103–104. *Astérisque, No.* 40, *Soc. Math. France, Paris*, 1976. (N. Dinculeanu) **58** #17041 28A65 (58F15)

Sur la conjugaison des difféomorphismes du cercle à des rotations. Journées sur la Géométrie de la Dimension Infinie et ses Applications à l'Analyse et à la Topologie (Univ. Claude-Bernard–Lyon I, Lyon, 1975). *Bull. Soc. Math. France, Mém. No.* 46 (1976), 181–188. (John Franke) **56** #6727 58F05

Conjugation C^∞ des difféomorphismes du cercle dont le nombre de rotations satisfait à une condition arithmétique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 10, Ai, A503–A506. (Keith M. Wilkinson) **55** #6448 57D50 (58F99)

Conjugaison C^∞ des difféomorphismes du cercle pour presque tout nombre de rotation. (English summary) *C. R. Acad. Sci. Paris. Sér. A-B* **283** (1976), *no.* 8, Aii, A579–A582. (Editors) **58** #31279 58F99 (28A65)

(*with* Fathi, Albert) Existence de difféomorphismes minimaux. *Dynamical systems, Vol. I—Warsaw*, *pp.* 37–59. *Astérisque, No.* 49, *Soc. Math. France, Paris*, 1977. (Tudor S. Raţiu) **58** #2889 58F15

Mesure de Lebesgue et nombre de rotation. *Geometry and topology* (*Proc. III Latin Amer. School of Math., Inst. Mat. Pura Aplicada CNPq, Rio de Janeiro*, 1976), *pp.* 271–293. *Lecture Notes in Math., Vol* 597, *Springer, Berlin*, 1977. (C. S. Hartzman) **56** #16682 58F05 (28A65)

The Godbillion-Vey invariant of foliations by planes of T^3. *Geometry and topology* (*Proc. III Latin Amer. School of Math., Inst. Mat. Pura Aplicada CNPq, Rio de Janeiro*, 1976), *pp.* 294–307. *Lecture Notes in Math., Vol.* 597, *Springer, Berlin*, 1977. (D. B. Fuks) **56** #9548 57D30

Herman, R. J. (*with* Patell, Rusi K. N.) Maximum likelihood estimation for multi-risk model. *Technometrics* **13** (1971), 385–396. (Authors' summary) **45** #2844 62F10

Herman, Richard H. Perturbations of the modular automorphism group. *Comm. Math. Phys.* **28** (1972), 237–243. (S. Sankaran) **49** #6828 81.46

(*with* Reed, Michael C.) Covariant representations of infinite tensor product algebras. *Pacific J. Math.* **40** (1972), 311–326. (J. W. Bunce) **46** #4217 46L05 (46M05)

Centralizers and an ordering for faithful, normal states. *J. Functional Analysis* **13** (1973), 317–323. (S. Anastasio) **50** #1010 46L10

Spectra of automorphism groups of operator algebras. *Duke Math. J.* **41** (1974), 667–673. (E. Størmer) **49** #11270 46L10

Automorphism groups of operator algebras. *Pacific J. Math.* **52** (1974), 91–99. (E. Størmer) **50** #14257 46L10

Unbounded derivations. *J. Functional Analysis* **20** (1975), *no.* 3, 234–239. (S. Sakai) **52** #8948 46L05

The centralizer under tensor product. *Math. Scand.* **36** (1975), *no.* 2, 286–290. (M. Takesaki) **51** #13709 46L10

Faithful normal states on a von Neumann algebra. *C*-algebras and their applications to statistical mechanics and quantum field theory* (*Proc. Internat. School of Physics "Enrico Fermi", Course LX, Varenna*, 1973), *pp.* 121–127. *North-Holland, Amsterdam*, 1976. (From the introduction) **58** #30311 46L10

(*with* Bratteli, Ola; Robinson, Derek W.) Quasianalytic vectors and derivations of operator algebras. *Math. Scand.* **39** (1976), *no.* 2, 371–381, (1977). (C. Martin Edwards) **56** #6401 46L05

Unbounded derivations. II. *Amer. J. Math.* **99** (1977), *no.* 5, 1003–1013. (S. Sakai) **58** #7112 46L10 (82.46)

(*with* Takesaki, Masamichi) The comparability theorem for cyclic projections. *Bull.*

London Math. Soc. **9** (1977), *no.* 2, 186–187. (S. Sakai) **57** #13514 46L10

(*with* Kastler, Daniel) Energy spectrum of extremal invariant states. *Comm. Math. Phys.* **56** (1977), *no.* 1, 87–90. (Julian I. Palmore) **58** #12400 46L05 (81.46)

rman, Robert (*with* Lam, Tenny) On the mean speed in the "Boltzmann-like" traffic theory: a numerical method. *Transportation Sci.* **5** (1971), 418–429. (George Weiss) **48** #13240 90B99

(*with* Prigogine, I.; Nicolis, G.; Lam, Tenny) Stability, fluctuations and complexity. *Collect. Phenom.* **2**, *no.* 2, 103–109 (1975). (Peter J. Moylan) **53** #10419 93D99 (82.35)

rmander, L. *See* **Hörmander, L.**

rmanis, È. H. *See* **Problems of statistical optimization**, **47** #6378 *and* **Problems of random search**, **50** #15864

rmann, Armin Schelling und die Naturwissenschaften. *Technikgeschichte* **44** (1977), *no.* 1, 47–53. (J. S. Joel) **57** #12070 01A55

rmann, J. (*with* Kreck, Matthias) Cutting and pasting of involutions and fiberings over the circle within a bordism class. *Math. Ann.* **214** (1975), 11–17. (C. B. Thomas) **51** #9093 57E15 (57D90)

rmann, J. A. Continued-fraction theory of transitions within three-level atoms. *Phys. Lett. A* **65** (1978), *no.* 1, 16–18. (Author's summary) **57** #2287 81.40

rmann, Kirsten *See* **Kock, Anders**, **46** #1876

rmann, Manfred *See* **Herrmann, Manfred**

rmann, Peter Über eine Verallgemeinerung der alternierenden Ableitung von Differentialformen. I, II. *Math. Nachr.* **52** (1972), 85–99; *ibid.* **52** (1972), 101–111. (H. Osborn) **47** #9664 58A10

Über den Satz von Stokes. *Ann. Acad. Sci. Fenn. Ser. A I No.* 527 (1973), 9 *pp.* (T. Okubo) **48** #4231 26A66 (58A10)

Eine Übertragung der Differentialgleichung erster Ordnung auf Differentialformen in normierten linearen Räumen. *Topics in analysis* (*Colloq. Math. Anal., Jyväskylä,* 1970), *pp.* 178–189. *Lecture Notes in Math., Vol.* 419, *Springer, Berlin,* 1974. (H. H. Keller) **51** #11560 58A10 (34G05)

Zur Theorie der harmonischen Vektorfelder. *Arch. Math.* (*Basel*) **29** (1977), *no.* 6, 598–607. (Gottfried Anger) **57** #13249 35Q99 (58G99)

Die Berechnung des Raumwinkels durch Bestimmung eines Vektorpotentials. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, *T*238–*T*239. (G. Albinus) **56** #3215 26A63

rmann, Robert ★Fourier analysis on groups and partial wave analysis. Mathematics Lecture Note Series. *W. A. Benjamin, Inc., New York,* 1969. xi + 302 *pp.* (Editors) **57** #18577 81.43 (22E70)

★Lectures in mathematical physics. Vol. II. Mathematics Lecture Note Series. *W. A. Benjamin, Inc., Reading, Mass.,* 1972. xviii + 749 *pp.* (Editors) **58** #25444 81.00 (82.00)

Geometric ideas in Lie group harmonic analysis theory. *Symmetric spaces* (*Short Courses, Washington Univ., St. Louis, Mo.,* 1969–1970), *pp.* 157–210. *Pure and Appl. Math., Vol.* 8, *Dekker, New York,* 1972. (C. J. Henrich) **54** #7699 22E30

Currents in classical field theories. *J. Mathematical Phys.* **13** (1972), 97–99. (Author's summary) **45** #4754 81.22

Geodesics and classical mechanics on Lie groups. *J. Mathematical Phys.* **13** (1972), 460–464. (W. F. Pohl) **45** #9272 53C50

Spectrum generating algebras and symmetries in mechanics. I, II. *J. Mathematical Phys.* **13** (1972), 833–838; *ibid.* **13** (1972), 833–842. (H. Ezawa) **47** #2930 81.22

★Topics in general relativity. Interdisciplinary Mathematics. V (Differential geometric methods and ideas in physics and engineering, Part II). *Robert Hermann, Department of Mathematics, Rutgers University, New Brunswick, N. J.,* 1973. x + 161 *pp.* (*not consecutively paged*) (A. H. Taub) **55** #14052 83.53

★General algebraic ideas. Interdisciplinary Mathematics. I (Algebra, with applications to physics and systems theory, Part I). *Robert Hermann, Mathematics Department, Rutgers University, New Brunswick, N.J.,* 1973. xvii + 203 *pp.* (*not consecutively paged*) (J. S. Joel) **57** #9372 00A05

★Linear and tensor algebra. Interdisciplinary Mathematics. II (Algebra, with applications to physics and systems theory, Part II). *Robert Hermann, Mathematics Department, Rutgers University, New Brunswick, N.J.,* 1973. viii + 156 *pp.* (*not consecutively paged*) (J. S. Joel) **57** #9373 00A05

★Energy momentum tensors. Interdisciplinary Mathematics. IV (Differential geometric methods and ideas in physics and engineering, Part I). *Robert Hermann, Department of Mathematics, Rutgers University, New Brunswick, N.J.,* 1973. ix + 117 *pp.* (*not consecutively paged*) (Vadim Komkov) **58** #9069 83.53

★Geometry, physics, and systems. Pure and Applied Mathematics, Vol. 18. *Marcel Dekker, Inc., New York,* 1973. x + 304 *pp.* (Editors) **58** #13104 58–01

★Algebraic topics in systems theory. Interdisciplinary Mathematics, III (Algebra, applied to physics and systems theory, Part III). *Robert Hermann, Mathematics Department, Rutgers University, New Brunswick, N.J.,* 1973. ix + 170 *pp.* (*not consecutively paged*) (J. S. Joel) **58** #20644a 93–02

★Topics in the mathematics of quantum mechanics. Interdisciplinary Mathematics, VI (Differential geometric methods and ideas in physics and engineering, Part III). *Robert Hermann, Department of Mathematics, Rutgers University, New Brunswick, N.J.,* 1973. ix + 243 *pp.* (*not consecutively paged*) (R. Arens) **58** #25445 81.00 (58–01)

Geodesics of singular Riemannian metrics. *Bull. Amer. Math. Soc.* **79** (1973), 780–782. (J. R. Vanstone) **50** #3271 58E10 (53C20)

Formal linearization of vector fields and related cohomology. I, II. *J. Differential Geometry* **8** (1973), 1–14; *ibid.* **8** (1973), 15–24. (K.-T. Chen) **51** #11538 57D25

★Spinors, Clifford and Cayley algebras. Interdisciplinary mathematics, Vol. VII. *Department of Mathematics, Rutgers University, New Brunswick, N.J.,* 1974. viii + 276 *pp.* (Maurice Flamant) **57** #360 15A66 (22E70)

★Physical aspects of Lie group theory. *Les Presses de l'Université de Montréal, Montreal, Que.,* 1974. 271 *pp.* (Kurt Bernardo Wolf) **57** #16480 22E70 (20C35, 81.22)

★Linear systems theory and introductory algebraic geometry. Interdisciplinary Mathematics, Vol. VIII. *Department of Mathematics, Rutgers University, New Brunswick, N.J.,* 1974. ix + 282 *pp.* (Christopher I. Byrnes) **58** #9479a 93Bxx (14D20)

★Geometric structure theory of systems—control theory and physics. Part A. Interdisciplinary Mathematics, Vol. IX. *Math Sci Press, Brookline, Mass.,* 1974. xi + 442 *pp.* (Editors) **58** #33186 93A05 (58–01)

★Gauge fields and Cartan-Ehresmann connections. Part A. Interdisciplinary Mathematics, Vol. X. *Math Sci Press, Brookline, Mass.,* 1975. ix + 515 *pp.* (F. J. Bloore) **58** #12813 53C05 (81.35)

★Algebraic topics of importance in systems theory. Interdisciplinary Mathematics, Vol. III. *Math Sci Press, Brookline, Mass.,* 1975. ix + 176 *pp.* (J. S. Joel) **58** #20644b 93–02

★The geometry of non-linear differential equations, Bäcklund transformations, and solitons. Part A. Interdisciplinary Mathematics, Vol. XII. *Math Sci Press, Brookline, Mass.,* 1976. xii + 313 *pp.* (Kotik K. Lee) **56** #1336 58–02 (35A30, 35Q99, 58F05, 58A15)

★Geometric structure of systems-control theory and physics. Part B. Interdisciplinary Mathematics, Vol. XI. *Math Sci. Press, Brookline, Mass.,* 1976. xviii + 484 *pp. ISBN* 0-915692-14-7 (From the preface) **58** #33269 93B10 (49Fxx, 70.49, 81.35)

(*with* Martin, Clyde F.) A new application of algebraic geometry to systems theory. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.,* 1976), *pp.* 821–825. *Inst. Electr. Electron. Engrs., New York,* 1976. (Authors' summary) **56** #17937 93A05

Pseudopotentials of Estabrook and Wahlquist, the geometry of solitons, and the theory of connections. *Phys. Rev. Lett.* **36** (1976), *no.* 15, 835–836. (Martine J. Perrin) **56** #6728 58F05 (35Q99)

Inverse scattering technique of soliton theory, Lie algebras, the quantum mechanical Poisson-Moyal bracket, and the rotating rigid body. *Phys. Rev. Lett.* **37** (1976), *no.* 24, 1591–1593. (Corneliu Eftimiu) **54** #9451 81.47

★The geometry of nonlinear differential equations, Bäcklund transformations, and solitons. Part B. Interdisciplinary Mathematics, Vol. XIV. *Math. Sci Press, Brookline, Mass.,* 1977. x + 336 *pp. ISBN* 0-915692-18-X (Kotik K. Lee) **57** #17681 58A15 (35A30, 81.58)

★Toda lattices, cosymplectic manifolds, Bäcklund transformations and kinks. Part A. Interdisciplinary Mathematics, Vol. XV. *Math. Sci Press, Brookline, Mass.* 1977. ix + 225 *pp. ISBN* 0-915692-20-1 (Kotik K. Lee) **57** #17682 58A15 (35A30, 58F05, 81.58)

(*with* Martin, Clyde F.) ★Algebro-geometric and Lie-theoretic techniques in systems theory. Part A. Interdisciplinary Mathematics, Vol. XIII. *Math Sci Press, Brookline, Mass.,* 1977. vii + 256 *pp.* (Christopher I. Byrnes) **58** #9479b 93Bxx (14D20)

★Differential geometry and the calculus of variations. Second edition. Interdisciplinary Mathematics, Vol. XVII. *Math Sci Press, Brookline, Mass.,* 1977. xv + 724 *pp. ISBN* 0-915692-24-4 (H. Rund) **58** #13105 58–01 (49Fxx)

★Quantum and fermion differential geometry. Part A. Interdisciplinary Mathematics, Vol. XVI. *Math Sci Press, Brookline, Mass.,* 1977. viii + 196 *pp. ISBN* 0-915692-22-8 (Kotik K. Lee) **58** #24312 58A10 (81.58)

★Toda lattices, cosymplectic manifolds, Bäcklund transformations and kinks. Part B. Interdisciplinary Mathematics, Vol. XVIII. *Math Sci Press, Brookline, Mass.,* 1977. x + 145 *pp. ISBN* 0-915692-24-4 (Kotik K. Lee) **58** #31150 58A15 (35A30, 35Q99)

(*with* Martin, Clyde F.) Lie theoretic aspects of the Riccati equation. *Proceedings of the 1977 IEEE Conference on Decision and Control* (*New Orleans, La.,* 1977), *Vol.* 1, *pp.* 265–270. *Inst. Electrical Electron. Engrs., New York,* 1977. (Editors) **58** #31261 58F15

(*with* Estabrook, Frank B.; Wahlquist, Hugo D.) Differential-geometric prolongations and Bäcklund transformations. *The* 1976 *Ames Research Center* (*NASA*) *Conference on the Geometric Theory of Non-linear Waves* (*Moffett Field, Calif.,* 1976), *pp.* 1–66. *Lie Groups: History, Frontiers and Appl., Vol. VI, Math Sci Press, Brookline, Mass.,* 1977. (Ngô van Quê) **58** #13113 58A15 (58H05)

(*with* Krener, Arthur J.) The differential-geometric duality between controllability and observability for nonlinear systems. *The* 1976 *Ames Research Center* (*NASA*) *Conference on Geometric Control Theory* (*Moffett Field, Calif.,* 1976), *pp.* 49–65. *Lie Groups: History Frontiers and Appl., Vol. VII, Math Sci Press, Brookline, Mass.,* 1977. (Editors) **58** #20661 93B05 (57D25)

(*with* Martin, Clyde F.) Applications of algebraic geometry to systems theory. V. Ramifications of the Macmillan degree. *The* 1976 *Ames Research Center* (*NASA*) *Conference on Geometric Control Theory* (*Moffett Field, Calif.,* 1976), *pp.* 67–120. *Lie Groups: History Frontiers and Appl., Vol. VII, Math Sci Press, Brookline, Mass.,* 1977. (From the introduction) **58** #26209c 93A05 (14D20)

(*with* Martin, Clyde F.) Applications of algebraic geometry to systems theory. VI. Infinite dimensional linear systems and properties of analytic functions. *The* 1976 *Ames Research Center* (*NASA*) *Conference on Geometric Control Theory* (*Moffett Field, Calif.,* 1976), *pp.* 121–155. *Lie Groups: History Frontiers and Appl., Vol. VII, Math Sci Press, Brookline, Mass.,* 1977. (From the introduction) **58** #26209d 93A05 (14D20)

(*with* Martin, Clyde F.) Applications of algebraic geometry to systems theory. I. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 1, 19–25. (Authors' summary) **56** #2530 93B99

(*with* Krener, Arthur J.) Nonlinear controllability and observability. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 728–740. (Authors' summary) **57** #15597 93B05

(*with* Martin, Clyde F.) Applications of algebraic geometry to systems theory. II. Feedback and pole placement for linear Hamiltonian systems. *Proc. IEEE* **65** (1977), *no.* 6, 841–848. (Authors' summary) **58** #26209a 93B99

(*with* Martin, Clyde F.) Applications of algebraic geometry to systems theory. III. The McMillan degree and Kronecker indices of transfer functions as topological and holomorphic system invariants. *SIAM J. Control Optim.* **16** (1978), *no.* 5, 743–755. (Milan Medved') **58** #26209b 93A05 (14D20)

See also **Conference: Ames Research Center, Geometric Theory of Nonlinear Waves**, **56** #13244; **Conference: Ames Research Center, Geometric Control Theory**, **56** #17934; **Sophus Lie's 1880 transformation group paper**, **57** #49; **Ricci and Levi-Civita's tensor analysis paper**, **57** #12153; **Wallach, Nolan R.**, **58** #7715 *and* **Sophus Lie's 1884 differential invariant paper**, **58** #10262

Hermann, T. Approximation of unbounded functions on unbounded interval. *Acta Math.*

Acad. Sci. Hungar. **29** (1977), *no.* 3-4, 393–38. (A. Sharma) **56** #16216 41A30

On Baskakov-type operators. *Acta Math. Acad. Sci. Hungar.* **31** (1978), *no.* 3–4, 307–316. (Z. Ditzian) **57** #10322 41A35

On the Szász-Mirakian operator. *Acta Math. Acad. Sci. Hungar.* **32** (1978), *no.* 1-2, 163–173. (Pier Luigi Papini) **58** #23270 41A25 (41A35)

Hermann of Carinthia *See* **Busard, H. L. L.**, **56** #15283 *and* **Busard, H. L. L.**, **58** #21062

Hermanns, Franz-Josef Eine metabelsche Gruppe vom Exponenten 8. *Arch. Math.* (*Basel*) **29** (1977), *no.* 4, 375–382. (R. G. Stanton) **57** #12697 20D99

Hermans, A. J. A matching principle in non-linear ship wave theory at low Froude number. *Delft Progress Rep. Ser. F* **1** (1974), *no.* 1, 1–9. (Author's summary) **56** #10369 76.35

Amplitude relation for trapped waves around a circular island. *Symposium on Applied Mathematics* (*Delft Univ. Tech., Delft*, 1978), *pp.* 13–21. *Delft Univ. Press, Delft*, 1978. (A. M. J. Davis) **58** #3921 76.35

See also **Symposium: Applied Mathematics**, **57** #2082

Hermans, J. J. (*with* Habbema, J. D. F.; van der Burgt, A. T.) Cases of doubt in allocation problems. *Biometrika* **61** (1974), 313–324. (M. Arató) **54** #11665 62H30

(*with* Szu, H. Harold; Szu, S. C.) Fluctuation-dissipation theorems on the basis of hydrodynamic propagators. *Phys. Fluids* **17** (1974), 903–907. (Marvin Shinbrot) **51** #2464 76.47

Unicité des graphes fortement réguliers de 13 et 17 sommets. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **61** (1975), *no.* 7, 666–674. (F. Harary) **52** #10489 05C30

Strongly regular graphs and polarities of finite projective spaces. *Bull. Soc. Math. Belg.* **27** (1975), *no.* 3, 211–213. (T. G. Ostrom) **58** #27563 05B25 (50D30)

See also **Compstat**, **49** #9990

Hermelink, Heinrich The earliest reckoning books existing in the Persian language. (German summary) *Historia Math.* **2** (1975), 299–303. (Y. Dold) **58** #15842 01A30

Zur Bestimmung von Bīrūnīs Todestag. *Sudhoffs Arch.* **61** (1977), *no.* 3, 298–300. (Editors) **58** #26785 01A30

Hermes, Hans ★Aufzählbarkeit, Entscheidbarkeit, Berechenbarkeit. Einführung in die Theorie der rekursiven Funktionen. Zweite Auflage. Heidelberger Taschenbücher, Band 87. *Springer-Verlag, Berlin-New York*, 1971. xi + 246 *pp.* (Editors) **49** #8825 02Fxx (02Exx)

★Einführung in die mathematische Logik. Klassische Prädikatenlogik. Dritte neubearbeitete und erweiterte Auflage. Mathematische Leitfäden. *B. G. Teubner, Stuttgart*, 1972. 206 *pp.* (Editors) **49** #10518 02–02 (02Bxx)

Die Unlösbarkeit des zehnten Hilbertschen Problems. *Enseignement Math.* (2) **18** (1972), 47–56. (R. L. Goodstein) **49** #2322 02F43 (10N05)

★Introduction to mathematical logic. Translated from the German by Diana Schmidt. Universitext. *Springer-Verlag, New York-Heidelberg*, 1973. xi + 242 *pp.* (Editors) **49** #10519 02–02

★Einführung in die mathematische Logik. Klassische Prädikatenlogik. Vierte Auflage. Mathematische Leitfäden. *B. G. Teubner, Stuttgart*, 1976. 206 *pp.* (Editors) **55** #68 02–01

Domino games. *Colloquium on Symbolic Logic* (*Univ. Complutense, Madrid*, 1975) (*Spanish*), *pp.* 103–114. *Centro Calculo, Univ. Complutense, Madrid*, 1976. (David M. Clark) **56** #5207 02B10 (02G05, 02F15)

Dialog games. *Colloquium on Symbolic Logic* (*Univ. Complutense, Madrid*, 1975), (*Spanish*), *pp.* 115–125. *Centro Calculo, Univ. Complutense, Madrid*, 1976. (Henry Africk) **56** #5264 02G99 (02C15)

Hilbert's tenth problem. *Colloquium on Symbolic Logic* (*Univ. Complutense, Madrid*, 1975) (*Spanish*), *pp.* 127–136. *Centro Calculo, Univ. Complutense, Madrid*, 1976. (John W. Berry) **56** #15347 02–02 (10B15, 02F25, 10N05)

(*with* Heidler, Klaus; Mahn, Friedrich-K.) ★Rekursive Funktionen. *Bibliographisches Institut Mannheim-Vienna-Zurich*, 1977. vii + 236 *pp.* *ISBN* 3-411-01535-7 (G. Wechsung) **58** #5108 02Fxx

Hundert Jahre formale Logik. (English summary) Mit Diskussion von Edmund Hlawka, Claus Müller, Friedrich Hirzebruch, Bartel Leendert van der Waerden, Erich Bohl und Joseph Straub. *Vorträge der Rheinisch-Westfälischen Akademie der Wissenschaften, No. N* 268 (*Düsseldorf*, 1976), *pp.* 25–46. *Westdeutscher Verlag, Opladen*, 1977. (Author's summary) **58** #27179 02–03 (01A60)

See also **Fundamentals of mathematics**, **49** #8786; **Turing machines and recursive functions**, **50** #12679; **Logic, methodology and philosophy of science**, **55** #7657 *and* **Frege, Gottlob**, **58** #27146

Hermes, Henry (*with* Lasalle, Joseph P.) ★Functional analysis and time optimal control. Mathematics in Science and Engineering, Vol. 56. *Academic Press, New York-London*, 1969. viii + 136 *pp.* (H. T. Banks (Zbl **203**, 475)) **54** #8380 49–02

The geometry of time-optimal control. *SIAM J. Control* **10** (1972), 221–229. (J. Cullum) **47** #7569 49E15

A survey of recent results in differential equations. Twentieth anniversary of the Society for Industrial and Applied Mathematics (Special lectures, Philadelphia, Pa., 1972). *SIAM Rev.* **15** (1973), 453–468. (Editors) **52** #14421 34–02

On local and global controllability. Collection of articles dedicated to the memory of Lucien W. Neustadt. *SIAM J. Control* **12** (1974), 252–261. (David L. Elliott) **56** #9580 58E15 (49E15, 57D25)

Necessary and sufficient conditions for local controllability and time optimality. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *Vol.* 2, *pp.* 343–347. *Canad. Math. Congress, Montreal, Que.*, 1975. (David L. Elliott) **54** #11389 58E99 (49E15, 58A15, 57D25)

High order algebraic conditions for controllability. *Mathematical systems theory* (*Proc. Internat. Sympos., Internat. Centre Mech. Sci., Udine*, 1975), *pp.* 165–171. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer, Berlin*, 1976. (Editors) **58** #33246 93B05 (57D25, 58F10)

High order conditions for local controllability and controlled stability. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 836 840. *Inst. Electr. Electron. Engrs., New York*, 1976. (Arthur J. Krener) **57** #7328 49E05

Local controllability and sufficient conditions in singular problems. *J. Differential Equations* **20** (1976), *no.* 1, 213–232. (Claude E. Lobry) **53** #9008 (E **55** #8939) 49E15 (57D25, 58A15)

(*with* Jakubczyk, B.) Erratum: "Local controllability and sufficient condition singular problems" (J. Differential Equations **20** (1976), no. 1, 213–232) by Hermes. *Differential Equations* **22** (1976), *no.* 2, 523–524. (Editors) **55** #8939 49E15

Local controllability and sufficient conditions in singular problems. II. *SIAM Control Optimization* **14** (1976), *no.* 6, 1049–1062. (Claude E. Lobry) **54** #871 58E15 (57D25, 49E15)

High order controlled stability and controllability. *Dynamical systems* (*Proc. Internat. Sympos., Univ. Florida, Gainesville, Fla.*, 1976), *pp.* 89–99. *Academic Press, N York*, 1977. (Velimir Jurdjevic) **58** #18479 57D25 (49E15, 58F99)

Controlled stability. *Ann. Mat. Pura Appl.* (4) **114** (1977), 103–119. (Auth summary) **58** #30677 49E15

Lie algebras of vector fields and local approximation of attainable sets. *SIAM Control Optim.* **16** (1978), *no.* 5, 715–727. (Arthur J. Krener) **58** #12642 491 (57D25, 93B25)

See also **Recent developments in control theory**, **48** #8019 *and* **Advances in differential and integral equations**, **50** #10389

Hermes Trismegistos *See* **Hübner, Wolfgang**, **57** #15840

Hermite, C. On the number of roots of an algebraic equation contained between gi limits. Translated from the French original by P. C. Parks. Routh centenary is *Internat. J. Control* **26** (1977), *no.* 2, 183–195. (Editors) **58** #15949 01A55 (01A

Hermite, Ch. *See* **Tannery, Jules; et al.**, **52** #13289; **Oeuvres: Laguerre, Edmond**, **52** #13292 *and* **Oeuvres: Laguerre, Edmond**, **52** #13293

Hermoso, Maria Theresa (*with* Assmus, Edward F., Jr.) Non-existence of Steiner syste of type $S(d-1,d,2d)$. *Math. Z.* **138** (1974), 171–172. (Diane Johnson) **50** #4330 05B05

Hermsdorf, Lutz *See* **Taschenbuch Elektrotechnik in sechs Bänden**, **52** #13100

Hern, Thomas A. Error estimates for the weak convergence to certain infinitely divisi laws. *Ann. Math. Statist.* **43** (1972), 1592–1602. (R. J. Buehler) **49** #8088 60F05

Hernández, Horacio *See* **Hernández-Andrade, Horacio**

Hernández, Jesús (*with* Dias, João-Paulo) A Sturm-Liouville theorem for some odd multivalued maps. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 72–74. (Z. Poracká-Div **51** #13803 47H99 (47A99)

(*with* Dias, João-Paulo) A remark on a paper: "Bifurcation and asymptotic bifurcation for non-compact non-symmetric gradient operators" (Proc. Roy. Soc. Edinburgh Sect. A **73** (1975), 137–147) by J. F. Toland and some applications unilateral problems. *Proc. Roy. Soc. Edinburgh Sect. A* **75** (1975/76), *no.* 3, 179–1 (Norman Dancer) **56** #1151 47H15 (35J65)

(*with* Dias, João-Paulo) Bifurcation à l'infini et alternative de Fredholm p certains problèmes unilatéraux. (English summary) *J. Math. Pures Appl.* (9) **55** (197 *no.* 2, 189–205. (Author's summary) **57** #868 35J35 (47H10, 58E05)

Hernández-Andrade, Horacio A class of compact manifolds with positive Ricci curvatu *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Stanford Univ., Stanfo Calif.*, 1973), *Part* 1, *pp.* 73–87. *Amer. Math. Soc., Providence, R.I.*, 1975. (T. Willmore) **52** #1565 53C20 (14B05, 57E25)

Un théorème sur les tenseurs bornés. (English summary) *C. R. Acad. Sci. Paris S A-B* **281** (1975), *no.* 1, Aii, A39–A40. (R. J. Crittenden) **51** #13917 53C20

Hernández Castaños, D. B. (*with* Mayne, David Q.) Identification of linear systems usi correlation data. *Electron. Lett.* **8** (1972), 346–348. (M. M. Konstantinov) **48** #8059 93E10

Hernández Lerma, Onésimo Fourier series: brief historical introduction. (Spanish) *Miscelánea Mat. No.* 7 (1974), 13–24. (Michel Gatesoupe) **51** #3781 42–03 (01A

aroca Hernández-Ros, José Manuel *See* **Aroca Hernández-Ros, José Manuel**

Hernández S., Juan L. Integral equations in linear circuits. (Spanish) *Scientia* (*Valparais No.* 142 (1971), 5–17. (Author's summary) **55** #7126 78.45

Bounds for parameters and poles in systems of automatic control. (Spanis *Scientia* (*Valparaiso*) *No.* 142 (1971), 18–28. (C. R. Hadlock) **48** #10567 93B99

Solution of the integral equations of linear circuits. (Spanish) *Scientia* (*Valparais No.* 143 (1972), 5–11. (S. L. Kalla) **51** #7733 94A20

Generalized integral equations of multivariable circuits. (Spanish) *Scientia* (*Valparaíso*) *No.* 143 (1972), 16–25. (S. L. Kalla) **51** #7734 94A20

Bounds for the zeros and poles in digital filters and controls. (Spanish. Engli summary) *Scientia* (*Valparaíso*) *No.* 148 (1977), 27–34. (Author's summary) **58** #155 93E10 (94A05)

Bounding theorems in two-dimensional digital filters. (Spanish. English summar *Scientia* (*Valparaíso*) *No.* 148 (1977), 35–42. (Author's summary) **58** #9666 93E1 (94A05)

A new method for the analysis of linear automatic control systems by means integral equations. (Spanish. English summary) *Scientia* (*Valparaíso*) *No.* 149 (197 1–10. (Author's summary) **58** #33281 93C05

Herndon, W. C. (*with* Leahey, W. J.; Phan, V. T.) A note on permanents. *Linear an Multilinear Algebra* 3 (1975/76), *no.* 3, 193–196. (J. L. Brenner) **53** #5628 15A15

Herne, H. *See* **Newbold, Paul; et al.**, **56** #9865

Herneck, Friedrich Die Einstein-Dokumente im Archiv der Humboldt-Universität zu Berlin. *NTM Schr. Geschichte Naturwiss. Tech. Medizin* **10** (1973), *no.* 2, 32–3 (Editors) **58** #10177 01A70

★Albert Einstein. Zweite, durchgesehene Auflage. Mit einem Geleitwort von Wussing. Biographien hervorragender Naturwissenschaftler, Techniker und Medizine Band 14. *BSB B. G. Teubner Verlagsgesellschaft, Leipzig*, 1975. 124 *pp.* (Editor **54** #9938 01A70

Herod, James V. Multiplicative inverses of solutions for Volterra-Stieltjes integral equations. *Proc. Amer. Math. Soc.* **22** (1969), 650–656. (See Zbl **179**, 449) 45D05

Coalescence of solutions for nonlinear Stieltjes equations. *J. Reine Angew. Math* **252** (1972), 187–194. (H. Amann) **45** #996 47H15

The uniform limit of Lipschitz functions on a Banach space. *J. Austral. Math. So* **15** (1973), 325–331. (Bruce Calvert) **49** #1263 47H99

Generators for evolution systems with quasi continuous trajectories. *Pacific Math.* **53** (1974), 153–161. (M. Z. Nashed) **51** #8907 47H15 (45H05)

A product integral representation for the generalized inverse of closed operators *Pacific J. Math.* **76** (1978), *no.* 1, 51–60. (Charles W. Groetsch) **58** #2377 47A (65J05)

Hold, Horst Nullstellen bei Lösungen linearer Differentialgleichungen 3. Ordnung mit komplexwertigen Koeffizienten. *Arch. Math.* (*Basel*) **23** (1972), 192–197. (J. Nikolaus) **47** #2118 34A20

Diskonjugierte Differentialgleichungen 2. Ordnung im Komplexen. *J. Reine Angew. Math.* **257** (1972), 1–11. (D. V. V. Wend) **47** #553 34C10 (34A20)

Diskonjugiertheitskriterien für lineare Differentialgleichungen 3. Ordnung mit komplexwertigen Koeffizienten. *Math. Nachr.* **52** (1972), 333–342. (D. V. V. Wend) **46** #5734 34C10

Ein Vergleichssatz für komplexe lineare Differentialgleichungen. *Math. Z.* **126** (1972), 91–94. (D. V. V. Wend) **45** #8929 34C10

Vergleichssatz für die Lösungen linearer Differential-Ungleichungen. *Ann. Polon. Math.* **27** (1973), 323–327. (Jerry Ridenhour) **48** #4386 34A40

k-Diskonjugiertheit von $w^{(n)}+p(z)w=0$. *Math. Ann.* **204** (1973), 331–336. (K. Kreith) **51** #1008 34C10

Ein nichtlineares Randwertproblem. *Math. Nachr.* **64** (1974), 57–62. (R. E. Gaines) **51** #3591 34B15

Ein singuläres lineares Eigenwertproblem. *Z. Angew. Math. Mech.* **54** (1974), 741–743. (Walter Eberhard) **55** #759 34B25 (34A40)

★Differentialgleichungen im Komplexen. Studia Mathematica, Skript 2. *Vandenhoeck & Ruprecht, Göttingen*, 1975. 190 *pp.* (Wolfgang Tutschke) **57** #10051 34A20 (30A68, 32A30)

Vergleichssätze für komplexe lineare Differentialgleichungen 2. Ordnung. *Portugal. Math.* **35** (1976), *no.* 3–4, 213–219. (Not reviewed) 34A20

Sturmscher Vergleichssatz im Komplexen. *Math. Nachr.* **81** (1978), 195–200. (H. Hochstadt) **57** #782 34C10 (34A20)

rold, W. Ein Verfahren der Dekomposition einer Mischverteilung in zwei normale Komponenten mit unterschiedlichen Varianzen. (English and Russian summaries) *Biometrische Z.* **13** (1971), 314–328. (Bernard Harris) **47** #4360 62E10

Über die Praktikabilität einer einfachen Extrapolationsmethode. (English and Russian summaries) *Biometrische Z.* **16** (1974), 103–113. (Paul Shaman) **53** #4424 62M20

ron, A. P. Matroid polynomials. *Combinatorics* (*Proc. Conf. Combinatorial Math., Math. Inst., Oxford*, 1972), *pp.* 164–202. *Inst. Math. Appl., Southend-on-Sea*, 1972. (Ann Miller) **49** #4814 05B35

A property of the hyperplanes of a matroid and an extension of Dilworth's theorem. *J. Math. Anal. Appl.* **42** (1973), 119–131. (Stephen Tanny) **51** #12579 05B35

ron of Alexandria *See* **Drachmann, A. G.**, (Not reviewed) *and* **Drachmann, A. G.**, (Not reviewed)

rr, David G. (*with* Burdick, Donald S.; O'Fallon, W. M.; O'Neill, B. V.) Exact methods in the unbalanced, two-way analysis of variance—a geometric view. *Comm. Statist.* **3** (1974), 581–595. (D. R. Brillinger) **50** #6070 62J10

On a statistical model of Strand and Westwater for the numerical solution of a Fredholm integral equation of the first kind. *J. Assoc. Comput. Mach.* **21** (1974), 1–5. (P. Linz) **49** #6661 65R05

A geometric characterization of connectedness in a two-way design. *Biometrika* **63** (1976), *no.* 1, 93–100. (Author's summary) **55** #6718 62J10

On Strand and Westwater's minimum-RMS estimation of the numerical solution of a Fredholm integral equation of the first kind. *SIAM J. Numer. Anal.* **13** (1976), *no.* 3, 427–431. (S. Aširov) **55** #4756 65R05

See also **Survey of statistical design and linear models**, **51** #2039

rnardo Herranz, José-Miguel *See* **Bernardo Herranz, José-Miguel**

erre, Heinrich (*with* Rautenberg, Wolfgang) Das Basistheorem und einige Anwendungen in der Modelltheorie. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **19** (1970), 579–583. (M. Yasuhara) **48** #10796 02H05 (02G15, 02J05)

Entscheidungsprobleme in der elementaren Theorie einer zweistelligen Relation. *Z. Math. Logik Grundlagen Math.* **17** (1971), 301–313. (M. R. Krom) **45** #1749 02H15

(*with* Hauschild, Kurt; Rautenberg, Wolfgang) Entscheidbarkeit der elementaren Theorie der endlichen Bäume und verwandter Klassen endlicher Strukturen. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 497–502. (U. Felgner) **50** #6818 02G05 (05C30)

(*with* Hauschild, Kurt; Rautenberg, Wolfgang) Entscheidbarkeit der monadischen Theorie 2. Stufe der *n*-separierten Graphen. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 507–511. (U. Felgner) **50** #79 02G05 (02H10, 05C30)

Die Entscheidbarkeit der elementaren Theorie der *n*-separierten symmetrischen Graphen endlicher Valenz. *Z. Math. Logik Grundlagen Math.* **18** (1972), 249–254. (M. Yasuhara) **46** #3289 02G05 (05C15, 05C99)

(*with* Hauschild, Kurt; Rautenberg, Wolfgang) Interpretierbarkeit und Entscheidbarkeit in der Graphentheorie. II. *Z. Math. Logik Grundlagen Math.* **18** (1972), 457–480. (U. Felgner) **48** #3737 02H15 (05C10)

Unentscheidbarkeit in der Graphentheorie. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 201–208. (Walter Oberschelp) **50** #1865 02G05 (05C99)

Nonfinitely axiomatizable theories of graphs. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1187–1190. (L. W. Szczerba) **51** #119 02G10 (05C99)

(*with* Wolter, Helmut) Entscheidbarkeit von Theorien in Logiken mit verallgemeinerten Quantoren. *Z. Math. Logik Grundlagen Math.* **21** (1975), 229–246. (J. A. Makowsky) **53** #2623 02B20 (02G05)

(*with* Wolter, Helmut) Entscheidbarkeit der Theorie der linearen Ordung in L_{G_1}. *Z. Math. Logik Grundlagen Math.* **23** (1977), *no.* 3, 273–282. (G. Fuhrken) **56** #5260 02G05 (02B20)

(*with* Pinus, A. G.) Zum Entscheidungsproblem für Theorien in Logiken mit monadischen verallgemeinerten Quantoren. *Z. Math. Logik Grundlag. Math.* **24** (1978), *no.* 4, 375–384. (G. Fuhrken) **58** #16246 02G05

(*with* Wolter, Helmut) Entscheidbarketi der Theorie der linearen Ordnung in L_{Q_x} für reguläres ω_x. *Z. Math. Logik Grundlagen Math.* **24** (1978), *no.* 1, 73–78. (Bernd I. Dahn) **57** #16034 02G05 (02B20)

Herrendörfer, Günter (*with* Rasch, Dieter; Bock, J.) Beiträge zur Planung des Stichprobenumfanges. I. Zur Planung des Stichprobenumfanges für den Vergleich von *k* Behandlungen mit einer Kontrolle. (English summary) *Biometrische Z.* **14** (1972), 101–105. (M. E. Thompson) **46** #8342 62F05

(*with* Bock, J.) Beiträge zur Planung des Stichprobenumfangs. III. Planung des Stichprobenumfanges zum Vergleich von Regressionskoeffizienten im Falle der einfachen linearen Regression Modell I. (English summary) *Biometrische Z.* **15** (1973), 319–323. (M. E. Thompson) **51** #7177 62J99

(*with* Bock, J.; Rasch, Dieter) Beiträge zur Planung des Stichprobenumfanges II. Zur Planung des Stichprobenumfanges für den Vergleich von *k* Mittelwerten bei hierarchischer Klassifikation. (English summary) *Biometrische Z.* **15** (1973), 411–415. (M. E. Thompson) **49** #4173 62K05

(*with* Rasch, Dieter; Bock, J.) Optimierung des Stichprobenumfanges. (English summary) *Biometrische Z.* **16** (1974), 401–408. (Reinhard Michel) **50** #15116 62F99

Versuchsplanung zur Schätzung der Varianzkomponente zwischen den Gruppen für eine einfache Varianzanalyse. (English summary) *Biometrische Z.* **16** (1974), 409–415. (H. Toutenburg) **50** #15182 62J10

Mittelwertvergleiche bei eingeschränkten Meßmöglichkeiten. (English summary) *Biometrische Z.* **16** (1974), 505–509. (Emil Spjøtvoll) **52** #12239 62J15

(*with* Rasch, D.) Complete block designs. I. Models, definitions and analysis of balanced complete block designs. (German summary) *Biometrische Z.* **18** (1976), *no.* 8, 609–617. (Damaraju Raghavarao) **56** #1617 62K10 (62J10)

The design and analysis of experiments with grouped measurements. I.Estimation of mean. (German summary) *Biometrical J.* **19** (1977), *no.* 2, 107–115. (H.-L. Harter) **55** #9430 62K05

(*with* Rasch, Dieter) Complete block designs. II. Analysis of partially balanced designs. *Biometrical J.* **19** (1977), *no.* 6, 455–461. (Damaraju Raghavarao) **57** #14291 62K10

(*with* Rasch, Dieter) Über die Anzahl elementarer BUB in eingeschränkten (v, k)-Familien. *Rostock. Math. Kolloq. No.* 8 (1978), 71–82. (L. D. Baumert) **58** #16340 05B05

Herrera, Ismael (*with* Bielak, Jacobo) A simplified version of Gurtin's variational principles. *Arch. Rational Mech. Anal.* **53** (1973/74), 131–149. (H. J. Weinitschke) **50** #8243 49H05 (35A15, 46G05)

(*with* Bielak, Jacobo) Dual variational principles for diffusion equations. *Quart. Appl. Math.* **34** (1976), *no.* 1, 85–102. (M. Z. Nashed) **57** #7338 49G99

(*with* Bielak, Jacobo) Comments on the paper: "Modified Gurtin's variational principles in the linear dynamic theory of viscoelasticity" (Internat. J. Solids and Structures **12** (1976), no. 3, 227–235), by J. N. Reddy. *Internat. J. Solids and Structures* **13** (1977), *no.* 4, 377–378. (S. N. Murthy) **56** #1902 (E **56** #1903) 73.49

General variational principles applicable to the hybrid element method. *Proc. Nat. Acad. Sci. U.S.A.* **74** (1977), *no.* 7, 2595–2597. (A. Elcrat) **56** #16510 49H05 (47A50, 76.49)

Theory of connectivity for formally symmetric operators. *Proc. Nat. Acad. Sci. U.S.A.* **74** (1977), *no.* 11, 4722–4725. (P. G. Ciarlet) **57** #4541 65N30

(*with* Sewell, M. J.) Dual extremum principles for non-negative unsymmetric operators. *J. Inst. Math. Appl.* **21** (1978), *no.* 1, 95–115. (M. M. Cvetanov) **58** #7276 49A25

(*with* Sabina, Federico J.) Connectivity as an alternative to boundary integral equations: construction of bases. *Proc. Nat. Acad. Sci. U.S.A.* **75** (1978), *no.* 5, 2059–2063. (U. Tippenhauer) **58** #12257 45L05 (65R05)

See also **Reddy, J. N.**, **56** #1903

Herrera, Luis Alfredo (*with* Papapetrou, Achille) Les équations supplémentaires et triviales dans le formalisme de Newman-Penrose. *C. R. Acad. Sci. Paris Sér. A-B* **272** (1971), A1756–A1759. (W. B. Bonnor) **45** #3041 83.53

Relations identiques entre les équations du formalisme de Newman-Penrose dans la description spinorielle. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A427–A430. (N. Mihăileanu) **45** #4795 83.53

A gravitational Lagrangian in the Newman-Penrose formalism. *Lett. Nuovo Cimento* (2) **21** (1978), *no.* 1, 11–14. (A. Raychaudhuri) **57** #15224 83.53

Herrera, Miguel Residues of forms with logarithmic singularities. Collection of articles dedicated to Alberto González Domínguez on his sixty-fifth birthday. *Rev. Un. Mat. Argentina* **25** (1970/71), 379–387. (D. Lieberman) **48** #556 32A25 (32C30)

(*with* Lieberman, David I.) Duality and the de Rham cohomology of infinitesimal neighborhoods. *Invent. Math.* **13** (1971), 97–124. (H. Röhrl) **46** #9388 32C35

(*with* Lieberman, David I.) Residues and principal values on complex spaces. *Math. Ann.* **194** (1971), 259–294. (G. Trautmann) **45** #5413 32C35

Résidus multiples sur les espaces complexes. *Journées complexes: équations différentielles et fonctions de plusieurs variables* (*Metz*, 1972), *Exp. No. III*, i+10 *pp. Inst. Recherche Math. Avancée, Strasbourg*, 1973. (P. Lelong) **58** #1237 32C30

Les courants résidus multiples. *Journées de Géométrie Analytique* (*Univ. Poitiers, Poitiers*, 1972), 27–30. *Bull. Soc. Math. France, Mém. No.* 38. *Soc. Math. France, Paris*, 1974. (D. Lieberman) **51** #10665 32A25

On the construction of the trace in Serre duality. *Geometry and topology* (*Proc. III Latin Amer. School of Math., Inst. Mat. Pura Aplicada CNPq, Rio de Janeiro*, 1976), *pp.* 308–318. *Lecture Notes in Math., Vol.* 597, *Springer, Berlin*, 1977. (C. Bănică) **56** #12306 32C35 (32C30)

(*with* Coleff, N.) Fibering of residual currents. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 11–19. *Amer.Math. Soc., Providence, R.I.*, 1977. (P. Lelong) **57** #16672 32C30

See also **Mathematics: Periodical collection of translations of foreign articles**, **49** #4721

Herrero, Domingo Antonio IN subspaces and functional calculus of Sz.-Nagy and Foiaş. (Spanish) Collection of articles dedicated to Alberto González Domínguez on his sixty-fifth birthday. *Rev. Un. Mat. Argentina* **25** (1970/71), 185–197. (Editors) **56** #6453 47B37

Inner function operators. *Notas Ci.* **9** (1971), *no.* 1, 7–41. (Editors) **58** #30364 47A15 (46E25)

(*with* Salinas, Norberto) Operators with disconnected spectra are dense. *Bull. Amer. Math. Soc.* **78** (1972), 525–526. (H. A. Gindler) **46** #693 47A55

Operator algebras of finite strict multiplicity. *Indiana Univ. Math. J.* **22** (1972/73), 13–24. (W. B. Arveson) **47** #4017 46L20 (47B99)

A pathological lattice of invariant subspaces. *J. Functional Analysis* **11** (1972), 131–137. (Paul S. Muhly) **49** #7805 47A15

Analytic continuation of inner function-operators. *Pacific J. Math.* **40** (1972), 327–340. (G. W. Johnson) **46** #6084 47B35 (30A78)

Eigenvectors and cyclic vectors for bilateral weighted shifts. *Rev. Un. Mat. Argentina* **26** (1972/73), 24–41. (F. J. Murray) **49** #1170 47A45

Transitive algebras of operators that contain a subalgebra of finite strict multiplicity. (Spanish) *Rev. Un. Mat. Argentina* **26** (1972/73), 77–84. (F. J. Murray) **49** #1162 47A15 (46L20)

A geometric approach to inner function-operators and their differential equations. *Rev. Un. Mat. Argentina* **26** (1972/73), 202–224. (R. G. Douglas) **50** #14290 47A45

The exceptional subset of a C_0-contraction. *Trans. Amer. Math. Soc.* **173** (1972), 93–115. (K. F. Klopfenstein) **46** #9777 47A45 (47A15)

(*with* Salinas, Norberto) Analytically invariant and bi-invariant subspaces. *Trans. Amer. Math. Soc.* **173** (1972), 117–136. (H. A. Gindler) **47** #856 47A15

On the invariant subspace lattice $1+\omega$. *Acta Sci. Math.* (*Szeged*) **35** (1973), 217–223. (A. Lambert) **49** #11259 (E **53** #8925) 46H10 (47A15)

Full-range invariant subspace of H^2_K. I. Natural topologies. *An. Acad. Brasil. Ci.* **45** (1973), 51–62. (R. G. Douglas) **49** #3569 47A15 (47B35)

(*with* Gellar, Ralph) Hyperinvariant subspaces of bilateral weighted shifts. *Indiana Univ. Math. J.* **23** (1973/74), 771–790. (L. J. Wallen) **48** #9417 47A15

Normal limits of nilpotent operators. *Indiana Univ. Math. J.* **23** (1973/74), 1097–1108. (Eric Nordgren) **50** #2968 47A65

Mean growth of inner functions. *Proc. Amer. Math. Soc.* **37** (1973), 175–180. (R. McLaughlin) **46** #7517 30A76

(*with* Lambert, Alan L.) On strictly cyclic algebras, $\mathcal{P}$-algebras and reflexive operators. *Trans. Amer. Math. Soc.* **185** (1973), 229–235. (T. Rolf Turner) **48** #6961 46L20 (47A15)

Toward a spectral characterization of the set of norm limits of nilpotent operators. *Indiana Univ. Math. J.* **24** (1974/75), 847–864. (R. G. Douglas) **51** #1456 (E **54** #5878) 47A65

Burnside's theorem for the Fréchet space ω. *Math. Ann.* **207** (1974), 271–279. (H. Radjavi) **49** #5878 46L20 (47A15)

Inner functions under uniform topology. *Pacific J. Math.* **51** (1974), 167–175. (R. G. Douglas) **49** #11262 46J15 (30A76)

(*with* Deddens, James A.; Gellar, Ralph) Commutants and cyclic vectors. *Proc. Amer. Math. Soc.* **43** (1974), 169–170. (T. Rolf Turner) **48** #6985 47A65

Formal Taylor series and complementary invariant subspaces. *Proc. Amer. Math. Soc.* **45** (1974), 83–87. (H. A. Gindler) **51** #8869 47A60

Norm limits of nilpotent operators and weighted spectra in non-separable Hilbert spaces. *Rev. Un. Mat. Argentina* **27** (1974/75), *no.* 2, 83–105. (Norberto Salinas) **56** #1106a (E **56** #1106b) 47A65

Corrigendum: "Norm limits of nilpotent operators and weighted spectra in non-separable Hilbert spaces" (Rev. Un. Mat. Argentina **27** (1974/75), no. 2, 83–105). *Rev. Un. Mat. Argentina* **27** (1974/75), *no.* 3, 195–196 (1976). (Norberto Salinas) **56** #1106b 47A65

Corrigendum: "On the invariant subspace lattice $1+\omega^*$ (Acta. Sci. Math. (Szeged) **35** (1973), 217–223). *Acta Sci. Math.* (*Szeged*) **37** (1975), *no.* 3-4, 253–254. (A. Lambert) **53** #8925 46H10 (47A15)

(*with* Sherman, M. J.) Noncyclic vectors for S^*. *Proc. Amer. Math. Soc.* **48** (1975), 193–196. (Eric Nordgren) **51** #11158 47A65

Universal quasinilpotent operators. *Acta Sci. Math.* (*Szeged*) **38** (1976), *no.* 3-4, 291–300. (Lawrence Fialkow) **56** #1107 47A65

Erratum: "Toward a spectral characterization of the set of norm limits of nilpotent operators" (Indiana Univ. Math. J. **24** (1974/75), 847–864). *Indiana Univ. Math. J.* **25** (1976), *no.* 6, 593. (R. G. Douglas) **54** #5878 47A65

Closure of similarity orbits of Hilbert space operators. II. Normal operators. *J. London Math. Soc.* (2) **13** (1976), *no.* 2, 299–316. (Norberto Salinas) **58** #23695b 47A65 (47B15)

A Rota universal model for operators with multiply connected spectrum. *Rev. Roumaine Math. Pures Appl.* **21** (1976), *no.* 1, 15–23. (P. R. Halmos) **53** #11400 47A45

Closure of similarity orbits of Hilbert space operators. I. (Spanish) *Rev. Un. Mat. Argentina* **27** *no.* 4, 244–260 (1976). (Norberto Salinas) **58** #23695a 47A65 (47B15)

Inner functions under uniform topology. II. *Rev. Un. Mat. Argentina* **28** (1976/77), *no.* 1, 23–35. (R. G. Douglas) **56** #3672 47B37 (30A78)

Interpolation between two Putnam's inequalities. *Rev. Un. Mat. Argentina* **28** (1976/77), *no.* 1, 42–45. (Colin Bennett) **58** #2409 47B20

Strictly cyclic weighted shifts. *Rev. Un. Mat. Argentina* **28** (1976/77), *no.* 2, 69–74. (Arthur Lubin) **57** #7238 47B37

(*with* Fillmore, P. A.; Longstaff, W. E.) The hyperinvariant subspace lattice of a linear transformation. *Linear Algebra and Appl.* **17** (1977), *no.* 2, 125–132. (Edward Azoff) **57** #10453 47A15 (06A20, 15A30)

Indecomposable compact perturbations of the bilateral shift. *Proc. Amer. Math. Soc.* **62** (1977), *no.* 2, 254–258. (Mehdi Radjabalipour) **55** #8873 47B37 (47A65)

Quasisimilarity does not preserve the hyperlattice. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 1, 80–84. (P. A. Fillmore) **56** #9294 47A15

On analytically invariant subspaces and spectra. *Trans. Amer. Math. Soc.* **233** (1977), 37–44. (Lawrence Fialkow) **58** #2362 47A15 (47A10)

On the spectra of the restrictions of an operator. *Trans. Amer. Math. Soc.* **233** (1977), 45–58. (Lawrence Fialkow) **57** #13529 47A10 (47A15)

(*with* Barria, José) Closure of similarity orbits of Hilbert space operators. IV. Normal operators. *J. London Math. Soc.* (2) **17** (1978), *no.* 3, 525–536. (Norberto Salinas) **58** #23695d 47A65 (47B15)

Closure of similarity orbits of Hilbert space operators. III. *Math. Ann.* **232** (1978), *no.* 3, 195 204. (Norberto Salinas) **58** #23695c 47A65 (47B15)

Herrero Garcia, Miguel Angel (*with* Díaz Díaz, Jesús Ildefonso) Propriétés de support compact pour certaines équations elliptiques et paraboliques non linéaires. *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 19, A815–A817. (Authors' summary) **58** #23076 35K55

Herrick, Daniel Lance On the periodicity of the terminal digits in the Fibonacci sequence. *Fibonacci Quart.* **11** (1973), *no.* 5, 535–538. (E. Frank) **48** #5980 10A35

Herrick, David R. (*with* Sinanoğlu, Oktay) Transition probabilities and radial overlap fo the hydrogen atom and the algebra of $O(3,2)$. *Chem. Phys. Lett.* **12** (1971/72), 310–311 **50** #15638 81.22

(*with* Sinanoğlu, Oktay) Non-invariance groups in physics and chemistry: th $o(f,2)$ algebra and the spherical harmonics in f dimensions. (Spanish summary) *Re Mexicana Fís.* **22** (1973), *no.* 1–2, 1–14. (From the authors' summary) **55** #7156 81.22

Herrick, Samuel ★Astrodynamics. Vol. 1. Orbit determination, space navigation, celestia mechanics. With a foreword by Charles Stark Draper. *Van Nostrand Reinhold Co London-New York-Toronto, Ont.*, 1971. xxvi + 540 *pp.* (Editors) **57** #18304a 70.00

★Astrodynamics. Vol. 2. Orbit correction, perturbation theory, integration. *Va Nostrand Reinhold Co., London-New York-Toronto, Ont.*, 1972. xiv + 348 *pp.* (Editors **57** #18304b 70.00

Herring, J. R. On the statistical theory of two-dimensional topographic turbulence. *J Atmospheric Sci.* **34** (1977), *no.* 11, 1731–1750. (Not reviewed) 76.35

Herring, John M. (*with* Corcoran, John) Notes on a semantic analysis of variable bindin term operators. *Logique et Analyse* (*N.S.*) **14** (1971), 644–657. (L. E. Sanchis) **46** #6989 02B10

(*with* Corcoran, John; Hatcher, William) Variable binding term operators. *Z. Math. Logik Grundlagen Math.* **18** (1972), 177–182. (E. W. Chapin, Jr.) **46** #5098 02B10

Equivalence of several notions of theory completeness in a free logic. *Rep. Math Logic No.* 6 (1976), 87–91. (Mieczysław Omyła) **57** #9517 02G20

Herring, Kenneth D. (*with* Asher, Robert B.; Ryles, Jesse C.) Bias, variance, and estimation error in reduced order filters. *Automatica–J. IFAC* **12** (1976), *no.* 6, 589–600. (N. U. Ahmed) **55** #2286 93E10

Herrington, Larry L. (*with* Long, Paul E.) Properties of almost-continuous functions. (Italian summary) *Boll. Un. Mat. Ital.* (4) **10** (1974), 336–342. (P. W. Harley, III) **52** #1608 54C05

Some properties preserved by the almost-continuous function. (Italian summary) *Boll. Un. Mat. Ital.* (4) **10** (1974), 556–568. (W. S. Mahavier) **51** #13971 54C10

(*with* Hunsaker, W. N.; Lindgren, William F.; Naimpally, S. A.) A counterexample concerning almost continuous functions. *Proc. Amer. Math. Soc.* **43** (1974), 475. (B. J. Ball) **48** #9640 54C05

Properties of nearly-compact spaces. *Proc. Amer. Math. Soc.* **45** (1974), 431–436. (S. Swaminathan) **49** #11473 54D30 (54B10)

Remarks on locally H-closed spaces. (Italian summary) *Boll. Un. Mat. Ital.* (4) **12** (1975), *no.* 3, 359–360. (J. Greever) **53** #14415 54D25

(*with* Long, Paul E.) Functions with strongly-closed graphs. (Italian summary) *Boll. Un. Mat. Ital.* (4) **12** (1975), *no.* 3, 381–384. (G. L. Cain, Jr.) **55** #1284 54C1

(*with* Long, Paul E.) Properties of c-continuous and c^*-continuous functions. *Kyungpook Math. J.* **15** (1975), *no.* 2, 213–221. (Hughes B. Hoyle, III) **54** #8553 54C05

(*with* Long, Paul E.) Characterizations of H-closed spaces. *Proc. Amer. Math. Soc.* **48** (1975), 469–475. (R. M. Stephenson, Jr.) **51** #1737 54D25

(*with* Long, Paul E.) Characterizations of C-compact spaces. *Proc. Amer. Math. Soc.* **52** (1975), 417–426. (R. M. Stephenson, Jr.) **52** #9182 54D30

Characterizations of regular-closed spaces. *Math. Chronicle* **5** (1976/77), *no.* 3, 168–178. (Dix H. Pettey) **57** #1416 54D25

Characterizations of completely Hausdorff-closed spaces. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 140–144. (Jack R. Porter) **54** #1166 54D25

Characterizations of Urysohn-closed spaces. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 2, 435–439. (Jack R. Porter) **54** #3655 54D25

(*with* Long, Paul E.) A characterization of minimal Hausdorff spaces. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 373–374. (R. M. Stephenson, Jr.) **53** #9149 54D25

Remarks on $H(i)$ spaces and strongly-closed graphs. *Proc. Amer. Math. Soc.* **58** (1976), 277–283. (Edwin Duda) **54** #3647 54C10 (54D25)

(*with* Long, Paul E.) A characterization of H-closed Urysohn spaces. *Rend. Circ. Mat. Palermo* (2) **25** (1976), *no.* 1-2, 158–160. (Authors' summary) **58** #18349 54D25

Characterization of compact and countably compact spaces via functions with a closed graph. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **15** (1978), *no.* 2, 352–358. (V. V. Miškin) **58** #24190 54D30 (54C10)

Herriot, John G. (*with* Bergman, Stefan) Computation of a class of subsonic flow patterns. *Numer. Math.* **17** (1971), 247–252. (W. F. Ames) **45** #1479 76.65

In memory of George E. Forsythe. Collection of articles in honor of George E. Forsythe (ACM Student Competition Award Papers). *Comm. ACM* **15** (1972), *no.* 8, 719–720. (Editors) **52** #7801 01A70

Herrlich, Horst (*with* Strecker, George, E.) Coreflective subcategories in general topology. *Fund. Math.* **73** (1971/72), *no.* 3, 199–218. (A. Pultr) **46** #1872 18B99 (54A05)

(*with* Strecker, George, E.) Algebra $\cap$ topology $=$ compactness. *General Topology and Appl.* **1** (1971), 283–287. (Z. Frolík) **46** #7349 18C05 (54D30)

A characterization of k-ary algebraic categories. *Manuscripta Math.* **4** (1971), 277–284. (M. Tierney) **45** #5189 18D05

A generalization of perfect maps. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 187–191. *Academia, Prague*, 1972. (G. E. Strecker) **50** #14634 54B30 (18A20, 54C10)

(*with* Ringel, Claus Michael) Identities in categories. *Canad. Math. Bull.* **15** (1972), 297–299. (H.-B. Brinkmann) **47** #3481 18A20

(*with* Strecker, George, E.) ★Category theory: an introduction. Allyn and Bacon Series in Advanced Mathematics. *Allyn and Bacon Inc., Boston, Mass.*, 1973. xii + 400 *pp.* (M. Barr) **50** #2284 18–02

Perfect subcategories and factorizations. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 387–403. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (G. E. Strecker) **50** #14635 54B30 (18A20, 54C10)

Topological structures. *Topological structures* (*Proc. Sympos. in honour of Johannes *de Groot* (1914–1972), *Amsterdam*, 1973), *pp*. 59–122. *Math. Centre Tracts*, *No*. 52, *Math. Centrum*, *Amsterdam*, 1974. (M. Hušek) **50** #11165 54E15 (54B30)

Regular categories and regular functors. *Canad. J. Math.* **26** (1974), 709–720. (H.-B. Brinkmann) **55** #5715 18A99

Topological functors. *General Topology and Appl.* **4** (1974), 125–142. (Eric Nummela) **49** #7970 54B30 (18A20, 54E15)

A concept of nearness. *General Topology and Appl.* **4** (1974), 191–212. (S. A. Naimpally) **50** #3193 54E05 (54B30)

On the extendibility of continuous functions. *General Topology and Appl.* **4** (1974), 213–215. (S. A. Naimpally) **50** #3194 54E05 (54C20)

Cartesian closed topological categories. *Math. Colloq. Univ. Cape Town* **9** (1974), 1–16. (M. Hušek) **57** #408 18D15

Topological structures. *Proceedings of the International Congress of Mathematicians* (*Vancouver*, *B.C.*, 1974), *Vol*. 2, *pp*. 63–66. *Canad. Math. Congress*, *Montreal*, *Que*., 1975. (M. Hušek) **54** #8548 54A99 (54E15, 54B30)

Epireflective subcategories of TOP need not be cowellpowered. *Comment. Math. Univ. Carolinae* **16** (1975), *no*. 4, 713–716. (V. Kannan) **54** #13832 54B30 (18A40)

★Some topological theorems which fail to be true. *Categorical topology* (*Proc. Conf.*, *Mannheim*, 1975), *pp*. 265–285. *Lecture Notes in Math.*, *Vol*. 540, *Springer*, *Berlin*, 1976. (J. R. Isbell) **55** #9024 54D15 (54A05)

Convenient categories for topologies. *Topology* (*Proc. Ninth Annual Spring Topology Conf.*, *Memphis State Univ.*, *Memphis*, *Tenn*., 1975), *pp*. 71–75. *Lecture Notes in Pure and Appl. Math.*, *Vol*. 24, *Dekker*, *New York*, 1976. (S. A. Naimpally) **55** #1314 54E05 (54B30)

(*with* Bentley, H. L.) Extensions of topological spaces. *Topology* (*Proc. Ninth Annual Spring Conf.*, *Memphis State Univ.*, *Memphis*, *Tenn*., 1975), *pp*. 129–184. *Lecture Notes in Pure and Appl. Math.*, *Vol*. 24, *Dekker*, *New York*, 1976. (M. Hušek) **55** #6368 54E05 (54D35, 54E15)

(*with* Bentley, H. L.; Robertson, W. A.) Convenient categories for topologists. *Comment. Math. Univ. Carolinae* **17** (1976), *no*. 2, 207–227. (G. E. Strecker) **54** #13840 54C35 (54E99, 54B30, 18B99)

(*with* Comfort, W. W.) On the relations $P(X \times Y) = PX \times PY$. *General Topology and Appl.* **6** (1976), *no*. 1, 37–43. (M. Hušek) **52** #11813 54B10 (54C20)

(*with* Banaschewski, Bernhard) Subcategories defined by implications. *Houston J. Math.* **2** (1976), *no*. 2, 149–171. (Hugo Volger) **53** #5694 18C05 (08A15)

Initial completions. *Math. Z.* **150** (1976), *no*. 2, 101–110. (Syed A. Huq) **55** #10538 18A35

(*with* Nel, Louis D.) Cartesian closed topological hulls. *Proc. Amer. Math. Soc.* **62** (1977), *no*. 2, 215–222. (M. Schroder) **57** #16383 18D15

(*with* Bentley, H. L.) The forgetful functor Cont→Prox is topological. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** (1977/78), *no*. 1-3, 45–57. (Worthen Hunsaker) **58** #2680 54B30

Products in topology. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** (1977/78), *no*. 1-3, 191–205. (A. H. Stone) **58** #2676 54B10 (54A05, 54B30)

Reflective MacNeille completions of fibre-small categories need not be fibre-small. *Comment. Math. Univ. Carolinae* **19** (1978), *no*. 1, 147–149. (M. L. Laplaza) **58** #823 18A35 (18D30)

See also **Categorical topology**, **53** #11558 *and* **Nordwestdeutsches Kategorienseminar**, **57** #9784

Herrmann, Christian (*with* Day, Alan; Wille, Rudolf) On modular lattices with four generators. *Algebra Universalis* **2** (1972), 317–323. (Ann Miller) **47** #4879 06A30

On the equational theory of submodule lattices. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston*, *Tex*., 1973), *pp*. 105–118. *Dept. Math.*, *Univ. Houston*, *Houston*, *Tex*., 1973. (Ralph Freese) **53** #10668 06A30

Modulare Verbände von Länge $n \leqslant 6$. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston*, *Tex*., 1973), *pp*. 119–146. *Dept. Math.*, *Univ. Houston*, *Houston*, *Tex*., 1973. (George Hutchinson) **53** #5394 06A30

Weak (projective) radius and finite equational bases for classes of lattices. *Algebra Universalis* **3** (1973), 51–58. (E. T. Schmidt) **48** #8322 06A20

Quasiplanare Verbände. *Arch. Math.* (*Basel*) **24** (1973), 240–246. (A. C. Choudhury) **49** #7194 06A20

S-verklebte Summen von Verbänden. *Math. Z.* **130** (1973), 255–274. (A. C. Choudhury) **49** #7195 06A20

(*with* Poguntke, Werner) The class of sublattices of normal subgroup lattices is not elementary. *Algebra Universalis* **4** (1974), 280–286. (V. S. Krishnan) **50** #6936 06A20 (02G15)

On quadruples of normal subgroups. *Proceedings of the Lattice Theory Conference* (*Ulm*, 1975), *pp*. 92–99. *Univ. Ulm*, *Ulm*, 1975. (From the author's introduction) **56** #8444 06A20 (20F30)

(*with* Kindermann, Margarete; Wille, Rudolf) On modular lattices generated by 1+2+2. *Algebra Universalis* **5** (1975), *no*. 2, 243–251. (Ann Miller) **52** #10526 06A30

Concerning M. M. Gluhov's paper on the word problem for free modular lattices (Sibirsk, Mat. Ž. **5** (1964), 1027–1043). *Algebra Universalis* **5** (1975), *no*. 3, 447. (Editors) **52** #214 06A30

(*with* Huhn, András P.) Zum Wortproblem für freie Untermodulverbände. *Arch. Math.* (*Basel*) **26** (1975), *no*. 5, 449–453. (George Hutchinson) **53** #5389 06A20

(*with* Huhn, András P.) Zum Begriff der Charakteristik modularer Verbände. *Math. Z.* **144** (1975), *no*. 3, 185–194. (V. S. Krishnan) **52** #5503 06A30

(*with* Doyen, Jean) Projective lines and *n*-distributivity. *Lattice theory* (*Proc. Colloq.*, *Szeged*, 1974), *pp*. 45–50. *Colloq. Math. Soc. János Bolyai*, *Vol*. 14, *North-Holland*, *Amsterdam*, 1976. (Ivan Rival) **55** #10341 06A30

(*with* Huhn, András P.) Lattices of normal subgroups which are generated by frames. *Lattice theory* (*Proc. Colloq.*, *Szeged*, 1974), *pp*. 97–136. *Colloq. Math. Soc. János Bolyai*, *Vol*. 14, *North-Holland*, *Amsterdam*, 1976. (E. T. Schmidt) **56** #5379 06A30

On modular lattices generated by two complemented pairs. *Houston J. Math.* **2** (1976), *no*. 4, 513–523. (Ralph Freese) **54** #12591 06A30

See also **Proceedings: Conference on Algebraic Aspects of Combinatorics**, **52** #120

Herrmann, Dieter B. B. A. Gould and his Astronomical Journal. *J. Hist. Astronom.* **2** (1971), *no*. 2, 98–108. (Editors) **58** #15950 01A55

Die Copernicus-Biographie von Georg Christoph Lichtenberg. *NTM Schr. Geschichte Naturwiss. Tech. Medizin* **11** (1974), *no*. 1, 40–45. (N. Swerdlow) **56** #11692 01A40

Some aspects of positional astronomy from Bradley to Bessel. The origins, achievement and influence of the Royal Observatory, Greenwich: 1675–1975 (Proc. 4th Joint Sympos. Internat. Astronom. Union and Union Internat. Histoire et Philos. Sci., Greenwich, 1975). *Vistas Astronom.* **20** (1976), *no*. 1-2, 183–186. (J. S. Joel) **58** #15923 01A50

Herrmann, Eberhard On Lindenbaum functions of $\aleph_0$-categorical theories of finite similarity type. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 1, 17–21. (B. I. Zil'ber) **53** #7758 02G20

A note on no *hh*-simple recursive enumerable sets. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no*. 4, 333–336. (Igor Lavrov) **56** #15386 02F25

See also **Frank, Herbert; et al.**, **58** #23969a *and* **Frank, Herbert**, **58** #23969b

Herrmann, G. (*with* Delph, T. J.; Kaul, R. K.) On coalescence of frequencies and conical points in the dispersion spectra of elastic bodies. *Internat. J. Solids and Structures* **13** (1977), *no*. 5, 423–436. (H. J. Weinitschke) **56** #13907 73.35

See also **Topics in applied continuum mechanics**, **49** #8465 *and* **Instability of continuous systems**, **49** #10495

Herrmann, Horst (*with* Dennler, G.) Asymptotisches Verhalten der Varianz der optimalen erwartungstreuen linearen Schätzung des Mittelwertes eines schwach stationären Prozesses mit rationaler Spektraldichte. *Wiss. Z. Techn. Hochsch. Ilmenau* **23** (1977), *no*. 4, 181–198. (Christian Hipp) **56** #9871 62M99 (62F10)

Herrmann, Manfred (*with* Sterz, Ulrich) Über Disjunktheitseigenschaften und reguläre Tensorprodukte. *Compositio Math.* **23** (1971), 471–477. (K. Kiyek) **46** #157 12F99

(*with* Vogel, Wolfgang) Normal flatness and Hilbert-Samuel functions. *Rings*, *modules and radicals* (*Proc. Internat. Colloq.*, *Keszthely*, 1971), *pp*. 203–207. *Colloq. Math. Soc. János Bolyai*, *Vol*. 6, *North-Holland*, *Amsterdam*, 1973. (Editors) **57** #6014 14B05

(*with* Vogel, Wolfgang) Über Cohen-Macaulay Punkte. *J. Algebra* **24** (1973), 396–404. (M. Miyanishi) **47** #4996 13H10 (13H15, 14A05)

(*with* Vogel, Wolfgang) Zur numerischen Charakterisierung der normalen Flachheit von kohärenten Garben. *Math. Nachr.* **56** (1973), 221–227. (J. S. Joel) **57** #3141 14M05 (14E15)

(*with* Stammler, Ludwig; Sterz, Ulrich) Zur Charakterisierung primärer Körpererweiterungen durch den Stellenbegriff. *Monatsh. Math.* **77** (1973), 43–51. (Audun Holme) **48** #275 12F05

(*with* Vogel, Wolfgang) Cohen-Macaulay-Punkte auf lokal geringten Räumen und Anwendungen in der Schnittheorie. Beiträge zur Algebra und Geometrie, 2. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **4** (1973), 103–118 (1974). (Joel Roberts) **55** #8052 14H05 (13H15)

(*with* Vogel, Wolfgang) Normale Flachheit und Cohen-Macaulay-Funkte. *Math. Nachr.* **63** (1974), 43–47. (J. S. Joel) **57** #6036 14M05 (14E15)

(*with* Stammler, Ludwig; Sterz, Ulrich) ★Geometrie auf Varietäten. Hochschulbücher für Mathematik, Band 73. *VEB Deutscher Verlag der Wissenschaften*, *Berlin*, 1975. 208 *pp*. (Loren D. Olson) **58** #10877 14–01

(*with* Schmidt, Rolf) Zur Transitivität der normalen Flachheit. *Invent. Math.* **28** (1975), 129–136. (Joel Roberts) **52** #405 14E15 (13H10)

(*with* Schmidt, Rolf; Vogel, Wolfgang) ★Theorie der normalen Flachheit. Mit englischer und russischer Zusammenfassung. Mit einem Geleitwort von Wolfgang Gröbner. Teubner-Texte zur Mathematik. *BSB B.G. Teubner Verlagsgesellschaft*, *Leipzig*, 1977. xii+218 *pp*. (J. S. Joel) **58** #27959 14B05 (13H10, 14E15)

(*with* Eisenbud, David; Vogel, Wolfgang) Remarks on regular sequences. *Nagoya Math. J.* **67** (1977), 177–180. (Mieo Nishi) **56** #2999 13H99

(*with* Schmidt, Rolf) Regular sequences and lifting property. *Pacific J. Math.* **75** (1978), *no*. 2, 449–453. (Johnny A. Johnson) **58** #10864 13C99

See also **Beiträge: Algebra und Geometrie**, **52** #5241 *and* **Beiträge: Algebra und Geometrie**, **52** #5242

Herrmann, N. (*with* Siefer, J.) Zur Konvergenz des Gitterrostverfahrens. *Z. Angew. Math. Mech.* **58** (1978), *no*. 6, 103–104. (Editors) **58** #19227 65N30 (73.65)

Herrmann, Oskar A non-trivial solution of the diophantine equation $9(x^2+7y^2)^2-7(u^2+7v^2)^2=2$. *Computers in number theory* (*Proc. Sci. Res. Council Atlas Sympos. No*. 2, *Oxford*, 1969), *pp*. 207–212. *Academic Press*, *London*, 1971. (S. E. Schuur) **48** #10978 10B05

Über die Berechnung der Fourierkoeffizienten der Funktion $j(\tau)$. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math.* **274/275** (1975), 187–195. (Larry J. Goldstein) **51** #10232 10D05

Herrmann, Robert A. Nonstandard topological extensions. *Bull. Austral. Math. Soc.* **13** (1975), *no*. 2, 269–290. (Anthony D'Aristotle) **53** #9192a (E **53** #9192b) 54J05 (54D35, 02H25)

"Nonstandard topological extensions" (Bull. Austral. Math. Soc. **13** (1975), no. 2, 269–290): addendum. *Bull. Austral. Math. Soc.* **13** (1975), *no*. 3, 479. (Anthony D'Aristotle) **53** #9192b 54J05 (54D35, 02H25)

A note on weakly θ-continuous extensions. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **10(30)** (1975), *no*. 2, 329–336. (T. Thrivikraman) **53** #4037 54J05

The θ and α-monads in general topology. *Kyungpook Math. J.* **16** (1976), *no*. 2, 231–241. (Labib Haddad) **55** #4125 54J05

The *Q*-topology, Whyburn type filters and the cluster set map. *Proc. Amer. Math. Soc.* **59** (1976), *no*. 1, 161–166. (Labib Haddad) **58** #2785a 54J05

One point near-compactifications. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no*. 1, 25–33. (Richard A. Alò) **55** #9030 54D35

Nonstandard quasi-Hausdorff, Urysohn and regular-closed extensions. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no*. 1, 13–25. (W. A. J. Luxemburg) **57** #7571 54J05

Nearly-compact Hausdorff extensions. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no*. 1, 125–132. (M. Hušek) **57** #1424 54D35

Erratum: "The *Q*-topology, Whyburn type filters and the cluster set map" (Proc.

Amer. Math. Soc. **59** (1976), 161–166). *Proc. Amer. Math. Soc.* **65** (1977), *no.* 2, 375. (Labib Haddad) **58** #2785b 54J05

A nonstandard generalization for perfect maps. *Z. Math. Logik Grundlagen Math.* **23** (1977), *no.* 3, 223–236. (G. Cherlin) **56** #5282 02H25 (54J05)

The nonstandard theory of semi-uniform spaces. *Z. Math. Logik Grundlagen Math.* **24** (1978), *no.* 3, 237–256. (Anne K. Steiner) **58** #12992 54J05 (54E15)

Herrmann, Robert P. (*with* Nachlinger, R. Ray) A uniqueness theorem for the general theory of heat conduction with finite wave speeds. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **12** (1974), 865–874. (Gérard A. Maugin) **56** #6117 35K05 (80.35)

(*with* Nachlinger, R. Ray) A theorem on the uniqueness of solutions in nonlinear heat conduction. *Quart. Appl. Math.* **32** (1974/75), 329–332. (From the authors' introduction) **55** #8551 35K05

(*with* Nachlinger, R. Ray) On uniqueness and wave propagation in nonlinear heat conductors with memory. *J. Math. Anal. Appl.* **50** (1975), 530–547. (M. Fabrizio) **51** #12152 80.35

Herrmann, W. (*with* Bertholf, L. D.; Thompson, S. L.) Computational methods for stress wave propagation in nonlinear solid mechanics. *Computational mechanics* (*Internat. Conf. on Computational Methods in Nonlinear Mech., Austin, Tex.*, 1974), *pp.* 91–127. *Lecture Notes in Math., Vol.* 461, *Springer, Berlin*, 1975. (I. M. Longman) **54** #11940 73.65

See also **Computational methods in nonlinear mechanics, 52** #4799

Herrmann, Walter (*with* Nunziato, Jace W.) The general theory of shock waves in elastic nonconductors. *Arch. Rational Mech. Anal.* **47** (1972), 272–287. (P. Germain) **50** #1602 73.35

Herron, I. H. (*with* Francis, A. A.; McCalla, Clement A. W.) Speculative demand with supply response lag. *Nonlinear systems and applications* (*Proc. Internat. Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp.* 603–610. *Academic Press, New York*, 1977. (Alberto Chilosi) **56** #17722 90A15

Herš, R'oben *See* **Hersh, Reuben**

Hersch, Joseph Quatre propriétés isopérimétriques de membranes sphériques homogènes. *C. R. Acad. Sci. Paris Sér. A-B* **270** (1970), A1645–A1648. (W. E. Boyce) **45** #1444 73.35

(*with* Payne, Lawrence E.) One-dimensional auxillary problems and a priori bounds. Collection of articles dedicated to Lothar Collatz on his sixtieth birthday. *Abh. Math. Sem. Univ. Hamburg* **36** (1971), 57–65. (H. F. Weinberger) **48** #1490 65N25

(*with* Monkewitz, Martin) Une inégalité isopérimétrique renforçant celle de Szegö-Weinberger sur les membranes libres. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A62–A64. (D. O. Banks) **45** #4240 49G05

Lower bounds for membrane eigenvalues by anisotropic auxiliary problems. Collection of articles dedicated to Alexander Weinstein on the occasion of his 75th birthday. *Applicable Anal.* **3** (1973), 241–245. (L. Janos) **52** #16238 73.49

Eine Kohärenzforderung für Differenzengleichungen. *Numerische Methoden bei Differentialgleichungen und mit funktionalanalytischen Hilfsmitteln* (*Vortragsauszüge der Tagungen, Tech. Univ. Clausthal-Zellerfeld und Oberwolfach*, 1972), *pp.* 121–124. *Internat. Schr. Numer. Math., Band* 19, *Birkhäuser, Basel*, 1974. (Jochen Werner) **55** #1755 65Q05

(*with* Payne, Lawrence E.; Schiffer, Menahem M.) Some inequalities for Stekloff eigenvalues. *Arch. Rational Mech. Anal.* **57** (1975), 99–114. (Robert D. Brown) **52** #8676 35P15 (49H05)

(*with* Bandle, Catherine) Problèmes de Dirichlet non linéaires: une condition suffisante isopérimétrique pour l'existence d'une solution. *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *A*1057–*A*1060. (Authors' summary) **54** #8043 35P15

Bounds for eigenvalues of Pólya's "plane-covering domains" by filling a torus or a cylinder. *J. Analyse Math.* **30** (1976), 265–270. (L. E. Payne) **58** #12650 49G05 (52A40)

Herschbach, D. R. (*with* Case, D. A.; McClelland, G. M.) Angular momentum polarization in molecular collisions: classical and quantum theory for measurements using resonance fluorescence. *Molecular Phys.* **35** (1978), *no.* 2, 541–573. (J. E. Lowther) **57** #11371 78.47

Herschel, R. *See* **Doetsch, Gustav, 50** #2825

Herschel, Rudolf ★Einführung in die Theorie der Automaten, Sprachen und Algorithmen. *R. Oldenbourg Verlag, Munich-Vienna*, 1974. 226 *pp.* (*errata insert*) *ISBN* 3-486-34731-4 (Cristian Calude) **57** #18167 68–01

Herschkowitz-Kaufman, M. Bifurcation analysis of nonlinear reaction-diffusion equations. II. Steady state solutions and comparison with numerical simulations. *Bull. Math. Biology* **37** (1975), *no.* 6, 589–636. (N. D. Kazarinoff) **53** #15409b 92A05 (35K55)

Hersh, Reuben (*with* Cohen, Paul J.) Non-Cantorian set theory. *Sci. Amer.* **217** (1967), *no.* 6, 104–116. **56** #5290 02K10 (02K05)

On the general theory of mixed problems. *Hyperbolic equations and waves* (*Rencontres, Battelle Res. Inst., Seattle, Wash.*, 1968), *pp.* 85–95. *Springer, Berlin*, 1970. (Editors) **58** #29311 35L25 (35M05)

(*with* Papanicolaou, George C.) Some limit theorems for stochastic equations and applications. *Indiana Univ. Math. J.* **21** (1971/72), 815–840. (E. H. Lehman) **45** #6093 60H10

(*with* Pinsky, Mark A.) Random evolutions are asymptotically Gaussian. *Comm. Pure Appl. Math.* **25** (1972), 33–44. (J. A. Goldstein) **45** #4206 47D05 (60H99)

(*with* Papanicolaou, George C.) Non-commuting random evolutions, and an operator-valued Feynman-Kac formula. *Comm. Pure Appl. Math.* **25** (1972), 337–367. (J. A. Goldstein) **46** #10038 60F05 (47D05, 60H15)

(*with* Cogburn, Robert) Two limit theorems for random differential equations. *Indiana Univ. Math. J.* **22** (1972/73), 1067–1089. (G. Papanicolaou) **47** #7811 60H10 (60F05)

(*with* Bobisud, L. E.) Perturbation and approximation theory for higher-order abstract Cauchy problems. *Rocky Mountain J. Math.* **2** (1972), *no.* 1, 57–73. (C. Bardos) **45** #3981 35R20 (47A55)

(*with* Davis, Martin) Nonstandard analysis. *Sci. Amer.* **226** (1972), *no.* 6, 78–86. (H.-B. Brinkmann) **57** #12154 02–01 (02H25)

How to classify differential polynomials. *Amer. Math. Monthly* **80** (1973), 641–654. (H. Kumano-go) **47** #5423 35E99

(*with* Donaldson, James A.; Gibson, A. G.) On the invariance principle of scattering theory. *J. Functional Analysis* **14** (1973), 131 145. (Boris Pavlov) **50** #2949 47A40

Maxwell's coefficients are conditional probabilities. *Proc. Amer. Math. Soc.* **44** (1974), 449–453. (Thomas E. Armstrong) **49** #8121 60J65 (78.31)

Random evolutions: a survey of results and problems. Based on lectures given by Richard Griego, Reuben Hersh, Tom Kurtz and George Papanicolaou. Papers arising from a Conference on Stochastic Differential Equations (Univ. Alberta, Edmonton, Alta., 1972). *Rocky Mountain J. Math.* **4** (1974), 443–477. (Mark Pinsky) **52** #15676 60H10

The method of transmutations. *Partial differential equations and related topics* (*Program, Tulane Univ., New Orleans, La.*, 1974), *pp.* 264–282. *Lecture Notes in Math., Vol.* 446, *Springer, Berlin*, 1975. (Aloknath Chakrabarti) **55** #3486 35A25 (60J35)

Stochastic solutions of hyperbolic equations. *Partial differential equations and related topics* (*Program, Tulane Univ., New Orleans, La.*, 1974), *pp.* 283–300. *Lecture Notes in Math., Vol.* 446, *Springer, Berlin*, 1975. (Mark Pinsky) **55** #4382 60H99 (35L99)

(*with* Greenwood, Priscilla) Stochastic differentials and quasi-standard random variables. *Probabilistic methods in differential equations* (*Proc. Conf., Univ. Victoria, Victoria, B. C.*, 1974), *pp.* 35–62. *Lecture Notes in Math., Vol.* 451, *Springer, Berlin*, 1975. (S. I. Rosencrans) **54** #3845 60H05 (60G05, 02H25)

(*with* Davis, Martin) Hilbert's tenth problem. (Bulgarian) Translated from the English by Iv. Dimovski. *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **20(53)** (1977), *no.* 3, 245–252. (E. Orlovskiĭ) **58** #21275 01A65 (02–01, 10–01)

See also **Papers: Conference on Stochastic Differential Equations, 50** #1304 *and* **Kac, Mark, 58** #23170

Hershberger, B. (*with* McDonald, Bernard R.) The orthogonal group over a full ring. *J. Algebra* **51** (1978), *no.* 2, 536–549. (Joel Cunningham) **58** #654 13K05 (13H99)

Hershenov, J. (*with* Braun, Martin) Periodic solutions of finite difference equations. *Quart. Appl. Math.* **35** (1977/78), *no.* 1, 139–147. (K. Lajkó) **58** #23212 39A10

Hershenov, Joseph Solutions of the differential equation $u''' + \lambda^2 zu' + (\alpha - 1)\lambda^2 u = 0$. *Studies in Appl. Math.* **55** (1976), *no.* 4, 301–314. (Günter Frank) **57** #6680 34E05

Hershey, Daniel ★Transport analysis. *Plenum Press, New York-London*, 1973. x + 353 *pp.* (L. N. Tao) **56** #10350 76.00

Hersom, S. E. The practice of optimisation. *Towards global optimisation* (*Proc. Workshop, Univ. Cagliari, Cagliari*, 1974), *pp.* 1–28. *North-Holland, Amsterdam*, 1975. (F. Giannessi) **52** #16660 90C50

(*with* Dixon, L. C. W.; Gomulka, J.) Reflections on the global optimization problem. *Optimization in action* (*Proc. Conf., Univ. Bristol, Bristol*, 1975), *pp.* 398–435. *Academic Press, London*, 1976. (Authors' summary) **57** #18801 90Cxx (65K05)

Herson, D. L. J. (*with* Heywood, Philip) On the range of some fractional integrals. *J. London Math. Soc.* (2) **8** (1974), 607–614. (G. O. Okikiolu) **50** #3009 47G05

Herson, Jay (*with* Royall, Richard M.) Robust estimation in finite populations. I. *J. Amer. Statist. Assoc.* **68** (1973), 880–889. (David Bellhouse) **52** #6946 62D05

(*with* Royall, Richard M.) Robust estimation in finite populations. II. Stratification on a size variable. *J. Amer. Statist. Assoc.* **68** (1973), 890–893. (David Bellhouse) **52** #6947 62D05

See also **Mahalanobis, Prasanta Chandra, 51** #2066

Herstein, Israel Nathan ★Álgebra moderna. Grupos, anillos, campos, teoría de Galois. (Spanish) [Modern algebra. Groups, rings, fields, Galois theory] Translated from the English by Federico Velasco Coba. Technical revision by Emilio Lluis Riera. *Editorial F. Trillas, S.A., Mexico City*, 1970. 392 *pp.* (Editors) **46** #5366 16–01 (13–01, 15–01, 20–01)

★Notes from a ring theory conference. Conference Board of the Mathematical Sciences Regional Conference Series in Mathematics, No. 9. *American Mathematical Society, Providence, R.I.*, 1971. iv + 38 *pp.* (G. Renault) **47** #1840 16–02

★Некоммутативные кольца. (Russian) [Noncommutative rings] Translated from the English by E. N. Kuz'min. Edited by A. I. Širšov. *Izdat. "Mir", Moscow*, 1972. 191 *pp.* (Editors) **50** #4639 16–02

On the multiplicative group of a Banach algebra. *Symposia Mathematica, Vol. VIII* (*Convegno sulle Algebre Associative, INDAM, Rome*, 1970), *pp.* 227–232. *Academic Press, London*, 1972. (J. W. M. Ford) **50** #8079 46H05

(*with* Ramer, A.) A note on division algebras. *Canad. J. Math.* **24** (1972), 734–736. (G. Krause) **45** #6856 16A40

On a theorem of Wigner. *Delta* (*Waukesha*) **3** (1972/73), *no.* 1, 5–6. (S. J. Bernau) **47** #9332 47B15

(*with* Small, Lance W.) The intersection of the powers of the radical in Noetherian P.I. rings. *Israel J. Math.* **16** (1973), 176–180. (A. V. Jategaonkar) **49** #7304 16A38

(*with* Montgomery, Susan) Invertible and regular elements in rings with involution. *J. Algebra* **25** (1973), 390–400. (W. E. Baxter) **47** #1856 16A28

On a theorem of A. A. Albert. Collection of articles dedicated to the memory of Abraham Adrian Albert. *Scripta Math.* **29** *no.* 3–4, 391–394 (1973). (C. F. Moppert) **55** #8098 16A46

On rings with involution. *Canad. J. Math.* **26** (1974), 794–799. (W. E. Baxter) **50** #13121 16A28

Rings with periodic symmetric or skew elements. *J. Algebra* **30** (1974), 144–154. (W. E. Baxter) **50** #385 16A28

A unitary version of the Brauer-Cartan-Hua theorem. *J. Algebra* **32** (1974), *no.* 3, 554–560. (H. Tominaga) **51** #12924 16A28

★Topics in algebra. Second edition. *Xerox College Publishing, Lexington, Mass.-Toronto, Ont.*, 1975. xi + 388 *pp.* (Editors) **50** #9456 00A05

(*with* Neumann, Linda) Centralizers in rings. (Italian summary) *Ann. Mat. Pura Appl.* (4) **102** (1975), 37–44. (W. E. Baxter) **50** #13143 16A48

Certain submodules of simple rings with involution. II. *Canad. J. Math.* **27** (1975), *no.* 3, 629–635. (W. E. Baxter) **56** #8613 16A40

(*with* Chacron, Maurice; Montgomery, Susan) Structure of a certain class of rings with involution. *Canad. J. Math.* **27** (1975), *no.* 5, 1114–1126. (W. E. Baxter) **52** #13919 16A28

On a result of Faith. *Canad. Math. Bull.* **18** (1975), *no.* 4, 609. (F. DeMeyer) **52** #13946 16A70 (*with* Chacron, Maurice) Powers of skew and symmetric elements in division rings. *Houston J. Math.* **1** (1975), *no.* 1, 15–27. (Guido Karrer) **52** #5727 16A40

(*with* Procesi, Claudio; Schacher, Murray M.) Algebraic valued functions on noncommutative rings. *J. Algebra* **36** (1975), *no.* 1, 128–150. (Robert L. Snider) **51** #10385 16A38

On the hypercenter of a ring. *J. Algebra* **36** (1975), *no.* 1, 151–157. (Howard E. Bell) **51** #8179 16A70

(*with* Small, Lance W.) An extension of a theorem of Schur. Collection of articles dedicated to Olga Taussky-Todd. *Linear and Multilinear Algebra* **3** (1975/76), *no.* 1/2, 41–43. (J. C. Robson) **52** #10770 15A33

On a theorem of Brauer-Cartan-Hua type. *Pacific J. Math.* **57** (1975), *no.* 1, 177–181. (H. Tominaga) **51** #12923 16A28

★Rings with involution. Chicago Lectures in Mathematics. *The University of Chicago Press, Chicago, Ill.-London*, 1976. x + 247 *pp.* (Ju. N. Mal'cev) **56** #406 16A28

A commutativity theorem. *J. Algebra* **38** (1976), *no.* 1, 112–118. (Howard E. Bell) **53** #549 16A70

(*with* Lee, Pjek Hwee) Commuting skew elements in rings with involution. *Rocky Mountain J. Math.* **6** (1976), *no.* 2, 293–298. (Susan Montgomery) **53** #2998 16A28

Invariant subrings of a certain kind. *Israel J. Math.* **26** (1977), *no.* 2, 205–208. (Terry L. Jenkins) **55** #5695 16A56

(*with* Kaplansky, Irving) ★Matters mathematical. *Chelsea Publishing Co., New York*, 1978. viii + 246 *pp.* (B. Artmann) **58** #15763 00A05

A note on derivations. *Canad. Math. Bull.* **21** (1978), *no.* 3, 369–370. (Warren Dicks) **58** #22182 16A72

A remark on division rings with involution. *Indian J. Pure Appl. Math.* **9** (1978), *no.* 3, 267–269. (Susan Montgomery) **58** #775 16A28 (16A40)

See also **Leloustre, F.**, **58** #16787

erszberg, J. A sequence of multiple points on an algebraic variety which gives rise to a valuation ring. *Mathematika* **18** (1971), 209–218. (B. d'Orgeval) **47** #1808 14E15

Sequence of singularities on algebraic threefolds and on varieties of arbitrary dimension. *Rend. Mat.* (6) **5** (1972), 551–565. (Joseph Lipman) **48** #293 14E15

ertel, E. (*with* Böhm, Johannes; Mögling, W.; Börner, Walter; Krötenheerdt, Otto; Stammler, Ludwig) ★Geometrie. I. Axiomatischer Aufbau der euklidischen Geometrie. Mit historischen Bemerkungen von H. Wussing. Zweite, berichtigte Auflage. Studienbücherei. Mathematik für Lehrer, Band 6. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1976. 129 *pp.* (R. Lingenberg) **55** #11139 50A05

Zum Archimedischen Axiom. *Period. Math. Hungar.* **7** (1976), *no.* 1, 59–61. (Rodney Angotti) **55** #3941 50A30

ertel, Eike Über Intervallpolyeder im R_n. *Wiss. Beiträge Martin-Luther-Univ. Halle-Wittenberg* **M3** (1971), 77–83. (G. Ewald) **46** #2550 52A25

Zur translativen Zerlegungsgleichheit n-dimensionaler Polyeder. *Publ. Math. Debrecen* **20** (1973), 133–139. (Bernd Kind) **48** #7117 52A25

Ein Subraktionssatz der Polyederalgebra. Beiträge zur Algebra und Geometrie, 2. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **4** (1973), 83–86 (1974). (H. E. Debrunner) **53** #11498 52A25

Mittelpunktspolyeder im E^4. *Elem. Math.* **29** (1974), 59–64. (H. S. M. Coxeter) **49** #7920 52A25

Polyederstrukturen. *Math. Nachr.* **62** (1974), 57–63. (H. R. Müller) **50** #14494 52A25 (08A05)

Asymmetrische Polyeder des n-dimensionalen euklidischen Raumes. (Russian, English and French summaries) Collection of articles dedicated to Adam Schmidt on the occasion of his 65th birthday. *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **23** (1974), *no.* 8, 617–619. (A. Florian) **53** #6423 52A25

ertel, P. (*with* Grosse, H.; Thirring, Walter E.) Lower bounds to the energy levels of atomic and molecular systems. *Acta Phys. Austriaca* **49** (1978), *no.* 2, 89–112. (Authors' summary) **58** #20004 81.47

ertel, Thomas Zum Vergleich der Methode der Zweiebenenoptimierung mit dem diskreten Maximumprinzip. *Wiss. Z. Techn. Hochsch. Leuna-Merseburg* **19** (1977), *no.* 1, 1–10. (Rainer Burkard) **56** #14680 90C10 (93C55)

e schutter-Herteleer, A. *See* **de Schutter-Herteleer, A.**

ertelendy, Paul *See* **Schwarz, Hans-Rudolf**, **49** #11783

ertling, Joerg Numerical treatment of singular integral equations by interpolation methods. *Numer. Math.* **18** (1971/72), 101–112. (J. W. Lee) **46** #1117 65R05

Numerical treatment of Hammerstein equations by variational methods. *Numerische Lösung nichtlinearer partieller Differential- und Integrodifferentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1971), *pp.* 267–288. *Lecture Notes in Math., Vol.* 267, *Springer, Berlin*, 1972. (P. Linz) **50** #3622 65K05

Numerical calculation of primary bifurcation points of the Hammerstein operator. *Numerische, insbesondere approximationstheoretische Behandlung von Funktionalgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1972), *pp.* 153–163. *Lecture Notes in Math., Vol.* 333, *Springer, Berlin*, 1973. (From the author's introduction) **55** #9578 65R05

Zur numerischen Lösung einiger singulärer Differential- und Integralgleichungen. *Numerische Behandlung nichtlinearer Integrodifferential- und Differentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1973), *pp.* 263–274. *Lecture Notes in Math., Vol.* 395, *Springer, Berlin*, 1974. (Ulrich Kosel) **50** #9019 65R05

Multivariate approximation theory with L-splines. Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae--Math. et Phys.* **15** (1974), *no.* 1-2, 39–41. (Philip W. Smith) **53** #1908 65D15

(*with* Şchiop, Alexandru I.) On the stability of the Ritz-Galerkin method for Hammerstein equations. *Math. Comput.* **29** (1975), 484–488. (K. S. Thomas) **52** #4677 65R05

Numerical treatment of algebraic integral equations by variational methods. *SIAM J. Numer. Anal.* **12** (1975), 203–212. (C. A. Hall) **52** #2248 65N30 (47Axx)

On the numerical solution of some algebraic integral equations. (German summary) *Computing* **17** (1976), *no.* 1, 69–77. (Donald Kershaw) **55** #4757 65R05

(*with* Frank, Reinhard; Ueberhuber, Christoph W.) An extension of the applicability of iterated deffered corrections. *Math. Comp.* **31** (1977), *no.* 140, 907–915. (V. Pereyra) **56** #4181 65L10

Herttrich, Michael ★Restriktionen von Darstellungen der verallgemeinerten Lorentzgruppen auf Untergruppen. Inaugural-Dissertation zur Erlangung des Doktorgrades der Mathematisch-Naturwissenschaftlichen Fakultät der Rheinischen Friedrich-Wilhelms-Universität, Bonn, 1975. Bonner Mathematische Schriften, No. 90. *Mathematisches Institut der Universität Bonn, Bonn*, 1976. iii + 108 *pp.* (Wayne J. Holman III) **57** #6294 22E43

Hertweck, F. (*with* Croci, M. G.; Gorenflo, Rudolf) Calculation of the current flow directions in a channel with staggered electrodes under MHD generator conditions. *Methoden und Verfahren der mathematischen Physik, Band* 6, *pp.* 1–39. *B. I.-Hochschultaschenbücher, No.* 725, *Bibliographisches Inst., Mannheim*, 1972. (Authors' summary) **50** #11993 78.30

Hertz, David B. *See* **Operational Research**, **49** #12059

Hervás Burgos, M. Purificación The image system in Markov dissipative systems. (Spanish) *Gac. Mat.* (*Madrid*) (1) **26** (1974), 127–134. (B. D. Jovanović) **51** #4781 70.60

Dissipative Markov systems with infinite degrees of freedom. (Spanish) *Rev. Real Acad. Ci. Exact. Fís. Natur. Madrid* **69** (1975), *no.* 4, 795–829. (Takayuki Nôno) **57** #11561 82.60 (58F15)

Hervé, Michel ★Cours sur les distributions. Rédigé par Didier Pinchon. "Les Cours de Sorbonne". *Centre de Documentation Universitaire, Paris*, 1970. 191 *pp.* (RŽMat **1970** #9 B466K) **58** #23464 46–01 (46Fxx)

★Analytic and plurisubharmonic functions in finite and infinite dimensional spaces. Course given at the University of Maryland, College Park, Md., Spring 1970. Lecture Notes in Mathematics, Vol. 198. *Springer-Verlag, Berlin-New York*, 1971. vi + 90 *pp.* (Zbl **214**, 364) **57** #6479 32–03 (32F05, 46G20)

Analytic continuation on Banach spaces. *Several Complex Variables, II* (*Proc. Internat. Conf., Univ. of Maryland, College Park, Md.*, 1970), *pp.* 63–75. *Lecture Notes in Math., Vol.* 185, *Springer, Berlin*, 1971. (W. Barth) **49** #5397 32D15 (46G20)

(*with* Hervé, Rose-Marie) Les fonctions surharmoniques dans l'axiomatique de M. Brelot associées à un opérateur elliptique dégénéré. (English summary). *Ann. Inst. Fourier* (*Grenoble*) **22** (1972), *no.* 2, 131–145. (E. M. J. Bertin) **51** #13266 31D05

Lindelöf's principle in infinite dimensions. *Proceedings on Infinite Dimensional Holomorphy* (*Internat. Conf., Univ. Kentucky, Lexington, Ky.*, 1973), *pp.* 41–57. *Lecture Notes in Math., Vol.* 364, *Springer, Berlin*, 1974. (A. Hirschowitz) **52** #14396 32H25 (46G20)

Some properties of the images of analytic maps. *Infinite dimensional holomorphy and applications* (*Proc. Internat. Sympos., Univ. Estadual de Campinas, São Paulo*, 1975), *pp.* 217–229. *North-Holland Math. Studies, Vol.* 12, *Notas de Mat., No.* 54, *North-Holland, Amsterdam*, 1977. (J. Siciak) **58** #11523 32H99 (47H10)

Hervé, Rose-Marie (*with* Hervé, Michel) Les fonctions surharmoniques dans l'axiomatique de M. Brelot associées à un opérateur elliptique dégénéré. (English summary). *Ann. Inst. Fourier* (*Grenoble*) **22** (1972), *no.* 2, 131–145. (E. M. J. Bertin) **51** #13266 31D05

Quelques propriétés du faisceau de fonctions harmoniques associé à un opérateur elliptique dégénéré. (English summary) Collection of articles dedicated to Marcel Brelot on the occasion of his 70th birthday. *Ann. Inst. Fourier* (*Grenoble*) **25** (1975), *no.* 3-4, xxi, 245–261. (Gottfried Anger) **54** #7825 31D05 (35J15)

Hervella, Luis (*with* Martínez Naveira, Antonio) Quasi-connexions composées d'ordre deux. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **20** (1974), 127–132. (Authors' summary) **58** #30897 53C05

(*with* Martínez Naveira, Antonio) Schur's theorem for nearly Kähler manifolds. *Proc. Amer. Math. Soc.* **49** (1975), 421–425. (G. D. Ludden) **51** #4090 53B35

(*with* Vidal, Enrique) Nouvelles géométries pseudo-kählériennes G_1 et G_2. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 3, Aii, A115–A118. (Y. Tashiro) **55** #4011 53B35

(*with* Fernández, Marisa) Un exemple de variété pseudo-kählérienne (G_1-variété). (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 4, Aiii, A203–A205. (Y. Mutô) **54** #11255 53C55

(*with* Fernández R., M.) Curvature and characteristic classes of an almost-Hermitian manifold. *Tensor* (*N.S.*) **31** (1977), *no.* 2, 138–140. (Huei-Shyong Lue) **58** #7517 53C55 (53C15)

Hervier, Yves Sur le problème de Levi pour les espaces étalés banachiques. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A821–A824. (S. Dineen) **47** #2098 32K05

On the Weierstrass problem in Banach spaces. *Proceedins on Infinite Dimensional Holomorphy* (*Internat. Conf., Univ. Kentucky, Lexington, Ky.*, 1973), *pp.* 157–167. *Lecture Notes in Math., Vol.* 364, *Springer, Berlin*, 1974. (Sadayuki Yamamuro) **53** #1266 46G20

Sur le problème de Levi banachique. *Séminaire Pierre Lelong* (*Analyse*) (*année* 1972-1973), *pp.* 18–27. *Lecture Notes in Math., Vol.* 410, *Springer, Berlin*, 1974. (Editors) **58** #2277 46G20 (32E10)

Herwald, S. W. *See* **Automatic control: classical linear theory**, **52** #16755

Hery, William J. Maximal ideals in algebras of continuous $C(S)$ valued functions. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 2, 195–199. (L. Narici) **54** #11043 46E25 (54C40)

Maximal ideals in algebras of topological algebra valued functions. *Pacific J. Math.* **65** (1976), *no.* 2, 365–373. (G. R. Allan) **55** #8805 46J99 (54C40)

Heryford, Norman N. *See* **Multivariate statistical methods: among-groups covariation**, **51** #14407

Herz, Bernhard Über die Willssche Verallgemeinerung einer Ungleichung von Bonnesen. *Monatsh. Math.* **75** (1971), 316–319. (G. D. Chakerian) **46** #795 52A40

Vereinfachte zeitoptimale Synthese für zeitinvariante dynamische Systeme. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **20** (1972), *no.* 5, 214–217. (Author's summary) **56** #11279 93C55 (93C05)

(*with* Kaapke, Jürgen) Ein isoperimetrisches Problem mit Nebenbedingung. *Elem. Math.* **28** (1973), 63–65. (G. D. Chakerian) **48** #7120 52A40

Einfacher Beweis des Krylov-Verfahrens der iterierten Vektoren. *Math.-Phys. Semesterber.* **21** (1974), 234–236. (J. Vandergraft) **50** #15311 65F30

Zerfallende Tridiagonalmatrizen und aneinandergesetzte Sturmsche Ketten. (English summary) *Numer. Math.* **23** (1974), 95–98. (Author's summary) **50** #8940 65F15

Herz, Carl Lipschitz spaces and Bernstein's theorem on absolutely convergent Fourier transforms. *J. Math. Mech.* **18** (1968/69), 283–323. (Robert D. Brown) **55** #11028 46E35

Problems of extrapolation and spectral synthesis on groups. *Conference on Harmonic Analysis* (*Univ. Maryland, College Park, Md.*, 1971), *pp*. 157–166. *Lecture Notes in Math., Vol*. 266, *Springer, Berlin*, 1972. (D. E. Ramirez) **52** #14860 43A45

Drury's lemma and Helson sets. *Studia Math*. **42** (1972), 205–219. (C. McGehee) **46** #5939 43A45

(*with* Rivière, Néstor M.) Estimates for translation-invariant operators on spaces with mixed norms. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, V. *Studia Math*. **44** (1972), 511–515. (M. Hasumi) **49** #7703 43A22

Harmonic synthesis for subgroups. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **23** (1973), *no*. 3, 91–123. (D. E. Ramirez) **50** #7956 43A45

H_p-spaces of martingales, $0<p<1$. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 189–205. (D. W. Stroock) **51** #9189 60G45

Généralisations de la notion des classes H_p de Hardy. *Théorie du potentiel et analyse harmonique* (*Journées Soc. Math. France, Inst. Recherche Math. Avancée, Strasbourg*, 1973), *pp*. 138–148. *Lecture Notes in Math., Vol*. 404, *Springer, Berlin*, 1974. (Hélène Airault) **51** #6966 60G45

Une généralisation de la notion de transformée de Fourier-Stieltjes. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **24** (1974), *no*. 3, xiii, 145–157. (Pierre Eymard) **54** #13466 43A30

Bounded mean oscillation and regulated martingales. *Trans. Amer. Math. Soc*. **193** (1974), 199–215. (R. F. Gundy) **50** #5930 60G45 (30A78)

An interpolation principle for martingale inequalities. *J. Functional Analysis* **22** (1976), *no*. 1, 1–7. (D. L. Burkholder) **53** #14650 60G45

On the asymmetry of norms of convolution operators. I. *J. Functional Analysis* **23** (1976), *no*. 1, 11–22. (Pierre Eymard) **54** #8153 43A22

(*with* Pelletier, Joan Wick) Dual functors and integral operators in the category of Banach spaces. *J. Pure Appl. Algebra* **8** (1976), *no*. 1, 5–22. (J. Cigler (Zbl **331** #46064)) **58** #7116 46M15 (47G05)

Asymmetry of norms of convolution operators. II. Nilpotent Lie groups. *Symposia Mathematica, Vol. XXII* (*Convegno sull'Analisi Armonica e Spazi di Funzioni su Gruppi Localmente Compatti, INDAM, Rome*, 1976), *pp*. 223–230. *Academic Press, London*, 1977. (Pierre Eymard) **58** #6932 43A22

Herz, Gail (*with* Uehara, Hiroshi; Al-Hashimi, Basil; Brenneman, Franklin S.) Steenrod squares in Cotor. *Manuscripta Math*. **13** (1974), 275–296. (J. P. May) **52** #1692 55G05

Herz, J. C. Recursive computational procedure for two-dimensional stock cutting. *IBM J. Res. Develop*. **16** (1972), 462–469. (F. Giannessi) **53** #10220 90B05 (90C50)

Herzberg, Agnes M. Interpolation and extrapolation designs. (French summary) Proceedings of the 38th Session of the International Statistical Institute (Washington, D.C. 1971), Vol. 2. *Bull. Inst. Internat. Statist*. **44** (1971), *book* 2, 207–211. (Vedula N. Murty) **51** #7180 62K05

(*with* Cox, D. R.) Some optimal designs for interpolation and extrapolation. *Biometrika* **59** (1972), 551–561. (Vedula N. Murty) **51** #11858 62K05

(*with* Cox, D. R.) On a statistical problem of E. A. Milne. *Proc. Roy. Soc. London Ser. A* **331** (1972), 273–283. (Mir Ali) **46** #10115 62F10

(*with* Andrews, David F.) A simple method for constructing exact tests for sequentially designed experiments. *Biometrika* **60** (1973), 489–497. (P. K. Bhattacharya) **51** #2196 62L05

(*with* Garner, Cyril W. L.; Springer, B. G. F.) Kiss-precise sequential rotatable designs. *Canad. Math. Bull*. **16** (1973), 207–217. (L. D. Baumert) **48** #1400 62K15

(*with* Draper, Norman R.) Some designs for extrapolation outside a sphere. *J. Roy. Statist. Soc. Ser. B* **35** (1973), 268–276. (E. Seiden) **52** #4539 62K05

On a statistical problem of E. A. Milne. II. *Proc. Roy. Soc. London Ser. A* **336** (1974), 223–227. (Mir Ali) **49** #6466 62F10

(*with* Andrews, David F.) The robust design of experiments. (French summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. Inst. Internat. Statist*. **46** (1975), *no*. 3, 370–374 (1976). (J. Kiefer) **56** #16945 62K05 (62G35)

(*with* Andrews, David F.) Some considerations in the optimal design of experiments in non-optimal situations. *J. Roy. Statist. Soc. Ser. B* **38** (1976), *no*. 3, 284–289. (Editors) **58** #31627a (E **58** #31627b) 62K05

(*with* Andrews, David F.) Corrigendum: "Some considerations in the optimal design of experiments in non-optimal situations" (J. Roy. Statist. Soc. Ser. B **38** (1976), no. 3, 284–289). *J. Roy. Statist. Soc. Ser. B* **39** (1977), *no*. 3, 394. (Editors) **58** #31627b 62K05

See also **Laycock, P. J., 50** #3427; **Wynn, Henry P., 50** #3479; **Progress in statistics, 50** #5999; **Atkinson, A. C.; et al., 50** #15192 *and* **Brown, R. Leonard; et al., 51** #14478

Herzberg, Norman P. (*with* Bender, Edward A.) Symmetric matrices, characteristic polynomials, and Hilbert symbols over local number fields. *Bull. Amer. Math. Soc*. **79** (1973), 518–520. (Morris Newman) **47** #1831 15A57 (12B05)

(*with* Bender, Edward A.) Characteristic polynomials of symmetric matrices. III. Some counterexamples. *Linear and Multilinear Algebra* **2** (1974), 173–178. (P. Abellanas) **56** #5598 15A24

On a problem of Hurwitz. *Pacific J. Math*. **50** (1974), 485–493. (E. L. Cohen) **50** #233 10B20 (10B05)

(*with* Bender, Edward A.) Some diophantine equations related to the quadratic form ax^2+by^2. *Bull. Amer. Math. Soc*. **81** (1975), 161–162. (R. Tijdeman) **53** #7936 10B15

Integer solutions of $by^2+p^n=x^3$. *J. Number Theory* **7** (1975), 221–234. (R. Finkelstein) **51** #3053 10B25

(*with* Baum, Leonard E.; Lomonaco, S. J., Jr.; Sweet, Melvin M.) Fields of almost periodic sequences. *J. Combinatorial Theory Ser. A* **22** (1977), *no*. 2, 169–180. (S. L. G. Choi) **58** #258 05A15 (12C99)

Herzberg, Uwe Horizontal chords of the graph of a continuous function. *Proc. Amer. Math. Soc*. **49** (1975), 179–184. (F. Brooks) **50** #10169 26A15

Herzberger, Hans G. Ordinal preference and rational choice. *Econometrica* **41** (1973) 187–237. (G. Tintner) **48** #3457 90A10

Dimensions of truth. *J. Philos. Logic* **2** (1973), *no*. 4, 535–556. (Merrie Bergmann **58** #4991 02A05

Canonical superlanguages. *J. Philos. Logic* **4** (1975), 45–65. (From the author' introduction) **57** #15950 02B99 (02A05)

Tertium without plenum. *Proceedings of the Seventh International Symposium o Multiple-Valued Logic* (*Charlotte, N.C.*, 1977), *pp*. 92–94. *IEEE Comput. Soc., Lon Beach, Calif*., 1977. (János Demetrovics) **57** #5679 02C05

See also **Paradox of the liar, 48** #3694

Herzberger, Jürgen Über die Nullstellenbestimmung bei näherungsweise berechneten Funktionen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **10** (1972), 23–31 (J. G. Herriot) **48** #5363 65H05

(*with* Alefeld, Götz) Nullstelleneinschliessung mit dem Newton-Verfahren ohn Invertierung von Intervallmatrizen. (English summary) *Numer. Math*. **19** (1972), 56–64 (H. Ratschek) **46** #2841 65H05

(*with* Alefeld, Götz) Ein Verfahren zur monotonen Einschließung von Lösunge nichtlinearer Gleichungssysteme. Vorträge der Wissenschaftlichen Jahrestagung de Gesellschaft für Angewandte Mathematik und Mechanik (Ljubljana, 1972). *Z. Angew Math. Mech*. **53** (1973), T176–T177. (J. R. Cannon) **49** #10139 65H10

Bemerkungen zu einem Verfahren von R. E. Moore. *Z. Angew. Math. Mech*. **5** (1973), *no*. 6, 356–358. (G. Alefeld) **52** #16004 65H05

(*with* Alefeld, Götz) ★Einführung in die Intervallrechnung. Reihe Informatik Band 12. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1974. xiii + 398 *pp*. (H Ratschek) **53** #11950 65–02

Über Matrixdarstellungen für Iterationsverfahren bei nichtlinearen Gleichungen (English summary) *Computing* (*Arch. Elektron. Rechnen*) **12** (1974), *no*. 3, 215–222. (A S. Householder) **52** #16005 65H05

(*with* Alefeld, Götz) Über die Konvergenzordnung intervallarithmetischer Iterationsverfahren. *Rev. Anal. Numér. Théorie Approximation* **3** (1974), *no*. 2, 117–12 (1975). (H. Ratschek) **51** #14561 65H10 (65G05)

(*with* Alefeld, Götz) On the convergence speed of some algorithms for the simultaneous approximation of polynomial roots. *SIAM J. Numer. Anal*. **11** (1974) 237–243. (J. E. Dennis, Jr.) **50** #11761 65H05

(*with* Alefeld, Götz) Über Simultanverfahren zur Bestimmung reeler Polynomwurzeln. (English and Russian summaries) *Z. Angew. Math. Mech*. **54** (1974) 413–420. (E. Frank) **51** #14558 65H05

Note on a bounding technique for polynomial functions. *SIAM J. Appl. Math*. **3** (1978), *no*. 4, 685–686. (Luciano Biasini) **57** #14355 65D99

Herzel, A. Un criterio di quantificazione. Aspetti matematici. (English summary) *Metro* **32** (1974), *no*. 1-4, 55–121. (Author's summary) **58** #24824 62P99 (90C99)

Herzer, Armin Eine Verallgemeinerung des Satzes von Dandelin. *Elem. Math*. **27** (1972) 52–56. (S. S. Subramanyam) **48** #12277 50D35

Über die Gruppe der Projektivitäten einer Geraden auf sich in einigen endliche Fastkörperebenen. *Geometriae Dedicata* **1** (1972), *no*. 1, 47–64. (J. Yaqub) **46** #8038 50D35

Dualitäten mit zwei Geraden aus absoluten Punkten in projektiven Ebenen. *Math Z*. **129** (1972), 235–257. (J. André) **47** #2488 50D35

Über die Gruppe der Projektivitäten einer Geraden auf sich in einigen endlicher Translationsebenen. *Geometriae Dedicata* **1** (1973), *no*. 3, 363–385. (H. Salzmann **47** #4128 50D35

Die Gruppe $\Pi(g)$ in den endlichen Hall-Ebenen. *Geometriae Dedicata* **2** (1973) 1–11. (D. A. Foulser) **48** #9542 50D35

Ableitung zweier selbstdualer, zum Satz von Pappos äquivalenter Schliessungssätze aus der Konstruktion von Dualitäten. *Geometriae Dedicata* **2** (1973), 283–310. (D Betten) **49** #3672 50D30

Charakterisierung regulärer Faserungen durch Schliessungssätze. *Arch. Math*. (*Basel*) **25** (1974), 662–672. (D. Betten) **51** #6575 50D35

Die Gruppe $\Pi(g)$ in den endlichen André-Ebenen gerader Ordnung. *Geometriae Dedicata* **3** (1974), 241–249. (D. A. Foulser) **52** #1513 50D35

Neue Konstruktion einer Erweiterung von projektiven Geometrien. *Geometriae Dedicata* **4** (1975), *no*. 2-4, 199–213. (Editors) **56** #9450 50D35

Projektiv darstellbare stark planare Geometrien vom Rang 4. *Geometriae Dedicata* **5** (1976), *no*. 4, 467–484. (J. Yaqub) **55** #10295 05B35 (50D35)

Eine Klasse von Geometrien mit transitiver Translationsgruppe. *Beiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg*, 1976), *pp*. 147–152. *Lehrbücher u. Monographien aus dem Gebiete der Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäuser, Basel*, 1977. (J. André) **57** #17498 50D50 (50D35)

Konstruktion von Spernerräumen aus einer vorgegebenen projektiven Ebene. *Abh. Math. Sem. Univ. Hamburg* **46** (1977), 25–54. (A. Barlotti) **58** #18135 50D99

(*with* Lunardon, Guglielmo) Charakterisierung (A, B)-regulärer Faserungen durch Schliessungssätze. *Geometriae Dedicata* **6** (1977), *no*. 4, 471–484. (R. Lingenberg) **57** #10575 50D25

Halbprojektive Translationsgeometrien. *Mitt. Math. Sem. Giessen Heft* 127 (1977), ii + 136 *pp*. (M. J. Kallaher) **58** #2589 50D05

Lineare Kongruenzen, die aus freien zyklischen Moduln halbeinfacher Algebren bestehen. *Arch. Math*. (*Basel*) **30** (1978), *no*. 1, 14–26. (K. Burian) **58** #12704 50D35

Herzfeld, U. (*with* Blatt, Hans-Peter; Klotz, Volker) Ein Approximationsproblem aus der Pharmakokinetik. *J. Approximation Theory* **21** (1977), *no*. 1, 89–106. (John M. Karon) **57** #2629 92A05

Herzmann, Jan The utility function on a commodity space of trajectories with convex support. (Czech. English summary) *Ekonom.-Mat. Obzor* **14** (1978), *no*. 4, 389–395. (From the summary) **58** #20289 90A10

Herzog, Fritz (*with* Stewart, B. M.) Semi-regular plane polygons of integral type. *Israel J. Math*. **11** (1972), 31–52. (A. L. Whiteman) **45** #5012 05C99

Biperiodic squares. *Math. Mag*. **48** (1975), 97–100. (Morris Newman) **50** #9779 10A40

Herzog, Jürgen Die Struktur des kanonischen Ideals eines eindimensionalen CM-Rings: Charakterisierung eindimensionaler Gorensteinringe. *Der kanonische Modul eines*

Cohen-Macaulay-Rings (*Sem. Lokale Kohomologietheorie von Grothendieck, Univ. Regensburg, Regensburg*, 1970/1971), *pp*. 25–32, 103. *Lecture Notes in Math*., *Vol*. 238, *Springer*, *Berlin*, 1971. (J. S. Joel) **57** #16286 13H10

Die Struktur des kanonischen Moduls: Anwendungen. *Der kanonische Modul eines Cohen-Macaulay-Rings* (*Sem. Lokale Kohomologietheorie von Grothendieck, Univ. Regensburg, Regensburg*, 1970/1971), *pp*. 59–84, 103. *Lecture Notes in Math*., *Vol*. 238, *Springer*, *Berlin*, 1971. (J. S. Joel) **57** #16288 13H10

(*with* Kunz, Ernst) Die Wertehalbgruppe eines lokalen Rings der Dimension 1. *S.-B. Heidelberger Akad. Wiss. Math. Natur. Kl.* **1971**, 27–67. (W. Heinzer) **45** #243 13A15

(*with* Kunz, Ernst) On the deviation and the type of a Cohen-Macaulay ring. *Manuscripta Math*. **9** (1973), 383–388. (Melvin Hochster) **48** #8493 13H10

Certain complexes associated to a sequence and a matrix. *Manuscripta Math*. **12** (1974), 217–248. (L. J. Ratliff) **50** #9882 13H10

Ringe der Charakteristik p und Frobeniusfunktoren. *Math. Z*. **140** (1974), 67–78. (R. M. Fossum) **50** #4569 13C10 (13D05)

(*with* Waldi, Rolf) A note on the Hilbert function of a one-dimensional Cohen-Macaulay ring. *Manuscripta Math*. **16** (1975), *no*. 3, 251–260. (M. Nagata) **52** #5658 13H15

Algebra retracts and Poincaré-series. *Manuscripta Math*. **21** (1977), *no*. 4, 307–314. (P. Schenzel) **56** #8556 13H15 (13D99)

Ringe mit nur endlich vielen Isomorphieklassen von maximalen, unzerlegbaren Cohen-Macaulay-Moduln. *Math. Ann*. **233** (1978), *no*. 1, 21–34. (Ernst Kunz) **57** #3114 13H10 (14M05)

See also **Der kanonische Modul eines Cohen-Macaulay-Rings**, **54** #304

rzog, Marcel Finite groups with a large cyclic Sylow subgroup. *Finite simple groups* (*Proc. Instructional Conf*., *Oxford*, 1969), *pp*. 199–203. *Academic Press*, *London*, 1971. (C. E. Praeger) **49** #2929 (EA **49**) 20D20

$C\theta\theta$-groups involving no Suzuki groups. *Pacific J. Math*. **39** (1971), 687–689. (B. Chang) **47** #5112 20D99

(*with* Schönheim, J.) Group partition, factorization and the vector covering problem. *Canad. Math. Bull*. **15** (1972), 207–214. (R. G. Stanton) **46** #1927 20K25 (05A17)

(*with* Schönheim, J.) On certain sets of divisors of a number. *Discrete Math*. **1** (1972), *no*. 4, 329–332. (H. J. Godwin) **45** #6782 10A05 (05B10)

On 2-Sylow intersections. *Israel J. Math*. **11** (1972), 326–327. (J. Sancho San Román) **46** #251 20D20

(*with* Schönheim, J.) The B_r property and chromatic numbers of generalized graphs. *J. Combinatorial Theory Ser. B* **12** (1972), 41–49. (M. S. Cheema) **45** #75 05A05

On simple groups with a cyclic maximal 2-Sylow intersection. *Israel J. Math*. **15** (1973), 350–355. (J. L. Alperin) **48** #4101 20D05

Simple groups with cyclic central 2-Sylow intersections. *J. Algebra* **25** (1973), 307–312. (H. Lausch) **47** #5094 20D05

Central 2-Sylow intersections. *Pacific J. Math*. **45** (1973), 535–538. (W. J. Wong) **48** #418 20D20

On Sylow intersections. *Proc. Amer. Math. Soc*. **37** (1973), 352–354. (A. R. Camina) **46** #9158 20D20

(*with* Shult, Ernest E.) Groups with central 2-Sylow intersections of rank at most one. *Proc. Amer. Math. Soc*. **38** (1973), 465–470. (Authors' summary) **55** #3062 20D05 (20D20)

The influence of 2-Sylow intersections on the structure of finite simple groups. *Proceedings of the Second International Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), *pp*. 361–365. *Lecture Notes in Math*., *Vol*. 372, *Springer*, *Berlin*, 1974. (W. J. Wong) **50** #4733 20D05

On simple groups with a quanternion maximal 2-Sylow intersection. *Israel J. Math*. **19** (1974), 225–227. (J. L. Alperin) **51** #8246 20D20

(*with* Praeger, Cheryl E.) Minimal degree of primitive permutation groups. *Combinatorial mathematics, IV* (*Proc. Fourth Australian Conf., Univ. Adelaide, Adelaide*, 1975), *pp*. 116–122. *Lecture Notes in Math*., *Vol*. 560, *Springer*, *Berlin*, 1976. (Gareth A. Jones) **58** #860 20B15

(*with* Reid, K. B., Jr.) Number of factors in k-cycle decompositions of permutations. *Combinatorial mathematics, IV* (*Proc. Fourth Australian Conf., Univ. Adelaide, Adelaide*, 1975), *pp*. 123–131. *Lecture Notes in Math*., *Vol*. 560, *Springer*, *Berlin*, 1976. (J. L. Brenner) **54** #7593 20B05

On groups with extremal blocks. *Bull. Austral. Math. Soc*. **14** (1976), *no*. 3, 325–330. (Harold N. Ward) **54** #387 20C15

(*with* Praeger, Cheryl E.) On the order of linear groups of fixed finite exponent. *J. Algebra* **43** (1976), *no*. 1, 216–220. (E. F. Robertson) **54** #12918 20G15

(*with* Praeger, Cheryl E.) On the fixed points of Sylow subgroups of transitive permutation groups. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no*. 4, 428–437. (Wolfgang Knapp) **53** #13364 20B05

(*with* Reid, K. B., Jr.) Representation of permutations as products of cycles of fixed length. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no*. 3, 321–331. (J. L. Brenner) **55** #3042 20B05

(*with* Lehrer, Gustav Isaac) A note concerning Coxeter groups and permutations. *Group theory* (*Proc. Miniconf., Australian Nat. Univ., Canberra*, 1975), *pp*. 53–56. *Lecture Notes in Math*., *Vol*. 573, *Springer*, *Berlin*, 1977. (Gareth A. Jones) **56** #8716 20H15

(*with* Arad, Zvi) A classification of groups with a centralizer condition. II. *Bull. Austral. Math. Soc*. **16** (1977), *no*. 1, 55–60. (M. E. Harris) **55** #8174 (E **56** #15764) 20D99

(*with* Arad, Zvi) Corrigendum and addendum: "A classification of groups with a centralizer condition. II" (Bull. Austral. Math. Soc. **16** (1977), no. 1, 55–60). *Bull. Austral. Math. Soc*. **17** (1977), *no*. 1, 157–160. (M. E. Harris) **56** #15764 20D20

(*with* Praeger, Cheryl E.) On character values in finite groups. *Bull. Austral. Math. Soc*. **17** (1977), *no*. 3, 451–461. (Koichiro Harada) **57** #12661 20C15

(*with* Arad, Zvi) On fundamental subgroups of order divisible by three. *Houston J. Math*. **3** (1977), *no*. 3, 309–313. (John D. P. Meldrum) **56** #15769 20D99

(*with* Reid, K. B., Jr.) Permutation groups generated by cycles of fixed length. *Israel J. Math*. **26** (1977), *no*. 3–4, 221–231. (J. L. Brenner) **55** #10545 20B05

On linear relations between character values. *J. Algebra* **47** (1977), *no*. 1, 154–161. (Peter Landrock) **56** #12105 20C15

(*with* Wright, David) Characterization of a family of simple groups by their character table. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no*. 3, 296–304. (J. L. Alperin) **57** #9831 20D05 (20C15)

Counting group elements of order p modulo p^2. *Proc. Amer. Math. Soc*. **66** (1977), *no*. 2, 247–250. (I. M. Isaacs) **57** #6196 20D99

(*with* Reid, K. B., Jr.) Regularity in tournaments. *Theory and applications of graphs* (*Proc. Internat. Conf., Western Mich. Univ., Kalamazoo, Mich*., 1976), *pp*. 442–453. *Lecture Notes in Math*., *Vol*. 642, *Springer*, *Berlin*, 1978. (J. W. Moon) **58** #10572 05C20

(*with* Berger, Thomas R.) Criteria for nonperfectness. *Comm. Algebra* **6** (1978), *no*. 9, 959–968. (Michael J. Collins) **58** #11119 20D99

(*with* Praeger, Cheryl E.) Direct factors of Sylow groups. *Comm. Algebra* **6** (1978), *no*. 13, 1375–1382. (George Glauberman) **58** #11110 20D20 (20D25)

(*with* Berger, Thomas R.) On characters in the principal 2-block. *J. Austral. Math. Soc. Ser. A* **25** (1978), *no*. 3, 264–268. (Stephen D. Smith) **58** #11091 20C15

Herzog, Otthien (*with* Reusch, Bernd; Riedemann, Eike Hagen) Minimization of Boolean functions with "don't cares" subject to constraints. *Proceedings of the Seventh Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), *pp*. 177–179. *Western Periodicals, North Hollywood, Calif*., 1974. (B. Hazeltine) **56** #11573 94A20

Automatic deadlock analysis of parallel programs. *International Computing Symposium* 1977 (*Liège*, 1977), *pp*. 209–216. *North-Holland*, *Amsterdam*, 1977. (Author's summary) **58** #25073 68A05

Herzog, Thomas (*with* Owings, James C., Jr.) The inequivalence of two well-known notions of randomness for binary sequences. *Z. Math. Logik Grundlagen Math*. **22** (1976), *no*. 5, 385–389. (John W. Berry) **56** #2802 02E15 (60A05)

Herzog, U. (*with* Chandy, K. Mani; Woo, Lin S.) Parametric analysis of queuing networks. *IBM J. Res. Develop*. **19** (1975), 36–42. (T. N. Bhargava) **52** #2755 94A20 (90B10)

(*with* Chandy, K. Mani; Woo, Lin S.) Approximate analysis of general queuing networks. *IBM J. Res. Develop*. **19** (1975), 43–49. (T. N. Bhargava) **52** #2756 94A20 (90B10)

(*with* Woo, Lin S.; Chandy, K. Mani) Solution of queuing problems by a recursive technique. Papers on system performance evaluation. *IBM J. Res. Develop*. **19** (1975), 295–300. (Izhak Rubin) **52** #1926 60K25

Optimal scheduling strategies for real-time computers. *IBM J. Res. Develop*. **19** (1975), *no*. 5, 494 504. (I. Văduva) **53** #12559 90B35 (68A99, 60K30)

Heselden, G. P. M. A convolution involving Bell polynomials. *Proc. Cambridge Philos. Soc*. **74** (1973), 97–106. (J. Riordan) **47** #3724 33A70

Hesina, I. Ja. A comparison of certain numerical methods of integrating systems of nonlinear differential equations. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 11 (*Russian*), *pp*. 205–212. *Izdat*. "*Zinatne*", *Riga*, 1972. (Walter Gautschi) **51** #11970 65L05

(*with* Zavorin, A. N.) Certain numerical methods of solving stiff systems of ordinary differential equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **13** (1973), 71–79, 268. (Murli M. Gupta) **48** #3257 65C05

Heskia, Said (*with* Sofroniou, S. A.) The unitary group U(m) as the symmetry group of curved phase space. *J. Mathematical Phys*. **12** (1971), 2280–2286. (S. N. Biswas) **45** #3004 81.22

Hadronic geometry of space-time and gauge theory of strong interactions. I, II. (Italian and Russian summaries) *Nuovo Cimento A* (11) **19** (1974), 90–102; *ibid*. (11) **19** (1974), 103–117. (J. Rosen) **52** #9915 81.53

Heslot, André (*with* Avez, André) Remarques sur les variétés riemanniennes localement conformément plates. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no*. 13, A771–A773. (J. S. Joel) **55** #6326 53C20

Hess, Benno Oscillations in biochemical and biological systems. *Nova Acta Leopoldina* (*N.F.*) **46** (1977), *no*. 225, 103–114. (H. W. Vayo) **58** #33084 92A05

Hess, Bernard Über die Wiener-Eigenschaft bei projektiven Limites lokalkompakter Gruppen. (English summary) *Manuscripta Math*. **22** (1977), *no*. 3, 209–211. (Paul Milnes) **58** #6928 43A20 (22D15)

Hess, H. (*with* Schrader, Robert; Uhlenbrock, Dietrich A.) Domination of semigroups and generalization of Kato's inequality. *Duke Math. J*. **44** (1977), *no*. 4, 893–904. (Adriaan Tip) **56** #16446 47D05 (81.47)

Hess, Heinz-Jürgen Bericht über die Edition der Reihe III der Leibniz-Ausgabe: Mathematischer, Naturwissenschaftlicher und technischer Briefwechsel. *Akten des II. Internationalen Leibniz-Kongresses* (*Hannover*, 1972), *Band I*: *Begrüssungsansprachen, Gesamtinterpretationen, Geschichte-Recht-Gesellschaftstheorie, historische Wirkung, Berichte*, *pp*. 329–330. *Studia Leibnitiana Suppl*., *Vol. XII*, *Steiner*, *Wiesbaden*, 1973. (C. J. Scriba) **58** #27148 01A75 (01A45)

Hess, J. (*with* Ider, Z.; Kagiwada, Harriet H.; Kalaba, Robert E.) Team decision theory and integral equations. *J. Optimization Theory Appl*. **22** (1977), *no*. 2, 251–264. (Authors' summary) **58** #25859 90A05 (90D35)

Hess, Peter Über das verallgemeinerte Dirichletproblem für lineare partielle Differentialgleichungen. *Ann. Acad. Sci. Fenn. Ser. A I No*. 434 (1969), 28 *pp*. (Zbl **175**, 106) **58** #22999 35G15

A remark on the cosine of linear operators. *Acta Sci. Math*. (*Szeged*) **32** (1971), 267–269. (A. Lambert) **46** #2462 47A65

Nonlinear functional equations and eigenvalue problems in non-separable Banach spaces. *Comment. Math. Helv*. **46** (1971), 314–323. (J. Kolomý) **45** #7546 47H15

On a method of singular perturbation type for proving the solvability of nonlinear functional equations in Banach spaces. *Math. Z*. **122** (1971), *no*. 4, 355–362. (S. Fučík) **52** #15146 47H15 (35J65)

Théorème d'existence pour des perturbations d'opérateurs maximaux monotones. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1171–A1173. (E. Lami Dozo) **47** #4076 47H05

On nonlinear mappings of monotone type homotopic to odd operators. *J. Functional Analysis* **11** (1972), 138–167. (J. Daneš) **50** #3017 47H05

(*with* Browder, Félix E.) Nonlinear mappings of monotone type in Banach spaces. *J. Functional Analysis* **11** (1972), 251–294. (S. Fučík) **51** #1495 47H05

A remark on a class of linear monotone operators. *Math. Z.* **125** (1972), 104–106. (Jagdish Chandra) **45** #920 47B99

On the Fredholm alternative for nonlinear functional equations in Banach spaces. *Proc. Amer. Math. Soc.* **33** (1972), 55–61. (Melvyn S. Berger) **46** #743 47H15

(*with* Fitzpatrick, P. M.; Kato, Tosio) Local boundedness of monotone-type operators. *Proc. Japan Acad.* **48** (1972), 275–277. (H. Amann) **47** #898 47H05

On semi-coercive nonlinear problems. *Indiana Univ. Math. J.* **23** (1973/74), 645–654. (A. Pazy) **49** #5964 47H15

On a theorem by Landesman and Lazer. *Indiana Univ. Math. J.* **23** (1973/74), 827–829. (A. Avantaggiati) **50** #5174 35J40

A strongly nonlinear elliptic boundary value problem. *J. Math. Anal. Appl.* **43** (1973), 241–249. (H. Beckert) **47** #7217 35J65

On nonlinear mappings of monotone type with respect to two Banach spaces. *J. Math. Pures Appl.* (9) **52** (1973), 13–26. (Zbl **222** #47019) **58** #30529 47H05

Variational inequalities for strongly nonlinear elliptic operators. *J. Math. Pures Appl.* (9) **52** (1973), 285–297. (David Kinderlehrer) **49** #833 35J35 (47H15)

On a unilateral problem associated with elliptic operators. *Proc. Amer. Math. Soc.* **39** (1973), 94–100. (Homer F. Walker) **48** #6678 35J60

On some nonlinear elliptic boundary value problems. *Functional analysis and its applications* (*Internat. Conf., Madras*, 1973), *pp.* 235–247. *Lecture Notes in Math., Vol.* 399, *Springer, Berlin*, 1974. (From the author's introduction) **55** #13073 35J65 (47H05)

Nonlinear perturbations of linear elliptic operators. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp.* 167–172. *Lecture Notes in Math., Vol.* 415, *Springer, Berlin*, 1974. (N. D. Kopačevskiĭ) **55** #10847 (EA **55/56**) 35J65

(*with* Gossez, Jean-Pierre) Sur certains problèmes aux limites elliptiques fortement non linéaires. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 343–345. (A. Avantaggiati) **52** #14641 35J65

(*with* Schoenenberger-Deuel, Johanna) Inéquations variationnelles elliptiques non coercives. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 719–722. (R. Temam) **50** #8201 49A30 (35J99)

A homotopy argument for mappings of monotone type in Banach spaces. *Math. Ann.* **207** (1974), 63–65. (Bruce Calvert) **49** #11324 47H05

On a class of strongly nonlinear elliptic variational inequalities. *Math. Ann.* **211** (1974), 289–297. (David Kinderlehrer) **51** #3985 47H15 (35J35)

(*with* Schoenenberger-Deuel, Johanna) A criterion for the existence of solutions of non-linear elliptic boundary value problems. *Proc. Roy. Soc. Edinburgh Sect. A* **74** (1974/75), 49–54 (1976). (H. Amann) **55** #13070 35J05

Perturbations non linéaires d'opérateurs de Schrödinger. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 11, Ai, A369–A371. (D. Pascali) **52** #3729 35J60 (47H15)

Problèmes aux limites non linéaires dans des domaines non bornés. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 14, Ai, A555–A557. (D. E. Edmunds) **52** #11321 35J65

On strongly nonlinear elliptic problems. *Functional analysis* (*Proc. Brazilian Math. Soc. Sympos., Inst. Mat. Univ. Estad. Campinas, São Paulo*, 1974), *pp.* 91–109. *Lecture Notes in Pure and Appl. Math.*, 18, *Dekker, New York*, 1976. (Editors) **58** #29201 35J65

On the solvability of nonlinear elliptic boundary value problems. *Indiana Univ. Math. J.* **25** (1976), *no.* 5, 461–466. (Moshe Marcus) **54** #10833 35J25

(*with* Gupta, Chaitan P.) Existence theorems for nonlinear noncoercive operator equations and nonlinear elliptic boundary value problems. *J. Differential Equations* **22** (1976), *no.* 2, 305–313. (Mieczyslaw Altman) **57** #13600 47H15 (35J65)

Nonlinear elliptic problems in unbounded domains. *Theory of nonlinear operators* (*Proc. Fourth Internat. Summer School, Acad. Sci., Berlin*, 1975), *pp.* 105–110. *Abh. Akad. Wiss. DDR Abt. Math.-Natur.-Tech.* 1977, 1, *Akademie-Verlag, Berlin*, 1977. (D. E. Edmunds) **57** #13181 35J65

On uniqueness of positive solutions of nonlinear elliptic boundary value problems. *Math. Z.* **154** (1977), *no.* 1, 17–18. (Rolf Leis) **56** #850 35J65

A remark on the preceding paper of Fučik and Krbec: "Boundary value problems with bounded nonlinearity and general null-space of the linear part" (Math. Z. **155** (1977) no. 2, 129–138) by S. Fučík and M. Krbec. *Math. Z.* **155** (1977), *no.* 2, 139–141. (Kenneth J. Brown) **57** #13180 35J65

(*with* Fučík, Svatopluk) Nonlinear perturbations of linear operators having nullspace with strong unique continuation property (preliminary communication). *Comment. Math. Univ. Carolin.* **19** (1978), *no.* 2, 403–407. (Kok-Keong Tan) **58** #7250 47H15

Hess, Siegfried On nonlocal constitutive relations, continued fraction expansion for the wave vector dependent diffusion coefficient. *Z. Naturforsch.* **32a** (1977), *no.* 7, 678–684. (Author's summary) **56** #2127 82.45

Hesse, Gerhard (*with* Steffens, Karsten) On the rank function for infinite sets. *J. Math. Anal. Appl.* **56** (1976), *no.* 3, 617–620. (James Baumgartner) **55** #7787 04A20

Hesse, Joseph A *p*-extremal length and *p*-capacity equality. *Ark. Mat.* **13** (1975), 131–144. (W. P. Ziemer) **52** #776 31B15 (30A44)

p-extremal length and *p*-measurable curve families. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 356–360. (A. F. Beardon) **52** #5922 28A10 (30A44, 31B15)

Hesse, L. O. *See* **Ludwig Otto Hesse's gesammelte Werke**, **52** #13291

Hesse, M. *See* **Logic, methodology and philosophy of science**, **55** #7657

Hesse, Mary Theories and the transitivity of confirmation. *Philos. Sci.* **37** (1970), 50–63. (H. Bergström) **45** #6 00A25

See also **Historical and philosophical perspectives of science**, **50** #6717

Hesse, W. *See* **Jahrestagung: Gesellschaft für Informatik**, **48** #1502

Hessein, Mohamed Ismail M. On the application of Dzjadyk's method on Volterra integral equation of the second kind. (Arabic summary) *Proc. Math. Phys. Soc. Egypt No.* 44 (1977), 17–30. (John M. Bownds) **57** #13408 45D05

Hessel, A. (*with* Peng, S. T.) Convergence of noncommutative continued fractions. *SIAM J. Math. Anal.* **6** (1975), 724–727. (E. Frank) **51** #13741 47A99 (65J05)

Hesselbarth, F. M. (*with* Frischbier, Reinhard) Neues zur Theorie der Mathieufunktionen. *Z. Angew. Math. Mech.* **51** (1971), 485–487. (C. J. Bouwkamp) **45** #8889 33A55

Hesselink, Wim H. Cohomology and the resolution of the nilpotent variety. *Math. A* **223** (1976), *no.* 3, 249–252. (S. I. Gel'fand) **54** #5253 14L15 (14E15)

Singularities in the nilpotent scheme of a classical group. *Trans. Amer. Math. So* **222** (1976), 1–32. (R. Steinberg) **55** #2885 14B05 (14L15)

Depth and normal flatness, two examples. *Math. Nachr.* **79** (1977), 189–191. (W Goeel) **57** #12493 13H10 (13C10)

(*with* Hazewinkel, Michiel; Siersma, Dirk; Veldkamp, Ferdinand D.) The ubiqui of Coxeter-Dynkin diagrams (an introduction to the *A-D-E* problem). *Nieuw Arc Wisk.* (3) **25** (1977), *no.* 3, 257–307. (J. S. Joel) **58** #10879 14B05 (16A64, 17B1 17B20, 20H15, 32C40, 58C25)

Polarizations in the classical groups. *Math. Z.* **160** (1978), *no.* 3, 217–234. (J. Humphreys) **58** #916 20G15 (17B35)

Hestanov, R. H. (*with* Tiščenko, V. A.) Diffraction of a field with light-shadow bounda by a half-plane. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 842–845. (A. Nikodémusz) **49** #8510 78.35

A method of successive diffractions in the problem of radiation from the open e of a waveguide. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 574–577. (J. Rosenthal) **52** #2412 78.35

Hestenes, David (*with* Gurtler, Richard) Local observables in quantum theory. *Amer. Phys.* **39** (1971), 1028–1038. (Authors' summary) **52** #12598 81.41

Observables, operators, and complex numbers in the Dirac theory. *J. Mathematic Phys.* **16** (1975), 556–572. (Richard Kerner) **53** #15208 81.53

(*with* Gurtler, Richard) Consistency in the formulation of the Dirac, Pauli, a Schrödinger theories. *J. Mathematical Phys.* **16** (1975), 573–584. (Richard Kerne **53** #10000 81.47

Hestenes, Magnus R. Quadratic variational theory. *Control theory and the calculus variations* (*Workshop, Univ. California, Los Angeles, Calif.*, 1968; *dedicated to Magnus Hestenes*), *pp.* 1–37. *Academic Press, New York*, 1969. (See MR **52** #15159) 49F

Iterative methods for solving linear equations. *J. Optimization Theory Appl.* **1** (1973), 323–334. (Editors) **51** #2265a 65F10

(*with* Stein, Myron Leo) The solution of linear equations by minimization. *Optimization Theory Appl.* **11** (1973), 335–359. (Editors) **51** #2265b 65F10

On a ternary algebra. Collection of articles dedicated to the memory of Abraha Adrian Albert. *Scripta Math.* **29**, *no.* 3–4, 253–272 (1973). (V. Havel) **56** #3174 20N10 (16A78)

(*with* Redheffer, Raymond M.) On the minimization of certain quadratic functionals. I. *Arch. Rational Mech. Anal.* **56** (1974), 1–14; *ibid.* **56** (1974/75), 15–3 (L. Mikołajczyk) **51** #3997 49A35

★Optimization theory. The finite dimensional case. Pure and Applied Mathematics. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 197 xiii + 447 *pp.* (H. G. Moyer (Zbl **327** #90015)) **57** #1223 49–01

Pseudoinverses and conjugate gradients. Collection of articles honoring Alston Householder. *Comm. ACM* **18** (1975), 40–43. (G. Maess) **51** #2269 65F20

Quadratic control problems. *J. Optimization Theory Appl.* **17** (1975), *no.* 1-2, 1–4 (Werner Krabs) **52** #15177 49B30

★On quadratic control problems. *Calculus of variations and control theory* (*Pro Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1975), *pp.* 289–304. *Mat Res. Center, Univ. Wisconsin, Publ. No.* 36, *Academic Press, New York*, 1976. (M. N Cvetanov) **55** #8944 49E99

A role of the pseudoinverse in analysis. *Generalized inverses and applications* (*Pro Sem., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1973), *pp.* 175–192. *Pu Math. Res. Center Univ. Wisconsin, No.* 32, *Academic Press, New York*, 1976. (Editor **58** #23655 47A05

Solving optimization problems. *Optimal control and differential equations* (*Pro Conf., Univ. Oklahoma, Norman, Okla.*, 1977), *pp.* 165–185. *Academic Press, New Yor* 1978. (Jean-Baptiste Hiriart-Urruty) **58** #7313 49D05 (90C05)

Conjugate direction methods in optimization. *Optimization techniques* (*Proc. 8 IFIP Conf., Würzburg*, 1977), *Part* 1, *pp.* 8–27. *Lecture Notes in Control and Informati Sci., Vol.* 6, *Springer, Berlin*, 1978. (E. M. L. Beale) **58** #23941 49D99

See also **Collection: Hestenes, Magnus R.**, **49** #7053; **Miele, Angelo**, **49** #71 *and* **Control theory and the calculus of variations**, **52** #15159

Hestenes, Marshall D. (*with* Higman, D. G.) Rank 3 groups and strongly regular graphs *Computers in algebra and number theory* (*Proc. SIAM-AMS Sympos. Appl. Math., Ne York*, 1970), *pp.* 141–159. *SIAM-AMS Proc., Vol. IV, Amer. Math. Soc., Providenc R.I.*, 1971. (Brian Alspach) **49** #4844 05C25

On the use of graphs in group theory. *New directions in the theory of graphs* (*Pro Third Ann Arbor Conf., Univ. Michigan, Ann Arbor, Mich.*, 1971), *pp.* 97–128. *Academ Press, New York*, 1973. (Bruce Cooperstein) **50** #12795 05C25 (20B05)

Hester, Donald D. A note on identification and information loss through aggregation *Econometrica* **44** (1976), *no.* 4, 815–818. (A. L. Nagar) **57** #4465 62P20

Heston, J. Clark (*with* Detlefsen, Michael; Erlandson, Douglas K.; Young, Charles M Computation with Roman numerals. *Arch. History Exact Sci.* **15** (1975/76), *no.* 141–148. (Richard L. Francis) **56** #11671 00A05 (01A20)

Hetényi, Miklós *See* **Applied mechanics**, **50** #11914

Hethcote, Herbert W. Geometric existence proofs for nonlinear boundary value problems *SIAM Rev.* **14** (1972), 121–128. (G. A. Klaasen) **47** #539 34B15

Asymptotic behavior and stability in epidemic models. *Mathematical problems biology* (*Conf., Univ. Victoria, Victoria, B.C.*, 1973), *pp.* 83–92. *Lecture Notes in Biomath., Vol.* 2, *Springer, Berlin*, 1974. (D. Ludwig) **51** #15041 92A15

Mathematical models for the spread of infectious diseases. *Epidemiology* (*Pro SIMS Conf., Alta, Utah*, 1974), *pp.* 122–131. *Soc. Indust. Appl. Math., Philadelphia, Pa* 1975. (Vincenzo Capasso) **53** #7535 92A15

Qualitative analyses of communicable disease models. *Math. Biosci.* **28** (1976), *n* 3/4, 335–356. (M. W. Green) **53** #5045 92A15

Schwarz lemma analogues for harmonic functions. *Internat. J. Math. Ed. Sci. Tec* **8** (1977), *no.* 1, 65–67. (David R. Adams) **57** #6468 31B05

Hetherington, J. H. An error bound for quadratures. *Math. Comp.* **26** (1972), 695–698. (M. Cohen) **48** #10064 65D30

Note on error bounds for numerical integration. *Math. Comp.* **27** (1973), 307–31 (L. W. Johnson) **49** #6564 65D30 (*with* Larson, Nancy M.) Solution of the Faddeev integral equation without contour rotation. *Phys. Rev. C* (3) **9** (1974), 699–708. (Authors' summary) **50** #12087 81.65

tnarski, Richard B. An algorithm for generating some inverse Laplace transforms of exponential form. (French summary) *Z. Angew. Math. Phys.* **26** (1975), 249–253. (R. S. Dahiya) **51** #1299 44A10

trakul, Priya (*with* Fortmann, Thomas E.) Optimal decoupling of linear systems. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 3, 375–377. (Takashi Yahagi) **55** #7499 93C05

(*with* Taylor, D. P.) The effects of transponder nonlinearity on binary CPSK signal transmission. *IEEE Trans. Comm.* **COM-24** (1976), *no.* 5, 546–553. (Authors' summary) **56** #15119 94A05

tthéssy, J. (*with* Haber, R.; Keviczky, L.) A separating transformation to the minimum variance control. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 2, 147–154. (B. Wittenmark) **54** #12339 93E99

(*with* Keviczky, L.) Minimum variance control of multivariable linear systems. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **6** (1977), *no.* 3, 229–242. (B. Wittenmark) **57** #19029 93E20 (93C40)

ttich, Rainer P. (*with* Wetterling, Wolfgang) Nonlinear Chebyshev approximation by *H*-polynomials. *J. Approximation Theory* **7** (1973), 198–211. (T. J. Rivlin) **50** #13980 41A10

Kriterien zweiter Ordnung für lokal beste Approximationen. (English summary) *Numer. Math.* **22** (1974), 409–417. (Hans-Jürgen Albrand) **50** #5304 41A50

Kriterien erster und zweiter Ordnung für lokal beste Approximationen bei Problemen mit Nebenbedingungen. (English summary) *Numer. Math.* **25** (1975/76), *no.* 1, 109–122. (H. Kramer) **54** #3249 41A50

A Newton-method for nonlinear Chebyshev approximation. *Approximation theory* (*Proc. Internat. Colloq., Inst. Angew. Math., Univ. Bonn, Bonn*, 1976), *pp.* 222–236. *Springer, Berlin*, 1976. (From the introduction) **58** #29682 41A50

(*with* Twente, T. H.) Charakterisierung lokaler Pareto-Optima. *Optimization and operations research* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 127–141. *Lecture Notes in Econom. Math. Systems, Vol.* 117, *Springer, Berlin*, 1976. (Shigehiro Ushiki) **57** #4514 65K05 (90A99)

Chebyshev approximation by *H*-polynomials: a numerical method. *J. Approximation Theory* **17** (1976), *no.* 1, 97–106. (A. Sharma) **55** #8648 41A50 (65D15)

(*with* van Hulzen, J. A.) Approximation with a class of rational functions. *Information processing* 77 (*Proc. IFIP Congr., Toronto, Ont.*, 1977), *pp.* 487–492. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam*, 1977. (Menachem Dishon) **57** #6971 41A20 (68A20)

(*with* Jongen, H. Th.) Semi-infinite programming: conditions of optimality and applications. *Optimization techniques* (*Proc. 8th IFIP Conf., Würzburg*, 1977), *Part* 2, *pp.* 1–11. *Lecture Notes in Control and Information Sci., Vol.* 7, *Springer, Berlin*, 1978. (M. A. Wolfe) **58** #15179 90C30

See also **Numerische Methoden der Approximationstheorie**, **49** #5637 *and* **Numerische Methoden der Approximationstheorie**, **50** #15252

ettmansperger, Thomas P. (*with* Killeen, Timothy J.; Sievers, Gerald L.) An elementary theorem on the probability of large deviations. *Ann. Math. Statist.* **43** (1972), 181–192. (J. Sethuraman) **52** #15833 (E **52** #15834) 62G20 (60F10)

(*with* Killeen, Timothy J.) Bivariate tests for location and their Bahadur efficiencies. *Ann. Math. Statist.* **43** (1972), 1507–1516. (W. Hoeffding) **49** #8196 62G10

On the Hodges-Lehmann approximate efficiency. *Ann. Inst. Statist. Math.* **25** (1973), 279–286. (M. L. Puri) **51** #2145 62G20

(*with* Tryon, Peter, V.) A class of non-parametric tests for homogeneity against ordered alternatives. *Ann. Statist.* **1** (1973), 1061–1070. (P. K. Sen) **50** #6043 62G10

A large sample conservative test for location with unknown scale parameters. *J. Amer. Statist. Assoc.* **68** (1973), 466–468. (W. J. Conover) **52** #6995 62G10

(*with* McKean, Joseph W.) A graphical representation for non-parametric inference. *Amer. Statist.* **28** (1974), 100–102. **49** #8202 62G99

(*with* Klimko, Lawrence A.) A note on the strong convergence of distributions. Collection of articles dedicated to Jerzy Neyman on his 80th birthday. *Ann. Statist.* **2** (1974), 597–598. (Authors' summary) **50** #6024 62E20 (60F05)

(*with* Killeen, Timothy J.; Sievers, Gerald L.) Correction to: "An elementary theorem on the probability of large deviations" (Ann. Math. Statist. **43** (1972), 181–192). *Ann. Statist.* **2** (1974), 1357. (J. Sethuraman) **52** #15834 62G20 (60F10)

(*with* Malin, Janice S.) A modified Mood's test for location with no shape assumptions on the underlying distributions. *Biometrika* **62** (1975), *no.* 2, 527–529. (G. E. Noether) **51** #14399 62G10

Non-parametric inference for ordered alternatives in a randomized block design. *Psychometrika* **40** (1975), 53–62. (W. J. Conover) **54** #3955 62G10

(*with* McKean, Joseph W.) Tests of hypotheses based on ranks in the general linear model. *Comm. Statist.–Theory Methods* **A5** (1976), *no.* 8, 693–709. (M. Hušková) **55** #9399 62G10 (62J05)

(*with* Utts, Jessica M.) Robustness properties for a simple class of rank estimates. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 9, 855–868. (Noel Cressie) **56** #9809 62G35

(*with* McKean, Joseph W.) A robust alternative based on ranks to least squares in analyzing linear models. *Technometrics* **19** (1977), *no.* 3, 275-284. **56** #13443 62G35 (62J05)

etyei, Gábor Conditions on degrees and number of edges that guarantee the existence of *m*-factors in bipartite graphs. (Hungarian. Russian and German summaries) *Mat. Lapok* **21** (1970), 295–314 (1971). (W. G. Brown) **47** #6545 05C35

On *m*-factors of bipartite graphs. (Hungarian. Russian and German summaries) *Acta Acad. Paedagog. Civitate Pécs Ser.* 6 *Math. Phys. Chem. Tech.* **15** (1971), 3–10. (Not reviewed) 05C99

A new proof of a factorization theorem. (Hungarian. Russian and German summaries) *Acta Acad. Paedagog. Civitate Pács Ser.* 6 *Math. Phys. Chem. Tech.* **16** (1972), 3–6. (From the summary) **58** #27647 05C99

On subgraphs of *j*-colorable graphs. (Hungarian. English summary) *Acta Acad. Paedagog. Civitate Pécs Ser.* 6 *Math. Phys. Chem. Tech.* **18** (1974), 3–12. (W. G. Brown) **58** #332 05C15 (05C35)

On the 1-factors and the Hamiltonian circuits of complete *n*-colorable graphs. (Hungarian. English summary) *Acta Acad. Paedagog. Civitate Pécs Ser.* 6 *Math. Phys. Chem. Tech.* **19** (1975), 5–10. (P. Erdős) **58** #333 05C15

Hetzer, Georg Der "Satz von der gleichmässigen Beschranktheit" für eine Klasse nichtlinearer Operatoren. *Comment. Math. Univ. Carolinae* **14** (1973), 739–754. (Jürgen Batt) **48** #12190 47H99 (46A30)

(*with* Reinermann, Jochen; Stallbohm, Volker) Fixpunktsätze von Browder und Krasnoselski für lokalkonvexe Hausdorff-Räume. *Math. Nachr.* **57** (1973), 227–235. (J. Daneš) **48** #9472 47H10

Sätze vom Banach-Steinhaus Typ für eine Klasse nichtlinearer Operatoren. (English and Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1129–1137. (Ulrich Kosel) **51** #1500 47H10 (54H25)

(*with* Reinermann, Jochen) Adjungiertenbildungen in der Operatortheorie. *Jber. Deutsch. Math.-Verein.* **76** (1974/75), *no.* 2-3, 140–163. (See Zbl **293** #47001) 47A05 (46A99, 47B99)

Some remarks on Φ_+-operators and on the coincidence degree for a Fredholm equation with noncompact nonlinear perturbations. *Ann. Soc. Sci. Bruxelles Sér. I* **89** (1975), *no.* 4, 497–508. (Jean Mawhin) **52** #6513 47H15 (47B30)

Some applications of the coincidence degree for set-contractions to functional differential equations of neutral type. *Comment. Math. Univ. Carolinae* **16** (1975), 121–138. (Jean Mawhin) **51** #1068 34K15 (47H10)

On the existence of weak solutions for some quasilinear ellipticvariational boundary value problems at resonance. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 2, 315-334. (Jean Mawhin) **54** #724 35J65 (47H15)

Bifurcation theorems of Rabinowitz type. *Nonlinear Anal.* **1** (1976/77), *no.* 5, 471–479. (A. Vanderbauwhede) **58** #31191 58E05 (47H15)

(*with* Stallbohm, Volker) Coincidence degree and Rabinowitz's bifurcation theorem. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **20(34)** (1976), 117–129. (Jean Mawhin) **56** #1152 47H15 (58C99)

(*with* Stallbohm, Volker) Eine Existenzaussage für asymptotisch lineare Störungen eines Fredholmoperators mit Index 0. (English summary) *Manuscripta Math.* **21** (1977), *no.* 1, 81–100. (Ju. G. Borisovič) **56** #16465 47H15 (58B15)

Hetzheim, H. Interpolative Rekonstruktion von Samplingpunkten und Abschätzung des Fehlers. *Z. Elek. Informations- und Energietech.* **5** (1975), *no.* 1, 48–59. (David F. Findley) **52** #16833 94A05

Die Methode der Projektionsoperatoren zur Behandlung von stochastischen Prozessen mit multiplikativem und additivem Rauschen. I. Lineare stochastische Differentialgleichungen und Anwendung auf die bezüglich des Phasenfehlers linearisierte Phase-Lock-Gleichung mit multiplikativem Rauschen. *Z. Elek. Informations- und Energietech.* **5** (1975), *no.* 3, 227–238. (A. Ja. Dorogovcev) **53** #7589 93E99 (60G15)

Interpolation, Filterung und Extrapolation eines Vektor-Markow-Prozesses und Identifikation von Parametern. *Z. Elek. Informations- und Energietech.* **6** (1976), *no.* 2, 129–140. (P. S. Knopov) **58** #9667 93E10

Hetzheim, Hartwig (*with* Juhnovskiĭ, I. R.) Theorie des Quantenplasmas unter Benutzung der Methode der kollektiven Variablen. (Russian, English and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **16** (1967), *no.* 7, 849–856. (Evangelos Ifantis) **53** #2201 81.47

Heuch, Ivar *k* loci linked to a sex factor in haploid individuals. (German summary) *Biometrische Z.* **14** (1972), *no.* 1, 57–68. (J. W. Jerome) **55** #10056 92A05

Sequences in genetic algebras for overlapping generations. *Proc. Edinburgh Math. Soc.* (2) **18** (1972/73), 19–29. (H. Gonshor) **50** #3989 92A10 (17A99)

The linear algebra for linked loci with mutation. *Math. Biosci.* **16** (1973), 263–271. (P. Holgate) **47** #6345 92A10 (17A99)

Genetic algebras and time continuous models. *Theoret. Population Biology* **4** (1973), 133–144. (I. M. H. Etherington) **48** #13309 92A10 (17A99)

Partial and complete sex linkage in infinite populations. *J. Math. Biol.* **1** (1974/75), *no.* 4, 331-343. (Klaus Hinkelmann) **52** #10090 92A10

The relationship between separation time and genetic distance based on angular transformations of gene frequencies. (French summary) *Biometrics* **31** (1975), *no.* 3, 685–700. (Susan Wilson) **52** #12841 92A10

Genetic algebras for systems with linked loci. *Math. Biosci.* **34** (1977), *no.* 1-2, 35–47. (Author's summary) **58** #33116 92A10 (17E05)

Heuchenne, C. Transformations de variables aléatoires. (English summary) *Bull. Soc. Roy. Sci. Liège* **41** (1972), 272–280. (E. H. Lehman) **46** #10035 60E05

Sur le critère de chromaticité de Hajos et Ore. Colloque sur la Théorie des Graphes (Brussels, 1973). *Cahiers Centre Études Recherche Opér.* **15** (1973), 229–230. **50** #159 05C15

Heudorfer, W. (*with* Petzold, J.; Sorg, M.) Finite size of the electron and runaway solutions. *Z. Naturforsch.* **32a** (1977), *no.* 5, 383–389. (C. J. Eliezer) **56** #4489 81.34

Heuer, Charles V. On the equivalence of cancellative extensions of commutative cancellative semigroups by groups. *J. Austral. Math. Soc.* **12** (1971), 187–192. (P.-A. Grillet) **45** #2057 20M10

Heuer, Gerald A. Rational numbers generated by two integers. *Amer. Math. Monthly* **78** (1971), 996–997. (R. G. Stoneham) **45** #6741 10A40

The derivative of the total variation function. *Amer. Math. Monthly* **78** (1971), 1110–1112. (R. S. Booth) **45** #6994 26A45

Spaces of strongly continuous (i.e., locally constant) functions. *Caribbean J. Sci. Math.* **2** (1972), *no.* 1, 53–63. (Worthen Hunsaker) **51** #13976 54C35

Continuous multiplications in R^2. *Math. Mag.* **45** (1972), 72–77. (Robert Gordon) **45** #6860 16A48

Discrete ordered rings. *Fund. Math.* **85** (1974), *no.* 2, 121–138. (L. Fuchs) **49** #8915 06A70

On completely mixed strategies in bimatrix games. *J. London Math. Soc.* (2) **11** (1975), *no.* 1, 17–20. (W. F. Tyndall) **53** #2395 90D05

(*with* Millham, C. B.) On Nash subsets and mobility chains in bimatrix games. *Naval Res. Logist. Quart.* **23** (1976), *no.* 2, 311–319. (M. Maschler) **57** #9090 90D10

Midpoint solutions of $x^x = a^b$. *Math. Mag.* **51** (1978), *no.* 3, 181–183. (W. Börsch-Supan) **58** #3325 65D20

Heuer, H. (*with* Molčanov, Ī. M.) Numerical solution of a boundary problem for equations of elastic equilibrium of bodies in transferences. *Information Processing Lett.* **2** (1973), 148–151. (I. M. Longman) **49** #6640 65N10

(*with* Molčanov, Ī. M.; Galba, Ē. F.) A numerical solution of the plane static problem of elasticity theory in the anisotropic case. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 31 (1977), 9–23, 155. (Authors' summary) **57** #8352 73.65

Heun, Kenneth Donald (*with* Vairavan, K.) The realization of consistent input-output sequences by finite state machines. *Information and Control* **31** (1976), *no.* 2, 97–106. (Authors' summary) **56** #11647 94A30 (93B15)

Heunemann, Dieter Über die normale Auflösbarkeit singulärer Integraloperatoren mit unstetigem Symbol. *Math. Nachr.* **80** (1977), 157–163. (T. G. Gegelia) **58** #12259 45N05

Heuser, Ansgar Eine Anwendung der Hasse-Schmidt-Differentiale auf ein Verzweigungsproblem. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday. *J. Reine Angew. Math.* **262/263** (1973), 286–292. (R. E. MacRae) **50** #295 13B15 (12B10, 13B10)

Heuser, Harro ★Funktionalanalysis. Mathematische Leitfäden. *B. G. Teubner, Stuttgart*, 1975. 416 *pp.* (Zbl **309** #47001) **58** #2111 46–01 (47–01)

Heuser, K.-P. (*with* Franken, Peter) Estimates of the indices of reliability for redundant systems with renewal. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 4, 100–105 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 4, 64–69 (1978). (Authors' summary) **58** #15101 90B25

Heuts, R. M. J. A new test statistic for searching hidden periodicities in time series and the derivation and numerical calculation of its power function. (German, French and Russian summaries) *Statist. Hefte* (*N.F.*) **14** (1973), 13–38. (E. Parzen) **55** #13691 62M10

An efficient algorithm to calculate the least squares estimates of the parameters in the logistic growth function and the application of Beale's measures of non-linearity for this model. (German, French and Russian summaries) *Statist. Hefte* (*N.F.*) **15** (1974), 234–255. **52** #12230 62J05

van Heuven, J. H. C. (*with* Rozzi, T. E.; Meyer, A. G.) Linear networks as Möbius transformations and their invariance properties. *Proc. IEEE* **59** (1971), 802–803. (Izhak Rubin) **48** #13506 94A20

Heuvers, Konrad John The linear and pseudo-linear functionals of a complex vector space. *Tensor* (*N.S.*) **22** (1971), 148–150. (C. I. Ispas) **45** #5154 (EA **45**) 15A69 (81.15)

The linear and pseudo-linear operators of a complex vector space. *Tensor* (*N.S.*) **22** (1971), 174–178. (C. I. Ispas) **45** #5155 15A69

On the types of functions which can serve as scalar products in a complex linear space. *Linear Algebra and Appl.* **6** (1973), 83–96. (R. H. Cox) **47** #788 46C10

Heuzé, Guy Sur les plans équilibrés. *C. R. Acad. Sci. Paris Sér. A-B* **271** (1970), A79. (W. M. Kantor) **45** #84 05B05

Sur les plans partiellement équilibrés. *Publ. Inst. Statist. Univ. Paris* **19** (1970), *no.* 4, 49–54. (From the author's introduction) **56** #7049 62K10

Vue d'ensemble sur la théorie des plans équilibrés. *Enseignement Math.* (2) **17** (1971), 289–294. (Diane Johnson) **48** #5884 05B05

Conditions nécessaires d'existence des (k, r, s)-plans. (English summary) *Math. Sci. Humaines No.* 41 (1972), 27–30. (N. S. Mendelsohn) **52** #5447 05B25

Sur les corps finis. (English summary) *Math. Sci. Humaines No.* 47 (1974), 57–59. (R. J. McEliece) **51** #10309 12C30

See also **Séminaire: Algèbre Non Commutative**, **48** #5783

Hevelev, A. B. (*with* Semenjuta, V. N.) A local principle for special classes of Banach algebras. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1977**, *no.* 1, 15–17, 116. (Authors' summary) **58** #17855 46J10 (47G05)

Hevelius, Johannes *See* **Targosz, Karolina**, **56** #2740 *and* **Targosz, Karolina**, **58** #10071

Hewer, Gary A. A note on controllability of linear systems with time delay. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 5, 733–734. (Author's summary) **55** #14285 93B05

(*with* Nazaroff, Gregory J.) Stabilization of linear, autonomous differential delay systems. *IEEE Trans. Automatic Control* **AC-18** (1973), 673–674. (G. S. Ladde) **54** #7056 (E **58** #20741) 93D05

(*with* Nazaroff, Gregory J.) Oberserver theory for delayed differential equations. *Internat. J. Control* (1) **18** (1973), 1–7. (M. M. Konstantinov) **55** #2208 93B05

Stability properties of the equation of first variation by t_∞-similarity. *J. Math. Anal. Appl.* **41** (1973), 336–344. (V. Staikos) **47** #5389 34D99

Analysis of a discrete matrix Riccati equation of linear control and Kalman filtering. *J. Math. Anal. Appl.* **42** (1973), 226–236. (W. M. Wonham) **48** #13379 93C55

(*with* Nazaroff, Gregory J.) Correction to: "Stabilization of linear, autonomous differential delay systems" (IEEE Trans. Automatic Control **AC-18** (1973), 673–674). *IEEE Trans. Automatic Control* **AC-19** (1974), 289. (Editors) **58** #20741 93E15

A generalization of an inequality of Coppel. *Proc. Amer. Math. Soc.* **44** (1974), 151–156. (G. Ladas) **48** #11640 34A30

Periodicity, detectability and the matrix Riccati equation. *SIAM J. Control* **13** (1975), *no.* 6, 1235–1251. (Author's summary) **57** #10097 34C25 (93B30)

Hewett, Edwin J. (*with* Moore, J. Douglas) On fully invariant subgroups of Abelian p-groups. *Comment. Math. Univ. St. Paul.* **20** (1971/72), 97–106. (R. J. Ensey) **45** #6921 20K10

(*with* Moore, J. Douglas) Abelian groups in which every α-pure subgroup is β-pure. *Canad. J. Math.* **25** (1973), 560–566. (J. Rotman) **47** #6893 20K99

Hewett, John E. (*with* Dykstra, Richard L.; Thompson, W. A., Jr.) Events which are almost independent. *Ann. Statist.* **1** (1973), 674–681. (Edward D. Rothman) **53** #1671 60A10

(*with* Weinman, David G.; Dugger, Gene; Franck, W. E.) On a test for the equality of two exponential distributions. *Technometrics* **15** (1973), 177–182. (D. Y. Huang) **51** #9312 62F05

(*with* Bulgren, William G.) Double sample tests for hypotheses about the mean of an exponential distribution. *Technometrics* **15** (1973), 187–190. (S. Kullback) **48** #7437 62F05

(*with* Bulgren, William G.; Dykstra, Richard L.) A bivariate t-distribution wi applications. *J. Amer. Statist. Assoc.* **69** (1974), 525–532. (H. E. Reinhardt) **50** #151 62H10

(*with* Spurrier, John D.) Two-stage Wilcoxon tests of hypotheses. *J. Amer. Statis Assoc.* **71** (1976), *no.* 356, 982–987. (Paul Switzer) **54** #14232 62G10

(*with* Moeschberger, M. L.) Some approximate simultaneous prediction intervals f reliability analysis. *Technometrics* **18** (1976), *no.* 2, 227–229. (A. K. Gayen) **55** #115 62N05

(*with* Dykstra, Richard L.) Positive dependence of the roots of a Wishart matri *Ann. Statist.* **6** (1978), *no.* 1, 235–238. (Donald R. Jensen) **56** #16918 62H10

Hewgill, Denton E. An antilocal elliptic operator. *J. Math. Anal. Appl.* **41** (1973), 531–53 (B. Hellwig) **47** #3827 35J30 (47F05)

On the growth of the eigevalues of an elliptic operator in a quasibounded domai *Arch. Rational Mech. Anal.* **56** (1974/75), 367–371. (H. F. Weinberger) **52** #6211 35P20

On the eigenvalues of a second order elliptic operator in an unbounded domain *Pacific J. Math.* **51** (1974), 467–476. (Shawky Shamma) **51** #8648 35P20

A relationship between Pascal's triangle and Fermat's numbers. *Fibonacci Quart.* 1 (1977), *no.* 2, 183–184. (F. T. Howard) **55** #10275 05A10

Hewit, J. R. (*with* Ball, D. J.) An optimal control problem for a class of distribute parameter systems. (French, German and Russian summaries) *Automtica–J. IFAC* (1973), *no.* 2, 263–267. (R. Liu) **55** #14328 93C22

(*with* Ball, D. J.) Functional analysis applied to the optimisation of a temperatu profile. *Applications of methods of functional analysis to problems in mechanics* (*Join Sympos., IUTAM/IMU, Marseille*, 1975), *pp.* 177–185. *Lecture Notes in Math.*, 50 *Springer, Berlin*, 1976. (From the introduction) **58** #32455 80.46 (70.46)

Hewitt, B. L. *See* **Computational methods and problems in aeronautical fluid dynamic** **54** #4327

Hewitt, Edwin Factorization in Banach algebras and Banach modules. *Gamoqeneb. Mat Inst. Sem. Mohsen. Anotacie. No.* 3 (1970), 63–64. (A. Figà-Talamanca) **45** #2498 46J99 (43A20)

Factorization in Banach algebras and Banach modules. (Russian. Georgian summary) *Gamoqeneb. Math. Inst. Sem. Mohsen. Anotacie. No.* 3 (1970), 65–66. (Editors) **45** #2499 46J99 (43A20)

(*with* Edwards, Robert E.; Ross, Kenneth A.) Lacunarity for compact groups. I *Indiana Univ. Math. J.* **21** (1971/72), 787–806. (A. Figà-Talamanca) **45** #6981 43A55

(*with* Edwards, Robert E.; Ross, Kenneth A.) Lacunarity for compact groups. III *Conference on Harmonic Analysis* (*Univ. Maryland, College Park, Md.*, 1971), *pp.* 35–4 *Lecture Notes in Math., Vol.* 266, *Springer, Berlin*, 1972. (Editors) **52** #8801 43A4 (42A44)

Harmonic analysis and topology. *General topology and its relations to mode analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 193–20 *Academia, Prague*, 1972. (K. A. Ross) **50** #5357 43–02 (42A44)

(*with* Halsey, G. D.) More on the superparticular ratios in music. *Amer. Ma Monthly* **79** (1972), 1096–1100. (Editors) **47** #1744 10B25

(*with* Edwards, Robert E.; Ross, Kenneth A.) Lacunarity for compact groups. II *Pacific J. Math.* **41** (1972), 99–109. (A. Figà-Talamanca) **47** #3911 43A46

(*with* Edwards, Robert E.; Ross, Kenneth A.) Lacunarity for compact groups. III Collection of articles honoring the completion by Antoni Zygmund of 50 years scientific activity, V. *Studia Math.* **44** (1972), 429–476. (C. McGehee) **49** #5732 43A46 (42A44)

(*with* Stromberg, Karl) Some examples of nomeasurable sets. *J. Austral. Math. So* **18** (1974), *no.* 2, 236–238. (From the authors' introduction) **57** #12805 28A0 (43A05)

(*with* Ross, Kenneth A.) Rearrangements of L^r Fourier series on compact abelia groups. *Proc. London Math. Soc.* (3) **29** (1974), 317–330. (J. W. Sanders) **58** #6934 43A25

(*with* Stromberg, Karl) ★Real and abstract analysis. A modern treatment of th theory of functions of a real variable. Third printing. Graduate Texts in Mathemati No. 25. *Springer-Verlag, New York-Heidelberg*, 1975. x+476 *pp.* (Editors) **51** #3363 26–02 (28–02, 46–02)

(*with* Ross, Kenneth A.) ★Абстрактный гармонический анализ. Том 2. (Russia [Abstract harmonic analysis. Vol. 2.] Структура и анализ компактных групп. Анали на локально компактных абелевых группах. [Structure and analysis for compa groups. Analysis on locally compact abelian groups] Translated from the English by V P. Gurariĭ, E. A. Gutkin and A. S. Dynin. Edited by A. A. Kirillov. *Izdat.* "*Mir*" *Moscow*, 1975. 901 *pp.* (Editors) **53** #688 22–XX

(*with* Ross, Kenneth A.) ★Абстрактный гармонический анализ. Том I. (Russian [Abstract harmonic analysis. Vol. I] Структура топологических групп. Теория интегрирования. Представления групп. [Structure of topological groups. Theory o integration. Group representations] Edited by M. Ja. Antonovskiĭ. With a preface by M Ja. Antonovskiĭ and A. A. Kirillov. Translated from the English by A. A. Mal′cev. *Izda* "*Nauka*", *Moscow*, 1975. 654 *pp.* (Editors) **54** #446 22–XX

Some Fourier-Stieltjes transforms of absolute value one. Collection of article dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday. *J. Approximatio Theory* **13** (1975), 153–157. (K. A. Ross) **50** #7950 43A10

Certain congruences that hold identically. *Amer. Math. Monthly* **83** (1976), *no.* 270–271. (I. Niven) **55** #7896 10A10

(*with* Ritter, Gunter) Uber die Integrierbarkeit von Fourier-Transformierten au Gruppen. I. Stetige Funktionen mit kompaktem Träger und eine Bemerkung übe hyperbolische Differentialoperatoren. *Math. Ann.* **224** (1976), *no.* 1, 77–96. (Colin C Graham) **54** #8162 43A25

(*with* Brown, Gavin) Continuous singular measures equivalent to their convolutio squares. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 2, 249–268. (Colin C Graham) **54** #3291 43A10 (28A65)

(*with* Ritter, Gunter) On the integrability of Fourier transforms on groups. II Fourier-Stieltjes transforms of singular measures. *Proc. Roy. Irish Acad. Sect. A* 7 (1976), *no.* 25, 265 287. (Colin C. Graham) **55** #8698 43A25

Remarks on singular measures. (Russian) Translated from the English by A. A al'cev. *Uspehi Mat. Nauk* **31** (1976), *no.* 5 (191), 167–176. (R. Kaufman) **56** #9184 A05 (43A25)

(*with* Ritter, Gunter) The Orlicz-Paley-Sidon phenomenon for singular measures. *ymposia Mathematica, Vol. XXII* (*Convegno sull'Analisi Armonica e Spazi di Funzioni Gruppi Localmente Compatti, INDAM, Rome*, 1976), *pp.* 21–31. *Academic Press, ondon*, 1977. (Colin C. Graham) **57** #13379 43A25

(*with* Edwards, Robert E.; Ritter, Gunter) Fourier multipliers for certain spaces of nctions with compact supports. *Invent. Math.* **40** (1977), *no.* 1, 37–57. (C. McGehee) **5** #8696 43A22

See also **Ljapin, E. S., 50** #4789 *and* **Kirillov, A. A., 54** #447

H tt, J. I. (*with* Brown, Bruce M.) Asymptotic likelihood theory for diffusion processes. *Appl. Probability* **12** (1975), 228–238. (B. L. S. Prakasa Rao) **51** #11884 62M05

(*with* Brown, Bruce M.) Inference for the diffusion branching process. *J. Appl. robability* **12** (1975), *no.* 3, 588–594. (Niels Keiding) **51** #14475 62M05 (60J80)

H tt, R. G. L. (*with* Barrett, Bruce R.; McCarthy, R. J.) Discussion of a new technique or solving the Bethe-Goldstone equation. *Phys. Rev. C* (3) **2** (1970), 1199–1204. (I. K. Marek) **49** #1980 81.47

He er, G. (*with* Ho, Yu Chi) Information structure: common and private. *IEEE Trans. nformation Theory* **IT-23** (1977), *no.* 3, 390–393. (A. D. Wyner) **58** #15696 94A15

He er, Gyorgy (*with* Mintz, Max) A Hilbert-space approach to minimax state estimation or plants subject to a control energy constraint. *Proceedings of the* 1974 *IEEE Conference on Decision and Control including* 13*th Symposium on Adaptive Processes Phoenix, Ariz.*, 1974), *pp.* 659–664. *Inst. Electrical Electron. Engrs., New York*, 1974. Authors' summary) **57** #5333 93E10

(*with* Mintz, Max) On the solution of a minimax terminal state estimation problem. A Hilbert space approach. *Internat. J. Control* **27** (1978), *no.* 6, 821–830. (Tamer Başar) **58** #15569 93E10

H , J. B. (*with* Roberts, P. S.) Syntax analysis by Domölki's algorithm. *Comput. J.* **13** 1970), *no.* 3, 263–271. (Authors' summary) **52** #16144 68A30

H er, Alfred C. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and robability, 52** #9427

H John D. Price adjustment in an atomistic market. *J. Econom. Theory* **8** (1974), *no.* 4, 483–499. (Author's summary) **57** #15331 90A15

H la, P. G. Three boundary layer type problems arising in the cable industry. *Bull. Inst. Math. Appl.* **12** (1976), *no.* 3, 81–84. (William H. H. Banks) **56** #10370 76.35

H de, C. C. (*with* Brown, Bruce M.) On the departure from normality of a certain class of martingales. *Ann. Math. Statist.* **41** (1970), 2161–2165. (D. L. Burkholder) **45** #2779 60G45

Characterization of the normal law by the symmetry of a certain conditional distribution. *Sankhyā Ser. A* **32** (1970), 115–118. **45** #2828 62E10

(*with* Leslie, Julian) Improved classical limit analogues for Galton-Watson processes with or without immigration. *Bull. Austral. Math. Soc.* **5** (1971), 145–155. (W. A. O'N. Waugh) **45** #2806 60J80

(*with* Seneta, Eugene) Analogues of classical limit theorems for the supercritical Galton-Watson process with immigration. *Math. Biosci.* **11** (1971), 249–259. (M. M. Siddiqui) **45** #1272 60J80

Some almost sure convergence theorems for branching processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **20** (1971), 189–192. (K. B. Athreya) **47** #5973 60J80

(*with* Brown, Bruce M.) An invariance principle and some convergence rate results for branching processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **20** (1971), 271–278. (F. Papangelou) **46** #10085 60J80

(*with* Hannan, Edward James) On limit theorems for quadratic functions of discrete time series. *Ann. Math. Statist.* **43** (1972), 2058–2066. (J. E. A. Dunnage) **50** #15218 62M10 (60F05)

Martingales: a case for a place in the statistician's repertoire. *Austral. J. Statist.* **14** (1972), 1–9. (Adhir K. Basu) **52** #4354 60–02 (62–02)

(*with* Seneta, Eugene) Studies in the history of probability and statistics. XXXI. The simple branching process, a turning point test and a fundamental inequality: a historical note on I. J. Bienaymé. *Biometrika* **59** (1972), 680–683. (Authors' summary) **49** #6289 60–03 (01A55)

(*with* Seneta, Eugene) Estimation theory for growth and immigration rates in a multiplicative process. *J. Appl. Probability* **9** (1972), 235–256. (K. Dietz) **49** #8127 (E **51** #4437) 60J80 (62M05)

(*with* Leslie, Julian) On the influence of moments on approximations by portion of a Chebyshev series in central limit convergence. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **21** (1972), 225–268. (V. Fabian) **47** #2646 60F05

On the uniform metric in the context of convergence to normality. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **25** (1972/73), 83–95. (S. M. Samuels) **48** #12627 60F05

(*with* Scott, D. J.) Invariance principles for the law of the iterated logarithm for martingales and processes with stationary increments. *Ann. Probability* **1** (1973), 428–436. (M. Iosifescu) **50** #5886 60B10

An iterated logarithm result for martingales and its application in estimation theory for autoregressive processes. *J. Appl. Probability* **10** (1973), 146–157. (E. Parzen) **51** #2214 62M10 (60F15)

Revisits for transient random walk. *Stochastic Processes Appl.* **1** (1973), 33–51. (N. C. Jain) **51** #4407 60J15

On estimating the variance of the offspring distribution in a simple branching process. *Advances in Appl. Probability* **6** (1974), 421–433. (A. V. Nagaev) **50** #1350 60J80 (62M05)

An iterated logarithm result for autocorrelations of a stationary linear process. *Ann. Probability* **2** (1974), 328–332. (O. Gulyás) **51** #4597 62M10

(*with* Seneta, Eugene) Notes on "Estimation theory for growth and immigration rates in a multiplicative process" (J. Appl. Probability **9** (1972), 235–256). *J. Appl. Probability* **11** (1974), 572–577. (K. Dietz) **51** #4437 60J80 (62M05)

(*with* Seneta, Eugene) The genetic balance between random sampling and random population size. *J. Math. Biol.* **1** (1974/75), *no.* 4, 317–320. (Editors) **54** #2244 92A10

On martingale limit theory and strong convergence results for stochastic approximation procedures. *Stochastic Processes Appl.* **2** (1974), *no.* 4, 359–370. (Madanlal T. Wasan) **52** #4549 62L20

On the central limit theorem for stationary processes. *Z. Wahrscheinlichkietstheorie und Verw. Gebiete* **30** (1974), 315–320. (D. J. Scott) **51** #9159 60F05 (60G10)

A nonuniform bound on convergence to normality. *Ann. Probability* **3** (1975), *no.* 5, 903–907. (Don McLeish) **53** #6675 60F05

Remarks on efficiency in estimation for branching processes. *Biometrika* **62** (1975), 49–55. (Niels Keiding) **51** #11886 62M05 (60J80)

On the central limit theorem and iterated logarithm law for stationary processes. *Bull. Austral. Math. Soc.* **12** (1975), 1–8. (Stanley Sawyer) **51** #9158 60F05 (60G10)

(*with* Seneta, Eugene) Bienaymé. (French summary) With discussion. Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 2. Invited papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 2, 318–331, 355–360 (1976). (H. L. Seal) **57** #7821 62–03 (01A50)

A supplement to the strong law of large numbers. *J. Appl. Probability* **12** (1975), 173–175. (V. K. Rohatgi) **51** #4358 60F15 (60G50)

(*with* Hall, Peter) On a unified approach to the law of the iterated logarithm for martingales. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 3, 435–447. (N. C. Jain) **54** #11468 60F15 (60G45)

On asymptotic behavior for the Hawkins random sieve. *Proc. Amer. Math. Soc.* **56** (1976), 277–280. (O. P. Stackelberg) **53** #7980 10H30

(*with* Basawa, I. V.; Feigin, Paul David) Asymptotic properties of maximum likelihood estimators for stochastic processes. *Sankhyā Ser. A* **38** (1976), *no.* 3, 259–270. (Authors' summary) **58** #31525 62E20 (62F10, 62M99)

(*with* Leslie, Julian) On moment measures of departure from the normal and exponential laws. *Stochastic Processes Appl.* **4** (1976), *no.* 3, 317–328. (F. W. Steutel) **54** #14039 60F05 (60E05)

(*with* Seneta, Eugene) ★I. J. Bienaymé. Statistical theory anticipated. Studies in the History of Mathematics and Physical Sciences, No. 3. *Springer-Verlag, New York-Heidelberg*, 1977. xiv + 172 *pp.* (1 *plate*) *ISBN* 0-387-90261-9 (H. L. Seal) **57** #2855 01A75 (62–03)

On central limit and iterated logarithm supplements to the martingale convergence theorem. *J. Appl. Probability* **14** (1977), *no.* 4, 758–775. (Holger Rootzén) **58** #24475 60F05 (60G45)

von der Heyde, Paul (*with* Hehl, Friedrich W.) Spin and the structure of space-time. *Ann. Inst. H. Poincaré Sect. A(N.S.)* **19** (1973), 179–196. (H. Treder) **54** #14718 83.53

(*with* Hehl, Friedrich W.; Kerlick, G. David) General relativity with spin and torsion and its deviations from Einstein's theory. *Phys. Rev. D* (3) **10** (1974), 1066–1069. (Authors' summary) **53** #10137 83.53

The equivalence principle in the U_4 theory of gravitation. *Lett. Nuovo Cimento* (2) **14** (1975), *no.* 7, 250–252. **56** #4661 83.53

A generalized Lovelock theorem for the gravitational field with torsion. *Phys. Lett. A* (3) **51** (1975), 381–382. (Author's summary) **53** #12445 83.35

The field equations of the Poincaré gauge theory of gravitation. *Phys. Lett. A* **58** (1976), *no.* 3, 141–143. (M. Sachs) **54** #2097 83.53

(*with* Hehl, Friedrich W.; Kerlick, G. David) On a new metric affine theory of gravitation. *Phys. Lett. B* **63** (1976), *no.* 4, 446–448. (M. Sachs) **54** #2096 83.53

(*with* Hehl, Friedrich W.; Kerlick, G. David; Nester, James M.) General relativity with spin and torsion: foundations and prospect. *Rev. Modern Phys.* **48** (1976), *no.* 3, 393–416. (M. Carmeli) **55** #11902 83.53

(*with* Hehl, Friedrich W.; Ne'eman, Y.; Nitsch, J.) Short-range confining component in a quadratic Poincaré gauge theory of gravitation. *Phys. Lett. B* **78** (1978), *no.* 1, 102–106. (Authors' summary) **58** #20211 83.53

Heydemann, M. C. (*with* Vigué-Poirrier, Micheline) Étude de certaines algèbres différentielles. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 741–744. (S. Y. Husseini) **50** #446 18G40 (55B35)

(*with* Vigué-Poirrier, Micheline) Étude de certaines algèbres différentielles. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 827–829. (S. Y. Husseini) **50** #447 18G40 (55B35)

(*with* Vigué-Poirrier, Micheline) Application de la théorie des polynômes de Hilbert-Samuel à l'étude de certaines algèbres différentielles. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1607–1610. (T. Albu) **51** #3148 13D99

(*with* Vigué-Poirrier, Micheline) Une conséquence de la finitude de la cohomologie de certaines algèbres différentielles. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 181–184. (S. Yuan) **50** #2310 18H20

(*with* Bermond, Jean-Claude; Sotteau, D.) Line graphs of hypergraphs. I. *Discrete Math.* **18** (1977), *no.* 3, 235–241. (R. L. Hemminger) **57** #2967 05C10 (05C99)

van der Heyden, Will P. A. Some experiments with Steiner trees. *Numerische Methoden bei Optimierungsaufgaben, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1976), *pp.* 79–109. *Internat. Ser. Numer. Math., Vol.* 36, *Birkhäuser, Basel*, 1977. (Ethan D. Bolker) **57** #19126 94A20 (90B10)

Heyderman, Arthur J. *See* **Transactions: Conference of Army Mathematicians, 49** #4737

von der Heydt, N. Die Schrödinger-Gleichung mit nichtlokalem Potential. I. Die Resolvente. (English summary) *Ann. Physik* (7) **29** (1973), 309–324. (Author's summary) **55** #14009 81.45

Heydthausen, Manfred (*with* Mehlhorn, Kurt) Top down parsing of macro grammars (preliminary report). *GI–6. Jahrestagung* (*Stuttgart*, 1976), *pp.* 95–108. *Informatik-Fachberichte, Band* 5, *Springer, Berlin*, 1976. (Ju. G. Karpov) **58** #3722 68A30

Heydweiller, J. C. (*with* Sincovec, Richard F.) A stable difference scheme for the solution of hyperbolic equations using the method of lines. *J. Computational Phys.* **22** (1976), *no.* 3, 377–388. (Authors' summary) **56** #13678 65M20

Heyer, Herbert Remarques sur une axiomatique de la variance. (English summary) Avec discussion par K. R. Parthasarathy, S. D. Chatterji, H. Carnal, M. Depeyrot et H. Heyer. *Les probabilités sur les structures algébriques* (*Actes Colloq. Internat. CNRS, No.* 186, *Clermont-Ferrand*, 1969), *pp.* 177–189. *Éditions Centre Nat. Recherche Sci., Paris*, 1970. (Author's summary) **53** #14578 60B15

(*with* Tortrat, A.) Sur la divisibilité des probabilités dans un groupe topologique. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **16** (1970), 307–320. (R. A. Gangolli) **45** #4465 60B15

Infinitely divisible probability measures on compact groups. *Lectures on operator algebras (dedicated to the memory of David M. Topping; Tulane Univ. Ring and Operator Theory Year*, 1970-1971, *Vol. II*), *pp*. 55–249. *Lecture Notes in Math., Vol*. 247. *Springer, Berlin*, 1972. (K. A. Ross) **50** #14874 60B15

A central limit theorem for compact Lie groups. *Papers from the "Open House for Probabilists" (Mat. Inst., Aarhus Univ., Aarhus*, 1971), *pp*. 101–117. *Various Publ. Ser., No*. 21, *Mat. Inst., Aarhus Univ., Aarhus*, 1972. (Editors) **52** #4368 60B15

The duality principle and applications to probability theory on locally compact groups. *Papers from the "Open House for Probabilists" (Mat. Inst., Aarhus Univ., Aarhus*, 1971), *pp*. 118–128. *Various Publ. Ser., No*. 21, *Mat. Inst., Aarhus Univ., Aarhus*, 1972. (G. A. Reid) **52** #5866 22D35 (60B15)

(*with* Rall, Christian) Gausssche Wahrscheinlichkeitsmasse auf Corwinschen Gruppen. *Math. Z*. **128** (1972), 343–361. (V. M. Kruglov) **55** #1397 60B15

Zum Erschöpftheitsbegriff von D. Blackwell. (English summary) *Metrika* **19** (1972), 54–67. (Bernard Harris) **51** #11736 62B05

★Mathematische Theorie statistischer Experimente. Unter Mitwirkung von Hartmut Scheller. Hochschultext. *Springer-Verlag, Berlin-New York*, 1973. xxii + 209 *pp*. (T. Pitcher) **48** #9898 62–02 (62Bxx, 62Fxx, 62Gxx)

Groups with chu duality. *Probability and information theory, II, pp*. 181–215. *Lecture Notes in Math., Vol*. 296, *Springer, Berlin*, 1973. (G. A. Reid) **51** #796 22D35

Gauss distributions and central limit theorem for locally compact groups. *Limit theorems of probability theory (Colloq., Keszthely*, 1974), *pp*. 105–134. *Colloq. Math. Soc. János Bolyai, Vol*. 11, *North-Holland, Amsterdam*, 1975. (A. L. Ruhin) **52** #12035 60B15

Probabilistic characterization of certain classes of locally compact groups. *Symposia Mathematica, Vol. XVI (Convegno sui Gruppi Topologici e Gruppi di Lie, INDAM, Rome*, 1974), *pp*. 315–355. *Academic Press, London*, 1975. (Editors) **58** #31334 60B15 (43A05)

★Probability measures on locally compact groups. Ergebnisse der Mathematik und ihrer Grenzgebiete, Band 94. *Springer-Verlag, Berlin-New York*, 1977. x + 531 *pp*. *ISBN* 3-540-08332-4 (A. Mukherjea) **58** #18648 60B15 (43A05)

Probability measures on almost periodic groups. *Symposia Mathematica, Vol. XXI (Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Convegno sui Gruppi e Anelli Ordinati, INDAM, Rome*, 1975), *pp*. 281–311. *Academic Press, London*, 1977. (Wilfried Hazod) **57** #10354 43A05 (60B15)

See also **Carnal, H.**, **53** #14577 *and* **Azencott, Robert**, **53** #14673

Heym, K. Die Synthese des optimalen Zustandsreglers im Frequenzbereich. (English summary) *Regelungstech. Prozess-Datenverarbeit*. **20** (1972), *no*. 9, 388–393. (Author's summary) **56** #14888 93B15

Heyman, D. P. An approximation for the busy period of the $M/G/1$ queue using a diffusion model. *J. Appl. Probability* **11** (1974), 159–169. (L. Takács) **51** #7046 60K25

(*with* Segal, M.) Conditional delays measured in events for the $M/M/c$ queue. *Operations Res*. **22** (1974), *no*. 3, 575–581. (Takehisa Fujisawa) **55** #4425 60K25

A diffusion model approximation for the $GI/G/1$ queue in heavy traffic. *Bell System Tech. J*. **54** (1975), *no*. 9, 1637–1646. (Author's summary) **55** #13603 60K25

Heyman, Daniel P. (*with* Hoadley, A. Bruce) A two-echelon inventory model with purchases, dispositions, shipments, returns and transshipments. *Naval Res. Logist. Quart*. **24** (1977), *no*. 1, 1–19. (J. A. E. E. van Nunen) **58** #20336 90B05

Optimal disposal policies for a single-item inventory system with returns. *Naval Res. Logist. Quart*. **24** (1977), *no*. 3, 385–405. (Laurence L. George) **57** #4367 60K30 (90B05)

Heyman, G. A. P. (*with* van Leeuwen, Leo C. A.) On regular rings and the radicals of Behrens and Nagata. (Italian summary) *Boll. Un. Mat. Ital*. (4) **8** (1973), 437–448. (M. Nagata) **50** #378 16A21

(*with* van Leeuwen, Leo C. A.) A radical determined by a class of almost nilpotent rings. *Acta Math. Acad. Sci. Hungar*. **26** (1975), *no*. 3-4, 259–262. (Anthony E. Hoffman) **52** #8178 16A21

(*with* Leavitt, W. G.) A simple ring separating certain radicals. *Glasgow Math. J*. **16** (1975), *no*. 1, 29–31. (D. Kreiling) **53** #10846 16A21

(*with* Roos, Cornelis) Essential extensions in radical theory for rings. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no*. 3, 340–347. (Terry L. Jenkins) **58** #22141 16A12

Heyman, J. *See* **Collection: Prager, William**, **50** #3723

Heymann, Michael The prime structure of linear dynamical systems. *SIAM J. Control* **10** (1972), 460–469. (E. Ar) **46** #10449 93B15

(*with* Thorpe, John A.) A note on minimal polynomials. *Linear Algebra and Appl*. **7** (1973), 279–280. (R. Merris) **48** #2153 15A03

(*with* Feuer, Arie) On a theorem by W. Hahn. *Monatsh. Math*. **78** (1974), 391–394. (M. J. Davies) **50** #10978 49E30 (93B05)

★Structure and realization problems in the theory of dynamical systems. International Centre for Mechanical Sciences (CISM) Courses and Lectures, No. 204. *Springer-Verlag, Vienna-New York*, 1975. 79 *pp*. (P. Brunovský) **56** #2495 93Bxx

Controllability subspaces and feedback simulation. *Proceedings of the IFAC 6th World Congress (Boston/Cambridge, Mass*., 1975), *Part* 1, *Paper No*. 43.2, 12 *pp*. *IFAC, Düsseldorf*, 1975. (Author's summary) **58** #33247 93B05

(*with* Stern, Ronald J.) Controllability of linear systems with positive controls: geometric considerations. *J. Math. Anal. Appl*. **52** (1975), *no*. 1, 36–41. (Stephen H. Saperstone) **52** #6541 49E15

(*with* Pachter, Meir; Stern, Ronald J.) Max-min control problems: a system theoretic approach. *IEEE Trans. Automatic Control* **AC-21** (1976), *no*. 4, 455–463. (Authors' summary) **55** #10102 93C05 (90D25)

(*with* Pachter, Meir; Stern, Ronald J.) Weak and strong max-min controllability. *IEEE Trans. Automatic Control* **AC-21** (1976), *no*. 4, 612–613. (Guy Jumarie) **54** #7042 93C15 (90D45)

(*with* Feuer, Arie) Admissible sets in linear feedback systems with bounded controls. *Internat. J. Control* **23** (1976), *no*. 3, 381–392. (N. Harris McClamroch) **54** #7032 93C05

(*with* Stern, Ronald J.) Ω-rest points in autonomous control systems. *J. Differential Equations* **20** (1976), *no*. 2, 389–398. (Stephen H. Saperstone) **56** #3728 49E20 (93D99)

(*with* Feuer, Arie) *U*-invariance in control systems with bounded controls. *J. Ma Anal. Appl*. **53** (1976), *no*. 2, 266–276. (Eleanor M. James) **53** #2459 93C15 (34H0

Controllability subspaces and feedback simulation. *SIAM J. Control Optimizati* **14** (1976), *no*. 4, 769–789. (Michael E. Warren) **55** #12191 93B10

(*with* Hautus, M. L. J.; Stern, Ronald J.) Weak-invariance and rest points control systems. *Dynamical systems (Proc. Internat. Sympos., Univ. Florida, Gainesvil Fla*., 1976), *pp*. 71–87. *Academic Press, New York*, 1977. (Ethelbert N. Chukw **57** #19006 93D99 (34H05)

(*with* Pachter, Meir; Stern, Ronald J.) On linear games with subspace targe *Funkcial. Ekvac*. **20** (1977), *no*. 1, 71–76. (P. Hagedorn) **56** #14782 90D25

(*with* Hautus, M. L. J.) Rest point theorems for autonomous control systems. *Math. Anal. Appl*. **58** (1977), *no*. 1, 98–112. (Eleanor M. James) **55** #3927 49E05

(*with* Hautus, M. L. J.) Linear feedback—an algebraic approach. *SIAM J. Cont Optimization* **16** (1978), *no*. 1, 83–105. (Peter A. Cook) **57** #15604 93B25 (93C55)

Heymans, P. The minimum model of spaces on a quadric. *Proc. London Math. Soc*. (3) (1971), 531–561. (W. Burau) **45** #5134 14H45 (50A05)

Heyn, Eugen Über die Erweiterung nichtlinearer Randwertprobleme und die Existenz v Lösungen. *Math. Nachr*. **69** (1975), 85–95. (Jean Mawhin) **53** #6376 47H15

Heyne, Eberhard (*with* Reutter, Fritz) ★Untersuchungen über die automatische Lösu von Aufgaben der konstruktiven Geometrie. Forschungsberichte des Landes Nordrhein-Westfalen, No. 2300. *Westdeutscher Verlag, Opladen*, 1973. 58 *pp*. (H. Guggenheimer) **57** #14556 65S05 (50D15, 68A45)

Heyneman, Robert G. (*with* Radford, David E.) Reflexivity and coalgebras of finite typ *J. Algebra* **28** (1974), 215–246. (E. J. Taft) **49** #10727 16A24

Heyting, A. On intuitionism. (Czech) Translated from the Russian by Alena Kotlářo and Josef Veselka. *Pokroky Mat. Fyz. Astronom*. **17** (1972), 4–15. (Editors) **58** #103 02C15

Address to Professor A. Robinson. At the occasion of the Brouwer memor lecture given by Prof. A.Robinson on the 26th April 1973. *Nieuw Arch. Wisk*. (3) (1973), 134–137. (Editors) **55** #7720 02–03 (02Exx, 01A70)

★Mathematische Grundlagenforschung, Intuitionismus, Beweistheorie. Repri *Springer-Verlag, Berlin-New York*, 1974. iv + 73 *pp*. (Editors) **49** #8806 02C15 (02Dxx, 02Exx)

Intuitionistic views on the nature of mathematics. (Italian summary) Conferen tenuti in occasione del cinquantenario dell'Unione Matematica Italiana (1972). *Boll. U Mat. Ital*. (4) **9** (1974), *suppl. no*. 2, 122–134. (B. H. Mayoh) **54** #2426 02C (02–01)

Intuitionistic views on the nature of mathematics. On the foundations of mathematics (Sympos. Philos. Math., Santa Margherita Ligure, 1972). *Synthese* (1974), 79–91. (D. Nelson) **58** #16195 02E05

See also **Grundlagen der modernen Mathematik**, **50** #6716 *and* **Brouwer, L. E.** **58** #27140

Heywood, John G. On stationary solutions of the Navier-Stokes equations as limits nonstationary solutions. *Arch. Rational Mech. Anal*. **37** (1970), 48–60. (From t author's introduction) **54** #761 35Q10

The exterior nonstationary problem for the Navier-Stokes equations. *Acta Ma* **129** (1972), *no*. 1-2, 11–34. (Author's review (Zbl **237** #35074)) **58** #29432 35Q1

On nonstationary Stokes flow past an obstacle. *Indiana Univ. Math. J*. **24** (1974/75), 271–284. (R. Temam) **50** #7850 35Q10

On some paradoxes concerning two-dimensional Stokes flow past an obstacl *Indiana Univ. Math. J*. **24** (1974/75), 443–450. (Marjorie F. McCracken) **53** #13873 35Q10

On uniqueness questions in the theory of viscous flow. *Acta Math*. **136** (1976), 1-2, 61–102. (J. P. Guiraud) **54** #13346 35Q10

On convergence to steady state of solutions of parabolic equations in unbound domains. *J. Differential Equations* **20** (1976), *no*. 2, 336–355. (V.-V. Olariu) **52** #146 35K35

Heywood, Philip (*with* Herson, D. L. J.) On the range of some fractional integrals. *London Math. Soc*. (2) **8** (1974), 607–614. (G. O. Okikiolu) **50** #3009 47G05

(*with* Rooney, P. G.) On the boundedness of Lowndes' operators. *J. London Ma Soc*. (2) **10** (1975), 241–248. (Kusum Soni) **52** #1183 44A15 (26A33, 47G05)

Improved boundedness conditions for Lowndes' operators. *Proc. Roy. Soc. Edinburgh Sect. A* **73** (1975), 291–299. (G. O. Okikiolu) **52** #1184 44A15 (26A3 47G05)

nguen fu Hi *See* **Nguen Fu Hi**

Hiai, Fumio (*with* Satō, Ryōtarō) Mean ergodic theorems for semigroups of positive line operators. *J. Math. Soc. Japan* **29** (1977), *no*. 1, 123–134. (From the introductio **58** #30367 47A35 (47D05)

(*with* Umegaki, Hisaharu) Integrals, conditional expectations, and martingales multivalued functions. *J. Multivariate Anal*. **7** (1977), *no*. 1, 149–182. (Authors' summary) **58** #22463 28A45 (60G45)

Radon-Nikodým theorems for set-valued measures. *J. Multivariate Anal*. **8** (197 *no*. 1, 96–118. (Zvi Artstein) **58** #28411 28A45

Hibbard, Thomas N. Context-limited grammars. *J. Assoc. Comput. Mach*. **21** (197 446–453. (Author's summary) **58** #13969 68A30

(*with* Cremers, Armin B.) Functional behavior in data spaces. *Acta Inform*. (1977/78), *no*. 4, 293–307. (Irène Guessarian) **58** #19293 68A05

(*with* Cremers, Armin B.) On the formal definition of dependencies between t control and information structure of a data space. *Theoret. Comput. Sci*. **5** (1977/7 *no*. 2, 113–128. (Bernard H. Rosman) **57** #8116 68A05

Hibbert, A. Recent advances in the calculation of oscillator strengths. *Phys. Scripta* (1977), *no*. 1-2, 7–12. (Author's summary) **56** #14390 81.65

Hibbitt, H. D. Some properties of singular isoparametric elements. *Internat. J. Nume Methods Engrg*. **11** (1977), *no*. 1, 180–184. (Author's summary) **56** #10339 73.65

Hiblot, Jean-Jacques Des anneaux euclidiens dont le plus petit algorithme n'est pas valeurs finies. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no*. 12, A A411–A414. (N. Sankaran) **53** #2932 13F15 (12A20)

Un type d'euclidienneté dans les anneaux factoriels, réduction d'euclidienneté *Deuxième Colloque d'Algèbre Commutative (Rennes*, 1976), *Exp. No*. 2, 22 *pp*. *Uni Rennes, Rennes*, 1976. (Daniel Lazard) **56** #2995 13F15

Sur les anneaux euclidiens. *Bull. Soc. Math. France* **104** (1976), *no.* 1, 33–50. (Daniel Lazard) **54** #5221 13F05

Correction à une note sur les anneaux euclidiens: "Des anneaux euclidiens dont le plus petit algorithme n'est pas à valeurs finies" (C. R. Acad. Sci. Paris Sér. A-B **281** (1975), no. 12, A411–A414). (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 15, A847–A849. (Author's summary) **55** #8020 13F10

Hhin, V. P. A model for the long-term distribution of capital investments among the plants of a branch of the economy. (Russian) *Ekonom. i Mat. Metody* **9** (1973), 1066–1075. (From the author's text) **54** #12173 90A15

(*with* Veličkin, V. Z.) Determining of the optimal policy for the construction and modernization of the plants of an industry. (Russian) *Èkonom. i Mat. Metody* **11** (1975), *no.* 6, 1115–1127. (RŽMat **1976** #7 V691) **57** #11661 90A05

Hken, K. K. (*with* Plotkin, J. M.) Compactness and ρ-valued logics. *Proceedings of the 1975 International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.*, 1975), *pp.* 400–405. *IEEE Comput. Soc., Long Beach, Calif.*, 1975. (From the introduction) **58** #10299 02C05 (02H10)

Hkernell, F. J. (*with* Elderkin, R. H.; Berkowitz, D. P.; Farris, F. A.; Gunn, C. F.; Kass, S. N.; Mansfield, F. I.; Taranio, R. G.) On the steady state or an age dependent model for malaria. *Nonlinear systems and applications* (*Proc. Internat. Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp.* 491–512. *Academic Press, New York*, 1977. (H. I. Freedman) **58** #4446 92A15

Hkerson, Dean R. Recursion-type formulae for partitions into distinct parts. *Fibonacci Quart.* **11** (1973), *no.* 3, 307–311. (H.-J. Kanold) **49** #74 05A17

Identities relating the number of partitions into an even and odd number of parts. *J. Combinatorial Theory Ser. A* **15** (1973), 351–353. (M. S. Cheema) **48** #5878 05A17

Length of period simple continued fraction expansion of $\sqrt{d}$. *Pacific J. Math.* **46** (1973), 429–432. (Editors) **48** #246 10F20

A partition identity of the Euler type. *Amer. Math. Monthly* **81** (1974), 627–629. (George E. Andrews) **49** #2526 10A45

A relationship between an integer and the one with the reversed order of digits. *Math. Mag.* **47** (1974), 36–39. (Calvin T. Long) **49** #7206 10A30

A note on congruence properties of certain restricted partitions. *Math. Mag.* **48** (1975), 102. (K. Thanigasalam) **50** #12908 10A45

Continued fractions and density results for Dedekind sums. *J. Reine Angew. Math.* **290** (1977), 113–116. (E. Grosswald) **55** #12611 10A20 (10F20)

Identities relating the number of partitions into an even and odd number of parts. II. *Fibonacci Quart.* **16** (1978), *no.* 1, 5–6. (M. S. Cheema) **57** #12372 10A45

An identity relating compositions and partitions. *Fibonacci Quart.* **16** (1978), *no.* 1, 23–26. (H. Gupta) **57** #12373 10A45

ckey, Harry W. *See* **Notes and comments from Math. Mag.**, **52** #3

ckey, John B. A type of product for uniform semilattices. *Semigroup Forum* **6** (1973), *no.* 3, 198–215. (W. Wiley Williams) **51** #7969 06A20

A family of bisimple inverse semigroups. *Semigroup Forum* **11** (1975), *no.* 1, 30–48. (J. E. Ault) **52** #10920 20M10

Ickin, J. (*with* Sinha, Naresh K.) Near-optimal control using reduced-order models. *Electron. Lett.* **12** (1976), *no.* 10, 259–260. (T. Kaczorek) **53** #15488 93C99

(*with* Sinha, Naresh K.) Reduction of linear systems by canonical forms. *Electron. Lett.* **12** (1976), *no.* 21, 551–553. (Alan Bradshaw) **55** #2232 93B99

(*with* Sinha, Naresh K.) Canonical forms and aggregation for low-order models. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras*, 1976), *Vol.* 2, *pp.* 437–441. *Hemisphere, Washington, D.C.*, 1977. (Authors' summary) **58** #15345 93A15

(*with* Sinha, Naresh K.) Canonical forms for aggregated models. *Internat. J. Control* **27** (1978), *no.* 3, 473–485. (J. M. E. Valenca) **58** #9458 93A15

Ickin, Kenneth K. (*with* Wenzel, J. A.) On the normal product of *FC*-nilpotent and *FC*-hypercentral groups. *Acta Math. Acad. Sci. Hungar.* **22** (1971/72), 355–358. (John D. P. Meldrum) **45** #3569 20D15

(*with* Plotkin, J. M.) On the equivalence of three local theorem techniques. *Proc. Amer. Math. Soc.* **35** (1972), 389–392. (D. J. S. Robinson) **46** #1908 20E25

Countable type local theorems in algebra. *Conference on Group Theory* (*Univ. Wisconsin-Parkside, Kenosha, Wis.*, 1972), *pp.* 123–125. *Lecture Notes in Math., Vol.* 319, *Springer, Berlin*, 1973. (H. A. Thurston) **51** #7989 08A05

(*with* Phillips, Richard E.) On classes of groups defined by systems of subgroups. *Arch. Math.* (*Basel*) **24** (1973), 346–350. (John D. P. Meldrum) **49** #428 20F30

Countable type local theorems in algebra. *J. Algebra* **27** (1973), 523–537. (Robert Gordon) **49** #5179 20E25

(*with* Phillips, Richard E.) Local theorems and group extensions. *Proc. Cambridge Philos. Soc.* **73** (1973), 7–20. (D. J. S. Robinson) **46** #9167 20E25

(*with* Phillips, Richard E.) Joins of subnormal subgroups are serial. *Math. Z.* **137** (1974), 129–130. (D. J. S. Robinson) **49** #10791 20F30

An embedding theorem for periodic groups. *J. London Math. Soc.* (2) **14** (1976), *no.* 1, 63–64. (B. H. Neumann) **54** #7642 20F50

(*with* Plotkin, J. M.) A patching lemma. *Notre Dame J. Formal Logic* **17** (1976), *no.* 1, 158–160. (N. H. Williams) **55** #107 04A20 (05A05)

(*with* Plotkin, J. M.) Some algebraic properties of weakly compact and compact cardinals. *Fund. Math.* **97** (1977), *no.* 3, 177–185. (Thomas J. Jech) **56** #15424 02K35 (02H15)

(*with* Phillips, Richard E.) Non-isomorphic Burnside groups of exponent p^2. *Canad. J. Math.* **30** (1978), *no.* 1, 180–189. (John S. Wilson) **57** #6208 20F50

Complete universal locally finite groups. *Trans. Amer. Math. Soc.* **239** (1978), 213–227. (B. A. F. Wehrfritz) **58** #902 20E25 (20F50)

lickman, James C. (*with* Miller, Robert B.) Insurance credibility theory and Bayesian estimation. *Proceedings of the Annual Meeting of the American Statistical Association, Business and Economic Statistics Section* (*New York*, 1973), *pp.* 232–237. *Amer. Statist. Assoc., Washington, D.C.*, 1974. (Donald A. Jones) **51** #9415 62P05

(*with* Miller, Robert B.) Insurance credibility theory and Bayesian estimation. With a discussion by Dale Lamps. *Credibility: theory and applications* (*Proc. Berkeley Actuar. Res. Conf., Univ. California, Berkeley, Calif.*, 1974; *dedicated to Edward A. Lew*), *pp.* 249–279, 409–414. *Academic Press, New York*, 1975. (Jacques Janssen) **54** #4015 62P05

See also **Jones, Donald A.; et al.**, **51** #7219 *and* **Gerber, Hans U.; et al.**, **53** #14833

Hickman, John L. Some definitions of finiteness. *Bull. Austral. Math. Soc.* **5** (1971), 321–330; *corrigenda, ibid.* **6** (1972), 319. (J. E. Rubin) **45** #3192 02K15

On a cardinal equation in set theory. *Bull. Austral. Math. Soc.* **6** (1972), 447–457. (J. E. Rubin) **46** #5132 02K20 (04A25)

A problem on series of ordinals. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, I. *Fund. Math.* **81** (1973), *no.* 1, 49–56. (Guerino Mazzola) **48** #10814 04A10

Concerning the number of sums obtainable from a countable series of ordinals by permutations that preserve the order-type. *J. London Math. Soc.* (2) **9** (1974/75), 239–244. (J. E. Rubin) **51** #165 04A10

(*with* Neumann, B. H.) A question of Babai on groups. *Bull. Austral. Math. Soc.* **13** (1975), *no.* 3, 355–368. (R. C. Lyndon) **53** #3129 20F99 (02K20)

General-well-ordered sets. *J. Austral. Math. Soc.* **19** (1975), 7–20. (James D. Halpern) **52** #13393 04A25 (02F40)

On the set of finite subsets of a set. *J. Austral. Math. Soc.* **20** (1975), *no.* 1, 38–45. (John K. Truss) **52** #94 04A25 (02K20)

Concerning a class of Diophantine equations with ordinal variables. *J. London Math. Soc.* (2) **11** (1975), *no.* 1, 113–120. (Ju. V. Matijasevič) **51** #12696 10B10 (04A10)

Reducing series of ordinals. *Pacific J. Math.* **59** (1975), *no.* 2, 461–473. (J. E. Rubin) **54** #98 04A10

The construction of groups in models of set theory that fail the axiom of choice. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 2, 199–232. (Alan Mekler) **53** #12940 02K05 (20A10)

Groups of automorphisms of linearly ordered sets. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 1, 13–32. (Stephen H. McCleary) **55** #204 (E **57** #6157) (E **57** #6156) 06A05

Reduction of systems of linear equations in ordinal variables. *Proc. Amer. Math. Soc.* **60** (1976), 265–269. (J. M. Plotkin) **54** #7263 04A10

Analysis of an exponential equation with ordinal variables. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 105–111 (1977). (E. C. Milner) **56** #8368 04A10

A remark on elementary abelian groups. *Bull. Austral. Math. Soc.* **16** (1977), *no.* 2, 213–217. (U. Felgner) **58** #27477 02K05 (20K99)

Corrigenda: "Groups of automorphisms of linearly ordered sets" (Bull. Austral. Math. Soc. **15** (1976), 13–32). *Bull. Austral. Math. Soc.* **16** (1977), *no.* 2, 317–318. (Editors) **57** #6156 20B25

Rigidity in order-types. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 2, 203–215. (Gabriel Lolli) **58** #397 06A05

Quasi-minimal posets and lattices. *J. Reine Angew. Math.* **296** (1977), 10–13. (J. M. Plotkin) **56** #11783 02K05 (06A10)

Regressive order-types. *Notre Dame J. Formal Logic* **18** (1977), *no.* 1, 169–174. (N. H. Williams) **56** #2879 06A05 (04A05)

Critical points of normal functions. I. *Notre Dame J. Formal Logic* **18** (1977), *no.* 4, 527–534. (N. H. Williams) **58** #5233 04A10

Some results on series of ordinals. *Z. Math. Logik Grundlagen Math.* **23** (1977), *no.* 1, 1–18. (Editors) **58** #5232 04A10

An analysis of the class of ordinal solutions of Fermat's equation $x^n+y^n=z^n$. *Acta Math. Acad. Sci. Hungar.* **31** (1978), *no.* 1-2, 9–14. (Ju. V. Matijasevič) **58** #504 10B99

Cofinalities of doubly transitive sets. *J. Reine Angew. Math.* **299/300** (1978), 7–15. (L. Skula) **58** #398 06A05

Critical points of normal functions. II. *Notre Dame J. Formal Logic* **19** (1978), *no.* 1, 20–24. (James Baumgartner) **58** #27495 04A10

An independence result concerning infinite products of alephs. *Notre Dame J. Formal Logic* **19** (1978), *no.* 2, 244–248. (E. C. Milner) **57** #12231 04A10 (02K25)

Doubly transitive sets. *Notre Dame J. Formal Logic* **19** (1978), *no.* 3, 386–394. (Judith Q. Longyear) **58** #399 06A05

Hickman, Lynn (*with* Das Gupta, Prithwis) Estimation of the parameters of a type I geometric distribution from truncated observations on conception delays. *Math. Biosci.* **22** (1974), 75–94. (N. Keyfitz) **50** #15968 92A15

Hickman, R. C. (*with* Cornish, William H.) Weakly distributive semilattices. *Acta Math. Acad. Sci. Hungar.* **32** (1978), *no.* 1-2, 5–16. (R. Beazer) **58** #27674 06A20 (06A35)

Distributivity in semilattices. *Acta Math. Acad. Sci. Hungar.* **32** (1978), *no.* 1-2, 35–45. (R. Beazer) **58** #27675 06A20 (06A35)

Hicks, D. L. Stability analysis of WONDY (a hydrocode based on the artifical viscosity method of von Neumann and Richtmyer) for a special case of Maxwell's law. *Math. Comp.* **32** (1978), *no.* 144, 1123–1130. (C. W. Gear) **58** #3895 73.65

Hicks, R. H. (*with* Gagnon, C. R.; Jacoby, S. L. S.; Kowalik, J. S.) A nonlinear programming approach to a very large hydroelectric system optimization. *Math. Programming* **6** (1974), 28–41. (M. Dragomirescu) **50** #1734 90C50

Hicks, Troy L. (*with* Carlson, John W.) Some quasi-uniform space examples. *J. Math. Anal. Appl.* **39** (1972), 712–716. (P. Fletcher) **46** #9941 54E15

(*with* Carlson, John W.) Some properties of quasi-uniform structures. *Arch. Math.* (*Basel*) **24** (1973), 81–86. (P. Fletcher) **47** #4220 54E15

(*with* Crisler, Wilson R.) A note on T_1 topologies. *Proc. Amer. Math. Soc.* **46** (1974), 94–96. (Richard A. Alò) **51** #6721 54D10

(*with* Carter, Karen S.) Some results on quasi-uniform spaces. *Canad. Math. Bull.* **19** (1976), *no.* 1, 39–51. (P. Fletcher) **54** #11284 54E15

(*with* Huffman, Shirley M.) A note on locally quasi-uniform spaces. *Canad. Math. Bull.* **19** (1976), *no.* 4, 501–504. (S. Swaminathan) **56** #1268 54E15

(*with* Kubicek, John D.) Nonexpansive mappings in locally convex spaces. *Canad. Math. Bull.* **20** (1977), *no.* 4, 455–461. (Kok-Keong Tan) **58** #7232 47H10

(*with* Kubicek, John D.) On the Mann iteration process in a Hilbert space. *J. Math. Anal. Appl.* **59** (1977), *no.* 3, 498–504. (From the introduction) **58** #23802 47H10

(*with* Satterwhite, R. E.) Quasi-pseudometrics over Tikhonov semi-fields. *Math. Japon.* **22** (1977), *no.* 3, 315–321. (P. Fletcher) **57** #7539 54E25

On locating fixed points of a function. *Math. Japon.* **22** (1977/78), *no.* 5, 557–564.

(Maurice Gaultier) **58** #2477 47H10 (54H25)

(*with* Huffman, Ed W.) Fixed point theorems in generalized Hilbert spaces. *J. Math. Anal. Appl.* **64** (1978), *no.* 3, 562–568. (Heinrich Steinlein) **58** #12543 47H10

Hida, Haruzo On the values of Hecke's L-functions at non-positive integers. *J. Math. Soc. Japan* **30** (1978), *no.* 2, 249–278. (L. Carlitz) **58** #16601 12A70 (10D10, 12A50)

Hida, Takeyuki Quadratic functionals of Brownian motion. *J. Multivariate Anal.* **1** (1971), *no.* 1, 58–69. (Author's summary) **46** #961 60J65

(*with* Satô, Hiroshi) On white noise. (Japanese) *Sûgaku* **24** (1972), *no.* 3, 161–173. (Editors) **58** #31365 60G15

(*with* Satô, Hiroshi) On the infinite-dimensional rotation group. (Japanese) *Sûgaku* **24** (1972), *no.* 4, 303–311. (Editors) **58** #31366 60G15 (22E65)

Functionals of complex white noise. *Proceedings of the Symposium on Continuum Mechanics and Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 1 (*Russian*), *pp.* 355–366. *Izdat. "Mecniereba", Tbilisi*, 1973. (V. S. Mandrekar) **54** #6249 60G15 (28A40)

A role of Fourier transform in the theory of infinite dimensional unitary group. *J. Math. Kyoto Univ.* **13** (1973), 203–212. (B. Dreseler) **47** #4346 60J65 (28A40, 60B15)

★Analysis of Brownian functionals. Carleton Mathematical Lecture Notes, No. 13. *Carleton Univ., Ottawa, Ont.*, 1975. iv + 61 *pp.* (V. S. Mandrekar) **56** #9715 60J65 (60G15, 60G25, 28A40)

★Buraun undô. (Japanese) [Brownian motion]. *Iwanami Shoten, Tokyo*, 1975. xv + 341 *pp.* (Kiyosi Itô) **57** #7713 60–02 (28A40, 60G15, 60H05, 60J65)

White noise analysis and nonlinear filtering problems. *Appl. Math. Optim.* **2** (1975/76), *no.* 1, 82–89. (L. I. Gal′čuk) **53** #10427 93E10

(*with* Kallianpur, G.) The square of a Gaussian Markov process and nonlinear prediction. *J. Multivariate Anal.* **5** (1975), *no.* 4, 451–461. (A. N. Širjaev) **53** #6716 60G25

Analysis of Brownian functionals. Stochastic systems: modeling, identification and optimization, I (Proc. Sympos., Univ. Kentucky, Lexington, Ky., 1975). *Math. Programming Stud. No.* 5 (1976), 53–59. (Author's summary) **56** #13374 60J65

Topics on nonlinear filtering theory. *Multivariate analysis, IV* (*Proc. Fourth Internat. Sympos., Dayton, Ohio*, 1975), *pp.* 239–245. *North-Holland, Amsterdam*, 1977. (R. Š. Lipcer) **56** #9669 60G35

Functionals of Brownian motion. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 239–243. *Reidel, Dordrecht*, 1977. (R. Š. Lipcer) **58** #13378 60J65

(*with* Streit, Ludwig) On quantum theory in terms of white noise. *Nagoya Math. J.* **68** (1977), 21–34. (R. Høegh-Krohn) **58** #20054 81.60 (60J70)

Generalized multiple Wiener integrals. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 3, 55–58. (V. S. Mandrekar) **58** #13379 60J65

Hidaka, Fumio (*with* Arima, Satoshi) Contractable sets on projective varieties. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 75 (1977), 69–71. (L. Bădescu) **56** #15643 14E15

(*with* Arima, Satoshi; Ishimura, Sadao) An example of simple vector bundles on projective plane which are not stable. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 79 (1977), 68–70. (Masaki Maruyama) **58** #16664 14F05

Hidaka, Shunichi (*with* Shibata, Hiroshi; Hata, Shiroh) An iterative estimation for states and parameters of nonlinear system. *Systems-Computers-Controls* **3** (1972), *no.* 4, 1–8 (1973). (H. Taylor) **49** #12139 93E10

Hidalgo, Miguel Lobo *See* **Lobo Hidalgo, Miguel**

Hidiroglou, Michael A. (*with* Fuller, Wayne A.) An extension to Hájek's central limit theorem for finite populations as applied to regression. *Proceeding of the Symposium on Statistics and Related Topics* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 19, 9 *pp.* *Carleton Univ., Ottawa, Ont.*, 1975. (Donald R. Jensen) **52** #1980 62E20 (62D05)

(*with* Wang, George H. K.; Fuller, Wayne A.) Estimation of seemingly unrelated regression with lagged dependent variables and autocorrelated errors. *Proceedings of the Annual Meeting of the American Statistical Association, Business and Economic Statistics Section* (*St. Louis, Mo.*, 1974), *pp.* 613–618. *Amer. Statist. Assoc., Washington, D.C.*, 1975. (Rolf K. Adenstedt) **51** #14445 62J05 (62P20)

Hidirov, B. N. A method for the mathematical modeling of biological processes. (Russian) *Voprosy Kibernet.* (*Tashkent*) *No.* 70 (1974), 9–18, 213. (See RŽMat **1975** #6 V987) 92A05

Hiebert, Erwin N. *See* **Historical and philosophical perspectives of science, 50** #6717

Hieke, Hermann (*with* Frischbier, Reinhard) Die Reduktion der Integrale der Gleichung $\Delta u\ (x,y)+k^2\ u\ (x,y)=0$ auf solche der Potentialgleichung $\Delta u\ (x,y)=0$. *Wiss. Z. Martin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **22** (1973), *no.* 2, 27–32. (E. M. J. Bertin) **49** #9387 35C10

Hieke, Max Die Anwendung der inhomogenen Differentialgleichung vierter Ordnung in der Festkörperphysik. Tagungsbericht zur ersten Tagung der WK Analysis (1970). *Beiträge Anal. No.* 4 (1972), 61–67. (G. Rieder) **50** #15519 73.35

nguyen van Hien *See* **Nguyen Van Hien**

pham phu Hien *See* **Pham Phu Hien**

tran dien Hien *See* **Tran Dien Hien**

tran vinh Hien *See* **Tran Vinh Hien**

hoang Hien Šin′ *See* **Hoang Hien Šin′**

Hieronimus, K. (*with* v. Blumenthal, N.; Bock, H.-M.; Drechsler, J.;. Erbe, H.; Giencke, E.; Kalzidu, D.; Krause, Günter; Knothe, K.; Lehmann, Daniel; Petersen, J.; Rinneberg, Chr.) ★Einführung in finite Berechnungsverfahren. Redaktionelle Bearbeitung: Klaus Hieronimus, Klaus Knothe und Jürgen Petersen. *Abteilung Publikationen, Universitätsbibliothek, Technische Universität Berlin, Berlin*, 1972. xiii + 394 *pp.* (Editors) **50** #9133 (EA **51**) 73.65 (65N30)

Hietarinta, Jarmo On the existence of localized solutions in nonlinear chiral theories. *J. Mathematical Phys.* **18** (1977), *no.* 1, 65–71. (J. V. Greenman) **54** #14645 81.49

fan lyong Hieu *See* **Fan Lyong Hieu**

nguyễn văn Hiêu *See* **Nguyễn Văn Hiêu**

phan luong Hieu *See* **Phan Luong Hieu**

Higa, Isamu (*with* Feyerherm, Arlin M.; Machado, Arlette L.) Waiting time in an $(S-1, S)$ inventory system. *Operations Res.* **23** (1975), *no.* 4, 674–680. (R. Salia) **56** #2272 90B05

Higa, Tatsuo Les pseudo-groupes intransitifs et le problème d'équivalence. *Nagoya Math. J.* **62** (1976), 141–171. (Ngô Van Quê) **54** #11418 58H05 (53C10)

Higashiyama, Teiko Some notes on semi-ordered linear spaces. *J. Hokkaido Univ. Ed. Sect. II A* **22** (1972), *no.* 2, 69–71. (Author's introduction) **58** #30021 46A40

(*with* Isobe, Kiro) A certain expansion of positive cone of partially ordered linear spaces. *Mem. Kitami Inst. Tech.* **3**, 509–511 (1972). (A. Revuz) **47** #104 06A65

Higgins, C. A. Solubility in locally soluble *CZ*-groups. *J. London Math. Soc.* (2) **15** (1977), *no.* 1, 81–87. (Seymour Bachmuth) **55** #8179 20E15

Higgins, J. Addendum: "On $x=a^x$" (Math. Gaz. **53** (1969), no. 385, 289–293). *Math. Gaz.* **55** (1971), *no.* 391, 63–64. (Editors) **58** #6805 40A05

Higgins, J. R. An interpolation series associated with the Bessel-Hankel transform. *J. London Math. Soc.* (2) **5** (1972), 707–714. (A. Schwartz) **47** #9152 42A56 (44A15)

A sampling theorem for irregularly spaced sample points. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 5, 621–622. (S. Guiaşu) **54** #4805 94A05

Higgins, James An addendum on the Euler numbers. *J. London Math. Soc.* (2) **4** (1971), 1–2. (From the author's introduction) **45** #1825 10A40

Higgins, James J. Representing a finite Borel measure in terms of its distribution function. *Amer. Math. Monthly* **80** (1973), 683–685. (N. Y. Luther) **47** #5206 28A10 (26A48)

Some surface integral techniques in statistics. *Amer. Statist.* **29** (1975), 43–46. (Andre Laurent) **51** #7089 62E15

A geometrical method of constructing multivariate densities and some related inferential procedures. *Comm. Statist.* **4** (1975), *no.* 10, 955–966. (C. G. Khatri) **52** #15840 62H10 (62H15)

(*with* Tichenor, D. M.) Window estimates of location and scale with applications to the Cauchy distribution. *Appl. Math. Comput.* **3** (1977), *no.* 2, 113–126. (Richard A. Johnson) **55** #4493 62G05

Bayesian inference and the optimality of maximum likelihood estimation. *Internat. Statist. Rev.* **45** (1977), *no.* 1, 9–11. (D. V. Lindley) **55** #9379 (E **58** #3169) 62F15

See also **Schneeweiss, Hans, 58** #3169

Higgins, John C. Subsemigroups of the additive positive integers. *Fibonacci Quart.* **10** (1972), *no.* 3, 225–230. (T. S. Blyth) **46** #5510 20M30 (06A50)

(*with* Tamura, Takayuki) Finitely generated $\mathfrak{N}$-semigroup and quotient group. *Proc. Japan Acad.* **49** (1973), 323–327. (Joseph Chacron) **49** #2989 20M10

Higgins, John Rowland ★Completeness and basis properties of sets of special functions. Cambridge Tracts in Mathematics, Vol. 72. *Cambridge University Press, Cambridge-New York-Melbourne*, 1977. x + 134 *pp.* *ISBN* 0-521-21376-2 (Y. L. Luke) **58** #17240 33–02 (33A40, 33A65, 42A64)

longuet-Higgins, Michael S. *See* **Longuet-Higgins, Michael S.**

Higgins, Olga (*with* Harris, John) Prime generators with parabolic limits. *Pacific J. Math.* **37** (1971), 687–695. (E. M. Horadam) **46** #1693 10A20

Higgins, Philip J. ★Notes on categories and groupoids. Van Nostrand Rienhold Mathematical Studies, No. 32. *Van Nostrand Reinhold Co., London-New York-Melbourne*, 1971. v + 178 *pp.* (V. A. Artamonov) **48** #6288 20L05 (18B10)

★Introduction to topological groups. London Mathematical Society Lecture Note Series, No. 15. *Cambridge University Press, London-New York*, 1974. v + 109 *pp.* (L Corwin) **50** #13355 22–01

(*with* Lyndon, Roger C.) Equivalence of elements under automorphisms of a free group. *J. London Math. Soc.* (2) **8** (1974), 254–258. (B. H. Neumann) **49** #5175 20E05

(*with* Brown, Ronald; Morris, Sidney A.) Countable products and sums of lines and circles: their closed subgroups, quotients and duality properties. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), 19–32. (M. I. Kabenjuk) **56** #12168 22B05

The fundamental groupoid of a graph of groups. *J. London Math. Soc.* (2) **13** (1976), *no.* 1, 145–149. (D. A. Robinson) **53** #5753 20E40 (20F10)

(*with* Brown, Ronald) Sur les complexes croisés, ω-groupoïdes, et *T*-complexes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 16, A997–A999. (Authors' summary) **58** #18453 55J15 (55A05)

Coproducts of topological abelian groups. *J. Algebra* **44** (1977), *no.* 1, 152–159. (S. A. Morris) **56** #15820 22A05

(*with* Brown, Ronald) On the connection between the second relative homotopy groups of some related spaces. *Proc. London Math. Soc.* (3) **36** (1978), *no.* 2, 193–212. (John Roy Dennett) **57** #17639 55E05

Higgins, Rada A note on a problem in the theory of sequences. *Elem. Math.* **29** (1974), 37–39. (L. Hoischen) **49** #3368 40A05

On certain problems in the theory of sequences. *Canad. Math. Bull.* **18** (1975), *no.* 2, 229–231. (E. Seneta) **52** #3773 40A05

Higgins, Theodore Parker A child's garden of special functions. *Fractional calculus and its applications* (*Proc. Internat. Conf., Univ. New Haven, West Haven, Conn.*, 1974), *pp.* 216–225. *Lecture Notes in Math., Vol.* 457, *Springer, Berlin*, 1975. (Y. L. Luke) **57** #16720 33–01 (26A33)

Higgins, Thomas J. Gabriel Kron and large-scale systems engineering. *Gabriel Kron and systems theory* (*Schaffer Library Sympos., Union Coll., Schenectady, N.Y.*, 1969), *pp* 37–42. *Union College Press, Schenectady, N.Y.*, 1973. (Editors) **52** #13202 01A70

(*with* Vidyasagar, Mathukumalli) A basic theorem on distributed control and poin control. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **95** (1973) 64–67. (Jan C. Willems) **48** #13374 93C22

See also **Modern dimensional analysis, similitude and similarity, 48** #10033

Higginson, C. G. The asymptotic Bieberbach conjecture for weakly p-valent functions. *Proc. London Math. Soc.* (3) **35** (1977), *no.* 2, 291–312. (T. Kubo) **56** #5859 30A34

Higgs, Denis A. Remarks on residually small varieties. *Algebra Universalis* **1** (1971/72). 383–385. (B. Banaschewski) **46** #8939 08A15

Lattices isomorphic to their ideal lattices. *Algebra Universalis* **1** (1971), *no.* 1, 71–72. (A. C. Choudhury) **45** #123 06A20

(*with* Blackburn, John E.; Crapo, Henry H.) A catalogue of combinatorial geometries. *Math. Comp.* **27** (1973), 155–166; *addendum, ibid.* **27** (1973), *no.* 121, *loose microfiche suppl. A*12–*G*12. (John H. Mason) **54** #7293 05B35

(*with* Chan, Wing Man; Lenihan, Bill) Compactness as a type of injectivity. *General Topology and Appl.* **4** (1974), 103–107. (M. Hušek) **49** #9809 54D30

Highland, Harold J. *See* **Proceedings: Symposium on Simulation of Computer Systems. 56** #4287

Hi, S. Lee Complex disjunctive decomposition of incompletely specified Boolean unctions. *IEEE Trans. Computers* **C-22** (1973), 103–110. (R. Jakubowski) **58** #15714 94A20

H ower, Collin J. Approximation to complex numbers by certain biquadratic numbers. . *Number Theory* **7** (1975), *no.* 3, 293–309. (P. Bundschuh) **55** #275 10F30

H an, D. G. Coherent configurations. I. *Rend. Sem. Mat. Univ. Padova* **44** (1970), 1–25. Robert A. Liebler) **48** #3767 05B30

A survey of some questions and results about rank 3 permutation groups. *Actes du ongrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 361–365. *authier-Villars, Paris*, 1971. (Shiro Iwasaki) **55** #467 20B05

Partial geometries, generalized quadrangles and strongly regular graphs. *Atti del onvegno di Geometria Combinatoria e sue Applicazioni* (*Univ. Perugia, Perugia*, 1970), *p.* 263–293. *Ist. Mat., Univ. Perugia, Perugia*, 1971. (Jane W. Di Paola) **51** #2945 5B25

(*with* Hestenes, Marshall D.) Rank 3 groups and strongly regular graphs. *omputers in algebra and number theory* (*Proc. SIAM-AMS Sympos. Appl. Math., New ork*, 1970), *pp.* 141–159. *SIAM-AMS Proc., Vol. IV, Amer. Math. Soc., Providence, .I.*, 1971. (Brian Alspach) **49** #4844 05C25

Characterization of rank 3 permutation groups by the subdegrees. *Representation heory of finite groups and related topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Visconsin, Madison, Wis.*, 1970), *pp.* 71–72. *Amer. Math. Soc., Providence, R.I.*, 1971. M. D. Hestenes) **47** #8664 20B10

★Combinatorial considerations about permutation groups. Lectures given in 1971. *athematical Institute, Oxford University, Oxford*, 1972. ii + 56 *pp.* (W. M. Kantor) **9** #10578 05B30 (20B25)

Remark on Shult's graph extension theorem. *Finite groups '72* (*Proc. Gainesville onf., Univ. Florida, Gainesville, Fla.*, 1972), *pp.* 80–83. *North-Holland Math. Studies, ol. 7, North-Holland, Amsterdam*, 1973. (Chong-Keang Lim) **50** #12796 05C25

Coherent configurations and generalized polygons. *Combinatorial mathematics Proc. Second Australian Conf., Univ. Melbourne, Melbourne*, 1973), *pp.* 1–5. *Lecture otes in Math., Vol.* 403, *Springer, Berlin*, 1974. (Brian Alspach) **50** #4352 05B30

Invariant relations, coherent configurations and generalized polygons. *ombinatorics* (*Proc. Advanced Study Inst., Breukelen*, 1974), *Part* 3: *Combinatorial group heory, pp.* 27–43. *Math. Centre Tracts, No.* 57, *Math. Centrum, Amsterdam*, 1974. Robert A. Liebler) **52** #150 05B30

Schur relations for weighted adjacency algebras. *Symposia Mathematica, Vol. XIII Convegno di Gruppi e loro Rappresentazioni, INDAM, Rome*, 1972), *pp.* 467–477. *cademic Press, London*, 1974. (L. Dornhoff) **52** #3302 20C15

Coherent configurations. I. Ordinary representation theory. *Geometriae Dedicata* **4** 1975), *no.* 1, 1–32. (Robert A. Liebler) **53** #2719 05B99

A monomial character of Fischer's baby monster. *Proceedings of the Conference on inite Groups* (*Univ. Utah, Park City, Utah*, 1975), *pp.* 277–283. *Academic Press, New ork*, 1976. (Bhama Srinivasan) **53** #13379 (EA **54**) 20D05

Coherent configurations. II. Weights. *Geometriae Dedicata* **5** (1976), *no.* 4, 413–424. Robert A. Liebler) **55** #10299 05B99 (20C99)

★Lectures on permutation representations. Notes taken by Wolfgang Hauptmann. orlesungen aus dem Mathematischen Institut Giessen, Heft 4. *Mathematisches Institut iessen, Giessen*, 1977. 106 *pp.* (Michael Klemm) **57** #9810 20Bxx

See also **Combinatorics**, **52** #7912

H an, Graham Construction of simple groups from character tables. *Finite simple groups Proc. Instructional Conf., Oxford*, 1969), *pp.* 205–214. *Academic Press, London*, 1971. (G. le B. Robinson) **49** #7349 20D05

★Finitely presented infinite simple groups. Notes on Pure Mathematics, No. 8 1974). *Department of Pure Mathematics, Department of Mathematics, I.A.S. Australian ational University, Canberra*, 1974. vii + 82 *pp.* (F. Levin) **51** #13049 20F05 20B25)

Some nonsimplicity criteria for finite groups. *Proceedings of the Second nternational Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), *p.* 367–376. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin*, 1974. (E. L. Spitznagel, r.) **52** #5791 20D05

Some p-local conditions for odd p. *Symposia Mathematica, Vol. XIII* (*Convegno di ruppi e loro Rappresentazioni, INDAM, Rome*, 1972), *pp.* 531–540. *Academic Press, ondon*, 1974. (Thomas Laffey) **52** #3311a (E **52** #3311b) 20D05

Errata: "Some p-local conditions for odd p" (*Symposia Mathematica, Vol. XIII* Convegno di Gruppi e loro Rappresentazioni, INDAM, Rome, 1972), p. 531–540, cademic Press, London, 1974). *Symposia Mathematica, Vol. XIV, pp.* 525. *Academic ress, London*, 1974. (Thomas Laffey) **52** #3311b 20D05

Hanna Neumann. *Bull. London Math. Soc.* **6** (1974), 99–100. (Editors) **49** #7085 1A70

(*with* Boone, William W.) An algebraic characterization of groups with soluble vord problem. Collection of articles dedicated to the memory of Hanna Neumann, IX. *. Austral. Math. Soc.* **18** (1974), 41–53. (C. R. J. Clapham) **50** #10093 20F20 02F47)

(*with* Boone, William W.) An algebraic characterization of groups with soluble order problem. *Logic Colloquium '73* (*Bristol*, 1973), *pp.* 53–54. *Studies in Logic and the oundations of Mathematics, Vol.* 80, *North-Holland, Amsterdam*, 1975. (J. S. Joel) **2** #3344 20F10

Homogeneous relations. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 109, 31–39. Peter J. Cameron) **55** #3090 20E99 (04A05)

See also **Finite simple groups**, **48** #6228; **Proceedings: International Conference on he Theory of Groups**, **49** #9054 *and* **Sabbagh, Gabriel**, **56** #5258

Hi chi, Isao *See* **Higuti, Isao**

Hi chi, Seihaku (*with* Tamura, Shinichi; Tanaka, Kohkichi) Pattern classification based n fuzzy relations. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-1** (1971), 61–66. (P. . Gilmore) **46** #10258 68A45

(*with* Tominaga, Shoji; Tamura, Shinichi; Tanaka, Kohkichi) Uncorrelated ninimum-length sequence and its application to parameter estimation. *Information Sci.* (1975), *no.* 2, 151–168. (S. P. Bingulac) **55** #7496 93B30

Hi chi, Tatsuo (*with* Kameyama, Michitaka) Synthesis of multiple-valued logic networks ased on tree-type universal logic modules. *Proceedings of the* 1975 *International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.*, 1975), *pp.* 121–130. *IEEE Comput. Soc., Long Beach, Calif.*, 1975. (Editors) **58** #15715 94A20

(*with* Kameyama, Michitaka) Ternary logic system based on T-gate. *Proceedings of the* 1975 *International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.*, 1975), *pp.* 290–304. *IEEE Comput. Soc., Long Beach, Calif.*, 1975. (Authors' summary) **58** #9842 94A20

(*with* Kameyama, Michitaka) Static-hazard-free T-gate for ternary memory element and its application to ternary counters. *Proceedings of the Sixth International Symposium on Multiple-Valued Logic* (*Univ. Center, Utah State Univ., Logan, Utah*, 1976), *pp.* 127–134. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Authors' summary) **58** #20846 94A20

(*with* Kameyama, Michitaka) Practical state assignment for multiple-valued synchronous sequential circuits. *Proceedings of the Seventh International Symposium on Multiple-Valued Logic* (*Charlotte, N.C.*, 1977), *pp.* 70–76. *IEEE Comput. Soc., Long Beach, Calif.*, 1977. (B. Hazeltine) **57** #5458 94A20

(*with* Kameyama, Michitaka) Static-hazard-free T-gate for ternary memory element and its application to ternary counters. *IEEE Trans. Computers* **C-26** (1977), *no.* 12, 1212–1221. (C. Moraga) **57** #2758 94A20

(*with* Kameyama, Michitaka) Synthesis of multiple-valued logic networks based on tree-type universal logic module. *IEEE Trans. Computers* **C-26** (1977), *no.* 12, 1297–1302. (C. Moraga) **57** #2761 94A20

Higuchi, Teiichi (*with* Watanabe, Kimio) On a ramification divisor of the meromorphic mapping onto the complex projective space. *Sci. Rep. Yokohama Nat. Univ. Sect. I No.* 22 (1975), 19–23. (M. Schneider) **53** #892 32J99 (32H99, 32L10)

(*with* Yoshinaga, Etsuo) On the continuation of analytic equivalence relations. *Sci. Rep. Yokohama Nat. Univ. Sect. I No.* 22 (1975), 25–30. (Michael J. Field) **52** #14355 32D15 (32C15)

(*with* Sakamoto, Hiroshi) On a harmonic function with respect to the Bergman metric. *Sci. Rep. Yokohama Nat. Univ. Sect. I No.* 23 (1976), 15–20. (John E. Fornaess) **58** #6371 32H99

(*with* Watanabe, Kimio; Sakamoto, Hiroshi) On certain rational singularities in dimensions >2. *Sci. Rep. Yokohama Nat. Univ. Sect. I No.* 23 (1976), 21–25. (Jonathan M. Wahl) **57** #3437 32C40

Higuchi, Yasunari (*with* Shiga, Tokuzo) Some results on Markov processes of infinite lattice spin systems. *J. Math. Kyoto Univ.* **15** (1975), 211–229. (T. M. Liggett) **51** #7056 60K35

Remarks on the limiting Gibbs states on a $(d+1)$-tree. *Publ. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 2, 335–348. (From the introduction) **58** #32697 82.60 (60K35)

On limiting Gibbs states of the two-dimensional Ising models. *Publ Res. Inst. Math. Sci.* **14** (1978), *no.* 1, 53–69. (Koichiro Matsuno) **58** #14850 82.60

Higuti, Isao On the Bessel kernel for a domain. *Proc. Japan Acad.* **47** (1971), *suppl. I*, 844–849. (M. Itô) **47** #484 31B10 (46E35)

(*with* Itô, Masayuki) Characterization of relative domination principle. *Nagoya Math. J.* **50** (1973), 175–184. (F. Hirsch) **49** #614 31C99

(*with* Itô, Masayuki) On the theorem of Kishi for a continuous function-kernel. *Nagoya Math. J.* **53** (1974), 127–135. (M. Brelot) **50** #2537 31D05

Duality of domination principle for non-symmetric lower semi-continuous function-kernels. *Hiroshima Math. J.* **5** (1975), *no.* 3, 551–559. (M. Brelot) **52** #8467 31C99

On the transitive domination principle for continuous function-kernels. *Nagoya Math. J.* **57** (1975), 27–35. (Francis Hirsch) **51** #8445 31C15

Hiida, Kichiro (*with* Okamura, Hiroshi; Ohta, Tadayuki; Kimura, Toshiei) Einstein's theory of relativity and Mach's principle. *Progr. Theoret. Phys.* **54** (1975), *no.* 6, 1872–1878. (Helmuth K. Urbantke) **52** #16511 83.53

(*with* Okamura, Hiroshi; Ohta, Tadayuki; Kimura, Toshiei) Mechanics of a particle near the center of a rotating ring. *Ann. Physics* **100** (1976), *no.* 1–2, 408–424. (Authors' summary) **57** #11581 83.34

(*with* Ohta, Tadayuki; Okamura, Hiroshi; Kimura, Toshiei) Static gravitational potential and singular surface of the metric tensor for a two-body system in the time-symmetric approximation. (Italian and Russian summaries) *Nuovo Cimento B* (11) **32** (1976), *no.* 2, 251–266. (Authors' summary) **54** #4543 83.53

Hiiėsalu, U. (*with* Kivistik, L. A.) The third Gomory algorithm in the case of two-sided constraints. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 22 (1971), 25–34. (E. Ja. Gabovič) **45** #9686 90C10

Hiiirbekov, T. È. Solution of the singular E and NE problems for a certain equation of elliptic type. (Russian) *Volž. Mat. Sb. Vyp.* 11 (1970), 114–123. (T. Kal′menov) **54** #13313 35J70

A solution of the T_3^+ problem for a certain three-dimensional equation in an arbitrary domain. (Russian) *Volž. Mat. Sb. No.* 8 (1971), 215–220. (Megumi Saigo) **51** #13450 35J10

A solution of the N problem for a certain n-dimensional equation in a normal domain. (Russian) *Volž. Mat. Sb. No.* 8 (1971), 221–226. (A. Nahušev (RŽMat **1971** #9 B246)) **51** #1146 35M05

Solution of a certain problem for an elliptic equation in space. (Russian) *Differencial′nye Uravnenija* (*Rjazan′*) *Vyp.* 8 (1976), 216–220. **56** #12593 35J70

Solution of problem N for a certain equation in space. (Russian) *Differencial′nye Uravnenija* (*Rjazan′*) *Vyp.* 8 (1976), 221–225. **56** #12635 35M05

Hijikata, Hiroaki Explicit formula of the trace of Hecke operators for $\Gamma_0(N)$. *Seminar on Modern Methods in Number Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No.* 14, 9 *pp. Inst. Statist. Math., Tokyo*, 1971. (Editors) **51** #10233 10D05

On certain identities between the traces of Hecke operators. *Proc. Japan Acad.* **48** (1972), 585–588. (M. Eichler) **48** #3884 10C15 (10D99)

(*with* Saito, Hiroshi) On the representability of modular forms by theta series. *Number theory, algebraic geometry and commutative algebra, in honor of Yasuo Akizuki, pp.* 13–21. *Kinokuniya, Tokyo*, 1973. (Kuang-yen Shih) **50** #9800 10D05

Explicit formula of the traces of Hecke operators for $\Gamma_0(N)$. *J. Math. Soc. Japan* **26** (1974), 56–82. (M. Eichler) **49** #2552 10D05

On the structure of semi-simple algebraic groups over valuation fields. I. *Japan J. Math.* (*N.S.*) **1** (1975), *no.* 2, 225–300. (J. E. Humphreys) **58** #16902 20G25 (10D20)

A remark on Dirichlet series attached to Hecke operators. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, 77–86. (Neal Koblitz) **55** #12642 10D15

Hijikuro, Kayoto On a regularity of quasi-everywhere excessive functions. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 40–45 (1973). (E. B. Dynkin) **51** #7014 60J40

Hijmans, J. (*with* Wiegel, F. W.) On the representations of the partition function of a system of interacting Bosons as integrals over Gaussian random fields. I, II. *Nederl. Akad. Wetensch. Proc. Ser. B* **77** (1974), 177–188; *ibid.* **77** (1974), 189–197. (R. A. Minlos) **51** #12221 81.60

(*with* Mooy, B. H. M.) The end-to-end distribution function of a polymer chain with a pairwise additive self-interaction. *Phys. A* **82** (1975), *no.* 4, 543–564 (1976). (Authors' summary) **56** #10693 82.60

Hikari, Michitaka On representations of direct products of finite solvable groups. *Osaka J. Math.* **8** (1971), 299–307. (Gary M. Seitz) **45** #8745 16A54 (20C05)

Multiplicative *P*-subgroups of simple algebras. *Osaka J. Math.* **10** (1973), 369–374. (S. A. Amitsur) **49** #10735 16A42 (20D15)

On finite multiplicative subgroups of simple algebras of degree 2. *J. Math. Soc. Japan* **28** (1976), *no.* 4, 737–748. (P. M. Cohn) **54** #5296 16A40

On simple components of cocommutative Hopf algebras. *J. Algebra* **49** (1977), *no.* 2, 330–341. (R. G. Larson) **56** #15688 16A24 (16A40)

Hikita, Hiromitsu On the feedback gain matrix in the pole assignment problem. (Japanese. English summary) *Mem. Muroran Inst. Tech.* **8** (1973/76), *no.* 3, 641–649. (Author's summary) **56** #14899 93B25

Hikita, T. (*with* Nozaki, Akihiro) A completeness criterion for spectra. *SIAM J. Comput.* **6** (1977), *no.* 2, 285–297. (Jurgen Dassow) **57** #2759 94A20

Hikita, Teruo (*with* Goto, Eiichi) An $O(N)$ algorithm for finding periodicity of a sequence using hash coding. *Information Processing Lett.* **6** (1977), *no.* 2, 69–71. (Hannah Chen) **56** #13761 68A10

Hil', M. I. (*with* Melihov, A. N.; Berštein, L. S.; Seljankin, V. V.) Use of hypergraphs for arranging circuits in a unit. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 3, 202–207 (*Russian*); *translated as Engrg. Cybernet.* **12** (1974), *no.* 3, 157–162. (Michel Chein) **52** #7731 94A20

Hilal, Talaat ★Numerische Bestimmung der Eigenwerte einer positiven *QD*-Zeile und der Residuen der zugeordneten erzeugenden Funktion mit Hilfe eines stationären Algorithmus. Abhandlung zur Erlangung der Würde eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich. Diss. No. 4624. *Eidgenössische Technische Hochschule Zürich, Zürich*, 1971. 87 *pp.* (W. Niethammer) **53** #7000 65F15

Hilano, Teluhiko On the zeros of Hecke's *L*-functions. *Proc. Japan Acad.* **50** (1974), 23–28. (Matti Jutila) **50** #12973 12A70 (10H10)

On the zeros of Hecke's *L*-functions. *Sci. Papers College Gen. Ed. Univ. Tokyo* **24** (1974), 9–24. (E. Grosswald) **49** #7239 12A70 (10H30)

On the distribution of zeros of Dirichlet's *L*-function on the line $\sigma=1/2$. *Proc. Japan Acad.* **52** (1976), *no.* 10, 537–540. (Bruce C. Berndt) **56** #8507 10H05

On the extension of the results of N. Levinson to Dirichlet *L*-functions. (Japanese. English summary) Research on theory of numbers (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 294 (1977), 62–94. (Masako Izumi) **57** #3088 10H10

Hilbert, David (*with* Courant, Richard) ★Methoden der mathematischen Physik. I. Dritte Auflage. Heidelberger Taschenbücher, Band 30. *Springer-Verlag, Berlin-New York*, 1968. xv + 469 *pp.* (Editors) **49** #8778 00A05 (69.00)

Mathematical problems. I. (Bulgarian) Translated from the German (Arch. Math. Phys. **1** (1901), 44–63). *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **12(45)** (1969), 34–48. (Editors) **53** #34 01A60

Mathematical problems. II. (Bulgarian) Translated from the German (Arch. Math. Phys. **1** (1901), 44–63). *Fiz-Mat. Spis. B"lgar. Akad. Nauk.* **12(45)** (1969), 136–153. (Editors) **53** #35 01A60

(*with* Ackermann, W.) ★Grundzüge der theoretischen Logik. Sechste Auflage. Die Grundlehren der mathematischen Wissenschaften, Band 27. *Springer-Verlag, Berlin-New York*, 1972. viii + 188 *pp.* (Editors) **50** #4230 02–02

(*with* Cohn-Vossen, Stefan) ★Anschauliche Geometrie. Mit einem Anhang: "Einfachste Grundbegriffe der Topologie" von Paul Alexandroff. Reprint der 1932 Ausgabe. *Wissenschaftliche Buchgesellschaft, Darmstadt*, 1973. viii + 310 + 48 *pp.* (Editors) **55** #3935 50–01 (55–01)

★Grundlagen der Geometrie. Mit Supplementen von Paul Bernays. Zwölfte Auflage. Teubner Studienbücher: Mathematik. *B. G. Teubner, Stuttgart*, 1977. vii + 271 *pp. ISBN* 3-519-22020-2 (Editors) **57** #13663 50A99

See also **Mangione, Corrado**, (Not reviewed); **Valabrega, Elda Gibellato; et al., 46** #9017; **Die Hilbertschen Probleme**, **49** #10488; **Festschrift: Weber, Heinrich**, **50** #12626; **Takahashi, Alonso**, **51** #5231c; **Behnke, Heinrich**, **52** #2791; **Zassenhaus, Hans J.**, **52** #7777; **Demidov, S. S.**, **53** #31; **Demidov, S. S.**, **53** #32; **Demidov, S. S.**, **53** #33; **Grasselli, Jože**, **56** #2911; **Bečvář, Jiří**, **56** #15373; **Vopěnka, Petr**, **56** #15418; **Kitcher, Philip**, **57** #2866; **Hermann Minkowski: Briefe an David Hilbert**, **57** #5645; **Semenec', G. Ī.**, **57** #12093; **Vanžura, Jiřií**, **58** #981; **Zajíček, Luděk**, **58** #4929; **Reid, Constance**, **58** #4950; **Zich, Otakar**, **58** #10235; **Novák, Břetislav**, **58** #10844; **Šedivý, Jaroslav**, **58** #12668; **Nádeník, Zbyněk**, **58** #12875; **Niederle, J.; et al.**, **58** #14453; **Paršin, A. N.**, **58** #21226; **Hilbert problems**, **58** #22011 *and* **Resnik, Michael D.**, **58** #27257

Hilbert, Stephen A mollifier useful for approximations in Sobolev spaces and some applications to approximating solutions of differential equations. *Math. Comp.* **27** (1973), 81–89. (S. Maloň) **48** #10047 65D10 (65N99)

Hil'čenko, V. I. (*with* Kaspšic'ka, M. F.; Sergiēnko, Ī. V.) A certain approach to the solution of allocation problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 51–60. (R. Salia) **53** #2326 90B05 (90C50, 68A10)

Hil'čevskiĭ, V. V. (*with* Dubenec, V. G.) ★Рассеяние энергии при колебаниях тонкостенных элементов конструкций. (Russian) [Energy scattering in oscillations of thin-walled construction elements] *Izdat. pri Kiev. Gos. Univ. Izdat. Ob"ed. "Višča Škola", Kiev*, 1977. 252 *pp.* (Vadim Komkov) **58** #19560 73.35

Hild, Claus A note on some matrices used in linear regression models. *Statist. Hefte* (*N.F.*) **17** (1976), *no.* 1, 50–56. (H. Neudecker) **56** #9833 62J05 (62P20, 15A09)

★Schätzen und Testen in einem Regressionsmodell mit stochastischen Koeffizienten. Schriften zur Wirtschaftswissenschaftlichen Forschung, Band 126. *Verla Anton Hain, Meisenheim am Glan*, 1977. ii + 180 *pp. ISBN* 3-445-01607-0 (H. T. Amundsen) **58** #13523 62J05 (62P20)

Eine Bemerking zur Anwendung der MINQUE-Methode. *Mathematical economi and game theory*, *pp.* 487–492. *Lecture Notes in Econ. and Math. Systems, Vol.* 141 *Springer, Berlin*, 1977. (Emil Spjøtvoll) **56** #9844 62J10

(*with* Hacker, Günter) A note on criteria for price index systems. *Theory an applications of economic indices* (*Proc. Internat. Sympos., Univ. Karlsruhe, Karlsruhe* 1976), *pp.* 245–255. *Physica-Verlag, Würzburg*, 1978. (Authors' summary) **58** #15049 90A15

Hildebrand, David K. (*with* Sengupta, S. Sankar) On the uses of probabilistic thinking i game theory. *Information Sci.* **6** (1973), 201–216. (P. Brock) **52** #7562 90D05

(*with* Edelson, Noel M.) Congestion tolls for Poisson queuing processes. *Econometrica* **43** (1975), 81–92. (Authors' summary) **55** #13601 60K25 (90A99)

(*with* Laing, James D.; Rosenthal, Howard) ★Prediction analysis of cross classifications. Wiley Series in Probability and Mathematical Statistics. *John Wiley Sons, New York-London-Sydney*, 1977. xv + 311 *pp.* (Editors) **58** #31600 62H30

Hil'debrand, F. (*with* Kružkov, S. N.) The Cauchy problem for first order quasilinea equations in the case when the domain of dependence on the initial data is infinit (Russian. German summary) Collection of articles dedicated to the memory of Iva Georgievič Petrovskiĭ. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *n* 1, 93–100. (V. Rosa) **49** #9392 35D05 (35J70)

The first boundary value problem "in the large" for a first order quasilinea equation. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 300–303. (P. Szeptyck **52** #982 35F25

Hildebrand, F. B. ★Introduction to numerical analysis. Second edition. Internationa Series in Pure and Applied Mathematics. *McGraw-Hill Book Co., New York-Düsseldorf-Johannesburg*, 1974. xiii + 669 *pp.* (Editors) **49** #11753 65–01

Hildebrand, H. A. (*with* Haddad, Abraham) Nonlinear distributed filters for the estimatio of insect population densities. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *n* 10, 754–758. (W. J. Padgett) **56** #11089 92A15

Hildebrand, S. K. (*with* Anderson, J. A.) An alternate approach to simple extensions o topologies. *Delta* (*Waukesha*) **3** (1972/73), *suppl. to no.* 4, 22–27. (Editors) **48** #4980 54A10

(*with* Crossley, S. Gene) Semi-topological properties. *Fund. Math.* **74** (1972), *no.* 233–254. (O. T. Alas) **46** #846 54C10

(*with* Milnes, Harold Willis) Maxima and minima of functions and functionals wi restricted analytic properties. *Studia Sci. Math. Hungar.* **7** (1972), 249–256. (J. Logan) **48** #7080 49D05

(*with* Milnes, Harold Willis) A technique for finding minimal paths in subspaces a metric space. *J. Austral. Math. Soc.* **19** (1975), 312–320. (S. Swaminathan) **51** #90 54E35 (49F20)

(*with* Milnes, Harold Willis) Minimal arcs in metric spaces. *J. Austral. Math. So* **19** (1975), *no.* 4, 426–430. (G. H. M. Thomas) **51** #11446 54E50

See also **Wollan, G. N.**, **45** #1

Hildebrandt, B. (*with* Michaelis, J.; Koller, S.) Die Häufigkeit der Fehlklassifikation b der quadratischen Diskriminanzanalyse. (English summary) *Biometrische Z.* **15** (197 *no.* 1, 3–12. (Margaret P. Gessaman) **54** #14245 62H30

Hildebrandt, Stéfan Some recent contributions to Plateau's problem. *Differentialgeometr im Grossen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1969), *pp.* 163–176. *Ber. Mat Forschungsinst. Oberwolfach, Heft* 4, *Bibliographisches Inst., Mannheim*, 1971. (F. Almgren, Jr.) **50** #8239 49F10

Unendliche Produkte von Kontraktionen. Proceedings of an International Symposium on Operator Theory (Indiana Univ., Bloomington, Ind., 1970). *Indian Univ. Math. J.* **20** (1971), *no.* 10, 909–911. (B. R. Gelbaum) **53** #11408 47A99

Ein einfacher Beweis für die Regularität der Lösungen gewisser zweidimensional Variationsprobleme unter freien Randbedingungen. *Math. Ann.* **194** (1971), 316–33 (C. B. Morrey, Jr.) **45** #1015 49A05

(*with* Kaul, Helmut) Two-dimensional variational problems with obstructions, an Plateau's problem for *H*-surfaces in a Riemannian manifold. *Comm. Pure Appl. Mat* **25** (1972), 187–223. (R. Osserman) **45** #5888 53A10 (49F25)

On the regularity of solutions of two-dimensional variational problems with obstructions. *Comm. Pure Appl. Math.* **25** (1972), 479–496. (J. D. Logan) **46** #4308 49A15

Maximum principles for minimal surfaces and for surfaces of continuous mea curvature. *Math. Z.* **128** (1972), 253–269. (R. Osserman) **47** #965d 53A10 (49F1 53B25)

Interior $C^{1+\alpha}$-regularity of solutions of two-dimensional variational problems wi obstacles. *Math. Z.* **131** (1973), 233–240. (William K. Allard) **51** #1568 49F22

(*with* Wente, Henry C.) Variational problems with obstacles and a volume constraint. *Math. Z.* **135** (1973/74), 55–68. (William K. Allard) **51** #1567 49F22

Regularity of solutions of variational problems with obstacles and volume constraints. *Symposia Mathematica, Vol. XIV* (*Convegno di Teoria Geometrica dell'Integrazione e Varietà Minimali, INDAM, Rome*, 1973), *pp.* 493–497. *Academ Press, London*, 1974. (F. J. Almgren, Jr.) **52** #9056 49F10 (35J20)

(*with* Kaul, Helmut; Widman, Kjell-Ove) Harmonic mappings into Riemanni manifolds with non-positive sectional curvature. *Math. Scand.* **37** (1975), *no.* 2, 257 26 (Jean-Claude Mitteau) **53** #9293 58E15

(*with* Widman, Kjell-Ove) Some regularity results for quasilinear elliptic systems second order. *Math. Z.* **142** (1975), 67–86. (L. A. Peletier) **51** #13446 35J60

(*with* Kaul, Helmut; Widman, Kjell-Ove) Dirichlet's boundary value problem f harmonic mappings of Riemannian manifolds. *Math. Z.* **147** (1976), *no.* 3, 225–236. (L. Kazdan) **53** #11662 58E15 (31C05)

(*with* Kaul, Helmut; Widman, Kjell-Ove) An existence theorem for harmonic mappings of Riemannian manifolds. *Acta Math.* **138** (1977), *no.* 1-2, 1–16. (Jean-Clau Mitteau) **55** #6478 58E15

(*with* Widman, Kjell-Ove) On the Hölder continuity of weak solutions of quasilinear elliptic systems of second order. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) (1977), *no.* 1, 145–178. (N. S. Trudinger) **56** #16140 35J60

Mathematical aspects of 't Hooft's eigenvalue problem in two-dimensional quantu hromodynamics. I. A variational approach, and nodal properties of the eigenfunctions. *Manuscripta Math.* **24** (1978), *no.* 1, 45–79. (Ju. M. Lomsadze) **57** #18612 81.47

Hiebrant, John A. A note on the uniquely divisible reflection of a compact abelian emigroup. *An. Acad. Brasil. Ci.* **43** (1971), 37–38. (Klaus Keimel) **46** #3679 22A15

Compact p-adic semigroups. *Duke Math. J.* **39** (1972), 39–44. (Anne L. Hudson) **45** #2077 22A15

(*with* Lawson, Jimmie D.) Embedding in compact uniquely divisible semigroups. *Semigroup Forum* **4** (1972), 295–300. (M. Friedberg) **46** #3651 20M10

(*with* Lawson, Jimmie D.) The Bohr compactification of a dense ideal in a opological semigroup. *Semigroup Forum* **6** (1973), *no.* 1, 86–92. (John F. Berglund) **53** #5802 22A15

Extending congruences on factors of ideally compactifiable semigroups. *Semigroup Forum* **12** (1976), *no.* 3, 245–250. (S. T. Lin) **54** #2862 22A15

(*with* Lawson, Jimmie D.; Yeager, Dorian P.) The translational hull of a opological semigroup. *Trans. Amer. Math. Soc.* **221** (1976), *no.* 2, 251–280. (M. Friedberg) **53** #13464 22A15

Hen, H. Der Verlustprozess in Gefechten. (English summary) *Unternehmensforschung* **15** (1971), 179–195. (P. Neumann) **46** #6489 60J80

Die Schätzung des linearen Todesprozesses bei fehlerbehafteten Beobachtungen. (English summary) *Metrika* **23** (1976), *no.* 3, 167–191. (H. L. Harter) **55** #6656 62F10 (62N05)

Hen, Hugh M. (*with* Birman, Joan S.) On the mapping class groups of closed surfaces as covering spaces. *Advances in the theory of Riemann surfaces* (*Proc. Conf., Stony Brook, N.Y.*, 1969), *pp.* 81–115. *Ann. of Math. Studies, No.* 66. *Princeton Univ. Press, Princeton, N.J.*, 1971. (R. H. Fox) **45** #1169 57A05 (30A48)

(*with* Birman, Joan S.) Lifting and projecting homeomorphisms. *Arch. Math.* (*Basel*) **23** (1972), 428–434. (R. B. Sher) **47** #9604 55A10 (57A05)

(*with* Birman, Joan S.) Isotopies of homeomorphisms of Riemann surfaces and a theorem about Artin's braid group. *Bull. Amer. Math. Soc.* **78** (1972), 1002–1004. (L. Neuwirth) **46** #6337 55A10 (30A48)

(*with* Csordas, George) The cluster set of the product of two functions in H^∞. *Michigan Math. J.* **19** (1972), 13–20. (C. L. Belna) **46** #2061 30A72

(*with* Birman, Joan S.) On isotopies of homeomorphisms of Riemann surfaces. *Ann. of Math.* (2) **97** (1973), 424–439. (William Harvey) **48** #4305 30A48

(*with* Birman, Joan S.) The homeomorphism problem for S^3. *Bull. Amer. Math. Soc.* **79** (1973), 1006–1010. (R. J. Daverman) **47** #7726 55A40

(*with* Wallen, Lawrence J.) Some cyclic and non-cyclic vectors of certain operators. *Indiana Univ. Math. J.* **23** (1973/74), 557–565. (D. N. Clark) **48** #4796 47A65

(*with* Csordas, George; Pitcher, Tom S.) Random functions in H^∞. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 325–334. (D. J. Eustice) **51** #13236 30A76

Every closed orientable 3-manifold is a 3-fold branched covering space of S^3. *Bull. Amer. Math. Soc.* **80** (1974), 1243–1244. (J. S. Birman) **50** #3211 55A10 (57A10)

Generators for two groups related to the braid group. *Pacific J. Math.* **59** (1975), *no.* 2, 475–486. (J. S. Birman) **52** #9209 55A25

(*with* Birman, Joan S.) Heegaard splittings of branched coverings of S^3. *Trans. Amer. Math. Soc.* **213** (1975), 315–352. (Wilbur Whitten) **52** #1662 55A10

Three-fold branched coverings of S^3. *Amer. J. Math.* **98** (1976), *no.* 4, 989–997. (J. S. Birman) **54** #13917 57A10

(*with* Montesinos Amilibia, José María; Thickstun, Thomas) Closed oriented 3-manifolds as 3-fold branched coverings of S^3 of special type. *Pacific J. Math.* **65** (1976), *no.* 1, 65–76. (L. Neuwirth) **54** #8635 57A10 (55A10)

den, Jørgen (*with* Fenger, Kirsten) A useful identity. (Danish. English summary) *Nordisk Mat. Tidskr.* **24** (1976), *no.* 1, 41–42, 44. (E. J. F. Primrose) **54** #7277 05A19

Elimination of recursive calls using a small table of "randomly" selected function values. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **16** (1976), *no.* 1, 60–73. (Herbert J. Bernstein) **55** #6947 68A20 (68A50)

See also **Hoem, Jan M.**, **55** #6757 *and* **Torgersen, Erik Nikolai**, **55** #9348

dén, Keijo Symmetrization of functions in Sobolev spaces and the isoperimetric inequality. *Manuscripta Math.* **18** (1976), *no.* 3, 215–235. (W. P. Ziemer) **53** #13525 28A75

denbrand, Kurt Continuity of the equilibrium-set correspondence. *J. Econom. Theory* **5** (1972), *no.* 1, 152–162. (From the author's introduction) **56** #7839 90A15

See also **Hildenbrand, Werner**, **52** #9991

denbrand, Werner The core and competitive equilibria. *Mathematical systems theory and economics, I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp.* 337–346. *Lecture Notes in Operations Res. and Math. Econ., Vols.* 11, 12, *Springer, Berlin*, 1969. (A. C. Williams) **48** #1660 90A15

On economies with many agents. *J. Econom. Theory* **2** (1970), 161–188. (From the author's introduction) **55** #11966 90A15

Random preferences and equilibrium analysis. *J. Econom. Theory* **3** (1971), *no.* 4, 414–429. (From the author's introduction) **56** #10815 90A15

Metric measure spaces of economic agents. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. II: Probability theory, pp.* 81–95. *Univ. California Press, Berkeley, Calif.*, 1972. (Birgit Grodal) **55** #7311 90A15

(*with* Mertens, Jean François) Upper hemi-continuity of the equilibrium-set correspondence for pure exchange economies. *Econometrica* **40** (1972), 99–108. (Y. I. Kannai) **51** #9765 90A15

(*with* Schmeidler, David; Zamir, Shmuel) Existence of approximate equilibria and cores. *Econometrica* **41** (1973), 1159–1166. (From the authors' text) **55** #14128 90A15

★Core and equilibria of a large economy. With an appendix to Chapter 2 by K. Hildenbrand. Princeton Studies in Mathematical Economics, No. 5. *Princeton University Press, Princeton, N.J.*, 1974. viii + 251 *pp.* (Y. I. Kannai) **52** #9991 90A15

(*with* Hart, Sergiu; Kohlberg, Elon) On equilibrium allocations as distributions on the commodity space. *J. Math. Econom.* **1** (1974), *no.* 2, 159–166. (Authors' summary) **55** #9863 90A15

(*with* Grandmont, Jean-Michel) Stochastic processes of temporary equilibria. *J. Math. Econom.* **1** (1974), *no.* 3, 247–277. (Richard Kihlstrom) **55** #9862 90A15

Distributions of agents' characteristics. Papers presented at the Colloquium on Mathematical Economics (Univ. California, Berkeley, Calif., 1974). *J. Math. Econom.* **2** (1975), *no.* 2, 129–138. (Birgit Grodal) **55** #7312 90A15

(*with* Kirman, Alan P.) ★Introduction to equilibrium analysis. Variations on themes by Edgeworth and Walras. Advanced Textbooks in Economics, Vol. 6. *North-Holland Publishing Co., Amsterdam-Oxford; American Elsevier Publishing Co., Inc., New York*, 1976. viii + 216 *pp.* (*loose errata*) *ISBN* 0-7204-3606-0 (Hal R. Varian) **57** #4992 90Axx (90–01)

Ein mathematisches Modell des ökonomischen Gleichgewichtes. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T16–T21. (Trout Rader) **57** #5017 90A15

Limit theorems on the core of an economy. *Frontiers of quantitative economics, Vol. IIIA* (*Invited papers, Econometric Soc., Third World Congress, Toronto, Ont.*, 1975), *pp.* 149–165. *Contributions to Economic Analysis, Vol.* 105, *North-Holland Publishing Co., Amsterdam*, 1977. (Morton I. Kamien) **56** #17725 90A15

Hildreth, Clifford Expected utility of uncertain ventures. *J. Amer. Statist. Assoc.* **69** (1974), 9–17. (Michael D. Intriligator) **53** #7376 90A05 (62C15)

(*with* Tesfatsion, Leigh) A note on dependence between a venture and a current prospect. *J. Econom. Theory* **15** (1977), *no.* 2, 381–391. (Andor Dobó) **56** #7018 62H20 (62P20)

Hile, Gerald N. (*with* Gilbert, Robert Pertsch) Generalized hyperanalytic function theory. *Bull. Amer. Math. Soc.* **78** (1972), 998–1001. (M. O. Gonzalez) **46** #5645 30A93

(*with* Gilbert, Robert Pertsch) Generalized hypercomplex function theory. *Trans. Amer. Math. Soc.* **195** (1974), 1–29. (Manfred W. Kracht) **56** #8870 30A96

Properties of a class of first order elliptic systems. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 239–251. *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (Editors) **58** #1599 35J45

(*with* Gilbert, Robert Pertsch) Reproducing kernels for generalized Hilbert function spaces. *Applicable Anal.* **6** (1976/77), *no.* 2, 159–161. (J. W. M. Ford) **55** #8776 46E20 (46K99)

(*with* Protter, Murray H.) Unique continuation and the Cauchy problem for first order systems of partial differential equations. *Comm. Partial Differential Equations* **1** (1976), *no.* 5, 437–465. (From the introduction) **58** #1555 35F05

(*with* Gilbert, Robert Pertsch) Hypercomplex function theory in the sense of L. Bers. *Math. Nachr.* **72** (1976), 187–200. (Kenneth O. Leland) **54** #10620 30A97

(*with* Gilbert, Robert Pertsch) Hilbert function modules with reproducing kernels. *Nonlinear Anal.* **1** (1976/77), *no.* 2, 135–150. (Authors' introduction) **58** #30106 46E20 (30A96, 35C99, 46K15)

Entire solutions of linear elliptic equations with laplacian principal part. *Pacific J. Math.* **62** (1976), *no.* 1, 127–140. (M. Schechter) **54** #706 35J15 (30A64)

(*with* Protter, Murray H.) Properties of overdetermined first order elliptic systems. *Arch. Rational Mech. Anal.* **66** (1977), *no.* 3, 267–293. (From the introduction) **58** #11988 35N10 (35J45)

(*with* Protter, Murray H.) Maximum principles for a class of first-order elliptical systems. *J. Differential Equations* **24** (1977), *no.* 1, 136–151. (Ju. V. Kostarčuk) **57** #869 35J45

Representations of solutions of a special class of first order systems. *J. Differential Equations* **25** (1977), *no.* 3, 410–424. (E. M. J. Bertin) **58** #17136 30A92 (35F99)

(*with* Bear, H. S.) Algebras which satisfy a second order linear partial differential equation. *Pacific J. Math.* **75** (1978), *no.* 1, 21–36. (Kenneth O. Leland) **58** #12378 46J10 (35G05)

Hiley, Basil J. (*with* Stuart, Allan E. G.) Phase space, fibre bundles and current algebras. *Internat. J. Theoret. Phys.* **4** (1971), 247–265. (Authors' summary) **51** #14773 81.22 (81.55)

(*with* Baracca, A.; Bohm, David; Stuart, Allan E. G.) On some new notions concerning locality and nonlocality in the quantum theory. (Italian and Russian summaries) *Nuovo Cimento B* (11) **28** (1975), *no.* 2, 453–466. (Koichiro Matsuno) **52** #9839 81.00

Hilf, Eberhard R. (*with* Baltes, Heinrich P.; Draxl, Peter Karl Josef) Quadratsummen und gewisse Randwertprobleme der mathematischen Physik. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, II. *J. Reine Angew. Math.* **268/269** (1974), 410–417. (R. P. Boas, Jr.) **49** #8950 (EA **50**) 10J25 (82.35)

(*with* Baltes, Heinrich P.) ★Spectra of finite systems. A review of Weyl's problem: the eigenvalue distribution of the wave equation for finite domains and its applications on the physics of small systems. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1976. 116 *pp.* (A. E. Heins) **55** #8582 35P20 (69.00)

Hilfstein, Erna *See* **Copernicus, Nicolaus**, **57** #12144a

Hilgers, Hubert (*with* Loeb, Henry L.) An algorithm for computing best uniform approximations for spline functions with free knots. *Spline-Funktionen* (*Tagung des Math. Forschungsinst., Oberwolfach*, 1973), *pp.* 149–154. *Bibliographisches Inst., Mannheim*, 1974. (Derek W. Arthur) **54** #4066 65D15 (41A15)

Hilgers, John W. On the equivalence of regularization and certain reproducing kernel Hilbert space approaches for solving first kind problems. *SIAM J. Numer. Anal.* **13** (1976), *no.* 2, 172–184. (Jochen Werner) **57** #11030 65J05 (65R05)

Hilhorst, H. J. (*with* Suzuki, Masuo; Felderhof, B. U.) Kinetics of the stochastic Ising chain in a two-flip model. *Physica* **60** (1972), 199–222. (Chanchal K. Majumdar) **53** #15237 82.62

Kinetics of the stochastic Ising chain in a class of spin-flip models. I. *Physica* **66** (1973), *no.* 3, 497–508. (Kishin Mariwalla) **53** #12424a 82.47

Kinetics of the stochastic Ising chain in a class of spin-flip models. II. The effects of random kinetics. *Physica* **76** (1974), *no.* 2, 295–320. (Kishin Mariwalla) **53** #12424b 82.47

Exact linear renormalization of a one-dimensional system with phase transition. *J. Statist. Phys.* **17** (1977), *no.* 6, 413–427. (Douglas Henderson) **58** #14821 82.47

Real-space renormalization of the self-avoiding walk by a linear transformation. *Phys. Rev. B* (3) **16** (1977), *no.* 3, 1253–1265. (Author's summary) **56** #14469 82.60

Hilico, C. Processus ponctuels marqués stationnaires. Application à l'interaction sélective de deux processus ponctuels stationnaires. (English summary) *Ann. Inst. H. Poincaré*

Sect. B (*N.S.*) **9** (1973), 177–192. (P. M. Lee) **51** #1954 60G55

Mesures aléatoires stationnaires sur un espace produit. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **14** (1978), *no.* 1, 25–31. (Olav Kallenberg) **58** #18712 60G55

Hiljuk, L. F. Stability of stochastic optimization systems for plants with binary performance index and dead time. *Avtomatika* **1971**, *no.* 5, 34–39 (*Ukrainian*); *translated as Soviet Automat. Control* **4** (1971), *no.* 5, 29–33 (1972). (Author's summary) **46** #1432 93E15

(*with* Stepaško, V. S.) Criterion of freedom of choice of decisions for continuous control systems. *Avtomatika* **1973**, *no.* 4, 53–64 (*Ukrainian*); *translated as Soviet Automat. Control* **6** (1973), *no.* 4, 41–50. (Bojan Popović) **51** #2693 93B05

Hil'kevič, A. P. *See* **Logic**, **55** #7717

Hill, Anthony (*with* Singmaster, David) Labelled and unlabelled Hamiltonian circuits in a class of 3-polytopes. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 293–305. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (D. Barnette) **53** #1410 52A25

(*with* Singmaster, David) Some classes of Hamiltonian 3-polytopes. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 551–558. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (D. Barnette) **53** #1412 52A25

Hill, Anthony P. (*with* Guy, Richard K.) The crossing number of the complement of a circuit. *Discrete Math.* **5** (1973), 335–344. (D. J. Kleitman) **47** #4833 05C10

Graphs with homeomorphically irreducible spanning trees. *Combinatorics* (*Proc. British Combinatorial Conf., Univ. Coll. Wales, Aberystwyth*, 1973), *pp.* 61–68. *London Math. Soc. Lecture Note Ser., No.* 13, *Cambridge Univ. Press, London*, 1974. (R. K. Guy) **50** #4359 05C05

Quantitative linkage: a statistical procedure for its detection and estimation. *Ann. Human Genetics* **38** (1974/75), *no.* 4, 439–449. (R. G. Stanton) **52** #16712 (E **53** #2419) 92A10

Some topics in 3-polyhedral graphs. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 263–266. (*loose errata*) *Academia, Prague*, 1975. (Author's summary) **52** #2934 05C10

See also **Smith, Cedric A. B.**, **53** #2419

Hill, Bruce M. The rank-frequency form of Zipf's law. *J. Amer. Statist. Assoc.* **69** (1974), 1017–1026. (S. M. Samuels) **54** #14188 62E15

On coherence, inadmissibility and inference about many parameters in the theory of least squares. *Studies in Bayesian econometrics and statistics* (*in honor of Leonard J. Savage*), *pp.* 555–584. *Contributions to Economic Analysis, No.* 86, *North-Holland, Amsterdam*, 1975. (A. P. Dawid) **55** #4486 62F15 (62C15)

A simple general approach to inference about the tail of a distribution. *Ann. Statist.* **3** (1975), *no.* 5, 1163–1174. (Anthony O'Hagan) **51** #14373 62F10

(*with* Woodroofe, Michael) Stronger forms of Zipf's law. *J. Amer. Statist. Assoc.* **70** (1975), 212–219. (I. J. Good) **55** #13633 62E15 (62D05)

Aberrant behavior of the likelihood function in discrete cases. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 351, *part* 1, 717–719. (A. P. Dawid) **53** #1790 62A10

(*with* Woodroofe, Michael) On Zipf's law. *J. Appl. Probability* **12** (1975), *no.* 3, 425–434. (I. J. Good) **55** #13634 62E20 (62P10)

(*with* Kingman, J. F. C.; Taylor, Samuel James; Hawkes, Alan G.; Walker, A. M.; Cox, D. R.; Smith, Adrian; Burville, P. J.; Leonard, Tom) Random discrete distribution. With a discussion by S. J. Taylor, A. G. Hawkes, A. M. Walker, D. R. Cox, A. F. M. Smith, B. M. Hill, P. J. Burville, T. Leonard and a reply by the author. *J. Roy. Statist. Soc. Ser. B* **37** (1975), 1–22. (Mir Ali) **51** #4505 62E99

See also **Lindley, Dennis V.; et al.**, **54** #3939

Hill, C. Denson (*with* Andreotti, Aldo) Complex characteristic coordinates and tangential Cauchy-Riemann equations. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 299–324. (A. Aeppli (Zbl **256** #32006)) **57** #717 32F10

(*with* Andreotti, Aldo) E. E. Levi convexity and the Hans Lewy problem. I. Reduction to vanishing theorems. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 325–363. (A. Aeppli (Zbl **256** #32007)) **57** #718 32F15

(*with* Andreotti, Aldo) E. E. Levi convexity and the Hans Lewy problem. II. Vanishing theorems. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 747–806. (A. Aeppli (Zbl **283** #32013)) **57** #16693 32F15 (35N15)

(*with* Kotlow, Daniel B.) Classical solutions in the large of a two-phase free boundary problem. I. *Arch. Rational Mech. Anal.* **45** (1972), 63–78. (A. D. Solomon) **51** #6149 35K05

(*with* Kotlow, Daniel B.) Classical solutions in the large of a two-phase free boundary problem. II. *Arch. Rational Mech. Anal.* **47** (1972), 369–379. (D. L. Colton) **48** #11771 35K05

A Kontinuitätssatz for $\bar{\partial}_M$ and Lewy extendibility. *Indiana Univ. Math. J.* **22** (1972/73), 339–353. (L. R. Hunt) **46** #3831 32C35

A PDE in R^3 with strange behavior. *Indiana Univ. Math. J.* **22** (1972/73), 415–417. (J. Conlan) **46** #2265 35Q99

The Cauchy problem for $\bar{\partial}$. *Partial differential equations* (*Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif.*, 1971), *pp.* 135–143. *Amer. Math. Soc., Providence, R.I.*, 1973. (Y.-T. Siu) **50** #639 32C35 (35N15)

(*with* Carlson, James A.) On the maximum modulus principle for the tangential Cauchy-Riemann equations. *Math. Ann.* **208** (1974), 91–97. (W. Thimm) **50** #5011 32D10 (32E05, 35N15)

A hierarchy of nonsolvability examples. *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Part* 2, *Stanford Univ., Stanford, Calif.*, 1973), *pp.* 301–305. *Amer. Math. Soc., Providence, R.I.*, 1975. (J. S. Joel) **54** #13332 35N10 (32F10, 58G05)

(*with* Andreotti, Aldo; Łojasiewicz, Stanisław; MacKichan, Barry) Mayer-Vietoris sequences for complexes of differential operators. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 3, 487–490. (W. J. Sweeney) **54** #8754 58G99 (35N15)

(*with* Ellis, David; Seabury, Chester C.) The maximum modulus principle. I. Necessary conditions. *Indiana Univ. Math. J.* **25** (1976), *no.* 7, 709–715. (Authors' introduction) **58** #28674 32F99

(*with* Andreotti, Aldo; Łojasiewicz, Stanisław; MacKichan, Barry) Complexes of differential operators. The Mayer-Vietoris sequence. *Invent. Math.* **35** (1976), 43–86. (L. R. Hunt) **54** #11404 58G05 (35N15)

(*with* Ellis, David) The maximum modulus principle for *CR* functions on smoot real embedded submanifolds of C^n. *Several complex variables* (*Proc. Sympos. Pur Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 139–140. *Amer Math. Soc., Providence, R. I.*, 1977. (Editors) **56** #3336 32A30 (32C05)

(*with* Kazlow, Michael) Function theory on tube manifolds. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown Mass.*, 1975), *pp.* 153–156. *Amer. Math. Soc., Providence, R.I.*, 1977. (L. R. Hunt **56** #12309 32D10 (32F99)

(*with* MacKichan, Barry) Hyperfunction cohomology classes and their boundar values. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **4** (1977), *no.* 3, 577–597. (L. R. Hunt **57** #7698 58G05 (32C05, 35F15)

See also **Stormark, Olle**, **57** #16694

Hill, C. K. On basic sequences in Banach spaces. *Math. Colloq. Univ. Cape Town* (1971/72), 26–32. (See Zbl **244** #46018) 46B15

Hill, D. (*with* Passow, Eli; Raymon, Louis) Approximation with interpolatory constraints *Illinois J. Math.* **20** (1976), *no.* 1, 65–71. (Hans-Jürgen Albrand) **52** #8727 (E 5 #3602) 41A10

(*with* Passow, Eli; Raymon, Louis) Correction to our paper: "Approximation wit interpolatory constraints" (Illinois J. Math. **20** (1976), no. 1, 65–71). *Illinois J. Math.* 2 (1977), *no.* 2, 428. (Editors) **55** #3602 41A05

Hill, D. A. Inverse scattering from a perfectly conducting prolate spheriod in the quasi-static domain. (French summary) *Canad. J. Phys.* **51** (1973), 219–222. (V. H Weston) **52** #16286 78.35

Hill, D. H. *See* **Atkinson, A. C.; et al.**, **50** #15192

Hill, D. L. (*with* Rao, P. V.) Tests of symmetry based on Cramér-von Mises statistics. *Biometrika* **64** (1977), *no.* 3, 489–494. (Authors' summary) **58** #24702 62G10

Hill, David *See* **Hill, David A.**

Hill, David *See* **Hill, David J.**

Hill, David A. Semi-perfect *q*-rings. *Math. Ann.* **200** (1973), 113–121. (K. R. Fuller **48** #6169 16A48

On dominant and codominant dimension of QF-3 rings. *Pacific J. Math.* **49** (1973) 93–99. (K. R. Fuller) **49** #5082 16A36

Restricted homological properties of modules. *J. Austral. Math. Soc.* **18** (1974), *no* 2, 170–181. (From the introduction) **58** #22174 16A62

The structure of semi-local HQ rings. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 2 129–132. (Manabu Harada) **52** #8189 16A50

Endomorphism rings of hereditary modules. *Arch. Math.* (*Basel*) **28** (1977), *no.* 1 45–50. (Manabu Harada) **55** #409 16A50

Hill, David J. (*with* Moylan, Peter J.) The stability of nonlinear dissipative systems. *IEE Trans. Automatic Control* **AC-21** (1976), *no.* 5, 708-711. (K. B. Datta) **55** #2262 93D05

(*with* Moylan, Peter J.) Stability criteria for large-scale systems. *IEEE Tran Automatic Control* **AC-23** (1978), *no.* 2, 143–149. (James A. Heinen) **58** #4541 93D05 (93A15)

Hill, David R. (*with* Andria, George D.; Byrne, George D.) Integration formulas an schemes based on *g*-splines. *Math. Comp.* **27** (1973), 831–838; *addendum, ibid.* **27** (1973 *no.* 124, *loose microfiche supplement*, A1–C4. (J. Hurt) **49** #4219 65D30 (65L05)

(*with* Andria, George D.; Byrne, George D.) Natural spline block implicit methods *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 131–144. (G. Maess) **48** #146 65L05

A new class of one-step methods fòr the solution of Volterra functional differentia equations. *Nordisk. Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 298–305. (Syvert P Nørsett) **52** #7169 65Q05

On comparing Adams and natural spline multistep formulas. *Math. Comput.* 2 (1975), 741–745. (Rolf Jeltsch) **51** #11971 (E **52** #7072) 65L05

Second derivative multistep formulas based on *g*-splines. *Numerical methods fo differential systems*, *pp.* 25–38. *Academic Press, New York*, 1976. (E. L. Albasiny **56** #7207 65L05

Table errata: "On comparing Adams and natural spline multistep formulas" (Math Comp. **29** (1975), 741–745). *Math. Comp.* **30** (1976), *no.* 134, 381. (Editors) **52** #7072 65A05 (65L05)

See also **Advances in computers**, **50** #3629

Hill, E. T. Rings whose ideals form a chain. *Math. Mag.* **47** (1974), 97–98. (Victo Camillo) **48** #11189 16A26

Hill, J. G. Experience with the linear Boltzmann equation. A discussion on numerica analysis of partial differential equations (1970). *Proc. Roy. Soc. London Ser. A* 32 (1971), 293–304. (Author's summary) **58** #20143 82.65

Hill, James M. Self-adjoint differential equations arising in finite elasticity for smal superimposed deformations. *Internat. J. Solids and Structures* **13** (1977), *no.* 9, 813–822 (R. L. Fosdick) **58** #19529 73.34

Generalized shear deformations for isotropic incompressible hyperelastic materials. *J. Austral. Math. Soc. Ser. B* **20** (1977/78), *no.* 2, 129–141. (Author's summary **58** #14140 73.35

(*with* Tognetti, Keith P.) The autocorrelation function of the queue length proces for the two-server Poisson queue. *J. Appl. Probability* **15** (1978), *no.* 2, 447–451. (Bria Conolly) **58** #3106 60K25

Hill, Linda Henselian valued fields with prescribed value group and residue field. *Trans Amer. Math. Soc.* **195** (1974), 213–222. (Ron Brown) **49** #8973 12J10 (12B10)

Hill, M. O. Correspondence analysis: a neglected multivariate method. *J. Roy. Statist Soc. Ser. C Appl. Statist.* **23** (1974), 340–354. (H. O. Lancaster) **53** #1853 62H25

Hill, Nicholas *See* **Jacquot, Jean**, **58** #10048

Hill, Paul Classes of abelian groups closed under taking subgroups and direct limits. *Algebra Universalis* **1** (1971), *no.* 1, 63–70. (E. A. Walker) **45** #2016 20K99

Pure-complete subgroups of direct sums of Prüfer groups. *Glasgow Math. J.* 1 (1972), 47–48. (J. Hausen) **46** #3642 20K25

Primary groups whose subgroups of smaller cardinality are direct sums of cycli groups. *Pacific J. Math.* **42** (1972), 63–67. (E. Toubassi) **47** #3567 20K25

The number of isotype and *l*-pure subgroups of an abelian *p*-group. *Proc. Amer Math. Soc.* **32** (1972), 69–74. (R. J. Ensey) **45** #376 20K99

On the complete integral closure of a domain. *Proc. Amer. Math. Soc.* **36** (1972)

30. (J. Ohm) **46** #7225 13G05

Some almost simple rings. *Canad. J. Math.* **25** (1973), 290–302. (P. M. Cohn) #5055 16A66 (20K15)

On free abelian *l*-groups. *Proc. Amer. Math. Soc.* **38** (1973), 53–58. (K. A. Baker) #1714 06A60

The additive group of commutative rings generated by idempotents. *Proc. Amer. th. Soc.* **38** (1973), 499–502. (K. M. Rangaswamy) **47** #4986 13A99

(*with* Mott, Joe L.) Embedding theorems and generalized discrete ordered abelian ups. *Trans. Amer. Math. Soc.* **175** (1973), 283–297. (R. S. Pierce) **47** #102 (E **56** 896) 06A60

New criteria for freeness in abelian groups. *Trans. Amer. Math. Soc.* **182** (1973), –209. (Paul C. Eklof) **48** #4151 20K20

A special criterion for freeness. *Symposia Mathematica, Vol. XIII* (*Convegno di uppi Abeliani, INDAM, Rome*, 1972), *pp.* 311–314. *Academic Press, London*, 1974. (K. nda) **50** #13321 20K99

On the splitting of modules and abelian groups. *Canad. J. Math.* **26** (1974), 68–77. B. Warfield, Jr.) **49** #2983 20K25

(*with* Megibben, Charles) Extensions of torsion-complete groups. *Proc. Amer. th. Soc.* **44** (1974), 259–262. (P. L. Sperry) **49** #5207 20K35

Countable unions of totally projective groups. *Trans. Amer. Math. Soc.* **190** (1974), –391. (E. Toubassi) **49** #2978 20K10

New criteria for freeness in abelian groups. II. *Trans. Amer. Math. Soc.* **196** (1974), –201. (Paul C. Eklof) **50** #4781 20K20

(*with* Subramanian, H.) The freeness of a group based on a distributive lattice. *oc. Amer. Math. Soc.* **51** (1975), 260–262. (P. Crawley) **51** #13082 20K99

Criteria for freeness in groups and valuated vector spaces. *Abelian group theory roc. Second New Mexico State Univ. Conf., Las Cruces, N.M.*, 1976), *pp.* 140–157. *cture Notes in Math., Vol.* 616, *Springer, Berlin*, 1977. (E. A. Walker) **58** #5978 K20

See also **Fleischer, Isidore**, **56** #2896

An invariant treatment of interfacial discontinuities in elastic composites. *ntinuum mechanics and related problems of analysis* (*on the occasion of the eightieth thday of Academician N. I. Mushelišvili*) (*Russian*), *pp.* 597–604. *Izdat. "Nauka", oscow*, 1972. (M. Mişicu) **51** #14720 73.53

(*with* Hutchinson, John W.) Bifurcation phenomena in the plane tension test. *J. ech. Phys. Solids* **23** (1975), *no.* 4-5, 239–264. (S. N. Murthy) **52** #16221 73.35

On the elasticity and stability of perfect crystals at finite strain. *Math. Proc. mbridge Philos. Soc.* **77** (1975), 225–240. (John M. Ball) **52** #7284 73.53

Caps and groups. (Italian summary) *Colloquio Internazionale sulle Teorie mbinatorie* (*Rome*, 1973), *Tomo II*, *pp.* 389–394. *Atti dei Convegni Lincei, No.* 17, *cad. Naz. Lincei, Rome*, 1976. (J. E. Adney) **57** #6154 20B20

See also **Collection: Prager, William**, **48** #1566

R. C. (*with* Aly, H. H.) Bounds on eigenvalues of related Hamiltonian operators. talian and Russian summaries) *Nuovo Cimento B* (11) **31** (1976), *no.* 1, 120–128. uthors' summary) **56** #17588 81.47

R. Carter (*with* Fomby, Thomas B.; Johnson, Stan R.) Component selection norms r principal components regression. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 4, 9–334. (C. W. Chen) **55** #11508 62J05 (62H25)

(*with* Fomby, Thomas B.; Johnson, Stan R.) An optimal property of principal mponents in the context of restricted least squares. *J. Amer. Statist. Assoc.* **73** (1978), . 361, 191–193. (C. W. Chen) **58** #18920 62J05 (62H25)

R. J. (*with* Bowhill, S. A.) Lognormality of gradients of advected scalars. *Phys. luids* **21** (1978), *no.* 6, 883–886. (Authors' summary) **58** #19788 76.60

Raymond On the largest size of cap in $S_{5,3}$. (Italian summary) *Atti Accad. Naz. Lincei end. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 378–384 (1974). (N. K. Krier) **51** #206 5B25

Some results concerning linear codes and (k, 3)-caps in three-dimensional Galois pace. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 2, 191–205. (Joseph A. Thas) 8 #297 05B25 (94A10)

Richard D. Linear transformations which preserve hermitian matrices. *Linear Algebra nd Appl.* **6** (1973), 257–262. (B. N. Moyls) **47** #255 15A57

(*with* Carlson, David H.) Generalized controllability and inertia theory. *Linear lgebra and Appl.* **15** (1976), *no.* 2, 177–187. (Edward J. Davison) **58** #9483 93B05 15A99)

(*with* Carlson, David H.) Controllability and inertia theory for functions of a atrix. *J. Math. Anal. Appl.* **59** (1977), *no.* 2, 260–266. (B. Levinger) **56** #11138 3B05 (15A18)

Eigenvalue location using certain matrix functions and geometric curves. *Linear lgebra and Appl.* **16** (1977), *no.* 1, 83–91. (Emilie V. Haynsworth) **57** #6058 15A42

Richard O., Jr. On the geometric dimension of stable real vector bundles. *Bol. Soc. at. Mexicana* (2) **17** (1972), 42–58. (Edgar H. Brown, Jr.) **49** #3935 55F50 55G45, 57D25)

On characteristic classes of groups and bundles of $K(\Pi, 1)$'s. *Proc. Amer. Math. oc.* **40** (1973), 597–603. (J. P. May) **47** #7737 55F15

A relationship between group cohomology characteristic classes. *Illinois J. Math.* **20** 1976), *no.* 1, 30–40. (Mauricio Gutiérrez) **52** #8280 20J10 (55F40)

Moore-Postnikov towers for fibrations in which π_1(fiber) is non-abelian. *Pacific J. ath.* **62** (1976), *no.* 1, 141–148. (Guido Mislin) **53** #14493 55G45

A geometric interpretation of a classical group cohomology obstruction. *Proc. mer. Math. Soc.* **54** (1976), 405–412. (Michael Eggar) **52** #11911 55G35 (18H10, 0J05)

Robert Nyden (*with* Kleinman, Ralph E.; Pfaff, Edwin W.) Convergent long avelength expansion method for two-dimensional scattering problems. (French ummary) *Canad. J. Phys.* **51** (1973), 1541–1564. (V. H. Weston) **52** #16287 78.35

High-temperature exchange third virial coefficient for hard spheres via an symptotic method for path integrals. *J. Statist. Phys.* **11** (1974), 207–230. (Nicolae ngelescu) **53** #10057 82.41

Proof that the H^- ion has only one bound state. Details and extension to finite uclear mass. *J. Mathematical Phys.* **18** (1977), *no.* 12, 2316–2330. (C. S. Sharma) 6 #14350 81.49

Hill, Susan (*with* Shapin, Steven) The Turner collection of the history of mathematics at the University of Keele. *British J. Hist. Sci.* **6** (1972/73), *no.* 23, *part* 3, 336–337. (Editors) **58** #27127 01A70

Hill, Thomas W., Jr. (*with* Ravindran, Arunachalam) On programming with absolute-value functions. *J. Optimization Theory Appl.* **17** (1975), *no.* 1-2, 181–183. (Siegfried Schaible) **52** #10023 90C05

A simple perturbed demand inventory model with ordering cost. *Management Sci.* **23** (1975/76), *no.* 1, 38–42. (Author's summary) **55** #11997 90B05

Hill, Ursula (*with* Bauer, Friedrich L.; Gnatz, Rupert) ★Informatik. Aufgaben und Lösungen zum Teil I. Heidelberger Taschenbücher, Band 159. (Sammlung Informatik). *Springer-Verlag, Berlin-New York*, 1975. xi + 163 *pp.* (*loose errata*) (Editors) **52** #5172 94–01 (68–01)

(*with* Bauer, Friedrich L.; Gnatz, Rupert) ★Informatik. Aufgaben und Lösungen. Teil II. Heidelberger Taschenbücher, Band 160. (Sammlung Informatik). *Springer-Verlag, Berlin-New York*, 1976. x + 173 *pp.* (Editors) **52** #5174 94–01 (68–01)

See also **Compiler construction**, **56** #1763

Hill, Victor E. Split and minimal abelian extensions of finite groups. *Trans. Amer. Math. Soc.* **172** (1972), 329–337. (Bhama Srinivasan) **46** #9175 20F25

★Groups, representations, and characters. *Hafner Press*, [*Macmillan Publishing Co., Inc.*] *New York*; *Collier Macmillan Publishers, London*, 1975. x + 182 *pp.* (Nigel B. Backhouse) **54** #7596 20Cxx

Hill, W. John (*with* Gheorghe, Adrian V.; Bali, Hari N.; Carson, Ewart R.) Dynamic decision models for clinical diagnosis. (French summary) *Internat. J. Bio-Med. Comput.* **7** (1976), *no.* 2, 81–92. (James C. Bezdek) **55** #1864 68A45 (92A99)

Hill, W. Mack (*with* Wright, Charles R. B.) Normal subgroups contained in the Frattini subgroup. *Proc. Amer. Math. Soc.* **35** (1972), 413–415. (B. Chang) **46** #252 20D25

(*with* Parker, Donald B.) The nilpotence class of the Frattini subgroup. *Israel J. Math.* **15** (1973), 211–215. (M. F. Newman) **48** #422 20D25

Frattini subgroups of p-closed and p-supersolvable groups. *Israel J. Math.* **19** (1974), 208–211. (David Finkel) **51** #5758 20D25

Normal subgroups contained in the Frattini subgroup. II. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 277–279. (B. Chang) **52** #10877 20D25

Frattini subgroups and supernilpotent groups. *Israel J. Math.* **26** (1977), *no.* 1, 68–74. (Ja. G. Berkovič) **55** #8164 20D15

Hill, Walter L. Formal groups and zeta-functions of elliptic curves. *Invent. Math.* **12** (1971), 321–336. (A. N. Andrianov) **45** #1921 14G10

Hill, Walter W., Jr. Prisoner's dilemma, a stochastic solution. *Math. Mag.* **48** (1975), 103–105. (G. Owen) **50** #12290 90D15

Hill, William G. (*with* Nicholas, F. W.) Estimation of heritability by both regression of offspring on parent and intra-class correlation of sibs in one experiment. (French summary) *Biometrics* **30** (1974), 447–468. (Louis Jensen) **51** #2235 62P10 (92A10)

Order statistics of correlated variables and implications in genetic selection programmes. (French summary) *Biometrics* **32** (1976), *no.* 4, 889–902. (H. L. Harter) **56** #1582 62G30 (92A10)

Order statistics of correlated variables and implications in genetic selection programmes. II. Response to selection. (French summary) *Biometrics* **33** (1977), *no.* 4, 703–712. (H. L. Harter) **57** #1762 62G30 (62P10)

See also **Symposium: Mathematical Genetics**, **52** #12848; **Andrews, J. G.; et al.**, **56** #1854 *and* **Problems: Population genetics**, **56** #17911

Hill, William J. (*with* Box, George E. P.) Correcting inhomogeneity of variance with power transformation weighting. *Technometrics* **16** (1974), 385–389. (Mir Ali) **50** #8850 62J10

(*with* Hunter, William G.) Design of experiments for subsets of parameters. *Technometrics* **16** (1974), 425–434. (E. J. Williams) **50** #11655 62K05

Hillam, Bruce P. A generalization of Krasnoselski's theorem on the real line. *Math. Mag.* **48** (1975), 167–168. (Simeon Reich) **51** #3364 26A18

A characterization of the convergence of successive approximations. *Amer. Math. Monthly* **83** (1976), *no.* 4, 273. (L. E. Ward, Jr.) **53** #4030 54H25 (26A18)

Hille, Einar On a class of non-linear second order differential equations. Collection of articles dedicated to Alberto González Domínguez on his sixty-fifth birthday. *Rev. Un. Mat. Argentina* **25** (1970/71), 319–334. (D. A. Lutz) **48** #601 34A20

★Methods in classical and functional analysis. Addison-Wesley Series in Mathematics. *Addison-Wesley Publishing Co., Reading, Mass.-London-Don Mills, Ont.*, 1972. ix + 486 *pp.* (M. Breger (Zbl **223** #46001)) **57** #3802 46–01 (26–01, 34–01)

Generalizations of Landau's inequality to linear operators. *Linear operators and approximation* (*Proc. Conf., Oberwolfach*, 1971), *pp.* 20–32. *Internat. Ser. Numer. Math., Vol.* 20, *Birkhäuser, Basel*, 1972. (S. Kurepa) **53** #6354 47D05

On the Landau-Kallman-Rota inequality. Collection of articles dedicated to J. L. Walsh on his 75th birthday, VI. *J. Approximation Theory* **6** (1972), 117–122. (G. Da Prato) **49** #7839 47D05

Pseudo-poles in the theory of Emden's equation. *Proc. Nat. Acad. Sci. U.S.A.* **69** (1972), 1271–1272. (S. G. Deo) **45** #3875 34E15

Introduction to general theory of reproducing kernels. *Rocky Mountain J. Math.* **2** (1972), *no.* 3, 321–368. (J. Siciak) **47** #3658 30A31

On a class of adjoint functional equations. *Acta Sci. Math.* (*Szeged*) **34** (1973), 141–161. (R. A. Rosenbaum) **48** #2611 39A30

On a class of series expansions in the theory of Emden's equation. *Proc. Roy. Soc. Edinburgh Sect. A* **71**, *part* 2, 95–110 (1973). (R. M. Cooper) **48** #4379 34A25

(*with* Phillips, Ralph S.) ★Functional analysis and semi-groups. Third printing of the revised edition of 1957. American Mathematical Society Colloquium Publications, Vol. XXXI. *American Mathematical Society, Providence, R. I.*, 1974. xii + 808 *pp.* (Editors) **54** #11077 47–02 (46–02)

A note on quadratic systems. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no.* 1, 17–37 (1974). (R. M. Cooper) **53** #8556 34C05

★Classical analysis and functional analysis: selected papers. Edited by Robert R. Kallman. Mathematicians of Our Time, Vol. 11. *The MIT Press, Cambridge, Mass.-London*, 1975. xlvii + 709 *pp.* (1 *plate*) (O. Borůvka) **56** #15341 01A75

Finiteness of the order of meromorphic solutions of some non-linear ordinary differential equations. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no.* 4, 331–336 (1975). (A.

Edrei) **52** #8540 34A20 (30A70)

★Ordinary differential equations in the complex domain. Pure and Applied Mathematics. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1976. xi + 484 *pp*. (S. Strelitz) **58** #17266 34A20

On some generalizations of the Malmquist theorem. *Math. Scand*. **39** (1976), *no*. 1, 59–79. (Chung-Chun Yang) **56** #12361 34A20

Non-linear differential equations; questions and some answers. *Differential equations* (*Proc. Internat. Conf., Uppsala*, 1977), *pp*. 101–108. *Sympos. Univ. Upsaliensis Ann. Quingentesimum Celebrantis, No*. 7, *Almqvist & Wiksell, Stockholm*, 1977. (Eleanor M. James) **57** #16751 34–02 (34A20)

See also **Sansone, G.**, **54** #10927 *and* **Functional equations and inequalities**, **58** #23210

Hillebrandt, W. *See* **Møller, Christian**, **57** #8838

Hillel, Joel Algebras of symmetry classes of tensors and their underlying permutation groups. *J. Algebra* **23** (1972), 215–227. (Marvin Marcus) **47** #8584 15A72

On the number of type-k translation-invariant groups. *Pacific J. Math*. **45** (1973), 539–541. (Gary M. Seitz) **47** #6816 20B05

Dimensionality of algebras of symmetry classes of tensors. *Linear and Multilinear Algebra* **4** (1976), *no*. 1, 41–44. (Agneta Vescan) **53** #13283 15A72

bar-Hillel, Yehoshua *See* **Bar-Hillel, Yehoshua**

Hiller, Howard Lyn Fibrations and Grothendieck topologies. *Bull. Austral. Math. Soc*. **14** (1976), *no*. 1, 111–128. (Pierre J. Malraison, Jr.) **53** #13355 18F15 (14F99)

Derived functors of torsion. *Canad. Math. Bull*. **19** (1976), *no*. 1, 63–66. (Marie-Paule Malliavin) **57** #5997 13D99 (18G10)

(*with* Shelah, Saharon) Singular cohomology in *L*. *Israel J. Math*. **26** (1977), *no*. 3–4, 313–319. (Paul C. Eklof) **56** #2820 02K05 (55B10)

Karoubi theory of finite fields. *J. Pure Appl. Algebra* **11** (1977/78), *no*. 1-3, 271–278. (Manuel Ojanguren) **58** #16842 18F25 (55F40)

(*with* Huber, Martin; Shelah, Saharon) The structure of $\mathrm{Ext}(A, \mathbf{Z})$ and $V = L$. *Math. Z*. **162** (1978), *no*. 1, 39–50. (Paul C. Eklof) **58** #11171 20K20 (20K40, 02H15)

Hiller, J. (*with* Goodman, D. K.) Realisation from partial sequences. *Electron. Lett*. **7** (1971), 188–189. (Author's summary) **56** #11152 93B15

Hiller, M. *See* **Control in space**, **48** #13319

Hillestad, R. J. Optimization problems subject to a budget constraint with economies of scale. *Operations Res*. **23** (1975), *no*. 6, 1091–1098. (M. Vlach) **55** #7413 90C30

Hilliard, Jimmy E. (*with* Barksdale, Hiram C.) The time domain implications of phase angles and tau. *Management Sci*. **22** (1975/76), *no*. 11, 1273–1281. (R. J. Bhansali) **55** #2085 90A20

An approach to cost analysis of maintenance float systems. *AIIE Trans* **8** (1976), *no*. 1, 128–133. (Stratton C. Jaquette) **54** #6914 90B05

Hillier, Frederick S. Efficient heuristic procedures for integer linear programming with an interior. *Operations Res*. **17** (1969), *no*. 4, 600–637. (Author's summary) **52** #16606 90C10

(*with* Lieberman, Gerald J.) ★Operations research. Second edition. *Holden-Day, Inc., San Francisco, Calif.-Düsseldorf-Johannesburg*, 1974. xi + 800 *pp*. (F. Weinberg) **53** #12519 90-02

(*with* Faaland, Bruce H.) The accelerated bound-and-scan algorithm for integer programming. *Operations Res*. **23** (1975), *no*. 3, 406–425. (M. Gondran) **58** #25975 90C10

Hilliker, David Lee (*with* Straus, Ernst G.) Some p-adic versions of Polya's theorem on integer valued analytic functions. *Proc. Amer. Math. Soc*. **26** (1970), 395–400. (Authors' summary) **55** #5548 10F45 (12B40)

A study in the history of analysis up to the time of Leibniz and Newton in regard to Newton's discovery of the binomial theorem. I. Contributions of Pascal. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 28–34 (1974). (Author's review) **58** #21127a 01A45

A study in the history of analysis up to the time of Leibniz and Newton in regard to Newton's discovery of the binomial theorem. II. Contributions of Archimedes. *Math. Student* **42** (1974), 107–110 (1975). (Author's review) **58** #21127b 01A45

A study in the history of analysis up to the time of Leibniz and Newton in regard to Newton's discovery of the binomial theorem. III. Contributions of Cavalieri. *Math. Student* **42** (1974), 195–200 (1975). (Author's review) **58** #21127c 10A45

A study in the history of analysis up to the time of Leibniz and Newton in regard to Newton's discovery of the binomial theorem. IV. Contributions of Newton. *Math. Student* **42** (1974), 397–404 (1975). (Author's review) **58** #21127d 01A45

On the multinomial theorem. *Fibonacci Quart*. **15** (1977), *no*. 1, 22–24. (H. W. Gould) **58** #21641 05A10

Hillinger, Claude Testing econometric models by means of time series analysis. *Mathematical systems theory and economics, I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp*. 433–440. *Lecture Notes in Oper. Res. and Math. Econom., Vols*. 11, 12, *Springer, Berlin*, 1969. **47** #6277 90A20

Hillion, Alain Diamètres de régions de confiance. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no*. 19, *A*ii, *A*1167–*A*1170. (H. E. Reinhardt) **53** #9492 62F25

Sur l'intégrale d'Hellinger et la séparation asymptotique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no*. 2, *A*ii, *A*61–*A*64. (V. S. Mandrekar) **53** #14639 60G30

Quelques inégalités sur les régions de confiance. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **13** (1977), *no*. 4, 371–384. (James V. Bondar) **58** #13478 62F25

Hillion, Pierre Intervalle d'approximation pour les suites à quotients de différences successives monotones. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A853–A856. (H. H. Goldstine) **48** #5351 65D99

(*with* Bayen, François) Covariance of the conserved current equations and transformations of Noether's current. *J. Mathematical Phys*. **14** (1973), 1164–1169. (V. S. Varadarajan) **49** #6804 81.22

Remarque sur l'approximation de la somme d'une série. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 155–158. (J. G. Herriot) **49** #11761 65B10

Accélération de la convergence de certaines suites dont la série entière associée possède une singularité en $z = 1$. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 893–896. (W. Beekmann) **50** #15260 65B10

Remarque sur l'extrapolation à la limite. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 953–956. (V. Pereyra) **53** #6970 65B05 (40A25)

Extension de la méthode de l'interpolation linéaire inverse. *C. R. Acad. Sci. Par Sér. A* **279** (1974), 285–288. (V. Pereyra) **50** #3561 65H05 (65B99)

Transformation de Fourier sur le groupe conforme. (English, Italian and Russia summaries) *Nuovo Cimento B* (11) **20** (1974), 247–261. (S. Deser) **49** #4472 81.4

Suites d'approximations rationnelles d'une intégrale. (English summary) *C. R Acad. Sci. Paris Sér. A-B* **280** (1975), A669–A671. (D. B. Hunter) **55** #4611 65D3

Méthode d'Aitken itérée pour les suites oscillantes d'approximations. (Englis summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no*. 24, Aii, A1701–A1704. (V Pereyra) **52** #4571 65B99

Borel summability and distribution. *J. Mathematical Phys*. **16** (1975), *no*. 9, 1920–1927. (Author's summary) **55** #6058 40G10

Calcul d'une intégrale sur un triangle par la méthode de Monte-Carlo. (Englis summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no*. 1, Aiii, A59–A61. (Siegfrie Filippi) **53** #1903 65C05 (65D30)

Méthode de Newton bi-point. (English summary) *C. R. Acad. Sci. Paris Sér. A-* **283** (1976), *no*. 7, *A*iv, *A*511–*A*514. (V. Pereyra) **54** #9074 65H05

Spinor representation of electromagnetic fields. *J. Opt. Soc. Amer*. **66** (1976), *no*. 8 865. (Marcos Rosenbaum) **53** #15110 78.53

Méthode d'éléments finis pour les équations de Maxwell. (English summary) *C. R Acad. Sci. Paris Sér. A-B* **284** (1977), *no*. 5, A323–A325. (Author's summary) **55** #195 78.65

Approximations aux différences finies de l'équation de propagation d'un faisce laser. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no*. 18, A1147–A1149. (Author's summary) **55** #7137 78.65

Numerical integration on a triangle. *Internat. J. Numer. Methods Engrg*. **11** (1977 *no*. 5, 797–815. (D. B. Hunter) **56** #7124 65D30

(*with* Nurdin, G.) Integration of highly oscillatory functions. *J. Computationa Phys*. **23** (1977), *no*. 1, 74–81. (Robert Piessens) **55** #6790 65D30

Remarks on rational approximations of multiple power series. *J. Inst. Math. App*. **19** (1977), *no*. 3, 281–293. (Björn von Sydow) **55** #10919 41A20

Approximating functions with a given singularity. *J. Mathematical Phys*. **18** (197 *no*. 3, 465–470. (Mogens Esrom Larsen) **55** #8366 30A82

(*with* Quinnez, Solange; Nurdin, G.) Iterative method for invariant imbedding. *Appl. Math. Comput*. **4** (1978), *no*. 3, 213–237. (J. R. Cannon) **58** #3492 65L10

Numerical solution of the Helmholtz equation in optics. *J. Comput. Phys*. **28** (1978, *no*. 2, 232–252. (J. S. Colonias) **58** #19856 78.65

Hillman, Abraham P. (*with* Hoggatt, Verner E., Jr.) A proof of Gould's Pascal hexago conjecture. *Fibonacci Quart*. **10** (1972), *no*. 6, 565–568, 598. (H. W. Gould) **47** #3287 10A05 (10A40)

(*with* Hoggatt, Verner E., Jr.) Exponents of primes in generalized binomial coefficients. Collection of articles dedicated to Helmut Hasse on his seventy-fift birthday. *J. Reine Angew. Math*. **262/263** (1973), 375–380. (H. W. Gould) **49** #2413 05A10

(*with* Grassl, Richard M.) Reverse plane partitions and tableau hook numbers. *Combinatorial Theory Ser. A* **21** (1976), *no*. 2, 216–221. (R. Stanley) **54** #2490 05A17

See also **Primer for the Fibonacci numbers**, **50** #12906

Hillman, Jonathan A. A non-homology boundary link with zero Alexander polynomial *Bull. Austral. Math. Soc*. **16** (1977), *no*. 2, 229–236. (L. Neuwirth) **56** #13200 55A2

High dimensional knot groups which are not two-knot groups. *Bull. Austral. Mat Soc*. **16** (1977), *no*. 3, 449–462. (B. Clark (Zbl **352** #57011)) **58** #31098 57C45

Alexander ideals and Chen groups. *Bull. London Math. Soc*. **10** (1978), *no*. 105–110. (L. Neuwirth) **57** #17621 55A25

Hills, B. P. A generalized Langevin equation for the angular velocity of a spheric Brownian particle from fluctuating hydrodynamics. *Phys. A* **80** (1975), *no*. 4, 360–36 (Cataldo Agostinelli) **53** #9864 76.45

Hills, R. N. On uniqueness of flows of a dipolar fluid. *Proc. Edinburgh Math. Soc*. (2) 1 (1970/71), 263–269. (R. K. Rathy) **46** #10293 76.35

On the stability of a linear dipolar fluid. (German summary) *Acta Mech*. **17** (1973 255–261. (A. A. Blank) **51** #9642 76.35

(*with* Knops, R. J.) Continuous dependence for the compressible linearly viscou fluid. *Arch. Rational Mech. Anal*. **51** (1973), 54–59. (W. F. Ames) **49** #4413 76.3

On uniqueness and continuous dependence for a linear micropolar fluid. (French German, Italian and Russian summaries) *Internat. J. Engrg. Sci*. **11** (1973), *no*. 369–376. (Gérard A. Maugin) **56** #7459 76.35

A note on uniqueness for anisotropic fluids. *Glasgow Math. J*. **15** (1974), 43–47. (Elcrat) **52** #12518 76.35

On the stability of second-order fluids. (French summary) *J. Mécanique* **13** (1974 159–165. (L. M. Hocking) **51** #2447 76.35

(*with* Knops, R. J.) Concavity and the evolutionary properties of a class of gener materials. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no*. 3, 239–243 (1975). (Jerom Eisenfeld) **52** #12478 73.35

(*with* Knops, R. J.) Qualitative results for a class of general materials. *SIAM Appl. Math*. **30** (1976), *no*. 3, 424–451. (Peter J. Chen) **54** #6624 73.35

(*with* Roberts, P. H.) Superfluid mechanics for a high density of vortex lines. *Arc Rational. Mech. Anal*. **66** (1977), *no*. 1, 43–71. (T. Izuyama) **58** #8736 76.35

Hillstrom, K. (*with* Brown, K.; Minkoff, M.; Nazareth, Larry; Pool, J.; Smith, B.) Progress in the development of a modularized package of algorithms for optimizatio problems. *Optimization in action* (*Proc. Conf., Univ. Bristol, Bristol*, 1975), *pp*. 185 21 *Academic Press, London*, 1976. (Vincenţiu Dumitru) **55** #7369 90Cxx (90–04, 65K05)

Hillstrom, K. E. (*with* Cody, W. J.; Thacher, Henry C., Jr.) Chebyshev approximations fo the Riemann zeta function. *Math. Comp*. **25** (1971), 537–547. (Authors' summar **45** #4601 65D20

See also **Cody, W. J.**, **47** #2785

Hilpinen, R. *See* **Semantics and communication**, **49** #4731

Hilpinen, Risto (*with* Hintikka, Jaakko) Rules of acceptance, indices of lawlikeness, an ngular inductive inference: reply to a critical discussion. *Philos. Sci.* **38** (1971), 03–307. (Editors) **58** #16102b 02A05 (02C05)

Relational hypotheses and inductive inference. *Synthese* **23** (1971/72), 266–286. (J. . Fenstad) **47** #5908 60A05 (02A05)

Carnap's new system of inductive logic. *Synthese* **25** (1973), 307–333. (Editors) 7 #15990 02C99 (60A05)

Approximate truth and truthlikeness. *Formal methods in the methodology of npirical sciences* (*Proc. Conf.*, *Warsaw*, 1974), *pp.* 19–42. *Synthese Library*, 103. *Reidel, ordrecht*, 1976. (From the text) **58** #27227 02A05 (02C10)

See also **Deontic logic: introductory and systematic readings**, **56** #2790 (EA **55**/**56**); **oundations of probability and statistics**, **56** #9751; **Foundations of probability and atistics**, **56** #9752 *and* **Foundations of probability and statistics**, **56** #11739

n, A. J. W. The number of spanning trees of labeled wheels, fans and baskets. *ombinatorics* (*Proc. Conf. Combinatorial Math., Math. Inst., Oxford*, 1972), *pp.* 203–206. *nst. Math. Appl., Southend-on-Sea*, 1972. (J. Sedláček) **50** #4373 05C30

A simplification of Moore's proof of the existence of Steiner triple systems. *J. ombinatorial Theory Ser. A* **13** (1972), 422–425. (E. F. Assmus, Jr.) **46** #1616 5B05

(*with* Rado, Richard; Scott, S. H.) A (<5)-colour theorem for planar graphs. *Bull. ondon Math. Soc.* **5** (1973), 302–306. (G. Chartrand) **48** #1960 05C15

Embedding an incomplete diagonal Latin square in a complete diagonal Latin quare. *J. Combinatorial Theory Ser. A* **15** (1973), 121–128. (R. C. Mullin) **47** #8327 5B15

On double diagonal and cross latin squares. *J. London Math. Soc.* (2) **6** (1973), 79–689. (Charles C. Lindner) **47** #8328 05B15

Simultaneously disjoint pairs of subsets of a finite set. *Quart. J. Math. Oxford Ser.* 2) **24** (1973), 81–95. (G. F. Clements) **47** #6495 05A05

A note on embedding Latin rectangles. *Combinatorics* (*Proc. British Combinatorial onf., Univ. Coll. Wales, Aberystwyth*, 1973), *pp.* 69–74. *London Math. Soc. Lecture Note er., No.* 13, *Cambridge Univ. Press, London*, 1974. (Robert L. Wilson, Jr.) **53** #2710 5B15

(*with* Scott, S. H.) A further construction of double diagonal orthogonal Latin quares. *Discrete Math.* **7** (1974), 111–127. (J. F. Lawless) **48** #8266 05B15

On Ferns' theorem on the expansion of Fibonacci and Lucas numbers. *Fibonacci uart.* **12** (1974), 231–232. (D. A. Klarner) **50** #4466 10A35

Spanning trees and Fibonacci and Lucas numbers. *Fibonacci Quart.* **12** (1974), 59–262. (J. Sedláček) **50** #7010 10A35

On the partition of Horadam's generalized sequences into generalized Fibonacci and eneralized Lucas sequences. *Fibonacci Quart.* **12** (1974), 339–345. (A. Peluso) **0** #4467 10A35

(*with* Daykin, David E.; Godfrey, Jean) Existence theorems for Sperner families. . *Combinatorial Theory Ser. A* **17** (1974), 245–251. (G. F. Clements) **54** #4993 5A05

(*with* Daykin, David E.; Dresel, L. A. G.) The structure of second order sequences a finite field. *J. Reine Angew. Math.* **270** (1974), 77–96. (N. J. A. Sloane) **51** #5478 10A35

(*with* Geller, Dennis P.) How to colour the lines of a bigraph. *Networks* **4** (1974), 81–282. (Editors) **49** #4834 05C15

Analogues of a theorem of Erdős, Ko, and Rado on a family of finite sets. *Quart. J. ath. Oxford Ser.* (2) **25** (1974), 19–28. (J. E. Graver) **49** #2406 05A05

On the number of mutually orthogonal double diagonal Latin squares of order *m*. *ankhyā Ser. B* **36** (1974), *no.* 2, 129–134. (Damaraju Raghavarao) **52** #13432 5B15 (62K10)

Some simple constructions for double diagonal Latin squares. *Sankhyā Ser. B* **36** 1974), *no.* 3, 215–229. (M. N. Das) **53** #6921 62K10

On the number of mutually orthogonal double diagonal Latin squares of order *m*. *nfinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th irthday*), *Vol. II*, *pp.* 867–874. *Colloq. Math. Soc. János Bolyai*, *Vol.* 10, *North-Holland, msterdam*, 1975. (Charles C. Lindner) **51** #7905 05B15

Simultaneously independent *k*-sets of edges of a hypergraph. *Infinite and finite sets* Colloq., *Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. II*, *pp.* 75–886. *Colloq. Math. Soc. János Bolyai*, *Vol.* 10, *North-Holland*, *Amsterdam*, 1975. Jean-Claude Bermond) **52** #2902 05A05

Some simple constructions for double diagonal orthogonal Latin squares. *Infinite nd finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. I*, *pp.* 887–904. *Colloq. Math. Soc. János Bolyai*, *Vol.* 10, *North-Holland*, *Amsterdam*, 975. (David A. Drake) **51** #12564 05B15

A note on edge-colouring multigraphs. *Recent advances in graph theory* (*Proc. econd Czechoslovak Sympos., Prague*, 1974), *pp.* 267–271. *Academia, Prague*, 1975. (L. V. Beineke) **52** #10473 05C15

On Vizing's upper bound for the chromatic index of a graph. Colloque sur la héorie des Graphes (Paris, 1974). *Cahiers Centre Études Recherche Opér.* **17** (1975), *no.* -4, 225–233. (L. W. Beineke) **53** #7840 05C15

Embedding incomplete double diagonal Latin squares. *Discrete Math.* **12** (1975), 57–268. (David A. Drake) **51** #12565 05B15

(*with* Crampin, D. J.) Remarks on Sade's disproof of the Euler conjecture with an pplication to Latin squares orthogonal to their transpose. *J. Combinatorial Theory Ser.* **18** (1975), 47–59. (Charles C. Lindner) **51** #197 05B15

(*with* Crampin, D. J.) On the spectra of certain types of Latin square. *J. ombinatorial Theory Ser. A* **19** (1975), 84–94. (Charles C. Lindner) **51** #12563 5B15

Colouring the edges of a multigraph so that each vertex has at most *j*, or at least *j*, dges of each colour on it. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 1, 122–128. (Paul . Kainen) **53** #5352 05C15

The cover index, the chromatic index and the minimum degree of a graph. *roceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 975), *pp.* 307–317. *Congressus Numerantium, No. XV*, *Utilitas Math., Winnipeg, Man.*, 976. (Derek Smith) **52** #13464 05C15

(*with* Keedwell, A. D.) Further results concerning *P*-quasigroups and complete raph decompositions. *Discrete Math.* **14** (1976), *no.* 4, 311–318. (Anton Kotzig) **55** #7834 05C25

(*with* Rado, Richard; Scott, S. H.) Multicolouring graphs and hypergraphs. *Nanta Math.* **9** (1976), *no.* 2, 152–155. (R. A. Melter) **58** #27601 05C15

A theorem on finite sets. *Quart. J. Math. Oxford Ser.* (2) **27** (1976), *no.* 105, 33–36. (D. J. Kleitman) **53** #146 05A05

An improved upper bound for the chromatic index of a multigraph. *Ars Combin.* **3** (1977), 277–286. (William T. Trotter, Jr.) **57** #9585 05C15

Definitions of criticality with respect to edge-coloring. *J. Graph Theory* **1** (1977), *no.* 1, 61–68. (R. J. Wilson) **56** #15479 05C15

(*with* Frankl, Péter) On the minimum number of sets comparable with some members of a set of finite sets. *J. London Math. Soc.* (2) **15** (1977), *no.* 1, 16–18. (D. J. Kleitman) **55** #12530 05A05

An intersection theorem for a collection of families of subsets of a finite set. *J. London Math. Soc.* (2) **15** (1977), *no.* 3, 369–376. (D. J. Kleitman) **56** #2834 05A05

On the Szamkolowicz-Doyen classification of Steiner triple systems. *Proc. London Math. Soc.* (3) **34** (1977), *no.* 1, 102–116. (Luc Teirlinck) **55** #128 05B05

(*with* Jones, Rhys Price) Further remarks on partitioning the edges of a graph. *J. Combinatorial Theory Ser. B* **24** (1978), *no.* 2, 249–250. (Authors' summary) **58** #10613 05C99

Some intersection and union theorems for several families of finite sets. *Mathematika* **25** (1978), *no.* 1, 125–128. (László Lovasz) **58** #10480 05A20

See also **Problems: Combinatorial mathematics**, **53** #141

Hilton, Peter John ★Suites spectrales et théories de cohomologie générales. Secrétariat des Mathématiques de la Faculté des Sciences de Montpellier, 1969-1970, Publication No. 88. *Université de Montpellier, Montpellier*, 1970. 105 *pp.* (Harold Hastings) **51** #1824 55H25

★Tópicos de álgebra homológica. (Portuguese) [Topics on homological algebra] *Instituto de Matemática e Estatística, Universidade de São Paulo, São Paulo*, 1970. v + 179 *pp.* (Editors) **54** #10368 18–01

(*with* Deleanu, Aristide) Remark on Čech extensions of cohomology functors. *Proceedings of the Advanced Study Institute on Algebraic Topology* (*Aarhus Univ., Aarhus*, 1970), *Vol. I*, *pp.* 44–66. *Various Publ. Ser., No.* 13, *Mat. Inst., Aarhus Univ., Aarhus*, 1970. (Harold Hastings) **49** #11499 55B05 (55B35, 55J99)

(*with* Deleanu, Aristide) On the splitting of universal coefficient sequences. *Proceedings of the Advanced Study Institute on Algebraic Topology* (*Aarhus Univ., Aarhus*, 1970), *Vol. I*, *pp.* 180–201. *Various Publ. Ser., No.* 13, *Mat. Inst., Aarhus Univ., Aarhus*, 1970. (K. Lamotke) **48** #12532 55J20

(*with* Deleanu, Aristide) On the generalized Čech construction of cohomology theories. *Symposia Mathematica*, *Vol. IV* (*INDAM*, *Rome*, 1968/69), *pp.* 193–218. *Academic Press, London*, 1970. (W. M. Singer) **45** #7703 55B05

On direct systems of groups. *Bol. Soc. Brasil. Mat.* **1** (1970), *no.* 2, 1–20. (L. Ribes) **47** #6874 20F20

(*with* Roitberg, Joseph) On the classification problem for *H*-spaces of rank two. *Comment. Math. Helv.* **45** (1970), 506–516. (J.-P. Meyer) **45** #5996 55D45 (55F65)

★Lectures in homological algebra. Conference Board of the Mathematical Sciences Regional Conference Series in Mathematics, No. 8. *American Mathematical Society, Providence, R.I.*, 1971. viii + 74 *pp.* (S. Moran) **47** #305 18Gxx

(*with* Stammbach, Urs) ★A course in homological algebra. Graduate Texts in Mathematics, Vol. 4. *Springer-Verlag, New York-Berlin*, 1971. ix + 338 *pp.* (A. Fauntleroy) **49** #10751 18–02

Extensions of functors on groups and coefficients in a cohomology theory. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 323–328. *Gauthier-Villars, Paris*, 1971. (Guido Mislin) **54** #11310 55B20

(*with* Roitberg, Joseph) On quasi-fibrations and orthogonal bundles. *H-Spaces* (*Actes Réunion, Neuchâtel*, 1970), *pp.* 100–106. *Lecture Notes in Math.*, *Vol.* 196, *Springer, Berlin*, 1971. (J.-P. Meyer) **45** #5997 55D45 (55F65)

(*with* Mislin, Guido; Roitberg, Joseph) Sphere bundles over spheres and non-cancellation phenomena. *Symposium on Algebraic Topology* (*Battelle Seattle Res. Center, Seattle, Wash.*, 1971), *pp.* 34–46. *Lecture Notes in Math.*, *Vol.* 249, *Springer, Berlin*, 1971. (Gerald Lieberman) **49** #3932 55F25

(*with* Eckmann, Beno) On central group extensions and homology. *Comment. Math. Helv.* **46** (1971), 345–355. (A. K. Bousfield) **45** #3575 20J05

(*with* Deleanu, Aristide) On Kan extensions of cohomology theories and Serre classes of groups. *Fund. Math.* **73** (1971/72), *no.* 2, 143–165. (J. P. May) **45** #4403 55E50

On filtered systems of groups, colimits, and Kan extensions. *J. Pure Appl. Algebra* **1** (1971), *no.* 2, 199–217. (Y. C. Wu) **45** #3508 18A30

Direkte Systeme von Gruppen. *Math.-Phys. Semesterber.* **18** (1971), 174–193. (Peter M. Neumann) **51** #8195 18–01 (20J99)

(*with* Mislin, Guido; Roitberg, Joseph) Topological localization and nilpotent groups. *Bull. Amer. Math. Soc.* **78** (1972), 1060–1063. (C. W. Patty) **47** #1066 55J05 (55E05)

Heinz Hopf. *Bull. London Math. Soc.* **4** (1972), 202–217. (Editors) **52** #5300 01A70 (55–03, 57–03)

(*with* Eckmann, Beno; Stammbach, Urs) On the homology theory of central group extensions. I. The commutator map and stem extensions. *Comment. Math. Helv.* **47** (1972), 102–122. (J. A. Schafer) **47** #357 20J05 (18F25)

(*with* Eckmann, Beno; Stammbach, Urs) On the homology theory of central group extensions. II. The exact sequence in the general case. *Comment. Math. Helv.* **47** (1972), 171–178. (J. A. Schafer) **47** #8699 (E **54** #10439) 20F25

(*with* Mislin, Guido; Roitberg, Joseph) *H*-spaces of rank two and non-cancellation phenomena. *Invent. Math.* **16** (1972), 325–334. (J. Stasheff) **46** #887 55D45

(*with* Mislin, Guido; Roitberg, Joseph) Sphere bundles over spheres and non-cancellation phenomena. *J. London Math. Soc.* (2) **6** (1972), 15–23. (K. H. Mayer) **47** #2600 55F25

(*with* Stammbach, Urs) On the differentials in the Lyndon-Hochschild-Serre spectral sequence. *Bull. Amer. Math. Soc.* **79** (1973), 796–799. (I. B. S. Passi) **48** #2271 20J05 (18G40, 20F25)

Localization and cohomology of nilpotent groups. (French summary) Conférences du Colloque sur l'Algèbre des Catégories (Amiens, 1973), I. *Cahiers Topologie Géom.*

Différentielle **14** (1973), *no.* 4, 341–369, 480. (Editors) **50** #4778 20J05

Remarks on the localization of nilpotent groups. Collection of articles dedicated to Wilhelm Magnus. *Comm. Pure Appl. Math.* **26** (1973), 703–713. (U. Stammbach) **49** #7372 20J05

(*with* Eckmann, Beno; Stammbach, Urs) Corrigendum to: "On the homology of central group extensions. II. The exact sequence in the general case". *Comment. Math. Helv.* **48** (1973), 136. (Editors) **54** #10439 20J05

Categories and functors. (Romanian) *Gaz. Mat. Ser. A* **78** (1973), 323–332. (Editors) **49** #5113 18–01

(*with* Mislin, Guido; Roitberg, Joseph) Note on a criterion of Scheerer. *Illinois J. Math.* **17** (1973), 680–688. (Gerald Lieberman) **50** #11232 55F25 (55D45)

(*with* Eckmann, Beno; Stammbach, Urs) On the Schur multiplicator of a central quotient of a direct product of groups. *J. Pure Appl. Algebra* **3** (1973), 73–82. (J. Wiegold) **50** #2347 20F25

Localization and cohomology of nilpotent groups. *Math. Z.* **132** (1973), 263–286. (R. B. Warfield, Jr.) **48** #438 20J05 (20E15)

(*with* Mislin, Guido; Roitberg, Joseph) Homotopical localization. *Proc. London Math. Soc.* (3) **26** (1973), 693–706. (E. B. Curtis) **48** #5063 55D99

(*with* Deleanu, Aristide) Localization, homology and a construction of Adams. *Trans. Amer. Math. Soc.* **179** (1973), 349–362. (A. K. Bousfield) **48** #12505 55B20

(*with* Wu, Yel Chiang) ★A course in modern algebra. Pure and Applied Mathematics. *John Wiley & Sons, New York-London-Sydney*, 1974. x+249 *pp.* (T. W. Hungerford) **49** #10475 00A05 (18–01)

Localization of nilpotent spaces. *Algebraic and geometrical methods in topology* (*Conf. Topological Methods in Algebraic Topology, State Univ. New York, Binghamton, N.Y.*, 1973), *pp.* 18–43. *Lecture Notes in Math.*, *Vol.* 428, *Springer, Berlin*, 1974. (S. S. Cairns) **52** #1681 55D15

Localization of nilpotent groups: homological and combinatorial methods. *Comptes Rendus des Journées Mathématiques de la Société Mathématique de France* (*Univ. Sci. Tech. Languedoc, Montpellier*, 1974), *pp.* 123–132. *Cahiers Math. Montpellier, No.* 3, *U. E. R. de Math., Univ. Sci. Tech. Languedoc, Montpellier*, 1974. (J. Rotman) **52** #596 20J05

On direct limits of nilpotent groups. *Localization in group theory and homotopy theory, and related topics* (*Sympos., Battelle Seattle Res. Center, Seattle, Wash.*, 1974), *pp.* 68–77. *Lecture Notes in Math.*, *Vol.* 418, *Springer, Berlin*, 1974. (U. Stammbach) **52** #3329 20E15 (55D99)

Non-cancellation phenomena in topology. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 405–416. *Colloq. Math. Soc. János Bolyai*, *Vol.* 8, *North-Holland, Amsterdam*, 1974. (H. Scheerer) **51** #6792 55D10

(*with* Mislin, Guido) Remarkable squares of homotopy types. *Bol. Soc. Brasil. Mat.* **5** (1974), *no.* 2, 165–180. (Jerrold W. Grossman) **54** #13908 55D15

(*with* Deleanu, Aristide; Frei, Armin) Generalized Adams completion. *Cahiers Topologie Géom. Différentielle* **15** (1974), 61–82. (Harold Hastings) **50** #8510 55D05

(*with* Stammbach, Urs) On torsion in the differentials of the Lyndon-Hochschild-Serre spectral sequence. *J. Algebra* **29** (1974), 349–367. (L. Ribes) **49** #9050 20G40 (20J05)

(*with* Stammbach, Urs) Two remarks on the homology of group extensions. Collection of articles dedicated to the memory of Hanna Neumann, VII. *J. Austral. Math. Soc.* **17** (1974), 345–357. (L. Ribes) **51** #5715 18H10

(*with* Mislin, Guido; Roitberg, Joseph) ★Localization of nilpotent groups and spaces. North-Holland Mathematics Studies, No. 15. Notas de Matemática, No. 55. [Notes on Mathematics, No. 55] *North-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publishing Co., Inc., New York*, 1975. x+156 *pp.* *ISBN* 0-7204-2716-9 (J. P. May) **57** #17635 55D99

Nilpotent actions on nilpotent groups. *Algebraic and logic* (*Fourteenth Summer Res. Inst., Austral. Math. Soc., Monash Univ., Clayton*, 1974), *pp.* 174–196. *Lecture Notes in Math.*, *Vol.* 450, *Springer, Berlin*, 1975. (U. Stammbach) **52** #3330 20E15 (55D99)

Localization of nilpotent spaces. *Topology and its applications* (*Proc. Conf., Memorial Univ. Newfoundland, St. John's, Nfld.*, 1973), *pp.* 75–99. *Lecture Notes in Pure and Appl. Math.*, *Vol.* 12, *Dekker, New York*, 1975. (Gerald Lieberman) **51** #1811 55D15

Localization in topology. *Amer. Math. Monthly* **82** (1975), 113–131. (J. Stasheff) **52** #4278 55D99 (20K40)

(*with* Mislin, Guido) Bicartesian squares of nilpotent groups. *Comment. Math. Helv.* **50** (1975), *no.* 4, 477–491. (Jerrold W. Grossman) **52** #14082 20J05 (55D15)

(*with* Deleanu, Aristide; Frei, Armin) Idempotent triples and completion. *Math. Z.* **143** (1975), 91–104. (C. W. Patty) **51** #12985 18C15

(*with* Griffiths, H. B.) ★Klassische Mathematik in zeitgemässer Darstellung. Band 1: Grundlagen, Mengenlehre und Arithmetik. Übersetzt aus dem Englischen von Dieter Wode. Studia Mathematica/Mathematische Lehrbücher, Band XXVI. *Vandenhoeck & Ruprecht, Göttingen*, 1976. 223 *pp.* (Editors) **52** #5238 00A05

(*with* Griffiths, H. B.) ★Klassische Mathematik in zeitgemässer Darstellung. Band 2: Geometrie und Algebra. Übersetzt aus dem Englischen von Dieter Wode. Studia Mathematica/Mathematische Lehrbücher, Band XXVII. *Vandenhoeck & Ruprecht, Göttingen*, 1976. 244 *pp.* (Editors) **54** #4878 00A05

Unfolding of singularities. *Functional analysis* (*Proc. Brazilian Math. Soc. Sympos., Inst. Mat. Univ. Estad. Campinas, São Paulo*, 1974), *pp.* 111–134. *Lecture Notes in Pure and Appl. Math.*, 18. *Dekker, New York*, 1976. (H. Gerner (Zbl **352** #58006)) **58** #31175 58C25

On *G*-spaces. *Bol. Soc. Brasil. Mat.* **7** (1976), *no.* 1, 65–73. (Guido Mislin) **58** #7622 55D99

(*with* Stammbach, Urs) On localization and isolators. *Houston J. Math.* **2** (1976), *no.* 2, 195–206. (Thaddeus C. Hurley) **55** #508 20E15

(*with* Roitberg, Joseph) Generalized *C*-theory and torsion phenomena in nilpotent spaces. *Houston J. Math.* **2** (1976), *no.* 4, 525–559. (J. P. May) **55** #13412a 55D10

(*with* Deleanu, Aristide) Borsuk shape and a generalization of Grothendieck's definition of pro-category. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 3, 473–482. (Thomas J. Sanders) **53** #4055 55D99 (54C56)

(*with* Stammbach, Urs) On group actions on groups and associated series. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 1, 43–55. (Jerrold W. Grossman) **53** #8256 20E15 (20J05)

(*with* Mislin, Guido) On the genus of a nilpotent group with finite commu subgroup. *Math. Z.* **146** (1976), *no.* 3, 201–211. (R. B. Warfield, Jr.) **53** #615 2

(*with* Roitberg, Joseph) On the Zeeman comparison theorem for the homolog quasi-nilpotent fibrations. *Quart. J. Math. Oxford Ser.* (2) **27** (1976), *no.* 108, 433- (Donald W. Kahn) **55** #4153 55D05 (55H10)

(*with* Deleanu, Aristide) Generalized shape theory. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sym Prague*, 1976), *Part A*, *pp.* 56–65. *Lecture Notes in Math.*, *Vol.* 609, *Springer, B* 1977. (Ju. M. Smirnov) **58** #22247 18F99 (55D15)

Localization theories for groups and homotopy types. *Geometry and topology* (*III Latin Amer. School of Math., Inst. Mat. Pura Aplicada CNQq, Rio de Janeiro* 1 *pp.* 319–329. *Lecture Notes in Math.*, *Vol.* 597, *Springer, Berlin*, 1977. (J. Stas **57** #1481 55D15 (20D15)

Some contributions of Beno Eckmann to the development of topology and re fields. *Enseignement Math.* (2) **23** (1977), *no.* 3-4, 191–207. (Editors) **56** #153 01A70 (55–03)

(*with* Deleanu, Aristide) On the categorical shape of a functor. *Fund. Math* (1977), *no.* 3, 157–176. (Timothy Porter) **58** #31067 55D99 (18A99)

(*with* Roitberg, Joseph) On the finitude of counterimages in maps of function-spaces. Correction to: "Generalized *C*-theory and torsion phenomena in nilpotent spaces" (Houston J. Math. **2** (1976), no. 4, 525–559). *Houston J. Ma* (1977), *no.* 2, 235–238. (J. P. May) **55** #13412b 55D10

Localization in group theory and homotopy theory. *Jber. Deutsch. Math.-Verei* (1977), *no.* 2, 70–78. (Jerrold W. Grossman) **57** #7583 55D15

What is modern mathematics? (Czech) Translated from the English by Pře Vihan. *Pokroky Mat. Fyz. Astronom.* **22** (1977), *no.* 3, 151–164. (Editors) **58** #99 00A25

(*with* Griffiths, H. B.) ★Klassische Mathematik in zeitgemässer Darstellung. B 3. Das Zahlensystem, Topologie und Analysis, Logik und Kategorien. Übersetzt dem Englischen von Dieter Wode. Studia Mathematica/Mathematische Lehrbüc Band XXVIII. *Vandenhoeck & Ruprecht, Göttingen*, 1978. 320 *pp.* *ISBN* 3-525-401 (Editors) **58** #9949 00A05

(*with* Deleanu, Aristide) Note on homology and cohomology with $\mathbf{Z}_p$-coefficie *Czechoslovak Math. J.* **28(103)** (1978), *no.* 3, 474–479. (U. Stammbach) **58** #130 55J99 (18G15)

(*with* Roitberg, Joseph; Singer, David) On *G*-spaces, Serre classes and *G*-nilpotency. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 3, 443–454. (G Mislin) **58** #13015 55D99

(*with* Mislin, Guido; Roitberg, Joseph) On maps of finite complexes into nilp spaces of finite type: a correction to: "Homotopical localization" (Proc. London M Soc. **26** (1973), 693–706). *Proc. London Math. Soc.* (3) **36** (1978), *no.* 2, 213– (Jerrold W. Grossman) **57** #13933 55D99

See also **Symposium: Algebraic Topology**, **48** #7249; **Bucur, Ion; et al.**, **50** #2 **Localization in group theory and homotopy theory, and related topics**, **50** #3210; **Mathematiker über die Mathematik**, **51** #2831; **Reminiscences of logicians**, **52** # **Collection: de Lyra, Carlos B.**, **54** #2397; **de Lyra, Carlos B.**, **54** #8620; **Lu, Y Chen**, **57** #1547 *and* **Structural stability, the theory of catastrophes, and applicatio the sciences**, **58** #24311

Himčenko, B. N. (*with* Kamynin, L. I.) The maximum principle for second order parab equations. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 282–285. (I. Łojczyk-Królikiewicz) **45** #3945 35K10

(*with* Kamynin, L. I.) Applications of the maximum principle to second o parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 529–532. Horáček) **47** #637 35K10

(*with* Kamynin, L. I.) The maximum principle for a second order elliptic-parab equation. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 773–789. (I. Łojczyk-Królikiew **46** #9551 35M05

(*with* Kamynin, L. I.) The analogues of the Giraud theorem for a second o parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 86–110, 236. (J. Ka **48** #11778 35K20

(*with* Kamynin, L. I.) Lipschitz boundary estimates for a solution of a second o elliptic-parabolic equation. *Dokl. Akad. Nauk SSSR* **212** (1973), 544–547 (*Russi translated as Soviet Math. Dokl.* **14** (1973), 1407–1412. (P. K. Wong (Zbl **308** #350 **55** #858 35J70

(*with* Kamynin, L. I.) The maximum principle and local regularity (in the sens Lipschitz) of the solutions of a second order parabolic equation near the lateral par the parabolic boundary. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 785–788. Łojczyk-Królikiewicz) **52** #8655 35K20

(*with* Kamynin, L. I.) A maximum principle and Lipschitz boundary estimates the solution of a second order elliptic-parabolic equation. (Russian) *Sibirsk. Mat. Ž.* (1974), 343–367, 461. (M. A. Dow) **55** #10868 35M05

(*with* Kamynin, L. I.) Theorems of Giraud type for a second order elliptic oper that isweakly degenerate near the boundary. (Russian) *Dokl. Akad. Nauk SSSR* (1975), *no.* 4, 752–755. (G. Albinus) **53** #1019 35J70

(*with* Kamynin, L. I.) The maximum principle and local Lipschitz estimates n the lateral boundary for the solutions of a second order parabolic equation. (Russi *Sibirsk. Mat. Ž.* **16** (1975), *no.* 6, 1172–1187, 1369. (Todor G. Genčev) **53** #112 35K20

(*with* Kamynin, L. I.) Local estimates of the solution of a second order parab equation near the lower cap of the parabolic boundary. (Russian) *Dokl. Akad. N SSSR* **227** (1976), *no.* 3, 543–546. (L. Łojczyk-Królikiewicz) **54** #8028 35K20

(*with* Kamynin, L. I.) A priori boundary estimates of the solutions of a sec order equation with a nonnegative characteristic form. (Russian) *Dokl. Akad. N SSSR* **232** (1977), *no.* 1, 16–19. (Ju. V. Kostarčuk) **55** #3533 35J70

(*with* Kamynin, L. I.) The strict extremum principle for degenerate second o parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 5, 1060–1 (V. Djurikovič) **58** #1638 35K10

(*with* Kamynin, L. I.) Theorems of Giraud type for second order equations wi weakly degenerate non-negative characteristic part. (Russian) *Sibirsk. Mat. Ž.* (1977), *no.* 1, 103–121, 238. (Ju. V. Kostarčuk) **55** #10831 35J25 (35K20) (*with* Kamynin, L. I.) Giraud's theorems on the time derivative for a second order rabolic operator. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. eh.* **1977**, *no.* 5, 45–53. (J. F. Heyda) **58** #6701 35K10

wright, P. E. (*with* Williamson, James E.) On 1-factorability and edge-colorability of artesian products of graphs. *Elem. Math.* **29** (1974), 66–67. (M. Aigner) **50** #189 C99

nko, V. I. Estimation of the asymmetry parameter of a one-dimensional probability nsity function that is represented by an Edgeworth series. (Russian. English summary) *v. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no.* 8, 1162–1165. (Ju. I. Petunin) #13646 62F10

The normalized spectral moments of stationary random processes. (Russian. English ımmary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no.* 8, 1188–1192. (A. I. onomarenko) **55** #13546 60G10

, A. N. (*with* Prikazčikov, V. G.) Accuracy of a difference eigenvalue problem for a urth order ordinary differential equation. (Russian. English summary) *Vyčisl. Prikl. at. (Kiev) Vyp.* 32 (1977), 148–155, 161. (Authors' summary) **58** #8312 65L15

, Ī. V. (*with* Doboš, V. M.; Kačurik, Ī. Ī.) Decomposition of the scattering amplitude matrix elements of irreducible unitary representations of small groups of the homogeneous de Sitter group. (Russian. English summary) *Ukrain. Fiz. Ž.* **19** (1974), 67–379, 518. (Authors' summary) **56** #17551 81.22

(*with* Romanko, G. D.) Fourier transformation of a certain class of hyperfunctions nd the formulation of the local commutativity condition in the framework of calizable quantum field theory in terms of the hyperfunction. (Russian. English ummary) *Teoret. Mat. Fiz.* **23** (1975), *no.* 2, 199–213. (Authors' summary) **58** #7077 6F15 (81.46)

(*with* Doboš, V. M.) Partial wave analysis of scattering amplitude in terms of the atrix elements of irreducible unitary representations of the homogeneous de Sitter roup. (Russian. English summary) *Ukrain. Fiz. Ž.* **20** (1975), *no.* 1, 119–127, 170. From the authors' summary) **57** #8548 81.22

(*with* Kačurik, Ī. Ī.) An integral representation of the scattering amplitude that is onnected with the de Sitter group. (Russian. English summary) *Ukrain. Fiz. Ž.* **20** 1975), *no.* 8, 1251–1262, 1397. (Not reviewed) 81.22

(*with* Kačurik, Ī. Ī.) Two-dimensional expansion of the scattering amplitude in erms of the matrix elements of irreducible unitary representations of the de Sitter roup. (Russian. English summary) *Ukrain. Fiz. Ž.* **20** (1975), *no.* 11, 1795–1804, 1927. Authors' summary) **56** #14222 81.22

(*with* Lazur, V. Ju.) Dispersion relations for the scattering of pions by nucleons in he framework of localizable field theories. (Russian. English summary) *Ukrain. Fiz. Ž.* **1** (1976), *no.* 7, 1061–1070. **56** #17585 81.46

(*with* Lazur, V. Ju.) A functional formulation of the axiomatic ogoljubov-Medvedev-Polivanov scheme for localizable field theories. (Russian. English ummary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 8, 1270–1279, 1399. (Authors' summary) 7 #15047 81.46

(*with* Lazur, V. Ju.) On the problem of proving dispersion relations in terms of ocalizable field theories. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 7, 1057–1061, 1223. (Ju. M. Lomsadze) **57** #2257 81.30

(*with* Lazur, V. Ju.) Analyticity and behavior of the scattering amplitude at high nergies in a localizable quantum field theory. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 7, 1062–1069, 1223. (Ju. M. Lomsadze) **57** #2258 81.30

(*with* Lazur, V. Ju.) A proof of the Jost-Lehman-Dyson integral representation for the causal commutator in the framework of localizable theories. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 5, 599–613, 708. (V. N. Suško) **57** #15048 81.46

melberg, C. J. (*with* VanVleck, F. S.) Selection and implicit function theorems for multifunctions with Souslin graph. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 911–916. (David A. Sprecher) **46** #3735 28A20 (26A57, 54H05)

(*with* VanVleck, F. S.) Fixed points of semi-condensing multifunctions. (Italian summary) *Boll. Un. Mat. Ital.* (4) **5** (1972), 187–194. (S. Swaminathan) **46** #7980 47H10 (54H25)

(*with* Porter, Jack R.; VanVleck, F. S.) Fixed point theorems for constrictive multifunctions. (Italian summary) *Boll. Un. Mat. Ital.* (4) **5** (1972), 333–344. (S. Swaminathan) **46** #8204 54H25

(*with* VanVleck, F. S.) Extreme points of multifunctions. *Indiana Univ. Math. J.* **22** (1972/73), 719–729. (G. Freilich) **46** #9288 28A45 (28A20, 46N05, 49E99)

Fixed points of compact multifunctions. *J. Math. Anal. Appl.* **38** (1972), 205–207. (S. Swaminathan) **46** #2505 47H10

(*with* VanVleck, F. S.) Lipschitzian generalized differential equations. *Rend. Sem. Mat. Univ. Padova* **48** (1972), 159–169 (1973). (Paul Binding) **49** #5443 34A99 (49E10)

Precompact contraction of metric uniformities, and the continuity of $F(t,x)$. *Rend. Sem. Mat. Univ. Padova* **50** (1973), 185–188 (1974). (O. Frink) **50** #8431 (E **51** #9017) 54C60 (28A20)

(*with* VanVleck, F. S.) Multifunction on abstract measurable spaces and application to stochastic decision theory. *Ann. Mat. Pura Appl.* (4) **101** (1974), 229–236. (Vaclav E. Beneš) **54** #13016 28A20 (93E20)

Quotient uniformities and uniformly pseudo open maps. Collection of articles in celebration of the sixtieth birthday of Ky Fan. *Bull. Inst. Math. Acad. Sinica* **2** (1974), 357–369. (O. T. Alas) **50** #11176 54E35 (54C10)

Correction to: "Precompact contraction of metric uniformities, and the continuity of $F(t,x)$" (Rend. Sem. Mat. Univ. Padova **50** (1973), 185–188 (1974)). *Rend. Sem. Mat. Univ. Padova* **51** (1974), 361 (1975). (O. Frink) **51** #9017 54C60

Measurable relations. *Fund. Math.* **87** (1975), 53–72. (J. C. Oxtoby) **51** #3384 28A20 (54C65)

(*with* VanVleck, F. S.) Multifunctions with values in a space of probability measures. *J. Math. Anal. Appl.* **50** (1975), 108–112. (T. Parthasarthy) **51** #842 28A20 (93E05)

(*with* Parthasarathy, T.; VanVleck, F. S.) Optimal plans for dynamic programming problems. *Math. Oper. Res.* **1** (1976), *no.* 4, 390–394. (Leon Cooper) **56** #2404 90C40

(*with* VanVleck, F. S.) An extension of Brunovský's Scorza Dragoni type theorem for unbounded set-valued functions. *Math. Slovaca* **26** (1976), *no.* 1, 47–52. (Michel Valadier) **55** #3212 28A45

(*with* Parthasarathy, T.; Raghavan, T. E. S.; VanVleck, F. S.) Existence of p-equilibrium and optimal stationary strategies in stochastic games. *Proc. Amer. Math. Soc.* **60** (1976), 245–251 (1977). (Kåre M. Mjelde) **54** #6966 90D15

Himmelblau, D. L. *See* **Optimization and design**, **48** #3456

Himmelblau, David M. A uniform evaluation of unconstrained optimization techniques. *Numerical methods for non-linear optimization* (*Conf., Univ. Dundee, Dundee*, 1971), *pp.* 69–97. *Academic Press, London*, 1972. (J. S. Kowalik) **51** #11961 65K05

See also **Decomposition of large-scale problems**, **56** #14659

Himšiašvili, G. N. (*with* Bogatyĭ, Semen A.) Large inductive uniform dimension. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **70** (1973), 25–28. (K. Sieklucki) **49** #6193 54F45

(*with* Bogatyĭ, Semen A.) The connection between uniform dimension and decomposing mappings. (Russian. Georgian and English summaries) *Sakharth. SSSR Mecn. Akad. Moambe* **73** (1974), 281–284. (K. Sieklucki) **49** #6194 54F45

On the theory of the degree of mappings in a Hilbert space. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no.* 1, 41–44. (J. Daneš) **53** #14235 47H10 (58E05)

The local degree of a smooth mapping. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 2, 309–312. (G. R. Belickiĭ) **56** #16670 58C25

Small solutions of nonlinear Fredholm equations. (Russian. English summary) *Vestnik Moskov. Univ. Ser. i Mat. Meh.* **1977**, *no.* 2, 27–31. (Ju. G. Borisovič) **57** #1214 47H15 (58B15)

Hinata, Masahiro (*with* Shimasaki, Masaaki; Kiyono, Takeshi) Numerical solution of Plateau's problem by a finite element method. *Math. Comp.* **28** (1974), 45–60. (J. Frehse) **48** #10151 65N35 (49F10)

Hinata, Satoshi A possible mechanism for the pulsar radio emission. *Astrophys. and Space Sci.* **51** (1977), *no.* 2, 303–318. (Author's summary) **56** #14132 78.33

Hinata, Shigeru Errata to: "Calculability of primitive recursive functionals of finite type" (Sci. Rep. Tokyo Kyoiku Daigaku Sect. A 9, 218–235 (1968)). *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **13**, *no.* 347-365, 151 (1975). (Editors) **52** #5393 02F29 (02E15)

A normalization theorem in formal theories of natural numbers. *J. Math. Soc. Japan* **29** (1977), *no.* 2, 327–340. (Herman R. Jervell) **56** #99 02D99

Hinch, E. J. Application of the Langevin equation to fluid suspensions. *J. Fluid Mech.* **72** (1975), *no.* 3, 499–511. (J. L. Lumley) **54** #14559 76.60

Hinchey, Fred A. ★Vectors and tensors for engineers and scientists. *Halstad Press* [*John Wiley & Sons*], *New York-London-Sydney*, 1976. xi + 298 *pp.* (C. W. Kilmister) **55** #1226 53–01 (70.53)

Hinčin, A. Ja. ★Mathematical methods in the theory of queueing. Translated from the Russian by D. M. Andrews and M. H. Quenouille. Second edition, with additional notes by Eric Wolman. Griffin's Statistical Monographs and Courses, No. 7. *Hafner Publishing Co., New York*, 1969. 124 *pp.* (Editors) **49** #9978 60K25

(*with* Gnedenko, B. V.) ★Элементарное введение в теорию вероятностей. (Russian) [Elementary introduction to probability theory] Eighth edition, corrected. *Izdat. "Nauka", Moscow*, 1976. 167 *pp.* (Editors) **56** #1379 60–01

★Восемь лекций по математическому анализу. (Russian) [Eight lectures on mathematical analysis] Fourth edition. *Izdat. "Nauka", Moscow*, 1977. (S. Ivanov) **58** #28331 26–01

See also **Enzyklopädie: Elementarmathematik**, **49** #8784 *and* **Enzyklopädie: Elementarmathematik**, **49** #8785

Hind, J. D. Dynamics from the Poincaré group. I. General theory. (Italian and Russian summaries) *Nuovo Cimento A* (11) **4** (1971), 71–90. (L. O'Raifeartaigh) **45** #4755 81.22

Hind, Margaret F. (*with* Baker, George A., Jr.; Kahane, Joseph) *R*-matrix expansion for the ground-state energy of a many-fermion system. *Phys. Rev. C* (3) **2** (1970), 841–858. (Alexej Sitenko) **48** #3419 81.65

Hinde, C. J. Algorithms embedded in fuzzy sets. *International Computing Symposium* 1977 (*Liège*, 1977), *pp.* 381–387. *North-Holland, Amsterdam*, 1977. (A. K. Vjatkin) **57** #18207 68A10

Hinde, John P. (*with* Morgan, Byron J. T.) On an approximation made when analysing stochastic processes. *J. Appl. Probability* **13** (1976), *no.* 4, 672–683. (Authors' summary) **58** #33068 92A05 (60J85)

Hinderer, Karl Instationäre dynamische Optimierung bei schwachen Voraussetzungen über die Gewinnfunktionen. Collection of articles dedicated to Lothar Collatz on his sixtieth birthday. *Abh. Math. Sem. Univ. Hamburg* **36** (1971), 208–223. (D. Hochstädter) **48** #5694 93C55

★Grundbegriffe der Wahrscheinlichkeitstheorie. Hochschultext. *Springer-Verlag, Berlin-New York*, 1972. vii + 247 *pp.* (H. Hering) **51** #1886 60–01

(*with* Walk, Harro) Anwendung von Erneuerungstheoremen und Taubersätzen für eine Verallgemeinerung der Erneuerungsprozesse. *Math. Z.* **126** (1972), 95–115. (N. H. Bingham) **45** #9400 60K05

On the stability of a dynamic stochastic production and inventory system controlled by an optimal policy. *Z. Operations Res. Ser. A-B* **17** (1973), A217–A237. (Stanley R. Liberty) **53** #15524 93E15 (90B05)

(*with* Walk, Harro) A generalization of renewal processes. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *Vol. I*, *pp.* 315–318. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (Josef L. Teugels) **52** #6904 60K05

Neuere Resultate in der stochastischen dynamischen Optimierung. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, T16–T26. (Editors) **56** #2378 90C15 (90C40)

Estimates for finite-stage dynamic programs. *J. Math. Anal. App.* **55** (1976), *no.* 1, 207–238. (Santosh Kumar) **56** #14736 90C40

Does the value iteration for finite-stage discrete dynamic programs hold "always"? *Dynamische Optimierung* (*Tagung, Inst. Angewandte Math., Univ. Bonn, Bonn*, 1976), *pp.* 41–56. *Bonner Math. Schriften, No.* 98, *Inst. Angew. Math., Univ. Bonn, Bonn*, 1977. (Edwin H. Neave) **58** #32979 90C40 (*with* Hübner, Gerhard) On approximate and exact solutions for finite stage dynamic programs. *Markov decision theory* (*Proc. Adv. Sem., Amsterdam*, 1976), *pp.* 57–76. *Math. Centre Tracts*, *No.* 93, *Math. Centr., Amsterdam*, 1977. (H. Taylor) **57** #11777 90C40

(*with* Hübner, Gerhard) An improvement of J. F. Shapiro's turnpike theorem for the horizon of finite stage discrete dynamic programs. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 245–255. *Reidel, Dordrecht*, 1977. (From the summary) **58** #20472 90C40

Hindi, Toufic Extension de formes linéaires positives continues. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 145–148. (A. V. Buhvalov) **52** #6375 46A40

Hindin, Harvey J. A relationship between the Laplace, Poisson, and Hilbert (Stieltjes) transforms. *Proc. IEEE* **62** (1974), 638–639. (C. Fox) **49** #11158 44A10

Hindley, J. R. (*with* Lercher, Bruce; Seldin, Jonathan P.) ★Introduction to combinatory logic. London Mathematical Society Lecture Notes, 7. *Cambridge University Press, London-New York*, 1972. iii + 170 *pp.* (H. B. Curry) **49** #25 02C20

Hindley, Roger An abstract form of the Church-Rosser theorem. I. *J. Symbolic Logic* **34** (1969), 545–560. (H. B. Curry) **46** #1578 02F43

An abstract Church-Rosser theorem. II. Applications. *J. Symbolic Logic* **39** (1974), 1–21. (H. B. Curry) **50** #61 02C20

(*with* Mitschke, Gerd) Some remarks about the connections between combinatory logic and axiomatic recursion theory. *Arch. Math. Logik Grundlagenforsch.* **18** (1976), *no.* 3-4, 99–103. (Henk Barendregt) **57** #9498 02C20 (02F27)

The equivalence of complete reductions. *Trans. Amer. Math. Soc.* **229** (1977), 227–248. (Henk Barendregt) **56** #2798 02C20 (68A05)

Combinatory reductions and lambda reductions compared. *Z. Math. Logik Grundlagen Math.* **23** (1977), *no.* 2, 169–180. (Author's introduction) **58** #5080 02C20

Hindman, Neil Minimal n-prime ideal spaces. *Math. Ann.* **199** (1972), 97–114. (D. G. Johnson) **48** #291 13J99 (46H10)

The existence of certain ultra-filters on N and a conjecture of Graham and Rothschild. *Proc. Amer. Math. Soc.* **36** (1972), 341–346. (J. B. Roberts) **46** #7041 05A05 (04A20)

Basically bounded sets and a generalized Heine-Borel theorem. *Amer. Math. Monthly* **80** (1973), 549–552. (Z. Frolík) **48** #3000 54D30

The product of F-spaces with P-spaces. *Pacific J. Math.* **47** (1973), 473–480. (W. W. Comfort) **48** #9643 54C30 (54B10)

Preimages of points under the natural map from $\beta(N\times N)$ to $\beta N\times\beta N$. *Proc. Amer. Math. Soc.* **37** (1973), 603–608. (Donald Plank) **50** #11154 54D35

Finite sums from sequences within cells of a partition of N. *J. Combinatorial Theory Ser. A* **17** (1974), 1–11. (Y. E. Smar) **50** #2067 10A45 (04A20)

(*with* Cates, Marshall L.) Partition theorems for subspaces of vector spaces. *J. Combinatorial Theory Ser. A* **19** (1975), 13–25. (Jaroslav Nešetřil) **52** #112 04A20 (15A03)

(*with* Cates, Marshall L.; Erdős, Paul; Rothschild, B. L.) Partition theorems for subsets of vector spaces. *J. Combinatorial Theory Ser. A* **20** (1976), *no.* 3, 279–291. (E. C. Milner) **53** #10583 04A20

(*with* Comfort, W. W.) Refining families for ultrafilters. *Math. Z.* **149** (1976), *no.* 2, 189–199. (A. H. Stone) **55** #2585 04A20

Hindmarsh, A. C. Optimality in a class of rootfinding algorithms. *SIAM J. Numer. Anal.* **9** (1972), 205–214. (H. H. Goldstine) **47** #1275 65H05

(*with* Byrne, George D.) A polyalgorithm for the numerical solution of ordinary differential equations. *ACM Trans. Math. Software* **1** (1975), *no.* 1, 71–96. (Sean McKee) **51** #14600 65L99 (68A10)

(*with* Lastman, G. J.; Wentzell, R. A.) Numerical solution of a bubble cavitation problem. *J. Comput. Phys.* **28** (1978), *no.* 1, 56–64. (Authors' summary) **58** #19804 76.65

See also **Stiff differential systems**, **49** #8359

Hinds, Erold W. (*with* Cochran, James Alan) Improved error bounds for the eigenvalues of certain normal operators. *SIAM J. Numer. Anal.* **9** (1972), 446–453. (J. W. Schmidt) **48** #2811 47B10 (65J05)

(*with* Cochran, James Alan) Eigensystems associated with the complex-symmetric kernels of laser theory. *SIAM J. Appl. Math.* **26** (1974), 776–786. (P. Linz) **51** #2315 65R05 (78.45)

Hinds, James A. (*with* Artzy, Ehud; Saal, Harry J.) A fast division technique for constant divisors. *Comm. ACM* **19** (1976), *no.* 2, 98–101. (C. F. Kelemen) **54** #1707 68A10 (10A10)

Hinds, William E. Moments of complex random variables related to a certain class of characteristic functions. *Sankhyā Ser. A* **36** (1974), *no.* 2, 219–222. (E. Lukacs) **52** #6829 60E05

(*with* Kotlarski, Ignacy I.) Characterization theorems using conditional expectations. *J. Appl. Probability* **12** (1975), 400–406. (D. N. Shanbhag) **51** #9294 62E10

Hine, J. H. (*with* Mitrani, I.) Complete parameterized families of job scheduling strategies. *Acta Informat.* **8** (1977), *no.* 1, 61–73. (Johnny W. Wong) **56** #10910 90B35

Hine, William L. Mersenne and Copernicanism. *Isis* **64** (1973), *no.* 221, 18–32. (From the introduction) **58** #21128 01A45

Mersenne variants. *Isis* **67** (1976), *no.* 236, 98–103. (William R. Shea) **58** #21129 01A45

Hinen, Ė. V. (*with* Petrašen′, G. I.) The engineering equations of the oscillations of imperfectly elastic thin plates. (Russian) Asymptotic methods and stochastic models in wave propagation problems. *Trudy Mat. Inst. Steklov.* **95** (1968), 151–183, 217. (J. Bejda) **51** #2416 73.35

See also **Asymptotic methods and stochastic models in problems of wave propagation**, **49** #11933

Hines, W. G. S. Competition with an evolutionary stable strategy. *J. Theoret. Biol.* **67** (1977), *no.* 1, 141–153. (Not reviewed) 92A05 (90D40)

Hineva, Stefana T. Infinitesimal bendings of piecewise regular surfaces of revolution of negative curvature. (Russian. English summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **67** (1972/73), 41–53 (1976). (Ju. Burago) **54** #13800 53C45

Infinitesimal bendings of surfaces of negative Gaussian curvature with prescribe variations of certain geometric quantities. (Russian. English summary) *Annuaire Un Sofia Fac. Math. Méc.* **67** (1972/73), 343–353 (1976). (J. Szenthe) **55** #4060 53C4

(*with* Mihaĭlovs′kiĭ, V. Ī.) Infinitesimal bendings of developable surfaces in the ca of cylindrical connections. (Ukrainian. English and Russian summaries) *Dopovīdī Aka Nauk Ukraïn. RSR Ser. A* **1972**, 134–137, 188. (R. I. Pimenov) **46** #2611 53C45

Infinitesimal bendings of surfaces of negative Gaussian curvature. (Russian. Englis summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **68** (1973/74), 295–309 (1977). (V. Fomenko) **58** #24139 53C45

(*with* Mihaĭlovs′kiĭ, V. Ī.) Infinitesimal deformations of cylinders under cylindric sleeve constraints. (Russian. Bulgarian and English summaries) *B″lgar. Akad. Nau Izv. Mat. Inst.* **14** (1973), 51–59. (Froim Marcus) **49** #6106 53C45

Infinitesimal bendings of developable surfaces when the variations of certain geometric quantities are prescribed. (Ukrainian. French and Russian summaries) *Vīsnik. Kiïv. Unīv. Ser. Mat. Meh. No.* 16 (1974), 118–126, 177. (R. I. Pimeno **57** #7469 53C45

Infinitesimal bendings of surfaces with a negative Gaussian curvature. *C. R. Aca Bulgare Sci.* **29** (1976), *no.* 10, 1413–1416. (Ju. Burago) **56** #3776 53C45

Hinič, V. A. When is a ring of invariants of a Gorenstein ring also a Gorenstein rin (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 1, 50–56, 221. (J.-E. Bert **54** #12797 14M15 (13H10)

Gorenstein modules of the ring of invariants. (Russian) *Serdica* **3** (1977), *no.* 318–321. (Chr. U. Jensen) **58** #22090 14L99 (13H05)

Hinich, Melvin J. (*with* Shaman, Paul) Parameter estimation for an R-dimensional plan wave observed with additive independent Gaussian errors. *Ann. Math. Statist.* 4 (1972), 153–169. (T. Pitcher) **46** #1037 62M10

(*with* Davis, Otto A.; De Groot, Morris H.) Social preference orderings and majority rule. *Econometrica* **40** (1972), 147–157. (Y. C. Ho) **52** #12856 92A2 (90A10)

(*with* Ledyard, John O.; Ordeshook, Peter C.) Nonvoting and the existence c equilibrium under majority rule. *J. Econom. Theory* **4** (1972), *no.* 2, 144–153. (From th authors' introduction) **56** #10762 90A05 (92A20)

(*with* Farley, John U.; McGuire, Timothy W.) Some comparisons of tests for shift in the slopes of a multivariate linear time series model. *J. Econometrics* **3** (1975 *no.* 3, 297–318. (Andrew Harvey) **55** #4532 62J05

(*with* Mickelsen, Richard; Ordeshook, Peter C.) The electoral college vs. a dire vote: policy bias, reversals, and indeterminate outcomes. *J. Mathematical Sociology* (1975), *no.* 1, 3–35. (S. E. Goodman) **52** #10100 92A20

(*with* Cahoon, Lawrence S.) A method for locating targets using range only. *IEE Trans. Information Theory* **IT-22** (1976), *no.* 2, 217–225. (Alan J. Izenman) **54** #11657 62H25

Equilibrium in spatial voting: the median voter result is an artifact. *J. Econon Theory* **16** (1977), *no.* 2, 208–219. (Rubin Saponsnik) **57** #2464 90A05 (92A20)

Array design for measuring source depth in a horizontal waveguide. *SIAM J. App Math.* **32** (1977), *no.* 4, 800–806. (G. P. Bava) **56** #14103 76.49

See also **Collection: Social choice**, **50** #3880

Hinkelmann, Klaus Design of genetical experiments. *A survey of statistical design an linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *p* 243–269. *North-Holland, Amsterdam*, 1975. (Susan Wilson) **54** #9717 92A10 (62K99)

(*with* Norwood, Thomas E., Jr.) Estimating the common mean of several norm populations. *Ann. Statist.* **5** (1977), *no.* 5, 1047–1050. (M. D. Perlman) **56** #6984 62F10

(*with* Chaffin, Wilkie W.; Sennetti, John T.) A procedure for optimal augmentatio of multidimensional designs. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 7, 679–689. (U. B. Paik) **56** #9850 62K15

Hinkle, Carl V., Jr. Semigroups of right quotients of a semigroup which is a semilattice c groups. *Semigroup Forum* **5** (1972/73), 167–173. (J. Kist) **47** #8726 20M10

Generalized semigroups of quotients. *Trans. Amer. Math. Soc.* **183** (1973), 87–11 (T. E. Hall) **49** #446 20M10

Semigroups of right quotients of a semigroup which is a semilattice of groups. *Algebra* **31** (1974), 276–286. (T. Tamura) **49** #10803 20M10

The extended centralizer of an S-set. *Pacific J. Math.* **53** (1974), 163–170. (J. E Kuczkowski) **50** #7389 20M10

Hinkle, George W. (*with* Huckaba, James A.) The generalized Kronecker function rin and the ring $R(X)$. *J. Reine Angew. Math.* **292** (1977), 25–36. (Anne Grams) **56** #552 13F05

Hinkley, D. V. (*with* Cox, D. R.) Some properties of multiserver queues with appointments. With discussion. *J. Roy. Statist. Soc. Ser. A* **133** (1970), *no.* 1, 1–13 (Authors' summary) **56** #6915 60K25

Inference about the change-point from cumulative sum tests. *Biometrika* **58** (1971 509–523. (Author's summary) **47** #1179 62E20

Time-ordered classification. *Biometrika* **59** (1972), 509–523. (O. Gulyás) **51** #455 62H30

Two-sample tests with unordered pairs. *J. Roy. Statist. Soc. Ser. B* **35** (1973 337–346. (N. L. Johnson) **48** #12688 62F05

(*with* Cox, D. R.) ★Theoretical statistics. *Chapman and Hall, London*, 1974 xii + 511 *pp.* (B. L. S. Prakasa Rao) **51** #7060 62–02

On power transformations to symmetry. *Biometrika* **62** (1975), 101–111. (K. M. La Saxena) **51** #14374 (E **53** #4345) 62F10 (62E15)

Corrections and amendments: "On power transformations to symmetry" (Biometrika **62** (1975), 101–111). *Biometrika* **63** (1976), *no.* 1, 218. (K. M. Lal Saxena **53** #4345 62F10 (62E15)

On estimating a symmetric distribution. *Biometrika* **63** (1976), *no.* 3, 680–681. (E. F Schuster) **56** #1570 62G05 (62F10)

Conditional inference about a normal mean with known coefficient of variation. *Biometrika* **64** (1977), *no.* 1, 105–108. (S. K. Katti) **58** #3161 62F10

(*with* Revankar, Nagesh S.) A further analysis: "On the estimation of the Paretc law from underreported data" (J. Econometrics **2** (1974), no. 4, 327–341) by M. J artley and Revankar. *J. Econometrics* **5** (1977), *no.* 1, 1–11. (Authors' summary) **8** #31540b 62F10 (62P20)

Jacknifing in unbalanced situations. *Technometrics* **19** (1977), *no.* 2, 285–292. Rudolph J. Beran) **56** #16934 62J05 (62G05)

(*with* Cox, D. R.) ★Теоретическая статистика. (Russian) [Theoretical statistics] ranslated from the English by E. V. Čepurin. Edited by Ju. K. Beljaev. *Izdat.* "*Mir*", *oscow*, 1978. 560 *pp*. (Editors) **58** #24623 62–01

See also **Stone, Mervyn, 50** #8847 (E **54** #3988) ; **Dawid, A. P.; et al., 51** #2057 *nd* **Lindley, Dennis V.; et al., 54** #3939

ley, Sidney W. (*with* Tsokos, Chris P.) A stochastic bivariate ecology model for ompeting species. *Math. Biosci.* **16** (1973), 191–208. (R. M. Cormack) **47** #2684 (E **54** #14138) 60J85 (92A15)

(*with* Tsokos, Chris P.) A stochastic model for chemical equilibrium. *Math. Biosci.* **1** (1974), 85–102. (Authors' summary) **49** #11672 60K99

See also **Beyer, Jan E.; et al., 54** #14138

an, Betty Products of threads. *Semigroup Forum* **8** (1974), *no.* 1, 1–20. (S. T. Lin) **1** #8324 22A15

an, Peter G. Finite termination games with tie. *Israel J. Math.* **12** (1972), 17–22. (M. Mañas) **46** #4952 90D05

The finite levels of the hierarchy of effective *R*-sets. *Fund. Math.* **79** (1973), *no.* 1, –10. (Douglas Cenzer) **52** #10396 02F35 (04A15)

Degrees of continuous functionals. *J. Symbolic Logic* **38** (1973), 393–395. (S. K. Thomason) **49** #2316 02F30 (02F29)

(*with* Aczel, Peter) Recursion in the superjump. *Generalized recursion theory* (*Proc. Sympos., Oslo*, 1972), *pp*. 3–41. *Studies in Logic and the Foundations of Math., Vol.* 79, *North-Holland, Amsterdam*, 1974. (S. S. Wainer) **55** #10261 02F29 (02F35)

A survey of finite-type recursion. *Set theory and hierarchy theory, V* (*Proc. Third Conf., Bierutowice*, 1976), *pp*. 187–209. *Lecture Notes in Math., Vol.* 619, *Springer, Berlin*, 1977. (Author's introduction) **58** #5131 02F29

See also **Generalized recursion theory, 49** #2306

aion, Roland Sur les modèles de NF ("New Foundations" de Quine). *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A567. (M. Boffa) **46** #5131 02K10

Trois résultats concernant les ensembles fortement cantoriens dans les "new Foundations" de Quine. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 41–44. (M. Boffa) **50** #12722 02K10 (02K05)

Modèles de fragments de la théorie des ensembles de Zermelo-Fraenkel dans les "New foundations" de Quine. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 1, Ai, A1–A3. (M. Boffa) **53** #7781 02K10 (02K05)

o, H. (*with* Arimoto, Suguru) Performance deterioration of optimal regulators incorporating state estimators. *Internat. J. Control* **19** (1974), 1133–1142. (Peter Stavroulakis) **49** #12134 93E10

o, Hirokazu (*with* Maeda, Hajime) Comparison of the effectiveness of *n*-th order observers with minimal-order observers. (Japanese. English summary) *Systems and Control* **17** (1973), 253–257. (Authors' summary) **47** #3046 93B05

(*with* Maeda, Hajime) Design of optimal observers for linear time-invariant systems. *Internat. J. Control* **19** (1974), 993–1004. (D. H. Chyung) **49** #8712 93C45

o, Kanzo On Yablonskii theory concerning functional completeness of *k*-valued logic. *Notre Dame J. Formal Logic* **18** (1977), *no.* 2, 251–254. (Tôru Miyama) **56** #5215 02C05

o, Yoshiyuki Continuous dependence for some functional differential equations. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp*. 255–257. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (Editors) **52** #6138 34K05

On stability of the solution of some functional differential equations. *Funkcial. Ekvac.* **14** (1971), 47–60. (T. Yoshizawa) **46** #9495 34K20

Continuous dependence for some functional differential equations. *Tôhoku Math. J.* (2) **23** (1971), 565–571. (D. Ramakrishna Rao) **46** #3949 34K05

On oscillation of the solution of second order functional differential equations. *Funkcial. Ekvac.* **17** (1974), 95–105. (J. S. Bradley) **50** #10489 34K15

Asymptotic property of nonoscillatory solutions of second order differential equations. *Funkcial. Ekvac.* **18** (1975), *no.* 3, 219–226. (K. Kreith) **53** #6000 34C10

Oscillatory property of second order differential equations. *Annual Rep. Fac. Ed. Iwate Univ.* **36** (1976), *no.* 3, 1–9. (K. Schmitt) **55** #8470 34C10

Stability and existence of almost periodic solutions of some functional differential equations. *Tôhoku Math. J.* (2) **28** (1976), *no.* 3, 389–409. (T. Yoshizawa) **55** #8519 34K20

Stability and existence of almost periodic solutions of functional differential equations with infinite retardation. Local dynamical systems: integral and differential equations (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 303 (1977), 70–83. (Wadi Mahfoud) **58** #6607 34K15

Favard's separation theorem in functional differential equations with infinite retardations. *Tôhoku Math. J.* (2) **30** (1978), *no.* 1, 1–12. (J.Kato) **58** #6608 34K15

nohara, Yukitoshi A problem on matrices. (Japanese) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 3 (1968), *No.* 1, 25–33. (Tadayuki Matsuoka) **52** #10733 14F05 (13C10)

nova, Rosica G. (*with* Genov, Evgeniĭ N.; Bojanov, Bojan B.) Optimal coding of synchronous finite automata. (Bulgarian. Russian and English summaries) *Problemi Tehn. Kibernet.* 7 (1978), 49–55. (Authors' summary) **58** #20902 94A30

nrichsen, J. W. Concerning web-like continua. *Pacific J. Math.* **39** (1971), 691–694. (M.-E. Hamstrom) **46** #9943 54F15

Irreducible continua of higher dimension. *Colloq. Math.* **27** (1973), 251–253, 332. (W. S. Mahavier) **49** #9819 54F20

Concerning irreducible continua of higher dimension. *Colloq. Math.* **28** (1973), 227–230, 329. (B. J. Ball) **48** #7229 54F20 (54B15)

nteregger, J. (*with* Tinhofer, Gottfried) Zerlegung der Knotenmengen von Graphen zum Nachweis der Isomorphie. (English summary) *Computing* **18** (1977), *no.* 4, 351–359. (R. C. Read) **57** #3007 05C99

intermann, A. (*with* Gruber, Christian; Merlini, D.) Analyticity and uniqueness of the invariant equilibrium states for general spin $\frac{1}{2}$ classical lattice systems. *Comm. Math. Phys.* **40** (1975), 83–95. (B. Souillard) **53** #2225b 82.30

(*with* Gruber, Christian) Group structure analysis for classical lattice systems with constraints. I. General properties. *Phys. A* **83** (1975), *no.* 2, 233–256 (1976). (Hans-Otto Georgii) **55** #5120a 82.60

(*with* Gruber, Christian) Group structure for classical lattice systems of arbitrary spin. *Group theoretical methods in physics* (*Fourth Internat. Colloq., Nijmegen*, 1975), *pp*. 558–567. *Lecture Notes in Phys., Vol.* 50, *Springer, Berlin*, 1976. (See RŽMat **1977** #2 A290; MR **57** #11993) 82.22

(*with* Gruber, Christian) Group structure analysis for classical lattice systems with constraints. II. Zeroes of the partition function and unicity of states. *Phys. A* **84** (1976), *no.* 1, 101–128. (Hans-Otto Georgii) **55** #5120b 82.60

(*with* Gruber, Christian; Merlini, D.) ★Group analysis of classical lattice systems. With a foreword by Ph. Choquard. Lecture Notes in Physics, Vol. 60. *Springer-Verlag, Berlin-New York*, 1977. xiv + 326 *pp*. (RŽMat **1977** #10 B150) **58** #25661 82.20

Hintikka, Jaakko On semantic information. *Information and inference*, *pp*. 3–27. *Reidel, Dordrecht*, 1970. (I. J. Good) **45** #6102 62A99 (60A05)

Existential presuppositions and uniqueness presuppositions. *Philosophical problems in logic, Some recent developments*, *pp*. 20–55. *Reidel, Dordrecht*, 1970. (R. H. Thomason) **45** #1736 02C10

(*with* Tuomela, Raimo) Toward a general theory of auxiliary concepts and definability in first-order theories. *Proceedings of the First Scandinavian Logic Symposium* (*Åbo*, 1968), *pp*. 19–60. *Filosofiska Studier, No.* 8, *Filosof. Föreningen och Filosof. Inst., Uppsala Univ., Uppsala*, 1970. (From the introduction) **58** #16098 02A05

(*with* Hilpinen, Risto) Rules of acceptance, indices of lawlikeness, and singular inductive inference: reply to a critical discussion. *Philos. Sci.* **38** (1971), 303–307. (Editors) **58** #16102b 02A05 (02C05)

Constituents and finite identifiability. *J. Philos. Logic* **1** (1972), *no.* 1, 45–52. (M. Makkai) **46** #7014 02G99

★Logic, language-games and information. Kantian themes in the philosophy of logic. *Clarendon Press, Oxford*, 1973. x + 291 *pp*. (M. J. Cresswell) **54** #4911 02A05

Surface semantics: definition and its motivation. *Truth, syntax and modality* (*Proc. Conf. Alternative Semantics, Temple Univ., Philadelphia, Pa.*, 1970), *pp*. 128–147. *Studies in Logic and the Foundations of Math., Vol.* 68, *North-Holland, Amsterdam*, 1973. (M. J. Cresswell) **53** #7717 02A05 (02C10)

Carnap's semantics in retrospect. *Synthese* **25** (1973), 372–397. (Editors) **57** #15939 02A05

(*with* Remes, Unto) ★The method of analysis. Its geometrical origin and its general significance. With an appendix by Árpád K. Szabó. Synthese Library, Vol. 75. Boston Studies in the Philosophy of Science, Vol. XXV. *D. Reidel Publishing Co., Dordrecht-Boston, Mass.*, 1974. xviii + 144 *pp*. (J. Corcoran) **58** #21388 02A05 (01A20)

Questions about questions. (Russian) Translated from the English by R. M. Gekker. *Philosophy and logic* (*Russian*), *pp*. 303–362. *Nauka, Moscow*, 1974. (Editors) **58** #27359 02C99

★The intentions of intentionality and other new models for modalities. Synthese Library, Vol. 90. *D. Reidel Publishing Co., Dordrecht-Boston, Mass.*, 1975. xviii + 262 *pp*. (M. J. Cresswell) **57** #5685 02C10

(*with* Rantala, Veikko) Systematizing definability theory. *Proceedings of the Third Scandinavian Logic Symposium* (*Univ. Uppsala, Uppsala*, 1973), *pp*. 40–62. *Stud. Logic Found. Math., Vol.* 82, *North-Holland, Amsterdam*, 1975. (M. Makkai) **53** #10578 02H05 (02G99)

Impossible possible worlds vindicated. *J. Philos. Logic* **4** (1975), *no.* 4, 475–484. (Author's introduction) **57** #12176 02C10

(*with* Saarinen, Esa) Semantical games and the Bach-Peters paradox. *Theoret. Linguist.* **2** (1975), *no.* 1-2, 1–20. (Authors' summary) **58** #21494 02C99

Comment on: "Hintikka on prima facie obligations" (Theoria **40** (1974), 163–165) by L. Bergström. *Theoria* **41** (1975), *no.* 1, 35–38. (Editors) **58** #27317b 02C10

(*with* Niiniluoto, Ilkka) An axiomatic foundation for the logic of inductive generalization. *Formal methods in the methodology of empirical sciences* (*Proc. Conf., Warsaw*, 1974), *pp*. 57–81. *Synthese Library*, 103. *Reidel, Dordrecht*, 1976. (From the text) **58** #27427 02G99

Quantifiers in logic and quantifiers in natural languages. With comments by Robert J. Fogelin and Timothy C. Potts and a reply by the author. *Philosophy of logic* (*Proc. Third Bristol Conf. on Critical Philosophy, Univ. Bristol, Bristol*), *pp*. 208–270. *Univ. California Press, Berkeley, Calif.*, 1976. (N. B. Cocchiarella) **54** #7193 02A05 (02B20)

The semantics of questions and the questions of semantics: case studies in the interrelations of logic, semantics, and syntax. *Acta Philos. Fenn.* **28** (1976), *no.* 4, 200 *pp*. (N. B. Cocchiarella) **57** #9483 02C10 (02A05)

(*with* Rantala, Veikko) A new approach to infinitary languages. *Ann. Math. Logic* **10** (1976), *no.* 1, 95–115. (M. Makkai) **55** #12462 02B20 (02K30, 90D05)

See also **Collection: Carnap, Rudolf, 48** #48; **Wu, Kathleen Johnson, 55** #12457; **Deontic logic: introductory and systematic readings, 56** #2790 (EA **55/56**) ; **Logic, foundations of mathematics, and computability theory, 56** #15352a; **Foundational problems in the special sciences, 56** #15352b; **Basic problems in methodology and linguistics, 56** #15352c; **Historical and philosophical dimensions of logic, methodology and philosophy of science, 56** #15352d *and* **Rudolf Carnap, logical empiricist, 58** #27190

Hinton, Don B. Limit point criteria for differential equations. *Canad. J. Math.* **24** (1972), 293–305. (R. M. Cooper) **46** #3889 34B05 (47E05)

Asymptotic formulae for linear equations. *Glasgow Math. J.* **13** (1972), 147–152. (H. Hochstadt) **47** #566 34D05

(*with* Heidel, J. W.) The existence of oscillatory solutions for a nonlinear differential equation. *SIAM J. Math. Anal.* 3 (1972), 344–351. (P. C. Das) **49** #5472 34C10

Limit-point criteria for positive definite fourth-order differential operators. *Quart. J. Math. Oxford Ser.* (2) **24** (1973), 367–376. (William N. Everitt) **48** #6529 34B20

Limit point-limit circle criteria for $(py')' + qy = \lambda ky$. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp*. 173–183. *Lecture Notes in*

Math., Vol. 415, *Springer, Berlin,* 1974. (K. R. Schneider) **54** #13193 34B20

Limit point criteria for differential equations. II. *Canad. J. Math.* **26** (1974), 340–351. (R. M. Cooper) **49** #5453 34B20

Continuous spectra of an even order differential operator. *Illinois J. Math.* **18** (1974), 444–450. (C. E. Billigheimer) **52** #3659 34B25

(*with* Everitt, William N.; Wong, James S. W.) On the strong limit-*n* classification of linear ordinary differential expressions of order 2*n*. *Proc. London Math. Soc.* (3) **29** (1974), 351–367. (C. E. Billigheimer) **53** #13708 34B20

(*with* Lewis, Roger T.) Discrete spectra criteria for singular differential operators with middle terms. *Math. Proc. Cambridge Philos. Soc.* **77** (1975), 337–347. (J. B. McLeod) **51** #3600 34B25 (47E05)

Principal solutions of positive linear Hamiltonian systems. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 4, 411–420. (Author's summary) **58** #17273 34A30

On the eigenfunction expansions of singular ordinary differential equations. *J. Differential Equations* **24** (1977), *no.* 2, 282 308. (H. Hochstadt) **56** #12391 34B25

Strong limit-point and Dirichlet criteria for ordinary differential expressions of order 2*n*. *Proc. Roy. Soc. Edinburgh Sect. A* **76**, *no.* 4, 301–310 (1977). (Frank G. Hagin) **57** #3506 34B99

(*with* Lewis, Roger T.) Spectral analysis of second order difference equations. *J. Math. Anal. Appl.* **63** (1978), *no.* 2, 421–438. (Christopher Caldwell) **58** #29512 39A10 (47B45)

Hinton, E. (*with* Campbell, J. S.) Local and global smoothing of discontinuous finite element functions using a least squares method. *Internat. J. Numer. Methods Engrg.* **8** (1974), 461–480. (Jacques Couot) **53** #14859 65D10 (73.65)

Buckling of initially stressed Mindlin plates using a finite strip method. *Computers & Structures* **8** (1978), *no.* 1, 99–105. (H. J. Weinitschke) **58** #8651 73.35

Hinton, F. L. (*with* Hazeltine, R. D.) Theory of plasma transport in toroidal confinement systems. *Rev. Modern Phys.* **48** (1976), *no.* 2, *part* 1, 239–308. (F. C. Auluck) **57** #8760 82.45

Hintz, Gerald R. A nonhomogenous boundary-value problem for the linear transport equation for a slab geometry. *J. Mathematical Phys.* **12** (1971), 1100–1112. (P. Nelson) **45** #1529 82.45

Hintzman, William On the existence of best analytic approximations. *Approximation theory* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1973), *pp.* 379–381. *Academic Press, New York*, 1973. (D. E. Wulbert) **48** #11522 30A82

Characterizations of extreme functionals. *Math. Japon.* **19** (1974), 63–64. (W. J. Kotzé) **51** #13621 46A15

On the existence of best analytic approximations. *J. Approximation Theory* **14** (1975), 20–22. (Y. Komatu) **51** #10640 30A82

Hintzsche, W. *See* **Kantor, I. L.; et al., 58** #5773

Hinz, Jürgen G. Über Nullstellen der Heckeschen Zetafunctionen in algebraischen Zahlkörpern. *Acta Arith.* **31** (1976), *no.* 2, 167–193. (Matti Jutila) **54** #12714 12A70 (10H10)

Régions libres de zéros des fonctions dzêtas de Hecke et la distribution des idéaux premiers. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 13, *A*i, *A*919–*A*920. (Author's summary) **54** #10208 12A70 (10H10)

Über Nullstellen der *m*-ten Ableitung der Dedekindschen Zetafunktion. *J. Number Theory* **9** (1977), *no.* 4, 535–560. (E. Grosswald) **56** #11926 10H10

Einige Bemerkungen zum Beweis eines Satzes von J. H. Maclagan-Wedderburn. *J. Reine Angew. Math.* **290** (1977), 109–112. (P. M. Cohn) **55** #5684 16A40

Hinz, Rainer-Maria Konstruktion von Laplace-Transformierten mit umhüllenden asymptotischen Entwicklungen. *Math. Nachr.* **71** (1976), 261–265. (L. Berg) **53** #8802 44A10 (41A60)

Hinze, Jürgen MC-SCF. I. The multi-configuration self-consistent-field method. *J. Chem. Phys.* **59** (1973), 6424–6432. (Author's summary) **50** #15680 81.35

Hinzen, Eckhard ★Partialmodelle zur kurzfristigen Finanzplanung. Optimale Kassenhaltung und Steuerung von Zahlungen. Quantitative Methoden der Unternehmungsplanung, No. 1. *Verlag Anton Hain, Meisenheim am Glan*, 1975. iv+85 *pp.* (E. Ja. Gabovič) **58** #9137 90A15

Hioe, F. T. (*with* Domb, C.) Group theory, Markov chains, and excluded volume effect in polymers. *J. Statist. Phys.* **10** (1974), 183–203. (Douglas Henderson) **57** #2385 82.60

(*with* Montroll, Elliott W.) Two-level radiative systems and perturbation theory. *J. Mathematical Phys.* **16** (1975), 1259–1270. (Authors' summary) **52** #4875 81.35

(*with* Montroll, Elliott W.) Quantum theory of anharmonic oscillators. I. Energy levels of oscillators with positive quartic anharmonicity. *J. Mathematical Phys.* **16** (1975), *no.* 9, 1945–1955. (Authors' summary) **51** #14822 81.65

(*with* MacMillen, Don; Montroll, Elliott W.) Quantum theory of anharmonic oscillators. II. Energy levels of oscillators with $X^{2\alpha}$ anharmonicity. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1320–1337. (Authors' summary) **53** #4839 81.65

On the use of determinants and their expansions for various physical problems. *Statistical mechanics and statistical methods in theory and application* (*Proc. Sympos., Univ. Rochester, Rochester, N.Y.*, 1976), *pp.* 165–190. *Plenum, New York*, 1977. (F. R. Halpern) **58** #6958 45–02 (69.00)

A Green's function for a cubic lattice. *J. Mathematical Phys.* **19** (1978), *no.* 5, 1064 1067. (Author's summary) **58** #11537 33A25

(*with* MacMillen, Don; Montroll, Elliott W.) Quantum theory of anharmonic oscillators: energy levels of a single and a pair of coupled oscillators with quartic coupling. *Phys. Rep.* **43** (1978), *no.* 7, 305–335. (M. Martinis) **58** #4037 81.34

Hion, Ja. V. The integer-valuedness of the vertices of a convex polytope. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 305 (1972), 259–268. (N. Poláková) **51** #6587 52A25

See also **All-Union Symposium: Theory of Rings, Algebras and Modules, 55** #5

Hion, Jaak *See* **Studien zur Algebra und ihre Anwendungen, 48** #8172

Hiorns, R. W. *See* **Symposium: Mathematical Genetics, 52** #12848 *and* **Mathematical theory of the dynamics of biological populations, 58** #20591a

Hipp, Christian Sufficient statistics and exponential families. *Ann. Statist.* **2** (1974), 1283–1292. (Steffen Lauritzen) **51** #14328 62B05

Note on the paper "Transformation groups and sufficient statistics" (Ann. Math. Statist. **43** (1972), 553–568) by J. Pfanzagl. *Ann. Statist.* **3** (1975), 478–482. (R. H. Berk) **52** #12132 62B05

(*with* Michel, R.) On the Bernstein-v. Mises approximation of posterior distributions. *Ann. Statist.* **4** (1976), *no.* 5, 972–980. (A. N. Philippou) **54** #8953 62E20

(*with* Michel, R.) A characterization of Chebyshev-Cramér expansions. *Manuscripta Math.* **19** (1976), *no.* 3, 275–282. (H. Bergström) **54** #11457 60F05

Edgeworth expansions for integrals of smooth functions. *Ann. Probability* **5** (1977 *no.* 6, 1004–1011. (R. N. Bhattacharya) **56** #13316 60F05

(*with* Götze, F.) Asymptotic expansions in the central limit theorem under momen conditions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **42** (1978), *no.* 1, 67–87. (R N. Bhattacharya) **57** #7732 60F05

Hipparchus of Nicaea *See* **Toomer, G. J., 58** #9999 *and* **Toomer, G. J., 58** #26714

Hippe, P. Zeitoptimale Steuerung eines Erzentladers. (English summary) *Regelungstec Prozeß-Datenverarbeit.* **18** (1970), *no.* 8, 346–350. (E. O. Roxin) **52** #16757 93C0 (49B10)

Zustandsregler in einläufigen Regelkreisen. (English summary) *Regelungstech.* **2** (1974), *no.* 12, 388–394. (R. F. Matlak) **55** #2238 93C05

Hippocrates of Chios *See* **Amir-Moéz, Ali R.; et al., 56** #2722 *and* **Sassara, Richelm 57** #15841

Hipps, N. (*with* Mount, Kenneth R.; Villamayor, Orlando E.) Sur la polarisation de polynômes homogènes en caractéristique $p \geqslant 0$. (English summary) *C. R. Acad. Sc. Paris Sér. A-B* **284** (1977), *no.* 22, *A*1433–*A*1434. (Authors' summary) **55** #12723 14D20 (15A72, 14L99)

Hirabuki, Shinkichi (*with* Matsuda, Ryûki) The definition of $\mathfrak{U}$-representation. *Bull. Fa Sci. Ibaraki Univ. Ser. A No.* 5 (1973), 11–22. (Bernard L. Madison) **48** #2301 22A25

(*with* Matsuda, Ryûki) Notes on irreducibility of polynomials. Collection of articles dedicated to Isuke Satō. *Bull. Yamagata Univ. Natur. Sci.* **9**, *no.* 1, 13–17 (1976) (Jean-Luc Chabert) **54** #10232 13B25

Hirai, Itio (*with* Yoshimura, Torazo; Takamura, Kiyoshi) On a direct eigenvalue analys for locally modified structures. *Internat. J. Numer. Methods Engrg.* **6** (1973), 441–442 (J. Ignaczak) **48** #5478 73.65

Hirai, Kazumasa Inverse stability problem and its applications. *Internat. J. Control* (1) 1 (1971), 1073–1081. (E. Fagiuoli) **46** #6889 93D99

(*with* Ando, Hisao) An optimum scheduling of a large scale production system b dynamic programming. (Japanese. English summary) *Systems and Control* **16** (1972, 649–658. (Authors' summary) **47** #2999 90B35

(*with* Yoshida, Kaname) Geometric programming. (Japanese) *Systems and Contro* **19** (1975), *no.* 1, 10–19. (M. Yamasaki) **54** #9673 90C30

(*with* Yoshida, Kaname) Decomposition of posynomial geometric programs. (Japanese. English summary) *Systems and Control* **19** (1975), *no.* 7, 391–401. (Nobu Sannomiya) **54** #14788 90C30

(*with* Yamada, Kunio) Controllability and stabilizability of a bilinear control system. (Japanese. English summary) *Systems and Control* **21** (1977), *no.* 4, 223–23 (Authors' summary) **58** #33257 93B05

Hirai, Takaharu Invariant eigendistributions of Laplace operators on real simple L groups. I. Case of $SU(p,q)$. *Japan. J. Math.* **39** (1970), 1–68. (From the author introduction) **53** #13475 22E30

Structure of induced representations and characters of irreducible representations o complex semisimple Lie groups. *Conference on Harmonic Analysis* (*Univ. Marylan College Park, Md.*, 1971), *pp.* 167–188. *Lecture Notes in Math., Vol.* 266, *Springer, Berlin* 1972. (P. C. Trombi) **53** #3204 22E45

Explicit form of the characters of discrete series representations of semisimple Li groups. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vo XXVI, Williams Coll., Williamstown, Mass.*, 1972), *pp.* 281–287. *Amer. Math. Soc. Providence, R. I.*, 1973. (E. A. Thieleker) **53** #8329 22E45

Total undecidability on the class of general recursive functions with a give property. *Comment. Math. Univ. St. Paul.* **22** (1973), *no.* 1, 43–48. (S.-C. Liu) **50** #426 02F20

A note on automorphisms of real semisimple Lie algebras. *J. Math. Soc. Japan* **2** (1976), *no.* 2, 250–256. (Bernard Kolman) **54** #368 17B40

Hirai, Takeshi Characters of representations of real semisimple Lie groups and invarian eigendistributions. (Japanese) *Sûgaku* **23** (1971), *no.* 4, 241–260. **58** #28287 22E4

Some remarks on invariant eigendistributions on semisimple Lie groups. *J. Math Kyoto Univ.* **12** (1972), 393–411. (A. Kleppner) **46** #1967 22E45

Supplements and corrections to my paper: "The characters of some induce representations of semisimple Lie groups" (J. Math. Kyoto Univ. **8** (1968), 313–363). *J Math. Kyoto Univ.* **15** (1975), 237–250. (E. A. Thieleker) **51** #8339 22E45

Invariant eigendistributions of Laplace operators on real simple Lie groups. II General theory for semisimple Lie groups. *Japan. J. Math.* (*N.S.*) **2** (1976), *no.* 1, 27–89 (S. Helgason) **58** #28273a 22E30 (22E45)

Invariant eigendistributions of Laplace operators on real simple Lie groups. III Methods of construction for semisimple Lie groups. *Japan. J. Math.* (*N.S.*) **2** (1976), *no* 2, 269–341. (S. Helgason) **58** #28273b 22E30 (22E45)

Invariant eigendistributions of Laplace operators on real simple Lie groups. IV Explicit forms of the characters of discrete series representations for $\mathrm{Sp}(n,\mathbf{R})$. *Japan. J Math.* (*N.S.*) 3 (1977), *no.* 1, 1–48. (S. Helgason) **58** #28273c 22E30 (22E45)

Hiraishi, Hiromi (*with* Yajima, Shuzo) A problem solving system based on a stochast automaton model. *2nd USA-Japan Computer Conference Proceedings* (*Tokyo*, 1975), *pp* 506–511. *AFIPS Press, Montvale, N.J.*, 1975. (K. S. Fu) **57** #4690 68A45

Hiraiwa, Yôko Contents of the journals of the Tokyo Mathematical Association, and thei analysis. (Japanese) *Sûgakushi Kenkyû No.* 54 (1972), 24–42. **58** #21211 01A5 (01A25)

Hirakawa, Fumiko Note on the distribution of the minimum latent root. *Ann. Inst. Statist Math.* **25** (1973), 165–172. (M. D. Perlman) **48** #7465 62H10

Some distributions of the latent roots of a complex Wishart matrix variate. *Ann Inst. Statist. Math.* **27** (1975), *no.* 2, 357–363. (D. N. Shanbhag) **53** #4372 62H10

The distribution of the latent roots in MANOVA model. *TRU Math.* **12** (1976), *no.* 2, 65–73. (D. G. Kabe) **56** #1588 62H10

On a test for the equality of the characteristic spaces of two population covariance matrices. *TRU Math.* **12** (1976), *no.* 2, 75–81. (C. G. Khatri) **56** #7015 62H15

Asymptotic distributions of test criteria for the identities of the characteristic spaces of two population covariance matrices. *TRU Math.* **12** (1976), *no.* 2, 83–91. (C. G. Khatri) **56** #7016 62H15

kawa, Kosaburo (*with* Tumura, Yosiro) The generalization of Cochran's *Q*-test. *TRU Math.* **6** (1970), 73–87. (N. Giri) **47** #4388 62G10

Moments of order statistics. *Ann. Statist.* **1** (1973), 392–394. (E. F. Schuster) **50** #3451 62G30

The two-sample Kuiper test. *TRU Math.* **9** (1973), 99–118. (P. K. Bhattacharya) **50** #1405 62G10

The comparison of powers of distribution-free two-sample tests. *TRU Math.* **10** (1974), 65–82. (I. R. Savage) **52** #4518 62G10

ki, Syûsaku Line production systems. (Japanese) *Keiei-Kagaku* **17** (1973), 279–292. (Author's summary) **53** #15328 90B30

lla, N. F. Radial Wigner function. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **72** (1973), 557–560. (Z. Janković) **49** #1968 81.35

(*with* Gačečiladze, T. G.) Informational thermodynamics of a quantum harmonic oscillator. I. (Russian. Georgian and English summaries) *Thbilis. Univ. Šrom.* **160** (1975), 61–79. (K. Wódkiewicz) **58** #8842a 80.47

(*with* Gačečiladze, T. G.) Informational thermodynamics of a quantum harmonic oscillator. II. (Russian. Georgian and English summaries) *Thbilis. Univ. Šrom.* **160** (1975), 81–99. (K. Wódkiewicz) **58** #8842b 80.47

matsu, Keiji (*with* Ichino, Manabu) Feature-effectiveness criteria of a statistical pattern classifier. *Systems-Computers-Controls* **1** (1970), *no.* 5, 60–67 (1971). (Author's summary) **46** #2929 68A45

(*with* Ogura, Yasuo) FFT programming and its application. (Japanese) *Res. Rep. Tokyo Electrical Engrg. College No.* 18-19 (1971), 11–32. **51** #14996 90C30

(*with* Kotoh, Kaoru) Representation of pattern classes using fuzzy sets. *Systems-Computers-Controls* **4** (1973), *no.* 3, 1–8. (Rani Siromoney) **49** #8446 68A45

(*with* Ichino, Manabu) Suboptimum linear feature selection in multiclass problem. *IEEE Trans. Systems Man Cybernet.* **SMC-4** (1974), 28–33. (Authors' summary) **53** #9745 68A45

matsu, Toshiaki (*with* Nishida, Toshio; Itsuji, Hideo) Commutative tandem queue with Markovian input and services. *Math. Japon.* **21** (1976), *no.* 4, 401–409. (Micha Yadin) **56** #1499 60K25

(*with* Nishida, Toshio) Commutative tandem queue with finite waiting room. *J. Operations Res. Soc. Japan* **20** (1977), *no.* 3, 194–202. (Frank A. Haight) **56** #9736 60K25

amatsu, Toyokazu Note on hyperbolic Fourier coefficients of automorphic forms. *Seminar on Modern Methods in Number Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No.* 15, 6 *pp. Inst. Statist. Math., Tokyo*, 1971. (O. M. Fomenko) **52** #285 10D15

Remarks on hyperbolic Poincaré series. *Comment. Math. Univ. St. Paul.* **20** (1971/72), 9–14. (M. Eichler) **45** #8606 10D15

amatu, Hitosi On essentially isometric conformal transformation groups. *Kōdai Math. Sem. Rep.* **24** (1972), 212–216. (M. S. Raghunathan) **46** #8124 53C20

On integral inequalities in Riemannian manifolds admitting a one-parameter conformal transformation group. *Kōdai Math. Sem. Rep.* **26** (1974/75), 75–84. (Shoshichi Kobayashi) **50** #11109 53C65

On Riemannian manifolds admitting a one-parameter conformal transformation group. *Tensor* (*N.S.*) **28** (1974), 19–24. (F. Brickell) **51** #11348 53C20

(*with* Yano, Kentaro) Riemannian manifolds admitting an infinitesimal conformal transformation. *J. Differential Geometry* **10** (1975), 23–38. (T. Nagano) **53** #3947 53C20

(*with* Yano, Kentaro) On conformal changes of Riemannian metrics. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 1-2, 19–41. (Y. Tashiro) **53** #14352 53C20

(*with* Yano, Kentaro) Conformal changes of Riemannian metrics satisfying certain conditions. *Ann. Mat. Pura Appl.* (4) **114** (1977), 155–172. (Paul E. Ehrlich) **58** #2646 53C20

On integral inequalities and their applications in Riemannian manifolds. *Geom. Dedicata* **7** (1978), *no.* 3, 375–386. (J. R. Vanstone) **58** #24122 53C25

amine, Yutaka 4-fold transitive groups in which any 2-element and any 3-element of a stabilizer of four points are commutative. *Osaka J. Math.* **14** (1977), *no.* 1, 151–154. (W. Feit) **55** #12797 20B20

On multiply transitive groups. *Osaka J. Math.* **14** (1977), *no.* 3, 453–463. (Peter M. Neumann) **57** #6155 20B20

On transitive groups in which the maximal number of fixed points of involutions is five. *J. Math. Soc. Japan* **30** (1978), *no.* 2, 215–235. (Peter Rowlinson) **58** #5863 20B10 (20D05)

rano, Katuomi Using some approximately known coefficient of variation in estimating the mean. (Japanese. English summary) *Proc. Inst. Statist. Math.* **20** (1972), 61–64. (C. Hayashi) **48** #9933 62F10

(*with* Singh, J.; Pandey, B. N.) On the utilization of a known coefficient of kurtosis in the estimation procedure of variance. *Ann. Inst. Statist. Math.* **25** (1973), 51–55. (A. C. Cohen) **48** #9939 62F10

Some properties of an estimator for the variance of a normal distribution. *Ann. Inst. Statist. Math.* **25** (1973), 479–492. (P. K. Bhattacharya) **50** #1392 62F10

Biased efficient estimator utilizing some a priori information. *J. Japan Statist. Soc.* **4** (1973/74), *no.* 1, 11–13. (P. W. Mielke, Jr.) **48** #12697 (E **49** #6467) 62F10

Correction to: "Biased efficient estimator utilizing some a priori information" (J. Japan Statist. Soc. **4** (1973/74), no. 1, 11–13). *J. Japan Statist. Soc.* **4** (1973/74), *no.* 2, 79. (Editors) **49** #6467 62F10

(*with* Furuno, Kiyokazu; Mitra, Sanjit K.; Ito, Yasuhiko) Design of digital sinusoidal oscillators with absolute periodicity. *IEEE Trans. Aerospace and Electron. Systems* **AES-11** (1975), *no.* 6, 1286–1299. (Ezio M. Biglieri) **52** #12993 94A20

Estimation procedures based on preliminary test, shrinkage technique and information criterion. *Ann. Inst. Statist. Math.* **29** (1977), *no.* 1, 21–34. (Rasul A. Khan) **56** #4024 (E **57** #7851) 62F10

Corrections to: "Estimation procedures based on preliminary test, shrinkage technique and information criterion" (Ann. Inst. Statist. Math. **29** (1977), no. 1, 21–34). *Ann. Inst. Statist. Math.* **29** (1977), *no.* 2, 317. (Editors) **57** #7851 62F10

Hirano, Shin Ichi A note on restricted uniserial ring. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12** 178–180 (1974). (B. J. Müller) **50** #13140 16A46

Hirano, Y. (*with* Kida, T.) Moment sensitivities of the impulse response. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 359–364. (From the authors' summary) **55** #10150 94A20

Hirano, Yasuyuki (*with* Tominaga, Hisao) Two theorems on left *s*-unital rings. *Math. J. Okayama Univ.* **19** (1976/77), *no.* 2, 97–100. (G. Betsch) **56** #8618 16A48 (16A70)

(*with* Tominaga, Hisao) Two commutativity theorems for rings. *Math. J. Okayama Univ.* **20** (1978), *no.* 1, 67–72. (Ralph W. Wilkerson) **58** #11029 16A70

Hirao, Kimihiko On the coupling operator method. *J. Chem. Phys.* **60** (1974), 3215–3222. (Author's summary) **53** #12350 81.47

Hirao, Masahiko (*with* Sugimoto, Nobumasa) Nonlinear mode coupling of elastic waves. *J. Acoust. Soc. Amer.* **62** (1977), *no.* 1, 23–32. (Authors' summary) **56** #1892 73.35

Hirao, Shigeharu (*with* Ozawa, Takao; Hattori, Yoshio) Some properties of multicolored-branch graphs. *Mem. Fac. Engrg. Kyoto Univ.* **35** (1973), 381–392. (C. L. Liu) **52** #166 05C15

Hiraoka, Kenji (*with* Matsumoto, Shuichi; Okamoto, Kiyosato) Eigenfunctions of the Laplacian on a real hyperboloid of one sheet. *Hiroshima Math. J.* **7** (1977), *no.* 3, 855–864. (From the introduction) **58** #29861 43A85

Hiraoka, Toru (*with* Ukaï, Seïji) Eigenvalue spectrum of the neutron transport operator for a fast multiplying system. *J. Nuclear Sci. and Tech.* **9** (1972), 36–46. (L. Finkelstein) **47** #10001 82.47

Hirasawa, Shigeichi (*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) The construction of sequences by interleaving method. *Electron. Comm. Japan* **55** (1972), *no.* 11, 35–42. (Not reviewed) 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) A class of asymptotically good algebraic codes using second-order concatenation. *Electron. Commun. Japan* **57** (1974), *no.* 2, 47–53. (Ian Blake) **52** #5194 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) A modification of the constructive asymptotically good codes of Justesen for low rates. *Information and Control* **25** (1974), 341–350. (Philippe Piret) **53** #10474 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) Some efficient binary codes constructed using Srivastava codes. *IEEE Trans. Information Theory* **IT-21** (1975), *no.* 5, 581–582. (Authors' summary) **53** #15555 94A10

(*with* Kasahara, Masao; Sugiyama, Yasuo; Namekawa, Toshihiko) A new class of binary codes constructed on the basis of BCH codes. *IEEE Trans. Information Theory* **IT-21** (1975), *no.* 5, 582–585. (Authors' summary) **53** #15551 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) A method for solving key equation for decoding Goppa codes. *Information and Control* **27** (1975), 87–99. (H. F. Mattson, Jr.) **52** #2728 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) An erasures-and-errors decoding algorithm for Goppa codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 2, 238–241. (N. J. Patterson) **52** #12976 (E **55** #7579) 94A10

(*with* Kasahara, Masao; Sugiyama, Yasuo; Namekawa, Toshihiko) New classes of binary codes constructed on the basis of concatenated codes and product codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 4, 462–468. (Philippe Piret) **53** #12746 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) Further results on Goppa codes and their applications to constructing efficient binary codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 5, 518–526. (Authors' summary) **57** #19083 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) Correction to "An erasures-and -errors decoding algorithm for Goppa codes" (IEEE Trans. Information Theory **IT-22** (1976), no. 2, 238–241). *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 6, 765. (Editors) **55** #7579 94A10

(*with* Sugiyama, Yasuo; Kasahara, Masao; Namekawa, Toshihiko) A new class of asymptotically good codes beyond the Zyablov bound. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 2, 198–204. (F. J. MacWilliams) **58** #4620 94A10

Hirasawa, Yoshikazu On a singular perturbation problem for linear systems of ordinary differential equations. I. *Kōdai Math. J.* **1** (1978), *no.* 1, 85–88. (R. E. O'Malley, Jr.) **57** #10136 34E15

Hirashima, Masaharu (*with* Iura, Masashi) On the derivation of fundamental equations of curved and twisted thin-walled open section members. *Bull. Sci. Engr. Res. Lab. Waseda Univ. No.* 79 (1977), 37–49. (René Hayart) **58** #8652 73.35

Hirashima, Yasumasa On the BP_*-Hopf invariant. *Osaka J. Math.* **12** (1975), 187–196. (J. F. Adams) **51** #9055 55E25

(*with* Ōshima, Hideaki) A note on stable James numbers of projective spaces. *Osaka J. Math.* **13** (1976), *no.* 1, 157–161. (M. Mahowald) **54** #6134 55E10

Hirashita, Yukio Periodicity and inequality. *J. Math. Soc. Japan* **26** (1974), 440–446. (R. Kaufman) **50** #13427 28A35

(*with* Wada, Junzō) The local maximum modulus principle for function spaces. *Proc. Japan Acad.* **51** (1975), 109–112. (Harold H. McFaden) **51** #8832 46J20

Hirata, Hironori (*with* Fukao, Takeshi) A technique for the aggregation of linear dynamical systems. (Japanese. English summary) *Systems and Control* **18** (1974), 241–248. (Tohru Katayama) **50** #4009 93A15

(*with* Fukao, Takeshi) A model of mass and energy flow in ecosystems. *Math. Biosci.* **33** (1977), *no.* 3-4, 321–334. (Authors' summary) **58** #33082 92A05

Aggregation method for linear large-scale systems with random coefficients and inputs. *Internat. J. Systems Sci.* **9** (1978), *no.* 5, 515–529. (Elwyn L. Jones) **58** #26220 93A15 (93E10)

Hirata, Kohji Quantization of massless fields with continuous spin. *Progr. Theoret. Phys.* **58** (1977), *no.* 2, 652–666. (Author's summary) **56** #10493 81.22

Hiratsuka, S. (*with* Nishida, N.; Liu, Y. A.; Lapidus, Leon) An effective computational algorithm for suboptimal singular and/or bang-bang control. *AIChE J.* **22** (1976), *no.* 3, 505–523. (Authors' summary) **58** #20701 93C20 (49D30)

Hirayama, Akira Wasan (ancient Japanese mathematics) in the Fukushima area. (Japanese) *Sūgakushi Kenkyū* **5** (1968), *no.* 4, 41–43. (K. Inoue) **47** #8222 01A25 (01A55)

The methods for solving equations in the polygonal theory of the *Katsuyô Sampô*. (Japanese) *Sûgakushi Kenkyû No.* 54 (1972), 1–3. (Yasumasa Akagawa) **58** #21013 01A25 (01A50)

Debatable questions in sangaku. (Japanese) *Sûgakushi Kenkyû No.* 66 (1975), 1–3. (Editors) **58** #10003 01A25

The year in which Takakazu Seki copied the *Yang Hui Suanfa*. (Japanese) *Sûgakushi Kenkyû No.* 68 (1976), 1–2. (Joong Fang) **58** #10007 01A25

See also **Li, Yen**, **55** #28

Hirayama, Hiroshi (*with* Yatsuboshi, Reigo) An algorithm for finding feasibility conditions of multicommodity flows in a network. *Electron. Commun. Japan* **55** (1972), *no.* 6, 40–46. **56** #10884 90B10

Hirayama, Minoru (*with* Tze, Hsiung Chia) Nambu mechanics of non-Abelian dyons. *Phys. Rev. D* (3) **17** (1978), *no.* 2, 546–556. (Authors' summary) **57** #2232 81.22

Hircebruh, F. *See* **Hirzebruch, F.**

Hirche, Joachim (*with* Langhammer, Walter) Zur Lösung linearer Optimierungsprobleme mit ungenauen Ausgangsdaten. *Beiträge Anal. Heft* 6 (1974), 139–153. (K. Swarup (Zbl **348** #90121)) **58** #33282 93C05

(*with* Köhler, Jörg) Mehrfache Zerlegung hyperbolischer Optimierungsaufgaben. *Beiträge Anal. Heft* 7 (1975), 143–149. (W. W. Breckner) **58** #20448 90C30

(*with* Köhler, Jörg; Stiebitz, Volkmar) Ein effektives Lösungsverfahren für das hyperbolische Transportproblem. *Beiträge Anal. Heft* 7 (1975), 151–156. (Knut Richter) **56** #14722 90C30

Zur Extremwertannahme und Dualität bei Optimierungsproblemen mit linearem und gebrochen linearem Zielfunktionsanteil. *Z. Angew. Math. Mech.* **55** (1975), 184–185. (Siegfried Schaible) **51** #12322 90C05

Bemerkungen zur Inversion von Matrizen spezieller Struktur. *Wiss. Z. Martin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **25** (1976), *no.* 2, 13–16. (Colin M. Campbell) **55** #11585 65F05

(*with* Ho Khac Tan) Über eine Klasse nichtkonvexer Optimierungsprobleme. (English and Russian summaries) *Z. Angew. Math. Mech.* **57** (1977), *no.* 4, 247–253. (Wolfgang Wetterling) **56** #4164 65K05 (90C30)

Hiremath, V. A. On cofinitely injective modules. *J. London Math. Soc.* (2) **17** (1978), *no.* 1, 28–32. (M. Teply) **57** #6101 16A52 (16A46, 18E40)

Hirgiĭ, N. I. (*with* Rutkas, A. G.) Semigroups of monomorphisms of graphs in discrete lattices. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 19 (1974), 111–125, 160. (L. S. Mel′nikov) **54** #5037 05C25 (94A20)

The transmission coefficient of a transmitting linear structure. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 23 (1975), 131–141, 171–172. (Chandler Davis) **53** #2531 94A20

Hiriart-Urruty, Jean-Baptiste Étude de quelques propriétés de la fonctionnelle moyenne et de l'inf-convolution continue en analyse convexe stochastique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aiii, A129 -A132. (Roger J.-B. Wets) **51** #2640 90C15

Algorithmes stochastiques de résolution d'équations et d'inéquations variationnelles. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **33** (1975/76), *no.* 3, 167–186. (Jean-Michel Bismut) **55** #11522 62L20

Optimisation stochastique: méthodes de descents. Two Symposia on Probability and Applications (Journées d'Optimisation Stochastique, Clermont, 1975). *Ann. Sci. Univ. Clermont No.* 58 *Math. No.* 12 (1976), 110–131. (Author's summary) **56** #18073 93E20

Algorithmes stochastiques de type pénalisation et de type dual pour les problèmes avec observations bruitées sur l'objectif et sur les contraintes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 16, Aiii, A907–A910. (Peter Kall) **57** #5093 90C15 (62L20)

Gradients généralisés de fonctions marginales. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 6, *A*iii, *A*333–*A*335. (Wolfgang Wetterling) **54** #13003 26A54 (90C30)

Conditions nécessaires d'optimalité in programmation non différentiable. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 11, Aii, A843–A845. (Author's summary) **54** #13679 49B30

Conditions nécessaires d'optimalité pour un programme stochastique avec recours. (English summary) *C. R. Acad. Sci. Paris Ser. A-B* **283** (1976), *no.* 13, Aii, A943–A946. (Jaap Wessels) **55** #2133 90C15

★Contributions à la programmation mathématique: cas déterministe et stochastique. Thèse présentée à l'Université de Clermont-Ferrand II pour obtenir le grade de Docteur ès Sciences Mathématiques. Série E, No. 247. *Université de Clermont-Ferrand II*, *Clermont-Ferrand*, 1977. ix + 398 *pp.* (*not consecutively paged*) (I. M. Stancu-Minasian) **58** #9249 90C15

Algorithms of penalization type and of dual type for the solution of stochastic optimization problems with stochastic constraints. *Recent developments in statistics* (*Proc. European Meeting Statisticians*, *Grenoble*, 1976), *pp.* 183–219. *North-Holland*, *Amsterdam*, 1977. (H. J. Kushner) **57** #11903 93E20

Sur les cônes tangents et leurs applications en programmation non différentiable. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 21, A1381–A1384. (Author's summary) **58** #7322 49D99 (65K05)

Gradients généralisés de fonctions composées. Applications. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 12, A781–A784. (Author's summary) **56** #16489 49B30 (46G05, 58C15, 58E15)

On optimality conditions in non-differentiable programming. *Math. Programming* **14** (1978), *no.* 1, 73–86. (Marco Gaviano) **57** #5121 90C99

Gradients généralisés de fonctions marginales. (English summary) *SIAM J. Control Optimization* **16** (1978), *no.* 2, 301–316. (Author's summary) **58** #12599 49B15

Conditions nécessaires d'optimalité pour un programme stochastique avec recours. (English summary) *SIAM J. Control Optimization* **16** (1978), *no.* 2, 317–329. (Author's summary) **58** #15158 90C15

Hiriş, Viorel (*with* Megan, Mihail) Propriétés exponentielles des solutions des équations différentielles dans des espaces localement convexes. (Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **10** (1972), 53–64. (Denise Huet) **49** #9364 34G05

(*with* Megan, Mihail) Sur la contrôlabilité complète des équations différentielles linéaires dans les espaces de Hilbert et les transformations opératorielles. *Mathematica* (*Cluj*) **15(38)** (1973), 37–41. (F. M. Kirillova) **51** #4011 49E15 (34G05)

(*with* Reghiş, Mircea) Contrôlabilité complète des équations différentielles linéaires dans les espaces de Hilbert. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 1091–1098. (H. O. Fattorini) **48** #4446 34G05 (49E15)

(*with* Topuzu, Paul) On complete controllability and the cyclic vectors. (Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **12** (1974), *no.* 2, 111–114 (1977). (S. Rolewicz) **58** #9487 93B05 (93C25)

(*with* Megan, Mihail) On the space of linear controllable systems in Hilbert spaces. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **10(30)** (1975), *no.* 1, 161–167. (L. von Wolfersdorf) **52** #9054 49E15 (47A50)

Criteria of controllability in Banach spaces. *Proceedings of the Conference on Differential Equations and their Applications* (*Univ. Iaşi*, *Iaşi*, 1973), *pp.* 89–96. *Editura Acad. R.S.R.*, *Bucharest*, 1977. (B. T. Poljak) **58** #7333 49E15

(*with* Megan, Mihail) Controllability of linear systems and a boundary value problem. *Aequationes Math.* **16** (1977), *no.* 1-2, 81–91. (D. K. Hughes) **57** #17470 49E15 (93B05)

Hirohata, Tetsuya A remark on the prolongation of non-linear systems of partial differential equations. *Mem. Osaka Inst. Tech. Ser. A* **20** (1975/76), *no.* 1, 1–5. (Ngô van Quê) **58** #18625 58H05

Hiroike, Kazuo Supplement to Blum's theory for asymmetric electrolytes. *Molecular Phys.* **33** (1977), *no.* 4, 1195–1198. (A. K. Rajagopal) **56** #17632 82.15

Hirokawa, Hiroshi Tauberian theorems for $(\mathfrak{R},p,\alpha)$ summability. Collection of articles dedicated to Gen-ichirô Sunochi on his sixtieth birthday. *Tôhoku Math. J.* (2) **24** (1972), 191–199. (L. Hoischen) **49** #3370 40E05

(*with* Kayashima, Ikuko) On a sequence of Fourier coefficients. *Proc. Japan Acad.* **50** (1974), 57–62. (H. P. Dikshit) **51** #1247 42A24

Hirokawa, Sachio (*with* Miyano, Satoru) A note on the regularity of fuzzy languages. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), *no.* 1, 61–66. (Masaharu Mizumoto) **58** #3723 68A30

Hiromi, Genkō (*with* Kimura, Shigeru) On pseudo-prime meromorphic functions. *Kōdai Math. Sem. Rep.* **25** (1973), 406–411. (J. Clunie) **50** #10262 30A68

Hiromitsu, Seijiro (*with* Ohta, Mitsuo; Yamaguchi, Shizuma; Takeyama, Yoshio; Okita, Tsuyoshi) Theory and digital simulation of a generalized nonstationary random process with arbitrary amplitude distribution and arbitrarily fluctuating mean value. *Theoretical and applied mechanics*, *Vol.* 22 (*Proc. 22nd Japan Nat. Congr. Appl. Mech.*, *Tokyo*, 1972), *pp.* 457–471. *Univ. Tokyo Press*, *Tokyo*, 1974. (G. Sîmboan) **51** #5125 93E10 (60G05)

(*with* Ohta, Mitsuo; Nishimura, Masafumi) The effect of a feedback element on the multi-variable output probability distribution of nonstationary nonlinear stochastic system with an arbitrary random input. (Japanese. English summary) *Systems and Control* **20** (1976), *no.* 8, 434–443. (Authors' summary) **57** #19022 93E15

(*with* Ohta, Mitsuo) A trial of a new formation of the random noise model by use of arbitrary uniformly almost periodic functions. *Information and Control* **33** (1977), *no.* 3, 227–252. (From the summary) **58** #15653 94A05

Hiromori, Katsuhisa Construction of certain Hopf algebras. *Math. Japon.* **19** (1974), 1–32. (Bodo Pareigis) **50** #9880 14L15 (17B50)

Hiromoto, Robert E. (*with* Ozsváth, István) On homogeneous solutions of Einstein's field equations. *General Relativity and Gravitation* **9** (1978), *no.* 4, 299–327. (John Madore) **57** #15225 83.53

Hironaka, Heisuke Certain numerical characters of singularities. *J. Math. Kyoto Univ.* **10** (1970), 151–187. (B. Teissier) **45** #1913 14E15

Desingularization of complex-analytic varieties. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 627–631. *Gauthier-Villars*, *Paris*, 1971. (José M. Aroca) **54** #13127 32C45

Schemes, etc. *Algebraic geometry*, *Oslo* 1970 (*Proc. Fifth Nordic Summer School in Math.*), 291–313. *Wolters-Noordhoff*, *Groningen*, 1972. (Jean Giraud) **52** #13839 14E15 (14H20)

Gardening of infinitely near singularities. *Algebraic geometry*, *Oslo* 1970 (*Proc. Fifth Nordic Summer School in Math.*), 315–332. *Wolters-Noordhoff*, *Groningen*, 1972. (Jean Giraud) **52** #14364 32C45

The notion of near-complex subvariety. Notes by S. Nakano. *Geometry of manifolds* (*Proc. Sympos.*, *RIMS*, *Kyoto Univ.*, *Kyoto*, 1972), *pp.* 12–18. *R.I.M.S. Sem. Rep. No.* 158, *Res. Inst. Math. Sci. Kyoto Univ.*, *Kyoto*, 1972. (J. A. Morrow) **53** #5926 32C10

★Introduction to real-analytic sets and real-analytic maps. Quaderni dei Gruppi di Ricerca Matematica del Consiglio Nazionale delle Ricerche. *Istituto Matematico "L. Tonelli" dell'Università di Pisa*, *Pisa*, 1973. iii + 162 *pp.* (Robert M. Hardt) **57** #16665 32C05 (32B20, 32C25, 32C40)

Subanalytic sets. *Number theory, algebraic geometry and commutative algebra, in honor of Yasuo Akizuki*, *pp.* 453–493. *Kinokuniya*, *Tokyo*, 1973. (A. Hirschowitz) **51** #13275 32C05 (32B20)

Introduction aux ensembles sous-analytiques. Rédigé par André Hirschowitz et Patrick Le Barz. *Singularités à Cargèse* (*Rencontre Singularités en Géom. Anal.*, *Inst. Études Sci.*, *Cargèse*, 1972), *pp.* 13–20. *Astérisque*, *Nos.* 7 *et* 8, *Soc. Math. France*, *Paris*, 1973. (Editors) **50** #7571 32B20

La voûte étoilée. *Singularités à Cargèse* (*Rencontre Singularités en Géom. Anal.*, *Inst. Études Sci.*, *Cargèse*, 1972), *pp.* 415–440. *Astérisque*, *Nos.* 7 *et* 8, *Soc. Math. France*, *Paris*, 1973. (Bernard Teissier) **52** #8494 32C45

(*with* Lejeune-Jalabert, Monique; Teissier, Bernard) Platificateur local em géométrie analytique et aplatissement local. *Singularités à Cargèse* (*Rencontre Singularités Géom. Anal.*, *Inst. Études Sci. de Cargèse*, 1972), *pp.* 441–463. *Astérisque*, *Nos.* 7 *et* 8, *Soc. Math. France*, *Paris*, 1973. (Tomás Sánchez Giralda) **53** #13636 32C45 (14E20)

★Introduction to the theory of infinitely near singular points. Memorias de Matematica del Instituto "Jorge Juan", No. 28 *Consejo Superior de Investigaciones Científicas*, *Madrid*, 1974. vii + 95 *pp.* (Bernard Teissier) **53** #3349 32C45 (14E15)

(*with* Aroca, Jose M.; Vicente, José L.) ★The theory of the maximal contact. Memorias de Matemática del Instituto "Jorge Juan", No. 29. [Mathematical Memoirs of the "Jorge Juan" Institute, No. 29] *Instituto "Jorge Juan" de Matemáticas*, *Consejo Superior de Investigaciones Cientificas*, *Madrid*, 1975. 135 *pp.* (Jean Giraud) **56** #3344 32C45

Triangulations of algebraic sets. *Algebraic geometry* (*Proc. Sympos. Pure Math., Vol.* 9, *Humboldt State Univ., Arcata, Calif.*, 1974), *pp.* 165–185. *Amer. Math. Soc., Providence, R.I.*, 1975. (André Galligo) **51** #10331 14B99 (32B20, 57C15)

Flattening of analytic maps. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf., Tokyo*, 973), *pp.* 313–321. *Univ. Tokyo Press, Tokyo*, 1975. (J. A. Morrow) **52** #6028 2C45 (32H99)

Flattening theorem in complex-analytic geometry. *Amer. J. Math.* **97** (1975), 03–547. (Margherita Galbiati) **52** #14365 32C45

Idealistic exponents of singularity. *Algebraic geometry* (*J. J. Sylvester Sympos., Johns Hopkins Univ., Baltimore, Md.*, 1976), *pp.* 52–125. *Johns Hopkins Univ. Press, Baltimore, Md.*, 1977. (José M. Aroca) **58** #16661 14E15

Stratification and flatness. *Real and complex singularities* (*Proc. Ninth Nordic Summer School/NAVF Sympos. Math., Oslo*, 1976), *pp.* 199–265. *Sijthoff and Noordhoff, Alphen aan den Rijn*, 1977. (José M. Aroca) **58** #17187 32B20 (32C05)

Bimeromorphic smoothing of a complex-analytic space. *Acta Math. Vietnam.* **2** 1977), *no.* 2, 103–168. (Tomás Sánchez Giralda) **58** #17198 32C45

See also **Grothendieck, A., 54** #2386 *and* **Zariski, O., 58** #21346a

Hinaka-Kobayashi, Yumiko On the Galois groups of the maximal p-extensions of algebraic number fields. *Natur. Sci. Rep. Ochanomizu Univ.* **27** (1976), *no.* 2, 99–105. (Pierre Damey) **55** #7997 12A55

Hioka, Masahiko (*with* Sunakawa, Sigenobu) Theory of scattering in three-particle system. *Progr. Theoret. Phys.* **52** (1974), 131–146. (M. J. Westwater) **54** #1986 81.47

Hioka, Wataru (*with* Fukui, Seiichi) The application of bounded linear operators. *Bull. Fac. Ed. Wakayama Univ. Natur. Sci. No.* 26 (1977), 1–6. (B. Fishel) **58** #12461 47A60

Hse, Hideo Takakazu Seki on astonomy and the calendar. (Japanese) *Sûgakushi Kenkyû No.* 56 (1973), 1–11. (S. Hitotumatu) **57** #2816 01A25

Hse, Keiko (*with* Iwata, Giiti) A remark on the Kerr metric. *Natur. Sci. Rep. Ochanomizu Univ.* **28** (1977), *no.* 2, 57–58. (C. W. Kilmister) **57** #15226 83.53

Hse, Ken (*with* Oya, Makoto) General theory of flow-charts. *Comment. Math. Univ. St. Paul.* **21** (1972/73), *no.* 2, 55–71. (John T. Gill) **47** #7942 68A05

(*with* Iida, Shigeaki) A proof of negative answer to Hilbert's 10th problem. *Proc. Japan Acad.* **49** (1973), 10–12. (Ju. V. Matijasevič) **49** #2325 02F50 (10N05)

On Hilbert's tenth problem (negative solution). (Japanese) *Sûgaku* **25** (1973), *no.* 1, 1–9. (Editors) **58** #27750 10B15 (02F25, 10B99, 10N05)

(*with* Iida, Shigeaki) A meta-axiom on categories. *Comment. Math. Univ. St. Paul* **24** (1975/76), *no.* 1, 61–67. (S. Feferman) **53** #2678 02K05 (18A15)

Hose, Sadaki (*with* Honda, Namio; Nasu, Masakazu) F-recognition of fuzzy languages. *Fuzzy automata and decision processes*, *pp.* 149–168. *North-Holland, New York*, 1977. (Masaharu Mizumoto) **57** #8160 68A25

Hota, Kaoru Concepts of probabilistic sets. *Proceedings of the* 1977 *IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 2, *pp.* 1361–1366. *Inst. Electrical Electron. Engrs., New York*, 1977. (Author's summary) **58** #16301 02K99 (68A45)

Hota, Ryogo Exact envelope-soliton solutions of a nonlinear wave equation. *J. Mathematical Phys.* **14** (1973), 805–809. (G. H. Knightly) **49** #3351 35Q99 (81.35)

Exact N-soliton solutions of the wave equation of long waves in shallow-water and in nonlinear lattices. *J. Mathematical Phys.* **14** (1973), 810–814. (G. H. Knightly) **49** #3352 35L05 (81.35)

Direct method of finding exact solutions of nonlinear evolution equations. *Bäcklund transformations, the inverse scattering method, solitons, and their applications* (*Workshop Contact Transformations, Vanderbilt Univ., Nashville, Tenn.*, 1974), *pp.* 40–68. *Lecture Notes in Math., Vol.* 515, *Springer, Berlin*, 1976. (Mark J. Ablowitz) **58** #29452 35Q99

(*with* Satsuma, Junkichi) N-soliton solutions of model equations for shallow water waves. *J. Phys. Soc. Japan* **40** (1976), *no.* 2, 611–612. (Mark J. Ablowitz) **53** #1064 35Q99 (76.35)

(*with* Satsuma, Junkichi) Nonlinear evolution equations generated from the Bäcklund transformation for the Toda lattice. *Progr. Theoret. Phys.* **55** (1976), *no.* 6, 2037–2038. (Christiane Coudray) **56** #10536 81.35

(*with* Satsuma, Junkichi) A variety of nonlinear network equations generated from the Bäcklund transformation for the Toda lattice. *Progr. Theoret. Phys. Suppl. No.* 59 (1976), 64–100. (Authors' summary) **56** #10535 81.35

Nonlinear partial difference equations. I. A difference analogue of the Korteweg-de Vries equation. *J. Phys. Soc. Japan* **43** (1977), *no.* 4, 1424–1433. (Kotik K. Lee) **57** #925a 35Q99 (58A15)

Nonlinear partial difference equations. II. Discrete-time Toda equation. *J. Phys. Soc. Japan* **43** (1977), *no.* 6, 2074–2078. (Kotik K. Lee) **57** #925b 35Q99 (58A15)

Nonlinear partial difference equations. III. Discrete sine-Gordon equation. *J. Phys. Soc. Japan* **43** (1977), *no.* 6, 2079–2086. (Kotik K. Lee) **57** #925c 35Q99 (58A15)

(*with* Satsuma, Junkichi) Nonlinear evolution equations generated from the Bäcklund transformation for the Boussinesq equation. *Progr. Theoret. Phys.* **57** (1977), *no.* 3, 797–807. (Christine Coudray) **56** #10537 81.35

Nonlinear partial difference equations. IV. Bäcklund transformations for the discrete-time Toda equation. *J. Phys. Soc. Japan* **45** (1978), *no.* 1, 321–332. (Kotik K. Lee) **58** #1788 39A12 (35Q99)

rotsu, Chihiro Zero and non-zero Lagrange multipliers in the least squares method. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **18** (1971), *no.* 4, 1–10. (A. Goldman) **47** #7864 62J05

Multiple comparisons in a two-way layout. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **20** (1973), *no.* 1, 1–10. (D. V. Chopra) **48** #7492 62J15

Multiple comparisons in a $2 \times k$ contingency table. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **21** (1974), *no.* 3, 1–8. (S. K. Katti) **51** #11767 62J05

iroyuki, Narihisa Recent advances in integer programming. (Japanese) *Keiei-Kagaku* **15** (1971), 135–151. (Editors) **46** #6830 90C10

irsberg, Bent Représentations intégrales des formes linéaires complexes. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1222–A1224. (I. Namioka) **45** #5727 46E15

M-ideals in complex function spaces and algebras. *Israel J. Math.* **12** (1972), 133–146. (H. S. Bear) **47** #4000 46J10

(*with* Lazar, Aldo J.) Complex Lindenstrauss spaces with extreme points. *Trans. Amer. Math. Soc.* **186** (1974), 141–150. (G. Maltese) **48** #11996 46B05 (46E15)

Hirsch, Francis Noyaux associés à des opérateurs de Faraut. *Séminaire de Théorie du Potential*, (1969/70), *Exp.* 10, 16 *pp. Secrétariat Math., Paris*, 1971. (Ü. Kuran) **45** #921 47B99

Familles résolvantes générateurs, cogénérateurs, potentiels. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **22** (1972), *no.* 1, 89–210. (Denise Huet) **51** #6490 47D05

Intégrales de résolvantes et calcul symbolique. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **22** (1972), *no.* 4, 239–264. (Denise Huet) **51** #3958 47D05

Sur les semi-groups d'opérateurs invariants par translations. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A43–A46. (T. Kurtz) **45** #4207 47D05

Intégrales de résolvantes. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A303–A306. (T. Kurtz) **45** #4208 47D05 (31C99)

(*with* Roth, Jean-Pierre) Opérateurs dissipatifs et codissipatifs invariants sur un espace homogène. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1791–A1793. (R. Carroll) **45** #9189 47D05 (43A85, 47B44)

Opérateurs dissipatifs et codissipatifs invariants par translations sur les groupes localement compacts. *Séminaire de Théorie du Potentiel* (15*e année*: 1972), *Exp. No.* 16, 12 *pp. Secrétariat Math., Paris*, 1973. (From the author's introduction) **56** #6466 47D05 (31D05)

Transformation de Stieltjes et fonctions opérant sur les potentiels abstraits. *Théorie du potentiel et analyse harmonique* (*Journées Soc. Math. France, Inst. Recherche Math. Avancée, Strasbourg*, 1973), *pp.* 149–163. *Lecture Notes in Math., Vol.* 404, *Springer, Berlin*, 1974. (Christian Berg) **51** #3959 47D05

(*with* Roth, Jean-Pierre) Opérateurs dissipatifs et codissipatifs invariants sur un espace homogène. *Théorie du potentiel et analyse harmonique* (*Journées Soc. Math. France, Inst. Rechèrche Math. Avancée, Strasbourg*, 1973), *pp.* 229–245. *Lecture Notes in Math., Vol.* 404, *Springer, Berlin*, 1974. (Christian Berg) **51** #3960 47D05 (31C99, 43A85)

Conditions nécessaires et suffisantes d'existence de résolvantes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **29** (1974), 73–85. (Jacques Azéma) **51** #7011 60J35

Familles résolvantes uniformément lipschitziennes. *Séminaire sur les Semi-groupes et les Équations d'Évolution* (*années* 1972–1973, 1973–1974), *Exp. No.* 1, 6 *pp. Publ. Math. Orsay, No.* 166-75.47, *Univ. Paris XI, Orsay*, 1975. **58** #23840 47H99 (47D05)

Familles d'opérateurs potentiels. (English summary) Collection of articles dedicated to Marcel Brelot on the occasion of his 70th birthday. *Ann. Inst. Fourier* (*Grenoble*) **25** (1975), *no.* 3-4, xxii, 263–288. (Jacques Faraut) **53** #5911 31C15 (60J40)

Extension des propriétés des puissances fractionnaires. *Séminaire de Théorie du Potentiel de Paris, No.* 2 (*Univ. Paris, Paris*, 1975–1976), *pp.* 100–120. *Lecture Notes in Math., Vol.* 563, *Springer, Berlin*, 1976. (Author's introduction) **58** #30407 47A60

Domaines d'opérateurs représentés comme intégrales de résolvantes. *J. Functional Analysis* **23** (1976), *no.* 3, 199–217. (Denise Huet) **55** #1134 47D05

See also **Séminaire: Semi-groupes et Équations d'Évolution, 53** #1343; **Deny, Jacques, 54** #7822; **Séminaire: Théorie du Potentiel, 55** #10702 *and* **Séminaire: Théorie du Potentiel, 58** #22600

Hirsch, Gérard (*with* Benlahcen, Driss; Lamotte, Michel) Codage et minimisation des fonctions floues dans une algèbre floue. (English summary) *RAIRO Automat.* **11** (1977), *no.* 1, 17–31, 117. (A. Thayse) **58** #4655 94A20 (04A99)

Hirsch, Guy Mathématisation et réalité. (English and German summaries) *Actes du Colloque sur les Mathématiques et la Réalité* (*Centre Univ. Luxembourg, Luxembourg*, 1974), *pp.* 5–24. *Centre Univ. Luxembourg, Luxembourg*, 1975. (Editors) **52** #13105 00A25

In memoriam Prof. Dr. Johannes Gualtherus van der Corput (4 September 1890–13 September 1975). *Med. Konink. Acad. Wetensch. Lett. Schone Kunst. België Kl. Wetensch. Jaarboek* **1975**, 397 (1976). (Editors) **54** #12449 01A70

Topologie. *Abrégé d'histoire des mathématiques* 1700–1900, *Tome II*, *pp.* 211–266. *Hermann, Paris*, 1978. (See Zbl **383** #01010) 01A05

Hirsch, Helmut Note on the paper "Gibbs vs. Shannon entropies" by Richard L. Liboff (J. Statist. Phys. **11** (1974), 343–357). *J. Statist. Phys.* **13** (1975), *no.* 3, 273–275. (Daniel M. Dubois) **52** #4910 82.60 (94A15)

Hirsch, J. J. *See* **Sensitivity, adaptivity and optimality, 49** #8697

Hirsch, Kurt A. (*with* Hallett, J. Terry) Groups of exponent 4 as automorphism groups. *Math. Z.* **117** (1970), 183–188. (M. F. Newman) **45** #361 20F55

(*with* Hallett, J. Terry) Finite groups of exponent 4 as automorphism groups. II. *Math. Z.* **131** (1973), 1–10. (M. F. Newman) **48** #2267 20F55

(*with* Hallett, J. Terry) Finite groups of exponent 12 as automorphism groups. *Math. Z.* **155** (1977), *no.* 1, 43–53. (M. F. Newman) **58** #11150 20F55 (20B25)

See also **Plotkin, B. I., 49** #9061; **Šafarevič, I. R., 51** #3163; **Mathematics at a glance, 51** #7769; **Suprunenko, D. A., 52** #10852 *and* **Šafarevič, I. R., 56** #5538

Hirsch, Morris W. Expanding maps and transformation groups. *Global analysis* (*Proc. Sympos. Pure Math., Vol. XIV, Berkeley, Calif.*, 1968), *pp.* 125–131. *Amer. Math. Soc., Providence, R.I.*, 1970. (J. W. Robbin) **45** #7750 58F10 (34C35)

(*with* Pugh, Charles C.; Shub, Michael) Invariant manifolds. *Bull. Amer. Math. Soc.* **76** (1970), 1015–1019. (A. Katok (RŽMat **1971** #7 A594)) **45** #1188 58F15 (57D30)

Foliations and noncompact transformation groups. *Bull. Amer. Math. Soc.* **76** (1970), 1020–1023. (A. Katok (RŽMat **1971** #7 A595)) **45** #1189 57D30

Stability of compact leaves of foliations. *Dynamical systems* (*Proc. Sympos., Univ. Bahia, Salvador*, 1971), *pp.* 135–153. *Academic Press, New York*, 1973. (John W. Wood) **48** #12555 57D30

(*with* Mazur, Barry C.) ★Smoothings of piecewise linear manifolds. Annals of Mathematics Studies, No. 80. *Princeton University Press, Princeton, N. J.; University of Tokyo Press, Tokyo*, 1974. ix + 134 *pp.* (J. P. E. Hodgson) **54** #3711 57D10

(*with* Smale, S.) ★Differential equations, dynamical systems, and linear algebra. Pure and Applied Mathematics, Vol. 60. *Academic Press* [*A subsidiary of Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1974. xi + 358 *pp.* (Carl P. Simon) **58** #6484 34Cxx (15–XX, 58Fxx, 70.34)

(*with* Thurston, William P.) Foliated bundles, invariant measures and flat manifolds. *Ann. Math.* (2) **101** (1975), 369–390. (D. B. Fuks) **51** #6842 57D30

(*with* Pugh, Charles C.) Smoothness of horocycle foliations. *J. Differential Geometry* **10** (1975), 225–238. (Clark Robinson) **51** #4319 58F15

★Differential topology. Graduate Texts in Mathematics, No. 33. *Springer-Verlag, New York-Heidelberg*, 1976. x + 221 *pp*. (Ulrich Koschorke) **56** #6669 57Dxx (58–01)

(*with* Pugh, Charles C.; Shub, Michael) ★Invariant manifolds. Lecture Notes in Mathematics, Vol. 583. *Springer-Verlag, Berlin-New York*, 1977. ii + 149 *pp*. (M. C. Irwin) **58** #18595 58F15 (58F10)

See also **Dynamical systems, 52** #11994 *and* **Pugh, Charles C., 58** #31271

Hirsch, Ulrich Über offene Abbildungen auf die 3-Sphäre. *Math. Z.* **140** (1974), 203–230. (P. T. Church) **50** #14755 57A10 (54C10, 57C45)

(*with* Neumann, Walter D.) On cyclic branched coverings of spheres. *Math. Ann.* **215** (1975), 289–291. (Wilbur Whitten) **51** #11516 57A10 (55A10)

Offene Abbildungen von Flächen auf die 2-Sphäre mit minimalem Defekt. *Arch. Math. (Basel)* **27** (1976), *no.* 6, 649–656. (P. T. Church) **55** #4175 57A05 (55A10)

On regular homotopy of branched coverings of the sphere. *Manuscripta Math.* **21** (1977), *no.* 3, 293–306. (Louis H. Kauffman) **58** #2790 55A10

On branched coverings of the 3-sphere. *Math. Z.* **157** (1977), *no.* 3, 225–236. (Allan Edmonds) **57** #17651 57A10

Hirsch, Warren M. (*with* Nåsell, Ingemar) A mathematical model of some helminthic infections. *Comm. Pure Appl. Math.* **25** (1972), 459–477. (R. Fischler) **47** #1476 92A05

(*with* Nåsell, Ingemar) The transmission dynamics of schistosomiasis. *Comm. Pure Appl. Math.* **26** (1973), 395–453. (P. Tautu) **50** #15964 92A05 (60H10)

Hirschberg, Daniel S. (*with* Aho, Alfred V.; Ullman, Jeffrey D.) Bounds on the complexity of the longest common subsequence problem (extended abstract). *15th Annual Symposium on Switching and Automata Theory* (1974), *pp.* 104–109. *IEEE Comput. Soc., Long Beach, Calif.*, 1974. (Robert Wagner) **54** #11842 68A20

A linear space algorithm for computing maximal common subsequences. *Comm. ACM* **18** (1975), 341–343. (Claude Benzaken) **51** #12019 68A10 (68A20)

Parallel algorithms for the transitive closure and the connected component problems. *Eighth Annual ACM Symposium on Theory of Computing (Hershey, Pa.*, 1976), *pp.* 55–57. *Assoc. Comput. Mach., New York*, 1976. (Jozef Mikloško) **55** #11687 68A10

(*with* Aho, Alfred V.; Ullman, Jeffrey D.) Bounds on the complexity of the longest common subsequence problem. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 1, 1–12. (Robert P. Daley) **53** #2014 68A20

(*with* Wong, C. K.) A polynomial-time algorithm for the knapsack problem with two variables. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 1, 147–154. (Ravindran Kannan and Clyde L. Monma) **53** #15354 90C10

(*with* Chandra, Ashok K.; Wong, C. K.) Approximate algorithms for some generalized knapsack problems. *Theoret. Comput. Sci.* **3** (1976/77), *no.* 3, 293–304. (G. Serkšnys) **58** #9227 90C10

Complexity of common subsequence problems. *Fundamentals of computation theory (Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 393–398. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (Thomas G. Szymanski) **58** #19348 68A20

Algorithms for the longest common subsequence problem. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 4, 664–675. (Thomas G. Szymanski) **57** #1967 68A20 (68A10)

An information-theoretic lower bound for the longest common subsequence problem. *Information Processing Lett.* **7** (1978), *no.* 1, 40–41. (Jaroslav Morávek) **57** #4618 68A20 (68A10)

(*with* Chandra, Ashok K.; Wong, C. K.) Bin packing with geometric constraints in computer network design. *Oper. Res.* **26** (1978), *no.* 5, 760–772. (Jacek Błażewicz) **58** #25929 90B35 (05B40)

Hirschberg, H. G. *See* **Chouraqui, Saadia, 56** #11690

Hirschel, E. H. (*with* Krause, E.; Kordulla, W.) Fourth order "Mehrstellen"-integration for three-dimensional turbulent boundary layers. *Comput. & Fluids* **4** (1976), *no.* 2, 77–92. (Editors) **56** #4419 76.65

Hirschelmann, Arnulf An application of ultra-products to prime rings with polynomial identities. *Conference in Mathematical Logic—London '70 (Bedford Coll., London*, 1970), *pp.* 145–148. *Lecture Notes in Math., Vol.* 255, *Springer, Berlin*, 1972. (G. Cherlin) **49** #343 16A12 (02H15)

Hirschfeld, J. W. P. Rational curves on quadrics over finite fields of characteristic two. (Italian summary) *Rend. Mat.* (6) **4** (1971), 773–795 (1972). (G. J. Schellekens) **47** #3406 14J05 (50D30)

A configuration of lines in three dimensions. *Proc. Edinburgh Math. Soc.* (2) **18** (1972/73), 105–123. (H. S. M. Coxeter) **47** #9405 50B30

Ovals in desarguesian planes of even order. (Italian summary) *Ann. Mat. Pura Appl.* (4) **102** (1975), 79–89. (T. G. Ostrom) **50** #11013 50D30 (05B25)

Cyclic projectivities in PG(*n*, *q*). (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie (Rome*, 1973), *Tomo I*, *pp.* 201–211. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (Armin Herzer) **57** #5795 05B45 (50D35)

(*with* Bruen, Aiden A.) Applications of line geometry over finite fields. I. The twisted cubic. *Geometriae Dedicata* **6** (1977), *no.* 4, 495–509. (Irene Pieper Seier) **58** #18109a 50D30

(*with* Bruen, Aiden A.) Applications of line geometry over finite fields. II. The Hermitian surface. *Geom. Dedicata* **7** (1978), *no.* 3, 333–353. (Irene Pieper-Seier) **58** #18109b 50D30

Hirschfeld, Joram (*with* Cherlin, Gregory L.) Ultrafilters and ultraproducts in non-standard analysis. *Contributions to non-standard analysis (Sympos., Oberwolfach*, 1970), *pp.* 261–279. *Studies in Logic and Found. Math., Vol.* 69, *North-Holland, Amsterdam*, 1972. (Robert C. Davis) **58** #5191 02H25

Models of arithmetic and the semi-ring of recursive functions. *Victoria Symposium on Nonstandard Analysis (Univ. Victoria, Victoria, B.C.*, 1972), *pp.* 98–105. *Lecture Notes in Math., Vol.* 369, *Springer, Berlin*, 1974. (Douglas Cenzer) **58** #5189 02H20

(*with* Wheeler, William H.) ★Forcing, arithmetic, division rings. Lecture Notes in Mathematics, Vol. 454. *Springer-Verlag, Berlin-New York*, 1975. vii + 266 *pp*. (G. Cherlin) **52** #10412 02H15 (16A40)

Finite forcing and generic filters in arithmetic. *Model theory and algebra (a memorial tribute to Abraham Robinson)*, *pp.* 172–199. *Lecture Notes in Math., Vol.* 498, *Springer, Berlin*, 1975. (Editors) **58** #21577 02H13 (02F50)

Models of arithmetic and recursive functions. *Israel J. Math.* **20** (1975), *no.* 2, 111–126. (S. Feferman) **52** #2858 02F50 (02H13, 02H05)

The model companion of ZF. *Proc. Amer. Math. Soc.* **50** (1975), 369–374. (Grigorii V. Čudnovskiĭ) **51** #12508 02H05 (02H13, 02K15)

Another approach to infinite forcing. *Ann. Sci. Univ. Clermont No.* 60 *Math. No.* 13 (1976), 81–86. (James H. Schmerl) **57** #16045 02H05

Non standard analysis and the compactification of groups. *Israel J. Math.* **25** (1976), *no.* 1-2, 145–153. (Author's summary) **58** #22374 22A05 (02H25)

Hirschfeld, Rudolf A. Projective limits of unitary representations. *Math. Ann.* **194** (1971), 180–196. (G. W. Mackey) **45** #6979 22D10

On measures in completely regular spaces. *Bull. Soc. Math. Belg.* **24** (1972), 275–287. (A. de Korvin) **47** #8800 28A32

A characterization of Fourier-Stieltjes transforms on vector spaces. *Bull. Soc. Math. Belg.* **24** (1972), 330–335. (Ivan Dobrakov) **50** #2437 28A40 (43A32)

On polynomials in several Hilbert space operators. *Math. Z.* **127** (1972), 224–234. (P. R. Halmos) **47** #864 47A60

(*with* Johnson, Barry Edward) Spectral characterization of finite-dimensional algebras. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 19–23. (A. M. Sinclair) **46** #666 46H05

Duality of groups: a narrative review. *Nieuw Arch. Wisk.* (3) **20** (1972), 231–241. (F. W. Carroll) **49** #5226 22D35

On Hilbertizable Banach algebras. *Bull. Soc. Math. Belg.* **25** (1973), *no.* 4, 331–333. (R. J. Loy) **56** #16377 46H20

Function rings on Tyhonov spaces. *Bull. Soc. Math. Belg.* **25** (1973), *no.* 4, 334–338. (W. J. Kotzé) **56** #6359 46E25 (46J10)

Riots. *Nieuw Arch. Wisk.* (3) **22** (1974), 1–43. (D. H. Fremlin) **49** #7741 46E10 (28A32)

Operators with thin spectral sets. *Math. Scand.* **39** (1976), *no.* 2, 367–370 (1977). (Koh-ichi Kitano) **56** #1098 47A25

Hirschfeld, Yoram *See* **Hirschfeld, Joram**

Hirschfelder, John J. Nonstandard analysis in a nutshell. *Value distribution theory (Proc. Tulane Univ. Program, New Orleans, La.*, 1972–1973), *Part A*, *pp.* 13–27. *Dekker, New York*, 1974. (P. A. Loeb) **50** #1875 02H20 (02H25, 32B10)

Hirschfelder, Joseph O. (*with* Pack, Russell T.) Separation of rotational coordinates from the *N*-electron diatomic Schrödinger equation. *J. Chem. Phys.* **49** (1968), 4009–4020. (S. Deser) **47** #8035 81.35

(*with* Certain, Phillip R.; Epstein, Saul T.) Application of exchange perturbation theories to the delta-function model of H_2^+. *Chem. Phys. Lett.* **4** (1969/70), 401–404. (K. Kumar) **48** #3395 81.34

(*with* Certain, Phillip R.) Degenerate RS perturbation theory. *J. Chem. Phys.* **60** (1974), 1118–1137. (Authors' summary) **53** #12351 81.47

Quantum mechanical equations of change. I. *J. Chem. Phys.* **68** (1978), *no.* 11, 5151–5162. (Author's summary) **58** #14660 81.47

Hirschhorn, M. D. Partitions and Ramanujan's continued fraction. *Duke Math. J.* **39** (1972), 789–791. (George E. Andrews) **47** #3323a 10F20 (33A65)

How unexpected is the prime number theorem? *Amer. Math. Monthly* **80** (1973), *no.* 6, *part* 1, 675–677. (T. Šalát) **52** #10619a 10H15

A continued fraction of Carlitz. *Duke Math. J.* **40** (1973), 77–80. (George E. Andrews) **47** #3323c 10F20 (33A65)

A continued fraction. *Duke Math. J.* **41** (1974), 27–33. (George E. Andrews) **49** #2515 10A30

Sylvester's partition theorem, and a related result. *Michigan Math. J.* **21** (1974), 133–136. (George E. Andrews) **50** #2068 10A45

(*with* Loxton, J. H.) Congruence properties of the binary partition function. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), *no.* 3, 437–442. (M. V. Subbarao) **52** #3045 10A45

Simple proofs of identities of MacMahon and Jacobi. *Discrete Math.* **16** (1976), *no.* 2, 161–162. (Michael Henle) **54** #10037 05A19

Polynomial identities which imply identities of Euler and Jacobi. *Acta Arith.* **32** (1977), *no.* 1, 73–78. (L. Carlitz) **56** #242 10A45

See also **Erdős, Paul; et al., 52** #10619b

Hirschler, Patrick Robert Finite memory algorithms for testing Bernoulli random variables. *Information and Control* **24** (1974), 11–19. (H. L. Harter) **49** #6449 62F05 (94A35)

(*with* Cover, T. M.) A finite memory test of the irrationality of the parameter of a coin. *Ann. Statist.* **3** (1975), *no.* 4, 939–946. (Terry J. Wagner) **52** #9529 62L05

Hirschman, I. I., Jr. On a formula of Kac and Achiezer. II. *Arch. Rational Mech. Anal.* **38** (1970), 189–223. (Editors) **54** #997 47B35

Recent developments in the theory of finite Toeplitz operators. *Advances in probability and related topics, Vol.* 1, *pp.* 103–167. *Dekker, New York*, 1971. (F. L. Spitzer) **46** #4260 47B35 (42A52, 45E10)

Integral equations on certain compact homogeneous spaces. *SIAM J. Math. Anal.* **3** (1972), 314–343. (H. Widom) **48** #11961 45N05

Analytic functions and linearly ordered groups. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity. III. *Studia Math.* **44** (1972), 199–202. (D. E. Ramirez) **46** #5936 43A30

Eigen values of Toeplitz operators on SU(2). *Duke Math. J.* **41** (1974), 51–82. (H. Widom) **49** #5914 47B35

(*with* Rochberg, Richard) Conjugate function theory in weak* Dirichlet algebras. *J. Functional Analysis* **16** (1974), 359–371. (T. P. Srinivasan) **52** #1318 46J10 (42A40)

On the eigenvalues of certain integral operators. *SIAM J. Math. Anal.* **6** (1975), *no.* 6, 1024–1050. (G. O. Okikiolu) **51** #13773 47G05 (45E10)

(*with* Hughes, Daniel E.) ★Extreme eigenvalues of Toeplitz operators. Lecture Notes in Mathematics, Vol. 618. *Springer-Verlag, Berlin-New York*, 1977. iii + 145 *pp*. *ISBN* 3-540-07147-4 (A. Devinatz) **58** #12488 47B35 (42A56, 47A70)

Hirschorn, Ronald M. Topological semigroups, sets of generators, and controllability. *Duke Math. J.* **40** (1973), 937–947. (John A. Hildebrant) **48** #4183 22A15 (93B05)

Controllability in nonlinear systems. *J. Differential Equations* **19** (1975), *no.* 1, 46–61. (Velimir Jurdjevic) **55** #4272 58E99 (49E15, 57D25)

Global controllability of nonlinear systems. *SIAM J. Control Optimization* **14** 976), *no.* 4, 700–711. (Claude E. Lobry) **58** #15374 93B05 (57D25)

Curves in homogeneous spaces. *Canad. J. Math.* **29** (1977), *no.* 1, 77–83. (From the troduction) **58** #28267 22E15

Invertibility of control systems on Lie groups. *SIAM J. Control Optimization* **15** 977), *no.* 6, 1034–1049. (Author's summary) **58** #26262 93B25

owitz, André Diverses notions d'ouverts d'analyticité en dimension infinie. *éminaire Pierre Lelong* (*Analyse*) (*année* 1970), *pp.* 11–20. *Lecture Notes in Math., Vol.* 05, *Springer, Berlin*, 1971. (J. Siciak) **52** #11106 32D05 (46G05)

Bornologie des espaces de fonctions analytiques en dimension infinie. *Séminaire ierre Lelong* (*Analyse*) (*année* 1970), *pp.* 21–33. *Lecture Notes in Math., Vol.* 205, *pringer, Berlin*, 1971. (Editors) **58** #2278 46G20 (46E10)

Sur l'approximation des hypersurfaces. *Ann. Scuola Norm. Sup. Pisa* (3) **25** (1971), 7–58. (B. Shiffman) **46** #387 32C25

Convexité abstraite et espaces normés. *Séminaire Pierre Lelong* (*Analyse*) (*année* 970-1971), *pp.* 1–13. *Lecture Notes in Math., Vol.* 275, *Springer, Berlin*, 1972. (Ph. overraz) **52** #6420 46G20 (32E05)

Prolongement analytique en dimension infinie. (English summary) *Ann. Inst. ourier* (*Grenoble*) **22** (1972), *no.* 2, 255–292. (Ph. Noverraz) **49** #11256 46G20 2D10)

(*with* Douady, Adrien; Frisch, J.) Recouvrements privilégiés. (English summary) *nn. Inst. Fourier* (*Grenoble*) **22** (1972), *no.* 4, 59–96. (Andrew Markoe) **49** #9254 2C35 (32C25)

Sur un théorème de M. A. Zorn. *Arch. Math.* (*Basel*) **23** (1972), 77–79. (D. J. Patil) **6** #6025 46G20 (32A99)

(*with* Houzel, Christian) Un spectre pour les algèbres bornologiques complètes. *C. . Acad. Sci. Paris Sér. A-B* **274** (1972), A401–A404. (L. Kaup) **50** #5474 46H99 32C35)

Un exemple concernant le prolongement analytique. *C. R. Acad. Sci. Paris Sér. -B* **275** (1972), A1231–A1233. (H. B. Laufer) **47** #506 32D15

Le groupe de Cremona d'après Demazure. *Séminaire Bourbaki*, $24^{\text{ème}}$ *année* 1971/1972), *Exp. No.* 413, *pp.* 261–276. *Lecture Notes in Math., Vol.* 317, *Springer, erlin*, 1973. (J.-E. Bertin) **54** #5234 14E10 (14L99)

Entre les hypersurfaces et les ensembles pseudoconcaves. *Ann. Scuola Norm. Sup. isa* (3) **27** (1973), 873–887 (1974). (W. Barth) **51** #3523 32E05 (32F15)

Sur certains fibrés à base et fibre de Stein. *C. R. Acad. Sci. Paris Sér. A-B* **276** 1973), A925–A927. (Gerd Fischer) **47** #3713 (E **50** #7598) 32L05 (32E10)

Corrections: "Sur certains fibrés holomorphes à base et fibre de Stein" (C. R. Acad. ci. Paris Sér. A-B **276** (1973), A925–A927). *C. R. Acad. Sci. Paris. Sér. A* **278** (1974), 9–91. (Gerd Fischer) **50** #7598 32L05

(*with* Cerezo, André) Quelques remarques concernant le prolongement des pplications analytiques. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 333–335. (H. Kerner) **50** #13599 32D15

Pseudoconvexité au-dessus d'espaces plus ou moins homogènes. *Invent. Math.* **26** (1974), 303–322. (W. Barth) **50** #10323 32F10 (32E10, 32F15)

Le problème de Lévi pour les espaces homogènes. *Bull. Soc. Math. France* **103** (1975), *no.* 2, 191–201. (W. Barth) **53** #3354 32E05

Domaines de Stein et fonctions holomorphes bornés. *Math. Ann.* **213** (1975), 185–193. (Gerd Fischer) **52** #14372 32E10 (32L05)

(*with* Piriou, Alain) La propriété de transmission pour les distributions de Fourier; application aux lacunes. *Séminaire Goulaouic-Schwartz* (1976/1977), *Équations aux dérivées partielles et analyse fonctionnelle*, *Exp. No.* 14, 19 *pp. Centre Math., École Polytech., Palaiseau*, 1977. (Editors) **58** #31297 58G15 (35S15, 47G05)

Sur les singularités de Demazure. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 2, A95–A97. (J. S. Joel) **58** #10880 14B05 (32C40)

See also **Hironaka, Heisuke**, **50** #7571 *and* **Mathematics: Periodical collection of translations of foreign articles**, **50** #12534

sh, Richard S. (*with* Rudy, David H.) The role of diagonal dominance and cell Reynolds number in implicit difference methods for fluid mechanics problems. *J. Computational Phys.* **16** (1974), 304–310. (D. Schultz) **52** #2405 76.65

Higher order accurate difference solutions of fluid mechanics problems by a compact differencing technique. *J. Computational Phys.* **19** (1975), *no.* 1, 90–109. (D. Schultz) **53** #4739 76.65

shman, S. P. (*with* Sigmar, D. J.) Approximate Fokker-Planck collision operator for transport theory applications. *Phys. Fluids* **19** (1976), *no.* 10, 1532–1540. (Edward W. Larsen) **54** #4472 82.47

shon, Ronald A conjecture on Hopficity and related results. *Arch. Math.* (*Basel*) **22** (1971), 449–455. (R. G. Burns) **46** #261 20E99

The center and the commutator subgroup in Hopfian groups. *Ark. Mat.* **9**, 181–192 (1971). (Robert G. Burns) **47** #8701 20F25

A theorem on direct products. Volume dedicated to the memory of V. Ramaswami Aiyar. *Math. Student* **39** (1971), 311–313 (1972). (W. Ledermann) **48** #8638 20F15

The direct product of a Hopfian group with a group with cyclic center. *Ark. Mat.* **10**, 231–234 (1972). (Robert G. Burns) **47** #8702 20F25

Some properties of automorphisms with an application to matrices. *Amer. Math. Monthly* **81** (1974), 261–262. (L. Dornhoff) **48** #8645 20F55

The cancellation of an infinite cyclic group in direct products. *Arch. Math.* (*Basel*) **26** (1975), 134–138. (Bhama Srinivasan) **51** #13056 20F25

The direct product of a Hopfian group with a *p*-group. *Arch. Math.* (*Basel*) **26** (1975), *no.* 5, 470–479. (M. F. Newman) **52** #10897 20F25

The intersection of the subgroups of finite index in some finitely presented groups. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 32–36. (Michael Anshel) **52** #8260 20F05

Some cancellation theorems with applications to nilpotent groups. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 2, 147–165. (Bhama Srinivasan) **56** #5722 20E99

Some properties of endomorphisms in residually finite groups. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 1, 117–120. (J. B. Dixon) **57** #9847 20E25

Cancellation and Hopficity in direct products. *J. Algebra* **50** (1978), *no.* 1, 26–33. (Guido Mislin) **57** #3256 20F15

rst, J. P. H. (*with* Forrest, J. J. H.; Tomlin, J. A.) Practical solution of large mixed integer programming problems with UMPIRE. Mathematical programming. *Management Sci.* **20** (1973/74), 736–773. (M. Rössler) **49** #12082 90C10

Hirst, K. E. (*with* Rhodes, F.) ★Conceptual models in mathematics. Sets, logic and probability. Mathematical Studies, No. 5. *George Allen and Unwin, Ltd., London*, 1971. *pp.* i–xiii *and* 15–182. (Editors) **50** #12497 00A05

A square root algorithm giving periodic sequences. *J. London Math. Soc.* (2) **6** (1972), 56–60. (J. Hurt) **47** #1243 65D15

The length of periodic continued fractions. *Monatsh. Math.* **76** (1972), 428–435. (E. Frank) **47** #8445 10F20

Continued fractions with sequences of partial quotients. *Proc. Amer. Math. Soc.* **38** (1973), 221–227. (W. W. Adams) **47** #143 10F20 (10K10)

Hirst, Thomas Archer *See* **Brock, W. H.; et al.**, 57 #2852

Hirvonen, Juhani (*with* Blomberg, Hans; Ylinen, Raimo) An algebraic approach to canonical forms and invariants for linear time-invariant differential and difference systems. *Internat. J. Systems Sci.* **6** (1975), *no.* 12, 1119–1134. (Michel Fliess) **55** #5257 93B10 (93B25)

Hirvonen, Pertti On the limiting case of Mehler's formula. *Ber. Univ. Jyväskylä Math. Inst. No.* 20 (1977), 6 *pp.* (R. A. Askey) **58** #22704 33A65 (42A56)

Hirzebruch, F. (*with* Neumann, Walter D.; Koh, Sebastian) ★Differentiable manifolds and quadratic forms. Appendix II by W. Scharlau. Lecture Notes in Pure and Applied Mathematics, Vol. 4. *Marcel Dekker, Inc., New York*, 1971. v+120 *pp.* (A. Dold) **49** #6250 57D20 (10C05)

(*with* Scharlau, Winfried) ★Einführung in die Funktionalanalysis. B. I.-Hochschultaschenbücher, No. 296*. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1971. 178 *pp.* (B. Crstici (Zbl **219** #46001)) **57** #3803 46–01

Pontrjagin classes of rational homology manifolds and the signature of some affine hypersurfaces. *Proceedings of Liverpool Singularities Symposium, II* (1969/1970), *pp.* 207–212. *Lecture Notes in Math., Vol.* 209, *Springer, Berlin*, 1971. (K. Lamotke) **49** #1525 57D20 (32C40, 57E30)

The signature theorem: reminiscences and recreation. *Prospects in mathematics* (*Proc. Sympos., Princeton Univ., Princeton, N.J.*, 1970), *pp.* 3–31. *Ann. of Math. Studies, No.* 70, *Princeton Univ. Press, Princeton, N.J.* 1971. (D. Zagier) **51** #4265 57D20 (57E15)

The Hilbert modular group, resolution of the singularities at the cusps and related problems. *Séminaire Bourbaki*, 23^{eme} *année* (1970/1971), *Exp. No.* 396, *pp.* 275–288. *Lecture Notes in Math., Vol.* 244, *Springer, Berlin*, 1971. (William F. Hammond) **54** #5245 14J25 (14D20, 10D20)

Pontrjagin classes of rational homology manifold. Notes by S. Morita. *Geometry of manifolds* (*Proc. Sympos., RIMS, Kyôto Univ., Kyoto*, 1972), *pp.* 1–11. *R.I.M.S. Sem. Rep. No.* 158, *Res. Inst. Math. Sci. Kyôto Univ., Kyoto*, 1972. (K. H. Mayer) **52** #15493 57D20

The signature theorem for differentiable manifolds and some elementary number theory. Notes by S. Morita. *Geometry of manifolds* (*Proc. Sympos., RIMS, Kyôto Univ., Kyoto*, 1972), *pp.* 78–92. *R.I.M.S. Sem. Rep. No.* 158, *Res. Inst. Math. Sci. Kyôto Univ., Kyoto*, 1972. (Louis H. Kauffman) **53** #11092 32C40 (57D20)

★Hilbert modular surfaces. Série des Conférences de l'Union Mathématique Internationale, No. 4. Monographie No. 21 de l'Enseignement Mathématique. *Secrétariat de l'Enseignement Mathématique, Université de Genève, Geneva*, 1973. 103 *pp.* (Editors) **52** #10750 14J15 (10D20, 14J25)

Hilbert modular surfaces. *Enseignement Math.* (2) **19** (1973), 183–281. (Don Zagier) **52** #13856 14J25 (14D20, 32N05)

(*with* Hammond, William F.) *L*-series, modular imbeddings, and signatures. *Math. Ann.* **204** (1973), 263–270. (K.-B. Gundlach) **51** #10238 10D20 (14D20)

The Hilbert modular group and some algebraic surfaces. (Russian summary) Proceedings of the International Conference Number Theory (Moscow, 1971). *Trudy Mat. Inst. Steklov.* **132** (1973), 55–66, 264. (William F. Hammond) **49** #8994 14J25 (10D20, 32N05)

(*with* Zagier, Don Bernard) ★The Atiyah-Singer theorem and elementary number theory. Mathematics Lecture Series, No. 3. *Publish or Perish, Inc., Boston, Mass.*, 1974. xii+262 *pp.* (Harvey Cohn (Zbl **288** #10001)) **58** #31291 58G10 (10–02, 57D20)

Kurven auf den Hilbertschen Modulflächen und Klassenzahlrelationen. *Classification of algebraic varieties and compact complex manifolds*, *pp.* 75–93. *Lecture Notes in Math., Vol.* 412, *Springer, Berlin*, 1974. (William F. Hammond) **51** #12869 14J25 (10D20)

(*with* van de Ven, A.) Hilbert modular surfaces and the classification of algebraic surfaces. *Invent. Math.* **23** (1974), 1–29. (William F. Hammond) **51** #517 14J15 (10D20, 14J25, 32J25)

Hilbert modular surfaces and class numbers. *Colloque "Analyse et Topologie" en l'Honneur de Henri Cartan* (*Orsay*, 1974), *pp.* 151–164. *Astérisque, No.* 32-33, *Soc. Math. France, Paris*, 1976. (William F. Hammond) **56** #5570 14J25 (12A50)

(*with* Zagier, Don Bernard) Intersection numbers of curves on Hilbert modular surfaces and modular forms of Nebentypus. *Invent. Math.* **36** (1976), 57–113. (Hiroshi Saito) **56** #11909 10D20 (14J25)

The Hilbert modular group for the field $\mathbf{Q}(\sqrt{5})$, and the cubic diagonal surface of Clebsch and Klein. (Russian) Translated from the German by Ju. I. Manin. *Uspehi Mat. Nauk* **31** (1976), *no.* 5(191), 153–166. (Helaman R. P. Ferguson) **58** #16525 10D20 (14E15, 14J25)

(*with* Zagier, Don Bernard) Classification of Hilbert modular surfaces. *Complex analysis and algebraic geometry*, *pp.* 43–77. *Iwanami Shoten, Tokyo*, 1977. (Hiroshi Saito) **58** #524 10D20 (14J25)

The ring of Hilbert modular forms for real quadratic fields in small discriminant. *Modular functions of one variable, VI* (*Proc. Second Internat. Conf., Univ. Bonn, Bonn*, 1976), *pp.* 287–323. *Lecture Notes in Math., Vol.* 627, *Springer, Berlin*, 1977. (Hiroshi Saito) **58** #523 10D20 (12A65)

Modulflächen und Modulkurven zur symmetrischen Hilbertschen Modulgruppe. *Ann. Sci. École Norm. Sup.* (4) **11** (1978), *no.* 1, 101–165. (Hiroshi Saito) **58** #16526 10D20 (14J25)

Überlagerungen der projektiven Ebene und Hilbertsche Modulflächen. *Enseign. Math.* (2) **24** (1978), *no.* 1-2, 63–78. (K.-B. Gundlach) **58** #16527 10D20 (14J25)

See also **Proceedings: International Conference on Number Theory**, **51** #5463

Hirzebruch, U. Produkte positiver elemente in formal-reellen Jordan-Algebren. (English summary) *Linear Algebra and Appl.* **8** (1974), 263–269. (F. D. Veldkamp) **52** #13966 17C35

Hirzinger, Gerd Decoupling multivariable systems by optimal control techniques. *Internat. J. Control* **22** (1975), *no.* 2, 157–168. (M. J. Davies) **52** #5111 93C05

(*with* Kreisselmeier, Gerhard) On optimal approximation of high-order linear systems by low-order models. *Internat. J. Control* **22** (1975), *no.* 3, 399–408. (Authors' summary) **58** #9459 93A15 (93C05)

Hisada, Jiro (*with* Fujimoto, Hideo; Fujii, Seizo) Improvement of the convergence rate of the self-scaling variable metric method. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **29** (1977), 279–289. (Authors' summary) **58** #24938 65K05

Hisamiev, N. G. Strongly constructive models. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 3, 59–63. (Stephen L. Bloom) **45** #4960 02H13

Strongly constructive models of a decidable theory. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 1, 83–84, 94. (G. Fuhrken) **50** #6824 02H05 (02G05)

Hisamoto, T. (*with* Aikawa, K.; Suganuma, T.) An electrostatic problem in bi-cyclide coordinates. *Quart. Appl. Math.* **35** (1977/78), *no.* 2, 297–304. (J. P. Singhal) **57** #18490 78.33 (31A35)

Hisamura, Tomiji (*with* Inagaki, Eiichi) Multi-input optimal PWM control of distributed parameter systems. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 59 (1973), 41–47. (W. D. Collins) **48** #12210 49B25

(*with* Inagaki, Eiichi; Tomishima, Hakaru) Optimal pulse-type control of distributed parameter systems. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 69 (1975), 80–91. (J. E. Rubio) **53** #12690 93C20

(*with* Nakao, H.) Output feedback decoupling of multivariable systems. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 1, 74–76. (Bradley W. Dickinson) **57** #18948 93C05 (93B25)

Hisamutdinov, A. I. A single class of estimates for the calculation by the Monte Carlo method of functionals of the solution of an integral equation of the second kind. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **10** (1970), 1269–1280. (L. I. Rubinstein) **45** #2879 65C05

The behavior of the dispersion under a change in the distribution of the length of the path. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 257–262. (E. H. Bareiss) **46** #1268 82.60

Estimates with minimal absolute moments for the calculation by the Monte Carlo method of the sum of a Neumann series. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 308–311. (V. Dupač) **55** #6772a (E **55** #6772b) 65C05

A certain form of estimates of the "single" class. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 770–775, 815. (V. Dupač) **48** #10039 65C05

Erratum: "Estimates with minimal absolute moments for the calculation by the Monte Carlo method of the sum of a Neumann series" (Dokl. Akad. Nauk SSSR **212** (1973), 308–311). (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), *no.* 1, viii. (V. Dupač) **55** #6772b 65C05

The "single" class of estimates for the calculation by the Monte Carlo method of the iterations of linear operators. (Russian) *Operations research and statistical simulation, No.* 3 (*Russian*), *pp.* 194–208, 211. *Leningrad. Univ., Leningrad*, 1975. (Editors) **58** #31710 65C05

Importance sampling and the simple Monte Carlo method in the calculation of the sum of a Neumann series. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 3, 585–590, 802. (Author's summary) **58** #13607 65C05

Hischer, Dieter Schliessungsaussagen in fastaffinen Räumen. *Mitt. Math. Sem. Giessen No.* 131 (1978), 95 *pp.* (J. André) **58** #12688 50D05

Hischer, H. (*with* Kowalsky, Hans-Joachim) Elementarteilersatz und Normalformen. *Abh. Braunschweig. Wiss. Ges.* **28** (1977), 69–79. (Authors' introduction) **58** #28028 15A21

Hischer, Hans Dieter Erzeugendensysteme und der a-dimensionssatz in atomaren modularen Verbänden. (English summary) *J. Geometry* **4** (1974), 167–174. (R. J. Bumcrot) **49** #4887 06A30

Hischer, Horst Differenzierbarkeit als (Lipschitz-)Stetigkeit der Sekantensteigungsfunktion. *Praxis Math.* **17** (1975), *no.* 7, 177–184. (Editors) **58** #11256 26–01

(*with* Lucht, Lutz) Zum Verständnis des Induktionsaxioms. *Math.-Phys. Semesterber.* **23** (1976), *no.* 2, 228–236. (Gabriel Lolli) **54** #9964 02–01

Hiscock, William A. Scalar perturbations in the Gödel universe. *Phys. Rev. D* (3) **17** (1978), *no.* 6, 1497–1500. (A. Raychaudhuri) **57** #8893 83.53

Hiscocks, J. D. (*with* Ellis, H. W.) Integral functionals in the duals of L^{λ}-spaces. *Canad. Math. Bull.* **15** (1972), 489–499. (W. A. J. Luxemburg) **47** #2332 46E30

Hishinuma, Chiaki (*with* Busujima, Akira) Some properties for the unimodular decomposition of a matrix. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 152–153. (G. E. Wall) **53** #2982 15A24 (94A20)

(*with* Tanaka, Mamoru; Mori, Shinsaku) Symbolic formulation of coefficients of the characteristic polynomial of a restricted class of RCL networks. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), *no.* 8, 654–661. (Narsingh Deo) **53** #2545 94A20

ram Hit *See* **Ram Hit**

Hit, Ram *See* **Ram Hit**

Hitaka, Toru (*with* Kurihara, Toshihiko) On the uniqueness of the solution of the simultaneous equations related to context-free language. *Systems-Computers-Controls* **2** (1971), *no.* 6, 41–49. (A. Tauts) **49** #6688 68A30

(*with* Kurihara, Toshihiko) On the general solution of the simultaneous equations related to context-free language. *Systems-Computers-Controls* **4** (1973), *no.* 4, 7–14. (S. Ginsburg) **50** #6216 68A30

Hitch, Charles J. *See* **Operational Research**, **49** #12059

Hitchcock, A. G. A note on the hypergraph of a mapping between uniform spaces. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no.* 2, 129–134 (1974). (T. Husain) **53** #6508 54E15 (46A30, 54C10)

Uniform hyperspaces and Hausdorff completions. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 4, 505–512. (R. B. Fraser, Jr.) **53** #1503 54B20 (54E15)

Hyperspaces. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** (1977/78), *no.* 1-3, 207–2 (J. R. Isbell) **57** #13823 54B20

Hitchcock, D. A. (*with* Brecht, S. H.; Horton, Wendell, Jr.) An improved polynomi representation for the delta function $\delta(\mu-\mu_0)$. *J. Computational Phys.* **26** (1978), *no.* 443–446. (Jacob Steinberg) **58** #11555 33A65 (65D20)

Hitchcock, Peter (*with* Park, David) Induction rules and termination proofs. *Automata languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 225–251. *North-Holland, Amsterdam*, 1973. (From the summary) **58** #13854 68A05

Hitchin, N. J. (*with* Atiyah, M. F.; Singer, I. M.) Deformations of instantons. *Proc. Na Acad. Sci. U.S.A.* **74** (1977), *no.* 7, 2662–2663. (Mi-Soo Smith) **56** #16627 55F1 (81.55, 32G13, 58G10)

Hitchin, Nigel Harmonic spinors. *Advances in Math.* **14** (1974), 1–55. (F. Hirzebruch **50** #11332 58G10 (14C30, 32J25)

Compact four-dimensional Einstein manifolds. *J. Differential Geometry* **9** (1974 435–441. (N. R. Wallach) **50** #3149 53C25

On the curvature of rational surfaces. *Differential geometry* (*Proc. Sympos. Pu Math., Vol. XXVII, Part* 2, *Stanford Univ., Stanford, Calif.*, 1973), *pp.* 65–80. *Ame Math. Soc., Providence, R. I.*, 1975. (Shoshichi Kobayashi) **53** #3962 53C55 (32J1 14M20)

Hitchins, G. D. (*with* Grant, J. A.) The solution of polynomial equations in interva arithmetic. *Comput. J.* **16** (1973), 69–72. (E. R. Hansen) **48** #7581 65H05

(*with* Grant, J. A.) Two algorithms for the solution of polynomial equations limiting machine precision. *Comput. J.* **18** (1975), *no.* 3, 258–264. (E. R. Hansen **52** #9592 65H05

Hite, G. E. *See* **Developments in high energy physics**, **48** #3376

Hitomi, Katsundo Analysis of production models. I. The optimal decision of productio speeds. *AIIE Trans.* **8** (1976), *no.* 1, 96–105. (Wolfgang Mayer) **54** #14765 90B3

Analysis of production models. II. Optimization of a multistage production system *AIIE Trans.* **8** (1976), *no.* 1, 106–112. (Wolfgang Mayer) **54** #14766 90B30

Hitotsuyanagi, Nobuo Lie groups with regular exponential mapping. *Bull. Fac. Ed. Uni Kagoshima* **22** (1970), 1–7. (Robert E. Beck) **46** #1963 22E15

Lie groups with regular exponential mapping. II. *Bull. Fac. Ed. Univ. Kagoshima* **2** (1971), 1–5. (Robert E. Beck) **49** #9121 22E60

On global solutions of Maurer-Cartan equations. (Japanese) *Sûgaku* **29** (1977), *no* 2, 165–166. (A. Morimoto) **58** #22416` 22E60 (53C30)

Hitotumatu, Sin Some recent topics in several complex variables by the Japanese school. *Proceedings of the Romanian-Finnish Seminar on Teichmüller Spaces and Quasiconforma Mappings* (*Braşov*, 1969), *pp.* 187–191. *Publ. House of the Acad. of the Socialist Republi of Romania, Bucharest*, 1971. **45** #8871 32–02

On the limit for the representation by the sum of two abundant numbers. *Publ. Res Inst. Math. Sci.* **8** (1972), 111–116. (P. Hagis, Jr. (Zbl **243** #10010)) **50** #12901 10A40

Moser's problem on the additive representation of integers in terms of abundan numbers. (Japanese) *Sûgaku* **24** (1972), *no.* 3, 226–227. **58** #27739 10A45

Complex arithmetic through CORDIC. *Kōdai Math. Sem. Rep.* **26** (1974/75 176–186. (P. Brock) **54** #1564 65E05

A new method for the computation of square root, exponential and logarithmi functions through hyperbolic CORDIC. *Rev. Anal. Numér. Théorie Approximation* (1974), *no.* 2, 173–180 (1975). (L. Fox) **52** #2146 65D20

Some remarks on the unified treatment of elementary functions by microprogramming. *Topics in numerical analysis, II* (*Proc. Roy. Irish Acad. Conf., Uni College, Dublin*, 1974), *pp.* 51–56. *Academic Press, London*, 1975. (Luciano Biasin **54** #11733 65D15

(*with* Sato, Daihachiro) Star of David theorem. I. *Fibonacci Quart.* **13** (1975), 70. (B. Kelly) **51** #3036 10A05

(*with* Sato, Daihachiro) Simple proof that a p-adic Pascal's triangle is 120° rotatable. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 406–407. (F. T. Howard) **53** #1308 10A05

Hitov, Hristo Determination of the number of corridors in a rectangle. (Bulgarian. Russia and English summaries) *B"lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **1** (1972), 265–276. (J. B. Roberts) **54** #10031 05A15

Hitrov, B. F. On the application of various curves to the solution of geodetic problems o an ellipsoid. *Izv. Vysš. Učebn. Zaved. Geod. i Aèrofot.* **1973**, *no.* 3, 27–35, 142 (*Russian*). *translated as Geodes. Mapp. Photogramm.* **15** (1973), *no.* 2, 97–101 (1975). (H. Wolf **53** #10167 86.53 (86.65)

Hitrov, G. M. (*with* Meĭlahs, A. M.) Extinguishing the rotation of a rigid body. (Russian) *Differencial'nye Uravenija* **12** (1976), *no.* 8, 1520–1522, 1528. (Q. K. Ghori) **56** #10243 70.34

Hitsuda, Masuyuki Multiplicity of some classes of Gaussian processes. *Nagoya Math. J.* **52** (1973), 39–46. (Hiroshi Oodaira) **49** #1570 60G15

Mutual information in Gaussian channels. *J. Multivariate Anal.* **4** (1974), 66–73. (L. L. Campbell) **48** #13473 94A15

(*with* Ihara, Shunsuke) Gaussian channels and the optimal coding. *J. Multivariat Anal.* **5** (1975), 106–118. (Robert Gray) **51** #7721 94A15

(*with* Watanabe, Hisao) On a causal and causally invertible representation o equivalent Gaussian processes. *Multivariate analysis, IV* (*Proc. Fourth Internat. Sympos., Dayton, Ohio*, 1975), *pp.* 247–265. *North-Holland, Amsterdam*, 1977. (V. S. Mandrekar) **57** #17797 60G15

Hittmair, Otto ★Lehrbuch der Quantentheorie. *Verlag Karl Thiemig, Munich*, 1972. xvi + 426 *pp.* (Editors) **52** #2424 81.00

Hitz, Konrad L. (*with* Anderson, B. D. O.) Discrete positive-real functions and thei application to system stability. *Proc. Inst. Elec. Engrs.* **116** (1969), 153–155. (V. M Popov) **46** #8721 93D99

(*with* Anderson, B. D. O.; Diem, N. D.) Recursive algorithm for spectral factorization. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 742–750. (Peter A. Cook) **52** #10126 93B25

(*with* Fortmann, Thomas E.) ★An introduction to linear control systems. Control and Systems Theory, Vol. 5. *Marcel Dekker, Inc., New York-Basel*, 1977. viii + 744 *pp.* *ISBN* 0-8247-6512-5 (Vadim Komkov) **58** #20643 93–02

Hitzl, Donald L. (*with* Hénon, Michel) The stability of second species periodic orbits in the tricted problem ($\mu=0$). *Acta Astronaut.* **4** (1977), *no.* 9-10, 1019–1039. (Authors' mmary) **58** #19479 70.34

Generating orbits for stable close encounter periodic solutions of the restricted oblem. *AIAA J.* **15** (1977), *no.* 10, 1410–1418. (Joseph Ford) **56** #13858 70.34

On the Perko timing condition for second species orbits in the restricted problem. *tronom. and Astrophys.* **54** (1977), *no* 1, 47–55. (Giorgio E. O. Giacaglia) **57** #4740 65

(*with* Hénon, Michel) Critical generating orbits for second species periodic solutions the restricted problem. *Celestial Mech.* **15** (1977), *no.* 4, 421–452. (Joseph Ford) #17285 70.34

, Gregory A. The representation of norm-continuous multipliers on L^∞-spaces. *ans. Amer. Math. Soc.* **184** (1973), 343–353. (R. Larsen) **49** #11150 43A22

Wiener-Hopf operators induced by multipliers. *Acta Sci. Math.* (*Szeged*) **37** (1975), –77. (A. Devinatz) **54** #998 47B35 (47G05)

, Walter A. (*with* Mehta, Rajiv P.) Optimizing computer performance with ometric programming. *European J. Oper. Res.* **1** (1977), *no.* 2, 103–111. (Elmor L. terson) **56** #4836 90C25 (68A99)

a, Sumiko (*with* Tomonaga, Yasurô) On the zeros of the Riemann zeta-function. *ll. Fac. Ed. Utsunomiya Univ. Sect.* 2 *No.* 19 (1969), 1–3. (Lowell Schoenfeld) #8055 10H05

(*with* Tomonaga, Yasurô) On the zeros of the Riemann zeta-function. II. *Bull. Fac. d. Utsunomiya Univ. Sect.* 2 *No.* 20 (1970), 1–5. (Lowell Schoenfeld) **52** #8056 H05

H. A completeness proof for *C*-calculus. *Notre Dame J. Formal Logic* **14** (1973), 3–258. (H. B. Curry) **47** #8235 (E **53** #12864) 02B05

Errata: "A completeness proof for *C*-calculus" (Notre Dame J. Formal Logic **14** 973), no. 2, 253–258). *Notre Dame J. Formal Logic* **17** (1976), *no.* 4, 640. (Editors) #12864 02B05 (02G20)

Descriptions in Russell's theory and in ontology. On Leśniewski's systems (Proc. XII Conf. Hist. Logic, Kraków, 1976). *Studia Logica* **36** (1977/78), *no.* 4, 271–283. (F. . Asenjo) **58** #10337 02C99

See also **Semantics and communication**, **49** #4731

A. (*with* Marincic, A.) New rigorous formulation of electromagnetic scattering from erfectly conducting bodies of arbitrary shape. *Proc. Inst. Elec. Engrs.* **117** (1970), 539–1647. (R. E. Kleinman) **50** #6322 78.35 (78.65)

ka, V. (*with* Kovals, B.) The stability of the trivial solution of countable systems of ochastic equations. (Russian. Latvian and English summaries) *Latvian mathematical earbook*, 14 (*Russian*), *pp.* 223–232. *Izdat.* "*Zinatne*", *Riga*, 1974. (G. S. Ladde) 1 #3632 34F05 (60H10)

ak, V. A. The representation of monotone sublinear functionals in terms of the set of eir positive support functionals. (Russian) *Application of functional analysis in pproximation theory*, *No.* 3 (*Russian*), *pp.* 138–143. *Kalinin. Gos. Univ.*, *Kalinin*, 1974. Editors) **58** #30492 47D20 (46G99)

On the question of normality of sets. (Russian) *Application of functional analysis in pproximation theory*, *No.* 6 (*Russian*), *pp.* 101–107. *Kalinin. Gos. Univ.*, *Kalinin*, 1975. Editors) **58** #30022 46A40 (90C25)

A class of sublinear operators. (Russian) *Application of functional analysis in pproximation theory* (*Russian*), *pp.* 143–148, 156. *Kalinin. Gos. Univ.*, *Kalinin*, 1977. Author's summary) **58** #30583 47H99 (46A99)

jak, V. I. (*with* Suslov, O. P.) An economico-mathematical model and a method for ptimizing a mine production plan. (Russian) *Mathematical methods for the study and ptimization of systems* (*Proc. Sem. Appl. Math. Methods Econom. Res. Planning, Kiev-Lvov*, 1971) (*Russian*), *pp.* 323–340. *Akad. Nauk Ukrain. SSR Inst. Kibernet.*, *Kiev*, 971. (Editors) **51** #14932 90B30

jak, V. N. *See* **Hižņaka, V.**

neland, Larry (*with* Brown, Harold; Masinter, Larry) Constructive graph labeling sing double cosets. *Discrete Math.* **7** (1974), 1–30. (N. G. de Bruijn) **49** #2464 5C99

ler, A. (*with* Maĭsner, H.) The decoding of automata over terms with a restricted umber of states. (Russian) *A collection of papers on mathematical cybernetics*, *No.* 1 *Russian*), *pp.* 13–34. *Vyčisl. Centr*, *Akad. Nauk SSSR*, *Moscow*, 1976. (Editors) 8 #32080 68A25 (94A25)

tt, È. *See* **Hewitt, Edwin**

t, V. P. *See* **Hütt, V.**

ký, Miroslav Precedence relations and their connection with unambiguity of context-free grammars. (Czech summary) *Kybernetika* (*Prague*) **8** (1972), 1–11. (W. Issel (Zbl **244** #68036)) **51** #12039 68A30

Generalized simple precedence grammars. (Czech and Russian summaries) *Sb. Vysoké. Učení Tech. v Brně* **1974**, *no.* 1-4, 237–243. (Etsuro Moriya) **52** #7215 68A30

Structural characteristics of backwards-deterministic grammars. (Czech and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* **B-56** (1975), 225–228. (M. Magidor) **52** #4722 68A30

Two families of context-sensitive languages generated by controlled operator grammars. (Arabic summary) *Libyan J. Sci.* **6B** (1976), 79–82. (Stephen Itoga) **56** #10165 68A30

dnik, M. (*with* Omladič, M.) On complex rotundity and smoothness. (Slovenian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 1, 73–79. (J. P. R. Christensen) **58** #7036 46B05

dnik, Milan Boundary value problems for second order nonlinear differential equations. (Slovenian. English summary) *Obzornik Mat. Fiz.* **23** (1976), *no.* 3, 73–80. (Author's summary) **58** #6447 34B15

An extremum problem. (Slovenian. English summary) *Obzornik Mat. Fiz.* **23** (1976), *no.* 5-6, 146–150. (Author's summary) **57** #17477 50A30

vac, Paul (*with* Sundaresan, Kondagunta) Geometry of Banach spaces of functions associated with concave functions. *Trans. Amer. Math. Soc.* **215** (1976), 161–189. (J. A. Johnson) **52** #8917 46E40 (46B05)

váček, Ivan On the existence and uniqueness of solution of the Cauchy problem for linear integro-differential equations with operator coefficients. (Czech summary) *Apl. Mat.* **16** (1971), 64–80. (S. Newberger) **45** #9206 47G05

On the existence and uniqueness of solution of the Cauchy problem for a class of linear integro-differential equations. (Czech summary) *Apl. Mat.* **16** (1971), 136–154. (S. Albertoni) **45** #5692 45J05

On a semi-variational method for parabolic equations. I. (Czech summary) *Apl. Mat.* **17** (1972), 327–351. (J. Ll. Morris) **47** #2837 65N30

On a semi-variational method for parabolic equations. II. (Czech summary) *Apl. Mat.* **18** (1973), 43–64. (J. Ll. Morris) **48** #1482 65M10

On a conjugate semi-variational method for parabolic equations. (Czech summary) *Apl. Mat.* **18** (1973), 434–444. (V. G. Sigillito) **53** #8658 35K20

On a conjugate semi-variational method for parabolic equations. Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys.* **15** (1974), *no.* 1-2, 43–45. (G. H. Meyer) **53** #14941 65N30

(*with* Naumann, Joachim) Inhomogeneous boundary value problems for the von Kármán equations. I. (Czech summary) *Apl. Mat.* **19** (1974), 253–269. (G. H. Knightly) **51** #13480a 35Q99 (73.35)

Some L_2-error estimates for semi-variational method applied to parabolic equations. (Czech summary) *Apl. Mat.* **19** (1974), 327–341. (G. H. Meyer) **51** #14615 65N30

(*with* Haslinger, Jaroslav) A mixed finite element method close to the equilibrium model. *Comment. Math. Univ. Carolinae* **15** (1974), 345–350. (Gilbert Strang) **49** #10169 65N30

(*with* Haslinger, Jaroslav) Curved elements in a mixed finite element method close to the equilibrium model. (Czech summary) *Apl. Mat.* **20** (1975), 233–252. (M. Zlámal) **52** #4670 65N30

(*with* Naumann, Joachim) Inhomogeneous boundary value problems for the von Kármán equations. II. (Czech summary) *Apl. Mat.* **20** (1975), 280–297. (G. H. Knightly) **51** #13480b 35Q99 (73.35)

(*with* Haslinger, Jaroslav) Convergence of a dual finite element method in R_n. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 3, 469–485. (I. Norman Katz) **52** #7161 65N35

(*with* Haslinger, Jaroslav) A mixed finite element method close to the equilibrium model applied to plane elastostatics. (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 1, 28–42. (Ulrich Eckhardt) **52** #12360 65N30 (73.65)

(*with* Haslinger, Jaroslav) Convergence of a finite element method based on the dual variational formulation. (Czech. and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 1, 43–65. (I. Aganović) **53** #1981 65N30

Some L_2-error estimates for semi-variational method applied to parabolic equations. *Beiträge Anal. Heft* 9 (1976), 31–34. (Todd Dupont) **56** #13712 65N30

(*with* Haslinger, Jaroslav) A mixed finite element method close to the equilibrium model. *Numer. Math.* **26** (1976), *no.* 1, 85–97. (Ranbir S. Sandhu) **55** #13825 65N30

Dual finite element analysis of unilateral boundary value problems. *Theory of nonlinear operators* (*Proc. Fourth Internat. Summer School, Acad. Sci., Berlin*, 1975), *pp.* 326–335. *Abh. Akad. Wiss. DDR Abt. Math.-Natur.-Tech.*, *Jahrgang* 1977, 1, *Akademie-Verlag*, *Berlin*, 1977. (Joachim A. Nitsche) **58** #19228 65N30

Dual finite element analysis for unilateral boundary value problems. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 1, 14–51. (William W. Hager) **54** #14396 65N15

(*with* Lovišek, Ján) A finite element analysis for the Signorini problem in plane elastostatics. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 3, 215–228. (N. Cristescu) **56** #4347 73.41

Dual finite element analysis for elliptic problems with obstacles on the boundary. I. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 4, 244–255. (Ranbir S. Sandhu) **55** #13826 65N30

See also **Proceedings: Equadiff**, **49** #3253

Hlaváček, Jiří A reflector decomposition method. (Czech. English summary) *Ekonom.-Mat. Obzor* **10** (1974), 401–427. (Klaus Lommatzsch) **53** #10273 90C05

Hlaváček, Miroslav Uniqueness of the solution of the boundary-initial value problem for a linear elastic Cosserat continuum. (Czech summary) *Apl. Mat.* **16** (1971), 402–411. (P. Villaggio) **45** #6246 73.35

Hlaváček, V. (*with* Kubíček, M.) General parameter mapping technique—a procedure for solution of non-linear boundary value problems depending on an actual parameter. *J. Inst. Math. Appl.* **12** (1973), 287–293. (David F. Griffiths) **49** #5433 34A10 (65L10)

(*with* Holodniok, M.; Kubíček, M.) Computation of the flow between two rotating coaxial disks. *J. Fluid Mech.* **81** (1977), *no.* 4, 689–699. (Authors' summary) **56** #14120 76.65

Hlavička, Jan Simplification techniques for NAND-implemented asynchronous sequential switching circuits. (Czech and Russian summaries) *Stroje na Zpracování Informací* **15** (1971), 9–18. (Author's introduction) **49** #12179 94A20

Hlavka, James L. Results on sums of continued fractions. *Trans. Amer. Math. Soc.* **211** (1975), 123–134. (Thomas W. Cusick) **51** #12720 10F20

Hlawka, Edmund (*with* Mück, Rudolf) A transformation of equidistributed sequences. *Applications of number theory to numerical analysis* (*Proc. Sympos., Univ. Montréal, Montreal, Que.*, 1971), *pp.* 371–388. *Academic Press, New York*, 1972. (Harald Niederreiter) **56** #5476 10K05 (65D30)

(*with* Mück, Rudolf) Über eine Transformation von gleichverteilten Folgen. II. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **9** (1972), 127–138. (Harald Niederreiter) **56** #11942 10K05

Ein metrisches Gegenstück zu einem Satz von W. A. Veech. *Monatsh. Math.* **76** (1972), 436–447. (O. P. Stackelberg) **48** #263 10K05

Über eine Methode von E. Hecke in der Theorie der Gleichverteilung. Collection of articles dedicated to Carl Ludwig Siegel on the occasion of his seventy-fifth birthday, I. *Acta Arith.* **24** (1973), 11–31. (H. Niederreiter) **54** #5153 10K05 (65B10)

★Mathematische Modelle der kinetischen Gastheorie. (English and French summaries) Rheinisch-Westfälische Akademie der Wissenschaften, Vorträge N 240. *Westdeutscher Verlag, Opladen*, 1974. (I. R. Juhnovs'kii) **56** #14413 82.28

Zum großen Sieb von Linnik. Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 89–100. (J. W. Porter) **51** #3091 10H30

Zur Theorie der Gleichverteilung. I, II. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1975**, *no.* 2, 13–14; *ibid.* **1975**, *no.* 3, 23–24. (H. G. Meijer)

52 #8066 10K05

Anwendung zahlentheoretischer Methoden auf Probleme der numerischen Mathematik. I. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 5-7, 217–225. (Harald Niederreiter) **54** #12696 10K05 (65C05)

Numerische analytische Fortsetzung in Polyzylindern. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 5–7, 307–331. (Zbl **354** #32020) **57** #18045 65E05 (10K05, 32D15)

Zur quantitativen Theorie der Gleichverteilung. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 5-7, 355–365. (L. Kuipers) **54** #10175 10K05

Über die Gleichverteilung gewisser Folgen, welche mit den Nullstellen der Zetafunktion zusammenhängen. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 8-10, 459–471. (Harald Niederreiter) **56** #11921 10F40 (10H05)

On some concepts, theorems and problems in the theory of uniform distribution. *Topics in number theory* (*Proc. Colloq., Debrecen*, 1974), *pp.* 97–109. *Colloq. Math. Soc. János Bolyai, Vol.* 13, *North-Holland, Amsterdam*, 1976. (M. Mendès France) **55** #7980 10K30

Abschätzung von trigonometrischen Summen mittels diophantischer Approximationen. Collection in honor of Hans Hornich. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **185** (1976), *no.* 1-3, 43–50. (Ernst Heppner) **56** #11922 10G05 (10K05)

Das Werk Perrons auf dem Gebiete der diophantischen Approximationen. *Jber. Deutsch. Math.-Verein.* **80** (1978), *no.* 1-2, 1–12. (W. J. LeVeque) **58** #10764 10Fxx (01A70)

Hławka, Piotr Certain transformations of Hilbert random processes by means of orthogonal expansions with a weight. (Polish. English and Russian summaries) *Fasc. Math. No.* 6 (1972), 41–49 (1973). (R. Jajte) **48** #9839 60G99

Estimation of the parameter $p = P(X < Y < Z)$. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Politechn. Wrocław. No.* 11 *Ser. Stud. i Materiały No.* 10 *Problemy rachunku prawdopodobieństwa* (1975), 55–65. (Z. Šidák) **54** #1463 62G05

Hlebnikov, V. I. Newman-Penrose formalism for the gravitational field of quasistationary concentrated systems with rotation. I, II. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 3, 113–117, 118–123. (Author's summary) **58** #32775 83.53

The exact solutions of the Einstein-Maxwell equations in the Newman-Penrose formalism. I. D type metrics in the sense of Petrov-Pirani. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 7, 140–142. (N. V. Mickevič) **55** #5154 83.53

(*with* Šelkovenko, A. È.) The exact solutions of the Einstein-Maxwell equations in the Newman-Penrose formalism. II. Conformally plane metrics. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 7, 148–150. (N. V. Mickevič) **55** #5155 83.53

Gravitational field of quasistationary lumped systems without rotation. I. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **17** (1976), *no.* 5, 590–597. (R. F. Biljalov) **57** #4955a 83.35

Gravitational field of quasistationary lumped systems without rotation. II. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **17** (1976), *no.* 6, 663–672. (R. F. Biljalov) **57** #4955b 83.35

(*with* Alekseev, G. A.) The Newman-Penrose formalism, and some general properties of gravitational fields. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 66 (1977), 71 *pp.* (Editors) **58** #20184 83.53

(*with* Alekseev, G. A.) Application of the Newman-Penrose formalism in general relativity theory. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 79 (1977), 104 *pp.* (Editors) **58** #20185 83.53

The gravitational field of radiating charged rotation-free systems. The Petrov type II metrics that contain a nondegenerate shear-free congruence of geodesic rays. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 94 (1977), 28 *pp.* (Z. Janković) **57** #11612 83.53

(*with* Alekseev, G. A.) The Newman-Penrose formalism and its application in general relativity theory. (Russian) *Fiz. Èlementar. Častic i Atom. Jadra* **9** (1978), *no.* 5, 790–870. (Authors' summary) **58** #25620 83.53 (53C50)

Hlebnikova, L. I. Certain questions on the theory of the approximation of functions by algebraic polynomials. (Russian) *Scientific reports: a collection of papers by graduate students at Dnepropetrovsk State University* (*mechanics and mathematics*) (*Russian*), *pp.* 209–211. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1970. (Bl. Sendov) **49** #7650 41A20

(*with* Lebed′, G. K.) Estimates of the norms of derivatives of algebraic and trigonometric polynomials. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 36–40. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (Paul Nevai) **53** #13967 42A08 (26A75)

Hlebutina, V. I. (*with* Malan′ina, G A.; Ševcov, G. S.) Finite minimal not completely factorizable groups. (Russian) *Mat. Zametki* **12** (1972), 157–162. (L. G. Kovács) **48** #430 20F15

(*with* Malan′ina, G A.; Ševcov, G. S.) Completely factorizable groups. (Russian) Group theory and some questions of algebra. *Perm. Gos. Univ. Učen. Zap. No.* 343 (1975), 53–55, 104. (See RŽMat **1977** #4 A205) 20F15

Hleskov, V. I. Padé approximation, and certain models of quantum field theory. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **14** (1973), *no.* 1, 8–14. (Tetz Yoshimura) **54** #14601 81.30

Hlestkov, Ju. A. Three types of solutions of the Einstein-Maxwell equations. *Ž. Èksper. Teoret. Fiz.* **68** (1975), *no.* 2, 387 391 (*Russian. English summary*); *translated as Soviet Physics JETP* **41** (1975), *no.* 2, 188–190. (Kenneth Dunn) **52** #16476 83.35

(*with* Movsesyjanc, Ju. B.) Particle-like solutions in the theory of a relativistic self-consistent field. *Phys. Lett. A* **64** (1977), *no.* 2, 180–182. (Authors' summary) **56** #14509 83.53

(*with* Movsesyjanc, Ju. B.) Interaction of two charged media in the theory of a self-consistent field. *Phys. Lett. A* **64** (1977), *no.* 2, 183–184. **56** #14205 81.00

Hlibowicki, Andrzej (*with* Banaszak, Zbigniew; Muszyński, Wojciech) An interpretation of a data processing system as an object of the class of cybernetical isolated systems. (Polish. English and Russian summaries) Selected problems in the foundations of systems theory. *Prace Nauk. Inst. Cybernet. Techn. Politechn. Wrocław. No.* 25 *Ser. Stud. i Materiały No.* 17 (1976), 166–179. (Authors' summary) **57** #2652 93A05 (68A9

Hljamov, V. M. (*with* Vavilov, A. A.; Kozlov, Ju. M.; Maksimov, A. D.; Markov, S. I. Pavlov, V. V.; Popov, E. P.; Semenko, A. I.; Starikova, M. V.; Topčeev, Ju. I. Fedorov, S. M.; Hlypalo, E. I.; Cvetkov, V. I.) ★Метод гармонической линеаризации в проектировании нелинейных систем автоматического управлени (Russian) [The method of harmonic linearization in the design of nonlinear automat control systems] Edited by Ju. M. Topčeev. Nonlinear Automatic Control Systems, Vo 1. *Izdat.* "*Mašinostroenie*", *Moscow*, 1970. 567 *pp.* (*errata insert*) (S. P. Bingula **50** #6589 (EA **53**) 93C10

Hljapova, E. A. The differential geometry of manifolds of central quadratic pairs of figure in A_n. (Russian) *Kaliningrad. Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figu Vyp.* 3 (1973), 153–162. (A. Urban) **56** #13119 53A15

The manifolds $\{k+1, k, n\}$ in n-dimensional affine space. (Russian) *Kaliningra Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figur Vyp*: 5 (1974), 215–219. (Author introduction) **58** #24037 53A15

A class of congruences of pairs of figures that are generated by a central conic and point. (Russian) *Trudy Kaliningrad. Gos. Univ. Differencial′naja Geometr. Mnogoobra Figur Vyp.* 4 (1974), 186–192. (B. Rozenfel′d) **54** #11184 53A15

Pairs of congruences of figures generated by a central conic and point. (Russian *Kaliningrad. Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figur No.* 6 (1975), 212–221. (Author's introduction) **58** #30798 53A15 (53A05)

Invariant figures that are associated with a congruence of central quadratic element in A_n. (Russian) *Kaliningrad. Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figu Vyp.* 7 (1976), 135–138, 154. (Author's summary) **58** #30780 53A15

Congruences of framed quadratic elements in p-dimensional affine space. (Russian *Kaliningrad. Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figur Vyp.* 8 (1977 118–125, 156–157. (M. A. Akivis) **58** #24052 53A20

Hljupina, E. G. Compactness properties in a class of groups of type I. (Russian) *Dokl Akad. Nauk SSSR* **241** (1978), *no.* 3, 544–546. (T. W. Palmer and K. A. Ross **58** #16949 22D10

Hlobistov, V. V. (*with* Ĭvanov, V. V.) Methods for computing the probabilistic characteristics of the solutions of systems of ordinary differential equations that contai random parameters. (Russian) *Software of electronic digital computers* (*Proc. Sem Optimization of Computations, Kiev*, 1971) (*Russian*), *pp.* 237–249. *Akad. Nauk Ukrain SSR Inst. Kibernet., Kiev*, 1971. (Valery Fedorov) **52** #6133 34F05 (65L99)

(*with* Zadiraka, V. K.; Igisinov, K.) Application of an algorithm for the fas Fourier transform to the estimation of the density of the distribution of a sum o independent random variables. (Russian) *Software of electronic digital computers* (*Proc Sem. Optimization of Computations, Kiev*, 1971) (*Russian*), *pp.* 278–286. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1971. (Authors' introduction) **51** #14395 62G0 (65D30)

(*with* Zadiraka, V. K.) The density of the distribution of a scalar product o Gaussian vectors. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972** *no.* 3 112–115. (R. Cuppens) **46** #10119 62F10

(*with* Zadiraka, V. K.) Estimation of probability density and distribution functio of scalar product of vectors with independent normally distributed components. *Avtomatika* **1972**, *no.* 4, 78–82 (*Ukrainian*); *translated as Soviet Automat. Control* (1972), *no.* 4, 59–62. (From the authors' introduction) **50** #6627 94A05 (62G05)

A probabilistic criterion for optimality of algorithms for approximation of function of random variables. *Avtomatika* **1973**, *no.* 2, 83–86 (*Ukrainian*); *translated as Sovie Automat. Control* **6** (1973), *no.* 2, 67–70. (H. J. Kushner) **58** #4556 93E10

(*with* Ĭvanov, V. V.) A comparison of two estimation methods for estimates of the probabilistic characteristics of the solutions of systems of stochastic differential equations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 19 (1973), 32–43 157. (G. Niculescu) **48** #1313 60H10

(*with* Berezovs′kiĭ, A. Ī.) A sharp lower bound of the maximum of the modulus o the second derivative of a tabularly defined function of the class $C^{(2)}[a,b]$. (Russian) *Optimization of computations* (*Russian*), *pp.* 16–20. *Inst. Kibernet., Akad. Nauk Ukrain SSR, Kiev*, 1975. (Editors) **58** #31753 65D99

(*with* Berezovs′kiĭ, A. Ī.) Convergence estimates for an interpolational parabolic spline of Schoenberg type. (Russian) *Optimization of computations* (*Russian*), *pp.* 20–24. *Inst. Kibernet., Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Editors) **58** #31718 65D05

(*with* Berezovs′kiĭ, A. Ī.) A way of interpolating by parabolic splines of a certain form. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 7, 579–582, 670. (Paul Nevai) **55** #930 41A05

(*with* Berezovs′kiĭ, A. Ī.) A way of interpolating on a segment. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 1(176), 24–30. (Paul Nevai) **56** #924 41A05

(*with* Zadiraka, V. K.) A distribution that is related to the normal law. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 31 (1977), 72–75, 157. (Authors' summary) **58** #13505 62H10

Hlopkov, Ju. I. Solution of the linearized Boltzmann equation. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 1307–1314, 1366. (Hans Kaper) **48** #5571 82.45

Hlopkova, N. A. (*with* Arončik, G. I.) Estimation of the size of the two-phase zone in the crystallization of binary alloys. (Russian) *Differential equations and their applications, No.* 2 (*Russian*), *pp.* 162–166, 179. *Kuĭbyšev. Gos. Ped. Inst., Kuybyshev*, 1975. (Authors' summary) **58** #32442 80.35

Hloponin, S. S. Representation of $\sqrt{N}$ in the form of continued fractions of period one. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 4(131), 106–112. (W. H. Simons) **48** #8400 10F20 (10A30)

Interpolation by continued fractions of the form $c_0 + \mathrm{Z}_{n=1}^{\infty} (a_n x + b_n)/c_n$. (Russian) *Numerical analysis and mathematical physics, No.* 2 (*Russian*), *pp.* 200–212. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (See RŽMat **1976** #11 B1271; MR **56** #1654) 41A20

Transformation of the ratio of power series into the adjoint continued fraction (Russian) *Numerical analysis and mathematical physics, No.* 2 (*Russian*), *pp.* 213–221 *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (See RŽMat **1976** #10 B28; MR **56** #1654) 40A15

Transformation of a quotient of power series into a regular c-continued fraction. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 5(156), 78–86. (S. V. Hruščev) **52** #11020 30A22

P-continued fractions. Interpolation by continued fractions. (Russian) *Izv. Vysš. ebn. Zaved. Matematika* **1976**, *no*. 1(164), 124–128. (A. Lupaş) **55** #13731 65D05

A correspondence between a ratio of power series and continued fractions. ussian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no*. 10(173), 83–92. (A. Magnus) #599 30A22

Convergence tests, for continued fractions, that are based on a fundamental system inequalities. (Russian) *Mat. Zametki* **20** (1976), *no*. 5, 665–674. (B. D. Donevski) #6180 40A15

(*with* Zarudnjak, L. V.) Interpolation of functions by *G*-continued fractions. ussian) *Continued fractions* (*Russian*), *pp*. 109–115. *Stavropol. Gos. Ped. Inst., avropol*, 1977. (From the text) **58** #29635 41A20

See also **Continued fractions**, **58** #23269

onina, È. P. Expansion of functions in continued fractions. (Russian) *Continued actions* (*Russian*), *pp*. 133–142. *Stavropol. Gos. Ped. Inst., Stavropol*, 1977. (From the xt) **58** #29628 41A20

v, G. I. (*with* Čaevskiĭ, E. V.) Perturbation theory for field moments in an homogeneous medium. *Radiotehn. i Èlektron.* **17** (1972), 1561–1565 (*Russian*); *anslated as Radio Engrg. Electron. Phys.* **17** (1972), 1231–1234. (David Pearson) **2** #16378 81.47

ev, A. M. An equation of the theory of shallow shells. (Russian) *Dinamika Splošn. redy Vyp.* 21 *Tečenie Židkost. so Svobod. Granicami* (1975), 84–98, 190. (From the uthor's summary) **56** #10282 73.35

Solvability of an initial-boundary value problem for a class of quasilinear systems. Russian) *Dinamika Splošn. Sredy Vyp.* 28 *Meh. Deform. Tverd. Tela* (1977), 118–129, 78. (V. Rosa) **57** #3607 35G30

The existence of periodic solutions in the problem of nonlinear oscillations of a late. (Russian) *Dinamika Splošn. Sredy No.* 31 *Dinamika Židkosti so Svobod. ranicami* (1977), 122–131, 169. (Author's introduction) **58** #32232 73.35

A one-sided problem that is connected with a weakly nonlinear parabolic operator. Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no*. 2, 412–417, 480. (Author's summary) **8** #17524 35K55

ov, B. K. The upper and lower density of sets on the line. (Russian) *Mathematics and echanics, No. 2, Part 2* (*Russian*), *pp*. 79–88, 193. *Ministerstvo Vysš. i Sredn. Spec. brazovanija, Kazah. SSR, Alma-Ata*, 1967 (1970). (See RŽMat **1970** #12 B60; MR **48** 17) 28A05

The upper and the lower *p*-integral of a function of a real variable. (Russian) *athematics and mechanics, No. 2, Part 2* (*Russian*), *pp*. 89–101, 193. *Ministerstvo Vysš. i redn. Spec. Obrazovanija, Kazah. SSR, Alma-Ata*, 1967 (1970). (See RŽMat **1970** #12 364; MR **48** #17) 26A39

The *p*-density of sets on the line. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **971**, *no*. 10(113), 70–75. (O. Costinescu) **47** #5182 26A03 (28A05)

The *p*-integral of functions of a real variable. (Russian. Kazakh summary) *Izv. kad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no*. 3, 62–68, 94. (K. Karták) **51** #13151 26A39

(*with* Strel′cova, V. M.) The indefinite p_1-integral. (Russian) *Collection of questions f mathematics and mechanics, No. 7* (*Russian*), 107–113, 326. *Kazah. Gos. Univ., lma-Ata*, 1975. (Editors) **58** #28401 28A25 (26A42)

Sets of variable density. (Russian) *Collection of questions on mathematics and mechanics, No. 8* (*Russian*), *pp*. 78–88, 229. *Izdanie Kazah. Gos. Univ., Alma-Ata*, 1976. (Author's summary) **58** #28392 28A10

The comparison of functions by means of the upper and lower *p*-coefficients. (Russian) *Collection of questions on mathematics and mechanics, No. 8* (*Russian*), *pp*. 88–97, 229. *Izdanie Kazah. Gos. Univ., Alma-Ata*, 1976. (Author's summary) **58** #28355 26A42

See also **Mathematics and mechanics**, **48** #17; **Mathematics and mechanics**, **48** #595 *and* **Mathematics and mechanics**, **50** #6724

alo, E. I. (*with* Vavilov, A. A.; Kozlov, Ju. M.; Maksimov, A. D.; Markov, S. I.; Pavlov, V. V.; Popov, E. P.; Semenko, A. I.; Starikova, M. V.; Topčeev, Ju. I.; Fedorov, S. M.; Hljamov, V. M.; Cvetkov, V. I.) ★Метод гармонической линеаризации в проектировании нелинейных систем автоматического управления. (Russian) [The method of harmonic linearization in the design of nonlinear automatic control systems] Edited by Ju. M. Topčeev. Nonlinear Automatic Control Systems, Vol. 1. *Izdat.* "*Mašinostroenie*", *Moscow*, 1970. 567 *pp*. (*errata insert*) (S. P. Bingulac) **50** #6589 (EA **53**) 93C10

(*with* Geraščenko, E. I.; Erman, V. L.; Il′in, I. P.; Kozlov, Ju. M.; Korotaeva, I. P.; Makar′ev, B. M.; Pal′tov, I. P.; Popov, E. P.; Samoĭlov, V. E.; Sidorov, I. M.; Favorskiĭ-Pavlovskiĭ, S. S.; Fedorov, S. M.; Ščerbakov, V. A.) ★Методы синтеза нелинейных систем автоматического управления. (Russian) [Methods for the synthesis of nonlinear authomatic control systems.] Edited by S. M. Fedorov. Nonlinear Automatic Control Systems, Vol. 3. *Izdat.* "*Mašinostroenie*", *Moscow*, 1970. 416 *pp*. (Stanislav K. Myškov) **52** #7629 93C10

(*with* Alekperov, V. P.; Andrievskiĭ, V. R.; Bahanov, L. E.; Bykov, V. P.; Zubkov, M. Ja.; Ivanenko, V. G.; Modjaev, A. D.; Potemkin, V. G.; Tepljakov, È. P.; Topčeev, Ju. I.; Fedorov, S. M.; Černikov, S. A.; Čudov, M. A.; Šipilov, A. I.; Šumilov, B. F.; Ščerbakov, V. A.) ★Нелинейные корректирующие устройства в системах автоматического управления. (Russian) [Nonlinear correcting devices in automatic control systems] Edited by Ju. I. Topčeev. Nonlinear Automatic Control Systems, Vol. 2. *Izdat.* "*Mašinostroenie*", *Moscow*, 1971. 466 *pp*. (Bojan Popović) **50** #4005 93-06

(*with* Popov, E. P.) Development of the methods of harmonic linearization. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol. 2: Theory of automatic control* (*Russian*), *pp*. 42–48, 475. *Izdat.* "*Nauka*", *Moscow*, 1972. (Editors) **48** #10570 93C05

(*with* Barabanov, A. T.; Katkovnik, V. Ja.; Nelepin, R. A.; Jakubovič, V. A.) ★Методы исследования нелинейных систем автоматического управления. (Russian) [Methods for the study of nonlinear automatic control systems] Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat.* "*Nauka*", *Moscow*, 1975. 447 *pp*. (V. Komkov) **56** #14934 93C10

Hmaladze, E. V. An estimate of the necessary size of the sample for distinguishing complex parametric hypotheses. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **65** (1972), 285–288. (A. M. Kagan) **45** #9408 62F05

Estimation of the number of observations needed to distinguish simple hypotheses that are close to one another. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), 115–125. (N. L. Johnson) **50** #15098 62F10

Hmara, M. T. (*with* Ljubčenko, G. G.; Limanskiĭ, A. V.) The problem of using incomplete minimal tables of functions of the algebra of logic to find optimal codes in the synthesis of automation schemes. (Russian) *General systems theory* (*Russian*), *pp*. 105–114. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (Editors) **48** #10687 94A20

Hmeleva, L. E. The periodicity of the cohomology of Hopf algebras. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **46** (1974), 92–109, 141–142. (E. Enochs) **53** #10850 16A24 (18H15)

Hmelevaja, A. V. (*with* Savčenko, Ju. G.) Methods for the successive realization of symmetric Boolean functions. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no*. 3, 24–29. (Jürgen Dassow) **53** #12783 94A20

Hmelevskiĭ, I. L. (*with* Plotnikova, G. V.) Sur une equivalence de modèles mathématiques des liaisons en mécanique analytique. *Ann. Soc. Sci. Bruxelles Sér. I.* **90** (1976), *no*. 1, 15–23. (Cataldo Agostinelli) **52** #16205 70.34

(*with* Plotnikova, G. V.) Solutions périodiques du modèle de Volterra d'une association biologique de 2*k* espèces en relation "proie-prédateur". *Ann. Soc. Sci. Bruxelles Sér. I* **91** (1977), *no*. 2, 83–88. (D. Ludwig) **56** #17913 92A15

Hmelevskiĭ, Ju. I. Systems of equations in a free group. I, II. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **35** (1971), 1237–1268; *ibid.* **36** (1972), 110–179. (I. D. Macdonald) **47** #1949 20E05

Equations in a free semigroup. (Russian) *Trudy Mat. Inst. Steklov.* **107** (1971), 286 *pp*. (Heinrich Seidel) **51** #5808 20M05

★Equations in free semigroups. Translated by G. A. Kandall from the Russian original: Trudy Mat. Inst. Steklov. **107** (1971). Proceedings of the Steklov Institute of Mathematics, No. 107 (1971). *American Mathematical Society, Providence, R.I.*, 1976. iii + 270 *pp*. (Editors) **52** #14094 20M05

Coefficient-free systems with four indeterminates in a free semigroup. (Russian) *Z. Math. Logik Grundlagen Math.* **23** (1977), *no*. 1, 59–90. (Zbl **365** #20063) **58** #5992 20M05 (02F47)

See also **Magnus, Wilhelm; et al.**, **51** #10480

Hmel′nickaja, A. B. The asymptotic behavior of the spectrum of hypoelliptic operators with constant coefficients in arbitrary domains of finite measure. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no*. 4 (190), 279–280. (L. Cattabriga) **55** #3560 35P20 (35H05)

Hmel′nickiĭ, I. L. Rings in which every proper subring is nilpotent. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1971), *no*. 1, 121–127. (W. G. Leavitt) **45** #6851 16A22

Rings in which every additive subgroup is a subring. (Russian) *Sverdlovsk. Gos. Ped. Inst. Naučn. Trudy No.* 219 *Algebra i Mat. Anal.* (1974), 118–138. (L. A. Koifman) **52** #13933 16A48

(*with* Andrijanov, V. I.) Rings that have finite increasing normal series with Hamiltonian quotients. (Russian) *Sverdlovsk. Gos. Ped. Inst. Naučn. Trudy Sb.* 185 *Mat. Vyp.* 6 (1974), 3–11. (L. A. Skornjakov) **54** #10332 16A48

Commutative nil-rings with an idealizer condition. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10** (1977), *no*. 3 *Issled. po Sovremen. Algebre*, 197–213, 219. (L. Bokut′) **58** #783 16A50 (13A15)

Hmel′nik, M. I. Certain flows of an ideal incompressible fluid along a Riemann surface. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **227**, *no*. 9, *č*. 1. 49–59 (1970). (V. Šeretov (RŽMat **1971** #6 B130)) **48** #8782 30A48 (76.30)

Hmel′nik, M. I. *See* **Studies in the theory of functions of a complex variable and its applications**, **48** #5481

Hmel′nik, S. I. Coding of plane figures. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no*. 6, 67–73. (J. Dénes) **45** #8391 94A10

Several types of positional codes of functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1970**, *no*. 5, 50–55. (Giuseppe Longo) **45** #4888 94A10

An algebra of multidimensional vectors and coding of spatial figures. (Russian) *Avtomat. i Vyčisl. Tehn.* **1971**, *no*. 1, 66–70. (Giuseppe Longo) **47** #3099 94A10

Algorithms for coding and decoding function series. (Russian) *Digital computer technology and programming, No. 8* (*Russian*), *pp*. 122–132, 191. *Sovetskoe Radio, Moscow*, 1974. (Author's introduction) **52** #2278 68A15

Hnilica, Jiří Verallgemeinerte Hill'sche Differentialgleichung. (Czech and loose Russian summaries) *Časopis Pěst. Mat.* **101** (1976), *no*. 3, 293–302. (Angelo Favini) **56** #12377 34A99

čan zuĭ Ho *See* **Čan Zuĭ Ho**

dao hyu Ho *See* **Dao Hyu Ho**

nguyễn văn Hô *See* **Nguyễn Văn Hô**

nguyen cat Ho *See* **Nguyen Cat Ho**

Ho, C. W. Modified nodal approach to DC network sensitivity computation. *IBM J. Res. Develop.* **19** (1975), *no*. 6, 565–574. (Jerrold S. Rosenbaum) **55** #2380 94A20

Ho, Chat-Yin On the quadratic pair whose root group has order 3. *Bull. Inst. Math. Acad. Sinica* **1** (1973), *no*. 2, 155–180. (Bhama Srinivasan) **49** #9080 20D99

On the automorphisms of $SL_2(K)$. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no*. 1, 107–112. (Donald Maurer) **54** #10147 10C30 (20G35)

On a question of D. Gorenstein. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no*. 1, 113–114. (Geoffrey Mason) **56** #15758 20D05

Some explicit generators for $\mathrm{SL}(3,3^n)$, $\mathrm{SU}(3,3^n)$, $\mathrm{Sp}(4,3^n)$ and $\mathrm{SL}(4,3^n)$. *Canad. J. Math.* **27** (1975), *no*. 5, 970–979 (1976). (Ulrich Dempwolff) **52** #5792 20D05

Quadratic pairs for 3 whose root group has order greater than 3. I. *Comm. Algebra* **3** (1975), *no*. 11, 961–1029. (Stephen D. Smith) **52** #5793 20D05

On the *p*-elements of a finite group. *Proc. Amer. Math. Soc.* **48** (1975), 61–66. (Francis Peter Lockett) **50** #10064 20D20

(*with* Gonçalves, Adilson) Hall subgroups and *p*-solvability. *Proc. Amer. Math. Soc.* **52** (1975), 97–98. (Gary M. Seitz) **51** #8239 20D10

Quadratic pairs for odd primes. *Bull. Amer. Math. Soc.* **82** (1976), *no*. 6, 941–943. (Peter M. Neumann) **54** #5330 20D05

Chevalley groups of odd characteristic as quadratic pairs. *J. Algebra* **41** (1976), *no*. 1, 202–211. (Bruce Cooperstein) **54** #2832 20H20

On the quadratic pairs. *J. Algebra* **43** (1976), *no.* 1, 338–358. (Stephen D. Smith) **54** #10393 20D05 (20G40)

Ho, Chung Wu On certain homotopy properties of some spaces of linear and piecewise linear homeomorphisms. I, II. *Trans. Amer. Math. Soc.* **181** (1973), 213–233; *ibid.* **181** (1973), 235–243. (H. R. Gluck) **48** #1252 57E05 (57C05)

Deforming p. l. homeomorphisms on a convex polygonal 2-disk. *Pacific J. Math.* **55** (1974), 427–439. (C. L. Seebeck, III) **51** #14077 57C15 (57A05)

Deforming P. L. homeomorphisms on a convex 2-disk. *Bull. Amer. Math. Soc.* **81** (1975), 726–728. (C. L. Seebeck, III) **51** #11529 57C15 (57A05)

On a class of spaces for which the fixed-point property is characterized by homology groups. *Colloq. Math.* **32** (1975), *no.* 2, 213–217, 309. (L. Górniewicz) **53** #1577 55C20

A note on proper maps. *Proc. Amer. Math. Soc.* **51** (1975), 237–241. (Edwin Duda) **51** #6698 54C10

Decomposition of a polygon into triangles. *Math. Gaz.* **60** (1976), *no.* 412, 132–134. (Editors) **58** #18079 50B10

On the homeomorphisms which satisfy the Poincaré recurrence theorem. *Proc. Amer. Math. Soc.* **58** (1976), 272–276. (Paul F. Duvall) **54** #8682 54H20 (57E05)

On the recurrent homeomorphisms of a manifold. *J. London Math. Soc.* (2) **16** (1977), *no.* 3, 541–547. (C. L. Seebeck, III) **57** #1501 57A99 (58F99)

Ho, D. Buckling load of non-linear systems with multiple eigenvalues. *Internat. J. Solids and Structures* **10** (1974), 1315–1330. (H. G. Hopkins) **50** #15555 73.65

Ho, Dal Yun *See* **Hŏ, Tal Yun**

Hŏ, Dal Yun *See* **Oŏ, Tal Yun**

Ho, Hwa Shan Mean convergence of approximation to a function by general finite sums. *Quart. Appl. Math.* **31** (1973/74), 177–184. (Manfred v. Golitschek) **53** #13941 41A30

(*with* Carlyle, Ronald L.) Discussions of limit analyses by dynamic programming. *Computational methods in nonlinear mechanics* (*Proc. Internat. Conf., Austin, Tex.*, 1974), *pp.* 161–170. *Texas Inst. Comput. Mech., Austin, Tex.*, 1974. (Adam Borkowski) **53** #9821 73.49

Ho, Irving T. (*with* Chen, Tien Chi) Multiple addition by residue threshold functions and their representation by array logic. *IEEE Trans. Computers* **C-22** (1973), 762–767. (W. Kwasowiec) **51** #15211 94A20

(*with* Chen, Tien Chi) Storage-efficient representation of decimal data. Collection of articles honoring Alston S. Householder. *Comm. ACM* **18** (1975), 49–52. (R. N. Goss) **50** #16105 94A15 (68A20)

Ho, James K. (*with* Manne, Alan S.) Nested decomposition for dynamic models. *Math. Programming* **6** (1974), 121–140. (A. G. Azpeitia) **49** #10357 90C05

Ho, M. C. On the evaluation of some integral properties of the associated Legendre polynomials. *J. Singapore Nat. Acad. Sci.* **6** (1977), *no.* 1, 29–32. (Zbl **393** #33009) 33A65

Ho, Siu Ming On the isotropic group of a homogeneous polynomial. *Trans. Amer. Math. Soc.* **183** (1973), 495–498. (Y. Matsushima) **49** #3750 53C10

Ho, Soo Thong (*with* Chen, Louis H. Y.) An L_p bound for the remainder in a combinatorial central limit theorem. *Ann. Probability* **6** (1978), *no.* 2, 231–249. (Roy V. Erickson) **57** #17775 60F05 (62G10)

See also **Proceedings: Singapore Mathematical Colloquium**, **57** #9383a *and* **Proceedings: Singapore Mathematical Colloquium**, **57** #9383b

Hŏ, Tal Yun (*with* Lyu, Ch'ung Oh) On variation of arc lengths in Riemannian manifolds with torsion. I. (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no.* 4, 53–56. (From the summary) **58** #12832 53C20

Ho, Tien Kung On a continuous analogue of almost convergence of sequences. *Tamkang J. Math.* **6** (1975), *no.* 2, 285–289. (B. K. Lahiri) **53** #13485 26A06

Hŏ, Ŭn Dok Some topological properties of spaces of k-continuous functions. (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no.* 1, 5–14. (Author's summary) **58** #30096 46E10 (58D15)

C^∞ partitions of unity in an H^*-space. (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no.* 3, 26–32. (Author's summary) **58** #24316 58B10

Ho, Y. C. *See* **Directions in large-scale systems, many-person optimization and decentralized control**, **56** #2487

Ho, Y. K. (*with* Page, B. A. P.) Evaluation of some integrals required in low-energy electron or positron-atom scattering. *J. Computational Phys.* **17** (1975), 122–131. (Z. Janković) **51** #7533 81.65

Ho, Y. S. (*with* Mendelsohn, N. S.) Inequalities for t-designs with repeated blocks. *Aequationes Math.* **10** (1974), 212–222. (J. Spencer) **55** #12539 05B05

(*with* Roe, Peter H.) Existence theorem in the time domain for linear active networks. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 175–177. (Alwyn C. Scott) **52** #10252 94A20

Ho, Yang Derivations on Hilbert-Schmidt operators. *Tamkang J. Math.* **6** (1975), *no.* 2, 191–195. (J. P. Williams) **53** #11433 47D15 (47B10)

Commutants and derivation ranges. *Tôhoku Math. J.* (2) **27** (1975), *no.* 4, 509–514. (See RŽMat **1976** #10 B635) 46L99

A generalization of Jacobson's lemma. *Tamkang J. Math.* **7** (1976), *no.* 2, 179–180. (P. R. Halmos) **56** #12951 47B10 (15A60)

A note on derivations. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 1, 1–5. (Charles S. C. Lin) **58** #12439 47A10 (47B05)

Ho, Yin On the Sidon set and p-Sidon set of symmetric pairs. *Tamkang J. Math.* **8** (1977), *no.* 1, 29–36. (John F. Price) **57** #1026 43A46

Ho, Yu Chi (*with* Dobell, Rodney) Optimal investment policy. *Mathematical systems theory and economics, I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp.* 143–187. *Lecture Notes in Operations Research and Mathematical Economics, Vols.* 11, 12, *Springer, Berlin*, 1969. **47** #6273 90A15

(*with* Chu, K'ai Ching) Team decision theory and information structures in optimal control problems. I. *IEEE Trans. Automatic Control* **AC-17** (1972), 15–22. (Constantin Vîrsan) **50** #12327 (E **50** #12329) 92A20 (93E20)

(*with* Chu, K'ai Ching) Correction to: "Team decision theory and information structures in optimal control problems. I, II" (IEEE Trans. Automatic Control **AC-17** (1972), 15–22; ibid. **AC-17** (1972), 22–28). *IEEE Trans. Automatic Control* **AC-17** (1972), 417. (Constantin Vîrsan) **50** #12329 92A20 (93E20)

Comment on a paper by J. Medanic and M. Andjelic. *J. Optimization Theory Appl* **10** (1972), 187–189. (J. H. Case) **48** #7998a 90D25

(*with* Chu, K'ai Ching) Information structure in dynamic multi-person contro problems. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos. Ischia*, 1973) *pp.* 1–9. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (Editors) **53** #12617 90D12 (93E05, 94A15)

(*with* Chu, K'ai Ching) On the equivalence of information structures in static and dynamic teams. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 2, 187–188. (Tsune- Yoshikawa) **55** #14394 93E99

(*with* Blau, I.) A simple example on informativeness and performance. *J. Optimization Theory Appl.* **11** (1973), 437–440. (F. M. Kirillova) **48** #5660 90D45

(*with* Muralidharan, R.) A piecewise closed form algorithm for a family of minma and vector criteria problems. *Proceedings of the* 1974 *IEEE Conference on Decision and Control including* 13*th Symposium on Adaptive Processes* (*Phoenix, Ariz.*, 1974), *pp* 350–361. *Inst. Electrical Electron. Engrs., New York*, 1974. (Authors' summary) **56** #17077 65K05

(*with* Chu, K'ai Ching) Information structure in dynamic multi-person control problems. (French, German and Russian summaries) *Automatica–J. IFAC* **10** (1974), 341–351. (Authors' introduction) **53** #12618 90D12 (93E05, 94A15)

(*with* Başar, Tamer) Informational properties of the Nash solutions of two stochastic nonzero-sum games. *J. Econom. Theory* **7** (1974), *no.* 4, 370–387. (Authors' summary) **57** #15499 90D15

On the minimax principle and zero-sum stochastic differential games. Differential games: a collection of articles. *J. Optimization Theory Appl.* **13** (1974), 343–361. (A. Friedman) **51** #15103 93E05

(*with* Sun, Fang Kuo) Value of informaton in two-team zero-sum problems. Collection of articles dedicated to Magnus R. Hestenes. *J. Optimization Theory Appl.* **14** (1974), 557–571. (T. L. Saaty) **50** #6512 90D05

(*with* Bryson, Arthur E., Jr.) ★Applied optimal control. Optimization, estimation, and control. Revised printing. *Hemisphere Publishing Corp. Washington, D. C.; distributed by Halsted Press* [*John Wiley & Sons*], *New York-London-Sydney*, 1975. xiv + 481 *pp.* (From the authors' preface) **56** #4953 93Cxx (93E10, 90D25)

(*with* Blau, I.; Başar, Tamer) A tale of four information structures. *Control theory, numerical methods and computer systems modelling* (*Internat. Sympos., IRIA LABORIA Rocquencourt*, 1974), *pp.* 85–96. *Lecture Notes in Econom. and Math. Systems, Vol.* 107, *Springer, Berlin* 1975. (François Brodeau) **51** #15104 93E05

Decisions, control, and extensive games. *Proceedings of the IFAC* 6*th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 16.1, 9 *pp. IFAC, Düsseldorf*, 1975. (Author's summary) **58** #33054 90D35 (90D25)

(*with* Muralidharan, R.) A piecewise-closed form algorithm for a family of minimax and vector criteria problems. *IEEE Trans. Automatic Control* **AC-20** (1975), 381–385. (V. F. Dem′janov) **55** #13784 65K05 (90D25)

(*with* Kastner, Marcia P.) Market signaling: an example of a two-person decision problem with a dynamic information structure. *Proceedings of the IEEE Conference on Decision and Control and the* 15*th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 276–286. *Inst. Electr. Electron. Engrs., New York*, 1976. (From the authors' introduction) **56** #17880 90D35

(*with* Chu, K'ai Ching) Comment on the paper: "Multi person decision analysis in large-scale hierarchical systems—team decision theory" (Internat. J. Control **22** (1975), no. 1, 1–28) by J. D. Cole and A. P. Sage. *Internat. J. Control* **23** (1976), *no.* 4, 587–588. (R. N. Bhattacharya) **53** #12655 93A10 (90A10)

(*with* Sun, Fang Kuo) Role of information in the stochastic zero-sum differential game. Differential game issue. *J. Optimization Theory Appl.* **18** (1976), *no.* 1, 153 163. (Tamer Basar) **55** #2176 90D25 (93E05)

(*with* Sun, Fang Kuo) Value of information in zero-sum games. Stochastic systems: modeling, identification and optimization, I (Proc. Sympos., Univ. Kentucky, Lexington, Ky., 1975). *Math. Programming Stud. No.* 5 (1976), 211–226. (Stanisław Zdrzałka) **56** #8028 90D05

(*with* Hexner, G.) Information structure: common and private. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 3, 390–393. (A. D. Wyner) **58** #15696 94A15

(*with* Martin, Clyde F.) Private information structures of A with respect to B. *Internat. J. Control* **26** (1977), *no.* 6, 973–980. (Abraham Kandel) **58** #4637 94A15

(*with* Kastner, Marcia P.; Wong, Eugene) Teams, signaling, and information theory. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 2, 305–312. (Tamer Başar) **57** #18755 90A05 (94A10)

(*with* Kastner, Marcia P.) Market signaling: an example of a two-person decision problem with dynamic information structure. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 2, 350–361. (Andrew P. Sage) **58** #9115 90A05 (90A15)

See also **Differential games: collection of articles**, **48** #8007

hô-van-Hoà *See* **Hô-van-Hoà**

tran van Hoa *See* **Tran Van Hoa**

Hoadley, A. Bruce Asymptotic properties of maximum likelihood estimators for the independent not identically distributed case. *Ann. Math. Statist.* **42** (1971), 1977–1991. (G. Roussas) **45** #6109 62E20

(*with* Heyman, Daniel P.) A two-echelon inventory model with purchases, dispositions, shipments, returns and transshipments. *Naval Res. Logist. Quart.* **24** (1977), *no.* 1, 1–19. (J. A. E. E. van Nunen) **58** #20336 90B05

ha zuĭ Hoaĭ *See* **Ha Zuĭ Hoaĭ**

Hoak, David An all-rule axiomatization of the propositional calculus and the equivalence of some well-known axiomatizations. *Pi Mu Epsilon J.* **6**, 59–68 (1975). (K. Inoue) **51** #7813 02B05

lê châu Hoàn *See* **Lê Châu Hoàn**

nguen van Hoan *See* **Nguen Van Hoan**

nguyen the Hoàn *See* **Nguyen The Hoàn**

trung du Hoang *See* **Trung Du Hoang**

Hoàng Đình Dung (*with* Lê Văn Thiêm; Ngô Văn Lu'ọ'c) Les fonctions p-analytiques et le mouvement des liquides visqueux à symétrie axiale. *Acta Sci. Vietnam.* **9/10** (1974), 24–33. (C. R. Illingworth) **53** #9834 76.30

Solution of a boundary value problem for an ellipsoid of revolution in an unbounded viscous fluid. (Russian) *Acta Sci. Vietnam.* **9/10** (1974), 34–40. (J. P.

uiraud) 53 #7208 76.35

g Duc Nguyen (*with* Schincke, Erich) Numerische Lösungen des dritten andwertproblems der Potentialtheorie für ebene nichtbeschränkte Gebiete. *Wiss. Z. artin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **25** (1976), *no.* 3, 71–80. (R. . Kelman) **54** #14327 65E05

g Hien Šin′ Necessary conditions for the estimation of the resolvent of a degenerate cond order elliptic operator. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak.* **1972**, *no.* . 95–97. (È. M. Saak) **55** #6010 35J70

(*with* Gluško, V. P.) The completeness of the eigen- and associated functions of a egenerate second order differential operator. (Russian) *Dokl. Akad. Nauk SSSR* **213** 973), 1237–1239. (J. B. Butler, Jr.) **48** #11654 34B25 (47E05)

g Hũ'u Đu'ò'ng Théorie des éléments caractéristiques pour les systèmes différentiels inéaires. *Acta Sci. Vietnam.* **9/10** (1974), 53–96. (Tetz Yoshimura) **53** #8581 4D20

Separation of a linear differential system. (Russian) *Acta Math. Vietnam.* **2** (1977), *o.* 1, 31–47. (A. I. Kir′janen) **58** #22844 34D10

g Huu Nhu *See* **Selected translations in mathematical statistics and probability,** 9 #4729

g Kỳ Hypercenters, and strongly Π-complete, Π*SR*-, Π*SD*-groups. (Russian) *Acta ath. Vietnam.* **1** (1976), *no.* 1, 60–71. (Author's summary) **58** #5939 20F30

Divisible modules over a principal ideal ring. (Russian) *Acta Math. Vietnam.* **2** 1977), *no.* 1, 141–151. (Editors) **58** #5630 13C10

ễn Hoàng Phu'o'ng *See* **Nguyễn Hoàng Phu'o'ng**

g Šum (*with* Ēžov, Ī. Ī.) Maximization processes with discrete time. (Russian. English ummary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 9 (1973), 82–89, 175. (Petr Mandl) **4** #3853 60J10 (90C15)

g Suoc Direct topological rules for analysis of networks without magnetic coupling. Polish and Russian summaries) *Arch. Elektrotech.* (*Warsaw*) **23** (1974), 387–405. (I. T. risch) **51** #7735 94A20

Direct and shortcut topological rules for analysis of networks with magnetic oupling. (Polish and Russian summaries) *Arch. Elektrotech.* (*Warsaw*) **23** (1974), 07–425. (I. T. Frisch) **51** #7736 94A20

Regular cycle sets and transfer link chains in the direct topological method of etwork analysis. (Polish and Russian summaries) *Arch. Elektrotech.* (*Warsaw*) **23** 1974), 1069–1082. (I. T. Frisch) **52** #16880 94A20

g Trung Du Blending interpolation on triangles. *Mathematica* (*Cluj*) **18(41)** (1976), *o.* 1, 59–77. (U. Tippenhauer) **58** #12083 41A05 (65D05)

Numerical partial differentiation of functions of several variables. (Romanian. English summary) *Studia Univ. Babeş-Bolyai Math.* **21** (1976), 51–60. (Author's summary) **57** #7953 65D25

oang Tu *See* **Li Hoang Tu**

g Tuy A certain class of minimax problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 2, 115–118. (A. Majthay) **46** #8648 90B10 (90C10)

Convex inequalities and the Hahn-Banach theorem. *Dissertationes Math.* (*Rozprawy Mat.*) **97** (1972), 35 *pp.* (S. Simons) **54** #13519 46A15 (52A05, 90C25)

The Farkas-Minkowski theorem and extremum problems. *Mathematical models in economics* (*Proc. Sympos. and Conf. von Neumann Models, Warsaw*, 1972), *pp.* 379–400. *North-Holland, Amsterdam*, 1974. (Bruce D. Craven) **52** #2589 90C30 (49B30)

The saddle-point theorem under a weaker assumption than constraint qualification. *Acta Sci. Vietnam.* **9/10** (1974), 114–123. (K. G. Murty) **53** #10302 (E **55** #14216) 90C25

A certain axiomatization or extremal problems and first order necessary conditions. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 1233–1236. (L. C. Young) **50** #10955 49B05

A certain general minimax theorem. *Dokl. Akad. Nauk SSSR* **219** (1974), 818–821. (L. Janos) **51** #8918 49A40

On the convex approximation of nonlinear inequalities. (German and French summaries) *Math. Operationsforsch. Statist.* **5** (1974), *no.* 6, 451–464. (V. F. Dem′janov) **51** #11241 (E **54** #3544) 49B30 (46G05)

On the general minimax theorem. *Colloq. Math.* **33** (1975), *no.* 1, 145–158. (E. G. Gol′šteĭn) **54** #13686 49B40 (90C30)

A note on the equivalence between Walras' excess demand theorem and Brouwer's fixed point theorem. *Computing equilibria: how and why* (*Proc. Internat. Conf., Comput. Centre, Polish Acad. Sci., Toruń*, 1974), *pp.* 61–64. *North-Holland, Amsterdam*, 1976. (Yves Balasko) **56** #4756 90A15

On the foundation of the maximum principle. *Acta Math. Vietnam.* **1** (1976), *no.* 1, 104–126. (È. G. Al′breht) **55** #3915 49B10 (49B30)

Erratum: "The saddle-point theorem under a weaker assumption than constraint qualification" (Acta Sci. Vietnam. **9/10** (1974), 114–123). *Acta Math. Vietnam.* **1** (1976), *no.* 1, 127. (Editors) **55** #14216 90C30

Remarks on the connection between minimax theory and duality theory. *Acta Math. Vietnam.* **1** (1976), *no.* 2, 7–20. (V. F. Dem′janov) **55** #3908 49A40 (90C50)

Corrigendum to: "On the convex approximation of nonlinear inequalities" (Math. Operationsforsch. Statist. **5** (1974), no. 6, 451–464). *Math. Operationsforsch. Statist.* **7** (1976), *no.* 2, 319. (Alexander M. Rubinov) **54** #3544 49B30 (58C20)

Pivotal methods for computing fixed points: a unified approach. *Travaux Sém. Anal. Convexe* **6** (1976), *Exp. no.* 20, 35 *pp.* (Author's summary) **58** #26008 90C30 (54H25)

Critical mappings and extremal problems. (Russian) *Mathematical methods for the solution of economic problems, No.* 7 (*Suppl. to Èkonom. i Mat. Metody*) (*Russian*), *pp.* 69–85. *Izdat.* "*Nauka*", *Moscow*, 1977. (Stefan Mirică) **58** #12608 49B30

Stability property of a system of inequalities. *Acta Math. Vietnam.* **2** (1977), *no.* 1, 3–16. (E. G. Gol′šteĭn) **57** #18093 65K05 (90C25)

On pivotal methods for computing fixed points. *Acta Math. Vietnam.* **2** (1977), *no.* 2, 5–21. (Ky Fan) **57** #14425 65J05 (54H25)

Stability property of a system of inequalities. (German and French summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 1, 27–39. (Y. Cherruault) **56** #17816 90C25

oang Van Laĭ (*with* Sobolevs′kiĭ, P. O.) Application of the properties of the mixed derivatives of the Green's functions in the theory of generalized Hermitian splines. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 9 *Sb. Rabot Prikl. Anal.* (1973), 80–86. (V. Nikol′skiĭ (RŽMat **1974** #8 B586)) **57** #6965 41A15

(*with* Sobolevs′kiĭ, P. O.) The theory of Hermite splines, and algorithms of optimum type. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **8** (1977), *no.* 1 *Mat. Modelirovanie*, 135–143. (RŽMat **1977** #10 B1156) **58** #3304 65D05

Hoang Van Tao The stability of the periodic solution of a standard system. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1970**, *no.* 4, 9–11. (K. W. Chang) **52** #6106 34C25

Galerkin's method for the equation $d^mx/dt^m+r_1d^{m-1}x/dt^{m-1}+\cdots+r_mx=f(x,t)$. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 379 *Trudy Aspirantov TašGU: Matematika. Fizika. Himija* (1970), 21–31. (R. Kodnár) **50** #5072 34A45

Oscillations in the singular case. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 379 *Trudy Aspirantov TašGU: Matematika. Fizika. Himija* (1970), 32–36. (R. S. Levitin) **50** #13731 34C25

The behavior of the solutions of integro-differential equations in standard form. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 4, 3–5. (C. Corduneanu) **47** #9203 45J05

Hoard, R. E. (*with* Huband, F. L.) On the inversion of a particular matrix. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 3, 374–375. (Charles R. Johnson) **54** #2678 (E **54** #2679) 15A09 (93A99)

See also **Simaan, Marwan A., 54** #2679

Hoare, A. Howard M. (*with* Karrass, Abraham; Solitar, Donald) Subgroups of infinite index in Fuchsian groups. *Math. Z.* **125** (1972), 59–69. (A. M. Macbeath) **45** #2029 20H10 (10D05)

(*with* Karrass, Abraham; Solitar, Donald) Subgroups of NEC groups. Collection of articles dedicated to Wilhelm Magnus. *Comm. Pure Appl. Math.* **26** (1973), 731–744. (F. A. Sherk) **49** #437 20H10

On length functions and Nielsen methods in free groups. *J. London Math. Soc.* (2) **14** (1976), *no.* 1, 188–192. (Julian Petresco) **54** #10409 20E05

(*with* Macbeath, A. M.) Groups of hyperbolic crystallography. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 2, 235–249. (Troels Jørgensen) **53** #3143 20H15

Hoare, C. A. R. (*with* Foley, M.) Proof of a recursive program: quicksort. *Comput. J.* **14** (1971), 391–395. (I. Kaufmann) **51** #7356 68A05

Proof of a structured program: "The sieve of Eratosthenes". *Comput. J.* **15** (1972), 321–325. (B. P. Zeigler) **48** #10181 68A05

(*with* Dahl, O.-J.; Dijkstra, E. W.) ★Structured programming. Second printing. A.P.E.C. Studies in Data Processing, No. 8. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1973. viii + 220 *pp.* (C. A. Ellis and James Reid) **55** #6908 68A05

(*with* Lauer, Peter E.) Consistent and complementary formal theories of the semantics of programming languages. *Acta Informat.* **3** (1973/74), 135–153. (W. B. Jones) **57** #4570 68A05

An axiomatic definition of the programming language PASCAL. *International Symposium on Theoretical Programming* (*Novosibirsk*, 1972), *pp.* 1–16. *Lecture Notes in Comput. Sci., Vol.* 5, *Springer, Berlin*, 1974. (David Gries) **54** #9134 68A05

(*with* Dahl, O.-J.; Dijkstra, E. W.) ★Структурное программирование. (Russian) [Structured programming] Translated from the English by S. D. Zeleneckiĭ, V. V. Martynjuk and L. V. Uhov. Edited by È. Z. Ljubimskiĭ and V. V. Martynjuk. Математическое Обеспечение ЭВМ. [Monographs in Mathematical Computer Software] *Izdat.* "*Mir*", *Moscow*, 1975. 247 *pp.* (Editors) **55** #6909 68A05

(*with* Johnston, H. C.) Matrix reduction—an efficient method. *Comm. ACM* **18** (1975), 141–150. (P. Brock) **52** #2203 65K05

See also **Dijkstra, E. W., 58** #31999

Hoare, M. R. (*with* Rahman, Mizan) On the spectral theory of Rayleigh's piston. I. The discrete spectrum. *J. Phys. A* **6** (1973), 1461–1478. (Authors' summary) **50** #15782 82.45

(*with* Rahman, Mizan) On the spectral theory of Rayleigh's piston. II. The exact singular solution for unit mass ratio. *J. Phys. A* **7** (1974), 1070–1093. (Authors' summary) **50** #15766 82.35

(*with* Rahman, Mizan) On the spectral theory of Rayleigh's piston. III. Exact solution of the absorbing barrier problem ($\gamma=1$). *J. Phys. A* **9** (1976), *no.* 1, 77–85. (Author's summary) **52** #16262 76.35

(*with* Cooper, R. D.) Stochastic processes and special functions: on the probabilistic origin of some positive kernels associated with classical orthogonal polynomials. *J. Math. Anal. Appl.* **61** (1977), *no.* 1, 262–291. (J. Gillis) **58** #6395 33A65 (60C05)

Ho Ba Thuan (*with* Šišov, V. S.) Remarks on Tarri's method of counting Euler cycles. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 4, 76–80. (RŽMat **1969** #1 V250) **45** #6667 05C99

Hobbs, Arthur M. Some Hamiltonian results in powers of graphs. *J. Res. Nat. Bur. Standards Sect. B* **77B** (1973), 1–10. (N. S. Mendelsohn) **49** #2457 05C35

A catalog of minimal blocks. *J. Res. Nat. Bur. Standards Sect. B* **77B** (1973), 53–60. (M. Kimberley) **50** #190 05C99

(*with* Chartrand, Gary; Jung, H. A.; Kapoor, S. F.; Nash-Williams, C. St. J. A.) The square of a block is Hamiltonian connected. *J. Combinatorial Theory Ser. B* **16** (1974), 290–292. (R. L. Hemminger) **49** #10595 05C35

(*with* Fleischner, Herbert J.) A neccessary condition for the square of a graph to be Hamiltonian. *J. Combinatorial Theory Ser. B* **19** (1975), *no.* 2, 97–118. (C. St. J. A. Nash-Williams) **54** #2535 05C99

(*with* Fleischner, Herbert J.) Hamiltonian total graphs. *Math. Nachr.* **68** (1975), 59–82. (R. C. Entringer) **52** #5475 05C35

(*with* Fleischner, Herbert J.) Hamiltonian cycles in squares of vertex-unicyclic graphs. *Canad. Math. Bull.* **19** (1976), *no.* 2, 169–172. (Ralph Faudree) **55** #10316 05C35

(*with* Mitchem, John) The entire graph of a bridgeless connected plane graph is Hamiltonian. *Discrete Math.* **16** (1976), *no.* 3, 233–239. (Ralph Faudree) **55** #10317 05C35

The square of a block is vertex pancyclic. *J. Combinatorial Theory Ser. B* **20** (1976), *no.* 1, 1–4. (J. A. Bondy) **54** #5042 05C35 (*with* Erdős, Paul) Hamiltonian cycles in regular graphs of moderate degree. *J. Combinatorial Theory Ser. B* **23** (1977), *no.* 1, 139–142. (J. A. Bondy) **58** #10594 05C35

(*with* Bollobás, Béla) Hamiltonian cycles in regular graphs. Advances in graph theory (Cambridge Combinatorial Conf., Trinity College, Cambridge, 1977). *Ann. Discrete Math.* 3 (1978), 43–48. (Joseph B. Klerlein) **58** #5360 05C35

(*with* Erdős, Paul) A class of Hamiltonian regular graphs. *J. Graph Theory* **2** (1978), *no.* 2, 129–135. (F. Harary) **58** #5366 05C35

Hobbs, G. R. (*with* Conover, William Jay) The asymptotic efficiency of the Kruskal-Wallis test and the median test in contingency tables with ordered categories. *Comm. Statist.* **3** (1974), 1131–1138. (Rudolph J. Beran) **51** #2146 62G20

Hobbs, J. M. The contribution of the *C*-field to the action functional. *Internat. J. Theoret. Phys.* **9** (1974), 157–165. (C. J. S. Clarke) **53** #4869 83.35

Hobbs, Jerry R. (*with* Rosenschein, Stanley J.) Making computational sense of Montague's intensional logic. *Artificial Intelligence* **9** (1977), *no.* 3, 287–306. (B. Brainerd) **58** #8523 68A30 (02C10)

Hobby, C. (*with* Goldstein, Allen) An inverse function theorem. Collection of articles dedicated to Lothar Collatz on his sixtieth birthday. *Abh. Math. Sem. Univ. Hamburg* **36** (1971), 136–139. (E. Durszt) **48** #2757 46G05

Hobek, Friedrich (*with* Swoboda, Wolfram) Richard Avenarius. Mit einer Bibliographie. (English summary) *Conceptus* **9** (1975), *no.* 26, 25–39. (Authors' summary) **58** #21266 01A60 (01A70)

Hobinger, Johannes (*with* Gruber', Peter M.) Kennzeichnungen von Ellipsoiden mit Anwendungen. *Jahrbuch Überblicke Mathematik*, 1976, *pp.* 9–29. *Bibliographisches Inst., Mannheim*, 1976. (C. G. Lekkerkerker) **53** #11494 52A20 (53C45)

Hobot, Grażyna Some fourth-order formulae of a certain method of Zurmühl. (Polish summary) *Zastos. Mat.* **14** (1974), 449–460. (Editors) **54** #4111 65L05

(*with* Stefańczyk, M.) A scheme for error estimations of eigenvalues of differential operators obtained by the difference method connected with the *QR*-algorithm. (Polish) *Mat. Stos.* (3) **4** (1975), 87–94. (V. Komkov) **56** #10050 65N25 (65F15)

Hobotov, E. N. (*with* Umnov, A. E.) A method for the solution of discrete control problems with phase constraints. (Russian) *Control problems in technology, economics and biology (Russian), pp.* 126–132, 225. *Nauka, Moscow*, 1976. (Robert Staniszewski) **58** #33335 93C55

Modification of the penalty-function method for solving convex programming problems. *Avtomat. i Telemeh.* **1976**, *no.* 7, 91–101 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 7, *part* 1, 1053–1062. (B. Ross Barmish) **56** #4837 90C25

The use of multistep linear extrapolation in the solution of linear dynamic programming problems. (Russian) *Current questions in control theory and practice (Russian), pp.* 153–158, 252. *Nauka, Moscow*, 1977. (Author's summary) **58** #32980 90C40

A modification of the penalty function method for the solution of convex problems in the control of discrete processes. (Russian. English and Czech summaries) *Ekonom.-Mat. Obzor* **13** (1977), *no.* 4, 377–389. (G. Zatiašvili) **57** #14445 65K05 (93C55)

Hobson, Arthur A new theorem of information theory. *J. Statist. Phys.* **1** (1969), 383–391. (L. L. Campbell) **47** #10142 94A15

The interpretation of inductive probabilities. *J. Statist. Phys.* **6** (1972), 189–193. (Author's summary) **56** #9608 60A05 (82.60)

(*with* Cheng, Bin Kang) A comparison of the Shannon and Kullback information measures. *J. Statist. Phys.* **7** (1973), 301–310. (Shunsuke Ihara) **57** #9295 94A15

Ergodic properties of a particle moving elastically inside a polygon. *J. Mathematical Phys.* **16** (1975), *no.* 11, 2210–2214. (Gérard G. Emch) **52** #9925 82.28 (58F05)

See also **Batty, Michael**, **57** #9296 *and* **Tribus, Myron; et al.**, **57** #9297 (EA 57)

Hobson, E. W. *See* **Congress: Mathematicians**, **53** #7711 *and* **Congress: Mathematicians**, **53** #7712

nguyen the Hoc *See* **Nguyen The Hoc**

Hoc, B. S. Locally Banach groups. (Russian) *Mat. Zametki* **13** (1973), 411–418. (W. Wojtyński) **50** #537 22E05

Hoch, Günter *See* **Taschenbuch Elektrotechnik in sechs Bänden**, **52** #13100

Hochberg, Herbert Properties, abstracts, and the axiom of infinity. *J. Philos. Logic* **6** (1977), *no.* 2, 193–207. (Editors) **58** #5054 02C10

Hochberg, Murray Restricted Sperner families and *s*-systems. *Discrete Math.* **3** (1972), 359–364. (Torrence D. Parsons) **46** #8850 05A17

Generalized multicomponent systems under cannibalization. *Naval Res. Logist. Quart.* **20** (1973), 585–605. (S. Blumenthal) **49** #10348 90B25

On the set of divisors of a number. *Fibonacci Quart.* **12** (1974), 363–364. (T. Hayashida) **50** #7004 10A25

Hochberg, Yosef The distribution of the range in general balanced models. *Amer. Statist.* **28** (1974), 137–138. (S. Panchapakesan) **51** #7176 62J15

Some generalizations of the *T*-method in simultaneous inference. *J. Multivariate Anal.* **4** (1974), 224–234. (Minoru Siotani) **55** #13676 62J15

Two stage randomized response schemes for estimating a multinomial. *Comm. Statist.* **4** (1975), *no.* 11, 1021–1032. (P. W. Mielke, Jr.) **52** #15797 62F10

Simultaneous inference under Behrens-Fisher conditions. A two sample approach. *Comm. Statist.* **4** (1975), *no.* 12, 1109–1119. (I. D. Dariyal) **53** #14806 62J15

(*with* Quade, Dana) One-sided simultaneous confidence bounds on regression surfaces with intercepts. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 352, 889–891. (Prem K. Goel) **52** #9513 62J05

An extension of the *T*-method to general unbalanced models of fixed effects. *J. Roy. Statist. Soc. Ser. B* **37** (1975), *no.* 3, 426–433. (Prem K. Goel) **53** #1869 62J15

(*with* Cima, Joseph A.) On optimality criteria in simultaneous interval estimation. *Comm. Statist.-Theory Methods* **A5** (1976), *no.* 9, 875–882. (James Berger) **55** #9384 62F25 (62J05)

A modification of the *T*-method of multiple comparisons for a one-way layout with unequal variances. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 353, 200–203. (Donald R. Jensen) **53** #6910 62J15

On the use of general positive quadratic forms in simultaneous inference. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 13, 1289–1300. (Vijaya Prakash Gupta) **58** #8052 62J15

(*with* Rodríguez, German) Intermediate simultaneous inference procedures. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 357, 220–225. (R. P. Gupta) **56** #1611 62J15

On the use of double sampling schemes in analyzing categorical data with misclassification errors. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 360, *part* 1, 914–921. (E. J. Williams) **57** #10867 62D05 (62H30)

Hoche, Hans-Ulrich Vom "Inhaltsstrich" zum "Waagerechten". Ein Beitrag zur Entwicklung der Fregeschen Urteilslehre. *Studien zu Frege, Band II, pp.* 87–102. *Problemata, No.* 43, *Frommann-Holzboog, Stuttgart*, 1976. (Author's introduction) **58** #27252 02A05 (01A55, 02–03)

Kausalgefüge, irreale Bedingungssätze und das Problem der Definierbarkeit von Dispositionsprädikaten. (English summary) *Z. Allgemeine Wissenschaftstheorie* **8** (1977), *no.* 2, 257–291. (I. Ruzsa) **57** #9461 02A05

Hochman, Eithan (*with* Ben-Tal, Aharon) More bounds on the expectation of a convex function of a random variable. *J. Appl. Probability* **9** (1972), 803–812. (Matthew Goldstein) **54** #1338 60E05 (90C15)

An optimal stopping problem of a growing inventory. *Management Sci.* **19** (1972/73), 1289–1291. (Ulrich Rieder) **48** #13207 90B05

(*with* Ben-Tal, Aharon) Stochastic programs with incomplete information. *Operations Res.* **24** (1976), *no.* 2, 336–347. (E. A. Nurminskiĭ) **54** #12203 90C15 (90B05)

(*with* Zilberman, David) Examination of environmental policies using production and pollution microparameter distributions. *Econometrica* **46** (1978), *no.* 4, 739–760. (Authors' summary) **58** #25884 90A15

Hochman, Howard G. (*with* Fienberg, Stephen E.) Some renewal process models for single neuron discharge. *J. Appl. Probability* **8** (1971), 802–808. (J. J. Hunter) **45** #4520 60K05

Hochschild, G. Automorphism towers of affine algebraic groups. *J. Algebra* **22** (1972), 365–373. (R. W. Richardson, Jr.) **46** #187 14L99 (20G20)

(*with* Mostow, George D.) Analytic and rational automorphisms of complex algebraic groups. *J. Algebra* **25** (1973), 146–151. (R. Steinberg) **47** #3404 14L10 (22E10)

(*with* Mostow, George D.) Unipotent groups in invariant theory. *Proc. Nat. Acad. Sci. U.S.A.* **70** (1973), 646–648. (M. Nagata) **47** #8713 20G15

Lie algebra cohomology and affine algebraic groups. *Illinois J. Math.* **18** (1974), 170–176. (Bodo Pareigis) **48** #6216 18H25 (20G10)

Automorphism groups of complex Lie algebras. *J. Algebra* **28** (1974), 499–507. (R. Steinberg) **55** #2938 14L99 (20G20)

Algebraic automorphism groups. *Illinois J. Math.* **19** (1975), 131–144. (J. E. Humphreys) **51** #12874 14L25 (20G10)

Representative action of the automorphisms of complex analytic groups. *J. Algebra* **37** (1975), *no.* 2, 296–301. (R. Steinberg) **52** #3430 22E10

Semisimplicity of 2-graded Lie algebras. *Illinois J. Math.* **20** (1976), *no.* 1, 107–123. (E. J. Taft) **52** #8205 17B20

(*with* Djoković, Dragomir Ž.) Semisimplicity of 2-graded Lie algebras. II. *Illinois J. Math.* **20** (1976), *no.* 1, 134–143. (E. J. Taft) **52** #8206 17B20

Basic constructions in group extension theory. *Contributions to algebra (collection of papers dedicated to Ellis Kolchin), pp.* 183–201. *Academic Press, New York*, 1977. (K. W. Gruenberg) **57** #12716 20J05 (57F10)

(*with* Wigner, David) Abstractly split group extensions. *Pacific J. Math.* **68** (1977), *no.* 2, 447–453. (W. T. van Est) **58** #6048 22A25 (20J99)

Hochstadt, Harry ★The functions of mathematical physics. Pure and Applied Mathematics, Vol. XXIII. *Wiley-Interscience [A division of John Wiley & Sons, Inc.], New York-London-Sydney*, 1971. xi + 322 *pp.* (From the preface) **58** #17241 33–02

On semibounded differential operators. *Proc. Amer. Math. Soc.* **35** (1972), 298–300. (R. R. D. Kemp) **46** #7970 47E05 (34B25)

A second order differential operator with eigenvalue degeneracy. *Studies in Appl. Math.* **51** (1972), 99–105. (R. R. D. Kemp) **46** #9428 34B25 (47E05)

★Integral equations. Pure and Applied Mathematics. *John Wiley & Sons, New York-London-Sydney*, 1973. viii + 282 *pp.* (Marvin Shinbrot) **52** #11503 45–02

The inverse Sturm-Liouville problem. Collection of articles dedicated to Wilhelm Magnus. *Comm. Pure Appl. Math.* **26** (1973), 715–729. (F. Max Stein) **48** #8944 34B25

One dimensional perturbations of compact operators. *Proc. Amer. Math. Soc.* **37** (1973), 465 467. (S. Goldberg) **46** #9779 47A55 (47B05)

(*with* Fu, Lorraine) Inverse theorems for Jacobi matrices. *J. Math. Anal. Appl.* **47** (1974), 162–168. (S. Goldberg) **49** #9676 47B37

On the construction of a Jacobi matrix from spectral data. *Linear Algebra and Appl.* **8** (1974), 435–446. (B. N. Moyls) **52** #3199 15A57

★Differential equations. A modern approach. Republication, with minor corrections, of the 1964 original. *Dover Publications, Inc., New York*, 1975. viii + 294 *pp.* (Editors) **52** #836 34–01

On inverse problems associated with Sturm-Liouville operators. *J. Differential Equations* **17** (1975), 220–235. (William N. Everitt) **51** #3601 34B25

On the theory of Hill's matrices and related inverse spectral problems. *Linear Algebra and Appl.* **11** (1975), 41–52. (Leon Kotin) **54** #10906 39A10

(*with* Cheung, Shiu Ming) An inverse spectral problem. *Linear Algebra and Appl.* **12** (1975), *no.* 3, 215–222. (F.-H. Vasilescu) **52** #6485 47B37 (15A21)

Well-posed inverse spectral problems. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), *no* 7, 2496–2497 (J. B. McLeod) **51** #8529 34B25

An inverse problem for a Hill's equation. *J. Differential Equations* **20** (1976), *no.* 1, 53–60. (G. J. Etgen) **53** #3407 34B25

On the determination of the density of a vibrating string from spectral data. *J. Math. Anal. Appl.* **55** (1976), *no.* 3, 673–685. (R. C. Gilbert) **55** #5947 34B25

An inverse problem for a Hill's equation. *SIAM J. Appl. Math.* **31** (1976), *no* 2, 392–396. (Jan Bochenek) **54** #13199 34B25

On the well-posedness of the inverse Sturm-Liouville problems. *J. Differential Equations* **23** (1977), *no.* 3, 402–413. (F. Max Stein) **55** #8461 34B25

On a Hill's equation with double eigenvalues. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 2, 373–374. (Walter Eberhard) **56** #3404 34B30 (*with* Deutsch, Emeric) On Cauchy's inequalities for Hermitian matrices. *Amer. ath. Monthly* **85** (1978), *no.* 6, 486–487. (Ludwig Elsner) **58** #10965 15A42

(*with* Lieberman, Burton B.) An inverse Sturm-Liouville problem with mixed given ata. *SIAM J. Appl. Math.* **34** (1978), *no.* 4, 676–680. (Shinichi Kotani) **57** #10077 4B25

H[illegible]städter, Dieter Neuere Entwicklung der stochastischen Lagerhaltungstheorie. (English ummary) *Unternehmensforschung heute* (*Übersichtsvorträge, Züricher Tagung von VOR und DGU, Zurich,* 1970), *pp.* 30–51. *Lecture Notes in Oper. Res. and Math. ystems, Vol.* 50, *Springer, Berlin,* 1971. (E. V. Bulinskaja) **48** #5618 90B05

The stationary solution of multi-product inventory models. *Inventory control and ater storage* (*Proc. Conf., Győr,* 1971), *pp.* 121–150. *Colloq. Math. Soc. János Bolyai, o. 7, North-Holland, Amsterdam,* 1973. (Ulrich Rieder) **48** #13208 90B05

H[illegible]stenbach, W. J. M. A. Field theory with an external potential. *Comm. Math. Phys.* **51** 1976), *no.* 3, 211–217. (Author's summary) **56** #4474 81.31

H[illegible]ster, Melvin (*with* Eagon, John A.) Cohen-Macaulay rings, invariant theory, and the eneric perfection of determinantal loci. *Amer. J. Math.* **93** (1971), 1020–1058. (L. J. Ratliff, Jr.) **46** #1787 13H10 (14D20, 14M05)

The minimal prime spectrum of a commutative ring. *Canad. J. Math.* **23** (1971), 49–758. (T. E. Cramer) **45** #1887 13A15

Generically perfect modules are strongly generically perfect. *Proc. London Math. Soc.* (3) **23** (1971), 477–488. (R. A. Wiegand) **46** #162 13D99

Rings of invariants of tori, Cohen-Macaulay rings generated by monomials, and polytopes. *Ann. of Math.* (2) **96** (1972), 318–337. (Tadayuki Matsuoka) **46** #3511 3H10 (20G05)

Nonuniqueness of coefficient rings in a polynomial ring. *Proc. Amer. Math. Soc.* **34** 1972), 81–82. (W. Heinzer) **45** #3394 13B25

Cohen-Macaulay modules. *Conference on Commutative Algebra* (*Univ. Kansas, Lawrence, Kan.,* 1972), *pp.* 120–152. *Lecture Notes in Math., Vol.* 311, *Springer, Berlin,* 973. (E. Graham Evans, Jr.) **49** #5006 13H10

Properties of Noetherian rings stable under general grade reduction. *Arch. Math. Basel*) **24** (1973), 393–396. (D. Kirby) **48** #8485 13E05

Non-openness of loci in Noetherian rings. *Duke Math. J.* **40** (1973), 215–219. (J. Dieudonné) **47** #215 13E05

Grassmannians and their Schubert subvarieties are arithmetically Cohen-Macaulay. *J. Algebra* **25** (1973), 40–57. (L. J. Ratliff, Jr.) **47** #3383 13H10 (14M05, 14M15, 14N10)

Criteria for equality of ordinary and symbolic powers of primes. *Math. Z.* **133** (1973), 53–65. (L. J. Ratliff, Jr.) **48** #2127 13A15

Contracted ideals from integral extensions of regular rings. *Nagoya Math. J.* **51** (1973), 25–43. (E. Graham Evans, Jr.) **50** #2149 13B20 (13H05, 14M05)

(*with* Ratliff, Louis J., Jr.) Five theorems on Macaulay rings. *Pacific J. Math.* **44** (1973), 147–172. (Z. Papp) **47** #3384 13H10

Expanded radical ideals and semiregular ideals. *Pacific J. Math.* **44** (1973), 553–568. (L. J. Ratliff, Jr.) **47** #4984 13A15

Constraints on systems of parameters. *Ring theory* (*Proc. Conf., Univ. Oklahoma, Norman, Okla.,* 1973), *pp.* 121–161. *Lecture Notes in Pure and Appl. Math., Vol.* 7, *Dekker, New York.* 1974. (L. J. Ratliff, Jr.) **48** #8494 13H10

(*with* Roberts, Joel L.) Rings of invariants of reductive groups acting on regular rings are Cohen-Macaulay. *Advances in Math.* **13** (1974), 115–175. (M. Nagata) **50** #311 13H10 (14M15)

(*with* Roberts, Joel L.) Actions of reductive groups on regular rings and Cohen-Macaulay rings. *Bull. Amer. Math. Soc.* **80** (1974), 281–284. (S. L. Kleiman) **48** #8495 13H10 (14M05)

The equicharacteristic case of some homological conjectures on local rings. *Bull. Amer. Math. Soc.* **80** (1974), 683–686. (J. L. Palmquist) **49** #7256 13H10

Grade-sensitive modules and perfect modules. *Proc. London Math. Soc.* (3) **29** (1974), 55–76. (J. Ohm) **51** #10318 13C10

(*with* Eagon, John A.) *R*-sequences and indeterminates. *Quart. J. Math. Oxford Ser.* (2) **25** (1974), 61–71. (R. M. Fossum) **49** #2703 13D05 (14M10)

★Topics in the homological theory of modules over commutative rings. Expository lectures from the CBMS Regional Conference held at the University of Nebraska, Lincoln, Neb., June 24-28, 1974. Conference Board of the Mathematical Sciences Regional Conference Series in Mathematics, No. 24. *Published for the Conference Board of the Mathematical Sciences by the American Mathematical Society, Providence, R.I.,* 1975. vii + 75 *pp.* (Tadayuki Matsuoka) **51** #8096 13Dxx (14Bxx)

Big Cohen-Macaulay modules and algebras and embeddability in rings of Witt vectors. *Conference on Commutative Algebra*–1975 (*Queen's Univ., Kingston, Ont.,* 1975), *pp.* 106–195. *Queen's Papers on Pure and Applied Math., No.* 42, *Queen's Univ., Kingston, Ont.,* 1975. (R. M. Fossum) **53** #407 13H10

An obstruction to lifting cyclic modules. *Pacific J. Math.* **61** (1975), *no.* 2, 457–463. (Chr. U. Jensen) **54** #296 13C10

The Zariski-Lipman conjecture for homogeneous complete intersections. *Proc. Amer. Math. Soc.* **49** (1975), 261–262. (Tadayuki Matsuoka) **50** #13033 14E15 (13F99, 14M10)

(*with* Roberts, Joel L.) The purity of the Frobenius and local cohomology. *Advances in Math.* **21** (1976), *no.* 2, 117–172. (Gerhard Pfister) **54** #5230 14B15 (13C15, 14M99)

Cohen-Macaulay rings, combinatorics, and simplicial complexes. *Ring theory, II* (*Proc. Second Conf., Univ. Oklahoma, Norman, Okla.,* 1975), *pp.* 171–223. *Lecture Notes in Pure and Appl. Math., Vol.* 26, *Dekker, New York,* 1977. (Gerhard Pfister) **56** #376 14M05 (13H10)

The Zariski-Lipman conjecture in the graded case. *J. Algebra* **47** (1977), *no.* 2, 411–424. (John D. Leadley) **57** #9697 14B05

Cyclic purity versus purity in excellent Noetherian rings. *Trans. Amer. Math. Soc.* **231** (1977), *no.* 2, 463–488. (T. Albu) **57** #3111 13D99

Some applications of the Frobenius in characteristic 0. *Bull. Amer. Math. Soc.* **84** (1978), *no.* 5, 886–912. (D.-M. Popescu) **58** #5650 13H10 (13–02, 14L99, 14M15)

See also **Boutot, Jean-François**, **56** #5548

ochstetter, Erich Gottfried Wilhelm Leibniz, 1646–1716. Mit einem Faksimiledruck von Leibniz' Niederschrift vom 15. März 1679. *Herrn von Leibniz' Rechnung mit Null und Eins, pp.* 11–19. (2 *foldouts*) *Siemens Aktiengesellschaft, Berlin,* 1969. (Eberhard Knobloch) **58** #21160b 01A45

Hocking, J. G. (*with* Cameron, P.; Naimpally, S. A.) Nearness—a better approach to continuity and limits. *Amer. Math. Monthly* **81** (1974), 739-745. (Pavel Kostyrko) **50** #2403 26–01

(*with* Doyle, P. H.) Continuous bijections on manifolds. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 3, 257–263. (John J. Walsh) **54** #13925 57A99

Hocking, L. M. (*with* Stewartson, Keith) On the nonlinear response of a marginally unstable plane parallel flow to a two-dimensional disturbance. *Proc. Roy. Soc. London Ser. A* **326** (1972), 289–313. (William B. Heard) **48** #7761 76.35

The stability of flow in an elliptic pipe with large aspect ratio. *Quart. J. Mech. Appl. Math.* **30** (1977), *no.* 3, 343–353. (S. I. Rosercrans) **58** #32332 76.35

Hocking, R. R. (*with* Thompson, Russell G.; George, Melvin D.) A nonconvex control problem for the competitive firm. *Econometrica* **39** (1971), 767–772. (Nancy L. Schwartz) **53** #4934 90A15

(*with* Shepard, R. L.) Parametric solution of a class of nonconvex programs. *Operations Res.* **19** (1971), 1742–1747. (R. N. P. Singh) **46** #6589 65K05

A discussion of the two-way mixed model. *Amer. Statist.* **27** (1973), 148–152. (T. Robertson) **49** #8230 62J10

(*with* Speed, F. M.) Computation of expectations, variances and covariances of ANOVA mean squares. (French summary) *Biometrics* **30** (1974), 157–169. (K. R. Shah) **49** #8231 62J10

(*with* Kutner, Michael H.) Some analytical and numerical comparisons of estimators for the mixed A.O.V. model. (French summary) *Biometrics* **31** (1975), 19–28. (Arthur Cohen) **51** #7173 62J10

(*with* Speed, F. M.) A full rank analysis of some linear model problems. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 351, *part* 1, 706–712. (Burt S. Holland) **52** #12235 62J10

(*with* Speed, F. M.) The use of the *R*( )-notation with unbalanced data. *Amer. Statist.* **30** (1976), *no.* 1, 30–33. (Authors' introduction) **56** #7040 (E **56** #7041) 62J10

The analysis and selection of variables in linear regression. *Biometrics* **32** (1976), *no.* 1, 1–49. (Colin L. Mallows) **53** #1863 62J05

(*with* Speed, F. M.; Lynn, M. J.) A class of biased estimators in linear regression. *Technometrics* **18** (1976), *no.* 4, 425–437. (Jeffrey A. Robinson) **55** #1643 62J05

See also **Stone, Mervyn**, **50** #8847 (E **54** #3988) *and* **Klimko, Lawrence A.; et al.**, **56** #7041

Hocquemiller, J. (*with* Weil, J.) ★Solutions développées des exercices du traité *Algèbre* par S. MacLane et G. Birkhoff. Première partie: Ensembles. Groupes. Anneaux. Corps. Préface de S. MacLane et G. Birkhoff. *Gauthier-Villars, Paris,* 1972. xii + 220 *pp.* (Editors) **50** #4181 00A05

Hocquenghem, A. *See* **Algebraic coding theory: history and development**, **51** #9958 *and* **Key papers in the development of coding theory**, **52** #5176

Hodak, G. L. The average delay in the decoding of decodable codes. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 1284–1287. (Siegmar Gerber) **47** #4706 94A10

Redundancy estimates in the word-by-word coding of messages generated by a Bernoulli source. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 2, 21–32. (A. A. Mullin) **49** #8734 94A10

The cost of transmitting sequences. (Russian. English summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 4, 299–310. (Giuseppe Longo) **57** #5419 94A15

See also **Symposium: Information Theory**, **50** #9416

Hodel, Margaret J. Weighted sequences of nonnegative integers. *Duke Math. J.* **40** (1973), 493–510. (N. G. de Bruijn) **49** #2522 10A40

(*with* Carlitz, Leonard) Corrigendum to: "Enumeration of two-line arrays" (Fibonacci Quart. **11** (1973), no. 2, 113–130) by L. Carlitz. *Fibonacci Quart.* **12** (1974), 266. (D. P. Roselle) **50** #4320 05A15

Combinatorial interpretation of an analog of generalized binomial coefficients. *Fibonacci Quart.* **12** (1974), 360–362. (Michael Henle) **50** #4319 05A10 (10A45)

Enumeration of sequences of nonnegative integers. *Math. Nachr.* **59** (1974), 235–252. (D. A. Klarner) **49** #8927 10A30 (05A15)

A note on inversions and generalized Dedekind sums. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 146–157. (E. Grosswald) **51** #12685 10A40

Enumeration of weighted rectangular arrays. *Ann. Mat. Pura Appl.* (4) **106** (1975), 329–351. (Louis Comtet) **53** #2700 05A15

Enumeration of weighted *p*-line arrays. *Pacific J. Math.* **60** (1975), *no.* 1, 141–167. (D. P. Roselle) **54** #2480 05A15

Hodel, R. E. Spaces characterized by sequences of covers which guarantee that certain sequences have cluster points. *Proceedings of the University of Houston Point Set Topology Conference* (*Houston, Tex.,* 1971), pp. 105–114. *Univ. Houston, Houston, Tex.,* 1971. (H. R. Bennett) **53** #11580 54E35 (54D20)

Moore spaces and *w* Δ-spaces. *Pacific J. Math.* **38** (1971), 641–652. (D. J. Lutzer) **46** #6290 54D20 (54E30)

Spaces defined by sequences of open covers which guarantee that certain sequences have cluster points. *Duke Math. J.* **39** (1972), 253–263. (D. R. Traylor) **45** #2657 54D20

(*with* Heath, Robert W.) Characterizations of σ-spaces. *Fund. Math.* **77** (1973), *no.* 3, 271–275. (Douglas Harris) **47** #9549 54Exx

Some results in metrization theory, 1950–1972. *Topology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.,* 1973), *pp.* 120–136. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin,* 1974. (J. G. Ceder) **50** #8459 54E35

(*with* Vaughan, J. E.) A note on [a,b]-compactness. *General Topology and Appl.* **4** (1974), 179–189. (S. Swaminathan) **49** #6153 54D30

Metrizability of topological spaces. *Pacific J. Math.* **55** (1974), 441–459. (C. R. Borges) **51** #6747 54E35

On the weight of a topological space. *Proc. Amer. Math. Soc.* **43** (1974), 470–474. (I. Juhász) **48** #12444 54A25

On a theorem of Arhangel'skiĭ concerning Lindelöf *p*-spaces. *Canad. J. Math.* **27** (1975), 459–468. (G. H. M. Thomas) **51** #11401 54A25 (54D20)

(*with* Charlesworth, Arthur; Tall, Franklin D.) On a theorem of Jones and Heath concerning separable normal spaces. *Colloq. Math.* **34** (1975/76), *no.* 1, 33–37. (F. Burton Jones) **53** #9123 54A25 (54D15, 04A10)

Extensions of metrization theorems to higher cardinality. *Fund. Math.* **87** (1975), *no.* 3, 219–229. (C. R. Borges) **51** #9010 54A25 (54E35)

New proof of a theorem of Hajnal and Juhász on the cardinality of topological spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 11, 999–1000. (Paul R. Meyer) **55** #6346 54A25

(*with* Okuyama, Akihiro) Cardinal functions and a metrization theorem. *Math. Japon.* **21** (1976), *no.* 1, 61–62. (C. R. Borges) **54** #11274 54D20 (54A25)

(*with* Burke, D. K.) The number of compact subsets of a topological space. *Proc. Amer. Math. Soc.* **58** (1976), 363–368. (L. Gillman) **54** #6058 54A25 (54D30)

The Alexandroff-Urysohn metrization theorem revisited. *Set-theoretic topology* (*Papers, Inst. Medicine and Math., Ohio Univ., Athens, Ohio*, 1975–1976), *pp.* 239–253. *Academic Press, New York*, 1977. (Jacob Kofner) **56** #3804 54E35

The number of closed subsets of a topological space. *Canad. J. Math.* **30** (1978), *no.* 2, 301–314. (A. H. Stone) **57** #4066 54A25

Hodel′, V. A. (*with* Saperšteĭn, È. E.; Fajans, S. A.) A quantum hydrodynamical description of the collective states of atomic nuclei. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **9** (1978), *no.* 2, 221–285. (A. A. Arsen′ev) **58** #4047 81.35

Hodes, Harold T. Uniform upper bounds on ideals of Turing degrees. *J. Symbolic Logic* **43** (1978), *no.* 3, 601–612. (G. N. Kobzev) **58** #10369 02F30

Hodes, Louis The logical complexity of geometric properties in the plane. *J. Assoc. Comput. Mach.* **17** (1970), 339–347. (J. A. Schatz) **45** #8527 02E99

Solving problems by formula manipulation in logic and linear inequalities. *Artifical Intelligence* **3** (1972), 165–174. (Charles G. Morgan) **48** #5441 68A40

See also **Cybernetics collection, 48** #5714

Hodge, Philip G., Jr. A consistent finite-difference model for the two-dimensional continuum. *Continuum mechanics and related problems of analysis* (*on the occasion of the eightieth birthday of Academician N. I. Mushelišvili*) (*Russian*), *pp.* 605–614. *Izdat. "Nauka", Moscow*, 1972. (Raičo Lazarov) **52** #12502 73.65

See also **Collection: Prager, William, 48** #1566

Hodge, William Vallance Douglas Solomon Lefschetz. *Bull. London Math. Soc.* **6** (1974), 198 217. (1 *plate*) (Editors) **52** #5304 01A70

See also **Maxwell, E. A., 53** #7693 *and* **Atiyah, M. F., 55** #44

Hodges, J. L., Jr. (*with* Lehmann, E. L.) Wilcoxon and t test for matched pairs of typed subjects. *J. Amer. Statist. Assoc.* **68** (1973), 151–158. (M. Csorgo) **51** #11804 62G10 (62J15)

Hodges, John H. A note on irregularities in distribution of sequences of integers. *Portugal. Math.* **31** (1972), 171–176. (H. Halberstam) **47** #174 10K05

Note on some partitions of a rectangular matrix. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **59** (1975), *no.* 6, 662–666 (1976). (Author's introduction) **58** #259 05A15 (15A24)

Ranked partitions of rectangular matrices over finite fields. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no.* 1, 6–12. (John D. Fulton) **57** #12557 15A33 (15A24)

(*with* Carlitz, Leonard) Enumeration of matrices of given rank with submatrices of given rank. *Linear Algebra and Appl.* **16** (1977), *no.* 3, 285–291. (Edward A. Bender) **57** #5774 05A15

Hodges, S. D. (*with* Moore, P. G.) Data uncertainties and least squares regression. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **21** (1972), 185–195. (E. S. Keeping) **46** #6543 62J05

Hodges, Wilfred On order-types of models. *J. Symbolic Logic* **37** (1972), 69–70. (Andreas Blass) **48** #95 02H05

Models in which all long indiscernible sequences are indiscernible sets. *Fund. Math.* **78** (1973), *no.* 1, 1–6. (M. Boffa) **47** #8285 02H05

A normal form for algebraic constructions. *Bull. London Math. Soc.* **6** (1974), 57–60. (Andreas Blass) **51** #10198 08A25 (02H05)

Six impossible rings. *J. Algebra* **31** (1974), 218–244. (Paul C. Eklof) **50** #315 13L05 (02H15, 02K20)

A normal form for algebraic constructions. II. Comptes Rendus de la Semaine d'Étude en Theorie des Modèles (Inst. Math., Univ. Catholique Louvain, Louvain-la-Neuve, 1975). *Logique et Analyse* (*N.S.*) **18** (1975), *no.* 71-72, 429–487. (From the introduction) **58** #21903 08A25 (02H05)

Läuchli's algebraic closure of Q. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 2, 289–297. (G. Cherlin) **54** #10014 02K05 (02H15, 02K20, 12L05, 12A99)

On the effectivity of some field constructions. *Proc. London Math. Soc.* (3) **32** (1976), *no.* 1, 133–162. (G. Cherlin) **55** #10252 02E99 (12L99, 02K20)

(*with* Lachlan, Alistair H.; Shelah, Saharon) Possible orderings of an indiscernible sequence. *Bull. London Math. Soc.* **9** (1977), *no.* 2, 212–215. (Douglas Cenzer) **57** #16085 04A20 (06A05)

See also **Conference: Mathematical Logic, 48** #5804

Hodgkin, Luke The K-theory of some wellknown spaces. I. QS^0. *Topology* **11** (1972), 371–375. (J. C. Becker) **48** #9701 55B15

Dyer-Lashof operations in K-theory. *New developments in topology* (*Proc. Sympos. Algebraic Topology, Oxford*, 1972), *pp.* 27–32. *London Math. Soc. Lecture Note Ser., No.* 11, *Cambridge Univ. Press, London*, 1974. (R. J. Milgram) **49** #3940 55G20

The equivariant Künneth theorem in K-theorem. *Topics in K-theory. Two independent contributions*, *pp.* 1–101. *Lecture Notes in Math., Vol.* 496, *Springer, Berlin*, 1975. (V. P. Snaith) **57** #17645 55H20 (55F50)

Hodgkinson, D. E. A modified equation of geodesic deviation. *General Relativity and Gravitation* **3** (1972), 351–375. (R. Berezdivin) **53** #2279 83.53

Hodgson, Jonathan P. E. Automorphisms of metastably connected PL-manifolds. *Proc. Cambridge Philos. Soc.* **69** (1971), 75–77. (B. G. Casler) **45** #6010 57C99

A generalization of "concordance of PL-homeomorphisms of $S^p \times S^q$". *Canad. J. Math.* **24** (1972), 426–431. (L. S. Husch) **46** #4543 57C35

The Whitney technique for Poincaré complex embeddings. *Proc. Amer. Math. Soc.* **35** (1972), 263–268. (K. Aoki) **46** #2680 57A35

Diffeomorphisms of some smooth metastably connected manifolds. *Proc. Cambridge Philos. Soc.* **71** (1972), 19–23. (R. Schultz) **47** #9648 57D50

Subcomplexes of Poincaré complexes. *Bull. Amer. Math. Soc.* **80** (1974), 1146–1150. (C. B. Thomas) **50** #14760 57B10

General position in the Poincaré duality category. *Invent. Math.* **24** (1974), 311–334. (R. De Sapio) **49** #8024 57B10 (57C20)

On isolated fixed points of groups actions on Poincaré complexes. *Mathematika* **21** (1974), 114–115. (R. H. Rosen) **51** #1857 57E15 (55C20, 57B10)

Trivializing spherical fibrations and embeddings of Poincaré complexes. *Math. Z.* **158** (1978), *no.* 1, 35–43. (John Cantwell) **57** #13961 57B10

Hodgson, Thom J. (*with* Dorsey, Robert C.; Ratliff, H. Donald) A production-scheduling problem with batch processing. *Operations Res.* **22** (1974), *no.* 6, 1271–1279. (A. T. Amin) **56** #14640 90B35 (90C50)

A note on single machine sequencing with random processing times. *Management Sci.* **23** (1976/77), *no.* 10, 1144–1146. (From the introduction) **58** #32903 90B35

See also **Symposium: Theory of Scheduling and its Applications, 48** #3481

Hódi, Endre *See* **Mathematisches Mosaik, 58** #26646

el-Hodiri, Mohamed A. *See* **El-Hodiri, Mohamed A.**

Hodi-Zade, P. D. A local investigation of a second order dynamical system. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 296 (1976), 137–145, 180. (Author's summary) **58** #22831 34C35

Hod′kov, Ju. A. (*with* Lazutkin, V. F.) A counter-example to V. I. Arnol′d's conjecture concerning the eigenoscillations of a membrane. (Russian) Mathematical questions in the theory of wave propagation, 7. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst Steklov.* (*LOMI*) **51** (1975), 134–137, 219. (J. S. Joel) **58** #31313 58G99 (35P20)

Hodosova, A. D. Estimation of the domain of existence of periodic solutions of differential equations with a small parameter by the method of G. V. Kamenkov. (Russian) *Collection of scientific works of graduates, No.* 7: *Mathematics, mechanics, physics* (*Russian*), *pp.* 135–143. *Univ. Družby Narodov, Moscow*, 1970. (M. Švec) **46** #453 34C25

Investigation of the nonlinear oscillations of a nonautonomous system of order $n+2$, in the case of one pair of pure imaginary roots, by means of the Ljapunov function. (Russian) *Collection of scientific works of postgraduates, No. XI*: *Mathematics and physics* (*Russian*), *pp.* 3–23. *Univ. Družby Narodov, Moscow*, 1972. (D. Bobrowski) **49** #729 34C15

Hodson, F. R. *See* **Place of astronomy in the ancient world, 57** #15838

Ho Duc Viet Remarks on subdifferentials of convex functionals. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 4, 641–661. (A. D. Ioffe) **52** #11588 46G05 (58C20)

Strong continuity of gradient mappings. *Math. Nachr.* **79** (1977), 299–309. (Ju. G. Borisovič) **58** #7688 58C25 (47H99)

Hodžabagjan, S. S. (*with* Nagaev, A. V.) Unbiased estimators and statistical quality control. (Russian) *Stochastic processes and related problems, Part* 2 (*Russian*), *pp.* 80–85. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1971. (K. Sarkadi) **54** #1455 62F10 (62N10)

The stability of unbiased estimators. (Russian) *Stochastic processes and related problems, Part* 2 (*Russian*), *pp.* 86–92. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1971. (K. Sarkadi) **54** #1521 62N10

Shepp's theorem for non-identically distributed summands. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **15** (1971), *no.* 5, 26–29. (L. A. Shepp) **46** #8283 60F05

A local theorem on the number of renewals. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **16** (1972), *no.* 1, 42–45. (M. R. Leadbetter) **45** #4521 60K05

(*with* Nagaev, A. V.) Two limit theorems on nonidentically distributed summands. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 3, 147–156, 211. (M. Iosifescu) **47** #4321 60F10

(*with* Nagaev, A. V.) Limit theorems, that take into account large deviations, for sums of positive random variables. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 1, 149–163, 231–232. (J. G. Wendel) **51** #11628 60F05 (60K05)

(*with* Muhin, A. B.) A local limit theorem for densities in R^r, and asymptotic uniform distribution. (Russian) *Limit theorems and mathematical statistics* (*Russian*), *pp.* 122–128, 189. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1976. (J. Galambos) **55** #9232 60F05

Estimation of the concentration function of sums of independent random variables. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 1, 29–33, 91. (G. Sîmboan) **53** #11703 60F05 (60G50)

On the weak form of a local theorem in R^r. (Russian) *Limit theorems for random processes* (*Russian*), *pp.* 153–161, 167. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1977. (Friedrich Liese) **56** #13317 60F05

Hodžaev, K. Š. On a certain nonlinear equation of electrohydrodynamics and magnetoelasticity. *Prikl. Mat. Meh.* **35** (1971), 1038–1046 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 986–994 (1972). (R. C. Ackerberg) **48** #12982 76.34 (78.34)

Hodžaev, L. Š. (*with* Kasymžanov, M. A.) Generalized Hamiltonian formulation of the strictly localizable Lagrangian field theory. (Russian. English summary) *Teoret. Mat. Fiz.* **16** (1973), *no.* 2, 213–223. (Authors' summary) **58** #14669 81.47

(*with* Sujarov, U. S.) Properties of the Wightman function in a nonpolynomial Lagrangian field theory. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 3, 66–70, 97. (Ju. M. Širokov) **53** #9933 81.33

(*with* Asadullin, A. A.) The local properties of quantum fields for arbitrary spin. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 4, 60–63. (D. Ja. Petrina) **52** #16360 81.46

(*with* Asadullin, A. A.) The structure of vertex functions and the analytic form-factors for arbitrary spin. I. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 2, 78–82, 96. (Ju. M. Širokov) **56** #17546 81.22

(*with* Asadullin, A. A.) The structure of the matrix elements of the S-matrix and invariant amplitudes for arbitrary spin. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 6, 75–80, 103. (J. Lawrynowicz) **58** #14551 81.32

Hodžanijazov, D. H. (*with* Bondarenko, B. A.) Polynomial and associated solutions of the heat equation and its iterates. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser Fiz.-Mat. Nauk* **18** (1974), *no.* 5, 18–24, 65. (R. S. Levitin) **52** #1005 35K05 (35C99)

Two classes of exact solutions of the generalized heat equation and its iterations. ussian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 23 (1974), 75–81, 224. (R. S. evitin) **58** #17463 35C05 (35K05)

Solution of the Cauchy problem for generalized caloric and bicaloric equations. ussian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 27 (1974), 19–26, 231. (Author's mmary) **58** #17465 35C10 (35K05)

(*with* Bondarenko, B. A.) Application of special polynomials to the solution of the auchy problem for a system of differential equations of viscoplastic media. (Russian) *oundary value problems for differential equations*, 5 (*Russian*), *pp.* 174–181, 187. *Izdat. Fan" Uzbek. SSR*, *Tashkent*, 1975. (Authors' summary) **58** #17598 35Q99

(*with* Bondarenko, B. A.) Application of generalized polycaloric polynomials to the lution of the Cauchy problem and the Riquier-Nicolescu problem. (Russian) *oundary value problems for differential equations and their applications* (*Russian*), *pp.* 3–88, 158. *Fan*, *Uzbek. SSR*, *Tashkent*, 1976. (Authors' summary) **58** #29109 5C99

ev, I. (*with* Dobrovol′skiĭ, O. V.; Kahhorov, A.) Perfect and amicable numbers in e medieval East. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. iz.-Mat. i Geolog.-Him. Nauk* **1976**, *no.* 3(61), 24–28. (Editors) **58** #26779 01A30 0–03)

(*with* Kahhorov, A.) The astronomical and mathematical manuscripts that are held the A. Firdausi State Library of the Republic. (Russian. Tajiki summary) *Izv. Akad. auk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 1(63), 23–30. Editors) **57** #5649 01A75 (01A30)

(*with* Kahhorov, A.) Ibn Sīnā—mathematician (on the occasion of the 1000th nniversary of his birth). (Russian) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i eolog.-Him. Nauk* **1977**, *no.* 3(65), 121–124. (Editors) **58** #4808 01A30 (10A45)

iev, Š. The generalized solution of arbitrary systems of linear equations. (Russian. ajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **14** (1971), *no.* 7, 7–8. (F. zidarovszky) **45** #1935 15A06

(*with* Džumaev, S.; Ačil′diev, A. I.) A stable modification of Greville's method for inding the pseudoinverse of a matrix. (Russian. Tajiki summary) *Dokl. Akad. Nauk adžik. SSR* **18** (1975), *no.* 11, 3–5. (J. Segethova) **53** #9618 65F15

John ★Les systèmes d'équations polynômes dans le *Siyuan yujian* (1303) par Chu hih-chieh. Mémoires de l'Institut des Hautes Études Chinoises, Vol. VI. *Institut des autes Études Chinoises*, *Collège de France*, *Paris*, 1977. i + 338 + iii *pp.* *SBN* 2-85757-004-X (Bruno Poizat) **58** #15816 01A25

chsmann, K. (*with* Gamst, J.) Ext-products and edge-morphisms. *Tôhoku Math. J.* (2) 23 (1971), 581–588. (M. Barr) **46** #1884 18G15

(*with* Shatz, Stephen S.) Norms of finite morphisms. *Abh. Math. Sem. Univ. Hamburg* **38** (1972), 125–140. (Lindsay N. Childs) **47** #3393 14E20 (12F15)

de, C. (*with* Veldman, H. J.) On characterization of Hamiltonian graphs. *J. Combin. Theory Ser. B* **25** (1978), *no.* 1, 47–53. (Rudolf Halin) **58** #379 05C99

ffding, Wassily On the centering of a simple linear rank statistic. *Ann. Statist.* **1** (1973), 54–66. (I. R. Savage) **50** #15129 62G10

The L_1 norm of the approximation error for splines with equidistant knots. *J. Approximation Theory* **11** (1974), 176–193. (John M. Karon) **50** #5283 (E **57** #6960) 41A15

Harold Hotelling, 1895–1973. *Internat. Statist. Rev.* **44** (1976), *no.* 3, 385–386. (Editors) **54** #9939 01A70

More incomplete and boundedly complete families of distributions. *Statistical decision theory and related topics, II* (*Proc. Sympos., Purdue Univ., Lafayette, Ind.*, 1976), *pp.* 157–164. *Academic Press*, *New York*, 1977. (R. H. Berk) **56** #1571b 62G05 (62A05)

Some incomplete and boundedly complete families of distributions. *Ann. Statist.* **5** (1977), *no.* 2, 278–291. (R. H. Berk) **56** #1571a 62G05 (62A05)

Erratum: "The L_1 norm of the approximation error for splines with equidistant knots" (J. Approximation Theory **11** (1974), 176–193). *J. Approximation Theory* **21** (1977), *no.* 3, 313–314. (Editors) **57** #6960 41A15

gh-Krohn, Raphael J. A general class of quantum fields without cut-offs in two space-time dimensions. *Comm. Math. Phys.* **21** (1971), 244–255. (W. Faris) **45** #1519 81.47

(*with* Albeverio, Sergio A.) ★Asymptotic series for the scattering operator and asymptotic unitarity of the space cut-off interactions. Mathematics Preprint Series, No. 24. *Matematisk Institutt*, *Universitetet i Oslo*, *Oslo*, 1972. 30 *pp.* (Editors) **52** #16369 81.47

Infinite dimensional analysis with applications to self-interacting boson fields in two space time dimensions. *Papers from the "Open House for Functional Analysts"* (*Aarhus Univ., Aarhus*, 1972), *Paper No.* 8, 16 *pp. Various Publications Ser., No.* 23, *Mat. Inst.*, *Aarhus Univ.*, *Aarhus*, 1972. (Francesco Guerra) **56** #10585 81.47 (35J15, 35R15)

(*with* Simon, Barry) Hypercontractive semigroups and two dimensional self-coupled Bose fields. *J. Functional Analysis* **9** (1972), 121–180. (S. Gudder) **45** #2528 47A55 (81.47)

(*with* Albeverio, Sergio A.) ★The Wightman axioms and the mass gap for strong interactions of exponential type in two-dimensional space-time. Mathematics Preprint Series, No. 12 (1973). *Matematisk Institutt*, *Universitetet i Oslo*, *Oslo*, 1973. iv + 57 *pp.* (Editors) **52** #16372 81.47

(*with* Albeverio, Sergio A.) Uniqueness of the physical vacuum and the Wightman functions in the infinite volume limit for some non polynomial interactions. *Comm. Math. Phys.* **30** (1973), 171–200. (M. J. Westwater) **49** #10289 81.47

(*with* Albeverio, Sergio A.) The scattering matrix for some non-polynomial interactions. I. II. *Helv. Phys. Acta* **46** (1973/74), 504–534; *ibid.* **46** (1973/74), 535–545. (L. Thomas) **50** #15704 81.47

(*with* Albeverio, Sergio A.) Asymptotic series for the scattering operator and asymptotic unitarity of the space cut-off interactions. (Italian and Russian summaries) *Nuovo Cimento A* (11) **18** (1973), 285–307. (Y. Kato) **52** #16371 81.47

Relativistic quantum statistical mechanics in two-dimensional space-time. *Comm. Math. Phys.* **38** (1974), 195–224. (M. J. Westwater) **51** #2561 82.47

(*with* Albeverio, Sergio A.) The Wightman axioms and the mass gap for strong interactions of exponential type in two-dimensional space-time. *J. Functional Analysis* **16** (1974), 39–82. (S. Gudder) **50** #9230 81.47

(*with* Albeverio, Sergio A.) A remark on the connection between stochastic mechanics and the heat equation. *J. Mathematical Phys.* **15** (1974), 1745–1747. (H. Primas) **52** #9918 81.60

(*with* Figari, Rodolfo; Nappi, Chiara Rosanna) Interacting relativistic boson fields in the de Sitter universe with two space-time dimensions. *Comm. Math. Phys.* **44** (1975), *no.* 3, 265–278. (Etang Chen) **52** #4887 81.47 (82.41, 83.47)

(*with* Albeverio, Sergio A.) Homogeneous random fields and statistical mechanics. *J. Funct. Anal.* **19** (1975), 242–272. (G. Gallavotti) **51** #14319 60K35 (82.60)

(*with* Albeverio, Sergio A.) ★Mathematical theory of Feynman path integrals. Lecture Notes in Mathematics, Vol. 523. *Springer-Verlag*, *Berlin-New York*, 1976. iv + 137 *pp.* *ISBN* 3-540-07785-5 (Cécile DeWitt-Morette) **58** #14535 81.28

(*with* Albeverio, Sergio A.) Quasi invariant measures, symmetric diffusion processes and quantum fields. (French summary) *Les méthodes mathématiques de la théorie quantique des champs* (*Colloq. Internat. CNRS, No.* 248, *Marseille*, 1975), *pp.* 11–59. *Éditions Centre Nat. Recherche Sci.*, *Paris*, 1976. (Authors' summary) **57** #18649 81.60 (28A40, 60J60)

(*with* Albeverio, Sergio A.) Hunt processes and analytic potential theory on rigged Hilbert spaces. (French summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **13** (1977), *no.* 3, 269–291. (M. Fukushima) **58** #7872 60J45

(*with* Albeverio, Sergio A.) Dirichlet forms and Markov semigroups on C^*-algebras. *Comm. Math. Phys.* **56** (1977), *no.* 2, 173–187. (Horst Behncke) **57** #1138 46L05

(*with* Albeverio, Sergio A.) Oscillatory integrals and the method of stationary phase in infinitely many dimensions, with applications to the classical limit of quantum mechanics. I. *Invent. Math.* **40** (1977), *no.* 1, 59–106. (Alan Weinstein) **57** #14076 58G99 (81.58)

(*with* Albeverio, Sergio A.; Streit, Ludwig) Energy forms, Hamiltonians, and distorted Brownian paths. *J. Mathematical Phys.* **18** (1977), *no.* 5, 907–917. (Francesco Guerra) **56** #4564 81.60

(*with* Albeverio, Sergio A.) Dirichlet forms and diffusion processes on rigged Hilbert spaces. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **40** (1977), *no.* 1, 1–57. (M. Fukushima) **56** #13373 60J60 (60K35, 31C25, 81.60, 28A40)

(*with* Evans, David E.) Spectral properties of positive maps on C^*-algebras. *J. London Math. Soc.* (2) **17** (1978), *no.* 2, 345–355. (E. Størmer) **58** #2319 46L05

Hoehn, E. K. H. Properties of stability diagrams for Hill's equation. *Z. Angew. Math. Mech.* **54** (1974), 734–737. (H. Hochstadt) **50** #5114 34D30

Hoehnke, Hans-Jürgen Superposition partieller Funktionen. *Studien zur Algebra und ihre Anwendungen* (*mit Anwendungen in der Mathematik, Physik und Rechentechnik*), *pp.* 7–26. *Schriftenreihe Zentralinst. Math. Mech. Akad. Wissensch. DDR, No.* 16, *Akademie Verlag*, *Berlin*, 1972. (S. Comer) **50** #62 02C20 (05A99)

Über den Verband der Faktorobjekte eines Objekts in einer Bikategorie. *Studien zur Algebra und ihre Anwendungen* (*mit Anwendungen in der Mathematik, Physik und Rechentechnik*), *pp.* 27–40. *Schriftenreihe Zentralinst. Math. Mech. Akad. Wissensch. DDR, No.* 16, *Akademie Verlag*, *Berlin*, 1972. (R. Wiegandt) **49** #9041 18A20

Identitäten in Matrizenkategorien mit Kroneckerprodukt. *Rings, modules and radicals* (*Proc. Colloq., Keszthely*, 1971), *pp.* 209–214. *Colloq. Math. Soc. János Bolyai*, *Vol.* 6, *North-Holland*, *Amsterdam*, 1973. (H.-B. Brinkmann) **54** #2690 15A30 (18B99)

Struktursätze der Algebra und Kompliziertheit logischer Schemata. I. Boolesche Algebren. *Math. Nachr.* **61** (1974), 15–35. (W. Wechler) **51** #12427a 94A20

Struktursätze der Algebra und Kompliziertheit logischer Schemata. II. Universale Algebren. *Math. Nachr.* **63** (1974), 337–351. (W. Wechler) **51** #12427b 94A20

Struktursätze der Algebra und Kompliziertheit logischer Schemata. III. Algebraische Theorien und Verallgemeinerungen. *Math. Nachr.* **64** (1974), 71–93. (W. Wechler) **51** #12427c 94A20

Allgemeine Algebra der Automaten. Ein Bericht. (Russiansummary) *Scripta Fac. Sci. Natur. UJEP Brunensis-Math.* **4** (1974), *no.* 1, 7–25. (Heinrich Seidel) **55** #8136 18B20 (68A25, 94A30)

Existence of nontrivial stochastic monoids. *Semigroup Forum* **9** (1974/75), *no.* 2, 102–108. (André Lentin) **51** #12980 18B10

Synthesis and complexity of logical systems. *Category theory applied to computation and control* (*Proc. First Internat. Sympos., San Francisco, Calif.*, 1974), *pp.* 170–173. *Lecture Notes in Comput. Sci.*, *Vol.* 25, *Springer*, *Berlin*, 1975. (Michael Anshel) **54** #6560 68A25 (94A30)

On partial recursive definitions and programs. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 260–274. *Lecture Notes in Comput. Sci.*, *Vol.* 56, *Springer*, *Berlin*, 1977. (Horst Reichel) **58** #25095 68A10 (02F15, 18B20)

See also **Studien zur Algebra und ihre Anwendungen**, **48** #8172; **Sitzungsberichte: Plenums und der Klasse der Akademie der Wissenschaften der DDR**, **55** #2447 *and* **Universale Algebren und Theorie der Radikale**, **56** #214

Hoel, Carlton Germ hypoellipticity. *A seminar on PDEs*—1973, *pp.* 54–58. *Rutgers Univ.*, *New Brunswick, N.J.*, 1973. (Editors) **58** #29346 35H05

A note on local solvability. *Duke Math. J.* **40** (1973), 839–843. (Ju. V. Egorov) **50** #13856 35F05

Pseudodifferential resolvent for a certain non-locally-solvable operator. *Canad. J. Math.* **26** (1974), 1130–1140. (F. Cardoso) **51** #3974 47G05 (35S05)

Fundamental solutions of some degenerate operators. *J. Differential Equations* **15** (1974), 379–417. (J. Unterberger) **49** #11031 35H05

Hoel, David G. A method for the construction of sequential selection procedures. *Ann. Math. Statist.* **42** (1971), 630–642. (Hubert J. Chen) **46** #8343 62F07

(*with* Sobel, Milton) Comparisons of sequential procedures for selecting the best binomial population. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. IV*: *Biology and health*, *pp.* 53–69. *Univ. California Press*, *Berkeley*, *Calif.*, 1972. (Yung L. Tong) **54** #1449 62F07 (62L10)

(*with* Sobel, Milton; Weiss, George H.) A two-stage procedure for choosing the better of two binomial populations. *Biometrika* **59** (1972), 317–322. (W. Uhlmann) **49** #4142 62F07

An inverse stopping rule for play-the-winner sampling. *J. Amer. Statist. Assoc.* **67** (1972), 148–151. (V. J. Yohai) **47** #6041 62L15

(*with* Patel, Kantilal M.) A generalized Jonckheere *k*-sample test against ordered alternatives when observations are subject to arbitrary right censorship. *Comm. Statist.* **2** (1973), 373–380. (J. Capon) **48** #9959 62G10

(*with* Patel, Kantilal M.) A nonparametric test for interaction in factorial experiments. *J. Amer. Statist. Assoc.* **68** (1973), 615–620. (Z. Govindarajulu) **52** #2021 62G10 (62K15)

(*with* Crump, Kenny S.) Estimating the generation-time distribution of an age-dependent branching process. (French summary) *Biometrics* **30** (1974), 125–135. (H. H. Stratton) **49** #6388 60J80

(*with* Crump, Kenny S.) Mathematical models for estimating mutation rates in cell populations. *Biometrika* **61** (1974), 237–252. (P. Holgate) **51** #9417 62P10

(*with* Simon, Richard M.; Weiss, George H.) Sequential analysis of binomal clinical trials. *Biometrika* **62** (1975), 195–200. (Dan Anbar) **51** #9396 62L05 (62P10)

(*with* Chase, Gerald R.) Serial dilutions: error effects and optimal designs. *Biometrika* **62** (1975), *no.* 2, 329–334. (D. V. Chopra) **51** #14499 62P10 (62K05)

(*with* Weiss, George H.) A clinical trial design with a fixed maximum number of failures. *Comm. Statist.* **4** (1975), 429–436. (Charles E. Land) **51** #14466 62L10

(*with* Sobel, Milton; Weiss, George H.) Comparison of sampling methods for choosing the be st binomial population with delayed observations. *J. Statist. Comp. and Simulation* **3** (1975), *no.* 4, 299–313. (Jan C. Geertsema) **54** #14202 62F07

(*with* Weiss, George H.; Simon, R.) Sequential tests for composite hypotheses with two binomial populations. *J. Roy. Statist. Soc. Ser. B* **38** (1976), *no.* 3, 302–308. (Authors' summary) **58** #31651 62L10

See also **Reliability and biometry: statistical analysis of lifelength, 49** #1630 *and* **Perspectives in biometrics, 58** #31689

Hoel, Paul G. (*with* Port, Sidney C.; Stone, Charles J.) ★Introduction to statistical theory. The Houghton Mifflin Series in Statistics. *Houghton Mifflin Co., Boston, Mass.*, 1971. x + 237 *pp.* (Editors) **50** #11337a 60–01 (62–01)

(*with* Port, Sidney C.; Stone, Charles J.) ★Introduction to probability theory. The Houghton Mifflin Series in Statistics. *Houghton Mifflin Co., Boston, Mass.*, 1971. xi + 258 *pp.* (Editors) **50** #11337c 60–01 (62–01)

(*with* Port, Sidney C.; Stone, Charles J.) ★Introduction to stochastic processes. The Houghton Mifflin Series in Statistics. *Houghton Mifflin Co., Boston, Mass.*, 1972. x + 203 *pp.* (Editors) **50** #11337b 60–01 (62–01)

Hoelzeman, Ronald G. (*with* Wang, Jong C.; Mickle, Marlin H.) A set covering application in minimum route generation. *Kybernetes* **3** (1974), *no.* 4, 207–215. (G. Berman) **53** #4948 90B10

(*with* Wang, Jong C.) Data storage and manipulation for large scale networks. *Ninth Annual Asilomar Conference on Circuits, Systems, and Computers* (*Pacific Grove, Calif.*, 1975), *pp.* 65–70. *Western Periodicals, North Hollywood, Calif.*, 1976. **58** #32893 90B10

(*with* Mickle, Marlin H.; Wang, Jong C.) On the storage and regeneration of optimum routes. *Internat. J. Systems Sci.* **8** (1977), *no.* 7, 739–752. (Edward Minieka) **56** #7903 90B10

Hoem, Jan M. Probabilistic fertility models of the life table type. *Theoret. Population Biology* **1** (1970), 12–38. (E. Çinlar) **50** #12324 92A15

On the interpretation of the maternity function as a probability density. *Theoret. Population Biology* **2** (1971), 319–327; *erratum, ibid.* **3** (1972), 240. (A. Fuchs) **49** #12108 92A15

On the interpretation of certain vital rates as averages of underlying forces of transition. *Theoret. Population Biology* **2** (1971), 454–468. (N. Keyfitz) **48** #3528 92A15

Inhomogeneous semi-Markov processes, select actuarial tables, and duraction-dependence in demography. *Population dynamics* (*Proc. Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1972), *pp.* 251 -296. *Academic Press, New York*, 1972. (E. Çinlar) **55** #13599 60K15 (62P05, 92A15)

On the statistical theory of analytic graduation. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. I: Theory of statistics, pp.* 569–600. *Univ. California Press, Berkeley, Calif.*, 1972. (H. L. Seal) **54** #1524 62P05 (92A15)

A probabilistic theory for collective children's pension insurance. *Skand. Aktuarietidskr.* **1971**, 74–79 (1972). (J. F. C. Kingman) **50** #1456 62P05

(*with* Keiding, Niels) Stochastic stable population theory with continuous time. I. *Scand. Actuar. J.* **1976**, *no.* 3, 150–175. (Charles J. Mode) **54** #11542 60J85 (92A15)

On the optimality of modified minimum chi-square analytic graduation. *Scand. J. Statist.* **3** (1976), *no.* 2, 89–92. (H. L. Seal) **55** #6756 62P05 (92A15)

The statistical theory of demographic rates. A review of current developments. With discussion by Niels Keiding, Hannu Kulokari, Bent Natvig, Ole Barndorff-Nielsen, Jørgen Hilden and a reply by the author. *Scand. J. Statist.* **3** (1976), *no.* 4, 169–185. (H. L. Seal) **55** #6757 62P05 (92A15)

(*with* Aalen, Odd O.) Actuarial values of payment streams. *Scand. Actuar. J.* **1978**, *no.* 1, 38–47. (Hans Bühlmann) **58** #13590 62P05

Hoenders, B. J. On the solution of the phase retrieval problem. *J. Mathematical Phys.* **16** (1975), *no.* 9, 1719–1725. (V. H. Weston) **52** #14248 30A14

Completeness of a set of modes connected with the electromagnetic field of a homogeneous sphere embedded in an infinite medium. *J. Phys. A* **11** (1978), *no.* 9, 1815–1832. (Author's summary) **58** #25399 78.35

Hoenselaers, Cornelius On generation of solutions of Einstein's equations. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1264–1267. (Hsin-Yang Yeh) **54** #6853 83.35

Multipole moments of electrostatic space-times. *Progr. Theoret. Phys.* **55** (1976), *no.* 2, 466–470. (Author's summary) **53** #2280 83.53

The "strength" of a system of differential equations. *Progr. Theoret. Phys.* **58** (1977), *no.* 4, 1185–1190. (W. B. Bonnor) **57** #18740 83.58 (35B99, 58G99)

Directional singularities reexamined. *Progr. Theoret. Phys.* **59** (1978), *no.* 4, 1170–1172. (H. Rund) **57** #15227 83.53

Algebraically special one Killing vector solutions of Einstein's equations. *Progr. Theoret. Phys.* **60** (1978), *no.* 3, 747–752. (Author's summary) **58** #25782 83.53 (53B30)

Hoepelman, J. Ph. Tense-logic and the semantics of the Russian aspects. *Theoret. Linguist.* **1** (1974), *no.* 1-2, 158–180. (Author's summary) **58** #21473 02C10

(*with* Guenthner, Franz) A note on the representation of "branching quantifiers". *Theoret. Linguist.* **2** (1975), *no.* 3, 285–289. (J. Hintikka) **54** #9976 02B20 (02C10)

Hoering, Walter *See* **Carnap, Rudolf, 52** #13308 *and* **Carnap, Rudolf, 58** #27207

Hoerl, Arthur E. (*with* Kennard, Robert W.) A note on a power generalization of ridge regression. *Technometrics* **17** (1975), 269. (Burt S. Holland) **51** #7168 62J05

(*with* Kennard, Robert W.) Comments on: "Simulation and extension of a minimum mean squared error estimator in comparison with Stein's" (Technometrics 18 (1976), no. 4, 491–496) by H. D. Vinod. *Technometrics* **19** (1977), *no.* 1, 105. (Stanley L. Sclove) **55** #11511b 62J05

Hoerners, Gerhard E. *See* **Sparse matrices and their applications, 48** #10075

Hoey, Dan (*with* Shamos, Michael Ian) Closest-point problems. *16th Annual Symposium on Foundations of Computer Science* (*Berkeley, Calif.*, 1975), *pp.* 151–162. *IEEE Computer Society, Long Beach, Calif.*, 1975. (D. T. Lee) **54** #14441 68A20 (90C10)

(*with* Shamos, Michael Ian) Geometric intersection problems. *17th Annual Symposium on Foundations of Computer Science* (*Houston, Tex.*, 1976), *pp.* 208–215. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (E. M. Reingold) **56** #13770 68A10 (68A20, 94A20, 90C05)

im Hof, Hans-Christoph *See* **Im Hof, Hans-Christoph**

Hofbauer, Franz A function with countably many ergodic equilibrium states. *Math. Z.* **154** (1977), *no.* 3, 275–281. (Peter Walters) **56** #3248 28A65

Examples for the nonuniqueness of the equilibrium state. *Trans. Amer. Math. Soc.* **228** (1977), *no.* 223–241. (Peter Walters) **55** #8312 28A65

β-shifts have unique maximal measure. *Monatsh. Math.* **85** (1978), *no.* 3, 189–198. (W. Parry) **58** #11326 28A65

Hofer, E. A partially implicit method for large stiff systems of ODEs with only few equations introducing small time-constants. *SIAM J. Numer. Anal.* **13** (1976), *no.* 5, 645–663. (W. H. Enright) **55** #6858 65L05

Hofer, Eberhard (*with* Lunderstädt, Reinhart) ★Numerische Methoden der Optimierung. Methoden der Regelungstechnik. *R. Oldenbourg Verlag, Munich-Vienna*, 1975. 231 *pp.* (O. Gürel) **56** #9895 65–01 (65K05)

Höfer, Ernst ★Mindestgebiete der Überkonvergenz bei Potenzreihen und Laplace-Integralen. Von der Universität Stuttgart zur Erlangung der Würde eines Doktors der Naturwissenschaften (Dr. rer. nat.) genehmigte Abhandlung. *Universität Stuttgart, Stuttgart*, 1970. 69 *pp.* (L. R. Sons (Zbl **211**, 389)) **57** #949 40C15 (44A10)

Hofer, J. E. Topological entropy for noncompact spaces. *Michigan Math. J.* **21** (1974), 235–242. (R. Ellis) **51** #6769 54H20

Hofer, Robert D. Restrictive semigroups of continuous functions on *O*-dimensional spaces. *Canad. J. Math.* **24** (1972), 598–611. (K. H. Hofmann) **45** #5983 54H15 (18A05)

Restrictive semigroups of continuous self-maps on arcwise connected spaces. *Proc. London Math. Soc.* (3) **25** (1972), 358–384. (W. H. Campbell) **47** #9582 54H15

Hoff, David Approximation and decay of solutions of systems of nonlinear diffusion equations. Proceedings of the Regional Conference on the Application of Topological Methods in Differential Equations (Boulder, Colo., 1976). *Rocky Mountain J. Math.* **7** (1977), *no.* 3, 547–556. (Editors) **58** #11837 35B40 (35A35, 35K55)

(*with* Conway, Edward D.; Smoller, Joel A.) Large time behavior of solutions of systems of nonlinear reaction-diffusion equations. *SIAM J. Appl. Math.* **35** (1978), *no.* 1, 1–16. (Charles C. Conley) **58** #6637 35B40 (35K55, 92A05)

Hoff, Georges Catégories fibrées et homotopie. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 223–225. (H. Inassaridze) **50** #10012 18D30

Catégories cofibrées, fibrations faibles. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1077–1080. (H. Inassaridze) **51** #12990 18D30

On the cohomology of categories. *Comm. Fac. Sci. Univ. Ankara Sér. A* **22** (1974), *no.* 13, 175–197. (Marta C. Bunge) **53** #13363 18H99

On the cohomology of categories. (Italian summary) *Rend. Math.* (6) **7** (1974), 169–192. (J. Duskin) **53** #13361 18H05

L'homotopie des catégories. *Esquisses mathématiques, No.* 23, *Exp. No.* 2, i + 33 *pp. Fac. Sci., Univ. Paris VII, Paris*, 1975. (Pierre J. Malraison, Jr.) **54** #12862 18F99 (55D05)

Categorical homotopy. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* **2** (1977/78), *no.* 1-3, 419–432. (Dana May Latch) **58** #28139 18F99 (55D50, 55J10)

Hoff, J. C. Approximation with kernels of finite oscillations. II. Degree of approximation. *J. Approximation Theory* **12** (1974), 127–145. (J. W. Jerome) **50** #14008 41A40

Hoff, Nicholas J. *See* **Theoretical and applied mechanics, 50** #11915

Hoffer, Alan R. Die Beschränkung einer Polarität auf eine Baer-Unterebene. *Arch. Math.* (*Basel*) **22** (1971), 442–444. (T. G. Ostrom) **45** #4263 50D30

On unitary collineation groups. *J. Algebra* **22** (1972), 211–218. (J. André) **46** #780 50D30

Hoffer, E. *See* **Control in space, 48** #8040

Hoffman, Alan J. (*with* Rivlin, Theodore J.) When is a team "mathematically" eliminated? *Proceedings of the Princeton Symposium on Mathematical Programming* (*Princeton Univ.*, 1967), *pp.* 391–401. *Princeton Univ. Press, Princeton, N.J.*, 1970. (Torrence D. Parsons) **49** #8683 90D99

On limit points of spectral radii of non-negative symmetric integral matrices. *Graph theory and applications* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1972; *dedicated to the memory of J. W. T. Youngs*), *pp.* 165–172. *Lecture Notes in Math., Vol.* 303, *Springer, Berlin*, 1972. (H. Minc) **50** #361 15A48 (05C99)

(*with* Winograd, Shmuel) Finding all shortest distances in a directed network. Mathematics of numerical computation. *IBM J. Res. Develop.* **16** (1972), 412–414. (W.-K. Chen) **49** #10454 (EA **50**) 94A20

Eigenvalues and partitionings of the edges of a graph. *Linear Algebra and Appl.* **5** (1972), 137–146. (H. J. Ryser) **46** #97 05C99

On spectrally bounded graphs. *A survey of combinatorial theory* (*Proc. Internat. Sympos., Colorado State Univ., Fort Collins, Colo.*, 1971), *pp.* 277–283. *North-Holland, Amsterdam*, 1973. (A. J. Schwenk) **51** #12616 05C99

Sparse matrices. *Proceedings of the Second Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1972), *pp.* 19–26. *Congressus Numerantium, No. VII, Utilitas Math., Winnipeg, Man.*, 1973. (R. P. Tewarson) **50** #6135 65F30

(*with* Donath, W. E.) Lower bounds for the partitioning of graphs. *IBM J. Res.*

elop. 17 (1973), 420–425. (Moshe Rosenfeld) **48** #8304 05C99

(*with* Pereira, Francisco) On copositive matrices with $-1,0,1$ entries. *J. mbinatorial Theory Ser. A* **14** (1973), 302–309. (N. J. Pullman) **47** #5029 15A48 A36, 15A63)

(*with* Martin, Michael S.; Rose, Donald J.) Complexity bounds for regular finite ference and finite element grids. Collection of articles dedicated to the memory of orge E. Forsythe. *SIAM J. Numer. Anal.* **10** (1973), 364–369. (G. Maeß) **49** #11785 5F05

Applications of Ramsey style theorems to eigenvalues of graphs. *Combinatorics oc. NATO Advanced Study Inst., Breukelen*, 1974), *Part* 2: *Graph theory*; *foundations, rtitions and combinatorial geometry*, *pp*. 43–57. *Math. Centre Tracts*, *No*. 56, *Math. ntrum, Amsterdam*, 1974. (A. J. Schwenk) **51** #10162 05C99

(*with* Brayton, Robert K.; Coppersmith, Donald) Self-orthogonal Latin squares of orders $n\neq 2,3,6$. *Bull. Amer. Math. Soc.* **80** (1974), 116–118. (Charles C. Lindner) #5886 05B15

On eigenvalues of symmetric $(+1,-1)$ matrices. *Israel J. Math.* **17** (1974), 69–75. n Enescu) **50** #2202 15A18

A generalization of max flow-min cut. *Math. Programming* **6** (1974), 352–359. enji Onaga) **50** #15906 90C05

(*with* Fulkerson, Delbert Ray; Oppenheim, Rosa) On balanced matrices. Pivoting d extensions. *Math. Programming Stud. No.* 1 (1974), 120–132. (C. Berge) **56** #17042 65F35 (65K05)

Spectral functions of graphs. *Proceedings of the International Congress of athematicians* (*Vancouver, B. C.*, 1974), *Vol*. 2, *pp*. 461–463. *Canad. Math. Congress, ontreal, Que*., 1975. (A. J. Schwenk) **55** #7850 05C99

(*with* Smith, John Howard) On the spectral radii of topologically equivalent graphs. *cent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp*. 3–281. *Academia, Prague*, 1975. (A. J. Schwenk) **53** #7834 05C10

Eigenvalues of graphs. *Studies in graph theory*, *Part II*, *pp*. 225–245. *Studies in ath., Vol.* 12, *Math. Assoc. Amer., Washington, D. C.*, 1975. (Editors) **53** #10656 C99 (15A18)

On convex cones in C^n. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no*. 1, 1–5. (J. ajiwara) **54** #10641 32A07

Linear G-functions. Collection of articles dedicated to Olga Taussky-Todd. *Linear d Multilinear Algebra* **3** (1975/76), *no*. 1-2, 45–52. (Charles R. Johnson) **52** #10771 A42

(*with* Brayton, Robert K.; Coppersmith, Donald) Self-orthogonal Latin squares. talian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Rome*, 1973), *omo II*, *pp*. 509–517. *Atti dei Convegni Lincei*, *No*. 17, *Accad. Naz. Lincei, Rome*, 1976. Charles C. Lindner) **57** #16101 05B15

On spectrally bounded signed graphs. *Transactions of the Twenty-First Conference Army Mathematicians* (*White Sands Missile Range, White Sands, N.M.*, 1975), *pp*. 1–5. *RO Rep*., 76-1. *U. S. Army Res. Office, Research Triangle Park, N.C.*, 1976. (From the ımmary) **58** #27648 05C99 (15A18)

Total unimodularity and combinatorial theorems. Collection of articles dedicated Olga Taussky Todd. *Linear Algebra and Appl.* **13** (1976), *no*. 1-2, 103–108. (A. O. orris) **52** #13434 05B20

On limit points of the least eigenvalue of a graph. *Ars Combinatoria* **3** (1977), 3–14. M. Doob) **58** #16418 05C99

On signed graphs and gramians. *Geometriae Dedicata* **6** (1977), *no*. 4, 455–470. (R. . Brualdi) **57** #3167 15A45 (05C99)

(*with* Brayton, Robert K.; Scott, Terrence R.) A theorem on inverses of convex sets f real matrices with application to the worst case dc problem. *IEEE Trans. Circuits nd Systems* **CAS-24** (1977), *no*. 8, 409–415. (William N. Anderson, Jr.) **57** #2571 0C30 (94A20)

(*with* Schwartz, D. E.) On partitions of a partially ordered set. *J. Combinatorial Theory Ser. B* **23** (1977), *no*. 1, 3–13. (Curtis Greene) **57** #12244 05A17 (06A10, 0C50)

(*with* Graham, Ronald L.; Hosoya, Haruo) On the distance matrix of a directed raph. *J. Graph Theory* **1** (1977), *no*. 1, 85–88. (Rudolf Halin) **58** #21771 05C20

On graphs whose least eigenvalue exceeds $-1-\sqrt{2}$. *Linear Algebra and Appl.* **16** 1977), *no*. 2, 153–165. (A. J. Schwenk) **57** #9607 05C99

(*with* Oppenheim, Rosa) Local unimodularity in the matching polytope. Algorithmic aspects of combinatorics (Conf., Vancouver Island, B.C., 1976). *Ann. Discrete Math.* **2** (1978), 201–209. (László Lovász) **58** #380 05C99 (90C10)

See also **Studies in applied mathematics**, **49** #4784 *and* **Combinatorics**, **52** #7912

man, Anthony E. Direct sum closure properties of radicals. *J. Natur. Sci. and Math.* **10** (1970), 53–58. (A. G. Heinicke) **45** #296 16A21

The Gram-Schmidt process is not so bad! *Math. Mag.* **43** (1970), 261–263. (Editors) **45** #5280 26A06

Radical constructions in the presence of two universal classes. *Ann. Mat. Pura Appl.* (4) **89** (1971), 55–64. (C. Tsai) **47** #1892 17A99

fman, Daniel A. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9427

fman, David A. Surfaces in constant curvature manifolds with parallel mean curvature vector field. *Bull. Amer. Math. Soc.* **78** (1972), 247–250. (A. B. Poritz) **45** #7653 53C45

Surfaces of constant mean curvature in manifolds of constant curvature. *J. Differential Geometry* **8** (1973), 161–176. (J. Vilms) **52** #11796 53C40

(*with* Alexander, Herbert; Osserman, Robert) Area estimates for submanifolds of Euclidean space. *Symposia Mathematica, Vol. XIV* (*Convegno di Teoria Geometrica dell'Integrazione e Varietà Minimali, INDAM, Rome*, 1973), *pp*. 445–455. *Academic Press, London*, 1974. (Robert Gulliver) **52** #9090 53A10

(*with* Spruck, Joel) Sobolev and isoperimetric inequalities for Riemannian submanifolds. *Comm. Pure Appl. Math.* **27** (1974), 715–727. (Bang-yen Chen) **51** #1676 (E **53** #1484) 53C40

(*with* Spruck, Joel) A Sobolev inequality for Riemannian submanifolds. *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Stanford Univ., Stanford, Calif.*, 1973), *Part* 1, *pp*. 139–141. *Amer. Math. Soc., Providence, R.I.*, 1975. (Bang-yen Chen) **51** #13940 53C40

The diameter of orbits of compact groups of isometries; Newman's theorem for noncompact manifolds. *Trans. Amer. Math. Soc.* **233** (1977), 223–233. (R. Schultz) **58** #13096 57E15

See also **Klingenberg, Wilhelm**, **57** #13702

Hoffman, David K. (*with* Green, H. S.) Self-consistent approximations in kinetic theory. *J. Chem. Phys.* **49** (1968), 2600–2609 (M. Drăganu) **47** #9996 82.45

(*with* Raffenetti, Richard C.; Ruedenberg, Klaus) Generalization of Euler angles to N-dimensional orthogonal matrices. *J. Mathematical Phys.* **13** (1972), 528–533. (Authors' summary) **45** #2996 81.20

(*with* Gibberd, R. W.) On an algebraic approach to the derivation of Markovian kinetic equations. *Physica* **68** (1973), 23–42. (M. Drăganu) **54** #4482 82.60

(*with* Spruck, Joel) A correction to: "Sobolev and isoperimetric inequalities for Riemannian submanifolds" (Comm. Pure Appl. Math. **27** (1974), 715–725). *Comm. Pure Appl. Math.* **28** (1975), *no*. 6, 765–766. (Bang-yen Chen) **53** #1484 53C40

(*with* Mann, L. N.) Continuous actions of compact Lie groups on Riemannian manifolds. *Proc. Amer. Math. Soc.* **60** (1976), 343–348. (Theodore Chang) **54** #11365 57E10

Hoffman, Frederick Algorithms to study orbits under group actions. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp*. 253–256. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. (M. Kimberley) **51** #5716 20–04

Maximal orbits under affine groups. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1974), *pp*. 493–499. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.*, 1974. (M. D. Hestenes) **51** #8284 20H15

(*with* Hadlock, Frank O.) Block patterns and routing. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp*. 385–399. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (I. M. Stancu-Minasian) **53** #2343 90B35 (05Bxx)

Subgroups of holomorphs of groups. *Amer. Math. Monthly* **83** (1976), *no*. 2, 126–127. (Philip J. Greenberg) **58** #5923 20D45

(*with* Schellenberg, Paul J.; Vanstone, S. A.) A starter-adder approach to equidistant permutation arrays and generalized room squares. *Ars Combinatoria* **1** (1976), *no*. 1, 307–319. (Mikhail Deza) **54** #12554 05B30

Orbits under actions of affine groups over $GF(2)$. *Linear Algebra and Appl.* **13** (1976), *no*. 3, 173–176. (G. E. Wall) **53** #3078 20B25

δ-sets in finite groups and representation by 3-uniform hypergraphs. *Ars Combinatoria* **3** (1977), 21–23. (Hugo S. Sun) **56** #5352 05C25

(*with* Deza, Mikhaïl) Some results related to generalized Varshamov-Gilbert bounds. *IEEE Trans. Information Theory* **IT-23** (1977), *no*. 4, 517–518. (Michele Elia) **58** #26517 94A10

(*with* Hadlock, Frank O.) Manhattan trees. *Utilitas Math.* **13** (1978), 55–67. (R. A. Melter) **57** #5821 05C35 (05C05)

See also **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **48** #8247; **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **48** #10747; **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **50** #4315; **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **52** #5432; **Rudin, Walter**, **52** #10292; **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **54** #2471 *and* **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **57** #5768

Hoffman, G. H. (*with* Chmielewski, G. E.) Finite-difference solution of an elliptic partial differential equation with discontinuous coefficients. *Internat. J. Numer. Methods Engrg.* **12** (1978), *no*. 9, 1407–1413. (Authors' summary) **58** #19218 65N30

Hoffman, Karla R. (*with* Falk, James E.) A successive underestimation method for concave minimization problems. *Math. Oper. Res.* **1** (1976), *no*. 3, 251–259. (See Zbl **362** #90082) 90C25

(*with* Falk, James E.) A nonconvex max-min problem. *Naval Res. Logist. Quart.* **24** (1977), *no*. 3, 441–450. (Michael J. Todd) **57** #2621 90D40 (90C50)

Hoffman, Kenneth ★Analysis in Euclidean space. *Prentice-Hall, Inc., Englewood Cliffs, N.J.*, 1975. xiv+432 *pp*. (From the author's preface) **56** #12186 26–01 (46–01)

See also **Summer School: Topological Algebra Theory**, **49** #11188

Hoffman, Michael *See* **Marsden, Jerrold Eldon**, **50** #4906

Hoffman, Michael J. Continuity of inverse functions. *Math. Mag.* **48** (1975), 66–73. (F. Brooks) **50** #13392 26A15

Hoffman, Peter (*with* Porter, Gerald J.) Cohomology realizations of $Q[x]$. *Quart. J. Math. Oxford Ser.* (2) **24** (1973), 251–255. (S. Gitler) **48** #9699 55B10

(*with* Chan, Wing Man) Vector bundles over suspensions. *Canad. Math. Bull.* **17** (1974), *no*. 4, 483–484. (Richard R. Patterson) **51** #9057 55F25 (55D40)

$K(X)$ as a comodule. *Topology and its applications* (*Proc. Conf., Memorial Univ. Newfoundland, St. John's, Nfld.*, 1973), *pp*. 151–155. *Lecture Notes in Pure and Appl. Math., Vol.* 12, *Dekker, New York*, 1975. (Richard R. Patterson) **52** #11901 55D45

(*with* Adams, John Frank) Operations on K-theory of torsion-free spaces. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no*. 3, 483–491. (J. W. Vick) **53** #4063 55G25

(*with* Zabrodsky, Alexander) Thin lens spaces. *Canad. Math. Bull.* **21** (1978), *no*. 1, 31–35. (J. F. Adams) **58** #7629 55F50

Hoffman, R. B. (*with* Gautreau, R.) Generating potential for the NUT metric in general relativity. *Phys. Lett.* **39A** (1972), 75–76. (P. G. Bergmann) **51** #2574 83.35

Hoffman, Thomas R. (*with* Saw, John G.) Distribution of the largest of a set of equicorrelated normal variables. *Comm. Statist.* **4** (1975), 49–55. (P. K. Sen) **51** #2156 62H10

Hoffman, W. C. *See* **Collection: Busemann, Adolf**, **52** #10303

Hoffman, William *See* **Cybernetics collection**, **52** #16086

Hoffman, William C. Visual illusions of angle as an application of Lie transformation groups. *SIAM Rev.* **13** (1971), 169–184. (A. H. Copeland, Jr.) **45** #8313 92A25 (22E99)

A system of axioms for mathematical biology. *Math. Biosci.* **16** (1973), 11–29. (J. D. Cowan) **47** #3037 92A05

Hoffmann, Banesh Einstein and tensors. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. III. *Tensor* (*N.S.*) **26** (1972), 157–162. (P. S. Florides) **53** #2260 83.01

On Gabriel Kron's methods and achievements. *Gabriel Kron and systems theory* (*Schaffer Library Sympos., Union Coll., Schenectady, N.Y.*, 1969), *pp.* 19–36. *Union College Press, Schenectady, N.Y.*, 1973. (Editors) **52** #13203 01A70

★About vectors. Corrected republication of the 1966 original. *Dover Publications, Inc., New York*, 1975. ix + 134 *pp.* (Editors) **52** #1532 53–01

Einstein and Zionism. *General relativity and gravitation* (*Proc. Seventh Internat. Conf.* (*GR7*), *Tel-Aviv Univ., Ramat-Aviv*, 1974), *pp.* 233–242. *Halsted Press, New York*, 1975. (Editors) **55** #5354 01A70

Hoffmann, Christian (*with* Henrici, Peter) Chess champ's chances: an exercise in asymptotics. *SIAM Rev.* **17** (1975), 559–564. (J. G. Wendel) **51** #1885 60–01

Hoffmann, Christoph M. (*with* Landweber, Lawrence H.) Axiomatic equivalence of programs with structured variables. *15th Annual Symposium on Switching and Automata Theory* (1974), *pp.* 78–83. *IEEE Comput. Soc., Long Beach, Calif.*, 1974. (Helmut Alt) **54** #6539 68A05

(*with* Landweber, Lawrence H.) A completeness theorem for straight-line programs with structured variables. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 1, 203–220. (Richard A. DeMillo) **54** #9135 68A05

Hoffmann, Dieter Minimallösungen von Differenzengleichungen in quasinormierten abelschen Gruppen. (English summary) *Manuscripta Math.* **17** (1975), *no.* 2, 105–121. (Wazir Hasan Abdi) **52** #14728 39A40

(*with* Weber, Hans) Summen halbadditiver Integralnormen vom Lebesgue-Typ. *Measure theory* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 287–297. *Lecture Notes in Math., Vol.* 541, *Springer, Berlin*, 1976. (Ion Chiţescu) **57** #577 28A45

$\mathfrak{L}_p$-Räume bezüglich operatorwertiger schwacher Masse. (English and Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 8, 741–748. (Author's summary) **58** #30157 46E40 (28A45, 46G10)

Zum "Satz von Fubini". *J. Reine Angew. Math.* **292** (1977), 138–145. (T. A. Botts) **55** #10631 28A35 (28A45)

Integralerweiterung durch Integralnormen mit Werten in prägeordneten Halbgruppen. *J. Reine Angew. Math.* **295** (1977), 187–201. (Author's review (Zbl **358** #28005)) **58** #22464 28A45

Hoffmann, G. (*with* Elekes, G.) On the chromatic number of almost disjoint families of countable sets. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. I, pp.* 397–402. *Colloq., Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (Jaroslav Nešetřil) **51** #10105 04A20 (05C15)

(*with* Komjáth, Péter) The transversal property implies property B. *Period. Math. Hungar.* 7 (1976), *no.* 2, 179–181. (Karsten Steffens) **55** #108 04A20

Hoffmann, György (*with* Surányi, László) An exposition of the first arithmetic proof of the prime number theorem. (Hungarian. English summary.) *Mat. Lapok* **23** (1972), 31–51 (1973). (P. Erdős) **50** #252 10H15

Hoffmann, Hans-Jürgen (*with* Duong-Kien, C.; Muth, D.) An improvement to Martin's algorithm for computation of linear precedence functions. *Comm. ACM* **19** (1976), *no.* 10, 576–577. (Daniel J. Rosenkrantz) **54** #9176 68A30

See also **Jahrestagung: Gesellschaft für Informatik**, **48** #1502

Hoffmann, Joseph F. (*with* Gilmer, Robert) The integral closure need not be a Prüfer domain. *Mathematika* **21** (1974), 233–238. (R. M. Fossum) **51** #5581 13F05

(*with* Gilmer, Robert) A characterization of Prüfer domains in terms of polynomials. *Pacific J. Math.* **60** (1975), *no.* 1, 81–85. (W. Heinzer) **54** #302 13G05

Hoffmann, K.-H. (*with* Brosowski, Bruno; Schäfer, Eugen; Weber, H.) Stetigkeitssätze für metrische Projektionen. *Iterationsverfahren, Numerische Mathematik, Approximationstheorie* (*Tagung Nichtlineare Aufgaben Numer. Math., Oberwolfach*, 1968), *pp.* 11–17. *Internat. Schriftenreihe Numer. Math., Vol.* 15, *Birkhäuser, Basel*, 1970. (J. Blatter) **52** #1120 41A65

(*with* Brosowski, Bruno; Schäfer, Eugen; Weber, H.) Metrische Projektionen auf lineare Teilräume von $C_0[Q, H]$. *Iterationsverfahren, Numerische Mathematik, Approximationstheorie* (*Tagung Nichtlineare Aufgaben Numer. Math., Oberwolfach*, 1968), *pp.* 19–27. *Internat. Schriftenreihe Numer. Math., Vol.* 15, *Birkhäuser, Basel*, 1970. (J. Blatter) **52** #1121 41A65

(*with* Brosowski, Bruno) A variational inequality and some applications in approximation theory. *Approximation theory* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1973), *pp.* 283–289. *Academic Press, New York*, 1973. (Y. Cherruault) **48** #13260 90C30 (41A65)

(*with* Kolumbán, Iosif) Verallgemeinerte Differenzierbarkeitsbegriffe und ihre Anwendung in der Optimierungstheorie. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **12** (1974), *no.* 1, 17–41. (Authors' summary) **56** #13034 49A99 (26A54)

(*with* Brosowski, Bruno) Eine Variationsungleichung und Anwendungen. (English summary) *Numer. Math.* **22** (1974), 137–147. (M. Q. Jacobs) **50** #5314 41A65 (49B99, 90C30)

Tschebyscheff-Approximation unter Nebenbedingungen via Kontroll-Theorie. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech.* **54** (1974), T219–T220. (Russell D. Rupp) **50** #10954 49A25 (46G05)

(*with* Jörn, E.; Schäfer, Eugen; Weber, H.) Ein Approximationssatz und seine Anwendung in der Kontrolltheorie. *Optimization and optimal control* (*Proc. Conf., Oberwolfach*, 1974), *pp.* 150–157. *Lecture Notes in Math., Vol.* 477, *Springer, Berlin*, 1975. (Editors) **58** #2554 49C05

(*with* Klostermair, A.) Approximationen mit Lösungen von Differentialgleichungen. *Approximation theory* (*Proc. Internat. Colloq., Inst. Angew. Math., Univ. Bonn, Bonn*, 1976), *pp.* 237–273. *Springer, Berlin*, 1976. (From the introduction) **58** #29683 41A50

(*with* Klostermair, A.) A semi-infinite linear programming procedure and applications to approximation problems in optimal control. *Approximation theory, II* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1976), *pp.* 379–389. *Academic Press, New York*, 1976. (Dobre Ion) **55** #7372 90C05 (93A15)

Hoffmann, Kurt Robust alternatives of the least squares estimator. (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 3, 305–311. (P. J. Huber) **58** #24715 62G35 (62F10, 62J05)

Admissibility of linear estimators with respect to restricted parameter sets. (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 4, 425–438. (Arthur Cohen) **58** #13438 62C15 (62J05)

Hoffmann, Laurence D. Radial limit sets on the torus. *Trans. Amer. Math. Soc.* **171** (1972), 283–290. (K. T. Hahn) **48** #9270 43A70 (32E25, 46J15)

Hoffmann, M. (*with* Funke, J.) Zur Berechnung der Matrixelemente des Dichteoperators für die Überlagerung zweier elektromagnetischer Felder. (English summary) *Czechoslovak J. Phys.* **26B** (1976), *no.* 2, 134–139. (G. S. Agarwal) **53** #2195 81.47

Hoffmann, Patrick Extension des équations de l'hydrodynamique. (English summary) *R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 17, Aiv, A1055–A1058. (E. G. Broadbent) **54** #6683 76.60

The moments of the multiple distribution functions. *J. Mathematical Phys.* 19 (1978), *no.* 4, 753–757. (Ole J. Heilmann) **58** #25707 82.60

Hoffmann, Rudolf-Eberhard Bemerkungen über T_D-Räume. (English summary) *Manuscripta Math.* **12** (1974), 195–196. (E. P. Rozycki) **49** #7983 54D10

Topological functors and factorizations. *Arch. Math.* (*Basel*) **26** (1975), 1–7. (H. Herrlich) **55** #1280 54B30 (18A20)

Charakterisierung nüchterner Räume. (English summary) *Manuscripta Math.* 15 (1975), 185–191. (H. Herrlich) **51** #11405 54B30

Über das Zentrum einer Kategorie. *Math. Nachr.* **68** (1975), 299–306. (O. Wyler) **52** #3274 18C99

(*with* Brümmer, Guillaume C. L.) An external characterization of topological functors. *Categorical topology* (*Proc. Conf., Mannheim*, 1975), *pp.* 136–151. *Lecture Notes in Math., Vol.* 540, *Springer, Berlin*, 1976. (M. Hušek) **56** #441 18A99 (54A99)

Topological functors admitting generalized Cauchy-completions. *Categorical topology* (*Proc. Conf., Mannheim*, 1975), *pp.* 286–344. *Lecture Notes in Math., Vol.* 540, *Springer, Berlin*, 1976. (From the text) **58** #30994 54E99

Full reflective restrictions of topological functors. *Nordwestdeutsches Kategorienseminar* (*Tagung, Bremen*, 1976), *pp.* 98–119. *Math.-Arbeitspapiere, No.* 7, *Te*
A: *Math. Forschungspapiere, Univ. Bremen, Bremen*, 1976. (Joseph Chacron) **58** #11071 18F05 (54B30)

Semi-identifying lifts and a generalization of the duality theorem for topological functors. *Math. Nachr.* **74** (1976), 295–307. (H. Herrlich) **55** #1281 54B30 (18A20)

Irreducible filters and sober spaces. *Manuscripta Math.* **22** (1977), *no.* 4, 365–380. (C. E. Aull) **57** #4107 54E05

Full reflective restrictions of topological functors. *Math. Colloq. Univ. Cape Town* **11** (1977), 65–88. (J. R. Isbell) **57** #400 18A40

A characterization of a class of categories of topological spaces. *Arch. Math* (*Basel*) **30** (1978), *no.* 3, 304–316. (M. Hüsek) **57** #13820 54A99 (18B99)

Note on semi-topological functors. *Math. Z.* **160** (1978), *no.* 1, 69–74. (M. Barr) **57** #12639 18B99

See also **Nordwestdeutsches Kategorienseminar**, **57** #9784

Hoffmann, V. (*with* Strehmel, Karl) Numerische Lösung von Anfangswertaufgaben gewöhnlicher Differentialgleichungen *n*-ter Ordnung. (English summary) *Computing* 14 (1975), *no.* 3, 225–234. (H. Brunner) **53** #1967 65L05

Hoffmann, Wolfgang *See* **Föllinger, Otto**, **50** #12331

Hoffmann de Visme, G. F. A. Property of cosets and its application to the calculation of moments of binary sequences having multipliers. *Electron. Lett.* 7 (1971), 328–330. (J. W. Moon) **49** #4649 94A10

Hoffmann-Jørgensen, Jørgen ★The theory of analytic spaces. Various Publication Series, No. 10. *Matematisk Institut, Aarhus Universitet, Aarhus*, 1970. vi + 314 *pp.* (From the author's introduction) **53** #13500 28A05

Vector measures. *Math. Scand.* **28** (1971), 5–32. (R. B. Kirk) **46** #5564 28A45

Existence of conditional probabilities. *Math. Scand.* **28** (1971), 257–264 (1972). (M. S. Waterman) **46** #4575 60B05 (60A10)

Coverings of metric spaces with randomly placed balls. *Papers from the "Open House for Probabilists"* (*Mat. Inst., Aarhus Univ., Aarhus*, 1971), *pp.* 129–160. *Various Publ. Ser., No.* 21, *Mat. Inst., Aarhus Univ., Aarhus*, 1972. (S. J. Taylor) **52** #9324 60D05

A generalization of the strict topology. *Math. Scand.* **30** (1972), 313–323. (Dennis Sentilles) **47** #7403 46E10

Weak compactness and tightness of subsets of $M(X)$. *Math. Scand.* **31** (1972), 127–150. (Robert F. Wheeler) **54** #5421 28A32 (60B10)

Existence of measurable modifications of stochastic processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **25** (1972/73), 205–207. (M. S. Waterman) **48** #5160 60G05

Coverings of metric spaces with randomly placed balls. *Math. Scand.* **32** (1973), 169–186 (1974). (S. J. Taylor) **49** #6304 60D05

On the differentiability points of a function of two real variables admitting partial derivatives. *Math. Scand.* **35** (1974), 259–266. (W. P. Ziemer) **51** #3375 26A54

Sums of independent Banach space valued random variables. *Studia Math.* 52 (1974), 159–186. (Eberhard Siebert) **50** #8626 60B05 (46B99)

The strong law of large numbers and the central limit theorem in Banach spaces. *Proceedings of the Seminar on Random Series, Convex Sets and Geometry of Banach Spaces* (*Mat. Inst., Aarhus Univ., Aarhus*, 1974; *dedicated to the memory of E. Asplund*), *pp.* 74–99. *Various Publications Series, No.* 24, *Mat. Inst., Aarhus Univ., Aarhus*, 1975. (Editors) **53** #1673 60B05 (60F05, 46B99)

Measures which agree on balls. *Math. Scand.* **37** (1975), *no.* 2, 319–326. (V. Ficker) **53** #13509 28A40

(*with* Topsøe, Flemming; Dudley, Richard M.) Two examples concerning uniform convergence of measures w.r.t. balls in Banach spaces. *Empirical distributions and processes* (*Selected Papers, Meeting on Math. Stochastics, Oberwolfach*, 1976), *pp.* 141–146. *Lecture Notes in Math., Vol.* 566, *Springer, Berlin*, 1976. (David Pollard) **55** #11327 60B10 (28A40)

(*with* Pisier, Gilles) The law of large numbers and the central limit theorem in Banach spaces. *Ann. Probability* **4** (1976), *no.* 4, 587–599. (N. C. Jain) **54** #11429 60B10

(*with* Barndorff-Nielsen, Ole; Pedersen, K.) On the minimal sufficiency of the lihood function. *Scand. J. Statist.* **3** (1976), *no.* 1, 37–38. (A. P. Dawid) **53** #9445 6 05

★Probability in *B*-spaces. Lecture Notes Series, No. 48. *Matematisk Institut, hus Universitet, Aarhus*, 1977. 185 *pp.* (W. A. Woyczyński) **57** #14087 60B10

Probability in Banach space. *École d'Été de Probabilités de Saint-Flour, VI*-1976, 1–186. *Lecture Notes in Math., Vol.* 598, *Springer-Verlag, Berlin*, 1977. (R. M. dley) **57** #1595 60B10

(*with* Ressel, Paul) On completely monotone functions on $C_+(X)$. *Math. Scand.* **40** 77), *no.* 1, 79–93. (David Pollard) **56** #9240 46E05 (28A32)

Integrability of seminorms, the 0-1 law and the affine kernel for product measures. *dia Math.* **61** (1977), *no.* 2, 137–159. (N. C. Jain) **57** #4313 60G15 (60G50)

See also **Kwapień, Stanisław**, **50** #8627

nn-Ostenhof, Maria (*with* Hoffmann-Ostenhof, Thomas) Eine Ungleichung für die nktionswerte einer samt ihrer Ableitung quadratintegrablen Funktion. *Anz. erreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1976**, *no.* 8, 91–95. (E. F. Beckenbach) #6121 26A87

(*with* Hoffmann-Ostenhof, Thomas) "Schrödinger inequalities" and asymptotic navior of the electron density of atoms and molecules. *Phys. Rev. A* (3) **16** (1977), *no.* 1782–1785. (From the authors' summary) **57** #11450 81.35

(*with* Hoffmann-Ostenhof, Thomas; Thirring, Walter E.) Simple bounds to the mic one-electron density at the nucleus and to expectation values of one-electron erators. *J. Phys. B* **11** (1978), *no.* 19, L571–L575. (Authors' summary) **58** #25667 .35

ann-Ostenhof, Thomas (*with* Mark, F.) A note on the partitioning technique. *Chem. ys. Lett.* **23** (1973), 302–304. (Authors' summary) **50** #15712 81.47

(*with* Hoffmann-Ostenhof, Maria) Eine Ungleichung für die Funktionswerte einer mt ihrer Ableitung quadratintegrablen Funktion. *Anz. Österreich. Akad. Wiss. ath.-Naturwiss. Kl.* **1976**, *no.* 8, 91–95. (E. F. Beckenbach) **58** #6121 26A87

(*with* Hoffmann-Ostenhof, Maria) "Schrödinger inequalities" and asymptotic havior of the electron density of atoms and molecules. *Phys. Rev. A* (3) **16** (1977), *no.* 1782–1785. (From the authors' summary) **57** #11450 81.35

(*with* Hoffmann-Ostenhof, Maria; Thirring, Walter E.) Simple bounds to the omic one-electron density at the nucleus and to expectation values of one-electron erators. *J. Phys. B* **11** (1978), *no.* 19, L571–L575. (Authors' summary) **58** #25667 .35

er, Charles W., II (*with* Robinson, John P.) Easily tested three-level gate networks r *T* or more of *N* symmetric functions. *IEEE Trans. Computers* **C–24** (1975), *no.* 3, 1–335. (B. Hazeltine) **54** #7134 94A20

Isphording, Ute Selbstdualität Boolescher Systemfunktionen. (English and Russian mmaries) *Elekron. Informationsverarbeit. Kybernetik* **11** (1975), *no.* 7-8, 447–458. (D. ochstädter) **52** #5219 94A20 (90B25)

r, Alois *See* **Bolzano, Bernard**, **52** #34

r, John T. Plasterable cones in locally convex Hausdorff spaces. *Math. J. Okayama niv.* **15** (1971/72), 107–112. (Rosalind Reichard) **52** #14910 46A40

Continuous lattice ordering by Schauder basis cones. *Proc. Amer. Math. Soc.* **30** 971), 527–532. (Author's summary) **54** #3355 46A40

ger, Paul Josef ★Normenformen von Ordnungen, Maximalordnungen und Idealen rationalen Quaternionenalgebren. Inaugural-Dissertation zur Erlangung der hilosophischen Doktorwürde vorgelegt der Philosophischen Fakultät II der Universität ürich. *Universität Zürich, Zurich*, 1971. ii+31*pp.* (E. Hornix) **52** #5562 10C05 0C20, 16A18)

hann, Charles E., III Specializations of Pascal's theorem on an oval. *J. Geometry* **1** 971), 143–153. (J. F. Rigby) **46** #6158 50D35

hann, G. (*with* Laßner, Gerd) Existence proofs for Wightman-type functionals. erman summary) Beiträge zur Theorie nichtnormierbarer topologischer Algebren. *Viss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **24** (1975), *no.* 5, 535–543. (Walter Vyss) **55** #5024 81.46

ann, H. ★Das elektromagnetische Feld. Theorie und grundlegende Anwendungen. *pringer-Verlag, Vienna-New York*, 1974. xvi+518 *pp.* (*loose errata*) (T. Erber) 6 #1950 78.00

ann, H. M. (*with* Richert, J.; Tepel, J. W.; Weidenmüller, Hans A.) Direct reactions nd Hauser-Feshbach theory. *Ann. Phys.* (*New York*) **90** (1975), 403–437. (Authors' ummary) **54** #9501 81.65

Padé approximants and the effective interaction. *Ann. Physics* **113** (1978), *no.* 2, 00–420. (Author's summary) **58** #19973 81.41

ann, Joseph Ehrenfried Leibniz und Ozanams Problem, drei Zahlen so zu bestimmen, lass ihre Summe eine Quadratzahl und ihre Quadratsumme eine Biquadratzahl ergibt. *Studia Leibnitiana* **1** (1969). *no.* 2, 103–126. (See Zbl **191** #4) 10–03 (01A45)

In memoriam Siegfried Heller (1876–1970). *Arch. Internat. Histoire Sci.* **23** (1970), *o.* 92-93, 214–216. (Not reviewed) 01A70

Über frühe mathematische Studien von G. W. Leibniz. *Studia Leibnitiana* **2** (1970), *o.* 2, 81–114. (See Zbl **191** #278) 01A45 (01A70)

Neue Newtoniana. *Studia Leibnitiana* **2** (1970), *no.* 2, 140–145. (Not reviewed) 1A45 (01A70)

Über eine zahlentheoretische Aufgabe Fermats (Bestimmung Pythagoreischer Dreiecke, deren Hypotenuse und deren Kathetensumme Quadratzahlen sind). *Centaurus* **16** (1971/72), *no.* 3, 169–202. (Kirsti Møller Pedersen) **57** #2830 01A45 (01A50)

Dankesworte. Collection of articles dedicated to Joseph Ehrenfried Hofmann on the occasion of his seventieth birthday. *Mitt. Math. Sem. Giessen No.* 90 (1971), 25–28. (Editors) **52** #13232 01A70

Dürer als Mathematiker. I. *Praxis Math.* **13** (1971), *no.* 4, 85–91. (H. S. M. Coxeter) **57** #2828a 01A40

Dürer als Mathematiker. II. *Praxis Math.* **13** (1971), *no.* 5, 117–122. (H. S. M. Coxeter) **57** #2828b 01A40

Johannes Kepler als Mathematiker. I. *Praxis Math.* **13** (1971), *no.* 11, 287–293. (Editors) **58** #26891a 01A45 (01A70)

Johannes Kepler als Mathematiker. II. *Praxis Math.* **13** (1971), *no.* 12, 318–324. (Editors) **58** #26891b 01A45 (01A70)

Über Keplers Ellipsenrektifikation. (English summary) *RETE* **1** (1971/72), *no.* 3-4, 301–310. (Author's summary) **58** #15890 01A45

Pierre de Fermat. Eine wissenschaftsgeschichtliche Skizze. *Sci. Hist.* **13** (1971), *no.* 4, 198–238. (Editors) **58** #26892 01A45 (01A70)

Drei Sätze von E. W. v. Tschirnhaus über Kreissehnen. *Studia Leibnitiana* **3** (1971), *no.* 2, 99–115. (Editors) **58** #26893 01A45 (50–03)

R. Bombelli—Erstentdecker des Imaginären. *Praxis Math.* **14** (1972), *no.* 9, 225–230. (J. Dieudonné) **58** #4832a 01A40

R. Bombelli—Erstentdecker des Imaginären. II. *Praxis Math.* **14** (1972), *no.* 10, 251–254. (J. Dieudonné) **58** #4832b 01A40

Bombellis *Algebra*—eine genialische Einzelleistung und ihre Einwirkung auf Leibniz. *Studia Leibnitiana* **4** (1972), *no.* 3-4, 196–252. (J. Dieudonné) **56** #5140 01A40 (01A45)

Leibniz und Wallis. *Studia Leibnitiana* **5** (1973), 245–281. (M. Kline) **58** #10044 01A45

★Leibniz in Paris, 1672–1676. His growth to mathematical maturity. Revised and translated from the German with the assistance of A. Prag and D. T. Whiteside. *Cambridge University Press, London-New York*, 1974. xi+372 *pp.* (1 *plate*) (Editors) **51** #7776 01A45

Über die sog. Platonische Konstruktion von Kubikwurzeln. *Sudhoffs Arch.* **58** (1974), 60–63. (William C. Waterhouse) **58** #9994 01A20

Tschirnhaus und Leibniz in Paris. *Akten des II. Internationalen Leibniz-Kongresses* (*Hannover*, 1972), *Band II*: *Wissenschaftstheorie und Wissenschaftsgeschichte*, *pp.* 47–65. *Studia Leibnitiana Suppl., Vol. XIII, Steiner, Wiesbaden*, 1975. (Editors) **58** #21130 01A45

★Register zu Gottfried Wilhelm Leibniz. Mathematische Schriften und der Briefwechsel mit Mathematikern. Mit einem Vorwort von Christoph J. Scriba. Olms Paperbacks, Band 49. *Georg Olms Verlag, Hildesheim-New York*, 1977. 312 *pp.* *ISBN* 3-487-06451-0 (Editors) **58** #16065 01A75

See also **Collection: Hofmann, Joseph Ehrenfried**, **48** #5792; **Kästner, Abraham Gotthelf**, **49** #8794; **Wolff, Christian**, **49** #8804; **Collection: Hofmann, Joseph Ehrenfried**, **52** #13115; **Bibliography: Hofmann, Joseph Ehrenfried**, **52** #13233; **Folkerts, Menso**, **56** #2755; **Busard, H. L. L.**, **57** #2853; **Burckhardt, Johann Jakob**, **57** #5624; **Scriba, Christoph J.**, **57** #5625; **Juškevič, A. P.; et al.**, **58** #21301; **Bockstaele, Paul P.**, **58** #27101; **Juškevič, A. P.**, **58** #27113 *and* **Leibniz, Gottfried Wilhelm**, **58** #27152

Hofmann, Karl Heinrich ★The duality of compact semigroups and C^*-bigebras. Lecture Notes in Mathematics, Vol. 129. *Springer-Verlag, Berlin-New York*, 1970. xii+142 *pp.* (L. N. Argabright) **55** #5786 22A15 (18D35, 46L05)

(*with* Mislove, Michael W.) The centralizing theorem for left normal groups of units in compact monoids. *Semigroup Forum* **3** (1971/72), *no.* 1, 31–42. (D. R. Brown) **47** #392 22A15 (54H15)

(*with* Keimel, Klaus) ★A general character theory for partially ordered sets and lattices. Memoirs of the American Mathematical Society, No. 122. *American Mathematical Society, Providence, R.I.*, 1972. iv+121 *pp.* (J. Kist) **49** #4885 06A20 (54H10)

Die Formel von Campbell, Hausdorff und Dynkin und die Definition Liescher Gruppen. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), 251–264. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (H. Freudenthal) **49** #9116 22E05

Representations of algebras by continuous sections. *Bull. Amer. Math. Soc.* **78** (1972), 291–373. (J. Kist) **50** #415 (E **50** #416) 16A80 (06A70, 46H15)

(*with* Day, Jane M.) Clan acts and codimension. *Semigroup Forum* **4** (1972), 206–214. (John A. Hildebrant) **45** #8761 22A15 (54H15, 58F99)

(*with* Stralka, Albert R.) Push-outs and strict projective limits of semilattices. *Semigroup Forum* **5** (1972/73), 243–261. (L. E. Ward, Jr.) **47** #5167 22A15

(*with* Carruth, J. H.; Mislove, Michael W.) Errors in *Elements of compact semigroups*. *Semigroup Forum* **5** (1972/73), 285–322. (Bernard L. Madison) **47** #8757 22A15

(*with* Mostert, Paul S.) ★Cohomology theories for compact abelian groups. With an appendix by Eric C. Nummela. *Springer-Verlag, New York-Heidelberg*; *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1973. 236 *pp.* (W. T. van Est) **51** #8330 22C05 (18H10, 57F25)

(*with* Mislove, Michael W.) On the dimensional stability of compact zero-dimensional semilattices. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 194–199. *Dept. Math., Univ. Houston, Houston, Tex.*, 1973. (James W. Lea, Jr.) **52** #14138 22A15

(*with* Mislove, Michael W.) Lawson semilattices do have a Pontryagin duality. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 200–205. *Dept. Math., Univ. Houston, Houston, Tex.*, 1973. (Albert Stralka) **53** #10970 22A15 (06A20)

(*with* Mislove, Michael W.; Stralka, Albert R.) On the duality of semilattices and its applications to lattice theory. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 261–268. *Dept. Math., Univ. Houston, Houston, Tex.*, 1973. (James W. Lea, Jr.) **52** #14139 22A15 (06A20)

(*with* Stralka, Albert R.) Mapping cylinders and compact monoids. *Math. Ann.* **205** (1973), 219–239. (P. S. Mostert) **48** #2299 22A15

(*with* Mislove, Michael W.; Stralka, Albert R.) Dimension raising maps in topological algebra. *Math. Z.* **135** (1973/74), 1–36. (P. S. Mostert) **49** #3019 22A99

(*with* Hunter, Robert P.) On a centralizer result of Hunter's. Correspondence between Karl Heinrich Hofmann and Robert P. Hunter. *Semigroup Forum* **6** (1973), *no.* 4, 365–372. (John A. Hildebrant) **51** #13120 22A15

(*with* Mislove, Michael W.; Stralka, Albert R.) ★The Pontryagin duality of compact O-dimensional semilattices and its applications. Lecture Notes in Mathematics, Vol. 396. *Springer-Verlag, Berlin-New York*, 1974. xvi+122*pp.* (K. N. Sigmon) **50** #7398 22A15 (06A20)

Some bibliographical remarks on "Representations of algebras by continuous sections" (Bull. Amer. Math. Soc. **78** (1972), 291–373). *Recent advances in the representation theory of rings and C^*-algebras by continuous sections* (*Sem., Tulane Univ., New Orleans, La.*, 1973), *pp.* 177–182. *Mem. Amer. Math. Soc., No.* 148, *Amer. Math.*

Soc., Providence, R.I., 1974. (Editors) **50** #416 16A80 (06A70, 46H15)

(*with* Mislove, Michael W.) Fixed point and centralizing theorems in compact semigroup theory. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 417–424. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (P. S. Mostert) **50** #10143 22A15

(*with* Koch, R. J.; Mostert, Paul S.) Alexander Doniphan Wallace on his 68th birthday. Collection of articles dedicated to Alfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander Doniphan Wallace on the occasion of his 68th birthday. *Semigroup Forum* **7** (1974), *no.* 1-4, 10–31. (Editors) **51** #7788 01A70

(*with* Mislove, Michael W.; Stralka, Albert R.) Dimension raising maps in topological spaces. Collection of articles dedicated to Alfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander Doniphan Wallace on the occasion of his 68th birthday. *Semigroup Forum* **7** (1974), *no.* 1-4, 380. (K. N. Sigmon) **51** #13119 22A15

Théorie directe des groupes de Lie. IV. *Séminaire P. Dubreil* (27*e année*: 1973/74), *Algèbre, Fasc.* 1, *Exp. No.* 4, . 15 *pp. Secrétariat Mathématique, Paris*, 1975. (F. D. Veldkamp) **54** #5397d 22E65 (22E05)

Théorie directe des groupes de Lie. II. *Séminaire P. Dubreil* (27*e année*: 1973/74), *Algèbre, Fasc.* 1, *Exp. No.* 2, . 16 *pp. Secrétariat Mathématique, Paris*, 1975. (F. D. Veldkamp) **54** #5397b 22E65 (22E05)

Théorie directe des groupes de Lie. I. *Séminaire P. Dubreil* (27*e année*: 1973/74), *Algèbre, Fasc.* 1, *Exp. No.* 1, . 24 *pp. Secrétariat Mathématique, Paris*, 1975. (F. D. Veldkamp) **54** #5397a 22E65 (22E05)

Théorie directe des groupes de Lie. III. *Séminaire P. Dubreil* (27*e année*: 1973/74), *Algèbre, Fasc.* 1, *Exp. No.* 3, . 39 *pp. Secrétariat Mathématique, Paris*, 1975. (F. D. Veldkamp) **54** #5397c 22E65 (22E05)

Trends in the theory of topological semigroups. *Some recent developments in the theory of compact semigroups* (*Lectures, Sympos., Tulane Univ., New Orleans, La.*, 1974; *in honor of A. H. Clifford and A. D. Wallace*), *pp.* 15–45. *Mat. Res. Lib., Tulane Univ., New Orleans, La.*, 1975. (Jimmie D. Lawson) **56** #3177 22A15

Analytic groups without analysis. *Symposia Mathematica, Vol. XVI* (*Convegno sui Gruppi Topologici e Gruppi di Lie, INDAM, Rome*, 1974), *pp.* 357–374. *Academic Press, London*, 1975. (W. T. van Est) **53** #13474 22E05

Sur la décomposition semidirecte des groupes compacts connexes. *Symposia Mathematica, Vol. XVI* (*Convegno sui Gruppi Topologici e Gruppi di Lie INDAM, Rome*, 1974), *pp.* 471–476. *Academic Press, London*, 1975. (H. Scheerer) **53** #5805 22D05

(*with* Mislove, Michael W.) Epics of compact Lawson semilattices are surjective. *Arch. Math.* (*Basel*) **26** (1975), *no.* 4, 337–345. (Albert Stralka) **51** #12636 06A20 (22A15)

(*with* Mislove, Michael W.; Stralka, Albert R.) On the dimensional capacity of compact semilattices. *Houston J. Math.* **1** (1975), *no.* 1, 43–55. (P. S. Mostert) **54** #452 22A15

(*with* Mislove, Michael W.) On the fixed point set of a compact transformation group with some applications to compact monoids. *Trans. Amer. Math. Soc.* **206** (1975), 137–162. (T.-S. Wu) **51** #10520 22A15 (54H15)

Category theoretical methods in topological algebra. *Categorical topology* (*Proc. Conf., Mannheim*, 1975), *pp.* 345–403. *Lecture Notes in Math., Vol.* 540, *Springer, Berlin*, 1976. (Klaus Keimel) **56** #15819 22–02 (18A30)

(*with* Mislove, Michael W.) Amalgamation in categories with concrete duals. *Algebra Universalis* **6** (1976), *no.* 3, 327–347. (Ph. Dwinger) **56** #5676 18A99

(*with* Stralka, Albert R.) The algebraic theory of compact Lawson semilattices. Applications of Galois connections to compact semilattices. *Dissertationes Math.* (*Rozprawy Mat.*) **137** (1976), 58 *pp.* (Jimmie D. Lawson) **55** #213 06A20 (22A15)

Topological semigroups history, theory, applications. *Jber. Deutsch. Math.-Verein.* **78** (1976/77), *no.* 1, 9–59. (Anne L. Hudson) **54** #12955 22A15

(*with* Lawson, Jimmie D.) Irreducibility and generation in continuous lattices. *Semigroup Forum* **13** (1976/77), *no.* 4, 307–353. (Albert Stralka) **55** #7868 06A23

Bundles and sheaves are equivalent in the category of Banach spaces. *K-theory and operator algebras* (*Proc. Conf., Univ. Georgia, Athens, Ga.*, 1975), *pp.* 53–69. *Lecture Notes in Math., Vol.* 575, *Springer, Berlin*, 1977. (J. E. Cigler) **58** #7117 46M20 (46L99)

(*with* Morris, Sidney A.) Locally compact products and coproducts in categories of topological groups. *Bull. Austral. Math. Soc.* **17** (1977), *no.* 3, 401–417. (Authors' summary) **58** #11203 22A05

(*with* Mislove, Michael W.) The lattice of kernel operators and topological algebra. *Math. Z.* **154** (1977), *no.* 2, 175–188. (Jimmie D. Lawson) **56** #2884 06A15 (47D99)

See also **Recent advances in the representation theory of rings and C^*-algebras by continuous sections**, **49** #7063

Hofmann, Klaus-Dieter ★Grundlagen der Informationstheorie. Tutorial: Reihe Mathematik. *Pädagogischer Verlag Schwann, Düsseldorf*, 1973. 80 *pp.* (Editors) **53** #2498 94-01

Hofmann, Reinhard Das Näherungsverfahren von Trefftz—seine Anwendung auf das Parameterproblem der Schwarz-Christoffelschen Formel und die Torsion prismatischer Stäbe. *Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **20** (1971), 329–347. (I. Aganović) **48** #3271 65N30

Zur punktweisen konformen Abbildung unter Verwendung des harmonischen Masses. *Beiträge Numer. Math.* **1** (1974), 57–60. (D. Gaier) **54** #14325 65E05 (30A28)

Einige Bemerkungen zum Studium des Eigenwertproblems für lineare Operatoren im Hilbert-Raum durch Übergang zu äquivalenten Normen mit Anwendung auf komplexe Matrizen. *Z. Angew. Math. Mech.* **57** (1977), *no.* 2, 122–124. (K. Veselić) **56** #5595 15A18 (65F15)

Hofmann, Wolf Konvergenzsätze für Regula-falsi-Verfahren. *Arch. Rational Mech. Anal.* **44** (1971/72), 296-309. (I. M. Sheffer) **49** #8324 65H05

Die Regula falsi in Banach-Räumen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **7** (1971), 106–112. (H. Schwetlick) **45** #1380 65J05

Monotoniesätze für Regula-falsi- und Newton-Verfahren. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **8** (1971), 143–156. (L. Collatz) **46** #2845 65H05

Monotonieeigenschaften des Steffensen-Verfahrens. (English summary) *Aequationes Math.* **12** (1975), 21–31. (B. Jankó) **51** #4658 65J05

Monotoniesätze für hyperbolische Anfangswertaufgaben und Einschließung vo Lösungen. (English summary) *Numer. Math.* **24** (1975), *no.* 2, 137–149. (Philip Brenner **52** #9632 65M15

(*with* Voss, Heinrich) Shooting Verfahren für nichtlineare Eigenwertprobleme. (English summary) *Numerische Behandlung von Differentialgleichungen, Band* 2 (*Tagung Math. Forschungsinst., Oberwolfach*, 1975), *pp.* 79–89. *Internat. Ser. Numer. Math., Vo* 31, *Birkhäuser, Basel*, 1976. (Authors' summary) **58** #24976 65L15

A generalization of a maximum principle for the wave-operator with lower orde terms. *Bol. Soc. Brasil. Mat.* **7** (1976), *no.* 1, 1–9. (E. C. Young) **58** #1670 35L0

(*with* Voss, Heinrich) Über die Konvergenz von Shooting-Verfahren. (English summary) *Computing* **16** (1976), *no.* 1-2, 49–60. (Peter Rentrop) **53** #4550 65L10

(*with* Voss, Heinrich) Shooting-Verfahren bei nichtlinearen, autonomen Schwingungen. (English summary) *Computing* **17** (1976/77), *no.* 2, 187–191. (Syvert P Nørsett) **56** #1726 65L10

Hofmeister, Gerd (*with* Hämmerer, Norbert) Zu einer Vermutung von Rohrbach. *J. Rein Angew. Math.* **286/287** (1976), 239–247. (A. R. Freedman) **54** #10181 10L05

(*with* Härtter, Erich; Zöllner, Joachim) Relativnullen und reduzible Mengen be Differenzen von Mengen ganzer Zahlen. *J. Reine Angew. Math.* **299/300** (1978 301–317. (B. Garrison) **58** #5576 10L99 (05B10)

Hofreiter, N. *See* **Denman, Harry H.**, **53** #4453

Hofri, Micha (*with* Yadin, Micha) A processor in series with demand-interrupting devices —a stochastic model. *J. Assoc. Comput. Mach.* **22** (1975), 270–290. (E. Gelenbe **51** #4473 60K30

(*with* Bruno, John) On scheduling chains of jobs on one processor with limite preemption. *SIAM J. Comput.* **4** (1975), *no.* 4, 478–490. (John C. Gittens) **55** #12030 90B35

Stochastic scheduling design in multiserver systems. *SIAM J. Control* **13** (1975 736–748. (John C. Gittins) **52** #2569 90B35 (60K25)

A generating-function analysis of multiprogramming queues. *Internat. J. Compu Inform. Sci.* **7** (1978), *no.* 2, 121–155. (Adam Wolisz) **58** #14020 68A55 (60K30)

Hofstadter, Robert F. (*with* Saridis, George N.) A pattern recognition approach to the classification of nonlinear systems. *IEEE Trans. Systems Man and Cybernet.* **SMC-** (1974), 362–371. (Authors' summary) **56** #11403 93E10 (68A45)

Hofstedt, Klaus Ein Verfahren für die exakte Behandlung von Problemen der Ablaufplanung mit Hilfsmittelbeschränkungen. (English and Russian summaries) *Math Operationsforsch. Statist.* **3** (1972), *no.* 4, 239–253. (M. Mañas) **48** #13232 90B35

(*with* Piehler, Joachim) Ein Simulationsverfahren zur Lösung ganzzahliger lineare Optimalprobleme. (English and Russian summaries) *Math. Operationsforsch. Statist.* **4** (1973), *no.* 2, 99–105. (Csaba Fabian) **53** #15355 90C10

Höft, Hartmut Operators on classes of partial algebras. *Algebra Universalis* **2** (1972 118–127. (I. Gy. Maurer) **47** #111 08A25

Weak and strong equations in partial algebras. *Algebra Universalis* **3** (1973 203-215. (A. Yaqub) **50** #2034 08A25

A characterization of strong homomorphisms. *Colloq. Math.* **28** (1973), 189-19 (Alden Pixley) **49** #187 08A25

(*with* Howard, Paul E.) A graph theoretic equivalent to the axiom of choice. Z *Math. Logik Grundlagen Math.* **19** (1973), 191. (J. L. Bell) **47** #4831 05B99 (02K2

On the semilattice of extensions of a partial algebra. *Colloq. Math.* **30** (1974 193–201, 317. (V. Căzănescu) **51** #311 08A25

A normal form for some semigroups generated by idempotents. *Fund. Math.* **84** (1974), *no.* 1, 75–78. (G. Grätzer) **50** #6988 08A25

(*with* Höft, Margret) Some fixed point theorems for partially ordered sets. *Cana J. Math.* **28** (1976), *no* 5, 992–997. (Ivan Rival) **54** #7328 06A10

See also **Iwanik, Anzelm**, **50** #6989 *and* **Goffman, Casper**, **55** #8267

Höft, Margret The order-sum in classes of partially ordered algebras. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 169–179 *Dept. Math., Univ. Houston, Houston, Tex.*, 1973. (Editors) **52** #13564 06A70

The order-sum in classes of partially ordered algebras. *J. Reine Angew. Math* **278/279** (1975), 78–92. (J. Karásek) **52** #10540 06A70

Lexicographic ideals and the order-sum of *k*-semilattices. *Algebra Universalis* **6** (1976), *no.* 1, 1–8. (J. Karásek) **53** #2794 06A70

(*with* Höft, Hartmut) Some fixed point theorems for partially ordered sets. *Canad J. Math.* **28** (1976), *no* 5, 992–997. (Ivan Rival) **54** #7328 06A10

Hoft, Richard G. (*with* Sinha, A. S. C.) Stability of a nonautonomous differential equatio of fourth order. *SIAM J. Control* **9** (1971), 8–14. (A. M. Krall) **46** #2170 34D0

(*with* Min, Byung Ju; Slivinsky, Charles) Absolute stability analysis of PWM systems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 447–452. (James A. Heinen) **57** #2693 93D10

feldman-Högaasen, Jacqueline *See* **Feldman-Högaasen, Jacqueline**

Hogan, D. A. (*with* Kelly, E. P., Jr.) Bounded, conservative, linear operators and the maximal group. II. *Proc. Amer. Math. Soc.* **38** (1973), 298–302. (J. D. Gray) **47** #2386 46L20

(*with* Langenhop, Carl E.) Invertibility in a Banach algebra. *Indiana Univ. Math. J* **24** (1974/75), 965–977. (B. E. Rhoades) **51** #6421 46H05 (47A60)

Hogan, D. T. Extensions of real valued functions. *Math. Chronicle* **4** (1975), *no.* 1, 7-12 (S. A. Naimpally) **54** #13861 54E15 (54C30)

Quotient quasi-uniformities. *Math. Chronicle* **4** (1976), *no.* 2-3, 108–111. (Michael J Canfell) **53** #11576 54E15

Hogan, Edward R. The beginnings of mathematics in a howling wilderness. (French summary) *Historia Math.* **1** (1974), 151–166. (D. J. Struik) **56** #11699 01A50

George Baron and the "Mathematical Correspondent". (French summary) *Histori Math.* **3** (1976), 403–415. (Richard L. Francis) **58** #10084 01A50

Robert Adrain: American mathematician. (German summary) *Historia Math.* **4** (1977), 157–172. (Richard L. Francis) **58** #27010 01A55 (01A70)

Hogan, J. W. Homorphisms of certain right cancellative semigroups. *J. Natur. Sci and Math.* **12** (1972), 55–70. (H. D'Alarcao) **51** #3331 20M10

Homomorphisms of ω^n-bisimple semigroups. *J. Natur. Sci. and Math.* **12** (1972) 159–167. (H. D'Alarcao) **49** #2990 20M10

Homomorphisms and congruences on ω^α-bisimple semigroups. *J. Austral. Math*

15 (1973), 441–460. (H. D'Alarcao) **51** #3339 20M20

Bisimple semigroups with idempotents well-ordered. *Semigroup Forum* **6** (1973), *no.* 98–316. (T. S. Blyth) **52** #3382 20M10

P. A. (*with* Synge, John L.) Model of a gravitating sphere set in rotation by nal stress. *General Relativity and Gravitation* **3** (1972), 269–280. (P. S. Florides) #2290 83.65

The equations of motion of charged bodies in general relativity. *Proc. Roy. Irish d. Sect. A* **72**, 35–50 (1972). (M. Sachs) **45** #8210 83.35

(*with* Acharya, R.) Equivalence of massive Brans-Dicke and Einstein theories of itation. *Lett. Nuovo Cimento* (2) **6** (1973), 668–672. **56** #4642 83.53

(*with* McCrea, J. D.) The equations of motion of macroscopic bodies in general tivity. *General Relativity and Gravitation* **5** (1974), *no.* 1, 79–113. (Barry Aronson) #4509 83.35

Linearized gravity and the Sommerfeld radiation conditions. *Lett. Nuovo Cimento* **11** (1974), 464–466. (Editors) **56** #7728 83.35

Kerr-Schild metric cannot have an accelerating source. *Phys. Lett.* **48A** (1974), 265. Carmeli) **50** #1688 83.53

Classical electrodynamics: the equation of motion. *Proc. Cambridge Philos. Soc.* **76** 4), 359–367. (E. Pinney) **52** #2413 78.35

The Kerr solution: a geometrical construction. (Italian and Russian summaries) *vo Cimento B* (11) **29** (1975), *no.* 2, 322–339. (P. C. Vaidya) **52** #9961 83.53

(*with* Criss, Thomas B.) On the construction of the Taub-NUT congruence. *rnat. J. Theoret. Phys.* **15** (1976), *no.* 3, 207–212. (George Debney) **54** #12135 3

An interior Kerr Solution. *Lett. Nuovo Cimento* (2) **16** (1976), *no.* 2, 33–34. (W. el) **57** #2428 83.35

On the passage from the Schwarzschild metric to the Kerr metric by analytic tinuation. (Italian and Russian summaries) *Nuovo Cimento B*(11) **32** (1976), *no.* 2, –414. (Elhanan Leibowitz) **54** #9575 83.53

On the construction of the Kerr congruence. *Proc. Roy. Irish Acad. Sect. A* **76** 76), *no.* 6, 37–42. (George Dehney) **53** #15269 83.53

On Sachs' lemma in general relativity. *Acta Phys. Austriaca* **48** (1977), *no.* 1, 55–59. Rund) **56** #14510 83.53

(*with* Tchrakian, D. H.) Initial-value problem for Maxwell and linearized Einstein ds. *J. Phys. A* **10** (1977), *no.* 6, 899–908. (Shin-ichi Kitamura) **57** #15185 83.35

W. W. (*with* Geoffrion, Arthur M.) Coordination of two-level organizations with tiple objectives. *Techniques of optimization* (*Fourth IFIP Colloq. Optimization hniques, Los Angeles, Calif.*, 1971), *pp.* 455–466. *Academic Press, New York*, 1972. nald P. Ballou) **52** #12761 90B99

(*with* Marsten, Roy E.; Blankenship, J. W.) The BOXSTEP method for large-scale imization. *Operations Res.* **23** (1975), *no.* 3, 389–405. (M. A. Wolfe) **55** #12107 30

William W. Comment on: Klymov, G. P., "Minimisation d'une fonctionnelle vexe continue donnée sur une multiplicité convexe compacte de l'espace vectoriel ologique". *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **57** (1971), 957–960. (From the roduction) **46** #3080 90C25

Applications of a general convergence theory for outer approximation algorithms. *th. Programming* **5** (1973), 151–168. (A. F. Veinott, Jr.) **55** #7399 90C25 (65K05)

Directional derivatives for extremal-value functions with applications to the npletely convex case. Mathematical programming and its applications. *Operations*. **21** (1973), 188–209. (R. W. Cottle) **50** #3951 90C30

The continuity of the perturbation function of a convex program. Mathematical gramming and its applications. *Operations Res.* **21** (1973), 351–352. (A. Göpfert) #6494 90C25

Point-to-set maps in mathematical programming. *SIAM Rev.* **15** (1973), 591–603. J. Himmelberg) **49** #10372 90C30 (54C60)

Norm minimizing estimation and unbiasedness. *Econometrica* **44** (1976), *no.* 3, –614. (D. S. Tracy) **54** #8985 62J05 (62P20, 62F10)

h, Pauline Cain Decomposition of complete graphs into stars. *Bull. Austral. Math.* . **10** (1974), 23–30. (F. Harary) **49** #10601 05C99

Decomposition of complete graphs into 6-stars and into 10-stars. *Combinatorial thematics, III* (*Proc. Third Australian Conf., Univ. Queensland, St. Lucia*, 1974), *pp.* –142. *Lecture Notes in Math., Vol.* 452, *Springer, Berlin*, 1975. (Frank W. Owens) #198 05C99

h, W. L. (*with* Dayananda, P. W. A.) Control for some approximations to in-binomial epidemic models. *Math. Biosci.* **35** (1977), *no.* 1-2, 151–163. (Authors' nmary) **58** #33135 92A15

Nlend, Henri ★Théorie des bornologies et applications. Lecture Notes in thematics, Vol. 213. *Springer-Verlag, Berlin-New York*, 1971. v + 168 *pp.* (K. Floret l **225** #46005)) **58** #30002 46A09

Les racines historiques de la bornologie moderne. *Séminaire Choquet*, 10*e année* 70/71), *Initiation à l'analyse, Fasc.* 1, *Exp. No.* 9, 6 *pp. Secrétariat Mathématique, ris*, 1971. (Zbl **224** #46005) **57** #17177 46A09

Ultra-mucléarité et bornologie à décroissance très rapide. *Séminaire ulaouic-Schwartz* 1970–1971: *Équations aux dérivées partielles et analyse fonctionnelle, p. No.* 21, 18 *pp. Centre de Math., École Polytech., Paris*, 1971. (Bernd Rosenberger) #3631 46A05

Sur la conucléarité des espaces nucléaires à bornés métrisables. *C. R. Acad. Sci. ris Sér. A-B* **273** (1971), A986–A988. (N. Adasch) **46** #4137 46A05

Sur un théorème de L. Schwartz. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), 130–A1131. (N. Adasch) **45** #2437 46A05

Les racines historiques de la bornologie moderne. *Actes du Colloque d'Analyse nctionnelle* (*Univ. Bordeaux, Bordeaux*, 1971), *pp.* 201–206. *Bull. Soc. Math. France, ém. No.* 31–32, *Soc. Math. France, Paris*, 1972. (Editors) **50** #7985 46A09

Les fondements de la théorie spectrale des algèbres bornologiques. *Bol. Soc. Brasil. at.* **3** (1972), *no.* 1, 19–56. (G. R. Allan) **48** #6938 46J05 (46A09)

Sur les espaces ultra-nucléaires. (Italian summary) *Boll. Un. Mat. Ital.* (4) **5** (1972), 5–204. (H. Buchwalter) **46** #7832 46A05

Sur le théorème du graphe borélien. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), 1–A43. (K. Floret) **46** #4142 46A09

Les espaces de Fréchet-Schwartz et la propriété d'approximation. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1073–A1075. (D. J. H. Garling) **46** #7837 46A15

★Distributions et bornologie. Notas do Instituto de Matemática e Estatística da Universidade de São Paulo. (Portuguese) [Notes of the Institute of Mathematics and Statistics of the University of São Paulo] Série Matemática, No. 3 (1973). [Mathematical Series, No. 3 (1973)] *Universidade de São Paulo, São Paulo*, 1973. 143 *pp.* (Editors) **57** #3847 46Fxx (35H05, 46A09)

Sur la propriété d'approximation dans les espaces localement convexes. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 13, 11 *pp. Centre de Math., École Polytech., Paris*, 1973. (T. Figiel) **53** #8850 46A35

Techniques de bornologie en théorie des espaces vectoriels topologiques. *Summer School on Topological Vector Spaces* (*Univ. Libre Bruxelles, Brussels*, 1972), *pp.* 84–162. *Lecture Notes in Math., Vol.* 331, *Springer, Berlin*, 1973. (Editors) **58** #2122 46A09

Deux remarques sur les applications analytiques en dimension infinie. *An. Acad. Brasil. Ci.* **45** (1973), 13–15. (S. Dineen) **49** #5840 46G20

Sur le théorème du graphe borélien. *An. Acad. Brasil. Ci.* **45** (1973), 193–195. (N. J. Kalton) **49** #9577 46A30

Topologies et bornologies nucléaires associées. Applications. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **23** (1973), *no.* 4, 89–104. (K. Floret) **49** #9572 46A05

Sur la métrisabilité des espaces de fonctions holomorphes en dimension infinie. *Bull. Sci. Math.* (2) **97** (1973), 29–32. (Martin Schottenloher) **48** #6931 46G20

Sur la propriété d'approximation de Banach-Grothendieck. *Math. Ann.* **203** (1973), 331–333. (Tosun Terzioğlu) **47** #9221 46A09

Applications analytiques entre espaces et algèbres bornologiques. *Fonctions analytiques de plusieurs variables et analyse complexe* (*Colloq. Internat. CNRS, No.* 208, *Paris*, 1972), *pp.* 70–77. "*Agora Mathematica*", *No.* 1, *Gauthier-Villars, Paris*, 1974. (S. Dineen) **56** #16374 46G20 (58C10)

Topologies et bornologies d'approximation linéaire. *Function spaces and dense approximation* (*Proc. Conf., Univ. Bonn, Bonn*, 1974), *pp.* 85–97. *Bonn. Math. Schriften, No.* 81, *Inst. Angew. Math., Univ. Bonn, Bonn*, 1975. (H. Buchwalter) **57** #3806 46A05

★Bornologies and functional analysis. Introductory course on the theory of duality topology-bornology and its use in functional analysis. Translated from the French by V. B. Moscatelli. North-Holland Mathematics Studies, Vol. 26. Notas de Matemática, No. 62. [Notes on Mathematics, No. 62] *North-Holland Publishing Co., Amsterdam-New York-Oxford*, 1977. xii + 144 *pp. ISBN* 0-7204-0712-5 (N. J. Kalton) **58** #17774 46A09 (46A05)

Opérateurs différentiels et bornologies de Silva. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 10, A453–A455. (Author's summary) **58** #17965 47F05 (35G05, 46E10)

See also **Actes: Colloque d'Analyse Fonctionnelle de Bordeaux**, **49** #11181; **Actes: Colloque d'Analyse Fonctionnelle de Bordeaux**, **49** #11182; **Actes: Colloque d'Analyse Fonctionnelle de Bordeaux**, **49** #11183 *and* **Actes: Colloque d'Analyse Fonctionnelle de Bordeaux**, **49** #11184

Hogbe-Saux, Marie-Thérèse Quotients bornologiques et quotients de "réunions d'espaces normés" au sens de Mikusinski. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1629–A1630. (K. Floret) **46** #4141 46A09

Höge, Harald Ein verallgemeinertes adaptives Modell zur Beschreibung von Lern- und Identifikationsprozessen. (English summary) *Kybernetik* (*Berlin*) **16** (1974), 183–189. (K. D. Gunther) **50** #9377 92A25 (68A35, 93B30)

A stochastic approximation algorithm for asymptotic time-invariant linear systems. *Internat. J. Control* **23** (1976), *no.* 2, 229–236. (See RŽMat **1976** #8 V312) 93E10

Högfors, Christian Asymptotic states of massless fields. *Phys. Scripta* **12** (1975), *no.* 5, 261–269. (Aubrey Truman) **55** #5023 81.46

Hogg, A. H. A. *See* **Place of astronomy in the ancient world**, **57** #15838

Hogg, Robert V. (*with* Uthoff, Vincent A.; Randles, Ronald H.; Davenport, Alan S.) On the selection of the underlying distribution and adaptive estimation. *J. Amer. Statist. Assoc.* **67** (1972), 597–600. (Farhad Mehran) **52** #9466 62F10

(*with* Randles, Ronald H.) Adaptive distribution-free tests. *Comm. Statist.* **2** (1973), 337–356. (J. Capon) **48** #9960 62G10

Adaptive robust procedures: a partial review and some suggestions for future applications and theory. With comments by H. Leon Harter, Joseph L. Gastwirth and Peter J. Huber, and with a rejoinder by Robert V. Hogg. *J. Amer. Statist. Assoc.* **69** (1974), 909–927. (A. C. Cohen) **57** #1763 62G35

(*with* Randles, Ronald H.) Adaptive distribution-free regression methods and their applications. *Technometrics* **17** (1975), *no.* 4, 399–407. (P. J. Huber) **52** #15829 62G10 (62J05)

(*with* Fligner, Michael A.; Killeen, Timothy J.) Some distribution-free rank-like statistics having the Mann-Whitney-Wilcoxon null distribution. *Comm. Statist.—Theory Methods* **A5** (1976), *no.* 4, 373–376. (W. J. Conover) **54** #3953 62G10

A new dimension to nonparametric tests. Special issue on nonparametric statistics. *Comm. Statist.—Theory Methods* **A5** (1976), *no.* 14, 1313–1325. (Z. Govindarajulu) **58** #13492 62G10

(*with* Broffitt, James D.; Randles, Ronald H.) Distribution-free partial discriminant analysis. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 356, 934–939. (Laśzló Györfi) **54** #11647 62G10 (62H30)

(*with* Tanis, Elliot A.) ★Probability and statistical inference. *Macmillan Publishing Co., New York; Collier Macmillan Publishers, London*, 1977. ix + 450 *pp.* (Editors) **54** #14169 62-01 (60-01)

(*with* Prescott, P.) Trimmed and outer means and their variances. *Amer. Statist.* **31** (1977), *no.* 4, 156–157. (Authors' summary) **58** #7988 62F10

An introduction to robust procedures. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 9, 789–794. (Martin A. Hamilton) **56** #7006 62G35

(*with* Craig, Allen T.) ★Introduction to mathematical statistics. Fourth edition. *Macmillan Publishing Co., Inc., New York; Collier Macmillan Publishers, London*, 1978. x + 438 *pp. ISBN* 0-02-355710-9 (Editors) **57** #7817 62-01

(*with* Randles, Ronald H.; Broffitt, James D.; Ramberg, John S.) Discriminant analysis based on ranks. *J. Amer. Statist. Assoc.* **73** (1978), *no.* 362, 379–384. (László Győrfi) **58** #24744 62H30 (62G99)

See also **Gray, H. L.; et al., 49** #10019 *and* **Fraser, D. A. S., 54** #1424

Hoggar, S. G. Chromatic polynomials and logarithmic concavity. *J. Combinatorial Theory Ser. B* **16** (1974), 248–254. (Ruth Bari) **49** #7170 05C15

Chromatic polynomials and broken cycles. *J. Combinatorial Theory Ser. B* **19** (1975), *no.* 1, 77–86. (Ruth Bari) **53** #5353 05C15

New equi-isoclinic n-planes from old. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 319–322. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (P. W. H. Lemmens) **53** #6411 50D20 (05B25)

Quaternionic equi isoclinic n-planes. *Ars Combinatoria* **2** (1976), 11–13. (J. J. Seidel) **54** #12801 15A03

New sets of equi-isoclinic n-planes from old. *Proc. Edinburgh Math. Soc.* (2) **20** (1976/77), *no.* 4, 287–291. (J. J. Seidel) **57** #7361 50D05

Hoggatt, Verner E., Jr. Some special Fibonacci and Lucas generating functions. *Fibonacci Quart.* **9** (1971), *no.* 2, 121–133. (S. G. Mohanty) **45** #1826 10A40

(*with* Alexanderson, G. L.) A property of multinomial coefficients. *Fibonacci Quart.* **9** (1971), *no.* 4, 351–356, 420–421. (H. W. Gould) **46** #1602 (EA **48**) 05A10

(*with* Carlitz, Leonard; Scoville, Richard) Some functions related to Fibonacci and Lucas representations. *The theory of arithmetic function*, (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1971), *pp.* 71–102. *Lecture Notes in Math., Vol.* 251, *Springer, Berlin*, 1972. (J. M. Gandhi) **49** #4923 10A35

(*with* Carlitz, Leonard; Scoville, Richard) Fibonacci representations. *Fibonacci Quart.* **10** (1972), *no.* 1, 1–28. (D. A. Klarner) **46** #3427 (E **48** #3857) 10A35

(*with* Carlitz, Leonard; Scoville, Richard) Lucas representations. *Fibonacci Quart.* **10** (1972), *no.* 1, 29–42, 70, 112. (D. A. Klarner) **46** #3429 10A35

(*with* Carlitz, Leonard; Scoville, Richard) Fibonacci representations of higher order. I, II. *Fibonacci Quart.* **10** (1972), *no.* 1, 43–69, 94; *ibid.* **10** (1972), *no.* 1, 71–80, 94. (D. A. Klarner) **46** #3428 10A35

(*with* Peterson, Brian) Some general results on representations. *Fibonacci Quart.* **10** (1972), *no.* 1, 81–88. (R. N. Jain) **45** #8602 10A30

Generalized Zeckendorf theorem. *Fibonacci Quart.* **10** (1972), *no.* 1, 89–93. (J. M. Gandhi) **46** #128 10A35

(*with* Carlitz, Leonard; Scoville, Richard) Pellian representations. *Fibonacci Quart.* **10** (1972), *no.* 5, 449–488. (S. A. Burr) **47** #8420 10A40

(*with* Carlitz, Leonard; Scoville, Richard) Representations for a special sequence. *Fibonacci Quart.* **10** (1972), *no.* 5, 499–518, 550. (S. A. Burr) **47** #8421 10A40

(*with* Kramer, Judy) Special cases of Fibonacci periodicity. *Fibonacci Quart.* **10** (1972), *no.* 5, 519–522, 530. (L. Carlitz) **46** #7135 10A40

(*with* Carlitz, Leonard; Scoville, Richard) Addendum to the paper: "Fibonacci representations" (Fibonacci Quart. **10** (1972), no. 1, 1–28). *Fibonacci Quart.* **10** (1972), *no.* 5, 527–530. (J. M. Gandhi) **48** #3857 10A35

(*with* Chow, Bob) Some theorems on completeness. *Fibonacci Quart.* **10** (1972), *no.* 5, 551–554, 560. (H. Gupta) **46** #8963 10A40

(*with* Bicknell-Johnson, Marjorie; King, Ellen L.) Fibonacci and Lucas triangles. *Fibonacci Quart.* **10** (1972), *no.* 5, 555–560. (H. Gupta) **46** #8953 10A35

(*with* Hillman, Abraham P.) A proof of Gould's Pascal hexagon conjecture. *Fibonacci Quart.* **10** (1972), *no.* 6, 565–568, 598. (H. W. Gould) **47** #3287 10A05 (10A40)

(*with* Bicknell-Johnson, Marjorie) Convolution triangles. *Fibonacci Quart.* **10** (1972), *no.* 6, 599–608. (D. P. Roselle) **46** #8964 10A40

(*with* Anaya, Janet Crump) A primer for the Fibonacci numbers. XI. Multisection generating functions for the columns of Pascal's triangle. *Fibonacci Quart.* **11** (1973), *no.* 1, 85–90, 104. (S. A. Burr) **54** #10128 10A35

(*with* Bicknell-Johnson, Marjorie) Unit determinants in generalized Pascal triangles. *Fibonacci Quart.* **11** (1973), *no.* 2, 131–144. (D. A. Klarner) **47** #6723 15A15

(*with* Bicknell-Johnson, Marjorie) Roots of Fibonacci polynomials. *Fibonacci Quart.* **11** (1973), *no.* 3, 271–274. (J. B. Kelly) **48** #2056 10A40 (33A70)

(*with* Junge, Bjarne) Polynomials arising from reflection across multiple plates. *Fibonacci Quart.* **11** (1973), *no.* 3, 285–291. (R. N. Jain) **48** #5515 78.65 (10A35)

(*with* Cox, Nannette; Bicknell-Johnson, Marjorie) A primer for the Fibonacci numbers. XII. *Fibonacci Quart.* **11** (1973), *no.* 3, 317–331. (D. A. Klarner) **48** #3859 10A35

(*with* Fielder, Daniel C.) Analytical verification of an "at sight" transformation. *Fibonacci Quart.* **11** (1973), *no.* 4, 395–398. (H. Gupta) **48** #3990 15A30

(*with* Bicknell-Johnson, Marjorie) Generalized Fibonacci polynomials and Zeckendorf's theorem. *Fibonacci Quart.* **11** (1973), *no.* 4, 399–419. (András Sárközi) **48** #5981 10A35

(*with* Bicknell-Johnson, Marjorie) Generalized Fibonacci polynomials. *Fibonacci Quart.* **11** (1973), *no.* 5, 457–465. (J. B. Kelly) **48** #10971 10A40

(*with* Bicknell-Johnson, Marjorie) Special determinants found within generalized Pascal triangles. *Fibonacci Quart.* **11** (1973), *no.* 5, 469–479. (Richard T. Bumby) **48** #5996 10A99

(*with* Hillman, Abraham P.) Exponents of primes in generalized binomial coefficients. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday. *J. Reine Angew. Math.* **262/263** (1973), 375–380. (H. W. Gould) **49** #2413 05A10

(*with* Bicknell-Johnson, Marjorie) Diagonal sums of the trinomial triangle. *Fibonacci Quart.* **12** (1974), 47–50. (Richard T. Bumby) **50** #6871 05A15

(*with* Long, Calvin T.) Sets of binomial coefficients with equal products. *Fibonacci Quart.* **12** (1974), 71–79. (R. Alter) **51** #5324 05A10

(*with* Bergum, Gerald E.) Irreducibility of Lucas and generalized Lucas polynomials. *Fibonacci Quart.* **12** (1974), 95–100. (J. B. Kelly) **50** #2074 10C05 (05A10, 10A35)

(*with* Long, Calvin T.) Divisibility properties of generalized Fibonacci polynomials. *Fibonacci Quart.* **12** (1974), 113–120. (B. Stolt) **50** #4522 10M05

(*with* Bicknell-Johnson, Marjorie) A primer for the Fibonacci numbers. XIV. *Fibonacci Quart.* **12** (1974), 147–156. (L. Carlitz) **53** #5456 10A35 (94A20)

(*with* Bergum, Gerald E.) Divisibility and congruence relations. *Fibonacci Quart.* **12** (1974), 189–195. (L. Carlitz) **50** #2060 10A35

(*with* Bicknell-Johnson, Marjorie) Triangular numbers. *Fibonacci Quart.* **12** (1974), 221–230. (M. S. Cheema) **50** #2061 10A35 (05A15)

(*with* Arkin, Joseph) Exploded myths. *J. Recreational Math.* **7** (1974), *no.* 2, 90–9 (K. Yamamoto) **56** #8396 05B15

(*with* Bicknell-Johnson, Marjorie) Some congruences of the Fibonacci numbe modulo a prime p. *Math. Mag.* **47** (1974), 210–214. (A. Peluso) **49** #8928 10A35

(*with* Bergum, Gerald E.; Wagner, William J.) Chebyshev polynomials and relat sequences. *Fibonacci Quart.* **13** (1975), 19–24. (J. B. Kelly) **50** #9599 05A15 (10A40)

(*with* Arkin, Joseph) The generalized Fibonacci number and its relation to Wilsor theorem. *Fibonacci Quart.* **13** (1975), 107–110. (S. A. Burr) **50** #12900 10A40

(*with* Bergum, Gerald E.) Sums and products for recurring sequences. *Fibona Quart.* **13** (1975), 115–120. (Kenneth Yocom) **50** #12893 10A35

(*with* Alladi, Krishnaswami) Generalized Fibonacci tiling. *Fibonacci Quart.* (1975), 137–145. (S. L. G. Choi) **51** #330 10A35

(*with* Bergum, Gerald E.) Generalized convolution arrays. *Fibonacci Quart.* (1975), *no.* 3, 193–198. (Joseph Arkin) **52** #3039 10A40 (05B15)

(*with* Alladi, Krishnaswami) Compositions with ones and twos. *Fibonacci Quart.* (1975), *no.* 3, 233–239. (T. Hayashida) **53** #13096 10A30

(*with* Peterson, Brian) On the solutions to the Diophantine equation $x^2+xy-y^2=\pm D$, or the number of Fibonacci-type sequences with a given characteristic. *Fibonacci Quart.* **13** (1975), *no.* 3, 243–251. (D. H. Lehmer) **52** #10587 10B05

(*with* Bicknell-Johnson, Marjorie) Special partitions. *Fibonacci Quart.* **13** (1975), 3, 278, 254. (H. Gupta) **51** #12550 05A17

(*with* Bicknell-Johnson, Marjorie) Palindromic compositions. *Fibonacci Quart.* (1975), *no.* 4, 350–356. (Dominique Foata) **54** #2578 10A40

(*with* Bruckman, Paul S.) The H-convolution transform. *Fibonacci Quart.* **13** (1975), *no.* 4, 357–368. (L. Carlitz) **56** #3490 40A99

(*with* Arkin, Joseph; Straus, Ernst G.) Systems of magic Latin k-cubes. *Canad. Math.* **28** (1976), *no.* 6, 1153–1161. (Heiko Harborth) **54** #12541 05B15

(*with* Bergum, Gerald E.) Numerator polynomial coefficient array for the convolv Fibonacci sequence. *Fibonacci Quart* **14** (1976), *no.* 1, 43–48. (J. M. Gandhi) **52** #13617 10A35

(*with* Alexanderson, G. L.) Sums of partition sets in generalized Pascal triangles. *Fibonacci Quart.* **14** (1976), *no.* 2, 117–125. (Heiko Harborth) **53** #7802 05A19

(*with* Bicknell-Johnson, Marjorie) Pascal, Catalan, and general sequence convolution arrays in a matrix. *Fibonacci Quart.* **14** (1976), *no.* 2, 135–143. (Re Laskar) **53** #10619 05B30

(*with* Alladi, Krishnaswami) In-winding spirals. *Fibonacci Quart.* **14** (1976), *no.* 144–146. (J. B. Wilker) **53** #11501 52A45

(*with* Bicknell-Johnson, Marjorie) Sequences of matrix inverses from Pascal, Catalan, and related convolution arrays. *Fibonacci Quart.* **14** (1976), *no.* 3, 224–232. Carlitz) **54** #5014 05B20

(*with* Bicknell-Johnson, Marjorie) A primer for the Fibonacci numbers. XV. Variations on summing a series of reciprocals of Fibonacci numbers. *Fibonacci Qu* **14** (1976), *no.* 3, 272–276. (L. Carlitz) **54** #5105 10A35

(*with* Smith, Claudia) Primitive periods of generalized Fibonacci sequences. *Fibonacci Quart.* **14** (1976), *no.* 4, 343–347. (L. Carlitz) **54** #12623 10A35

(*with* Bicknell-Johnson, Marjorie) Catalan and related sequences arising from inverses of Pascal's triangle matrices. *Fibonacci Quart.* **14** (1976), *no.* 5, 395–405. (He Harborth) **55** #119 05A10 (10A35)

(*with* Davis, Basil) Exponentials and Bessel functions. *Fibonacci Quart.* **14** (197 *no.* 5, 405, 418, 426. (L. Carlitz) **54** #5516 33A40

(*with* Bicknell-Johnson, Marjorie) A reciprocal series of Fibonacci numbers w subscripts 2^nk. *Fibonacci Quart.* **14** (1976), *no.* 5 453–455. (J. S. Joel) **54** #216 (EA 5 10–01 (10A35)

(*with* Bicknell-Johnson, Marjorie) Composites and primes among powers of Fibonacci numbers, increased or decreased by one. *Fibonacci Quart.* **15** (1977), *no.* 1 (J. S. Joel) **54** #10129 10A35

(*with* Bicknell-Johnson, Marjorie) Divisibility by Fibonacci and Lucas squar *Fibonacci Quart.* **15** (1977), *no.* 1, 3–8. (L. Carlitz) **55** #254 10A35

(*with* Bicknell-Johnson, Marjorie) Numerator polynomial coefficient arrays for Catalan and related sequence convolution triangles. *Fibonacci Quart.* **15** (1977), *no* 30–34. (F. T. Howard) **54** #12535 05A10

(*with* Alladi, Krishnaswami) On Tribonacci numbers and related functions. *Fibonacci Quart.* **15** (1977), *no.* 1, 42–45. (M. S. Cheema) **55** #253 10A35

(*with* Bergum, Gerald E.) Limits of quotients for the convolved Fibonacci seque and related sequences. *Fibonacci Quart.* **15** (1977), *no.* 2, 113–116. (S. P. Mohar **56** #236 10A35

(*with* Bicknell-Johnson, Marjorie) Fibonacci convolution sequences. *Fibonacci Quart.* **15** (1977), *no.* 2, 117–122. (Stanley J. Benkoski) **55** #7907 10A35

(*with* Bicknell-Johnson, Marjorie) Generalized Lucas sequences. *Fibonacci Qu* **15** (1977), *no.* 2, 131–139. (K. Nageswara Rao) **58** #16489 10A40

(*with* Alladi, Krishnaswami) Limiting ratios of convolved recursive sequenc *Fibonacci Quart.* **15** (1977), *no.* 3, 211–214. (L. Carlitz) **58** #486 10A35

(*with* Bergum, Gerald E.) An application of the characteristic of the generali Fibonacci sequence. *Fibonacci Quart.* **15** (1977), *no.* 3, 215–220. (A. G. Shann **57** #225 10A35

(*with* Bruckman, Paul S.) Periodic continued fraction representations of Fibonacci-type irrationals. *Fibonacci Quart.* **15** (1977), *no.* 3, 225–230. (P. Bundsch **57** #3084 10F20 (10F35)

(*with* Alladi, Krishnaswami) Compositions and recurrence relations. II. *Fibon Quart.* **15** (1977), *no.* 3, 239–245. (From the text) **58** #27730 10A35

(*with* Bergum, Gerald E.) A problem of Fermat and the Fibonacci sequen *Fibonacci Quart.* **15** (1977), *no.* 4, 323–330. (E. L. Cohen) **56** #15547 10A35

(*with* Brown, John L., Jr.) A primer for the Fibonacci numbers. XVI. The cen column sequence. *Fibonacci Quart.* **16** (1978), *no.* 1, 41–46. (L. Carlitz) **58** #1648 10A40 (05A15)

(*with* Bergum, Gerald E.) A combinatorial problem involving recursive sequen and tridiagonal matrices. *Fibonacci Quart.* **16** (1978), *no.* 2, 113–118. (F. T. Howa

58 #10700 10A35

(*with* Bicknell-Johnson, Marjorie) A primer for the Fibonacci numbers. XVII. Generalized Fibonacci numbers satisfying $u_{n+1}u_{n-1}-u_n^2=\pm 1$. *Fibonacci Quart.* **16** (1978), *no.* 2, 130–137. (L. Carlitz) **58** #16488 10A40

(*with* Carlitz, Leonard) Generalized Eulerian numbers and polynomials. *Fibonacci Quart.* **16** (1978), *no.* 2, 138–146. (V. C. Harris) **58** #490 10A40

See also **Proceedings: Washington State University Conference on Number Theory**, **47** #4904 *and* **Primer for the Fibonacci numbers**, **50** #12906

gge, C. Barry (*with* Butts, R. Russell) Frequency spectra for the geometric representation of wavefront distortions due to atmospheric turbulence. *IEEE Trans. Antennas and Propagation* **AP-24** (1976), *no.* 2, 144–154. (Authors' summary) **56** #8160 93A05

gge, H. D. (*with* Meecham, W. C.) The Wiener-Hermite expansion applied to decaying isotropic turbulence using a renormalized time-dependent base. *J. Fluid Mech.* **85** (1978), *no.* 2, 325–347. (J. D. Atkinson) **57** #14903 76.60

gge, M. A. Integration operators for first order linear matrix differential equations. *Comput. Methods Appl. Mech. Engrg.* **11** (1977), *no.* 3, 281–294. (Author's summary) **56** #13648 65L05

glinger, Rainer *See* **Grau, Dietrich**, **58** #8860

glund, Thomas Asymptotic normality of sums of minima of random variables. *Ann. Math. Statist.* **43** (1972), 351–353. **45** #7785 60F05

A refined saddle point approximation. *Ark. Mat.* **12** (1974), 173–180. (A. De Hoyos) **51** #1917 60F05

Central limit theorems and statistical inference for finite Markov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **29** (1974), 123–151. (G. Roussas) **51** #9402 62M05

The exact estimate—a method of statistical estimation. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **29** (1974), 257–271. (M. Bertrand-Retali) **50** #11603 (EA **51**) 62F10

Sampling from a finite population: a remainder term estimate. *Scand. J. Statist.* **5** (1978), *no.* 1, 69–71. (Pramod K. Pathak) **57** #10868 62D05

gnäs, Göran An ergodic random walk on a compact semigroup. *Acta Acad. Åbo. Ser. B* **33**, *no.* 9, 5 *pp.* (1973). (D. Revuz) **47** #9722 60J15 (60B15)

A note on random walks on a compact semigroup. *Acta Acad. Åbo. Ser. B* **33**, *no.* 10, 8 *pp.* (1973). (J.-P. Conze) **49** #11636 60J15

Marches aléatoires sur un demi-groupe compact. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **10** (1974), 115–154. (A. Mukherjea) **51** #4408 60J15

Remarques sur les marches aléatoires dans un demi-groupe avec un idéal compact ayant une probabilité positive. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **10** (1974), 345–354. (A. Mukherjea) **51** #4409 60J15

Marches aléatoires récurrentes sur les demi-groupes localement compacts. *Ann. Sci. Univ. Clermont Math. No.* 15 (1977), 96–102. (R. L. Tweedie) **58** #24560 60J15

Random semigroup acts on a finite set. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 4, 481–498. (T.-C. Sun) **57** #17840 60J10 (60J15)

Characterization of weak convergence of signed measures on [0, 1]. *Math. Scand.* **41** (1977), *no.* 1, 175–184. (P. Gérard) **58** #2948 60B10 (28A32)

hberg, Bodo Zusammenhang struktureller Eigenschaften von Chomsky-Grammatiken und optimaler Sprachanalyse. I, II. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 31–48; *ibid.* **8** (1972), 129–146. (G. Wechsung) **47** #7960 68A30

hel', O. A. (*with* Īvanenko, V. Ī.; Šor, O. Ī.) A synthesis of an optimal adaptive control system of the generator of a Gaussian random process. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 6, 38–42. (V. Kolemaev (RŽMat **1970** #1 V219)) **45** #8374 93E20

Distribution of the number of observations in sequential analysis over the sequence of independent random variables. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 1, 75–78. (Author's summary) **46** #1028 62L10

Hohenbalken, Balder (*with* van Moeseke, Paul) Efficient and optimal portfolios by homogeneous programming. (German summary) *Z. Operations Res. Ser. A-B* **18** (1974), A205–A214. (John C. Gittins) **50** #12153 90A10 (90C50)

A finite algorithm to maximize certain pseudoconcave functions on polytopes. *Math. Programming* **9** (1975), *no.* 2, 189–206. (Siegfried Schaible) **52** #5035 90C30

Simplicial decomposition in nonlinear programming algorithms. *Math. Programming* **13** (1977), *no.* 1, 49–68. (J. Falk) **56** #8003 90C30

henberg, Fritz Über den Zentralriss des Torus. *Monatsh. Math.* **75** (1971), 123–135. (H. Brauner) **45** #1026 50B05

Die Polaritäten, die einen Torus in sich überführen. *Elem. Math.* **27** (1972), 97–101. (L. Gyarmathi) **48** #7101 50C05

Zerfallende Schnitte des Torus mit den Quadriken eines Büschels. *Österreich. Akad. Wiss. Math.-Natur. Kl.S.-B. II* **180** (1972/73), 387–404. (H. Brauner) **50** #14469 50D15

Drei Paare von Torusflächen, die einen Kugelschnitt gemein haben. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl* **1973**, *no.* 10, 137–138. (Leo Boček) **52** #15212 50B05

Die gleichseitigen Dreiecke, die einer gleichseitigen Hyperbel eingeschrieben sind. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 197–208. (K. Strubecker) **50** #14448 50B10

Über die Parallelogramme, deren Ecken auf gegebenen Geraden liegen. (Turkish summary) *İstanbul Tek. Üniv. Bül.* **27** (1974), *no.* 1, 75–97. (Author's summary) **57** #17484 50D05

Drei Paare von Torusflächen, die einen Kugelschnitt gemein haben. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **182** (1974), 203–221. (1 *foldout*) (H. W. Guggenheimer) **49** #9728 50D15 (14N05)

Kegelschnittpaare mit gegebenen harmonischen Kurven. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1975**, 13–22 (1976). (Dov Avishalom) **54** #1077 50D20

Systeme halbkonzentrischer Kreise der euklidischen Ebene im komplexen Gebiet. (English summary) *Monatsh. Math.* **79** (1975), 223–232. (H. R. Müller) **51** #4025 50B20

Projektive Büschel konzentrischer gleichseitiger Hyperbeln. (English summary) *Norske Vid. Selsk. Skr.* (*Trondheim*) **1975**, *no.* 1, 1, 7 *pp.* (A. Evyatar) **54** #5263 14N05

Isogonalkreis und Isogonalquartik zweier Kreise, Isogonalpunkte 1. und 2. Art dreier Kreise. (English summary) *Norske Vid. Selsk. Skr.* (*Trondheim*) **1975**, *no.* 2, 7 *pp.* (Dov Avishalom) **53** #13250 14N05

Das System konzentrischer gleichseitiger Hyperbeln. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **183** (1975), *no.* 8-10, 373–386. (Dov Avishalom) **52** #15217 50B10

Untersuchungen über den Feuerbachschen Kreis. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 1-4, 41–63. (H. S. M. Coxeter) **54** #3571 50B20

Eine liniengeometrische Deutung der ebenen Gelenkvierecke. (English summary) *J. Geometry* **8** (1976), *no.* 1-2, 49–60. (J. Hoschek) **58** #18102 50D15 (53A15)

Drei involutorische Transformationen euklidischer Dreiecke. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **185** (1976), *no.* 8-10, 359–376 (1977). (H. Brauner) **58** #23971 50B05

Zur Geometrie im komplexen Gebiet. (Turkish summary) *Istanbul Tek. Üniv. Bül.* **30** (1977), *no.* 1, 100–108. (Dov Avishalom) **58** #18067 50A05 (50D05)

Paare und Tripel halbkonzentrischer Kreise der euklidischen Ebene. (English summary) *Monatsh. Math.* **83** (1977), *no.* 4, 309–313. (Author's summary) **58** #12694 50D15

Ein Schliessungssatz über gleichseitige Polygone, deren Ecken abwechselnd auf zwei Kreisen liegen. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **186** (1977), *no.* 4-7, 281–300. (L. Bitay) **57** #17478 50B05

Dreiecke zweiter Art. (Serbo-Croatian summary) *Rad Jugoslav. Akad. Znan. Umjet.* **374** (1977), 49–55. (O. Bottema) **57** #10565 50B99

See also **Fundamentals of mathematics**, **49** #8786; **Fundamentals of mathematics**, **49** #8787; **Fundamentals of mathematics**, **49** #8788 *and* **Grundzüge der Mathematik**, **49** #8789

Höhle, Ulrich ★Stochastische Topologien als Wahrscheinlichkeitsmasse auf Potenzmengen. Zur Erlangung des akademischen Grades eines Doktors der Naturwissenschaften von der Fakultät für Mathematik der Universität (TH) Karlsruhe genehmigte Dissertation. *Universität Karlsruhe* (*TH*), *Karlsruhe*, 1973. vi + 79 *pp.* (From the author's introduction) **55** #13522 60B99

Masse auf unscharfen Mengen. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **36** (1976), *no.* 3, 179 -188. (D. A. Kappos) **54** #10553 28A60 (60B99)

Probabilistic metrization of generalized topologies. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 5, 493–498. (Ivan L. Reilly) **56** #13175 54E99

Hohler, Peter ★Eine Verallgemeinerung von orthogonalen lateinischen Quadraten auf höhere Dimensionen. Abhandlung zur Erlangung der Würde eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich. Diss. Nr. 4522. *Eidgenössische Technische Hochschule, Zurich*, 1970. 58 *pp.* (J. Schönheim) **45** #8545 05B15

Eigenschaften von vollstaendigen Systemen orthogonaler lateinischer Quadrate, die bestimmte affine Ebenen repraesentieren. (English summary) *J. Geometry* **2** (1972), 161–174. (H. B. Mann) **47** #1643 05B25 (05B15)

Eine zahlentheoretische Konstruktion der Galois-Felder GF(p^2). *Elem. Math.* **31** (1976), *no.* 3, 64–66. (John D. Leadley) **54** #2627 12C30

Hohljuk, V. I. The finiteness of Martin's modification of Gomory's algorithm I. (Russian) *Optimal. Planirovanie No.* 13 (1969), 57–61. (Ju. Finkel'šteĭn (RŽMat **1970** #7 V441)) **45** #6425 90C10

(*with* Kolokolov, A. A.) Two direct algorithms of integer linear programming. (Russian) *Optimal. Planirovanie No.* 16 (1970), 33–46. (G. Bär) **45** #3071 90C10

Several remarks on cut algorithms (solution of an integer problem in linear programming). (Russian. Romanian summary) *An Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **18** (1972), 201–208. (G. Bär) **46** #4932 90C10

Hohlov, A. R. (*with* Lifšic, I. M.; Grosberg, A. Ju.) Some problems of the statistical physics of polymer chains with volume interaction. *Rev. Modern Phys.* **50** (1978), *no.* 3, 683–713. (Authors' summary) **58** #14825 82.47

Hohlov, A. S. (*with* Codikov, Ju. M.) Directional minimization with composite penalty functions. *Avtomat. i Telemeh.* **1975**, *no.* 8, 186–192 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 8, *part* 2, 1378–1384 (1976). (E. M. L. Beale) **53** #10312 90C30

(*with* Codikov, Ju. M.) Extrapolation for internal penalty functions. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 2, 32–38, 219 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 2, 29–35 (1978). (Kåre M. Mjelde) **57** #11733 90C05

Hohlov, O. Ī. (*with* Harlamov, M. P.) Operators that are admissible in the dynamical equations of elasticity theory. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 1005–1007, 1055. (V. Komkov) **47** #6175 73.35

See also **Mathematical physics**, **46** #1530

Hohlov, R. V. I. G. Petrovskiĭ and Moscow University. (Russian) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ (1901–1973), I. *Uspehi Mat. Nauk* **29** (1974), *no.* 2 (176), 7–10. (Editors) **52** #10334 01A70

(*with* Makov, Ju. N.) A class of solutions of the Fokker-Planck equation. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 2, 315–317. (Kazimierz Sobczyk) **56** #13878 70.60 (94A05)

(*with* Bazarov, I. P.; Bogoljubov, N. N.; Kadomcev, B. B.; Ol'hovskiĭ, I. I.; Sokolov, A. A.; Fursov, V. S.) Anatoliĭ Aleksandrovich Vlasov (obituary). *Uspehi Fiz. Nauk* **119** (1976), *no.* 2, 385–386 (*Russian*); *translated as Soviet Physics Uspekhi* **19** (1976), *no.* 6, 545–546. (Editors) **54** #12444 01A70

See also **Blaquière, Augustin**, **50** #9380

Hohmann, G. (*with* Jung, Wolfhart) On sequential and nonsequential *D*-optimal experimental design. (German summary) *Biometrische Z.* **17** (1975), *no.* 5, 329–336. (Michael Titterington) **52** #12242 62K05

An upper bound for the number of steps in sequential design. (German and Russian summaries) *Biometrische Z.* **18** (1976), *no.* 5, 397–405. (Mayer Alvo) **58** #8069 62L05 (62K05)

Hohmann, Joachim ★Eine Untersuchung des Plankalküls im Vergleich mit algorithmischen Sprachen. Gesellschaft für Mathematik und Datenverarbeitung, Bericht No. 104. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1975.

viii + 193 *pp*. (Editors) **52** #16094 68A05

Hohn, Franz E. ★Álgebra de matrices. (Spanish) [The algebra of matrices] Translated from the English by Federico Galván Anaya. Technical revision by Emilio Lluis Riera. *Editorial F. Trillas, S. A., Mexico City*, 1970. 453 *pp*. (Editors) **46** #5344 15–01

★Elementary matrix algebra. Third edition. *The Macmillan Co., New York; Collier-Macmillan Publishers, London*, 1973. xvi + 522 *pp*. (Editors) **50** #2190 15–01

(*with* Dornhoff, Larry L.) ★Applied modern algebra. *Macmillan Publishing Co., Inc., New York; Collier Macmillan Publishers, London*, 1978. xi + 500 *pp*. *ISBN* 0-02-329980-0 (D. Bollman) **57** #4 00A05 (94–01, 68–01)

Höhn, Werner Über die numerische Behandlung von Variationsproblemen mit natürlichen Randbedingungen in zwei Dimensionen. (English summary) *Numerische Behandlung von Differentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1974), *pp*. 131–146. *Internat. Schrift. Numer. Math., Band* 27, *Birkhäuser, Basel*, 1975. (G. T. McAllister) **54** #4152 65Q05

(*with* Törnig, Willi) Ein maximum-minimum-Prinzip für Lösungen von finite-Element-Approximationen für quasilineare elliptische Randwertprobleme. (English summary) *Computing* **18** (1977), *no*. 3, 267–270. (B. Kellogg) **57** #8076 65N30

Høholdt, Tom How to arrange the final heats in the world championships in speedway races. (Danish. English summary) *Nordisk Mat. Tidskr.* **25/26** (1978), *no*. 2, 79–84, 111. (Author's summary) **58** #21715 05B30 (05B25)

Hohrjakov, A. Ja. (*with* Alekseenko, M. I.) A function of the boundary value conditions and estimation of the Green's function of a periodic problem. (Russian) *Differencial'nye Uravnenija* 7 (1971), 1158–1170, 1339. (D. Wexler) **45** #3829 34B99

(*with* Zubov, V. M.) Function of the boundary conditions. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no*. 5, 24–31. (C. Avramescu) **45** #5455 34B99

The degenerate periodic boundary value problem. (Russian) *Differencial'nye Uravnenija* **8** (1972), 607–614. (G. B. Gustafson) **46** #439 34B15 (47H15)

(*with* Arhipov, B. M.) A method of quasilinearization in periodic boundary value problems. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no*. 1, 40–45. (M. Kakabadze) **45** #5482 34C15 (65L10)

(*with* Alekseenko, M. I.) Zones of singlevalued solvability of the periodic problem for the equation $y^{(2n)}+p(t)y=0$. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no*. 2, 24–30. (F. Neuman) **47** #536 34B05 (34C25)

On a certain theorem of N. E. Žukovskiĭ. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1919–1921, 1928. (M. Bertolino) **49** #9339 34C25

(*with* Arhipov, B. M.) Strictly positive solutions of periodic systems of ordinary differential equations. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1945–1955, 2113. (K. W. Chang) **50** #2611 34C25

Certain tests of positivity of the Green's matrix of periodic systems of ordinary differential equations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no*. 1, 66–72, 137. (G. Bojadžiev) **49** #3270 34C25

The unique solvability of a linear periodic problem. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no*. 4, 15–23, 138. (C. Avramescu) **50** #5075 34B05

An estimate of the eigenvalue that is smallest in absolute value for a certain periodic problem. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no*. 6, 1028–1039, 1141. (Leo F. Boron) **54** #7941 34B25

(*with* Arhipov, B. M.) Strictly positive periodic solutions of a nonlinear ordinary differential equation. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no*. 5, 798–806, 955. (V. G. Zadorožniĭ) **58** #17329 34C25

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region**, **46** #1532 *and* **Proceedings: Republican Conference of Belorussian Mathematicians**, **48** #3669

čin' dang Hoĭ *See* **Čin' Dang Hoĭ**

le Hoi *See* **Le Hoi**

Hoïer, G. *See* **Heuer, H.**

Höijer, Staffan An investigation of electromagnetic wave scattering from rough surfaces, based on a comparison between vectorial and scalar Kirchhoff methods. *FOA Rep.* **9** (1975), *no*. 1, 32 *pp*. (R. F. Millar) **51** #14753 78.35

Hoischen, Lothar Über die Wirkfelder einer allgemeinen Klasse von Limitierungsverfahren. *Mitt. Math. Sem. Giessen No.* 94 (1971), 49–60. (W. Beekmann) **47** #2224 40D25

(*with* Mogk, E.) Interpolationseigenschaften der Ableitungen von Potenzreihen bei Annäherung an den Konvergenzkreis. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 327–334. (W. H. J. Fuchs) **46** #9358 30A80

Eine Verschärfung eines approximationssatzes von Carleman. *J. Approximation Theory* **9** (1973), 272–277. (E. B. Saff) **51** #3459 30A82

Kriterien für die Darstellbarkeit von Funktionen als verallgemeinerte Laplace-Integrale. *Math. Ann.* **201** (1973), 81–89. (P. G. Rooney) **52** #1185 44A15

Approximation und Interpolation durch ganze Funktionen. *J. Approximation Theory* **15** (1975), *no*. 2, 116–123. (J. Siddiqi) **52** #14309 30A82

Wachstumseigenschaften und Konvergenzfaktoren für verallgemeinerte Potenzreihenverfahren der Limitierung. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no*. 3-4, 197–201. (S. M. Shah) **56** #16202 40G10

Hoitsma, David H., Jr. Existence and uniqueness of axisymmetric free boundary flows. *Comm. Pure Appl. Math.* **28** (1975), *no*. 3, 375–402. (Clarence M. Ablow) **52** #8684 35Q99

Høivik, Tord *See* **Quantitative sociology**, **56** #2480

Hojek, Stanislav Tables for the two-sample Haga test of location. (Czech and loose Russian summaries) *Apl. Mat.* **23** (1978), *no*. 4, 237–247. (Editors) **58** #18881 62G10 (62Q05)

Hojka, N. On the unambiguity of n-tuple languages. (German summary) *Computing* **15** (1975), *no*. 1, 71–74. (Meera Blattner) **54** #14456 68A30

Hojman, Sergio A. (*with* Kuchař, Karel; Teitelboim, Claudio) Geometrodynamics regained. *Ann. Physics* **96** (1976), *no*. 1, 88–135. (D. Lovelock) **54** #4535 83.53

(*with* Rosenbaum, M.; Ryan, Michael P., Jr.; Shepley, Lawrence C.) Gauge invariance, minimal coupling, and torsion. *Phys. Rev. D* (3) **17** (1978), *no*. 12, 3141–3146. (Authors' summary) **58** #14927 83.53

Hojo, Hitoshi Theory for two-dimensional stability of coupled Langmuir and ion-acoustic solitary waves. *J. Phys. Soc. Japan* **44** (1978), *no*. 2, 643–651. (G. L. Lamb, Jr **57** #2189 78.35

Hōjō, Shun-ichi (*with* Hashiguchi, Masao; Matsumoto, Makoto) On Landsberg spaces two dimensions with (α,β)-metric. *J. Korean Math. Soc.* **10** (1973), 17–26. (M. Chaki) **48** #7149 53B40

Hokama, Kenji On the fixed point sets of differentiable G_2 actions on a Euclidean space *Math. J. Okayama Univ.* **16** (1973), 99–106. (M.-C. Ku) **49** #4003 57E15

On the fixed point set of S^1-actions on $CP^m \times CP^n$. *Math. J. Okayama Univ.* 1 (1975), *no*. 2, 181–186. (Theodore Chang) **52** #1747 57E25

(*with* Kôno, Susumu) On the fixed point set of S^1-actions on the complex fla manifolds. *Math. J. Okayama Univ.* **20** (1978), *no*. 1, 1–16. (Csaba Hatvany) **58** #18507 57E25 (32M10)

Hoke, Albert T. Economical second-order designs based on irregular fractions of the factorial. *Technometrics* **16** (1974), 375–384. (M. Atiqullah) **50** #11661 62K15

The characteristic polynomial of the information matrix for second-order models *Ann. Statist.* **3** (1975), 780–786. (D. V. Chopra) **51** #7186 62K15

Ho Khac Tan (*with* Hirche, Joachim) Über eine Klasse nichtkonvexer Optimierungsprobleme. (English and Russian summaries) *Z. Angew. Math. Mech.* 5 (1977), *no*. 4, 247–253. (Wolfgang Wetterling) **56** #4164 65K05 (90C30)

Hokstad, Per The $G/M/m$ queue with finite waiting room. *J. Appl. Probability* **12** (197 *no*. 4, 779–792. (Jacqueline Loris-Teghem) **53** #6786 60K25

A supplementary variable technique applied to the $M|G|1$ queue. *Scand. J. Statis* **2** (1975), *no*. 2, 95–98. (František Zítek) **51** #14307 60K25

The use of Wiener-Hopf decomposition in the study of waiting time and busy perio distribution for the $G|G|1$ queue. *Scand. J. Statist.* **3** (1976), *no*. 2, 79–85. (N. Prabhu) **53** #14717 60K25

Asymptotic behaviour of the $E_k/G/1$ queue with finite waiting room. *J. App Probability* **14** (1977), *no*. 2, 358–366. (Stig I. Rosenlund) **55** #9324 60K25

Holand, Ivar Application of finite element methods to stress analysis. *Numerical solution partial differential equations* (*Proc. NATO Advanced Study Inst., Kjeller*, 1973), *pp* 195–221. *NATO Adv. Study Inst. Ser., Ser. C: Math. and Phys. Sci.*, 2. *Reidel, Dordrech* 1973. (Author's summary) **58** #32297 73.65

Holas, A. Numerical integration over the solid angle and volume of the Brillouin zone. *Computational Phys.* **23** (1977), *no*. 2, 150–166. (From the author's summary) **56** #46 82.65

Holban, Maria Magdalena Context operators and the empty set in algebraic linguistic (Romanian. German summary) *Stud. Cerc. Mat.* **24** (1972), 777–790. (R. N. Gos **50** #11865 68A30

Holbert, Donald (*with* Broemeling, Lyle David) Bayesian inferences related to shiftin sequences and two-phase regression. *Comm. Statist.–Theory Methods* **A6** (1977), *no*. 265–275. (Tom Leonard) **55** #9380 62F15

Holbrook, John A. R. Operators similar to contractions. *Acta Sci. Math.* (*Szeged*) (1973), 163–168. (D. A. Herrero) **47** #9325 47A65

A Kallman-Rota inequality for nearly Euclidean spaces. *Advances in Math.* 1 (1974), 335–345. (Yehoram Gordon) **56** #12980 47D05

von Neumann's inequality and the Poisson radius for operators. *Bull. Acad. Polo Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 121–127. (A. Lambert) **50** #8115 47A25

Functions of a contraction and numerical radii for operators. (Russian summary *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 129–133. (A. Lamber **50** #8110 47A10

Concerning the Hahn-Banach theorem. *Proc. Amer. Math. Soc.* **50** (1975), 322–32 (M. Hasumi) **51** #6368 46B05

(*with* Fischer, Pál) Matrices doubly stochastic by blocks. *Canad. J. Math.* 2 (1977), *no*. 3, 559–577. (Authors' review (Zbl **326** #26006)) **58** #28043 15A51

(*with* Fischer, Pál) Matrices sous-stochastiques et fonctions convexes. *Canad. Math.* **29** (1977), *no*. 3, 631–637. (Authors' review (Zbl **332** #46001)) **58** #30042 46A99 (15A51)

Distortion coefficients for cryptocontractions. *Linear Algebra and Appl.* **18** (1977 *no*. 3, 229–256. (T. Andô) **58** #2365 47A25

Distortion coefficients for crypto-unitary operators. *Linear Algebra and Appl.* 1 (1978), *no*. 3, 189–205. (Richard E. Frankfurt) **57** #10455 47A30

Holbrow, W. (*with* Kalaba, Robert E.; Zagustin, Elena; Huss, R.) A modification Davidenko's method for nonlinear systems. *Comput. Math. Appl.* **3** (1977), *no*. 315–319. (Authors' summary) **58** #13675 65H05

Holcomb, E. W. (*with* Paulson, Albert S.; Leitch, R. A.) The estimation of the parameter of the stable laws. *Biometrika* **62** (1975), 163–170. (M. D. Perlman) **51** #11779 62F10

Holcombe, Michael A class of 0-primitive near-rings. *Math. Z.* **131** (1973), 251–268. (Stev Ligh) **51** #8182 16A76

Representations of 2-primitive near-rings, and the theory of near algebras. *Pro Roy. Irish Acad. Sect. A* **73**, 169–177 (1973). (Steve Ligh) **48** #2195 16A76

Near-rings of quotients of endomorphism near-rings. *Proc. Edinburgh Math. So* (2) **19** (1974/75), *no*. 4, 345–352. (G. Betsch) **53** #5674 16A76

Categorical representations of endomorphism near-rings. *J. London Math. Soc.* **16** (1977), *no*. 1, 21–37. (G. Betsch) **57** #3197 18D35 (16A76)

Holden, Arun V. ★Models of the stochastic activity of neurones. Lecture Notes Biomathematics, Vol. 12. *Springer-Verlag, Berlin-New York*, 1976. vii + 368 *pp*. (Luigi Ricciardi) **56** #8067 92A05

Holden, B. J. (*with* Singh, Sankatha P.) Some fixed point theorems. *Bull. Soc. Roy. Sc Liège* **41** (1972), 458–461. (P. M. Fitzpatrick) **47** #2452 47H10

Holden, Herbert L. Fibonacci tiles. *Fibonacci Quart.* **13** (1975), 45–49. (R. P. Bambah **50** #9773 10A35 (50B30)

Holden, J. T. On the finite deflection of thin viscoelastic beams. *Internat. J. Numer Methods Engrg.* **5** (1972), 271–275. (Yi-Yuan Yu) **47** #7996 73.65

Holder, Ernst Zu Rotation und Apsidalbewegung von Sternmodellen nach der Clairaut-Liapounoff-Lichtensteinschen Theorie der Figur der Erde. Dem Andenken a Karl Maruhn gewidmet. *Mitt. Math. Sem. Giessen Heft* 123 (1977), 195–227. (J. S. Joel **58** #25832 85.45

Treibstoffoptimale Störungen von Satellitenbahnen im Raum eines anziehender trums. I. Zur Variationsrechnung und Himmelsmechanik. Special issue dedicated to seventieth birthday of Erich Kähler. *Abh. Math. Sem. Univ. Hamburg* **47** (1978), 149. (Manfred Andrié) **58** #19498 70.49

L. I. A generalization of strong Rieszian summability. *Proc. Amer. Math. Soc.* **42** 4), 452–460. (D. C. Russell) **50** #826 40F05

n, Horst S. Über die Konstanz holomorpher fastautomorpher Funktionen. *Nachr. d. Wiss. Göttingen Math.-Phys. Kl. II* **1971**, 97–112. (J. Spilker) **46** #5609 58 (10D10)

Über vektorwertige meromorphe Funktionen. *Math. Ann.* **203** (1973), 11–34. (O. M. nenko) **54** #581 32A20 (42A84)

Fastautomorphe Funktionen auf komplexen Räumen. *Math. Ann.* **203** (1973), 64. (O. M. Fomenko) **54** #582 32A20 (42A84)

Zum Hauptsatz fastperiodischer Vektoren. *Abh. Math. Sem. Univ. Hamburg* **41** 4), 28–36. (H. Günzler) **54** #5748 43A60 (22A25)

See also **Schwartz, Laurent, 50** #9459

, D. J. (*with* Evans, F. J.) Tensor-field interpretation of the dynamic behaviour of vorks. *Electron. Lett.* **9** (1973), 56–57. (A. Jaeger) **48** #10683 94A20

rth, David G. Category theory and quantum mechanics (kinematics). Special e: Symposium on Quantum Logic (Bad Homburg, 1976). *J. Philos. Logic* **6** (1977), 4, 441–453. (V. A. Artamonov) **58** #10340 02C99 (18C99, 81.00)

rne Invariant differential operators and polynomials of Lie transformation groups. *h. Scand.* **34** (1974), 109–123. (E. A. Thieleker) **50** #4814 22E30

Representations of the Heisenberg group of dimension $2n+1$ on eigenspaces. *h. Scand.* **37** (1975), *no.* 1, 129–141. (P. C. Trombi) **53** #3205 22E45 (22E25)

. E. *See* **Sensitivity, adaptivity and optimality, 49** #8697

A. S. Quantum characteristic functions. (Russian) *Problemy Peredači Informacii* **6** 0), *no.* 4, 42–48. (K. Napiórkowski) **46** #10329 81.46

Estimators of an almost periodic signal. (Russian. English summary) *Teor. ojatnost. i Primenen.* **16** (1971), 249–263. (V. Dupač) **45** #1332 62M99

The asymptotic normality of estimates of regression coefficients. (Russian. English mary) *Teor. Verojatnost. i Primenen.* **16** (1971), 724–728. (A. Ja. Dorogovcev) #2876 62F10

Quasi-free states on the C^*-algebra of commutation relations. I. (Russian) *Teoret. . Fiz.* **6** (1971), *no.* 1, 3–20. (Author's summary) **57** #18591 81.46 (46L10)

Quasi-free states on the C^*-algebra of commutation relations. II. (Russian. English mary) *Teoret. Mat. Fiz.* **6** (1971), *no.* 2, 145–150. (Author's summary) **57** #18592 6 (46L10)

On the mathematical theory of quantum communication channels. (Russian) *blemy Peredači Informacii* **8** (1972), *no.* 1, 62–71. (K. Napiórkowski) **46** #10486 .05 (46L05)

Certain statistical problems for quantum fields. (Russian. English summary) *Teor. ojatnost. i Primenen.* **17** (1972), 360–365. (K. Kumar) **45** #8192 81.62

The estimation of functions of the mean value. (Russian. English summary) *Teor. ojatnost. i Primenen.* **17** (1972), 573–577. (Z. Zerakidze) **48** #1402 62N10

Quasi-equivalence of locally normal states. (Russian. English summary) *Teoret. t. Fiz.* **13** (1972), *no.* 2, 184–199. (Author's summary) **57** #15045 81.46

An analogue of statistical decision theory and noncommutative probability theory. ssian) *Trudy Moskov. Mat. Obšč.* **26** (1972), 133–149. (M. J. Mączyński) **51** #2061 1.62 (62C99)

Statistical problems in quantum physics. *Proceedings of the Second Japan-USSR nposium on Probability Theory* (*Kyoto*, 1972), *pp.* 104–119. *Lecture Notes in Math.*, . 330, *Springer*, *Berlin*, 1973. (Carl W. Helstrom) **55** #13619 62A15 (81.62)

On the general problem of mean estimation. *J. Multivariate Anal.* **3** (1973), –275. (Ju. I. Petunin) **49** #10101 62M10

Statistical decision theory for quantum systems. *J. Multivariate Anal.* **3** (1973), –394. (S. Gudder) **49** #2015 82.62 (62C99)

Information-theoretical aspects of quantum measurement. *Problemy Peredači ormacii* **9** (1973), *no.* 2, 31–42 (*Russian*); *translated as Problems of Information nsmission* **9** (1973), *no.* 2, 110–118 (1975). (Carl W. Helstrom) **53** #2157 81.00

Some estimates for the amount of information transmittable by a quantum nmunications channel. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 3, 3–11. thor's summary) **56** #15155 94A15

A certain generalization of the Rao-Cramér inequality. (Russian. English summary) *r. Verojatnost. i Primenen.* **18** (1973), 371–375. (A. M. Kagan) **48** #9934 62F10

Optimal quantum measurements. (Russian. English summary) *Teoret. Mat. Fiz.* **17** 73), 319–326. (Author's summary) **57** #8688 81.47

On the theory of statistical decisions on an operator algebra. (Russian) *Dokl. Akad. uk SSSR* **218** (1974), 54–57. (Author's review (RŽMat **1975** #2 V274)) **58** #23640 .99 (62C99)

Optimal measurement of the mean value of a Gaussian state. Comment on: ethods of solution of quantum detection and measurement problems" (Izv. Akad. uk SSSR Tehn. Kibernet. **1973**, no. 5, 127–137 (Russian); translated as Engrg. bernetics **11** (1973), no. 5, 820–830) by B. A. Grišanin. *Izv. Akad. Nauk SSSR Tehn. bernet.* **1974**, *no.* 5, 152–153 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 128–130. (L. L. Campbell) **52** #2703 94A05 (62C99)

Remarks on optimal quantum measurements. (Russian) *Problemy Peredači ormacii* **10** (1974), *no.* 4, 51–55. (Author's summary) **58** #8969 81.62 (94A05)

Some statistical problems for quantum Gaussian states. *IEEE Trans. Information eory* **IT-21** (1975), *no.* 5, 533–543. (Carl W. Helstrom) **52** #2489 81.62 (62F15)

On a vector-valued integral in the "noncommutative" statistical decision theory. *J. ultivariate Anal.* **5** (1975), *no.* 4, 462–465. (S. Gudder) **52** #12141 62C99 (81.28)

Noncommutative analogues of the Cramér-Rao inequality in the quantum asurement theory. *Proceedings of the Third Japan-USSR Symposium on Probability eory* (*Tashkent*, 1975), *pp.* 194–222. *Lecture Notes in Math.*, *Vol.* 550, *Springer*, *Berlin*, 76. (Carl W. Helstrom) **57** #14235 62F10 (81.62)

Studies in the general theory of statistical decisions. (Russian) *Trudy Mat. Inst. klov.* **124** (1976), 140 *pp.* (Editors) **58** #31502a 62C99 (81.62, 94A05)

An integral with respect to a measure with values in a space that is conjugate to a rtially ordered Banach space. (Russian. English summary) Problems in the theory of bability distributions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **55** (1976), 26–34, 199. (Ivan Dobrakov) **56** #12219 28A45 (46G10, 28A55)

Commutation superoperator of a state and its applications to the noncommutative statistics. *Rep. Mathematical Phys.* **12** (1977), *no.* 2, 251–271. (Gerhard C. Hegerfeldt) **57** #8689 81.47 (46L99, 62H99)

Problems in the mathematical theory of quantum communication channels. *Rep. Mathematical Phys.* **12** (1977), *no.* 2, 273–278. (Carl W. Helstrom) **57** #5420 94A15 (81.46, 94A05)

★Investigations in the general theory of statistical decisions. Translated from the Russian by Lisa Rosenblatt. Proc. Steklov Inst. Math., **1978**, no. 3. *American Mathematical Society*, *Providence*, *R.I.*, 1978. vi + 140 *pp.* *ISBN* 0-8218-3024-4 (Editors) **58** #31502b 62C99 (81.62, 94A05)

Asymptotically optimal hypotheses testing in quantum statistics. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 2, 429–432. (O. Gulyás) **58** #9745 94A05 (62F99, 81.62)

See also **Mathematics: Periodical collection of translations of foreign articles, 49** #4721 *and* **Transactions of the Moscow Mathematical Society, 50** #9477

Holewijn, P. J. (*with* Hordijk, Arie) On the convergence of moments in stationary Markov chains. *Stochastic Processes Appl.* **3** (1975), 55–64. (Humphrey S. Fong) **51** #1967 60J10

Holft, Charles C. (*with* Hay, George A.) A general solution for linear decision rules: an optimal dynamic strategy applicable under uncertainty. *Econometrica* **43** (1975), 231–259. (Authors' summary) **55** #14249 90D35

Holgate, Philip Genetic algebras associated with sex linkage. *Proc. Edinburgh Math. Soc.* (2) **17** (1970/71), 113–120. (I. M. H. Etherington) **46** #6858 92A10 (17A99)

(*with* Brown, Susannah) Table of the Poisson log normal distribution. *Sankhyā Ser. B* **33** (1971), 235–248. (Authors' summary) **47** #1233 62Q05

The use of distance methods for the analysis of spatial distribution of points. *Stochastic point processes: statistical analysis, theory, and applications* (*Conf., IBM Res. Center, Yorktown Heights, N.Y.*, 1971), 122–135. *Wiley-Interscience, New York*, 1972. (Roger E. Miles) **50** #11680 (EA **51**) 62M99 (60G55)

Saturation of random integer sequences. *J. London Math. Soc.* (2) **6** (1972), 137–138. (H. Kesten) **47** #1768 10K99 (60B99)

Characterisations of genetic algebras. *J. London Math. Soc.* (2) **6** (1972), 169–174. (M. L. Tomber) **47** #3479 17E05

A note on random power series with identical one dimensional marginal distributions. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *pp.* 319–322. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (A. C. Offord) **51** #4377 60G99

(*with* Brown, Susannah) The thinned plantation. *Biometrika* **61** (1974), 253–261. (A. K. Md. Ehsanes Saleh) **51** #6973 60G55 (62F05)

Genetic algebras satisfying Bernstein's stationarity principle. *J. London Math. Soc.* (2) **9** (1974/75), 612–623. (Howard B. Stauffer) **57** #5175 92A10

The total number of heterozygotes before fixation. *J. Appl. Probability* **13** (1976), *no.* 2, 201–207. (A. C. Trajstman) **54** #6987 92A10 (60J70)

Direct products of genetic algebras and Markov chains. *J. Math. Biol.* **3** (1976), *no.* 3-4, 289–295. (George F. Estabrook) **55** #5237 92A10 (60J20)

(*with* Piva, Margot) The eigenvectors of a finite population model. *Ann. Human Genetics* **41** (1977/78), *no.* 1, 103–106. (R. G. Stanton) **58** #723 15A18 (92A15)

See also **Symposium: Mathematical Genetics, 52** #12848

Holgate, S. (*with* Baxter, E. F.; Erdélyi, Arthur) Joseph Langley Burchnall. *Bull. London Math. Soc.* **10** (1978), *no.* 1, 111–115. (1 *plate*) (Editors) **57** #12099 01A70

Holický, P. A supplement to the paper "Differentiable roads for real functions" by J. G. Ceder. *Fund. Math.* **77** (1973), *no.* 3, 227–234. (R. S. Booth) **48** #4219 26A24

Holický, Petr The convex generation of convex Borel sets in locally convex spaces. *Mathematika* **21** (1974), 207–215. (J. P. R. Christensen) **50** #14168 46A99 (52A05)

Holina, E. A. Investigation and elimination of contests in two-level logical schemes. (Russian) *Theory of finite automata and its applications, No.* 2 (*Russian*), *pp.* 46–52, 79–80. *Izdat.* "*Zinatne*", *Riga*, 1973. (R. Shirtladze) **52** #12996 94A20

Holjavin, I. I. On the computation of the eikonal amplitude for singular potentials. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1975), 44–47, 150. (Corneliu Eftimiu) **52** #2446 81.35

Hol'kin, A. M. (*with* Rofe-Beketov, F. S.) Conditions for the selfadjointness of second order elliptic operators of general form. (Russian) *Teor. Funkcii Funkcional. Anal. i Priložen. No.* 17 (1973), 41–51, 242. (H. Triebel) **48** #6652 35J15 (47F05)

(*with* Rofe-Beketov, F. S.) The connection between the spectral and oscillation properties of the matrix Sturm-Liouville problem. (Russian) *Mat. Sb.* (*N.S.*) **102(144)** (1977), *no.* 3, 410–424. (R. C. Gilbert) **55** #12993 34B25

Holkin, V. I. The principal frequency of an inhomogeneous annular membrane. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 2 (141), 121–123. (J. Ignaczak) **49** #11918 73.35

(*with* Blinov, S. P.) Some isoperimetric inequalities for selfadjoint elliptic operators. (Russian) *Differential equations* (*Russian*), *pp.* 8–12, 110. *Udmurt. Gos. Univ., Izhevsk*, 1976. (Vadim Komkov) **58** #6665 35J20

(*with* Nasyrov, I. S.) Convergence of the method of Newton diagrams. (Russian) *Differential equations* (*Russian*), *pp.* 83–89, 113. *Udmurt. Gos. Univ., Izhevsk*, 1976. (Authors' summary) **58** #13151b 58E05 (65D15, 65H05)

The minimum of the volume of a domain having a given first eigenvalue. (Russian) *Differential equations* (*Russian*), *pp.* 100–103, 114. *Udmurt. Gos. Univ., Izhevsk*, 1976. (Author's summary) **58** #7344 49G05

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

Holl, Jean Charles *See* **Operational Research, 49** #12059

Holl, L. M. *See* **Hall, L. M.**

Holl, Maršall *See* **Hall, Marshall, Jr.**

Holl, Peter Die Vollständigkeit des Orthogonalsystems der Hough-Funktionen. (English summary) *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1970**, 159–168. (L. Leindler) **47** #3901 42A64 (33A65)

Holla, M. S. The compound exponential life-testing models. *J. Indian Statist. Assoc.* **7** (1969), 97–105. (W. Uhlmann) **48** #7516 62N05

Holladay, John C. A two-person bidding game with non-returnable open and sealed bids.

Information Sci. **4** (1972), 157–178. (Louis J. Billera) **46** #8669 90D05

Hollai, Márta Lagerungen inkongruenter Kugeln. I. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **17** (1974), 73–90 (1975). (J. M. Wills) **52** #1530 52A45

Doppelgitterförmige Lagerungen inkongruenter Kreise und Kugeln. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **18** (1975), 75–86 (1976). (Henryk Fast) **54** #5978a 52A45 (10E30)

Lagerungen inkongruenter Kugeln. II. *Ann. Univ. Sci. Budapest. Eötvoŝs Sect. Math.* **18** (1975), 101–116 (1976). (Henryk Fast) **54** #5978b 52A45 (10E30)

Holland, A. S. B. ★Introduction to the theory of entire functions. Pure and Applied Mathematics, Vol. 56. *Academic Press [a subsidiary of Harcourt Brace Jovanovich, Publishers], New York-London*, 1973. x+221 *pp.* (I. N. Baker (Zbl **278** #30001)) **56** #5882 30A66

(*with* Goel, D. S.; Nasim, C.; Sahney, Badri N.) On best simultaneous approximation in normed linear spaces. *Canad. Math. Bull.* **17** (1974), *no.* 4, 523–527. (F. Deutsch) **51** #13556 41A65

(*with* Goel, D. S.; Nasim, C.; Sahney, Badri N.) Best approximation by a saturation class of polynomial operators. *Pacific J. Math.* **55** (1974), 149–155. (John A. Roulier) **51** #8700 41A40

(*with* Sahney, Badri N.; Tzimbalario, Jean) A criterion for Euler summability of Fourier series. (Italian summary) *Boll. Un. Mat. Ital.* (4) **12** (1975), *no.* 3, 315–320. (Prem Chandra) **53** #13976 (EA **54**) 42A24

(*with* Sahney, Badri N.; Tzimbalario, Jean) Summability of a class of Fourier series by the Nörlund method and applications. *Jñānabha Sect. A* **5** (1975), 89–96. (From the authors' introduction) **58** #1965 42A24

(*with* Sahney, Badri N.) Some remarks on best simultaneous approximation. *Theory of approximation with applications* (*Proc. Conf., Univ. Calgary, Calgary, Alta.,* 1975; *dedicated to the memory of Eckard Schmidt*), *pp.* 332–337. *Academic Press, New York*, 1976. (Mogens Esrom Larsen) **54** #816 41A50

(*with* Sahney, Badri N.; Tzimbalario, Jean) On degree of approximation of a class of functions by means of Fourier series. *Acta Sci. Math.* (*Szeged*) **38** (1976), *no.* 1-2, 69–72. (J. S. Byrnes) **53** #13966 42A08

(*with* Tzimbalario, Jean) On totally asymptotic equivalent matrices. *Bull. Calcutta Math. Soc.* **68** (1976), *no.* 3, 209–211. (P. Chandra (Zbl **394** #40002)) **58** #29555 40C05

(*with* Sahney, Badri N.; Tzimbalario, Jean) On best simultaneous approximation. *J. Approximation Theory* **17** (1976), *no.* 2, 187–188. (Ralph L. James) **54** #3250 41A50

(*with* Sahney, Badri N.; Tzimbalario, Jean) On best simultaneous approximation. *J. Indian Math. Soc.* (*N.S.*) **40** (1976), *no.* 1–4, 69–73 (1977). (E. W. Cheney) **57** #10331 41A65

(*with* Kathal, P. D.; Sahney, Badri N.) A class of continuous functions and their degree of approximation. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 3-4, 227–231. (Manfred v. Golitschek) **57** #7002 42A08

(*with* Sahney, Badri N.; Tzimbalario, Jean) On the $[F,d_n]$ summability of Fourier series. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no.* 1, 126–130. (G. Sunouchi) **55** #10946 42A24

Holland, Burt S. (*with* Flueck, John A.; Lee, Ru Ying) Distribution of the ratio of correlated sums of gamma variables. *Proceedings of the Annual Meeting of the American Statistical Association, Social Statistics Section* (*St. Louis, Mo.*, 1974), *pp.* 285–291. *Amer. Statist. Assoc., Washington, D.C.*, 1975. (N. L. Johnson) **51** #7088 62E15

Some results on the discretization of continuous probability distributions. *Technometrics* **17** (1975), *no.* 3, 333–339. (Author's summary) **52** #9454 62E99

Mean square error tests for restrictions in singular linear models. *J. Econometrics* **6** (1977), *no.* 3, 355–363. (C. M. Theobald) **56** #16935 62J05

Holland, C. *See also* **Holland, W. Charles**

Holland, Charles J. Ergodic expansions in small noise problems. *J. Differential Equations* **16** (1974), 281–288. (A. T. Bharucha-Reid) **50** #3344 60H10 (60Hxx)

A numerical technique for small-noise stochastic control problems. *J. Optimization Theory Appl.* **13** (1974), 74–93. (N. U. Ahmed) **48** #13429 93E25

Small noise open loop control. *SIAM J. Control* **12** (1974), 380–388. (Ĭ. M. Stojanov) **50** #6613 93E20

Gaussian open loop control problems. *SIAM J. Control* **13** (1975), 545–551. (François Brodeau) **51** #9938 93E20

Small noise ergodic dynamical systems. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. II, pp.* 77–79. *Academic Press, New York*, 1976. (Editors) **58** #31401 60H10 (34F05)

The regular expansion in the Neumann problems for elliptic equations. *Comm. Partial Differential Equations* **1** (1976), *no.* 3, 191–213. (A. D. Wentzell(Ventcel')) **55** #10835 35J40 (60J60)

Parabolic boundary layers. *Indiana Univ. Math. J.* **25** (1976), *no.* 8, 809–819. (Author's introduction) **57** #16989 35K20 (35B99, 35J25)

Stationary small noise problems. (French and German summaries) *Internat. J. Non-Linear Mech.* **11** (1976), *no.* 1, 41–47. (Author's summary) **57** #15690 93E10

Singular perturbations in elliptic boundary value problems. *J. Differential Equations* **20** (1976), *no.* 1, 248–265. (R. E. O'Malley, Jr.) **58** #1548 35C99 (35J65, 60H10)

Probabilistic representations of boundary layer expansions. Stochastic systems: modeling, identification and optimization, I (Proc. Sympos., Univ. Kentucky, Lexington, Ky., 1975). *Math. Programming Stud. No.* 5 (1976), 60–66. (Author's summary) **57** #4332 60H15 (35B25)

On a formula in diffusion processes in population genetics. *Proc. Amer. Math. Soc.* **54** (1976), 316–318. (Stanley Sawyer) **53** #9401 60J70 (92A15)

Singular perturbation problems using probabilistic methods. Summer Research Conference on Singular Perturbations: Theory and applications (Northern Arizona Univ., Flagstaff, Ariz., 1975). *Rocky Mountain J. Math.* **6** (1976), *no.* 4, 585–590. (G. Papanicolaou) **54** #8865 60H10 (35J25)

The regular expansion in singularly perturbed elliptic equations. *Proceedings of the Conference on Stochastic Differential Equations and Applications* (*Park City, Utah*, 1976), *pp.* 23–43. *Academic Press, New York*, 1977. (S. I. Rosencrans) **58** #17450 35B25 (35J15)

A new energy characterization of the smallest eigenvalue of the Schrödinger equation. *Comm. Pure Appl. Math.* **30** (1977), *no.* 6, 755–765. (M. M. Skrigan **56** #9061 35J10 (81.35, 60J60)

On the limiting behavior of Burger's equation. *J. Math. Anal. Appl.* **57** (1977), n 156–160. (I. I. Kolodner) **56** #16119 35B40 (35Q99)

(*with* Casten, Richard G.) Stability properties of solutions to systems of reaction-diffusion equations. *SIAM J. Appl. Math.* **33** (1977), *no.* 2, 353–364. Chafee) **56** #6070 35B35 (92A05)

Singular perturbations in the first boundary value problem for parabolic equatio *SIAM J. Math. Anal.* **8** (1977), *no.* 2, 368–374. (L. E. Bobisud) **55** #3492 35 (35K20)

A minimum principle for the principal eigenvalue for second-order linear elli equations with natural boundary conditions. *Comm. Pure Appl. Math.* **31** (1978), n 509–519. (Z. C. Motteler) **57** #6813 35J20

Stochastically perturbed limit cycles. *J. Appl. Probability* **15** (1978), *no.* 2, 311– (Ludwig Arnold) **57** #14138 60H10 (34F05)

(*with* Berryman, James G.) Nonlinear diffusion problem arising in plasma physi *Phys. Rev. Lett.* **40** (1978), *no.* 26, 1720–1722. (Authors' summary) **58** #14366 7

Holland, Finbarr On the coefficients of starlike functions. *Proc. Amer. Math. Soc.* (1972), 463–470. (Ch. Pommerenke) **45** #531 30A34

Some asymptotic relations for starlike functions. *Proc. Roy. Irish Acad. Sect. A* 1–16 (1972). (Ch. Pommerenke) **47** #451 30A34

Some extremum problems for polynomials with positive real part. *Bull. Lon Math. Soc.* **5** (1973), 54–58. (Ch. Pommerenke) **47** #8824 30A06 (30A76)

The extreme points of a class of functions with positive real part. *Math. Ann.* (1973), 85–87. (G. D. Anderson) **49** #562 30A40

(*with* Twomey, J. B.) On coefficient means of certain subclasses of univa functions. *Trans. Amer. Math. Soc.* **185** (1973), 151–163. (M. Reade) **48** #639 30A34

Square-summable positive-definite functions on the real line. *Linear operators approximation, II* (*Proc. Conf., Oberwolfach Math. Res. Inst., Oberwolfach*, 1974), 247–257. *Internat. Ser. Numer. Math., Vol.* 25, *Birkhäuser, Basel*, 1974. (J. Gil Lamadrid) **55** #3678 42A88

Another proof of Szegő's theorem for a singular measure. *Proc. Amer. Math.* **45** (1974), 311–312. (J. S. Joel) **50** #2784 42A08 (30A78, 60G25)

Harmonic analysis on amalgams of L^p and l^q. *J. London Math. Soc.* (2) **10** (19 295–305. (Carl L. DeVito) **51** #11013 43A22

On the representation of functions as Fourier transforms of unbounded measu *Proc. London Math. Soc.* (3) **30** (1975), 347–365. (James Stewart) **53** #1154 42

(*with* Twomey, J. B.) Fourier-Stieltjes series of measures in Zygmund's class *Proc. Roy. Irish Acad. Sect. A* **76** (1976), *no.* 26, 289–299. (Y. Katznelson) **55** #365 42A16

(*with* Twomey, J. B.) On Hardy classes and the area function. *J. London M Soc.* (2) **17** (1978), *no.* 2, 275–283. (J. W. Noonan) **58** #6255 30A78

See also **Problems: Linear operators and approximation, 51** #12450

Holland, Gerhard ★Geometrie für Lehrer und Studenten. Band 1. Kongruenzgeome *Hermann Schroedel Verlag KG, Hannover*, 1974. 264 *pp.* (L. Gyarmathi) **57** #396 50–01

See also **Arnold, Bradford H., 52** #15328

Holland, John H. Genetic algorithms and the optimal allocation of trials. *SIAM Comput.* **2** (1973), 88–105. (Bojan Popović) **52** #12445a (E **52** #12445b) 68 (93E25)

Erratum: "Genetic algorithms and the optimal allocation of trials" (SIAM Comput. **2** (1973), 88–105). *SIAM J. Comput.* **3** (1974), 326. (Bojan Popović) **52** #12445b 68A99 (93E25)

★Adaptation in natural and artificial systems. An introductory analysis applications to biology, control, and artificial intelligence. *University of Michigan Pr Ann Arbor, Mich.*, 1975. ix+183 *pp.* (Manfred Kochen) **55** #14256 (EA **55/56**) 92–01 (68–01, 90–01, 93–01)

Studies of the spontaneous emergence of self-replicating systems using cell automata and formal grammars. *Automata, languages, development, pp.* 385–404. *North-Holland, Amsterdam*, 1976. (Hidenosuke Nishio) **58** #15735 94A30 (92A

Holland, Paul W. (*with* Fienberg, Stephen E.) On the choice of flattening constants estimating multinomial probabilities. *J. Multivariate Anal.* **2** (1972), 127–134. (Auth summary) **46** #2787 62F15

Covariance stabilizing transformations. *Ann. Statist.* **1** (1973), 84–92. (Auth summary) **48** #9921 62E20

(*with* Fienberg, Stephen E.) Simultaneous estimation of multinomial cell probabilities. *J. Amer. Statist. Assoc.* **68** (1973), 683–691. (Samprit Chatterjee) **50** #11608 62F15

(*with* Bishop, Yvonne M. M.; Fienberg, Stephen E.) ★Discrete multivariate analysis: theory and practice. With the collaboration of Richard J. Light and Frede Mosteller. *The MIT Press, Cambridge, Mass.-London*, 1975. x+557 *pp.* (I. J. Go **52** #2027 62Hxx (62B10)

(*with* Sutherland, Michael; Fienberg, Stephen E.) Combining Bayes and freque approaches to estimate a multinomial parameter. *Studies in Bayesian econometrics statistics* (*in honor of Leonard J. Savage*), *pp.* 585–617. *Contributions to Econo Analysis, No.* 86, *North-Holland, Amsterdam*, 1975. (I. J. Good) **55** #6662 62F1

(*with* Leinhardt, Samuel) Conditions for eliminating intransitivities in binary digraphs. *J. Mathematical Sociology* **4** (1976), *no.* 2, 315–318. (A. Rapoport) **54** #12 92A20 (94A20)

(*with* Bishop, Yvonne M. M.; Fienberg, Stephen E.) ★Discrete multivariate analysis: theory and practice. With the collaboration of Richard J. Light and Freder Mosteller. Third printing. *The M.I.T. Press, Cambridge, Mass.-London*, 1977. x+557 (Editors) **55** #4512 62Hxx

(*with* Leinhardt, Samuel) A dynamic model for social networks. *J. Mathema Sociology* **5** (1977/78), *no.* 1, 5–20. (Jean-Louis Boursin) **56** #4921 92A20 (90B

Holland, Samuel S., Jr. Isomorphisms between interval sublattices of an orthomod lattice. *Hiroshima Math. J.* **3** (1973), 227–241. (S. J. Bernau) **49** #4886 06 (46L10)

Remarks on type I Baer and Baer *-rings. *J. Algebra* **27** (1973), 516–522. (S.

erian) **48** #8554 16A34 (46L99)

(*with* Gudder, Stanley P.) Second correction to: "Inner product spaces" (Amer. h. Monthly **81** (1974), 29–36). *Amer. Math. Monthly* **82** (1975), *no.* 8, 818. (K. F. pfenstein) **52** #1274 46C05

(*with* Maeda, Shûichirô) Equivalence of projections in Baer *-rings. *J. Algebra* **39** '6), *no.* 1, 150 159. (P. A. Fillmore) **53** #8121 16A28 (46K99)

Orderings and square roots in *-fields. *J. Algebra* **46** (1977), *no.* 1, 207–219. (C. F. ppert) **56** #5515 12J15

, W. Charles (*with* Scrimger, E. B.) Free products of lattice ordered groups. *ebra Universalis* **2** (1972), 247–254. (S. P. Bandyopadhyay) **47** #8384 06A55

Ordered permutation groups. *Permutations* (*Actes Colloq., Univ. René-Descartes, is*, 1972), *pp.* 57–64. *Gauthier-Villars, Paris*, 1974. (Editors) **49** #8914 06A55

Outer automorphisms of ordered permutation groups. *Proc. Edinburgh Math. Soc.* **19** (1974/75), *no.* 4, 331–344. (Stephen H. McCleary) **52** #7995 06A55

(*with* Glass, A. M. W.; McCleary, Stephen H.) a^*-closures of completely ributive lattice-ordered groups. *Pacific J. Math.* **59** (1975), *no.* 1, 43–67. (S. lfenstein) **52** #7994a 06A55

(*with* Glass, A. M. W.; McCleary, Stephen H.) Correction to: "a^*-closures to pletely distributive lattice-ordered groups". *Pacific J. Math.* **61** (1975), *no.* 2, 606. (S. lfenstein) **52** #7994b 06A55

Equitable partitions of the continuum. *Fund. Math.* **92** (1976), *no.* 2, 131–133. phen H. McCleary) **54** #5076 06A55 (54F05)

The largest proper variety of lattice ordered groups. *Proc. Amer. Math. Soc.* **57** 76), *no.* 1, 25–28. (S. Wolfenstein) **53** #10688 06A55

Group equations which hold in lattice ordered groups. *Symposia Mathematica, Vol. I* (*Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Convegno sui Gruppi e Anelli linati, INDAM, Rome*, 1975), *pp.* 365–378. *Academic Press, London*, 1977. (See Zbl 3 #06011; MR **56** #11676) 06A55

ler, David H. An unexpected two-dimensional space-group containing seven of the lve basic solutions to the eight queens problem. *J. Recreational Math.* **6** (1973), *no.* 4, –291. (H. S. M. Coxeter) **55** #3107 20H15 (05B30, 50B30)

ler, Myles (*with* Proschan, Frank) Testing whether new is better than used. *Ann. th. Statist.* **43** (1972), 1136–1146. (R. E. Barlow) **50** #1403 62G10 (62N05)

(*with* Wolfe, Douglas A.) ★Nonparametric statistical methods. Wiley Series in bability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney*, 3. xviii + 503 *pp.* (T. P. Hettmansperger) **50** #6039 62Gxx

(*with* Korwar, Ramesh M.) Contributions to the theory of Dirichlet processes. *Ann. bability* **1** (1973), 705–711. (J. S. Rao) **50** #3442 62G05 (60K99)

(*with* Pledger, Gordon; Lin, Pi Erh) Robustness of the Wilcoxon test to a certain endency between samples. *Ann. Statist.* **2** (1974), 177–181. (H. L. Seal) **49** #8201 G35

A note on Theil's test for linearity of regression. *Econometrica* **42** (1974), 211–213. ir Ali) **53** #6903 62J05

(*with* Proschan, Frank) A test for superadditivity of the mean value function of a n-homogeneous Poisson process. *Stochastic Processes Appl.* **2** (1974), 195–209. (Mark own) **51** #9410 62M99 (62N05)

(*with* Pirie, Walter R.) Note on a Tukey test for ordered alternatives. *Ann. Inst. tist. Math.* **27** (1975), *no.* 3, 521–523. (M. Hušková) **53** #14784 62G10

(*with* Proschan, Frank) Tests for the mean residual life. *Biometrika* **62** (1975), *no.* 3, 5–593. (R. J. Buehler) **52** #15917 (E **53** #14830) 62N05

(*with* Korwar, Ramesh M.) Empirical Bayes estimation of a distribution function. *n. Statist.* **4** (1976), *no.* 3, 581–588. (Johannes S. Maritz) **54** #1502 62L12 C10)

(*with* Proschan, Frank) Correction: "Tests for the mean residual life" (Biometrika (1975), 585–593). *Biometrika* **63** (1976), *no.* 2, 412. (Editors) **53** #14830 62N05

(*with* Korwar, Ramesh M.) Nonparametric empirical Bayes estimation of the bability that $X \leqslant Y$. Special issue on nonparametric statistics. *Comm. Statist.–Theory thods* **A5** (1976), *no.* 14, 1369–1383. (Lionel Weiss) **55** #9390 62G05 (62C10)

(*with* Korwar, Ramesh M.) Nonparametric estimation of distribution functions. *e theory and applications of reliability, with emphasis on Bayesian and nonparametric thods, Vol. I* (*Conf., Univ. South Florida, Tampa, Fla.*, 1975), *pp.* 85–107. *Academic ess, New York*, 1977. (J. V. Deshpande) **56** #16902 62G05

(*with* Proschan, Frank; Sethuraman, Jayaram) Functions decreasing in nsposition and their applications in ranking problems. *Ann. Statist.* **5** (1977), *no.* 4, 2–733. (Z. W. Birnbaum) **58** #7965 62E10 (62F07)

(*with* Campbell, Gregory) Rank order estimation with the Dirichlet prior. *Ann. tist.* **6** (1978), *no.* 1, 142–153. (Richard L. Dykstra) **56** #13437 62G05

See also **Reliability and biometry: statistical analysis of lifelength**, **49** #1630

z, Horst (*with* Weinert, Horst) Ein Algorithmus zur Lösung des ppelt-einparametrischen linearen Optimierungsproblems. (English and Russian mmaries) *Math. Operationsforsch. Statist.* **2** (1971), *No.* 3, 181–197. (P. J. Laurent) #12227 90C05

Lineare Optimierungsprobleme mit veränderlichen Koeffizienten. *Mathematica luj)* **13(36)** (1971), 71–85. (Csaba Fabian) **45** #8258 90C05

(*with* Nožička, František; Guddat, Jürgen) ★Theorie der linearen Optimierung. athematische Lehrbücher und Monographien, I. Abteilung: Mathematische hrbücher, Band XXI. *Akademie-Verlag, Berlin*, 1972. viii + 378 *pp.* (B. Korte) #12080 90C05

Parametrische Optimierung in linearen Räumen. (English and French summaries) *ath. Operationsforsch. Statist.* **4** (1973), *no.* 2, 107–125. (Herbert T. David) **53** #10274 90C05

Bemerkungen zum Kuhn-Tucker-Theorem. (English and French summaries) *Math. erationsforsch. Statist.* **4** (1973), *no.* 4, 275–281. (Author's summary) **55** #9989 C25

Ein allgemeines Verfahren der zulässigen Richtungen für diskrete inimax-Aufgaben mit beschränkten Parametern. (English and French summaries) *ath. Operationsforsch. Statist.* **6** (1975), *no.* 4, 535–547. (R. H. Bartels) **52** #5036 C30

Konvergenzuntersuchung zu einem Verfahren der zulässigen Richtungen bei chtlinearen Optimierungsaufgaben. (English and French summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 2, 247–255. (J. Abrham) **53** #15372 90C30

Über die Lösung diskreter Steuerungsprobleme. (English and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 3, 385–400. (Author's summary) **57** #15648 93C55

See also **Korbut, A. A.; et al.**, **49** #12083; **Gol'šteĭn, E. G.**, **53** #8922 *and* **Germeĭer, Ju. B.**, **56** #4769

Hollebone, Bryan R. (*with* Donini, J. C.) The coupling algebra of trigonally subduced crystal field eigenvectors. *Theoret. Chim. Acta* **37** (1975), *no.* 3, 233–250. (Philip H. Butler) **56** #7531 81.22

Höllein, H. Polytope in lokalkonvexen Räumen. *Math. Ann.* **229** (1977), *no.* 1, 65–85. (Benno Fuchssteiner) **56** #6342 46A99 (52A05)

Holleman, Aalbert ★Inseparable algebras: An investigation of the concept of modularity for commutative rings. (Dutch introduction and summary) Doctoral dissertation, Free University of Amsterdam. *Vrije Universiteit te Amsterdam, Amsterdam*, 1973. xi + 121 *pp.* (R. T. Hoobler) **48** #3945 13B05 (12F15)

Inseparable algebras. *J. Algebra* **46** (1977), *no.* 2, 415–429. (L. C. A. van Leeuwan) **56** #400 16A16 (16A21)

Hollenbach, Gerhard *See* **Dictionary: Educational cybernetics**, **53** #7671

Hollerer, W. O. (*with* Vollmar, Roland) On "forgetful" cellular automata. (German summary) Collection of papers on cellular automata and developmental system (Conf. Biologically Motivated Automata Theory, MacLean, Va., 1974). *J. Comput. Systems Sci.* **11** (1975), *no.* 2, 237–251. (Robert M. Baer) **52** #7741 94A30

Hollerith, H. *See* **Origins of digital computers**, **50** #6760

Holley, Frieda Koster The ideal and new interval topologies on l-groups. *Fund. Math.* **79** (1973), *no.* 3, 187–197. (Stephen H. McCleary) **49** #172 06A55 (22A05)

Holley, Richard A. Free energy in a Markovian model of a lattice spin system. *Comm. Math. Phys.* **23** (1971), 87–99. (D. ter Haar) **45** #1535 82.62

Pressure and Helmholtz free energy in a dynamic model of a lattice gas. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. III: Probability theory*, *pp.* 565–578. *Univ. California Press, Berkeley, Calif.*, 1972. (Hans-Otto Georgii) **54** #1422 60K35 (82.60)

Markovian interaction processes with finite range interactions. *Ann. Math. Statist.* **43** (1972), 1961–1967. (F. L. Spitzer) **51** #9272 60K35

An ergodic theorem for interacting systems with attractive interactions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 325–334. (L. L. Helms) **48** #9894 60K35

Remarks on the FKG inequalities. *Comm. Math. Phys.* **36** (1974), 227–231. (L. L. Helms) **49** #6300 60B99 (60K35, 82.60)

Recent results on the stochastic Ising model. Papers arising from a Conference on Stochastic Differential Equations (Univ. Alberta, Edmonton, Alta., 1972). *Rocky Mountain J. Math.* **4** (1974), 479–496. (L. L. Helms) **53** #9436 60K35 (82.60)

(*with* Liggett, Thomas M.) Ergodic theorems for weakly interacting infinite systems and the voter model. *Ann. Probability* **3** (1975), *no.* 4, 643–663. (F. L. Spitzer) **53** #6798 60K35

(*with* Stroock, Daniel W.) A martingale approach to infinite systems of interacting processes. *Ann. Probability* **4** (1976), *no.* 2, 195–228. (T. M. Liggett) **53** #1782 60K35 (60G45)

(*with* Stroock, Daniel W.) Applications of the stochastic Ising model to the Gibbs states. *Comm. Math. Phys.* **48** (1976), *no.* 3, 249–265. (E. M. Klimko) **55** #2004 82.30

(*with* Stroock, Daniel W.) L_2 theory for the stochastic Ising model. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** (1976), *no.* 2, 87–101. (T. M. Liggett) **53** #14725 60K35 (82.60)

(*with* Stroock, Daniel W.; Williams, David A.) Applications of dual processes to diffusion theory. *Probability* (*Proc. Sympos. Pure Math., Vol. XXXI, Univ. Illinois, Urbana, Ill.*, 1976), *pp.* 23–36. *Amer. Math. Soc., Providence, R. I.*, 1977. (Hermann Rost) **56** #1483 60J60 (60K35)

(*with* Stroock, Daniel W.) Stochastic processes which arise in the study of spin-flip models in statistical mechanics. *Symposia Mathematica, Vol. XXI* (*Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Convegno sui Gruppi e Anelli Ordinati, INDAM, Rome*, 1975), *pp.* 187–195. *Academic Press, London*, 1977. (T. M. Liggett) **57** #4371 60K35

(*with* Stroock, Daniel W.) In one and two dimensions, every stationary measure for a stochastic Ising model is a Gibbs state. *Comm. Math. Phys.* **55** (1977), *no.* 1, 37–45. (Hans-Otto Georgii) **56** #9741 60K35

(*with* Stroock, Daniel W.) Nearest neighbor birth and death processes on the real line. *Acta Math.* **140** (1978), *no.* 1-2, 103–154. (T. M. Liggett) **58** #7928 60K35

(*with* Liggett, Thomas M.) The survival of contact processes. *Ann. Probability* **6** (1978), *no.* 2, 198–206. (F. L. Spitzer) **58** #7927 60K35

Exact error bounds for the phase velocity in an acoustic wave guide. *SIAM J. Numer. Anal.* **15** (1978), *no.* 4, 715–735. (Maurice Bouix) **58** #19707 76.35 (35P99)

See also **Mathematics: Periodical collection of translations of foreign articles**, **50** #12535

Holliger, A. (*with* Rosenstiehl, Pierre; Fiksel, Joseph R.) Intelligent graphs: networks of finite automata capable of solving graph problems. *Graph theory and computing*, *pp.* 219–265. *Academic Press, New York*, 1972. (A. D. Koršunov) **50** #6680 94A30

Holling, C. S. *See* **Mathematical problems in biology**, **49** #10392

Hollingdale, S. H. The teaching of mathematics in universities: some historical notes. *Bull. Inst. Math. Appl.* **10** (1974), *no.* 9-10, 312–318. (Editors) **58** #27093 01A60 (01A50, 01A55)

C. F. Gauss (1777–1855): a bicentennial tribute. *Bull. Inst. Math. Appl.* **13** (1977), *no.* 3-4, 68–76. (Editors) **58** #27109 01A70

Isaac Barrow (1630–1677). *Bull. Inst. Math. Appl.* **13** (1977), *no.* 11-12, 258–262. (Editors) **58** #15891 01A45 (01A70)

Hollinger, Abraham *See* **Collection: Moisil, Grigore Costantin**, **49** #4703

Hollingsworth, John (*with* Sher, Richard B.) Triangulating neighborhoods in topological manifolds. *General Topology and Appl.* **1** (1971), 345–348. (Roger Fenn) **45** #6011 57C15

(*with* Galewski, David E.; McMillan, D. R., Jr.) On the fundamental group and homotopy type of open 3-manifolds. *General Topology and Appl.* **2** (1972), 299–313. (R. J. Daverman) **47** #5880 57A65

(*with* Bryant, J. L.) Manifold factors that are manifold quotients. *Topology* **13** (1974), 19–24. (K. W. Kwun) **50** #8545 57C99

(*with* Rushing, T. Benny) Embeddings of shape classes of compacta in the trivial range. *Pacific J. Math.* **60** (1975), *no.* 2, 103–110. (Paul F. Duvall) **53** #1598 57A40 (54C56)

(*with* Rushing, T. Benny) Homotopy characterizations of weakly flat codimension 2 spheres. *Amer. J. Math.* **98** (1976), *no.* 2, 385–394. (John Bryant) **54** #8644 57A45

Hollister, Herbert A. ★Modern algebra: a first course. *Harper & Row, Publishers, New York-London,* 1972. xiv + 330 *pp.* (John W. Petro) **51** #9996 00A05

Nilpotent *l*-groups are representable. *Algebra Universalis* **8** (1978), *no.* 1, 65–71. (J. A. H. Shepperd) **57** #5857 06A55

Hollnagel, Wilbrecht *See* **Stöppler, Siegmar, 50** #9892

Hollocou, Yann Sur l'équation fonctionnelle de Cauchy. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 649–651. (A. Climescu) **49** #11083 39A20

Holloway, Charles A. A mathematical programming approach to identification and optimization of a class of unknown systems. *Naval Res. Logist. Quart.* **19** (1972), 663–679. (A. Göpfert) **47** #6319 90C25

A generalized approach to Dantzig-Wolfe decomposition for concave programs. Mathematical programming and its applications. *Operations Res.* **21** (1973), 210–220. (V. F. Dem'janov) **51** #5010 90C25

An extension of the Frank and Wolfe method of feasible directions. *Math. Programming* **6** (1974), 14–27. (J. Falk) **48** #13266 90C30

(*with* Wehrung, Donald A.; Zeitlin, Michael P.; Nelson, Rosser T.) An interactive procedure for the school boundary problem with declining enrollment. *Operations Res.* **23** (1975), *no.* 2, 191–206. (James T. McGill) **55** #12045 90B99

A note on the strategy of restriction and degenerate linear programming problems. *Naval Res. Logist. Quart.* **24** (1977), *no.* 2, 377–380. (Irinel Dragan) **57** #5072 90C05

Holloway, Thomas T. (*with* Silverstone, Harris J.) Explicit formulas in degenerate Rayleigh-Schrödinger perturbation theory for the energy and wave function, based on a formula of Lagrange. *Phys. Rev. A* (3) **4** (1971), *no.* 6, 2191–2199. (Authors' summary) **56** #10605 81.47

Hollstein, Ralf Über die Metrisierbarkeit von projektiven Tensorprodukten. (English summary) *Manuscripta Math.* **9** (1973), 201–209. (Jaime Lesmes) **48** #6871 46A15

Topologische Tensorprodukte gewisser topologischer Vektorräume. *Collect Math.* **25** (1974), *no.* 2, 127–135. (Henri Mascart) **54** #8317 46M05 (46A05)

σ-lokaltopologische Räume und projektive Tensorprodukte. *Collect. Math.* **26** (1975), *no.* 3, 239–252. (From the author's introduction) **57** #10442 46M05 (46A05)

(*DCF*)-Räume und lokalkonvexe Tensorprodukte. *Arch. Math.* (*Basel*) **29** (1977), *no.* 5, 524–531. (N. Adasch) **58** #7012 46A05 (46M05)

Über die Tonneliertheit von lokalkonvexen Tensorprodukten. (English summary) *Manuscripta Math.* **22** (1977), *no.* 1, 7–12. (P. Pérez Carreras) **58** #2121 46A07 (46M05)

Holly, A. Sur l'estimation des paramètres d'un modèle linéaire lorsque la matrice des variances-covariances des résidus est singulière. *Rev. Statist. Appl.* **22** (1974), *no.* 2, 5–27. (Emil Spjøtvoll) **53** #4391 62J05

Holm, Per Erratum to: "On the Bohr compactification". *Math. Ann.* **197** (1972), 86. (Editors) **45** #5960 54D35

(*with* Andreotti, Aldo) Quasianalytic and parametric spaces. *Real and complex singularities* (*Proc. Ninth Nordic Summer School/NAVF Sympos. Math., Oslo,* 1976), *pp.* 13–97. *Sijthoff and Noordhoff, Alphen aan den Rijn,* 1977. (Authors' introduction) **58** #28642 32C05 (32C40)

See also **Proceedings: Advanced Study Institute on Algebraic Topology, 48** #7247 *and* **Real and complex singularities, 56** #15635

Holm, S. (*with* Klein, D.) Identification of non-binding constraints and zero variables in linear programming. *First Symposium on Operations Research* (*Univ. Heidelberg, Heidelberg,* 1976), *Teil* 1, *pp.* 58–65. *Operations Research Verfahren, XXV. Hain, Meisenheim,* 1977. (Authors' introduction) **58** #32914 90C05

Holm, Sture Asymptotic power and expected sample size of SPR tests in one-parameter exponential families. *Mathematics and statistics* (*in honour of Harald Bergström on the occasion of his 65th birthday*), *pp.* 23–32. *Dept. of Math., Chalmers Inst. Tech., Göteborg,* 1973. (J. Wolfowitz) **51** #2201 62L10

The asymptotic minimax character of sequential binomial and sign tests. *Ann. Statist.* **1** (1973), 1139 1148. (Richard A. Johnson) **50** #1431 62L10

A sequential rank test. *Proceedings of the Prague Symposium on Asymptotic Statistics* (*Charles Univ., Prague,* 1973), *Vol. II, pp.* 157–172. *Charles Univ., Prague,* 1974. (Malay Ghosh) **52** #7043 62L10 (62G10)

Sequential inversion sum tests. *Scand. J. Statist.* **2** (1975), *no.* 1, 1–10. (I. R. Savage) **54** #11682 62L10 (62G10)

Asymptotic minimax character of SPR tests in one-parameter exponential classes. *Scand. J. Statist.* **2** (1975), *no.* 2, 49–60. (J. Kiefer) **52** #2078 62L10

On a conjecture about the limiting minimal efficiency of sequential tests. *Ann. Statist.* **5** (1977), *no.* 2, 375–378. (R. H. Berk) **56** #4076 62L10

See also **Bickel, Peter J., 55** #1610

Holman, Eric W. The relation between hierarchical and Euclidean models for psychological distances. *Psychometrika* **37** (1972), 417–423. (P. Suppes) **47** #10093 92A25

Extensive measurement without an order relation. *Philos. Sci.* **41** (1974), 361–373. (Author's summary) **56** #11866 08A05

Holman, Wayne J., III (*with* Biedenharn, L. C.) The representations and tensor operations of the unitary groups U(*n*). *Group theory and its applications, Vol. II, pp.* 1–73. *Academic Press, New York,* 1971. (J. F. Cornwell) **55** #10609 22E70 (81.22)

On the general boson states of $U_n \star U_n$ and $Sp_4 \star Sp_4$. (Italian and Russian summaries) *Nuovo Cimento A* (11) **4** (1971), 904–931. (M. Carmeli) **46** #4871 81.22

The application of Regge symmetry to the 9-*j* symbol. *J. Mathematical Phys.* **14** (1973), 330–336. (Author's summary) **47** #4551 81.22

(*with* Biedenharn, L. C.; Louck, James D.) On hypergeometric series well-poised in SU(*n*). *SIAM J. Math. Anal.* **7** (1976), *no.* 4, 529–541. (M. Seetharaman) **54** #627 33A75

(*with* Gross, Kenneth I.; Kunze, Ray A.) The generalized gamma function, n Hardy spaces, and representations of holomorphic type for the conformal group. *B Amer. Math. Soc.* **83** (1977), *no.* 3, 412–415. (Mitsuo Sugiura) **55** #8250 22E (33A75, 43A80, 22E45)

Holmann, Harald ★Lineare und multilineare Algebra. I. B.I-Hochschultaschenbüch 173/173a*. *Bibliographisches Institut, Mannheim-Vienna-Zurich,* 1970. 212 *pp.* (St. Pierce (Zbl **217**, 54)) **47** #8560 15–02

(*with* Rummler, Hansklaus) ★Alternierende Differentialformen. *Bibliographisch Institut, Mannheim-Vienna-Zurich,* 1972. 257 *pp.* (H. H. Johnson) **53** #1619 58- (53 -02)

Holomorphe Blätterungen komplexer Räume. *Comment. Math. Helv.* **47** (197 185–204. (W. Kaup) **47** #5307 32M05 (57D30, 58H05)

★Riemannsche Flächen. I. Vorlesung, Sommersemester 1973. Ausgearbeitet v B. Kaup. Schriftenreihe des Mathematischen Institutes der Universität Freiburg I. U No. 3. *Mathematisches Institut, Universität Freiburg, Freiburg,* 1973. 146 *pp.* (H. Martens) **54** #2949 30A46 (14Hxx, 32–01, 58–01)

★Riemannsche Flächen. II. Vorlesung, Wintersemester 1973/74. Ausgearbei von B. Kaup. Schriftenreihe des Mathematischen Institutes der Universität Freiburg Ue. No. 4. *Mathematisches Institut, Universität Freiburg, Freiburg,* 1973/74. 125 (*loose addenda*) (H. H. Martens) **54** #2950 30A46 (14Hxx, 32–01, 58–01)

(*with* Rummler, Hansklaus) ★Einführung in die Lebesguesche Integrationstheori 2. Teil der Vorlesung Infinitesimalrechnung. II. Sommersemester, 1974. Ausgearbei von Hk. Rummler. *Mathematisches Institut, Universität Freiburg, Fribourg,* 1974. iii + *pp.* (See Zbl **353** #26001) 26–01 (28–01)

Analytische periodische Strömungen auf kompakten komplexen Räumen. *Comment. Math. Helv.* **52** (1977), *no.* 2, 251–257. (K.-T. Chen) **58** #7735 58F (32C10, 32M05)

Holmatov, A. (*with* Fodčuk, V. Ī.) Periodic solutions of functional-differential equations neutral type. (Russian) *The method of integral manifolds in nonlinear differential equations* (*Russian*), *pp.* 303–318. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kie* 1973. (See Zbl **316** #34082; MR **48** #11625) 34K15

(*with* Fodčuk, V. Ī.) Behavior of the solutions of differential-functional equations neutral type in the neighborhood of elementary stationary points. (Russian) *Ukrai Mat. Ž.* **25** (1973), 610–620, 715. (J. K. Hale) **48** #6610 34K15

(*with* Fodčuk, V. Ī.) On the theory of the asymptotic Krylov-Bogoljubov method f functional-differential equations. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 634–645, 7 (D. Baĭnov) **50** #10488 34K15

(*with* Fodčuk, V. Ī.) Asymptotic integration of partial differential-functional equations of neutral type. (Russian) *Approximate methods for the study of nonline systems* (*Russian*), *pp.* 206–214. *Izdanie Inst. Mat. Akad. Nauk SSR, Kiev,* 1976. (Fro the authors' introduction) **57** #6909 35R10

(*with* Fodčuk, V. Ī.) Periodic and almost periodic solutions of singularly perturbe differential equations of neutral type. (Russian) *Differencial'nye Uravnenija* **12** (197 *no.* 6, 1019 1027, 1141. (Erwin Kozakiewicz) **55** #806 34K15

(*with* Fodčuk, V. Ī.) A study of the stability of systems of functional-differenti equations of neutral type with periodic coefficients. (Russian) *Mat. Fiz. Vyp.* 20 (197 71–76, 113. (István Győri) **56** #12513 34K20

(*with* Fodčuk, V. Ī.) The averaging method for singularly perturbed equations neutral type. (Russian) *Analytic methods in the theory of differential equations* (*Russian pp.* 189–200. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev,* 1977. (From the tex **58** #22923 34K15

See also **Method of integral manifolds in nonlinear differential equations, 48** #1162

Holmatov, K. The distribution of the error in the multiplication of approximated number (Russian) *Voprosy Kibernet. Vyčisl. Mat. No.* 22 (1968), 91–102. (H. Zegeling) **49** #4232 65G05

The quotient of sums of uniform variables. (Russian. Uzbek summary) *Izv. Aka Nauk UzSSR Ser. Fiz.-Mat. Nauk* **16** (1972), *no.* 1, 46–49. (P. Révész) **46** #4590 60F10

Distribution of the absolute and the relative error in the multiplication of approximate numbers. (Russian) Studies in mathematical statistics, and related questions. *Taškent. Gos. Univ. Naučn. Trudy No.* 402 (1972), 123–130. (M. Iosifescu **49** #4072 60E05 (65C99)

A limit theorem for the probabilities of large deviations. (Russian) *Limit theorem and mathematical statistics* (*Russian*), *pp.* 171–177, 191. *Izdat. "Fan" Uzbek. SS Tashkent,* 1976. (S. A. Book) **55** #11349 60F10

Holme, Audun Formal embedding and projection theorems. *Amer. J. Math.* **93** (197 527–571. (J. C. Fogarty) **46** #3515 14E25

On the minimal dimension of the ambient space of a projective scheme. *Norsk Vid. Selsk. Skr.* (*Trondheim*) **1971**, *no.* 13, 5 *pp.* (F. Oort) **45** #3427 14F99

A general embedding theorem in formal geometry. *Compositio Math.* **26** (1973) 41–68. (P. Abellanas) **47** #6698 14E25 (14D15, 14K10)

Projection of non-singular projective varieties. *J. Math. Kyoto Univ.* **13** (1973 301–322. (Joel Roberts) **48** #8501 14E15

An embedding-obstruction for projective varieties. *Bull. Amer. Math. Soc.* **8** (1974), 932–934. (G. Horrocks) **51** #508 14E25

Embedding-obstruction for singular algebraic varieties in $\mathbf{P}^N$. *Acta Math.* **13** (1975), *no.* 3–4, 155–185. (Robert Speiser) **55** #10458 14E25

Holme, Ingar (*with* Mohn, Erik; Volden, Rolf) On stepwise regression in orthogona models. *Progress in statistics* (*European Meeting Statisticians, Budapest,* 1972), *pp* 557–563. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam,* 1974 (Chien-Pai Han) **51** #11842 62J05

(*with* Spjøtvoll, Emil; Tveter, Jens O.) Likelihood ratio confidence bands for normal distribution function. *Scand. J. Statist.* **1** (1974), *no.* 2, 87–92. (S. John **51** #11792 62F25

Holmes, A. G. (*with* Ettles, C. M. M.) A study of iterative solution techniques for ellipti partial differential equations with particular reference to the Reynolds equation. *Comput. Methods Appl. Mech. Engrg.* **5** (1975), 309–328. (Amnon Barak) **51** #14609 65N10

Holmes, Charles L. (*with* Larsen, Richard J.; Heath, Clark W., Jr.) A statistical test for measuring unimodal clustering: a description of the test and of its application to cases of ute leukemia in metropolitan Atlanta, Georgia. (French summary) *Biometrics* **29** 973), 301–309. (H. Chernoff) **49** #11712 62G10

es, Charles S. Direct products with isomorphic lattices. *Rend. Sem. Mat. Univ. adova* **45** (1971), 71–80. (F. Napolitani) **47** #346 20F25

Groups of order p^3q with identical subgroup structures. *Atti Accad. Sci. Ist. Bologna l. Sci. Fis. Rend.* (13) **3** (1975/76), *no.* 1, 113–123. (Federico Menegazzo) **56** #3123 D30

es, J. F. (*with* Lee, M. H.; Kerr, J. R.) Generalized spherical wave mutual coherence nction. *J. Opt. Soc. Amer.* **67** (1977), *no.* 9, 1279–1281. (Kazimierz Sobczyk) 5 #14174 78.60

es, James (*with* Marcus, Marvin) Groups of linear operators defined by group aracters. *Trans. Amer. Math. Soc.* **172** (1972), 177–194. (A. O. Morris) **46** #9184 G05

es, John P. Differentiable power-associative groupoids. *Pacific J. Math.* **41** (1972), 91–394. (Robert S. Doran) **46** #4234 46N05 (20N99)

Differentiable projections and differentiable semigroups. *Proc. Amer. Math. Soc.* **41** 973), 251–254. (M. Craioveanu) **51** #11572 58C25

Differentiable semigroups. *Colloq. Math.* **32** (1974), 99–104. (Anne L. Hudson) **1** #5832 22A15

A rank theorem for infinite dimensional spaces. *Proc. Amer. Math. Soc.* **50** (1975), 58–364. (C. Bessaga) **52** #4333 58C25

Continuous homomorphisms are differentiable. *Proc. Amer. Math. Soc.* **65** (1977), *o.* 2, 277–281. (J. W. Neuberger) **56** #13257 58C25 (46H99)

(*with* Sagle, Arthur A.) Problems in *H*-spaces and nonassociative algebras. *umamoto J. Sci.* (*Math.*) **13** (1978/79), *no.* 1, 1–5. (J. Stasheff) **58** #13010 55D45 17E05)

es, Mark H. (*with* Stein, F. Max) Sturmian theory and transformations for the iccati equation. *Portugal. Math.* **35** (1976), *no.* 1–2, 65–73. (Leon Kotin) **55** #3380 4A25

es, Paul T. (*with* Flaspohler, David C.) Additional quasi-stationary distributions for emi-Markov processes. *J. Appl. Probability* **9** (1972), 671–676. (V. V. Anisimov) **9** #11652 60K15

Another characterization of the Poisson process. *Sankhyā Ser. A* **36** (1974), *no.* 4, 49–450. (S. M. Samuels) **52** #4447 60K05

(*with* Guthrie, Gary Lee) On record and inter-record times for a sequence of andom variables defined on a Markov chain. *Adv. in Appl. Probab.* **7** (1975), 195–214. Wim Vervaat) **52** #15613 60F05 (60K15)

(*with* Ruckle, William H.; Fennell, Robert E.; Fennemore, Charles F.) Ambushing andom walks. I. Finite models. *Operations Res.* **24** (1976), *no.* 2, 314–324. (Joel Pitt) **53** #15394 90D05

nes, Philip Behaviour of an oscillator with even non-linear damping. (French and German summaries) *Internat. J. Non-Linear Mech.* **12** (1977), *no.* 5, 323–326. (Author's summary) **58** #22783 34C15 (58F10)

Bifurcations to divergence and flutter in flow-induced oscillations: a finite dimensional analysis. *J. Sound Vibration* **53** (1977), *no.* 4, 471–503. (Helaman R. P. Ferguson) **56** #14109 76.58

(*with* Rand, D. A.) Bifurcations of the forced van der Pol oscillator. *Quart. Appl. Math.* **35** (1977/78), *no.* 4, 495–509. (Yieh Hei Wan) **58** #11657 34C15

(*with* Marsden, Jerrold Eldon) Bifurcation to divergence and flutter in flow-induced oscillations: an infinite dimensional analysis. *Automatica—J. IFAC* **14** (1978), *no.* 4, 367–384. (Peter Smith) **58** #14327 76.58 (58F10)

See also **Stochastic problems in dynamics**, **57** #2702

mes, R. A. Graphical representations of complete metric spaces. *J. London Math. Soc.* (2) **2** (1970), 727–735. (D. Adnadževič (RŽMat **1972** #1 A799)) **48** #5022 54E50 (05C99)

A local asymptotic law and the exact Hausdorff measure for a simple branching process. *Proc. London Math. Soc.* (3) **26** (1973), 577–604. (M. M. Siddiqui) **48** #5195 60J80

Complete metric spaces as projective limits of graphs. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 4, 389–396. (A. H. Stone) **53** #6509 54E50

mes, R. D. (*with* Lau, Anthony To Ming) Asymptotically non-expansive actions of topological semigroups and fixed points. *Bull. London Math. Soc.* **3** (1971), 343–347. (S. P. Singh) **47** #9369 47H10 (54H15)

On contractive semigroups of mappings. *Pacific J. Math.* **37** (1971), 701–709. (C. F. Kelemen) **46** #8205 54H25

(*with* Lau, Anthony To Ming) Non-expansive actions of topological semigroups and fixed points. *J. London Math. Soc.* (2) **5** (1972), 330–336. (W. A. Kirk) **47** #2447 47H10 (46A05, 54H15)

(*with* Lau, Anthony To Ming) Almost fixed points of semigroups of non-expansive mappings. *Studia Math.* **43** (1972), 217–218. (Ky Fan) **46** #7981 47H10

Fixed point for local radial contractions. *Fixed point theory and its applications* (*Proc. Sem., Dalhousie Univ., Halifax, N. S.*, 1975), *pp.* 79–89. *Academic Press, New York*, 1976. (Haskell Cohen) **56** #6634 54H25

lmes, Richard B. (*with* Kripke, Bernard R.) Best approximation by compact operators. *Indiana Univ. Math. J.* **21** (1971/72), 255–263. (J. Blatter) **45** #5718 46B05 (47B05)

Smoothness indices for convex functions and the unique Hahn-Banach extension problem. *Math. Z.* **119** (1971), 95–110. (From the author's introduction) **54** #893 46A99

★A course on optimization and best approximation. Lecture Notes in Mathematics, Vol. 257. *Springer-Verlag, Berlin-New York*, 1972. viii+233 *pp.* (K.-H. Hoffmann) **54** #8381 49–02 (41–02)

On the continuity of best approximation operators. *Symposium on Infinite-Dimensional Topology* (*Louisiana State Univ., Baton Rouge, La.*, 1967), *pp.* 137–157. *Ann. of Math. Studies, No.* 69, *Princeton Univ. Press, Princeton, N. J.*, 1972. (Dietrich Braess) **53** #8757 41A65 (58D15, 58E15)

R-splines in Banach spaces. I. Interpolation of linear manifolds. *J. Math. Anal. Appl.* **40** (1972), 574–593. (C. de Boor) **47** #2243 41A65 (41A15)

(*with* Lambert, Joseph M.) A geometrical approach to property (SAIN). *J. Approximation Theory* 7 (1973), 132–142. (P. D. Morris) **49** #9508 41A65

Correction to "A geometric characterization of non-atomic measure spaces" (Math. Ann. **182** (1969), 55–59). *Math. Ann.* **200** (1973), 347–348. (Editors) **48** #487 28A10

Smoothness of certain metric projections on Hilbert space. *Trans. Amer. Math. Soc.* **184** (1973), 87–100. (D. E. Wulbert) **48** #4596 41A65

(*with* Scranton, Bruce E.; Ward, Joseph D.) Best approximation by compact operators. II. *Bull. Amer. Math. Soc.* **80** (1974), 98–102. (J. Blatter) **50** #8137 47B05 (41A65)

(*with* Ward, Joseph D.) An approximative property of spaces of continuous functions. *Glasgow Math. J.* **15** (1974), 48–53. (D. E. Wulbert) **50** #10649 41A65 (46E15)

Best approximation by normal operators. *J. Approximation Theory* **12** (1974), 412–417. (D. E. Wulbert) **50** #8128 47A55 (41A65)

★Geometric functional analysis and its applications. Graduate Texts in Mathematics, No. 24. *Springer-Verlag, New York-Heidelberg*, 1975. x+246 *pp.* (W. J. Davis) **53** #14085 46A99 (46B05, 41A65, 49Dxx)

(*with* Scranton, Bruce E.; Ward, Joseph D.) Approximation from the space of compact operators and other *M*-ideals. *Duke Math. J.* **42** (1975), 251–269. (N. Tomczak-Jaegermann) **52** #15104 47D99 (46L20)

(*with* Scranton, Bruce E.; Ward, Joseph D.) Uniqueness of commuting compact approximations. *Trans. Amer. Math. Soc.* **208** (1975), 330–340. (L. J. Wallen) **52** #1380 47A65

M-ideals in approximation theory. *Approximation theory, II* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1976), *pp.* 391–396. *Academic Press, New York*, 1976. (D. E. Wulbert) **55** #957 41A65

Holmes, W. H. (*with* Morgan, R. J.) Reliability analysis of regular distributed chain structures. *IEEE Trans. Reliab.* **R-23** (1974), *no.* 1, 11–16. (I. Văduva) **53** #4952 90B25

Holmes, W. Lynn Dynamic dual programming problems and their economic interpretation. *Metroecon.* **26** (1974), *no.* 1-3, 1–10. (Jean-Louis Boursin) **52** #10052 90C45 (90A15)

Holmes, Willard M. (*with* Rowland, James R.) A variational approach to digital integration. *IEEE Trans. Computers* **C-20** (1971), 894–900. (I. V. Beiko) **46** #2874 65L05

Holmirzaeva, K. A multidimensional local limit theorem. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 3, 25–32, 85. (Friedrich Liese) **56** #13318 60F05

Holmlid, Leif (*with* Rynefors, Kjell) Uniformity of congruential pseudorandom number generators. Dependence on length of number sequence and resolution. *J. Computational Phys.* **26** (1978), *no.* 3, 297–306. (J. H. Halton) **58** #13611 65C10

Holmquist, Richard *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9426

Holmskiĭ, V. A. An estimate for the divisor function. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1978**, *no.* 3, 76–78. (J. W. Porter) **58** #10790 10H20

Holmstedt, Tord Interpolation of quasi-normed spaces. *Math. Scand.* **26** (1970), 177–199. (From the author's introduction) **54** #3440 46M35

Holmstrom, J. E. *See* **Maiocchi, Roberto**, **58** #32487

Holmuradov, È. The singular Cauchy-Lebesgue-Stieltjes operator along a line segment in spaces of summable functions. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser.Fiz.-Mat. Nauk* **1975**, *no.* 6, 36–43, 91. (R. V. Dudučava) **54** #13488 44A25

Holnapy, D. Numerical algorithm to determine the difference operators of boundary-value problems. (German and Russian summaries) *Acta Tech. Acad. Sci. Hungar.* **76** (1974), 413–423. (L. Fox) **50** #6166 65N05

Holnicki, Piotr The maximum principle for a certain class of difference boundary value problems. (Polish) *Mat. Stos.* (111) **8** (1976), 5–11. (V. Komkov) **56** #9119 39A05

Rate of convergence estimates for a discrete-time Galerkin approximation to optimal control problems for hyperbolic systems. (Polish and Russian summaries) *Arch. Automat. Telemech.* **23** (1978), *no.* 1-2, 45–64. (Sheldon P. Gordon) **58** #8354 65N30 (65N10)

Holnicki-Szulc, J. Theory of prestressing. I. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 1, 1–9. (Author's summary) **56** #13979 73.53

Theory of prestressing. II. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 1, 11–22. (Author's summary) **56** #13980 73.53

Holodenko, M. Š. (*with* Bronšteĭn, I. U.) On the question of the homogeneity of minimal sets. (Russian) *Differencial'nye Uravnenija* **8** (1972), 406–414. (N. G. Markley) **46** #8199 54H20

Holodkov, A. V. Averaging of operator-differential equations of Volterra type. (Russian) *Dokl. Akad. Nauk UzSSR* **1974**, *no.* 9, 7–8. (G. S. Ladde) **52** #3683 34G05

Partial averaging of operator-differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 23 (1974), 3–8, 221. (V. G. Kolomiec) **57** #17141 45D05 (34G05)

The partial averaging of nonlinear operator-differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 24 (1974), 3–10, 233. (Author's summary) **58** #17387 34G05

The solvability of an operator-differential equation of neutral type with a Volterra type operator. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 25 (1974), 3–9, 212. (From the author's introduction) **57** #16902 34K05 (34G05)

Averaging of operator-differential equations of neutral type. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 28 (1974), 69–79, 180. (Author's summary) **58** #11794 34K15

On the theory of operator-differential equations of retarded type. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 35 (1975), 3–9, 211. (Author's summary) **56** #16099 34K05 (34G05)

The correctness of the fundamental initial value problem for an operator-differential equation of neutral type in a Banach space, and the continuous dependence of the solution on the parameter. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 36 (1975), 9–21, 199–200. (RŽMat **1976** #4 B941) **58** #28950 34G05 (34K05)

Holodniok, M. (*with* Kubíček, M.; Hlaváček, V.) Computation of the flow between two rotating coaxial disks. *J. Fluid Mech.* **81** (1977), *no.* 4, 689–699. (Authors' summary) **56** #14120 76.65

Holodovskiĭ, V. E. Whether subspaces of locally convex spaces are bornological. (Russian)

Functional analysis, No. 7 (*Russian*), *pp.* 147–156. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk*, 1976. (Editors) **58** #30331 46M15 (46A09)

The quasinormability of semimetrizable topological vector spaces. (Russian) *Functional analysis, No.* 7 (*Russian*), *pp.* 157–160. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk*, 1976. (Editors) **58** #30004 46A15 (46M99)

The monadicity of categories that are dual to certain categories of locally convex spaces. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2(188), 237–238. (Z. Semadeni) **55** #3815 · 46M15 (46A05)

The completeness of a uniform quotient space. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1 (193), 209–210. (Author's summary) **57** #13864 54E15 (46A30, 54B30)

The category of *k*-spaces is regular. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 5(197), 201–202. (C. Niţă) **58** #24196 54D50

Holopov, A. A. (*with* Fomin, V. N.) Recurrent procedures for the construction of a committee of inequalities. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 1 *Mat. Meh. Astronom. vyp.* 1, 64–68, 161. (Josef Kittler) **57** #1992 68A45

Holroyd, R. G. On P. A. P. Moran's note on heritability (Ann. Human Genetics **37** (1973/74), 217). *Ann. Human Genetics* **38** (1974/75), 379. (Edward D. Rothman) **53** #9562 62P10 (92A10)

Holsapple, K. A. A finite elastic-plastic theory and invariance requirements. (German summary) *Acta Mech.* **17** (1973), 277–290. (C. I. Borş) **48** #10281 73.53

Elastic-plastic materials as simple materials. (German and Russian summaries) *Z. Angew. Math. Mech.* **53** (1973), *no.* 5, 261–270. (B. R. Seth) **54** #6616 73.00

Holščevnikova, N. N. Limits of subsequences of sequences obtained from a given sequence by means of a regular transformation. (Russian) *Mat. Zametki* **16** (1974), 887–897. (Josef Wichmann) **51** #13516 40J05 (46B05)

Limits of indeterminacies of regular transformations in topological linear spaces. (Russian) *Dolk. Akad. Nauk SSSR* **225** (1975), *no.* 5, 1027–1030. (A. Alexiewicz) **53** #1090 40J05 (46A35)

Holševnikov, K. V. Le développement du potentiel dans le cas d'une densité analytique. (English and Russian summaries) *Celestial Mech.* **3** (1970/71), 232–240. (J. C. Cooke) **46** #5698 33A45 (31B15)

(*with* Timoškova, E. I.) Construction of an analytic theory of the motion of an artificial satellite in a non-central gravity field. (Russian) *Leningrad. Gos. Univ. Učen. Zap. Ser. Mat. Nauk No.* 47 (1971), 97–118. (K. Magnus) **45** #3046 85.35

Le développement du potentiel dans le cas d'une densité lisse. (English and Russian summaries) *Celestial Mech.* **6** (1972), 214–220. (P. Caloi) **49** #1852 70.42 (42A56)

Lie transformations in celestial mechanics. (Russian) *Trudy Tomsk. Gos. Univ.* **251** *Astronom. i Geodez. Vyp.* 4 (1973), 21–45. (Editors) **56** #17273 70.22

On the inclusion of perturbations in the process of improving orbits. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1973), 153–159, 174. (D. ter Haar) **48** #7705 70.34

The growth of a periodic function in a neighborhood of the real axis. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1974), 167–168, 175. (I. N. Baker) **51** #8379 30A04

Sharp estimates of the remainder of the Laplace series of a smooth function. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1975), 39–43, 150. (R. L. Cooke) **52** #3868 42A60

A sharp estimate for the remainder of the Fourier-Legendre series of an analytic function. (Russian. English summary) *Vestnik Leningrad. Univ.* **1975**, *no.* 19 *Mat. Meh. Astronom. vyp.* 4, 64–68, 168. (D. P. Gupta) **53** #3379 33A45

An exact estimate of the remainder of the Laplace series of a function analytic on the sphere. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 1 *Mat. Meh. Astronom. vyp.* 1, 157–158, 164. (D. P. Gupta) **54** #10710 33A45

On convergence of an asymmetrical body potential expansion in spherical harmonics. *Celestial Math.* **16** (1977), *no.* 1, 45–60. (C. J. Eliezer) **58** #14034 70.33

Holshouser, Eugene C. Computing the posterior variance in the normal case. *Amer. Statist.* **28** (1974), 23–24. (J. N. K. Rao) **49** #11704 62F15

Holsinger, J. L. *See* **Key papers in the development of information theory**, **52** #5177

Holst, Lars Limit theorems for some occupancy and sequential occupancy problems. *Ann. Math. Statist.* **42** (1971), 1671–1680. (Adhir K. Basu) **49** #8089 60F05

Asymptotic normality and efficiency for certain goodness-of-fit tests. *Biometrika* **59** (1972), 137–145. (M. A. Hamdan) **47** #2745 (E **49** #6444) 62G10

Corrections and amendments: "Asymptotic normality and efficiency of certain goodness-of-fit tests" (Biometrika **59** (1972), 137–145). *Biometrika* **59** (1972), 699. (M. A. Hamdan) **49** #6444 62E15 (62F20)

Asymptotic normality in a generalized occupancy problem. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **21** (1972), 109–120. (Harry I. Cohn) **47** #4311 60F05

Some limit theorems with applications in sampling theory. *Ann. Statist.* **1** (1973), 644 658. (P. K. Sen) **51** #2088 62E20 (62D05)

Some asymptotic results for occupancy problems. *Ann. Probability* **5** (1977), *no.* 6, 1028 1035. (J. R. Blum) **56** #1400 60C05 (60F05)

stael von Holstein, Carl-Axel S. *See* **Staël von Holstein, Carl-Axel S.**

Holsztyński, Włodzimierz (*with* Blass, Józef) Cubical polyhedra and homotopy. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **50** (1971), 131–138. (M. Arkowitz) **49** #8022 57A65 (57C05)

(*with* Blass, Józef) Cubical polyhedra and homotopy. II. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **50** (1971), 703–708. (M. Arkowitz) **49** #8023 57A65

(*with* Borsuk, Karol) Hopf classification theorem in the shape theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 387–390. (C. W. Patty) **46** #885 55C10

Continuity of Borsuk's shape functor. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 1105–1108. (G. H. M. Thomas) **46** #9971 55D50

(*with* Blass, Józef) Cubical polyhedra and homotopy. III, IV. (Italian summaries) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **53** (1972), 275–279; *ibid.* (8) **53** (1972), 402 409 (1973). (C. W. Patty) **51** #14072 57A65 (57C05)

On simplified summation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 433-435. (L. Bukovský) **47** #3180 04A20

A proof of the Tychonoff theorem. (Russian summary) *Bull. Acad. Polon. Sci.* *Sci. Math. Astronom. Phys.* **20** (1972), 1005–1006. (G. Chogoshvili) **47** #4216 54 (54B10)

(*with* Blass, Józef) Cubical polyhedra and homotopy. (Italian summary) *Atti Ac* *Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 416–425 (1974). (C. W. Pat **50** #8505 55B35 (57C05)

Initial and universal metric spaces. *Proc. Amer. Math. Soc.* **58** (1976), 306– (George M. Reed) **56** #13174 54E40

On the product and composition of universal mappings of manifolds into cub *Proc. Amer. Math. Soc.* **58** (1976), 311–314. (John G. Hocking) **53** #11602 55 (57A15)

Precise generators of modules over monoid algebras. *Amer. J. Math.* **99** (1977), 1, 191–224. (N. Sankaran) **55** #12850 20M25 (16A26)

On subspaces of normal spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér.* *Math. Astronom. Phys.* **25** (1977), *no.* 11, 1115–1117. (Joe A. Guthrie) **58** #271 54D15

Ordered spaces and universal images revisited. (Russian summary) *Bull. Ac* *Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 11, 1119–1123. (Bernard Madison) **58** #7567 54F05

On embeddings of locally metric compact spaces into **R**. (Russian summary) *B* *Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 11, 1125–1127. (Fitzpatrick, Jr.) **58** #12951 54F50

(*with* Kuperberg, Włodzimierz; Mycielski, Jan) On compact families of nowh dense subsets of R^n. *Houston J. Math.* **3** (1977), *no.* 4, 475–476. (G. L. Cain, **57** #1418 54D30

(*with* Slawny, Joseph) Peierls condition and number of ground states. *Com* *Math. Phys.* **61** (1978), *no.* 2, 177–190. (Joshua Zak) **58** #14770 82.20

(*with* Pedersen, Franklin D.) Finite T_0-spaces and universal mappings. *Fund. Ma* **98** (1978), *no.* 2, 127–139. (C. M. Pareek) **57** #7520 54D10 (54C05)

Holt, Charles C. *See* **Adaptive economic models**, **55** #9888

Holt, D. (*with* Fellegi, Ivan P.) A systematic approach to automatic edit and imputati (French summary) Proceedings of the 39th Session of the International Statisti Institute (Vienna, 1973), Vol. 1. *Bull. Inst. Internat. Statist.* **45** (1973), *no.* 1, 364–376. H. V. Booth) **51** #7398 68A50

A generalization of balanced sampling. Proceedings of the 40th Session of International Statistical Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. In* *Internat. Statist.* **46** (1975), *no.* 3, 380–383 (1976). (Claes-M. Cassel) **57** #142 62D05

See also **Smith, T. M. F.**, **56** #4005

Holt, D. F. Doubly transitive groups in which $O(G\alpha)$ is transitive. *J. Algebra* **37** (1975), 3, 395–424. (Cheryl E. Praeger) **52** #3290 20B10

Doubly transitive groups in which the stabilizer of two points is dihedral. *Quart.* *Math. Oxford* (2) **27** (1976), *no.* 107, 267–295. (N. Ito) **58** #5865 20B20

Doubly transitive groups with a solvable one point stabilizer. *J. Algebra* **44** (19 *no.* 1, 29–92. (Shiro Iwasaki) **55** #3044 20B10 (20B20)

Triply-transitive permutation groups in which an involution central in a Sy 2-subgroup fixes a unique point. *J. London Math. Soc.* (2) **15** (1977), *no.* 1, 55– (Donald E. Taylor) **56** #12102 20B10

On the local control of Schur multipliers. *Quart. J. Math. Oxford Ser.* (2) **28** (19 *no.* 112, 495–508. (George Glauberman) **57** #6171 20C25 (20J10)

Transitive permutation groups in which an involution central in a Sylow 2-subgro fixes a unique point. *Proc. London Math. Soc.* (3) **37** (1978), *no.* 1, 165–192. (H. Naga **58** #28153 20B20

Holt, Donald R. (*with* Crow, Edwin L.) Tables and graphs of the stable probability dens functions. *J. Res. Nat. Bur. Standards Sect. B* **77B** (1973), *no.* 3-4, 143–198. (Editor **52** #12289 65A05 (62Q05)

Holt, J. D. (*with* Prentice, R. L.) Survival analyses in twin studies and matched pa experiments. *Biometrika* **61** (1974), 17–30. (Johannes S. Maritz) **52** #2107 62N0

Holt, J. N. (*with* Jupp, David L. B.) Free-knot spline inversion of a Fredholm integ equation from astrophysics. *J. Inst. Math. Appl.* **21** (1978), *no.* 4, 429–443. (Robe Piessens) **58** #13821 65R05 (85.65)

Holt, M. *See* **Janenko, N. N.**, **46** #6613

Holt, Maurice ★Numerical methods in fluid dynamics. Springer Series in Computation Physics. *Springer-Verlag, Berlin-New York*, 1977. viii + 253 *pp.* (B. Kellogg) **57** #8092 65P05 (76.65)

(*with* Hussaini, Mohammed Y.) Laminar wakes in supersonic flow. *Singular perturbations and boundary layer theory* (*Proc. Conf., École Centrale, Lyon*, 1976), 260–274. *Lecture Notes in Math., Vol.* 594, *Springer, Berlin*, 1977. (M. Honda) **57** #2141 76.41

(*with* Modarress, D.) Application of the method of integral relations to lamin boundary layers in three dimensions. *Proc. Roy. Soc. London Ser. A* **a353** (1977), 1674, 319–347. (M. N. L. Narasimhan) **57** #2163 76.65

Holt, R. Problem 74-10: "An integral inequality" by R. Askey. *SIAM Rev.* **17** (1975), 4, 691–693. (S. K. Chatterjea) **54** #5517 33A40

Holt, Richard C. Some deadlock properties of computer systems. *Comput. Surveys* (1972), 179–196. (Ivan Havel) **49** #10173 68A05

(*with* Reingold, Edward M.) On the time required to detect cycles and connectiv in graphs. *Math. Systems Theory* **6** (1972), 103–106. (Authors' summary) **46** #5134 05C35

Holt, Robert D. Predation, apparent competition and the structure of prey communiti *Theoret. Population Biology* **12** (1977), *no.* 2, 197–229. (Brian D. Sleeman) **57** #5186 92A15

Holt, William R. (*with* Staley, David H.; Cannon, William N., Jr.) Necessary and sufficient condition for a model insect population to go to extinction. *Bull. Math. Bi* **36** (1974), 527–533. (L. Billard) **51** #9859 92A15

Holte, John M. Extinction probability for a critical general branching process. *Stochast* *Processes Appl.* **2** (1974), 303–309. (Stephen Durham) **50** #11496 60J80

A generalization of Goldstein's comparison lemma and the exponential limit law critical Crump-Mode-Jagers branching processes. *Advances in Appl. Probability* **8** (1976), *no.* 1, 88–104. (P. Jagers) **54** #6305 60J80

R. (*with* Williams, H. C.) Computation of the solution of $x^3+Dy^3=1$. *Math. mp.* **31** (1977), *no.* 139, 778–785. (J.-C. Herz) **55** #7909 10B10

(*with* Williams, H. C.) Some observations on primality testing. *Math. Comp.* **32** 978), *no.* 143, 905–917. (J. L. Selfridge) **57** #16184 10A25 (10–04)

, R. P. Decomposing modules over a principal ideal domain. *Amer. Math. Monthly* (1972), 1119–1121. (T. S. Shores) **47** #3371 13C05

olten, Th. The asymptotic approach to the theory of lifting surfaces. *Symposium on plied Mathematics* (*Delft Univ. Tech., Delft*, 1978), *pp.* 157–179. *Delft Univ. Press, elft*, 1978. (Author's summary) **58** #14311 76.41

n, Derek A. Stable trees. *Proceedings of the First Australian Conference on mbinatorial Mathematics* (*Univ. Newcastle, Newcastle*, 1972), *pp.* 15–21. *Univ. of ewcastle Res. Associates, Newcastle*, 1972. (B. Manvel) **51** #5383 05C25

Some current trends in graph theory. *Proceedings of the First Australian Conference Combinatorial Mathematics* (*Univ. Newcastle, Newcastle*, 1972), *pp.* 163–181. *Univ. of ewcastle Res. Associates, Newcastle*, 1972. (R. W. Robinson) **51** #12537 05–02

Completely semi-stable trees. *Bull. Austral. Math. Soc.* **9** (1973), 355–362. (C. St. J. . Nash-Williams) **49** #7165 05C05

Two applications of semi-stable graphs. *Discrete Math.* **4** (1973), 151–158. (M. E. atkins) **47** #8344 (E **48** #8296) 05C25

Corrigendum: "Two applications of semi-stable graphs" (Discrete Math. **4** (1973), 51–158). *Discrete Math.* **6** (1973), 303. (M. E. Watkins) **48** #8296 05C25

A report on stable graphs. *J. Austral. Math. Soc.* **15** (1973), 163–171. (B. Manvel) **8** #158 05C25

Stable trees. *J. Austral. Math. Soc.* **15** (1973), 476–481. (H. V. Kronk) **48** #5906 5C25

(*with* Adena, Michael A.; Kelly, Patrick A.) Some thoughts on the no-three-in-line roblem. *Combinatorial mathematics* (*Proc. Second Australian Conf., Univ. Melbourne, elbourne*, 1973), *pp.* 6–17. *Lecture Notes in Math., Vol.* 403, *Springer, Berlin*, 1974. Michael Henle) **50** #1890 05A05

Stability. *Combinatorial mathematics* (*Proc. Second Australian Conf., Univ. elbourne, Melbourne*, 1973), *pp.* 53–55. *Lecture Notes in Math., Vol.* 403, *Springer, erlin*, 1974. (D. D. Grant) **51** #2977 05C25

Some results in semi-stable graphs. *Combinatorics* (*Proc. British Combinatorial onf., Univ. Coll. Wales, Aberystwyth*, 1973), *pp.* 75–81. *London Math. Soc. Lecture Note er., No.* 13, *Cambridge Univ. Press, London*, 1974. (B. Manvel) **50** #1981 05C99

(*with* Grant, Douglas D.; McAvaney, K. L.) Sabidussi-type theorems for stability. *ull. Austral. Math. Soc.* **10** (1974), 95–105. (C. R. J. Clapham) **52** #173 05C25

(*with* McAvaney, K. L.; Grant, Douglas D.) Stable and semi-stable unicyclic raphs. *Discrete Math.* **9** (1974), 277–288. (F. Harary) **49** #10606 05C99

(*with* Stacey, K. C.) Some problems in permutation graphs. *Combinatorial athematics, III* (*Proc. Third Australian Conf., Univ. Queensland, St. Lucia*, 1974), *pp.* 43–155. *Lecture Notes in Math., Vol.* 452, *Springer, Berlin*, 1975. (Norman Biggs) **1** #7957 05C99

(*with* Little, Charles H. C.; Grant, Douglas D.) On defect-*d* matchings in graphs. *iscrete Math.* **13** (1975), *no.* 1, 41–54. (J. E. Graver) **54** #5043a (E **54** #5043b) 5C35

(*with* Grant, Douglas D.) Regular graphs and stability. *J. Austral. Math. Soc.* **20** 1975), *no.* 3, 377–384. (Authors' summary) **52** #10506 05C99

(*with* Grant, Douglas D.) Products of graphs and stability. *J. Combinatorial Theory er. B* **19** (1975), *no.* 1, 24–41. (Authors' summary) **52** #13507 05C99

A note on distance-symmetric graphs. *Nanta Math.* **8** (1975), *no.* 1, 34–40. (W. G. rown) **55** #10312 05C25

The König question. *Proceedings of the Fifth British Combinatorial Conference Univ. Aberdeen, Aberdeen*, 1975), *pp.* 323–342. *Congressus Numerantium, No. XV, tilitas Math., Winnipeg, Man.*, 1976. (M. E. Watkins) **54** #2518 05C25

(*with* Little, Charles H. C.) A new characterization of planar graphs. *Bull. Amer. Math. Soc.* **83** (1976), *no.* 1, 137–138 (1977). (D. R. Lick) **56** #170 05C10

(*with* Little, Charles H. C.; Grant, Douglas D.) Erratum: "On defect-*d* matching in raphs" (Discrete Math. **13** (1975), 41–54). *Discrete Math.* **14** (1976), *no.* 2, 203. (J. E. raver) **54** #5043b 05C35

(*with* Sims, Julie A.) Graphs with stability index one. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 2, 212–220. (Douglas D. Grant) **54** #10067 05C25

(*with* Godsil, C.; McKay, Brendan D.) The spectrum of a graph. *Combinatorial athematics, V* (*Proc. Fifth Austral. Conf., Roy. Melbourne Inst. Tech., Melbourne*, 1976), *pp.* 91–117. *Lecture Notes in Math., Vol.* 622, *Springer, Berlin*, 1977. (Authors' summary) **58** #27642 05C99

(*with* Stacey, K. C.; McAvaney, K. L.) The semi-stability of lexicographic products. *Combinatorial mathematics, V* (*Proc. Fifth Austral. Conf., Roy. Melbourne Inst. Tech., Melbourne*, 1976), *pp.* 128–132. *Lecture Notes in Math., Vol.* 622, *Springer, Berlin*, 1977. (Douglas D. Grant) **57** #9596 05C25

(*with* McAvaney, K. L.; Grant, Douglas D.) Groups with stable graphs. *Combinatorial mathematics, V* (*Proc. Fifth Austral. Conf., Roy. Melbourne Inst. Tech., Melbourne*, 1976), *pp.* 148–152. *Lecture Notes in Math., Vol.* 622, *Springer, Berlin*, 1977. (K. C. Stacey) **57** #12289 05C25

(*with* Grant, Douglas D.) The stability index of a cactus. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 2, 170–183. (Authors' summary) **58** #10611 05C99

(*with* Stacey, K. C.) On the automorphism group of a tree. *J. Combinatorial Theory Ser. B* **22** (1977), *no.* 1, 10–25. (B. Manvel) **55** #7835 05C25

(*with* Sims, Julie A.) The Cartesian product of two graphs is stable. *Theory and applications of graphs* (*Proc. Internat. Conf., Western Mich. Univ., Kalamazoo, Mich.*, 1976), *pp.* 286–303. *Lecture Notes in Math., Vol.* 642, *Springer, Berlin*, 1978. (J. Sheehan) **58** #21783 05C25

See also **Combinatorial mathematics**, **49** #10558

on, G. *See* **Einstein collection**, **51** #4922 *and* **Einstein collection**, **51** #4924

smark, J. The concept of infinity from Aristotle to the scholastics. *Phys. Norveg.* **5** (1971), *no.* 3-4, 311–318. (S. Bochner) **56** #5122 01A05 (00A25)

z, R. (*with* Béllissard, Jean) Composition of coherent spin states. *J. Mathematical Phys.* **15** (1974), 1275–1276. (Authors' summary) **50** #3789 81.22

zman, J. M. (*with* Forys, L. J.; Heffes, Harry; Horing, S.; Messerli, E. J.; Schwartz, M. I.; Stiles, J. A.) A study of the analysis and control of the flow of air traffic. I, II, III. *Networks* **1** (1971/72), 15–42; *ibid.* **1** (1971/72), 209–243; *ibid.* **1** (1971/72), 303–331. **46** #8650 90B15

(*with* Heffes, Harry) Peakedness of traffic carried by a finite trunk group with renewal input. *Bell System Tech. J.* **52** (1973), 1617–1642. (S. Ekberg) **49** #9984 90Bxx (60K30)

See also **System sensitivity analysis**, **52** #12863

Holub, E. *See* **Conference: Mathematical Methods in Economics**, **49** #6886

Holub, J. R. Hilbertian, Besselian, and semi-shrinking bases. *Studia Math.* **37** (1970/71), 203–211. (D. J. H. Garling) **46** #2400 46B15

A remark on Λ-systems in Banach spaces. *Colloq. Math.* **24** (1971/72), 83–84. (D. Dean) **46** #7865 46B15

(*with* Retherford, J. R.) The stability of bases in Banach and Hilbert spaces. *J. Reine Angew. Math.* **246** (1971), 136–146. (W. J. Davis) **45** #867 46B15 (47B10)

Diagonal nuclear maps in sequence spaces. *Math. Ann.* **191** (1971), 326–332. (A. Pietsch) **45** #953 47B10 (46A45)

A note on *P*-spaces. *Math. Ann.* **193** (1971), 1–6. (A. J. Lazar) **45** #4124 46B05 (47B99)

Hilbertian operators and reflexive tensor products. *Pacific J. Math.* **36** (1971), 185–194. (B. R. Gelbaum) **46** #645 46B10 (47B10)

Integral operators in Banach spaces. *Proc. Amer. Math. Soc.* **29** (1971), 75–80. (M. Cotlar) **45** #2522 47B05 (47G05)

Universal bases in Banach spaces. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 1193–1199. (M. M. Day) **48** #844 46B15

Bounded approximate identities and tensor products. *Bull. Austral. Math. Soc.* **7** (1972), 443–445. (L. Kaup) **48** #6964 46M05

(*with* Retherford, J. R.) A note on unconditional bases. *Canad. Math. Bull.* **15** (1972), 369–372. (W. J. Davis) **47** #780 46B15

Compactness in topological tensor products and operator spaces. *Proc. Amer. Math. Soc.* **36** (1972), 398–406 (1973). (A. Brown) **48** #4802 47B05

A characterization of subspaces of $L^p(\mu)$. *Studia Math.* **42** (1972), 265–270. (J. F. Smith) **46** #2402 46B99

On subspaces of separable norm ideals. *Bull. Amer. Math. Soc.* **79** (1973), 446–448. (Pak-Ken Wong) **47** #2432 47D15 (46L99, 47B10)

On the metric geometry of ideals of operators on Hilbert space. *Math. Ann.* **201** (1973), 157–163. (Irmtraud Stephani) **48** #4757 46L15 (47D99)

Schauder bases and norm ideals of compact operators. *Proc. Amer. Math. Soc.* **38** (1973), 343–348. (G. J. O. Jameson) **47** #5560 46B15 (46L15, 46M05)

Reflexivity of $L(E,F)$. *Proc. Amer. Math. Soc.* **39** (1973), 175–177. (W. H. Ruckle) **47** #3956 46B10 (47D15)

Schauder bases and norm ideals of compact operators. II. *Indiana Univ. Math. J.* **24** (1974/75), 555–564. (G. J. O. Jameson) **50** #2933 46L10 (46A45)

Tensor product mappings. II. *Proc. Amer. Math. Soc.* **42** (1974), 437–441. (M. S. Ramanujan) **48** #9438 47B10

Rotundity, orthogonality, and characterizations of inner product spaces. *Bull. Amer. Math. Soc.* **81** (1975), *no.* 6, 1087–1089. (M. M. Day) **52** #1263 46B05

A chacterization of the norm ideals of compact operators on Hilbert space. *J. Math. Anal. Appl.* **50** (1975), 596–606. (N. Ţiţa) **51** #8845 46L15 (47B10)

On the factorization of nuclear operators on Hilbert space. *J. Math. Anal. Appl.* **54** (1976), *no.* 3, 617–621. (Lawrence Fialkow) **53** #14191 47B10 (47B37)

Several applications of a representation theorem for operators on Banach spaces. *Rev. Roumaine Math. Pures Appl.* **21** (1976), *no.* 7, 883–894. (K. Veselić) **54** #5885 47B05

Holubec, Alexej (*with* Kvasnička, Vladimír) Quasi-degenerate Rayleigh-Schrödinger perturbation theory with Hermitean model Hamiltonian. *Chem. Phys. Lett.* **32** (1975), 489–492. (From the authors' summary) **56** #4529 81.47

Hołubiec, Jerzy (*with* Bereziński, Mirosław) An application of the theory of Markov chains to the analysis of power system development. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **17** (1972), 201–212. (František Zítek) **46** #2747 60J20 (90B30)

Holy, Jean-Claude Sur la variation de la mesure de l'image d'un ensemble compact. *Comment. Math. Helv.* **49** (1974), 365–372. (W. P. Ziemer) **50** #4900 28A75

Holyhead, P. A. W. (*with* McKee, S.; Taylor, P. J.) Multistep methods for solving linear Volterra integral equations of the first kind. *SIAM J. Numer. Anal.* **12** (1975), *no.* 5, 698–711. (G. F. Miller) **54** #1678 65R05

(*with* McKee, S.) Stability and convergence of multistep methods for linear Volterra integral equations of the first kind. *SIAM J. Numer. Anal.* **13** (1976), *no.* 2, 269–292. (Jochen Werner) **57** #11130 65R05

Holz, A. *See* **Coherent states in quantum theory**, **52** #16309

Holz, K. P. (*with* Withum, D.) Finite element applications for transient processes in estuaries. *Formulations and computational algorithms in finite element analysis* (*U.S.-Germany Sympos., Mass. Inst. Tech., Cambridge, Mass.*, 1976), *pp.* 917–957. *M.I.T. Press, Cambridge, Mass.*, 1977. (Christopher Caldwell) **57** #14911 76.65

Holzapfel, R.-P. (*with* Budach, Lothar) ★Localisations and Grothendieck categories. Mathematische Monographien, Band 13. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1975. 217 *pp.* (Wolfgang Grölz) **58** #22242 18E15

Hölzer, Anke (*with* Ekowski, Felix) Leibniz-Bibliographie Neue Titel 1974–1976. *Studia Leibnitiana* **8** (1976), *no.* 2, 296–316. (Editors) **58** #4963 01A75

(*with* Ekowski, Felix) Leibniz-Bibliographie Neue Titel 1975–1977. *Studia Leibnitiana* **9** (1977), *no.* 2, 304–316. (Editors) **58** #10254 01A75

Holzer, Silvano Sul prodotto tensoriale di una infinità di *K*-spazi vettoriali. (English summary) *Rend. Ist. Mat. Univ. Trieste* **3** (1971), 207–217 (1972). (J.-P. Lafon) **47** #1838 15A69

Holzman, Albert G. *See* **Encyclopedia: Computer science and technology**, **55** #13843; **Encyclopedia: Computer science and technology**, **55** #13844; **Encyclopedia: Computer science and technology**, **55** #13845 *and* **Encyclopedia: Computer science and technology**, **55** #13846

Holzmann, Carlos A. (*with* Harary, Frank) On the tree graph of a matroid. *SIAM J. Appl. Math.* **22** (1972), 187–193. (W. T. Tutte) **46** #7067 05B35

(*with* Norton, P. G.; Tobey, M. D.) A graphical representation of matroids. *SIAM J. Appl. Math.* **25** (1973), 618–627. (J. A. Bondy) **52** #10458 05B35 (*with* Donald, John D.; Tobey, M. D.) A characterization of complete matroid base graphs. *J. Combinatorial Theory Ser. B* **22** (1977), *no.* 2, 139–158. (J. M. S. Simões-Pereira) **58** #377 05C99 (05B35)

Holzsager, Richard A. (*with* Wu, Hung Hsi) A characterization of two-dimensional Riemannian manifolds of constant curvature. *Michigan Math. J.* **17** (1970), 297–299. (C. B. Allendoerfer) **46** #4445 53C45

(*with* Green, Paul S.) Secondary operation in *K*-theory and applications to metastable homotopy. *Illinois J. Math.* **16** (1972), 415–422. (M. Mahowald) **48** #5068 55E50

When certain natural maps are equivalences. *Pacific J. Math.* **42** (1972), 69–75. (J. W. Rutter) **47** #4253 55D15

A characterization of Riemannian manifolds of constant curvature. *J. Differential Geometry* **8** (1973), 103–106. (J. R. Vanstone) **50** #11090 53C25

(*with* Hallahan, Charles) Mutual direct summands. *Arch. Math.* (*Basel*) **25** (1974), 591–592. (S. Elliger) **51** #604 16A50

A boundedness condition. *J. London Math. Soc.* (2) **11** (1975), *no.* 2, 179–180. (E. Grosswald) **52** #3030 10A20

Holzwarth, G. (*with* Eckart, G.) Nuclear fluid dynamics. *Z. Phys. A* **284** (1978), *no.* 3, 291 296. (Authors' summary) **56** #14268 81.35

Holzwarth, N. A. W. Mathieu function solutions to the radial Schrödinger equation for the $-f^2/r^4$ interaction. *J. Mathematical Phys.* **14** (1973), 191–204. (P. Achuthan) **48** #3396 81.34

Homa, G. P. (*with* Kolomīec', V. G.) The averaging principle for hyperbolic systems of first order. (Russian) *Mathematical physics, No.* 8 (*Russian*), *pp.* 97–102. *Naukova Dumka, Kiev*, 1970. (L. Pintér) **45** #2323 35L40 (34C30)

(*with* Dombrovskiĭ, V. A.) The continuous dependence on a parameter of the solution of a mixed problem for hyperbolic systems with retarded argument. (Russian) *Differential-difference equations* (*Russian*), *pp.* 9–16. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (L. E. Bobisud) **51** #13490 35R10

The continuous dependence on a parameter of the solution of the Cauchy problem for an *m*th order quasilinear hyperbolic equation. (Russian) *Linear and nonlinear boundary value problems* (*Russian*), *pp.* 220–222. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (J. Kopáček) **56** #9086 35L30

A certain mixed problem. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 99–104. *Naukova Dumka, Kiev*, 1971. (V. Barbu) **46** #4024 35Q99

(*with* Dombrovskiĭ, V. A.) Averaging theorems for first order hyperbolic systems with retarded argument. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 134–141. *Naukova Dumka, Kiev*, 1971. (L. E. Bobisud) **46** #2272 35R10 (35L40)

(*with* Jacjuk, V. T.) Truncation of a countable system of partial differential equations. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 418–421. (O. Horáček) **46** #2213 35F99

Averaging of first order hyperbolic systems. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 4, 566–567, 576. (N. D. Kazarinoff) **55** #6027 35L40 (35B35)

The averaging method for hyperbolic systems of standard form. (Russian) *Nonlinear differential equations in applied problems* (*Russian*), *pp.* 194–207, 212. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (Editors) **58** #6641 35B99 (35C99)

Homa, I. Ju. The general solution of the system of equations for equilibrium of bending of plates of constant thickness. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 59–62. (P. P. Teodorescu) **49** #1863 73.35

(*with* Begin, M. V.; Jarema, P. F.) Construction of the general solution of the equations for the bending equilibrium of plates in a steady temperature field. (Russian) *Prikl. Meh.* **14** (1978), *no.* 1, 97–101, 143. (B. Vujanović) **57** #14710 73.35

Homagk, Fritz Zur klassischen Deutung der intuitionistischen Speziestheorie und Arithmetik. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **19** (1970), 585–588. (P. C. Gilmore) **47** #8252 02C15

Intuitionistische Kennzeichnung der endlichen Spezies. (Polish and Russian summaries) *Studia Logica* **28** (1971), 41–64. (P. C. Gilmore) **46** #31 02E05

Zur Axiomatisierung der Nichtidentitäten des intuitionistischen Aussagenkalküls. (Russian, English, and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 465–469. (G. E. Minc) **49** #2272 02C15

Homasuridze, N. G. The solution of some two-dimensional boundary value problems of the moment-free and the moment theory of elasticity. (Russian. Georgian summary) *Thbilis. Sahelmc. Univ. Gamoqeneb. Math. Inst. Šrom.* **3** (1972), 170–182. (V. Komkov) **56** #4333 73.35

Certain forms of general solutions in elasticity theory. (Russian. Georgian summary) *Studies of some equations of mathematical physics, No.* 3 (*Russian*), *pp.* 155–165. *Izdat. Tbilis. Univ., Tbilisi*, 1976. (See RŽMat **1977** #8 B388; MR **55** #20) 73.35

See also **Studies of equations of mathematical physics**, **50** #4196

van den Hombergh, Adolf Note on a combinatorial problem. *Nieuw Arch. Wisk.* (3) **20** (1972), 131–137. (A. O. Morris) **49** #2966 20F40

Sur des suites de racines dont la somme des termes est nulle. *Bull. Soc. Math. France* **102** (1974), 353–364. (S. I. Gel'fand) **51** #3243 17B20

About the automorphisms of the Bruhat-ordering in a Coxeter group. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 125–131. (Larry C. Grove) **50** #13304 20H15

Note on a paper by Bernšteĭn, Gel'fand and Gel'fand on Verma modules. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 352–356. (A. J. Coleman) **50** #4675 17B10

A note on Mickelsson's step algebra. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), 42–47. (S. I. Gel'fand) **51** #12962 17B20

Home, Roderick W. Some manuscripts on electrical and other subjects attributed to Thomas Bayes, F.R.S. *Notes and Records Roy. Soc. London* **29** (1974), 81–90. (Editors) **58** #26963 01A50

On two supposed works by Leonhard Euler on electricity. *Arch. Internat. Histoire Sci.* **25** (1975), *no.* 96, 3–7. (Kenneth May) **55** #12432 01A70 (01A50)

Homel, R. J. (*with* Robinson, J.) Nested partially balanced incomplete block designs. *Proceedings of the First Australian Conference on Combinatorial Mathematics* (*Univ. Newcastle, Newcastle*, 1972), *pp.* 203–206. *Univ. of Newcastle Res. Associates, Newcastle*, 1972. (Judith Q. Longyear) **50** #12758 05B05

(*with* Robinson, J.) Nested partially balanced incomplete block designs. *Sankhyā Ser. B* **37** (1975), *no.* 2, 201–210. (Authors' summary) **58** #31645 62K15 (05B0

Homenjuk, V. V. (*with* Truhaev, R. I.) ★Теория неклассических вариационных (Russian) [Theory of nonclassical variational problems]. *Izdat. Leningrad. Univ., Leningrad*, 1971. 168 *pp.* (L. C. Young) **48** #2853 49–02

(*with* Truhaev, R. I.) On the theory of approximate synthesis in problems of optimization of automatic control systems. (Russian) *Proceedings Fourth All-U Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi* 1968), *Vol.* 1: *Optimal and adaptive systems* (*Russian*), *pp.* 26–32, 305. *Izdat. "Nauka", Moscow*, 19 **48** #8030 93A15

★Методы оптимизации. (Russian) [Optimization methods] Edited by R. I. Truhaev. *Izdat. Leningrad. Univ., Leningrad*, 1973. 216 *pp.* (From the publisher's description) **57** #11795 90Dxx (93Cxx)

★Оптимальные системы управления. (Russian) [Optimal control systems] Wi foreword by R. I. Truhaev. *Izdat. "Nauka", Moscow*, 1977. 150 *pp.* (Rolf Klötz **58** #12573 49–02 (34H05, 49B15)

(*with* Truhaev, Rudol'f; Bočarov, Lev; Čemeris, Mihaĭl) The stability of Bayes decisions. (Russian. Lithuanian and English summaries) *Teor. Optimal. Rešeniĭ—Tr Sem. Processy Optimal Upravlenija VI Sekcija Vyp.* 3 (1977), 49–55, 74. (Auth summary) **58** #13435 62C10

Homenko, M. P. Topological aspects of graph theory. (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 5–63, 299. *Izdanie Inst. Mat. Ak Nauk Ukrain. SSR, Kiev*, 1971. (Author's summary) **55** #2626 05C10

(*with* Vivrot, T. M.) Structure of prime graphs. (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 64–82, 299–300. *Izdanie Inst. M Akad. Nauk Ukrain. SSR, Kiev*, 1971. (E. Hertel) **53** #178 05C10

(*with* Javors'kiĭ, E. B.) One-component imbeddings of graphs in orientable 2-manifolds. (Russian. English summary) *Topological aspects of graph theory* (*Russia pp.* 83–89, 300–301. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Poláková) **52** #13454 05C10 (57C35)

(*with* Ostroverhiĭ, M. O.) On the question of the additivity of the genus of grap (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 90–1 301. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (I. Ivanšić) **53** #1601 57C05 (05C10)

(*with* Ostroverhiĭ, M. O.) Essential elements, and the genus of a graph. (Russia English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 104–125, 3 *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (D. Cvetković) **54** #10056 05C10

(*with* Vivrot, T. M.) A representation of orientable 2-manifolds by means of grap and its contraction to these graphs. (Russian. English summary) *Topological aspects graph theory* (*Russian*), *pp.* 132–142, 302–303. *Izdanie Inst. Mat. Akad. Nauk Ukrai SSR, Kiev*, 1971. (I. Ivanšić) **54** #13927 57C35 (05C10)

(*with* Ostroverhiĭ, M. O.) Determination of the genus of certain types of grap (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 143–16 303. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (D. Cvetković) **55** #78 05C10

(*with* Gavriljuk, O. M.) Properties of *h*-connected graphs with essential edge (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 166–18 303–304. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Authors' summar **55** #2627 05C10

(*with* Gavriljuk, O. M.) 4-connected graphs with all edges essential. (Russia English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 185–200, 304–30 *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Authors' summary) **55** #262 05C10

(*with* Gavriljuk, O. M.) Existence of *h*-connected graphs with prescribed degrees c the vertices. (Russian. English summary) *Topological aspects of graph theory* (*Russian pp.* 201–204, 305. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Józse Pelikán) **54** #166 05C99

(*with* Kuz'menko, V. O.) Structure of a certain class of graphs. (Russian. Englis summary) *Topological aspects of graph theory* (*Russian*), *pp.* 205–213, 305. *Izdanie Inst Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Pavol Hell) **52** #13489 05C35

(*with* Ostroverhiĭ, M. O.; Strok, V. V.) Diameter critical graphs and digraphs (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 214–27 306. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Authors' summary **57** #2996 05C35

(*with* Strok, V. V.) Combinatorics of imbeddings of partitions. (Russian. Englis summary) *Topological aspects of graph theory* (*Russian*), *pp.* 272–290, 306–307. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (J. B. Roberts) **52** #13415 05A1

(*with* Strok, V. V.) Certain combinatorial identities for sums of composition coefficients. (Russian) *Ukrain. Mat. Ž.* **23** (1971), 830–837. (H. W. Gould) **50** #6880 05A19

(*with* Ostroverhiĭ, M. O.) Minimal imbeddings of graphs. I. (Russian) *Akad. Nauk Ukrain. SSR Inst. Mat. Preprint No.* 2 (1972), 70 *pp.* (From the introduction) **58** #3105 55A15 (05C10)

(*with* Strok, V. V.) Certain relations for compositions. (Ukrainian. English an Russian summaries) *Dopovidī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 147–150, 189. (J B. Roberts) **46** #70 05A05

(*with* Golovko, L. D.) Extraction from a graph of its parts of certain types and th calculation of their number. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 385–396. (W. Dörfler **46** #1640 05C30

The embedding of graphs in 2-manifolds and their structure. (Ukrainian. Russia and English summaries) *φ-transformations of graphs* (*Ukrainian*), *pp.* 7–34, 360–361 *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (From the author's summary **55** #12555 05C10

Method of φ-transformations, and some applications of it. (Ukrainian. Russian an English summaries) *φ-transformations of graphs* (*Ukrainian*), *pp.* 35–96, 361–362. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (W. Dörfler) **54** #124 05C10

(*with* Ostroverhiĭ, M. O.) Genus of graphs that triangulate orientable 2-manifolds (Ukrainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*) *pp.* 103–121, 366. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (Authors mary) **56** #6666 57C15 (05C10)

(*with* Ostroverhiĭ, M. O.) Genus of line graphs. (Ukrainian. Russian and English maries) *φ-transformations of graphs* (*Ukrainian*), *pp*. 122–131, 363. *Vidannja Inst.* *. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (D. Cvetković) **55** #155 05C10

Genus of semitotal graphs. (Ukrainian. Russian and English summaries) *ransformations of graphs* (*Ukrainian*), *pp*. 132–143, 363–364. *Vidannja Inst. Mat.* *ad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (W. Dörfler) **52** #13455 05C10

(*with* Ostroverhiĭ, M. O.) Genus of the φ-image of a graph. (Ukrainian. Russian and glish summaries) *φ-transformations of graphs* (*Ukrainian*), *pp*. 155–167, 364–365. *annja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (Pavol Hell) **53** #2724 10

(*with* Ostroverhiĭ, M. O.) Hyperrelative genus of a graph. (Ukrainian. Russian and glish summaries) *φ-transformations of graphs* (*Ukrainian*), *pp*. 168–179, 365. *Vidannja* *t. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (Authors' summary) **58** #5396 99

(*with* Ostroverhiĭ, M. O.; Kuz′menko, V. O.) Maximum genus of graphs. krainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), 180–210, 366–367. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (A. sa) **54** #10057 05C10

(*with* Javors′kiĭ, E. B.) Representation of 2-manifolds by means of graphs. krainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), 234–250, 368–369. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (N. láková) **52** #13456 05C10 (57A05)

(*with* Kuz′menko, V. O.) The structure and genus of certain classes of graphs. krainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), 251–260, 369. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (D. etković) **55** #156 05C10

Classification of graphs from the point of view of the stability of their vertices. krainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), 261–270, 369–370. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. uthor's summary) **56** #2875 05C99

Structure of critical graphs. (Ukrainian. Russian and English summaries) *transformations of graphs* (*Ukrainian*), *pp*. 271–275, 370. *Vidannja Inst. Mat. Akad.* *auk Ukraïn. RSR*, *Kiev*, 1973. (Author's summary) **56** #2855 05C10

(*with* Vivrot, T. M.) Structure of stable graphs. (Ukrainian. Russian and English mmaries) *φ-transformations of graphs* (*Ukrainian*), *pp*. 276–292, 370–371. *Vidannja* *st. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (Authors' summary) **56** #2856 C10

(*with* Vivrot, T. M.) Tutte's theorem on primitive graphs. (Ukrainian. Russian and nglish summaries) *φ-transformations of graphs* (*Ukrainian*), *pp*. 301–306, 371–372. *idannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (J. Bosák) **53** #2753 C99

(*with* Strok, V. V.) Combinatorial identities for sums of composition coefficients. Jkrainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), . 336–345, 373–374. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1973. (J. B. oberts) **52** #13419 05A19

The collection *Topological aspects of graph theory*. (Ukrainian. Russian and English mmaries) *φ-transformations of graphs* (*Ukrainian*), *pp*. 352–359, 374. *Vidannja RSR*, *iev*, 1973. (Editors) **57** #5804 05C10

(*with* Ševčenko, K. M.) Calculation of the number of parts of an arbitrary graph hat are isomorphic to another graph. (Russian. English summary) *Dokl. Akad. Nauk* *Jkrain. SSR Ser. A* **1976**, *no*. 9, 785–790, 864. (H.-J. Voss) **56** #5354 05C30

(*with* Vivrot, T. M.) (0, 1)-matrices. (Russian. English summary) *Dokl. Akad. Nauk* *Jkrain. SSR Ser. A* **1976**, *no*. 10, 887–890, 960. (Authors' summary) **58** #5279 5B20

(*with* Ševčenko, E. N.) ★KVP-графы. (Russian) [KVP-graphs] Preprint IM-77-17. *kad. Nauk Ukrain. SSR Inst. Mat.*, *Kiev*, 1977. 48 *pp*. (Authors' review (RŽMat **1978** #5 V497 K)) **58** #21784 05C25

(*with* Vivrot, T. M.) Mutual interrelationship of the ideas of matrix theory and raph theory in their historical development. I. (Russian) *Problems in the history of* *nathematics and mechanics* (*Russian*), *pp*. 104–108, 133. *Inst. Mat.*, *Akad. Nauk Ukrain.* *SSR*, *Kiev*, 1977. (Authors' summary) **58** #27071 01A60 (05–03, 15–03, 55–03)

(*with* Lysenko, N. V.) Some properties of φ-transformations. (Russian) *Akad. Nauk* *Jkrain. SSR Inst. Mat. Preprint No*. 25 (1977), 36 *pp*. (D. Cvetković) **58** #10548 5C10 (55A15)

(*with* Vivrot, T. M.) Properties of hyperprimitive graphs. (Russian) *Ukrain. Mat. Ž.* **0** (1978), *no*. 1, 136–138, 144. (D. Ja. Kesel′man) **58** #5397 05C99

(*with* Ševčenko, E. N.) On the problem of identifying and enumerating. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no*. 2, 201–211, 282. (G. P. Egoryčev) **58** #16391 05C30 (05C35)

See also **Topological aspects of graph theory**, **50** #4357; **ϕ-transformations of graphs**, **50** #4358 *and* **Graph theory**, **58** #27506

enko, S. P. Closures of rational groups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no*. 1, 127–139, 144 (1974). (H. Salzmann) **52** #14144 22D05

The extraction of roots in topological groups. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 9(160), 68–75. (M. I. Kabenjuk) **55** #3138 22A05

Topological groups whose normal subgroups are all monothetic. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no*. 3, 109–117, 136–137 (1975). (Helmut Boseck) **53** #10972 22D05

Topological groups with normal nonmonothetic subgroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no*. 3, 118–130, 137 (1975). (Helmut Boseck) **53** #10973 22D05

(*with* Muhin, Ju. N.) Topological Šmidt groups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no*. 1, 104–113, 152 (1976). (Helmut Boseck) **57** #3302 22D05

(*with* Muhin, Ju. N.) Connected groups whose normal subgroups are all abelian. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10** (1977), *no*. 3 *Issled. po Sovremen. Algebre*, 127–137, 218. (K. A. Ross) **57** #12767 22D05

(*with* Muhin, Ju. N.) Finitely generated connected groups. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no*. 3, 390–394, 430. (M. I. Kabenjuk) **58** #11210 22D05

mentcovschi, Dorel Contributions to the study of the Hilbert problem. Applications to magnetohydrodynamics. (Romanian. French summary) *Stud. Cerc. Mat.* **23** (1971), 727–814. (W. F. Ames) **48** #11816 35Q99 (76.35)

On the motion of a perfectly conducting fluid past a thin body. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 687–708. (Author's summary) **46** #2975 76.35

Considerations on an integral equation. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **17(65)** (1973), 193–197 (1975). (Stefan Balint) **54** #8190 45E10

On the unsteady motion of a thin body in an incompressible fluid. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **18(66)** (1974), *no*. 1-2, 133–141 (1975). (G. Power) **53** #4717 76.35

On an integral equation. *Glasgow Math. J.* **15** (1974), 95–98. (K. C. Gupta) **50** #14110 45E10

On a certain generalization of the Dirichlet problem. (Romanian. French summary) *Stud. Cerc. Mat.* **26** (1974), 525–535. (Şt. I. Gheorghiţă) **51** #3485 31B20

Aerodynamique stationnaire linéarisée. I. Subsonique. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no*. 2, 325–341. (Author's summary) **52** #7296 (EA **57**) 76.35

Le calcul des transformées Fourier de quelques distributions. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no*. 1-2, 57–66 (1976). (Hans-Jürgen Glaeske) **54** #8276 46F10

The solution of some integral equations. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no*. 3–4, 299–301 (1977). (K. C. Gupta) **55** #8716 45E99

(*with* Bársony-Nagy, A.) A linearized theory of three-dimensional airfoils in nonuniform flow. (German summary) *Acta Mech.* **24** (1976), *no*. 1-2, 63–86. (M. Honda) **52** #16274 76.45

On the deduction of Prandtl's equation. *Z. Angew. Math. Mech.* **57** (1977), *no*. 2, 115–116. (Gérard A. Maugin) **56** #17459 76.45

Homer, R. H. (*with* Colwell, Peter; Earl, J. P.) A characterisation of interpolating sequences in H^∞. *J. London Math. Soc.* (2) **5** (1972), 565–566. (K. V. Rajeswara Rao) **47** #839 46J15 (30A98)

Homeyer, Paul G. (*with* Cox, Gertrude M.) Professional and personal glimpses of George W. Snedecor. (French summary) *Biometrics* **31** (1975), 265–301. (Editors) **57** #5628 01A70 (62–03)

Homič, V. I. The complexity of recognition of the realizability of logico-arithmetic formulas. (Russian) *Z. Math. Logik Grundlagen Math.* **19** (1973), 453–468. (Vladimir Lifšic) **49** #27 02E10

Weakly and strongly nonrealizable propositional formulae. (Russian) *Z. Math. Logik Grundlagen Math.* **21** (1975), 267–288. (Vladimir Lifšic) **51** #10048 02E10

A separability theorem for a certain pre-truth table superintuitionistic propositional logic. (Russian) *Studies in the theory of algorithms and mathematical logic*, *Vol*. 2 (*Russian*), *pp*. 140–153, 160. *Vyčisl. Centr Akad. Nauk SSSR*, *Moscow*, 1976. (Author's summary) **58** #16170 02C15

A separability theorem for superintuitionistic propositional calculi. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no*. 6, 1327–1329. (I. Ruzsa) **54** #2427 02C15

Homīnič, V. S. (*with* Pavlov, V. V.) More exact estimation of coarseness of ergatic control systems. *Avtomatika* **1973**, *no*. 5, 69–72 (*Ukrainian*); *translated as Soviet Automat. Control* **6** (1973), *no*. 5, 58–60. (L. Mikołajczyk) **52** #12898 93C15

(*with* Pavlov, V. V.) Combined method of investigation of performance, coarseness, and stability of ergatic control systems. *Avtomatika* **1974**, *no*. 3, 71–75 (*Ukrainian*); *translated as Soviet Automat. Control* 7 (1974), *no*. 3, 58–62. (Guy Jumarie) **53** #10410 93C99

See also **Cybernetics and computer technology**, **48** #1735 *and* **Man-machine control systems**, **49** #8696

Homjakov, M. V. (*with* Borščev, V. B.) An axiomatic approach to the description of formal languages. (Russian) *Mathematical linguistics* (*Russian*), *pp*. 5–47. *Izdat.* "*Nauka*", *Moscow*, 1973. (M. Novotný) **56** #10159 68A30 (06A15)

(*with* Borščev, V. B.) Neighborhood translations. (Russian) *Mathematical linguistics* (*Russian*), *pp*. 48–62. *Izdat.* "*Nauka*", *Moscow*, 1973. (M. Novotný) **58** #19374 68A30

(*with* Borščev, V. B.) Axiomatic approach to a description of formalized languages and translation neighborhood languages. *Soviet papers in formal linguistics*, *Vol. III*: *Mathematical models of language*, *pp*. 37–114. *Linguistische Forschungen*, *Band* 18, *Athenäum Verlag*, 1973. (M. Novotný) **56** #10160 68A30

(*with* Borščev, V. B.) Schemes for functions and relations. (Russian) *Studies in formalized languages and nonclassical logics* (*Russian*), *pp*. 23–49. *Izdat.* "*Nauka*", *Moscow*, 1974. (G. Asser) **57** #16027 02F43 (68A05)

(*with* Borščev, V. B.) Club systems (a formal apparatus for the description of complex systems). (Russian. English and German summaries) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser. 2. Informacionnye Processy i Sistemy* **1976**, *no*. 8, 3–6, 39–40. (M. Novotný) **55** #5249 93A10 (08A05)

(*with* Borščev, V. B.; Brudno, V. A.) An algebraic description of the structure of dependencies on data bases. (Russian. English and German summaries) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser. 2. Informacionnye Processy i Sistemy* **1977**, *no*. 3, 17–18, 31–32. (W. Wechler) **57** #18291 68A50

Homjakov, V. A. (*with* Dudkin, L. M.; Ščennikov, B. A.) Fundamental problems of classical aggregation in a model of inter-product balance. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 231–242. (A. Aganbegjan) **49** #2039 90A15

Acceleration of the convergence of the iterative aggregation method for the solution of the system of equations of interproduct balance. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no*. 2, 268–277. **56** #13572 65F30 (90A10)

Homma, Masaaki A characteristic feature of the consumption-loan model. *J. Econom. Theory* **16** (1977), *no*. 2, 490–495. (Edwin Burmeister) **57** #9002 90A15

Homma, Tatsuo On PL total curvatures. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf.*, *Tokyo*, 1973), *pp*. 111–116. *Univ. Tokyo Press*, *Tokyo*, 1975. (T. Banchoff) **52** #9242 57C99

Homma, Tsuruchiyo (*with* Yoshida, Isamu; Doi, Makoto) On a foreground-backgroud queueing system with two input-sources. *Rep. Univ. Electro-Comm.* **26** (1975), *no*. 1, 103–115. (František Zítek) **53** #14723 60K25

Hommel, Gerhard Increasing Radon measures on locally compact ordered spaces. (French summary) *Rend. Mat.* (6) **9** (1976), *no*. 1, 85–117. (A. de Korvin) **53** #13504 28A30

Homskiĭ, L. H. (*with* Rozin, S. G.; Rozina, K. A.) A certain method of simulating the exponential distribution law. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 503–505, 535. (József Pergel) **50** #11717 65C05 (62E25)

Homsy, G. M. (*with* Atherton, R. W.) On the existence and formulation of variational principles for nonlinear differential equations. *Studies in Appl. Math.* **54** (1975), *no.* 1, 31–60. (M. Z. Nashed) **56** #16474 49A25 (35G20)

See also **Nonlinear wave motion**, **49** #790

Homsy, Ilham M. S. (*with* Makar, Ragy H.) Effectiveness of sets of polynomials of algebraic infinite matrices. *Proc. Math. Phys. Soc. U.A.R.* (*Egypt*) *No.* 32 (1968), 13–19 (1970). (A. R. Amir-Moéz) **45** #284 15A30

Homutenko, L. G. Estimates of the norms of functions in the integral metric of L_p. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 70–74. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (From the author's introduction) **56** #6227 41A50 (26A15)

Certain extremal problems on classes of summable functions. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 710–714, 718. (J. Szabados) **47** #2246 42A08

Certain estimates for the norms and the moduli of continuity of functions that are differentiable in the sense of Weyl. (Russian) *Theory of the approximation of functions, and its applications* (*Russian*), *pp.* 182–191. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1974. (See RŽMat **1975** #8 B68; MR **50** #13975) 26A15

Homuth, Horst H. (*with* Henze, Ernst) ★Einführung in die Codierungstheorie. *Friedr. Vieweg & Sohn, Braunschweig*, 1974. 91 *pp.* (Giuseppe Longo) **50** #16082 94A10

Hon, Yu Kang Georg Friedrich Bernhard Riemann. *Bull. Malaysian Math. Soc.* **6** (1975), *no.* 2, 1–6. (Editors) **55** #5355 01A70

Honcia, Lebosiav *See* **Hącia, Lechosław**

Honcja, L. S. *See* **Hącia, Lechosław**

Honda, Akihiro (*with* Ito, Tadaya; Takagi, Shoji; Suematsu, Yoshikazu) A study on the vortex oscillator. I. On a mathematical model of a confined vortex oscillator. *Bull. JSME* **20** (1977), *no.* 147, 1153–1160. (Authors' summary) **56** #14037 76.34

Honda, Hisao Description of cellular patterns by Dirichlet domains: the two-dimensional case. *J. Theoret. Biol.* **72** (1978), *no.* 3, 523–543. (Uwe an der Heiden) **58** #9376 92A05

Honda, Ikuji Some convergence properties for a class of general linear processes. *Keio Engrg. Rep.* **26** (1973), 15–25. (A. De Hoyos) **49** #6314 60F05 (60G99)

On the central limit theorem for a class of general linear process. *Keio Engrg. Rep.* **26** (1973), 27–36. (A. De Hoyos) **49** #6315 60F05 (60G99)

Remarks on a central limit theorem for additive processes. *Keio Math. Sem. Rep. No.* 2 (1977), 7–16. (D. V. Gusak) **56** #6884 60J30 (60F05)

See also **Keio Mathematical Seminar Reports**, **52** #6801

Honda, Kagumi (*with* Yamaguchi, Satoru) A note on non-connected complex Lie groups. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 65–67. (N. R. Wallach) **47** #8765 22E10

(*with* Yamaguchi, Satoru) On two types of differentiable S^1-free actions on homogeneous spaces of compact simple Lie groups. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 69–78. (J. A. Wolf) **47** #4285 57E15

Honda, Kin-ya Teiji Takagi: a biography—on the 100th anniversary of his birth. *Comment. Math. Univ. St. Paul.* **24** (1975/76), *no.* 2, 141–167. (Editors) **52** #10336 01A70

Honda, Kôji A note on R. DeMarr's conjecture concerning the order isomorphism of an ordered linear space and its order dual. *Mem. Muroran Inst. Tech.* **9** (1977), *no.* 2, 589–592. (S. K. Berberian) **58** #17778 46A40

Honda, M. (*with* Igarashi, S.) An analysis of turbulent boundary-layer flow without pressure gradient. I. Incompressible flow. *Rep. Inst. High Speed Mech. Tôhoku Univ.* **33** (1976), 1–21. (W. Michael Lai) **58** #19764a 76.41

(*with* Igarashi, S.) An analysis of turbulent boundary-layer flow without pressure gradient. II. Compressible flow. *Rep. Inst. High Speed Mech. Tôhoku Univ.* **33** (1976), 23–49. (W. Michael Lai) **58** #19764b 76.41

A formulation of scalar field theory in the lattice space on an analogy of random walk. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 15, 549–553. (From the author's text) **56** #17624 81.60

Honda, Masaru (*with* Shiotani, Minoru) Estimate of the correlation coefficient based on 2 samples. (Japanese) *J. Japan Statist. Soc.* **1** (1970/71), *no.* 2, 45–53. (Not reviewed) 62F10

Honda, Namio (*with* Igarashi, Yoshihide) Languages generated by context-sensitive grammars with certain restrictions on derivations. *Electron. Commun. Japan* **52** (1969), *no.* 10, 144–151. (I. M. Havel) **48** #5433 68A30

(*with* Takanami, Itsuo) A characterization of Parikh's theorem and the semilinear sets by commutative semigroups with length. *Electron. Commun. Japan* **52** (1969), *no.* 10, 179–184. (W. Wechler) **50** #9044 68A10 (68A30)

(*with* Yodokawa, Eiji) On 2-dimensional pattern-generating grammars. *Systems-Computers-Controls* **1** (1970), *no.* 2, 6–13 (1971). (John K. Debenham) **53** #15018 68A45 (68A30)

(*with* Igarashi, Yoshihide) A classification of phrase-structure languages. *Systems-Computers-Controls* **1** (1970), *no.* 4, 10–17 (1971). (Ronald V. Book) **48** #10210 68A30

(*with* Igarashi, Yoshihide) Deterministic real-time list-storage languages. *Systems-Computers-Controls* **1** (1970), *no.* 4, 41–48 (1971). (H. Jürgensen) **46** #4793 68A30

(*with* Igarashi, Yoshihide) Some properties of $T(n)$-derivable languages. *Systems-Computers-Controls* **1** (1970), *no.* 5, 23–30 (1971). (H. Jürgensen) **48** #1524 68A30

(*with* Takanami, Itsuo) Semi-definite events and automata. *Systems-Computers-Controls* **2** (1971), *no.* 2, 19–24 (1972). (Y. Zalcstein) **46** #10523 94A30

(*with* Maruoka, Akira) Classification of structure of flexible logical cells. *Systems-Computers-Controls* **2** (1971), *no.* 4, 18–25. (B. Hazeltine) **48** #10691 94A20

(*with* Takanami, Itsuo) Automata and transducers on control sets. *Systems-Computers-Controls* **3** (1972), *no.* 2, 8–14. (R. N. Goss) **50** #9448 94A30

(*with* Takanami, Itsuo) Generalization of finite automata. *Systems-Computers-Controls* **3** (1972), *no.* 2, 15–22. (H. Jürgensen) **50** #16173 94A30 (20M35)

(*with* Kojima, Masaaki) Properties of context-sensitive tree automata and characterization of derivation trees of context-sensitive grammars. *Systems-Computers-Controls* **3** (1972), *no.* 5, 23–30 (1973). (David M. Clark) **49** #432 68A30

(*with* Maruoka, Akira) Conditions for a tree network to realize every multi-value logical function. *Systems-Computers-Controls* **3** (1972), *no.* 6, 31–37 (1973). (S. L Hakimi) **52** #2765 94A20

(*with* Igarashi, Yoshihide) Deterministic multitape automata and recognition o context-free languages. *Systems-Computers-Controls* **3** (1972), *no.* 6, 55–62 (1973). (J. Hartmanis) **52** #7204 68A25

(*with* Igarashi, Yoshihide) On the extension of Gladkij's theorem and the hierarchies of languages. *J. Comput. System Sci.* **7** (1973), 199–217. (Sheila A. Greibach **47** #9896 (E **52** #9698) 68A30

(*with* Kojima, Masaaki) A characterization of sets of trees acceptable by tre automata. *Systems-Computers-Controls* **4** (1973), *no.* 1, 40–47. (Guy Vidal-Naquet **54** #7142 94A30

(*with* Maruoka, Akira) Condition for the function of flexible logic elements to b fixed. *Systems-Computers-Controls* **4** (1973), *no.* 2, 8–15. (Not reviewed) 94A20

(*with* Igarashi, Yoshihide) Deterministic multitape automata computations. *J. Comput. System Sci.* **8** (1974), 167–189. (S. A. Greibach) **48** #12898 68A25

(*with* Maruoka, Akira) Conditions for a multivalued logical cell to be refinable. *Systems-Computers-Controls* **5** (1974), *no.* 6, 13–20 (1975). (Authors' summary) **56** #2681 94A20

(*with* Nasu, Masakazu) Recognition of fuzzy languages. *Fuzzy sets and thei applications to cognitive and decision processes* (*Proc. U. S.-Japan Sem., Univ. Calif Berkeley, Calif.*, 1974), *pp.* 279–299. *Academic Press, New York*, 1975. (K. S. Fu **53** #4623 68A25 (68A30)

(*with* Sato, Tadakazu) Period-preservability and Poisson stability of parallel maps of tessellation automata. *Proceedings of the International Symposium on Uniform Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci. Tokyo*, 1975), *pp.* 53–61. *IEEE Computer Soc., New York*, 1975. (From the introduction **58** #9924 94A30

(*with* Maruoka, Akira) The range of logical flexibility of tree networks. *IEEE Trans. Computers* **C-24** (1975), *no.* 1, 9–28. (Shuzo Yajima) **56** #2682 94A20

(*with* Igarashi, Yoshihide) Erratum: "On the extension of Gladkij's theorem and the hierarchies of languages" (J. Comput. System Sci. 7 (1973), 199–217). With an editor's note by E. K. Blum and a counter example by A. Gladkij. *J. Comput. System Sci.* **11** (1975), *no.* 3, 397. (S. A. Greibach) **52** #9698 68A30

Applications of fuzzy sets to the theory of automata and languages. (Japanese) Fuzzy sets and their applications. *Systems and Control* **19** (1975), *no.* 5, 249–254. (Tadao Takaoka) **53** #7651 94A30 (68A30)

(*with* Hashiguchi, K.) Homomorphisms that preserve star height. *Information and Control* **30** (1976), *no.* 3, 247–266. (Claude Benzaken) **53** #10519 94A30 (20M35)

(*with* Nasu, Masakazu) A completeness property of one-dimensional tessellation automata. *J. Comput. System Sci.* **12** (1976), *no.* 1, 36–48. (Rani Siromoney) **53** #1279 94A30 (68A25)

(*with* Hashiguchi, K.) Properties of code events and homomorphisms over regular events. *J. Comput. System Sci.* **12** (1976), *no.* 3, 352–367. (I. M. Havel) **53** #10520 94A30 (68A25)

(*with* Nasu, Masakazu; Hirose, Sadaki) *F*-recognition of fuzzy languages. *Fuzzy automata and decision processes*, *pp.* 149–168. *North-Holland, New York*, 1977. (Masaharu Mizumoto) **57** #8160 68A25

(*with* Sato, Tadakazu) Certain relations between properties of maps of tessellation automata. *J. Comput. System Sci.* **15** (1977), *no.* 2, 121–145. (E. Ikaunieks) **58** #3208 68A25 (94A30)

See also **Cybernetics collection**, **47** #6379

Honda, T. *See* **Control in space**, **48** #13319

Honda, Taira Differential equations and formal groups. *Seminar on Modern Methods in Number Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No.* 16, 11 *pp. Inst. Statist Math., Tokyo*, 1971. (Michiel Hazewinkel) **52** #10755 14L05

Pure cubic fields whose class numbers are multiples of three. *J. Number Theory* **3** (1971), 7–12. (Harvey Cohn) **45** #1877 12A30

On commutative formal groups. (Japanese) *Sûgaku* **23** (1971), *no.* 3, 205–213. **58** #28009 14L05

Formal groups obtained from generalized hypergeometric functions. *Osaka J. Math.* **9** (1972), 447–462. (A. N. Andrianov) **47** #6712 14L05 (14H40)

On the formal structure of the Jacobian variety of the Fermat curve over a p-adic integer ring. *Symposia Mathematica, Vol. XI* (*Convegno di Geometria, INDAM, Rome*, 1972), *pp.* 271–284. *Academic Press, London*, 1973. (Michiel Hazewinkel) **51** #3178 (E **57** #9704) 14H40 (14L05)

Invariant differentials and *L*-functions. Reciprocity law for quadratic fields and elliptic curves over *Q*. *Rend. Sem. Mat. Univ. Padova* **49** (1973), 323–335. (Kuang-yen Shih) **50** #13041 14G10 (10D05, 14K15)

Errata-corrigenda: "On the formal structure of the Jacobian variety of the Fermat curve over a p-adic integer ring" (Symposia Mathematica, Vol. XI (Convegno di Geometria, INDAM, Rome, 1972), pp. 271–284, Academic Press, London, 1973). *Symposia Mathematica, Vol. XIII* (*INDAM, Rome*, 1974), *p.* 549. *Academic Press, London*, 1974. (Editors) **57** #9704 14H40 (14L05)

(*with* Miyawaki, Isao) Zeta-functions of elliptic curves of 2-power conductor. *J. Math. Soc. Japan* **26** (1974), 362–373. (Kuang-yen Shih) **50** #13042 14G10 (10D05, 14K15)

A few remarks on class numbers of imaginary quadratic number fields. *Osaka J. Math.* **12** (1975), 19–21. (T. Lepistö) **52** #8083 12A50

Two congruence properties of Legendre polynomials. *Osaka J. Math.* **13** (1976), *no.* 1, 131–133. (J. Dieudonné) **53** #13240 14L05 (10B15)

See also **Iyanaga, Shôkichi**, **52** #22

Honderd, G. Description of the behaviour of complex dynamical systems. *Ann. Syst. Res.* **4** (1974), 61–92 (1975). (T. Kaczorek) **53** #5060 93–01

Honerkamp, J. (*with* Ecker, G.) Application of invariant renormalization to the non-linear chiral invariant pion Lagrangian in the one-loop approximation. *Nuclear Phys.* **B35**

971), 481–492. (L. O'Raifeartaigh) **46** #4870 81.22

(*with* Patani, A.; Schlindwein, M.; Shafi, Q.) On kink solutions in two space mensions. *Lett. Nuovo Cimento* (2) **15** (1976), *no.* 4, 97–100. (Editors) **56** #4630 3.35

s, M. J. (*with* Wunderlich, F. J.; Shaw, D. E.) Argand diagrams of extended ibonacci and Lucas numbers. *Fibonacci Quart.* **12** (1974), 233–234. (P. Brock) 0 #11830 65S05 (33A70)

ycutt, Kent (*with* Thoren, Victor E.; Gow, Charles) An early view of galactic otation. *Centaurus* **18** (1973/74), 301–314. (Peeter Müürsepp) **58** #27051 01A55

ši Hong *See* **Nguen Ši Hong**

. D. Y. (*with* Evans, Trevor) The free modular lattice on four generators is not nitely presentable. *Algebra Universalis* **2** (1972), 284–285. (Ann Miller) **48** #190 6A30

, Dang X. Covering relations among lattice varieties. *Pacific J. Math.* **40** (1972), 75–603. (O. Frink) **46** #5195 06A30

(*with* Comer, Stephen D.) Some remarks concerning the varieties generated by the iamond and the pentagon. *Trans. Amer. Math. Soc.* **174** (1972), 45–54. (G. Grätzer) 7 #1697 06A20

, Imsik A remark on the maximum modulus principle for the solution of the elmholtz equation. *Comment. Math. Univ. St. Paul.* **19** (1971), 123–126. (A. Svešnikov RŽMat **1972** #5 B504)) **48** #4489 35J05

(*with* Uno, Toshio) A relation between some Fredholm type linear integral quations of the first kind and linear algebraic simultaneous equations. Collection of rticles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. apon.* **20** (1975), *special issue*, 111–116. (P. M. Anselone) **53** #1194 45B05

g, Jia Wei On simple groups of order $p(kp+1)(kp+2)$. *Sci. Sinica* **16** (1973), 177–188. J. L. Alperin) **55** #10559 20D05

A geometric inequality. (Chinese) *Acta Math. Sinica* **17** (1974), *no.* 3, 205–213. Ming-Chit Liu) **57** #7394 52A40

Minimax optimization in the case of unbounded number of blocks. *Sci. Sinica* **17** 1974), *no.* 2, 160–180. (D. V. Chopra) **55** #6722 62K05

g, K. M. (*with* Noolandi, J.) Solution of the Smoluchowski equation with a Coulomb otential. I. General results. *J. Chem. Phys.* **68** (1978), *no.* 11, 5163–5171. (Authors' ummary) **58** #14783a 82.35

(*with* Noolandi, J.) Solution of the Smoluchowski equation with a Coulomb otential. II. Application to fluorescence quenching. *J. Chem. Phys.* **68** (1978), *no.* 11, 172–5176. (Authors' summary) **58** #14783b 82.35

g, Saman (*with* Bellmore, Mandell) Transformation of multisalesmen problem to the tandard traveling salesman problem. *J. Assoc. Comput. Mach.* **21** (1974), 500–504. (G. Berman) **57** #15472 90C35

The asymmetric travelling salesman problem and spanning arborescences of irected graphs. *First Symposium on Operations Research* (*Univ. Heidelberg, Heidelberg,* 1976), *Teil* 1, *pp.* 192–204. *Operations Research Verfahren, XXV. Hain, Meisenheim,* 1977. (Author's summary) **58** #32889 90B10 (90C05)

(*with* Padberg, Manfred W.) A note on the symmetric multiple traveling salesman problem with fixed charges. *Operations Res.* **25** (1977), *no.* 5, 871–874. (Authors' summary) **56** #14623 90B10 (90C10)

g, Se June (*with* Chien, Robert T.; Preparata, Franco P.) Some results in the theory of arithmetic codes. *Information and Control* **19** (1971), 246–264. (P. Deussen) **47** #4703 94A10

(*with* Chien, Robert T.) Error correction in high-speed arithmetic. *IEEE Trans. Computers* **C-21** (1972), 433–438. (P. Deussen) **49** #10433 94A10

(*with* Ostapko, D. L.) On complementation of Boolean functions. *IEEE Trans. Computers* **C-21** (1972), 1022. (Authors' summary) **55** #14425 94A20

(*with* Patel, Arvind M.) A general class of maximal codes for computer applications. *IEEE Trans. Computers* **C-21** (1972), 1322–1331. (Ian Blake) **52** #12964 94A10

(*with* Cain, R. G.; Ostapko, D. L.) MINI: a heuristic approach for logic minimization. *IBM J. Res. Develop.* **18** (1974), 443–458. (Authors' summary) **54** #12384 94A20

(*with* Ostapko, D. L.) Generating test examples for heuristic Boolean minimization. *IBM J. Res. Develop.* **18** (1974), 459–464. (H. R. Hwa) **55** #14432 94A20

(*with* Bossen, Douglas C.) On some properties of self-reciprocal polynomials. *IEEE Trans. Information Theory* **IT-21** (1975), 462–464. (R. J. McEliece) **51** #10307 12C05

(*with* Lee, Der Tsai) An algorithm for transformation of an arbitrary switching function ot a completely symmetric function. *IEEE Trans. Computers* **C-25** (1976), *no.* 11, 1117–1123. (J. C. Muzio) **56** #15189 94A20

(*with* Preparata, Franco P.) Convex hulls of finite sets of points in two and three dimensions. *Comm. ACM* **20** (1977), *no.* 2, 87–93. (V. Medek) **58** #8475 68A10 (52A25)

ng, Shin Lung Poincaréreihen mit fastperiodischen Koeffizienten. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1973**, 115–133. (J. Spilker) **50** #243 10D15

ng, Shin Tsy (*with* Sreenivasiah, I.; Ishimaru, Akira) Two-frequency mutual coherence function and pulse propagation in a random medium: an analytic solution to the plane wave case. *Radio Sci.* **11** (1976), *no.* 10, 775–778. (Werner Kohler) **54** #4357 78.60

ng, Sing Long Isometric immersions of manifolds with plane geodesics into Euclidean space. *J. Differential Geometry* **8** (1973), 259–278. (D. I. Papuc) **52** #9122 53C40

ng, Suk Ho (*with* Chung, Woon Kyung) Some properties of norms of linear operator. *Hak-sul Chi* **19** (1975), 331–333. (E. Dubinsky) **54** #5861 47A05 (46A05)

ng, Sung Sa On 𝔣-compactlike spaces and reflective subcategories. *General Topology and Appl.* **3** (1973), 319–330. (H. Herrlich) **48** #12450 54B30

Limit-operators and reflective subcategories. *TOPO 72—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.,* 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 219–227. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin,* 1974. (V. Kannan) **51** #1708 54B30

Perfect onto projectivity in some categories of Hausdorff spaces. *Kyungpook Math. J.* **14** (1974), 85–91. (T. Thrivikraman) **50** #5742 54D30

Extensive subcategories of the category of T_0-spaces. *Canad. J. Math.* **27** (1975), 311–318. (H. Herrlich) **51** #11406 54B30 (54D10)

Categories in which every mono-source is initial. *Kyungpook Math. J.* **15** (1975), 133–139. (H. Herrlich) **51** #5699 18A20

(*with* Nel, Louis D.) E-compact convergence spaces and E-filters. *Kyungpook Math. J.* **15** (1975), *no.* 2, 183–189. (D. C. Kent) **53** #14374 54A20

Extensive subcategories. *J. Korean Math. Soc.* **13** (1976), *no.* 2, 161–166. (H. Herrlich) **55** #1282 54B30

Sequentially closed spaces. *J. Korean Math. Soc.* **14** (1977/78), *no.* 2, 207–212. (H. Herrlich) **58** #7527 54A05

Hong, Young Hee (*with* Choe, Tae Ho) Extensions of completely regular ordered spaces. *Pacific J. Math.* **66** (1976), *no.* 1, 37–48. (H. Herrlich) **56** #1274 54F05

(*with* Choe, Tae Ho) Extensive subcategories in universal topological algebras. *Canad. J. Math.* **29** (1977), *no.* 1, 71–76. (H. Herrlich) **55** #243 08A25 (54B30)

On initially structured functors. *J. Korean Math. Soc.* **14** (1977/78), *no.* 2, 159–165. (D. Pumplün) **58** #5826 18A99 (08A25, 54A99)

Hongan, Motoshi (*with* Nagahara, Takasi; Tominaga, Hisao) A note on Artinian subrings. *Proc. Japan Acad.* **47** (1971), 8–10. (E.-A. Behrens) **46** #9103 16A46

Note on right-regular-ideal-rings. *Proc. Japan Acad.* **49** (1973), 148–149. (Chr. U. Jensen) **48** #8553 16A30

(*with* Tominaga, Hisao) Note on fully idempotent ideals and s-unital ideals. *Math. J. Okayama Univ.* **18** (1975/76), *no.* 2, 135–138. (J. C. Robson) **54** #7526 16A21

(*with* Mogami, Isao) Note on commutativity of rings. *Math. J. Okayama Univ.* **20** (1978/79), *no.* 1, 21–24. (Ju. N. Mal'cev) **58** #794 16A70

(*with* Mogami, Isao) A commutativity theory for rings. *Math. Japon.* **23** (1978), *no.* 1, 131–132. (Hal G. Moore) **58** #5794 16A70

Hongler, M.-O. (*with* Ryter, Dietrich) Hard mode stationary states generated by fluctuations. *Z. Phys. B* **31** (1978), *no.* 3, 333–337. (Vladimir Sips) **58** #25526 81.35

Hongo, Eishi (*with* Oda, Mituru) A remark on the Lie structure of associative rings. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 19 (1972), 15–18. (W. E. Jenner) **46** #5399 16A68

(*with* Oda, Mituru) On higher commutators of special type in an associative ring. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 21 (1974), 45–50. (D. C. Murdoch) **49** #9033 16A68

(*with* Oda, Mituru) A theorem on the Malcev structure of an alternative ring. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 22 (1975), 45–47. (M. F. Smiley) **51** #5695 17D05

Hongoh, M. General approach to the SU(n) van der Waerden invariant–a solution to SU(5). *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Theor., Marseille,* 1974), *Vol.* 2, *pp.* 419–440. *Centre Nat. Recherche Sci., Centre Phys. Theor., Marseille,* 1974. (R. T. Sharp) **56** #1979 81.22 (22E70)

(*with* Sharp, Robert T.; Tilley, D. E.) Explicit O(5) Wigner coefficients. *J. Mathematical Phys.* **15** (1974), 782–788. (A. Hartkämper) **51** #2504 81.22

Wigner coefficients for the theory of five-dimensional quasispin. *J. Mathematical Phys.* **17** (1976), *no.* 4, 535–541. (G. R. Allcock) **53** #7250 81.22

Coherent states associated with the continuous spectrum of noncompact groups. *J. Mathematical Phys.* **18** (1977), *no.* 10, 2081–2084. (Author's summary) **58** #32503 81.22

fam Hong Thaĭ *See* **Fam Hong Thaĭ**

Hönig, Chaim Samuel ★Análise functional e aplicações. Vols. I, II. (Portuguese) [Functional analysis and applications. Vols. I, II] *Instituto de Matemática e Estatistica, Universidade de São Paulo, São Paulo,* 1970, : *Vol. I.: pp.* i–xii *and* 1–278; *Vol. II: pp.* i–iii *and* 279–671. (J. B. Prolla (Zbl **324** #46012 and **324** #46013)) **57** #1054 46–01 (47–01)

★Introdução às funções de uma variável complexa. (Portuguese) [Introduction to functions of one complex variable] Third edition, revised and augmented. *Instituto de Matemática e Estatística, Universidade de São Paulo, São Paulo,* 1971. 246 *pp.* (Editors) **52** #14240 30–01

★Análise funcional e o problema de Sturm-Liouville. (Portuguese) [Functional analysis and the Sturm-Liouville problem] With a loose appendix entitled Séries de Fourier. (Portuguese) [Fourier series] Lecture series of the Eighth Brazilian Mathematical Colloquium (Pocos de Caldas, 5–23 July 1971). *Institute of Pure and Applied Mathematics of the National Research Council, Rio de Janeiro,* 1971. x + 178 *pp.* **55** #8727 46–01 (42–01, 47–01)

★The abstract Riemann-Stieltjes integral and its applications to linear differential equation with generalized boundary conditions. Notas do Instituto de Matemática e Estatística da Universidade de São Paulo, Série Matemática, No. 1. [Notes of the Institute of Mathematics and Statistics of the University of São Paulo, Mathematics Series, No. 1] *Universidade de São Paulo. São Paulo,* 1973. 135 *pp.* **57** #554 26A42 (34B05)

The Green function of a linear differential equation with a lateral condition. *Bull. Amer. Math. Soc.* **79** (1973), 587–593. (R. Showalter) **47** #581 34G05

The Green function of a linear differential equation with lateral condition. *Functional analysis and applications* (*Proc. Sympos., Univ. Fed. Pernambuco, Recife,* 1972), *pp.* 147–167. *Lecture Notes in Math., Vol.* 384, *Springer, Berlin,* 1974. (J. E. Lagnese) **52** #11237 34G05

★Volterra Stieltjes-integral equations. Functional analytic methods; linear constraints. Mathematics Studies, No. 16. Notas de Matemática, No. 56. [Notes on Mathematics, No. 56] *North-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publishing Co., Inc., New York,* 1975. x + 157 *pp.* (James V. Herod) **58** #17705 45A05

Volterra-Stieltjes integral equations with linear constraints and discontinuous solutions. *Bull. Amer. Math. Soc.* **81** (1975), 593–598. (James V. Herod) **51** #13392 34G05 (45D05)

The Dirichlet and substitution formulas for Riemann-Stieltjes integrals in Banach spaces. *Functional analysis* (*Proc. Brazilian Math. Soc. Sympos., Inst. Mat. Univ. Estad. Campinas, São Paulo,* 1974), *pp.* 135–189. *Lecture Notes in Pure and Appl. Math.,* 18. *Dekker, New York,* 1976. (Editors) **58** #30244 46G99 (26A42)

Honig, Eli (*with* Schucking, Engelbert L.; Vishveshwara, C. V.) Motion of charged particles in homogeneous electromagnetic fields. *J. Mathematical Phys.* **15** (1974), 774–781. (F. A. E. Pirani) **50** #3866 83.53

Intrinsic geometry of Killing trajectories. *J. Mathematical Phys.* **17** (1976), *no.* 12, 2169–2174. (S. Deser) **54** #8501 53B25

Hönig, Volker Ein Satz über das vollständige Fünfseit. *Praxis Math.* **17** (1975), 9–15. (S. S. Subramanyam) **55** #6293 50B05

Betrachtungen über vier verkoppelte Dreiseite. I. *Praxis Math.* **17** (1975), *no.* 11, 285–293. (Libuše Marková) **58** #23988 50D20

Betrachtungen über vier verkoppelte Dreiseite. II. *Praxis Math.* **17** (1975), *no.* 12, 324–327. (Libuše Marková) **58** #23989 50D20

Honig, William M. Gödel axiom mappings in special relativity and quantum-electromagnetic theory. *Found. Phys.* **6** (1976), *no.* 1, 37–57. (S. Gudder) **53** #7339 83.00 (78.00)

Relativity of the metric. *Found. Phys.* **7** (1977), *no.* 7–8, 549–572. (Author's summary) **57** #15228 83.53

Honkapohja, Matti Degree and point-inverses of mappings on generalized manifolds. *Ann. Acad. Sci. Fenn. Ser. A I Math. Dissertationes No.* 4 (1975), 19 *pp.* (L. Górniewicz) **52** #4274 55C25

Hon'kin, A. D. A method for the solution of the Cauchy problem for the linearized Boltzmann equation. (Russian. English summary) *Teoret. Mat. Fiz.* **4** (1970), *no.* 2, 253–266. (Author's summary) **57** #2361 82.45

Equations for space-time and time correlation functions and a proof of the equivalence of results of the methods of Chapman-Enskog and time correlation functions. (Russian. English summary) *Teoret. Mat. Fiz.* **5** (1970), *no.* 1, 125–135. (Author's summary) **57** #8510 80.60 (70.60)

(*with* Zubarev, D. N.) Method for the construction of normal solutions for kinetic equations with the aid of boundary conditions. (Russian. English summary) *Teoret. Mat. Fiz.* **11** (1972), *no.* 3, 403–412. (Authors' summary) **57** #15131 82.45

Honl, H. *See* **Einstein collection.** **51** #4922

Honma, Toshihisa (*with* Kito, Masafumi) Wall stabilization of a sharp boundary toroidal plasma. *Phys. Fluids* **21** (1978), *no.* 2, 272–279. (Authors' summary) **56** #17502 78.35

Honsberger, Ross ★Mathematical gems from elementary combinatorics, number theory, and geometry. The Dolciani Mathematical Expositions, No. 1. *The Mathematical Association of America, Buffalo, N. Y.*, 1973. xi + 176 *pp.* (P. Hagis, Jr. (Zbl **281** #00004)) **54** #7150 00A05

★Mathematical gems. II. Dolciani Mathematical Expositions, No. 2. *The Mathematical Association of America, Washington, D.C.*, 1976. ix + 182 *pp.* (K. E. Hirst) **57** #11978 00–01

★Mathematical morsels. The Dolciani Mathematical Expositions, No. 3. *The Mathematical Association of America, New York*, 1978. xii + 249 *pp. ISBN* 0-88385-303-5 (M. S. Cheema) **58** #9950 00A05 (05–01, 10–01, 50–01)

Hontoir, Y. (*with* Cruz, José B., Jr.) A manifold imbedding algorithm for optimization problems. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 3: *Ecology and systems engineering. Large scale sensitivity optimization and adaptation theory, Paper No.* 34.3, 7 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 (1972). (Authors' summary) **56** #11237 93C15

(*with* Cruz, José B., Jr.) Sensitivity reduction in linear systems. (French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 445–449. (Peter Stavroulakis) **48** #13356 93B35

(*with* Cruz, José B., Jr.) A manifold imbedding algorithm for optimization problems. (French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 581–588. (G. H. Meyer) **50** #3588 65L10

(*with* Cruz, José B., Jr.) Increase of closed-loop nominal trajectory likelihood in uncertain systems. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp.* 124–130. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (Hsi-han Yeh) **50** #4023 93B30

(*with* Cruz, José B., Jr.) A probabilistic likelihood approach to trajectory sensitivity. (French, German and Russian summaries) *Automatica—J. IFAC* **10** (1974), 49–60. **56** #15106 93E99

Hoo, Cheong S. (*with* Chislett, E.) Coretraction-fibrations are retractions. *Bull. Austral. Math. Soc.* **5** (1971), 363–374. (Dorian Spulber) **45** #3518 18E10 (55J99)

The weak weak category of a space. *Canad. Math. Bull.* **14** (1971), 49–51. (J. Stasheff) **45** #2705 55D50

(*with* Hösli, Hansueli) Une remarque sur le bóuquet et les espaces de Hopf. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A635–A637. (Marshall Walker) **50** #5790 55D45

Cyclic maps from suspensions to suspensions. *Canad. J. Math.* **24** (1972), 789–791. (H. Wada) **49** #9843 55D40

(*with* Shum, Kar Ping) On algebraic radicals in mobs. *Colloq. Math.* **25** (1972), 25–35. (G. E. Dimitroff) **46** #1956 22A15

(*with* Shum, Kar Ping) On the nilpotent elements of semigroups. *Colloq. Math.* **25** (1972), 211–224, 325. (K. N. Sigmon) **48** #4184 22A15

(*with* Shum, Kar Ping) On compact *N*-semigroups. *Czechoslovak Math. J.* **24(99)** (1974), 552–562. (J. M. Day) **51** #10521 22A15

Lifting Gottlieb sets. *J. London Math. Soc.* (2) **14** (1976), *no.* 3, 535–544. (Richard Holzsager) **55** #11254 55F05 (55D05)

Principal and induced fibrations. *Pacific J. Math.* **67** (1976), *no.* 2, 389–400. (Frederick H. Croom) **55** #4164 55F05

(*with* Hösli, Hansueli) On the division by the circle. *Fundam. Math.* **96** (1977), *no.* 1, 1–7. (M. Arkowitz) **58** #18421 55D10 (55D45)

Hoo, Stanley K. (*with* Branin, Franklin H., Jr.) A method for finding multiple extrema of a function of *n* variables. *Numerical methods for non-linear optimization* (*Conf., Univ. Dundee, Dundee*, 1971), *pp.* 231–237. *Academic Press, London*, 1972. (G. D. Byrne) **52** #16016 65K05

Hoobler, Raymond T. Brauer groups of abelian schemes. *Ann. Sci. École Norm. Sup.* (4) **5** (1972), 45–70. (S. L. Kleiman) **47** #226 14F20 (14K30)

Cohomology in the finite topology and Brauer groups. *Pacific J. Math.* **42** (1972), 667–679. (Allen B. Altman) **47** #6702 14F20 (13A20)

(*with* Magid, Andy R.) Finite group schemes over fields. *Proc. Amer. Math. Soc.* **33** (1972), 310–312. (K.-T. Chen) **45** #348 18H10

(*with* Altman, Allen B.; Kleiman, Steven L.) A note on the base change map for cohomology. *Compositio Math.* **27** (1973), 25–38. (M. Miyanishi) **49** #2740 14F20 (18F20)

l-adic representations of Galois groups. Complex analysis, 1972 (Proc. Conf., R Univ., Houston, Tex., 1972), Vol. I: Geometry of singularities. *Rice Univ. Studies* (1973), *no.* 1, 33–47. (J. S. Milne) **48** #3971 14K15

(*with* Rector, David L.) Arithmetic *K*-theory. *Localization in group theory a homotopy theory, and related topics* (*Sympos., Battelle Seattle Res. Center, Seattle, Wa* 1974), *pp.* 78–95. *Lecture Notes in Math., Vol.* 418, *Springer, Berlin*, 1974. (Har Hastings) **52** #6700 55B20 (14F35)

Purely inseparable Galois theory. *Ring theory* (*Proc. Oklahoma Conf., Univ. Oklahoma, Norman, Okla.*, 1973), *pp.* 207–240. *Lecture Notes in Pure and Appl. Ma Vol.* 7, *Dekker, New York*, 1974. (M. Orzech) **50** #4668 16A74

Cohomology of purely inseparable Galois coverings. *J. Reine Angew. Math.* (1974), 183–199. (G. A. Efroymson) **51** #513 14G99 (12F15, 14F99)

Étale homotopy theory of algebraic groups. *J. Pure Appl. Algebra* **8** (1976), *no.* 119–128. (J.-E. Bertin) **53** #8075 14L15

Frobenius calculations of Picard groups and the Birch-Tate-Swinnerton-Dyer conjecture. *Trans. Amer. Math. Soc.* **222** (1976), 345–352. (J.-E. Bertin) **55** #1045 14C20 (14G20)

Hood, B. M. Topological entropy and uniform spaces. *J. London Math. Soc.* (2) **8** (19 633–641. (H. Keynes) **50** #5766 54H20

Hood, D. J. (*with* Connor, M. A.) A second-order iterative technique for differential-integral systems. *J. Optimization Theory Appl.* **13** (1974), 179–185. (C. Hadlock) **51** #4006 49D15

Hood, M. J. (*with* Davis, A. M. J.) Surface waves normally incident on a submerg horizontal cylinder. *SIAM J. Appl. Math.* **31** (1976), *no.* 1, 16–30. (Authors' summar **56** #1923 76.35

Hood, P. (*with* Taylor, C.) A numerical solution of the Navier-Stokes equations using finite element technique. *Internat. J. Comput. & Fluids* **1** (1973), *no.* 1, 73–100. (N Geffen) **49** #4435 76.65

Finite element formulation with reference to fluid dynamics. *Computational metho in nonlinear mechanics* (*Proc. Internat. Conf., Austin, Tex.*, 1974), *pp.* 561–567. *Tex Inst. Comput. Mech., Austin, Tex.*, 1974. (Ju. K. Dem'janovič) **53** #7073 65N (73.65)

't Hooft, A. H. (*with* de Boer, J.) Canonical transformations of construction operator *Nederl. Akad. Wetensch. Proc. Ser. B* **75** (1972), 358–374. (J. E. Marsden) **48** #1307 81.47

't Hooft, G. W. (*with* Veltman, Martin J. G.) Combinatorics of gauge fields. *Nuclear Ph* **B50** (1972), 318–353. (Authors' summary) **54** #1922 81.22

(*with* Veltman, Martin J. G.) Regularization and renormalization of gauge fields *Nuclear Phys. B* **B-44** (1972), 189–213. (Derek Capper) **52** #12617 81.47

(*with* Veltman, Martin J. G.) One-loop divergencies in the theory of gravitatio *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **20** (1974), 69–94. (J. Rosen) **50** #3804 81

Magnetic monopoles in unified gauge theories. *Nuclear Phys.* **B79** (1974), 276–2 (Fritz Schwarz) **54** #1923 81.22

(*with* de Wit, Bernard) Nonconvergence of the $1/N$ expansion for SU(N) gaug fields on a lattice. *Phys. Lett. B* **69** (1977), *no.* 1, 61–64. (Jacques P. Leveill **56** #14342 81.47

On the phase transition towards permanent quark confinement. *Nuclear Phys.* **138** (1978), *no.* 1, 1–25. (S. Yankielowicz) **58** #8868 81.22 (22E70)

(*with* Köhler, W. E.; Knaap, H. F. P.; Eggermont, G. E. J.) Kinetic theory nonequilibrium alignment phenomena in dilute polyatomic gases in external magnet and electric fields. *Z. Naturforsch. A* **33** (1978), *no.* 7, 761–777. (Authors' summar **58** #14824 82.47

visser 't Hooft, H. Ph. *See* **Visser 't Hooft, H. Ph.**

de Hoog, Frank R. Asymptotic errors for finite difference schemes. *Error, approximatio and accuracy* (*Proc. Sem., Austral. Nat. Univ., Canberra*, 1972), *pp.* 159–172. *Un Queensland Press, St. Lucia*, 1973. (W. Börsch-Supan) **54** #11741 65D30 (65R05)

(*with* Anderssen, R. S.; Weiss, Richard) On the numerical solution of Browni motion processes. *J. Appl. Probability* **10** (1973), 409–418. (Authors' summary) **50** #3374 60J65 (65R05)

(*with* Weiss, Richard) Asymptotic expansions for product integration. *Math. Com* **27** (1973), 295–306. (P. Linz) **48** #7549 65D30

(*with* Weiss, Richard) On the solution of Volterra integral equations of the fir kind. *Numer. Math.* **21** (1973), 22–32. (Christopher T. H. Baker) **51** #7335 65R0

(*with* Weiss, Richard) On the solution of a Volterra integral equation with a weakl singular kernel. *SIAM J. Math. Anal.* **4** (1973), 561–573. (K. N. Srivastava) **49** #181 65R05

(*with* Weiss, Richard) High order methods for Volterra integral equations of th first kind. *SIAM J. Numer. Anal.* **10** (1973), 647–664. (G. F. Miller) **51** #9554 65R05

(*with* Williams, Jack) A class of *A*-stable advanced multistep methods. *Math Comp.* **28** (1974), 163–177. (D. F. Mayers) **50** #8989 65L05

(*with* Weiss, Richard) Implicit Runge-Kutta methods for second kind Volterra integral equations. *Numer. Math.* **23** (1974/75), 199–213. (L. Fox) **51** #9549 65R0

(*with* Weiss, Richard) High order methods for a class of Volterra integral equation with weakly singular kernels. *SIAM J. Numer. Anal.* **11** (1974), 1166–1180. (Syvert P Nørsett) **51** #4699 65R05

(*with* Weiss, Richard) Difference methods for boundary value problems with a singularity of the first kind. *SIAM J. Numer. Anal.* **13** (1976), *no.* 5, 775–813. (Pietro Marzulli) **55** #13799 65L10

(*with* Weiss, Richard) The application of linear multistep methods to singular initial value problems. *Math. Comp.* **31** (1977), *no.* 139, 676–690. (Not reviewed) 65L05

(*with* Weiss, Richard) Collocation methods for singular boundary value problems *SIAM J. Numer. Anal.* **15** (1978), *no.* 1, 198–217. (D. F. Mayers) **57** #8041 65L1

See also **Error, approximation, and accuracy**, **52** #2124

Hoogewijs, Albert $\mathcal{I}$-congruences on seminearrings. *An. Şti. Univ. "Al. I. Cuza" Iaşi Sec I a Mat.* (*N.S.*) **22** (1976), *no.* 1, 3–9. (Kazimierz Głazek) **56** #5663 16A76

Free distributively generated algebras over a set. (Dutch summary) *Med. Konink Acad. Wetensch. Lett. Schone Kunst. België Kl. Wetensch.* **38** (1976), *no.* 8, 31 *pp* (Kazimierz Głazek) **55** #5704 16A76 (08A10, 16A78)

Hoogland, Henk Local and global equivalence of projective representations. *Group* *theoretical methods in physics* (*Fourth Internat. Colloq., Nijmegen*, 1975), *pp*. 72–79. *Lecture Notes in Phys., Vol.* 50, *Springer, Berlin*, 1976. (Philip Huddleston) **58** #4016 81.22 (22E70)

On local and global equivalence of wave functions. (Italian and Russian summaries) Superequivalence of group exponents applied in quantum mechanics. *Nuovo Cimento B* (11) **32** (1976), *no*. 2, 427–456. (Nigel B. Backhouse) **54** #6715 81.22

Gauge equivalence of representations of symmetry groups in quantum mechanics. *J. Phys. A* **11** (1978), *no*. 8, 1557–1568. (Author's summary) **58** #19930 81.22 (22D10)

gstraten, H. W. (*with* Kaper, Bob) Propagation of sound waves in a moving medium. *J. Engrg. Math.* **5** (1971), 295–305. (N. Zitron) **50** #15564 76.35

(*with* van der Heide, R.) A perturbation method for non-linear dispersive waves with an application to water waves. *J. Engrg. Math.* **6** (1972), 341–353. (L. M. Hocking) **51** #2456 76.41

An asymptotic theory for a class of weakly non-linear oscillations. *Spectral theory and asymptotics of differential equations* (*Proc. Conf., Scheveningen*, 1973), *pp*. 197–205. *North-Holland Math. Studies, Vol.* 13, *North-Holland, Amsterdam*, 1974. (Author's summary) **55** #5969 34E05

(*with* Kaper, Bob) An asymptotic theory for a class of weakly nonlinear oscillations. *Arch. Rational Mech. Anal.* **58** (1975), *no*. 3, 239–260. (F. Brauer) **51** #13387 34E05

Initial-value problems for linear ordinary differential equations with a small parameter. *J. Math. Anal. Appl.* **53** (1976), *no*. 3, 680–691. (From the author's introduction) **55** #5970 34E05

(*with* Smit, C. H.) A mathematical theory of shock-wave formation in arterial blood flow. (German summary) *Acta Mech.* **30** (1978), *no*. 1-2, 145–155. (J. C. Burns) **58** #15280 92A05

ok, Edward C. (*with* Bröcker, Theodor) Stable equivariant bordism. *Math. Z.* **129** (1972), 269–277. (J. W. Vick) **47** #9652 57D85 (55B20)

Equivariant cobordism and homotopy type. *Duke Math. J.* **40** (1973), 805–814. (C. B. Thomas) **49** #4004 57E15 (57D85)

Equivariant cobordism and duality. *Trans. Amer. Math. Soc.* **178** (1973), 241–258. (J. W. Vick) **47** #9653 57D85 (55B20)

ok, Ernest B. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability, 52** #9427

oke, John A. A priority queue with low-priority arrivals general. *Operations Res.* **20** (1972), 373–380. (N. U. Prabhu (Zbl **239** #60089)) **51** #2010 60K25

Some heavy-traffic limit theorems for a priority queue with general arrivals. *Operations Res.* **20** (1972), 381 -388. (J. F. C. Kingman) **47** #1160 60K25

oke, Robert *See* **Goodman, D. C., 52** #13140 *and* **Bennett, J. A., 58** #21111

oker, Clifford Alan Quine on the referential functions of bound variables and quantifiers. *Mind* **80** (1971), *no*. 320, 481–496. (K. Inoue) **58** #120 02A05

Sharp and the refutation of the Einstein, Podolsky, Rosen paradox. *Philos. Sci.* **38** (1971), 224–233. (Author's summary) **58** #20037 81.53

Definite descriptions. *Philos. Studies* **23** (1972), *no*. 6, 365–375. (N. B. Cocchiarella) **55** #7722 02A05 (02B05)

See also **Theory change and theory structure, 52** #7768; **Foundations of probability theory, statistical inference, and statistical theories of science, 56** #15251; **Foundations of probability theory, statistical inference, and statistical theories of science, 56** #15252 (EA **58**) *and* **Foundations of probability theory, statistical inference, and statistical theories of science, 56** #15253

oker, J. W. (*with* Burton, T. A.) On solutions of differential equations tending to zero. *J. Reine Angew. Math.* **267** (1974), 151–165. (T. Yoshizawa) **50** #702 34D20

oker, William W. Equations of motion for interconnected rigid and elastic bodies: a derivation independent of angular momentum. *Celestial Mech.* **11** (1975), 337–359. (R. E. Roberson) **52** #2311 70.34

okway, Raymond J. (*with* Ernst, George W.) The use of higher order logic in program verification. Special issue on automated theorem proving. *IEEE Trans. Computers* **C-25** (1976), *no*. 8, 844–851. (A. Ja. Pljuškevičene) **55** #11673 68A05

ol, Bryce Temporary Walrasian equilibrium in a monetary economy. *Adaptive economic models* (*Proc. Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1974), *pp*. 499–512. *Math. Res. Center, Univ. Wisconsin, Publ. No.* 34, *Academic Press, New York*, 1975. (From the author's introduction) **57** #2482 90A15

oley, Christopher On the intervals between numbers that are sums of two squares. *Acta Math.* **127** (1971), 279–297. (V. C. Dumir) **45** #3350 10J05

On the lattice points on unicursal cubic curves. *Ark. Mat.* **9**, 211–222 (1971). (A. L. Whiteman) **48** #237 10B35 (14G05)

On the Brun-Titchmarsh theorem. *J. Reine Angew. Math.* **255** (1972), 60–79. (H. G. Diamond) **46** #3463 10H15

On the intervals between consecutive terms of sequences. *Analytic number theory* (*Proc. Sympos. Pure Math., Vol. XXIV, St. Louis Univ., St. Louis, Mo.*, 1972), *pp*. 129–140. *Amer. Math. Soc., Providence, R.I.*, 1973. (S. L. G. Choi) **52** #5615 10L99

On the distribution of square-free numbers. *Canad. J. Math.* **25** (1973), 1216–1223. (H.-J. Kanold) **49** #2598 10H15

On the intervals between numbers that are sums of two squares. II. *J. Number Theory* **5** (1973), 215–217. (K. Thanigasalam) **48** #3904 10J05

On the largest prime factor of $p + a$. *Mathematika* **20** (1973), 135–143. (H. Halberstam) **50** #7057 10H15

On the Barban-Davenport-Halberstam theorem. II. *J. London Math. Soc.* (2) **9** (1974/75), 625–636. (Jean-Marc Deshouillers) **52** #3090b 10H30

On the intervals between numbers that are sums of two squares. III. *J. Reine Angew. Math.* **267** (1974), 207–218. (K. Thanigasalam) **49** #7225 10J15 (10H25, 10J05)

The distribution of sequences in arithmetic progressions. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B.C.*, 1974), *Vol.* 1, *pp*. 357–364. *Canad. Math. Congress, Montreal, Que.*, 1975. (Editors) **58** #16560 10H20

A note on square-free numbers in arithmetic progressions. *Bull. London Math. Soc.* **7** (1975), 133–138. (Donald L. Goldsmith) **51** #8016 10A25

On the Barban-Davenport-Halberstam theorem. III. *J. London Math. Soc.* (2) **10** (1975), 249–256. (Jean-Marc Deshouillers) **52** #3090c 10H30

On the Barban-Davenport-Halberstam theorem. IV. *J. London Math. Soc.* (2) **11** (1975), *no*. 4, 399–407. (Jean-Marc Deshouillers) **52** #3090d 10H30

On the Barban-Davenport-Halberstam theorem. I. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math.* **274/275** (1975), 206–223. (Jean-Marc Deshouillers) **52** #3090a 10H30

On the Brun-Titchmarsh theorem. II. *Proc. London Math. Soc.* (3) **30** (1975), 114–128. (H. G. Diamond) **51** #5531 10H30 (10B35, 10H20)

★Applications of sieve methods to the theory of numbers. Cambridge Tracts in Mathematics, No. 70. *Cambridge University Press, Cambridge-New York-Melbourne*, 1976. xiv + 122 *pp*. (W. Schwarz) **53** #7976 10H25 (10H30, 10J05, 10J15, 10–02)

On the Barban-Davenport-Halberstam theorem. VI. *J. London Math. Soc.* (2) **13** (1976), *no*. 1, 57–64. (Jean-Marc Deshouillers) **58** #21972b 10H20

On the Barban-Davenport-Halberstam theorem. V. *Proc. London Math. Soc.* (3) **33** (1976), *no*. 3, 535–548. (Jean-Marc Deshouillers) **58** #21972a 10H20

On the Barban-Davenport-Halberstam theorem. VII. *J. London Math. Soc.* (2) **16** (1977), *no*. 1, 1–8. (Jean-Marc Deshouillers) **58** #21973 10H20

On the representations of a number as the sum of four cubes. II. *J. London Math. Soc.* (2) **16** (1977), *no*. 3, 424–428. (Jean-Marc Deshouillers) **58** #21932b 10B35 (10L15)

On power-free numbers and polynomials. I. *J. Reine Angew. Math.* **293/294** (1977), 67–85. (Ernst Heppner) **56** #15594 10J15 (10H20)

On power-free numbers and polynomials. II. *J. Reine Angew. Math.* **295** (1977), 1–21. (Ernst Heppner) **56** #15595 10J15 (10H20)

Correction to the paper: "On power-free numbers and polynomials. II" (J. Reine Angew. Math. **295** (1977), 1–21). *J. Reine Angew. Math.* **299/300** (1978), 433. (Ernst Heppner) **58** #558 10H30

On the representations of a number as the sum of four cubes. I. *Proc. London Math. Soc.* (3) **36** (1978), *no*. 1, 117–140. (Jean-Marc Deshouillers) **58** #21932a 10B35 (10L15)

Hooper, R. C. Locally compact subgroups of metrizable topological abelian groups. *Proc. Amer. Math. Soc.* **57** (1976), *no*. 1, 159–164. (A. Lakshmi) **53** #13462 22A05

Hoor, K. *See* **Hoare, C. A. R.**

Hoormann, Cyril F. A., Jr. On Hauber's statement of his theorem. *Notre Dame J. Formal Logic* **12** (1971), 86–88. (P. Bockstaele) **45** #3151 01A55

A further examination of Saccheri's use of the "consequentia mirabilis". *Notre Dame J. Formal Logic* **17** (1976), *no*. 2, 239–247. (J. J. E. Gracia) **55** #5378 02–03 (01A45)

van Hoorn, M. C. Orthogonal simplexes in E_n. (Dutch) *Nieuw Tijdschr. Wisk.* **63** (1976), *no*. 6, 309–19. (H. Salzmann) **54** #5958 50B10

Hooshyar, M. A. On the inverse scattering problem at fixed energy for the tensor and spin-orbit potentials. *J. Mathematical Phys.* **12** (1971), 2243–2258. (K. T. Mahanthappa) **45** #6308 81.30

The inverse scattering problem at fixed energy for L^2-dependent potentials. *J. Mathematical Phys.* **13** (1972), 1931–1933. (P. Achuthan) **47** #8032 81.34

Construction of spin-orbit potentials from the phase shifts at fixed energy. *J. Mathematical Phys.* **16** (1975), 257–262. (N. Nakanishi) **52** #7357 81.34

On the inverse scattering problem for a class of spin-orbit and central potentials. *J. Mathematical Phys.* **19** (1978), *no*. 1, 253–263. (R. G. Newton) **57** #8607 81.34

Hoover, Dean W. (*with* Marcus, Marvin) Normal and Hermitian tensor products. *Linear Algebra and Appl.* **9** (1974), 1–8. (J. de Pillis) **51** #5636 15A69

Hoover, T. B. Hyperinvariant subspaces for n-normal operators. *Acta Sci. Math.* (*Szeged*) **32** (1971), 109–119. (P. A. Fillmore) **46** #7930 47A15

Quasi-similarity of operators. *Illinois J. Math.* **16** (1972), 678-686. (Norberto Salinas) **47** #866 47A65

Operator algebras with complemented invariant subspace lattices. *Indiana Univ. Math. J.* **22** (1972/73), 1029–1035. (Edward Azoff) **49** #1163 47A15 (46L15)

Operator algebras with reducing invariant subspaces. *Pacific J. Math.* **44** (1973), 173–179. (H. Halpern) **47** #4026 47A15 (46L15)

(*with* Lambert, Alan L.) Equivalence of power partial isometries. *Duke Math. J.* **41** (1974), 855–864. (Eric Nordgren) **50** #14314 47A65

Derivations, homomorphisms, and operator ideals. *Proc. Amer. Math. Soc.* **62** (1977), *no*. 2, 293-298. (Horst Behncke) **55** #8811 46L05

Hooykaas, R. *See* **Anniversaire: Naissance de Nicolas Copernicus, 50** #22

nguyễn thù'a Họ'p *See* **Nguyễn Thù'a Họ'p**

Hopcroft, John E. (*with* Greibach, Sheila A.) Independence of AFL operations. *Studies in abstract families of languages*, *pp*. 33–40. *Mem. Amer. Math. Soc., No.* 87, *Amer. Math. Soc., Providence, R.I.*, 1969. (C.-P. Schnorr (Zbl **194**, 314)) **45** #6547b 68A30

(*with* Ginsburg, Seymour; Greibach, Sheila A.) Pre-AFL. *Studies in abstract families of languages*, *pp*. 41–51. *Mem. Amer. Math. Soc., No.* 87, *Amer. Math. Soc., Providence, R.I.*, 1969. (C.-P. Schnorr (Zbl **194**, 314)) **45** #6547c 68A30

An n log n algorithm for minimizing states in a finite automaton. *Theory of machines and computations* (*Proc. Internat. Sympos., Technion, Haifa*, 1971), *pp*. 189–196. *Academic Press, New York*, 1971. (R. N. Goss) **53** #7132 68A25 (94A30)

(*with* Ginsburg, Seymour) Images of AFL under certain families of homomorphisms. *Math. Systems Theory* **5** (1971), 216–227. (M. A. Harrison) **45** #8475 68A30

(*with* Tarjan, Robert Endre) Isomorphism of planar graphs. *Complexity of computer computations* (*Proc. Sympos., IBM Thomas J. Watson Res. Center, Yorktown Heights, N. Y.*, 1972), *pp*. 131–152, 187–212. *Plenum, New York*, 1972. (P. E. O'Neil) **53** #7114 68A10 (05C10)

(*with* Tarjan, Robert Endre) Planarity testing in V log V steps: extended abstract. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems*, *pp*. 85–90. *North-Holland, Amsterdam*, 1972. (A. T. Amin) **53** #7113 68A10

(*with* Ullman, Jeffrey D.) Fast algorithms for set manipulation. *Combinatorial algorithms* (*Courant Comput. Sci. Sympos.* 9, *New York Univ., New York*, 1972), *pp*. 1–10. *Algorithmics Press, New York*, 1973. (E. M. Reingold) **50** #9041 68A10

(*with* Musinski, J.) Duality applied to the complexity of matrix multiplications and other bilinear forms. *Fifth Annual ACM Symposium on Theory of Computing* (*Austin, Tex.*, 1973), *pp*. 73–87. *Assoc. Comput. Mach., New York*, 1973. (Ondrej Sýkora) **56** #17201 68A20

(*with* Aho, Alfred V.; Ullman, Jeffrey D.) On finding lowest common ancestors in trees. *Fifth Annual ACM Symposium on Theory of Computing* (*Austin, Tex.*, 1973), *pp.* 253–265. *Assoc. Comput. Mach., New York*, 1973. (I. Hal Sudborough) **57** #18178 68A05

(*with* Tarjan, Robert Endre) A $V \log V$ algorithm for isomorphism of triconnected planar graphs. *J. Comput. System Sci.* **7** (1973), 323–331. (Ivan Havel) **49** #10178 68A10 (05C99)

(*with* Tarjan, Robert Endre) Dividing a graph into triconnected components. *SIAM J. Comput.* **2** (1973), 135–158. (W.-K. Chen) **48** #5733 94A20 (68A10)

(*with* Musinski, J.) Duality applied to the complexity of matrix multiplication and other bilinear forms. *SIAM J. Comput.* **2** (1973), 159–173. (Authors' summary) **57** #11172 68A20

(*with* Karp, Richard M.) An $n^{5/2}$ algorithm for maximum matchings in bipartite graphs. *SIAM J. Comput.* **2** (1973), 225–231. (Torrence D. Parsons) **49** #2468 05C99

(*with* Ullman, Jeffrey D.) Set merging algorithms. *SIAM J. Comput.* **2** (1973), 294–303. (Authors' summary) **48** #7652 68A10

Complexity of computer computations. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974), *pp.* 620–626. *North-Holland, Amsterdam*, 1974. (Jan van Leeuwen) **53** #14979 68A20

(*with* Wong, J. K.) Linear time algorithm for isomorphism of planar graphs: preliminary report. *Sixth Annual ACM Symposium on Theory of Computing* (*Seattle, Wash.*, 1974), *pp.* 172–184. *Assoc. Comput. Mach., New York*, 1974. (A. K. Dewdney) **55** #6934 68A10

(*with* Tarjan, Robert Endre) Efficient planarity testing. *J. Assoc. Comput. Mach.* **21** (1974), 549–568. (D. G. Corneil) **50** #11841 68A10 (05C99)

(*with* Bunch, James R.) Triangular factorization and inversion by fast matrix multiplication. *Math. Comp.* **28** (1974), 231–236. (Authors' summary) **48** #10083 65F30

(*with* Aho, Alfred V.; Ullman, Jeffrey D.) ★The design and analysis of computer algorithms. Second printing. Addison-Wesley Series in Computer Science and Information Processing. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1975. x + 470 *pp.* (M. Tetruašvili) **54** #1706 68A10 (68A20)

(*with* Paul, Wolfgang J.; Valiant, Leslie G.) On time versus space and related problems. *16th Annual Symposium on Foundations of Computer Science* (*Berkeley, Calif.*, 1975), *pp.* 57–64. *IEEE Computer Society, Long Beach, Calif.*, 1975. (Zvi Galil) **55** #1809 68A20 (68A25, 68A30)

(*with* Aho, Alfred V.; Ullman, Jeffrey D.) On finding lowest common ancestors in trees. *SIAM J. Comput.* **5** (1976), *no.* 1, 115–132. (M. Tetruašvili) **53** #2007 68A10 (68A20)

(*with* Paul, Wolfgang J.; Valiant, Leslie G.) On time versus space. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 2, 332–337. (R. E. Stearns) **56** #1798 68A20

See also **Cybernetics collection**, **47** #6379; **Complexity of computations and algorithms**, **51** #2325; **Deo, Narsingh**, **52** #7194; **Cybernetics collection**, **52** #16085; **Cybernetics collection**, **52** #16086 *and* **Languages and automata**, **55** #1857

Hopenwasser, Alan Isometries on irreducible triangular operator algebras. *Math. Scand.* **30** (1972), 136–140. (József Szücs) **48** #12076 46L15

Completely isometric maps and triangular operator algebras. *Proc. London Math. Soc.* (3) **25** (1972), 96–114. (J. A. Erdos) **48** #883 46L05

Boundary representations on C^*-algebras with matrix units. *Trans. Amer. Math. Soc.* **177** (1973), 483–490. (T. W. Palmer) **48** #884 46L05

Ergodic automorphisms and linear spaces of operators. *Duke Math. J.* **41** (1974), 747–757. (J.-P. Conze) **52** #3474 28A65 (47A35)

On the norm of the sum of certain operators. *Illinois J. Math.* **19** (1975), 302–307. (Humphrey S. Fong) **51** #13190 28A65 (47A35)

The radical of a reflexive operator algebra. *Pacific J. Math.* **65** (1976), *no.* 2, 375–392. (S. Sakai) **55** #13258 46L15 (47A15)

(*with* Plastiras, Joan Kathryn) Isometries of quasitriangular operator algebras. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 2, 242–244. (J. D. Gray) **56** #6421 46L15

Boundary representations and tensor products of C^*-algebras. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 1, 95–98. (Christopher Lance) **58** #2320 46L05

Hopf, Eberhard *See* **Collection: Hopf, Eberhard**, **52** #5244 *and* **Anselone, P. M.**, **52** #5287

Hopf, Heinz (*with* Katsurada, Yoshie) Some congruence theorems for closed hypersurfaces in Riemann spaces. III. Method based on Voss' proof. *Comment. Math. Helv.* **46** (1971), 478–486. (C.-C. Hsiung) **46** #2609 53C40

(*with* Aleksandrov, P. S.) ★Topologie. Band I. Grundbegriffe der mengentheoretischen Topologie, Topologie der Komplexe, topologische Invarianzsätze und anschliessende Begriffsbildungen. Verschlingungen im n-dimensionalen euklidischen Raum, stetige abbildungen von Polyedern. Reprint of the 1935 first edition. Including an addendum based on an article by Hing Tong, George Kozlowski and Mary Powderly ("On a problem of Alexandroff and Hopf", Bull. Inst. Math. Acad. Sinica 3 (1975), no. 1, 15–16). *Chelsea Publishing Co., Bronx, N. Y.*, 1972. iii + 637 *pp.* (Editors) **53** #78 01A75

(*with* Aleksandrov, P. S.) ★Topologie. I. Berichtigter Reprint. Die Grundlehren der mathematischen Wissenschaften, Band 45. *Springer-Verlag, Berlin-New York*, 1974. xiii + 636 + 2 *pp.* (Editors) **49** #9826 55–XX (54–02, 55Cxx)

See also **Obituary: Hopf, Heinz**, **45** #1720; **Voss, Konrad**, **48** #3686; **Lectures: Algebraic and differential topology**, **49** #6216; **Geometrie**, **50** #8251; **Behnke, Heinrich**, **51** #5235; **Eckmann, Beno**, **52** #5299; **Hilton, Peter John**, **52** #5300; **Aleksandrov, P. S.**, **55** #37; **Samelson, Hans**, **55** #38; **Aleksandrov, P. S.**, **55** #12429 *and* **Eckmann, Beno**, **58** #27104

Hopfinger, Eckhard Optimale Auswahl von Stichproben. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Ljubljana, 1972). *Z. Angew. Math. Mech.* **53** (1973), T225–T226. (R. K. Guy) **50** #1747 90D40

Zuverlässige Inspektionsstrategien. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **31** (1974/75), 35–46. (D. Bierlein) **50** #15954 90D35

★Reliable inspection strategies. A game theoretic analysis of sampling inspection problems arising in the context of the non-proliferation treaty and market leadership. Mathematical Systems in Economics, No. 17. *Verlag Anton Hain, Meisenheim am Glan*, 1975. ii + 66 *pp.* (M. Stoica) **54** #9704 90D45

(*with* Steinhardt, Ulrich) On the exact evaluation of finite activity networks with stochastic durations of activities. *Optimization and operations research* (*Proc. Conf. Oberwolfach*, 1975), *pp.* 143–145. *Lecture Notes in Econom. Math. Systems, Vol.* 117 *Springer, Berlin*, 1976. (A. A. Pervozvanskiĭ) **56** #11574 94A20 (90Bxx)

On the solution of the unidimensional local minimization problem. *J. Optimization Theory Appl.* **18** (1976), *no.* 3, 425–428. (K. Swarup) **56** #17813 90C20

Errata corrige: "On the solution of the unidimensional local minimization problem" (J. Optimization Theory Appl. **18** (1976), no. 3, 425–428). *J. Optimization Theory Appl.* **23** (1977), *no.* 3, 471. (Editors) **57** #8003 65K05

Ein allgemeines Modell zur Kostenminimierung bei Entscheidungsnetzplänen. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T331–T332. (Knut Richter) **56** #14591 90A1

Höpfner, J. (*with* Schincke, Erich) Erzeugung von Pseudozufallszahlenfolgen mit stückweise polygonaler Verteilung. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **9** (1972), 63–68. (V. Dupač) **46** #8375 65C10

Hopgood, D. J. (*with* McKee, S.) Improved root-finding methods derived from inverse interpolation. *J. Inst. Math. Appl.* **14** (1974), 217–228. (W. M. Kincaid) **51** #2276 65H05

Hopkin, Arthur M. (*with* Lecoq, Lionel P.) A functional analysis approach to L_∞ stability and its applications to systems with hysteresis. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 3, 328–338. (Peter A. Cook) **55** #14351 93D99

Hopkins, A. L., Jr. *See* **Control in space**, **48** #13320

Hopkins, David S. P. (*with* Grinold, Richard C.) Duality overlap in infinite linear programs. *J. Math. Anal. Appl.* **41** (1973), 333–335. (Authors' summary) **47** #3003 90C05

(*with* Grinold, Richard C.) Computing optimal solutions for infinite-horizon mathematical programs with a transient stage. Mathematical programming and its applications. *Operations Res.* **21** (1973), 179–187. (G. Owen) **50** #3922 90C05

Hopkins, H. G. The method of characteristics and its application to the theory of stress waves in solids. *Engineering plasticity* (*Conf., Cambridge*, 1968), *pp.* 277–315. *Cambridge Univ. Press, London*, 1968. (C.-B. Ling) **45** #2964 73.35

See also **Collection: Prager, William**, **48** #1566

Hopkins, T. R. (*with* Wait, R.) A comparison of numerical methods for the solution of quasilinear partial differential equations. *Comput. Methods Appl. Mech. Engrg.* **9** (1976), *no.* 2, 181–190. (Todd Dupont) **56** #13733 65P05

(*with* Wait, R.) A comparison of Galerkin, collocation and the method of lines for partial differential equations. *Internat. J. Numer. Methods Engrg.* **12** (1978), *no.* 7, 1081–1107. (David Gottlieb) **58** #13784 65N30

Hopkinson, J. F. L. (*with* Collins, P. A.; Tucker, R. W.) Classical solutions for the relativistic three-string baryon problem. *Nuclear Phys. B* **100** (1975), *no.* 1, 157–178. (I. I. Kolodner) **52** #16400 81.49

(*with* Tucker, R. W.; Collins, P. A.) Quantum strings and the functional calculus. *Phys. Rev. D* (3) **12** (1975), *no.* 6, 1653–1677. (Kishin Mariwalla) **57** #2312 81.47

(*with* Collins, P. A.; Tucker, R. W.) Folded world sheets and the orientable string. *Nuclear Phys. B* **103** (1976), *no.* 1, 67–78. (P. Havas) **54** #2117 83.58

Höpner, Matthias Eine Charakterisierung der Szilardsprachen und ihre Verwendung als Steuersprachen. *Vierte Jahrestagung der Geselschaft für Informatik* (*Berlin*, 1974), *pp.* 113–121. *Lecture Notes in Comput. Sci., Vol.* 26, *Springer, Berlin*, 1975. (Walter Oberschelp) **54** #9172 68A30

(*with* Opp, Manfred) Renaming and erasing in Szilard languages. *Automata, languages and programming* (*Fourth Colloq., Univ. Turku, Turku*, 1977), *pp.* 244–257 *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin*, 1977. (Branislav Rovan) **58** #3724 68A30

Hoppe, F. (*with* Fröhlich, S.) Arbeitskräfte- und Bildungsplanung in mathematischer Sicht. *Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **22** (1973), 1–7. (R. Vahrenkamp) **50** #3887 90A10

Hoppe, Fred M. Stationary measures for multitype branching processes. *J. Appl. Probability* **12** (1975), 219–227. (Norman Kaplan) **51** #9245 60J80

Supercritical multitype branching processes. *Ann. Probability* **4** (1976), *no.* 3, 393–401. (S. Dubuc) **54** #8903 60J80

On a result of Rubin and Vere-Jones concerning subcritical branching processes. *J. Appl. Probability* **13** (1976), *no.* 4, 804–808. (E. Seneta) **54** #6306 60J80

Representations of invariant measures on multitype Galton-Watson processes. *Ann. Probability* **5** (1977), *no.* 2, 291–297. (E. Seneta) **55** #4405 60J80

Convex solutions of a Schröder equation in several variables. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 2, 326–330. (E. Seneta) **56** #1486 60J80

The critical Bienaymé-Galton-Watson process. *Stochastic Processes Appl.* **5** (1977), *no.* 1, 57–66. (E. Seneta) **54** #14131 60J80

(*with* Goldstein, Martin I.) Limit theorems for the critical age-dependent branching process with infinite variance. *Stochastic Processes Appl.* **5** (1977), *no.* 3, 297–305. (E. Seneta) **56** #16811 60J80

(*with* Goldstein, Martin I.) Necessary conditions for normed convergence of critical multitype Bienaymé-Galton-Watson processes without variance. *J. Multivariate Anal.* **8** (1978), *no.* 1, 55–62. (D. R. Grey) **58** #3080 60J80

Hoppe, J. Universalautomaten—Eigenschaften und technische Realisierung. *Z. Elek Informations- und Energietech.* **4** (1974), 379–390. (Horst Reichel) **54** #9888 94A25

Ein Verfahren zur modularen Realisierung von Automaten. *Nachrichtentech. Elektronik* **25** (1975), *no.* 8, *A*, 306–309. (R. N. Goss) **54** #4864 94A30

Hoppe, Johannes ★Johannes Kepler. (German) Second edition. Biographien hervorragender Naturwissenschaftler, Techniker und Mediziner, 17. *BSB B. G. Teubner Verlagsgesellschaft, Leipzig*, 1976. 100 *pp.* (Editors) **58** #21299 01A70

Hoppe, K. Über die spektrale Zerlegung der algebraischen Formen auf der Grassmann-Mannigfaltigkeit. *S.-B. Heidelberger Akad. Wiss. Math.-Natur. Kl.* **1971**, 183–238. (A. N. Andrianov) **45** #8658 14A20

Hoppe, Klaus Kugeldarstellungen der orthogonalen Gruppe. *Math. Ann.* **204** (1973), 227–237. (Kenneth Johnson) **52** #3434 22E45

Hoppe, Viggo Specification of geometrical parameters for elements with cubic mapping functions. *Internat. J. Numer. Methods Engrg.* **7** (1973), 94–98. (J. W. Jerome) **48** #12786 65E05

Hoppensteadt, Frank C. A geometric approach to boundary value problems for nonlinear ordinary differential equations with a small parameter. *Analytic theory of differential equations* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1970), 35–41. *Lecture Notes in Math., Vol.* 183, *Springer, Berlin*, 1971. (R. E. O'Malley, Jr.) **52** #6127 34E15

(*with* Waltman, Paul) A problem in the theory of epidemics. II. *Math. Biosci.* **12** (1971), 133–145. (S. P. Hastings) **46** #1373 92A15

Justification of matched asymptotic expansion solutions for some singular perturbation problems. *Partial differential equations* (*Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif.*, 1971), *pp.* 337–341. *Amer. Math. Soc., Providence, R.I.*, 1973. (W. M. Greenlee) **49** #3298 35B25 (34G05)

(*with* Miranker, Willard L.) Numerical methods for stiff systems of differential equations related with transistors, tunnel diodes, etc. *Computing methods in applied sciences and engineering* (*Proc. Internat. Sympos., Versailles*, 1973), *Part* 1, *pp.* 416–432. *Lecture Notes in Comput. Sci., Vol.* 10, *Springer, Berlin*, 1974. (I. Norman Katz) **55** #9544 65L05 (94A20, 34E15)

Thresholds for deterministic epidemics. *Mathematical problems in biology* (*Conf., Univ. Victoria, Victoria, B.C.*, 1973), *pp.* 96–101. *Lecture Notes in Biomath., Vol.* 2, *Springer, Berlin*, 1974. (R. Fischler) **52** #10094 92A15

Asymptotic stability in singular perturbation problems. II. Problems having matched asymptotic expansion solutions. *J. Differential Equations* **15** (1974), 510–521. (A. Erdélyi) **49** #3277 34D15

★Mathematical theories of populations: demographics, genetics and epidemics. Regional Conference Series in Applied Mathematics. *Society for Industrial and Applied Mathematics, Philadelphia, Pa.*, 1975. vii + 72 *pp.* (From the preface) **58** #26164 92A15

Solutions near bifurcated steady states. *International Conference on Differential Equations* (*Proc., Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 363–369. *Academic Press, New York*, 1975. (J. W. Macki) **54** #668 34E10

(*with* Gordon, Noam) Nonlinear stability analysis of static states which arise through bifurcation. *Comm. Pure Appl. Math.* **28** (1975), *no.* 3, 355–373. (R. Kannan) **54** #5927 47H15 (34G05, 58E99)

Analysis of a stable polymorphism arising in a selection-migration model in population genetics. *J. Math. Biol.* **2** (1975), *no.* 3, 235–240. (C. P. Bruter) **52** #16722 92A15 (35Kxx)

(*with* Greenberg, James M.) Asymptotic behavior of solutions to a population equation. *SIAM J. Appl. Math.* **28** (1975), 662–674. (P. Tautu) **51** #1312 45M05 (92A15)

Analysis of some problems having matched asymptotic expansion solutions. *SIAM Rev.* **17** (1975), 123–135. (W. M. Greenlee) **54** #10776 34E05 (34G05, 35B40)

A nonlinear renewal equation with periodic and chaotic solutions. *Asymptotic methods and singular perturbations* (*Proc. SIAM-AMS Sympos. Appl. Math., New York*, 1976), *pp.* 51–60. *SIAM-AMS Proceedings, Vol. X, Amer. Math. Soc., Providence, R.I.*, 1976. (Author's summary) **58** #26165 92A15

(*with* Miranker, Willard L.) Differential equations having rapidly changing solutions: analytic methods for weakly nonlinear systems. *J. Differential Equations* **22** (1976), *no.* 2, 237–249. (M. Ráb) **54** #10777 34E05

(*with* Miranker, Willard L.) Multitime methods for systems of difference equations. *Studies in Appl. Math.* **56** (1976/77), *no.* 3, 273–289. (Dennis D. Berkey) **57** #1941 65Q05

A slow selection analysis of two locus, two allele traits. *Theoret. Population Biology* **9** (1976), *no.* 1, 68–81. (Susan Wilson) **53** #15417 92A10

★Mathematical methods of population biology. *Courant Institute of Mathematical Sciences, New York University, New York*, 1977. v + 167 *pp.* (D. Ludwig) **56** #14827 92A15

Optimal exploitation of a spatially distributed fishery. *New trends in systems analysis* (*Proc. Internat. Sympos., Versailles*, 1976), *pp.* 3–18. *Lecture Notes in Control and Informat. Sci., Vol.* 2, *Springer, Berlin*, 1977. (J. W. Jerome) **58** #9413 92A15

(*with* Gordon, Noam) An analysis of transient behavior in the onset of convection. *Singular perturbations and boundary layer theory* (*Proc. Conf., École Centrale, Lyon*, 1976), *pp.* 231–243. *Lecture Notes in Math., Vol.* 594, *Springer, Berlin*, 1977. (A. Elcrat) **57** #8416 76.41 (35Q10)

(*with* Hyman, James M.) Periodic solutions of a logistic difference equation. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 73–81. (G. S. Ladde) **57** #17053 39A10 (58F15, 92A15)

(*with* Cohen, Donald S.; Miura, Robert M.) Slowly modulated oscillations in nonlinear diffusion processes. *SIAM J. Appl. Math.* **33** (1977), *no.* 2, 217–229. (Archibald Brown) **56** #6120 35K40 (80.35)

(*with* Persek, S. C.) Iterated averaging methods for systems of ordinary differential equations with a small parameter. *Comm. Pure Appl. Math.* **31** (1978), *no.* 2, 133–156. (James A. Murdock) **57** #3524 34C30 (34C25)

(*with* Levi, M.; Miranker, Willard L.) Dynamics of the Josephson junction. *Quart. Appl. Math.* **36** (1978/79), *no.* 2, 167–198. (Vladimir Sips) **58** #3972 78.35 (80.35)

(*with* Flaherty, Joseph E.) Frequency entrainment of a forced van der Pol oscillator. *Studies in Appl. Math.* **58** (1978), *no.* 1, 5–15. (G. V. Hmelevskaja-Plotnikov) **58** #17324 34C15 (70.34)

See also **Advances in differential and integral equations**, **50** #10389 *and* **Singular perturbations and boundary layer theory**, **56** #810

pper, Grace M. *See* **Origins of digital computers**, **50** #6760

pper, M. J. (*with* Powell, M. J. D.) A technique that gains speed and accuracy in the minimax solution of overdetermined linear equations. *Mathematical software, III* (*Proc. Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1977), *pp.* 15–33. *Publ. Math. Res. Center, No.* 39, *Academic Press, New York*, 1977. (A. Lee) **58** #3371 65F20

ppmann, A. G. Eine Klassification der generalisierten Kurven. *Portugal. Math.* **29** (1970), 167–175. (Á. Császár) **45** #1125 54F20

ppner, Hans-Joachim Zur Datierung des Stückes *De calculo situum*. *Studia Leibnitiana* **2** (1970), *no.* 3, 233–235. (Editors) **58** #26964 01A50

ppner, Michael (*with* Lenzing, Helmut) Flache und halbinjektive Funktoren. (English summary) *Manuscripta Math.* **20** (1977), *no.* 4, 315–322. (Wolfgang Grolz) **56** #12093 18E10 (16A50)

Höppner, Wolfgang Die charakteristische Problemstellung für lokale Lösungen partieller komplexer Differentialgleichungssysteme. Tagungsbericht zur ersten Tagung der WK Analysis (1970). *Beiträge Anal. No.* 4 (1972), 177–180. (M. Hervé) **49** #9388 35C10

Über *n*-dimensionale Verallgemeinerungen der Beltramischen Differentialgleichung und die Struktur ihrer Lösungsmengen. *Beiträge zur komplexen Analysis und deren Anwendungen in der Differentialgeometrie*, *pp.* 53–62. *Schr. Zentralinst. Math. Mech. Akad. Wissensch. DDR*, *No.* 18, *Akademie-Verlag, Berlin*, 1974. (T. Kuusalo) **52** #15303 53C15 (35F05)

Über die Anwendung von singulären Integraloperatoren zur Konstruktion von Lösungen überbestimmter Systeme linearer partieller Differentialgleichungen in mehreren komplexen Veränderlichen. *Math. Nachr.* **78** (1977), 77–95. (Author's review (Zbl **326** #35063)) **58** #29406 35N10 (32A99, 32C15)

A generalization of the Beltrami equation to several complex variables. *Proceedings of the First Finnish-Polish Summer School in Complex Analysis* (*Podlesice*, 1977), *Part II*, *pp.* 75–79. *Univ. Łódź, Łódź*, 1978. (Makhlouf Derridj) **58** #11481 32A25

Hopponen, Jerry D. *See* **Bibliography: Fixed point theory**, **48** #975

Hoq, A. K. M. S. (*with* Ali, Mir M.; Templeton, J. G. C.) Estimation of parameters of a generalized life testing model. *J. Statist. Res.* **8** (1974), *no.* 2, 67–79. (Lai K. Chan) **53** #4429 62N05

Hor, Chan Gin *See* **Chan, Gin Hor**

Hora, H. *See* **Dirac, Paul Adrien Maurice**, **57** #18520

Hora, N. S. Some infinite series of *H*-functions of two variables. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **17** (1974), *no.* 3, 177–183. (R. K. Saxena) **54** #13170 33A35

Some expansion formulae for *H*-function of two variables. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **18** (1975), *no.* 1, 47–55. (U. C. Jain) **52** #11138 33A35

Fourier series for *H*-function of two variables. I. *Kyungpook Math. J.* **16** (1976), *no.* 1, 77–83. (C. L. Parihar) **54** #10703 33A35

Hora, R. B. (*with* Kimura, Naoki) Commutative semigroups of type (m,p,n,q). I. Monovariable cases. *Proc. Japan Acad.* **48** (1972), 555–560. (D. B. McAlister) **48** #452 20M10

On factorizable simple and commutative semigroups. *J. Natur. Sci. and Math.* **13** (1973), *no.* 1, 51–61. (F. R. McMorris) **52** #3383 20M10

(*with* Kimura, Naoki) The direct sum of semigroups is of inner type. *Semigroup Forum* **11** (1975/76), *no.* 2, 95–101. (H. J. Weinert) **52** #8299 20M10

Horáček, J. (*with* Malina, Lubor) Cubic splines and the Lippmann-Schwinger equation. *Czechoslovak J. Phys.* **27B** (1977), *no.* 1, 1–6. (John P. Coleman) **55** #5079 81.65

Horáček, Oldřich L'existence d'une solution classique d'une équation d'ondes non-linéaire dans E_1. *Comment. Math. Univ. Carolinae* **12** (1971), 635–638. (D. L. Russell) **45** #3959 35L05

Horadam, A. F. (*with* Shannon, A. G.) Generating functions for powers of third order recurrence sequences. *Duke Math. J.* **38** (1971), 791–794. (A. G. Law) **45** #7325 39A10 (05A15)

Pell identities. *Fibonacci Quart.* **9** (1971), *no.* 3, 245–252, 263. (L. K. Durst) **46** #7144 10A35

(*with* Walton, J. E.) Some properties of certain generalized Fibonacci matrices. *Fibonacci Quart.* **9** (1971), *no.* 3, 264–276. (R. Alter) **47** #3305 10A35

(*with* Shannon, A. G.) Reciprocals of generalized Fibonacci numbers. *Fibonacci Quart.* **9** (1971), *no.* 3, 299–306, 312. (H. W. Gould) **46** #8957 10A35

(*with* Shannon, A. G.) A generalized Pythagorean theorem. *Fibonacci Quart.* **9** (1971), *no.* 3, 307–312. (R. Finkelstein) **46** #3432 10A35

(*with* Shannon, A. G.) Some properties of third-order recurrence relations. *Fibonacci Quart.* **10** (1972), *no.* 2, 135–145. (R. N. Jain) **45** #8626 10L10

(*with* Shannon, A. G.) Generalized Fibonacci number triples. *Amer. Math. Monthly* **80** (1973), 187–190. (J. M. Gandhi) **48** #3863 10A35

(*with* Walton, J. E.) Some aspects of generalized Fibonacci numbers. *Fibonacci Quart.* **12** (1974), 241–250. (D. H. Lehmer) **50** #9777 10A35

Oresme numbers. *Fibonacci Quart.* **12** (1974), 267–271. (Richard T. Bumby) **50** #4468 10A35

(*with* Walton, J. E.) Some further identities for the generalized Fibonacci sequence $\{H_n\}$. *Fibonacci Quart.* **12** (1974), 272–280. (J. B. Kelly) **50** #12899 10A35

On generating functions for powers of a generalized sequence of numbers. *Fibonacci Quart.* **12** (1974), 348, 350, 353, 362. (R. N. Jain) **50** #9774 10A35

(*with* Shannon, A. G.; Collings, S. N.) Some congruences for Fibonacci numbers. *Fibonacci Quart.* **12** (1974), 351–354. (S. I. Gendler) **50** #7011 10A35

(*with* Shannon, A. G.) Ward's Staudt-Clausen problem. *Math. Scand.* **39** (1976), *no.* 2, 239–250 (1977). (L. Carlitz) **56** #5411 10A40

Polynomials associated with Chebyshev polynomials of the first kind. *Fibonacci Quart.* **15** (1977), *no.* 3, 255–257. (Myron S. Henry) **57** #6954 41A10

Generating identities for generalized Fibonacci and Lucas triples. *Fibonacci Quart.* **15** (1977), *no.* 4, 289–292. (Editors) **57** #3066 10A35

Horak, H. G. (*with* Carter, L. L.; Sandford, M. T., II) An adjoint Monte Carlo treatment of the equations of radiative transfer for polarized light. *J. Computational Phys.* **26** (1978), *no.* 2, 119–138. (Authors' summary) **57** #11392 80.60

Horák, Karel On the Perron-Frobenius theory for sets of positive operators. *Comment. Math. Univ. Carolin.* **19** (1978), *no.* 2, 265–279. (S. P. Singh) **58** #17971 47G05 (47D99)

Horak, M. G. (*with* Aziz, A. K.) Periodic solutions of hyperbolic partial differential equations in the large. *SIAM J. Math. Anal.* **3** (1972), 176–182. (L. Cesari) **47** #605 35B10 (35L60)

Horák, R. (*with* Peřina, J.; Peřinová, Vlasta) Evolution of the photon statistics of light propagating through a random medium. I. Solutions of the dynamic field equations, characteristic functions and quasi-distributions. *Czechoslovak J. Phys.* **23B** (1973), 975–992. (Authors' summary) **50** #15603 78.35

(*with* Peřina, J.; Peřinová, Vlasta) Evolution of the photon statistics of light propagating through a random medium. II. Diament-Teich and generalized Tatarski descriptions of the photon counting statistics as approximations of the exact solution. Exact photon counting statistics. *Czechoslovak J. Phys.* **23B** (1973), 993–1007. (Authors' summary) **50** #15604 78.35

Horák, Zdeněk Isaac Newton died 250 years ago. (Czech) *Pokroky Mat. Fyz. Astronom.* **22** (1977), *no.* 5, 263–269. (Editors) **58** #4941 01A70 (01A50)

See also **Grigor′jan, A. T.; et al., 57** #15909

Horálek, V. On nonhomogeneous birth-immigration-death processes. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *Vol. I, pp.* 323–334. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (John Radcliffe) **52** #12110 60J85

Horbanowicz, Z. (*with* Emeryk, A.) On atomic mappings. *Colloq. Math.* **27** (1973), 49–55. (R. F. Dickman, Jr.) **48** #4987 54C10 (54F15)

Horchani, Salah Sur un nouveau groupe de symétrie de la mécanique quantique relativiste. (English summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **15** (1971), 321–349. (A. O. Barut) **45** #1490 81.22

Sur les déformations de l'algèbre de Lie $\mathfrak{h}_4 \cdot \mathfrak{sl}(2, \mathbf{C})$. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A201–A203. (Editors) **58** #28092 17B10

Sur les représentations locales du groupe $H_4 . \mathrm{SL}\ (2, C)$. *C.R. Acad. Sci. Paris Sér. A-B* **276** (1973), A419–A422. (A. O. Barut) **47** #6211 81.22

(*with* Beau, Daniel) Sur une classe de groupes susceptibles d'unifier les symétries externe et interne. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 2-3, Aiii, A115–A118. (A. O. Barut) **52** #12566a 81.22

Hord, Richard A. Torsion at an inflection point of a space curve. *Amer. Math. Monthly* **79** (1972), 371–374. (Lieven Vanhecke) **46** #800 53A05

Hordijk, Arie (*with* de Haan, Laurens) The rate of growth of sample maxima. *Ann. Math. Statist.* **43** (1972), 1185–1196. (C. W. Anderson) **47** #1107 60F99 (60F10)

(*with* Tijms, Henk) A counterexample in discounted dynamic programming. *J. Math. Anal. Appl.* **39** (1972), 455–457. (D. Hochstädter) **46** #6786 90A05

★On the convergence of the average expected return in dynamic programming. Mathematisch Centrum, Afdeling Mathematische Besliskunde, No. BW 20/73. [Mathematical Center, Decision Theory Section, No. BW 20/73] *Mathematisch Centrum, Amsterdam*, 1973. ii + 4 *pp.* (Editors) **52** #15181 49C99

(*with* Tijms, Henk) ★Convergence results and approximations for optimal (s, S) policies. Mathematisch Centrum, Afdeling Mathematische Besliskunde, No. BW 22/73. [Mathematical Center, Decision Theory Section, No. BW 22/73] *Mathematisch Centrum, Amsterdam*, 1973. ii + 14 *pp.* (Editors) **52** #16557 90B05

(*with* Tijms, Henk) ★A modified form of the iterative method of undiscounted dynamic programming. Mathematisch Centrum, Afdeling Mathematische Besliskunde, No. BW 21/73. [Mathematical Center, Decision Theory Section, No. BW 21/73] *Mathematisch Centrum, Amsterdam*, 1973. iii + 9 *pp.* (Editors) **52** #16652 90C40

A sufficient condition for the existence of an optimal policy with respect to the average cost criterion in Markovian decision processes. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ. Prague, Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 263–274. *Academia, Prague*, 1973. (Sheldon M. Ross) **51** #5030 90C40

(*with* Tijms, Henk) Convergence results and approximations for optimal (s, S) policies. *Management Sci.* **20** (1973/74), 1432–1438. (D. L. Iglehart) **51** #2609 90B05

★Dynamic programming and Markov potential theory. Unaltered printing of the author's thesis. Mathematical Centre Tracts, No. 51. *Mathematisch Centrum, Amsterdam*, 1974. vi + 134 *pp.* (*loose addendum*) (A. A. Juškevič) **55** #5216 90C40 (60J45)

On the convergence of the average expected return in dynamic programming. *J. Math. Anal. Appl.* **46** (1974), 542–544. (F. Odeh) **50** #3072 49C99

(*with* Tijms, Henk) On a conjecture of Iglehart. *Management Sci.* **21** (1974/75), *no.* 11, 1342–1345. (Stratton C. Jaquette) **55** #11998 90B05

(*with* Tijms, Henk) The method of successive approximations and Markovian decision problems. *Operations Res.* **22** (1974), *no.* 3, 519–521. (Yvo M. I. Dirickx) **56** #2208 90A05 (60J20)

(*with* Tijms, Henk) A modified form of the iterative method of dynamic programming. *Ann. Statist.* **3** (1975), 203–208. (I. V. Romanovskiĭ) **51** #15003 90C40

(*with* Schweitzer, Paul J.; Tijms, Henk) The asymptotic behaviour of the minimal total expected cost for the denumerable state Markov decision model. *J. Appl. Probability* **12** (1975), 298–305. (H. Taylor) **51** #15004 90C40

(*with* Holewijn, P. J.) On the convergence of moments in stationary Markov chains. *Stochastic Processes Appl.* **3** (1975), 55–64. (Humphrey S. Fong) **51** #1967 60J10

(*with* Iglehart, Donald L.; Schassberger, Rolf) Discrete time methods for simulating continuous time Markov chains. *Advances in Appl. Probability* **8** (1976), *no.* 4, 772–788. (M. F. Neuts) **54** #11690 62M05 (60J10, 60K15, 65C05)

Regenerative Markov decision models. Stochastic systems: modeling, identification and optimization, II (Proc. Sympos., Univ. Kentucky, Lexington, Ky., 1975). *Math. Programming Stud. No.* 6 (1976), 49–72. (Tsuneo Yoshikawa) **57** #5116 90C40

(*with* Tijms, Henk) A simple proof of the equivalence of the limiting distributions of the continuous-time and the embedded process of the queue size in the $M/G/1$ queue. *Statistica Neerlandica* **30** (1976), *no.* 2, 97–100. (T. Kawata) **54** #14151 60K25

(*with* van Hee, Kees M.; van der Wal, J.) Successive approximations for convergent dynamic programming. *Markov decision theory* (*Proc. Adv. Sem., Amsterdam*, 1976), *pp.* 183–211. *Math. Centre Tracts, No.* 93, *Math. Centr., Amsterdam*, 1977. (Jaap Wessels) **58** #4347 90C40

(*with* Sladký, Karel) Sensitive optimality criteria in countable state dynamic programming. *Math. Oper. Res.* **2** (1977), *no.* 1, 1–14. (L. C. Thomas) **56** #14737 90C40

Horecký, Ján *See* **Prague studies in mathematical linguistics, 54** #11872; **Prague studies in mathematical linguistics, 57** #4679a *and* **Prague studies in mathematical linguistics, 57** #4679b

Horedt, G. P. (*with* Viala, Y.) Emden's functions for polytropes with negative index. *Astronom. and Astrophys. Suppl. Ser.* **16** (1974), 173–206. (F. Stenger) **50** #6114 65D20

Horedt, Gp. Single close encounters in the planetary problem. *Celestial Mech.* **6** (1972), 232–241. (V. Szebehly) **52** #12452 70.34

Horeev, V. I. Models of certain organization systems. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no.* 1, 58–63. (Author's summary) **46** #1381 93A10

(*with* Anan′ev, A. P.) Special solutions of systems of algebraic equations and inequalities in problems of organization control. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 5, 52–55. (V. V. Ivanov) **48** #10100 65K05

Hořejš, J. An algebraic model for parallel processes. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School, Štrbské Pleso*, 1973), *pp.* 235–238. *Math Inst., Slovak Acad. Sci., Bratislava*, 1973. (V. A. Val′kovskiĭ) **53** #7099 68A05

Hořejš, Jiří Theoretical foundations of computer science. (Czech) *Pokroky Mat. Fyz. Astronom.* **20** (1975), 15–26. (J. S. Joel) **58** #13831 68–01

Horen, Jeffrey H. (*with* Yuan, John S. C.; Wagner, Harvey M.) Optimal multi-product production scheduling and employment smoothing with deterministic demands. *Management Sci.* **21** (1974/75), *no.* 11, 1250–1262. (F. Giannessi) **52** #16590 90B30

Horeva, A. I. (*with* Vlasov, I. M.) Estimation of functions from a certain family. (Russian) *Differential equations* (*Russian*), *pp.* 24–28, 111. *Udmurt. Gos. Univ., Izhevsk*, 1976 (Authors' summary) **58** #3507 65L99 (34D10)

(*with* Vlasova, V. M.; Vlasova, L. I.) A boundary value problem for second order partial differential equations. (Russian) *Differential equations* (*Russian*), *pp.* 29–38, 111 *Udmurt. Gos. Univ., Izhevsk*, 1976. (Authors' summary) **58** #1769 35R10

(*with* Vlasova, V. M.; Vlasov, S. I.) Generalized solutions of equations with functionally perturbed arguments. (Russian) *Differential equations* (*Russian*), *pp.* 39–51, 111. *Udmurt. Gos. Univ., Izhevsk*, 1976. (Authors' summary) **58** #6768 35R10 (35K99)

Horgan, Cornelius O. (*with* Knowles, James K.) Eigenvalue problems associated with Korn's inequalities. *Arch. Rational Mech. Anal.* **40** (1970/71), 384–402. (Editors) **55** #13920 73.35 (35J25, 26A84)

On Saint-Venant's principle in plane anisotropic elasticity. (French summary) *J. Elasticity* **2** (1972), *no.* 3, 169–180. (Author's summary) **57** #14729 73.35

A note on the displacement boundary-value problem of linearized elastodynamics. *J. Elasticity* **2** (1972), *no.* 4, 357–360. (From the author's introduction) **57** #14730 73.35

On the strain-energy density in linear elasticity. *J. Engrg. Math.* **7** (1973), 231–234. (R. Muki) **50** #15520 73.35

A note on a class of integral inequalities. *Proc. Cambridge Philos. Soc.* **74** (1973), 127–131. (P. Bassanini) **48** #9486 49A10 (34B25)

The axisymmetric end problem for transversely isotropic circular cylinders. (Russian summary) *Internat. J. Solids and Structures* **10** (1974), 837–852. (H. R. Aggarwal) **49** #11919 73.35

(*with* Hayes, Michael) On the Dirichlet problem for incompressible elastic materials. (French summary) *J. Elasticity* **4** (1974), *no.* 1, 17–25. (Authors' summary) **57** #14727 73.35

(*with* Hayes, Michael) On the displacement boundary-value problem for inextensible elastic materials. *Quart. J. Mech. Appl. Math.* **27** (1974), 287–297. (J Mazumdar) **52** #2327 73.35

(*with* Knowles, James K.) A note on conformal mappings of convex domains. *Utilitas Math.* **5** (1974), 75–78. (J. L. Kazdan) **49** #9176 30A30

On Korn's inequality for incompressible media. *SIAM J. Appl. Math.* **28** (1975), 419–430. (T. W. Ting) **52** #2356 73.49

(*with* Wheeler, Lewis T.; Turteltaub, Matías J.) A Saint-Venant principle for the gradient in the Neumann problem. (German summary) *Z. Angew. Math. Phys.* **26** (1975), 141–153. (B. R. Seth) **51** #2400 73.31

Inequalities of Korn and Friedrichs in elasticity and potential theory. (French summary) *Z. Angew. Math. Phys.* **26** (1975), 155–164. (B. R. Seth) **51** #2399 73.31

(*with* Hayes, Michael) On mixed boundary-value problems for inextensible elastic materials. (French summary) *Z. Angew. Math. Phys.* **26** (1975), *no.* 3, 261–272. (I. M. Longman) **52** #7263 73.35

(*with* Nachlinger, R. Ray) On the domain of attraction for steady states in heat conduction. *Internat. J. Engrg. Sci.* **14** (1976), *no.* 2, 143–148. (L. E. Payne) **56** #7508 80.35

(*with* Wheeler, Lewis T.) A two-dimensional Saint-Venant principle for second-order linear elliptic equations. *Quart. Appl. Math.* **34** (1976/77), *no.* 3, 257–270. (From the authors' introduction) **56** #9063 35J15

(*with* Wheeler, Lewis T.) Isoperimetric bounds on the lowest nonzero Stekloff eigenvalue for plane strip domains. *SIAM J. Appl. Math.* **31** (1976), *no.* 2, 385–391. (V. G. Sigillito) **54** #5644 35P15 (65P05)

(*with* Wheeler, Lewis T.) Spatial decay estimates for the heat equation via the maximum principle. (French summary) *Z. Angew. Math. Phys.* **27** (1976), *no.* 3, 371–376. (K. K. Sen) **55** #13964 80.35

(*with* Wheeler, Lewis T.) Exponential decay estimates for second-order quasi-linear elliptic equations. *J. Math. Anal. Appl.* **59** (1977), *no.* 2, 267–277. (N. S. Trudinger) **58** #22971 35B40 (35J60)

(*with* Wheeler, Lewis T.) Isoperimetric inequalities for the Dirichlet eigenvalue problem. *Quart. Appl. Math.* **35** (1977/78), *no.* 3, 406–409. (G. Albinus) **58** #1732 35P15

Integral bounds for solutions of nonlinear reaction-diffusion equations. (French summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 2, 197–204. (J. Smoller) **56** #863 35K55

Plane entry flows and energy estimates for the Navier-Stokes equations. *Arch. Rational Mech. Anal.* **68** (1978), *no.* 4, 359–381. (S. I. Pai) **58** #25330 76.35 (35Q10)

(*with* Olmstead, W. E.) Stability and uniqueness for a turbulence model of Burgers. *Quart. Appl. Math.* **36** (1978/79), *no.* 2, 121–127. (D. E. Edmunds) **58** #14271 76.35 (35Q99)

(*with* Wheeler, Lewis T.) Spatial decay estimates for the Navier-Stokes equations with application to the problem of entry flow. *SIAM J. Appl. Math.* **35** (1978), *no.* 1, 97–116. (L. E. Payne) **58** #19708 76.35

Horgan, R. R. (*with* Daniel, Michael) Covariant perturbation expansion in chiral theories with pions and nucleons. *Ann. Physics* **101** (1976), *no.* 1, 22–51. (Thomas A. Barnebey) **55** #5063 81.53

Hori, Gen-ichiro (*with* Kozai, Yoshihide) Analytical theories of the motion of artificial satellites. *Satellite dynamics* (*Fourth Sympos., São Paulo*, 1974), *pp.* 1–15. *Springer, Berlin*, 1975. (John V. Breakwell) **56** #17299 70.41

Hori, Hajime Investment allocation and growth in a two-sector economy with nonshiftable capital. *Resource allocation and division of space* (*Proc. Internat. Sympos., Toba*, 1975),

. 61–82. *Lecture Notes in Econom. and Math. Systems, Vol.* 147, *Springer, Berlin*, 1977. dwin Burmeister) **58** #9138 90A15

Jun-ichi (*with* Okwamoto, Yukio; Ono, Masatoshi; Sawaya, Yuichi) Phase ansition between stationary states. I. A simple model of laser-like behaviour. *Progr. heoret. Phys.* **52** (1974), *no.* 4, 1146–1160. (M. Drăganu) **53** #10053 82.35

(*with* Shimada, Ippei) Phase transition between stationary states. II. Liapounoff nction in Bénard problem. *Prog. Theoret. Phys.* **53** (1975), *no.* 2, 411–418. (M. răganu) **53** #10054 82.35

(*with* Shimada, Ippei) Phase transition between stationary states. III. An integral quation for necessary and sufficient Liapounoff functions. *Progr. Theoret. Phys.* **55** 976), *no.* 2, 400–410. (M.Drăganu) **53** #10055 82.35

Motoo (*with* Fujimagari, Tetsuo) Note on the asymptotic normality of a stochastic rocess with independent increments. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 989–993. A. De Hoyos) **47** #1101 60F05

a, Y. General equilibrium and the Heckscher-Ohlin theory of trade: the ulti-country case. *Internat. Econom. Rev.* **15** (1974), 440–449. (G. Tintner) **51** #4947 90A15

e, Yasuichi Computational geometry. (Japanese) *Keiei-Kagaku* **16** (1972), 10–19. (S. uzino) **47** #2858 68A20

A note on entropy metrics. *Information and Control* **22** (1973), 403–404. (I. J. Good) **9** #10446 94A15

Cost-capacity problem as a "dual" to the rate-distribution theory. *Information Sci.* **6** 973), 359–369. (T. N. Bhargava) **49** #10445 94A15

On the optimum ratio of word lengths in communication. *IEEE Trans. Information heory* **IT-20** (1974), 756–758. (Author's summary) **56** #18113 94A15

A further note on the dual structure in information theory. *Information Sci.* **9** 975), *no.* 1, 81–89. (T. N. Bhargava) **52** #7715 94A15

An improved bound for weight-balanced tree. *Information and Control* **34** (1977), . 2, 148–151. (Eberhard Lüdde) **56** #5053 94A15 (94A10)

, Kenji On the characterization of the linear partial differential operators of yperbolic type. *Proc. Japan Acad.* **49** (1973), 506–509. (David K. Cohoon) **48** #11746 35E99 (35L20)

, Masayuki On the supports of the transition densities for certain stable processes. *iroshima Math. J.* **6** (1976), *no.* 2, 359–363. (S. C. Port) **56** #1473 60J30

(*with* Inuzuka, Tadataka; Tanaka, Hiroshi) Homogenization of certain ne-dimensional discontinuous Markov processes. *Hiroshima Math. J.* **7** (1977), *no.* 2, 29–641. (A. D. Wentzell (Ventcel')) **58** #7884 60J75

uchi, Tsuyoshi (*with* Yamazaki, Yoshitake; Morita, Tohru) Lattice Green's function r the orthorhombic lattice in terms of the complete elliptic integral. *J. Mathematical hys.* **13** (1972), 16–22. (L. Finkelstein) **45** #9612 81.35

Lattice Green's functions for the triangular and honeycomb lattices. *J. athematical Phys.* **13** (1972), 1411–1419. (Editors) **46** #10345 82.33

(*with* Morita, Tohru) Convergence of the arithmetic-geometric mean procedure for e complex variables and the calculation of the complete elliptic intergrals with omplex modulus. *Numer. Math.* **20** (1972/73), 425–430. (Authors' summary) 7 #4419 65D20

, Michiaki Input-output relations for systems described by parabolic equations. *nternat. J. Systems Sci.* **9** (1978), *no.* 7, 773–784. (Vadim Komkov) **58** #20699 3C20 (73.35)

An inverse problem for the heat equation. *J. Math. Anal. Appl.* **65** (1978), *no.* 2, 57–277. (D. T. Haimo) **58** #23192 35R30 (35K05)

kawa, Eiji On deformations of holomorphic maps. *Proc. Japan Acad.* **48** (1972), 2–55. (H. Kerner) **47** #508 32G99

On deformations of holomorphic maps. I. *J. Math. Soc. Japan* **25** (1973), 372–396. H. Kerner) **48** #571 32G99 (32C10, 32H99)

On deformations of quintic surfaces. *Proc. Japan Acad.* **49** (1973), 377–379. (Tatsuo uwa) **48** #8511 14J15 (32J15)

On deformations of holomorphic maps. II. *J. Math. Soc. Japan* **26** (1974), 647–667. H. Kerner) **50** #5027 32G99 (32C10, 32H99)

On deformations of holomorphic maps. *Manifolds—Tokyo* 1973 (*Proc. Internat. onf., Tokyo*, 1973), *pp.* 383–388. *Univ. Tokyo Press, Tokyo*, 1975. (Editors) **51** #8470 2G99 (32H99)

On deformations of quintic surfaces. *Invent. Math.* **31** (1975), *no.* 1, 43–85. (See Zbl **17** #14018; MR **48** #8511) 32G99 (14J25)

On the number of moduli of certain algebraic surfaces of general type. *J. Fac. Sci. niv. Tokyo Sect. IA Math.* **22** (1975), 67–78. (R. O. Wells, Jr.) **52** #807 32G13 14J15)

Algebraic surfaces of general type with small C_1^2. I. *Ann. of Math.* (2) **104** (1976), *o.* 2, 357–387. (Miles Reid) **54** #12789 14J25 (32G13)

Algebraic surfaces of general type with small c_1^2. II. *Invent. Math.* **37** (1976), *no.* 2, 21–155. (Miles Reid) **57** #334 14J10

On deformations of rational maps. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **23** 1976), *no.* 3, 581–600. (H. Kerner) **55** #720 32G99 (14D15)

On deformations of holomorphic maps. III. *Math. Ann.* **222** (1976), *no.* 3. 275–282. H. Kerner) **54** #5508 32G99 (32H99, 32J99)

On algebraic surfaces with pencils of curves of genus 2. *Complex analysis and lgebraic geometry*, *pp.* 79–90. *Iwanami Shoten, Tokyo*, 1977. (C. A. M. Peters) **6** #12015 14J25 (32J15)

Surjectivity of the period map of K3 surfaces of degree 2. *Math. Ann.* **228** (1977), *o.* 2, 113–146. (Jayant M. Shah) **57** #335 14J15

On the periods of Enriques surfaces. I. *Proc. Japan Acad.* **53** (1977), *no.* 3, 124–127. Miles Reid) **56** #5571 14J25

On the periods of Enriques surfaces. II. *Proc. Japan Acad. Ser. A Math. Sci.* **53** 1977), *no.* 2. 53–55. (Miles Reid) **58** #687 14J10 (14D20)

On the periods of Enriques surfaces. I. *Math. Ann.* **234** (1978), *no.* 1, 73–88. (Jayant . Shah) **58** #10927a 14J25

On the periods of Enriques surfaces. II. *Math. Ann.* **235** (1978), *no.* 3, 217–246. ayant M. Shah) **58** #10927b 14J25

awa, Kiyoshi (*with* Nishimura, Hitoshi; Isobe, Masahiko) Higher order solutions of e Stokes and the cnoidal waves. *J. Fac. Engrg. Univ. Tokyo Ser. B* **34** (1977), *no.* 2, 267–293. (C. Rogers) **57** #14887 76.41

Horikoshi, Kiyomi (*with* Murata, Kenro) A new method for the tridiagonalization of the symmetric band matrix. *Information Processing in Japan* **15** (1975), 108–112. (W. Niethammer) **53** #14894 65F30

Höring, H. C. Die schnelle Fourier-Transformation. (English summary) *Frequenz—Z. Schwingungs- und Schwachstromtech.* **25** (1971), 267–268, 273–278. (Y. L. Luke) **48** #5345 65D30

Horing, S. (*with* Forys, L. J.; Heffes, Harry; Holtzman, J. M.; Messerli, E. J.; Schwartz, M. I.; Stiles, J. A.) A study of the analysis and control of the flow of air traffic. I, II, III. *Networks* **1** (1971/72), 15–42; *ibid.* **1** (1971/72), 209–243; *ibid.* **1** (1971/72), 303–331. **46** #8650 90B15

See also **System sensitivity analysis**, **52** #12863

Horino, Hiroshi (*with* Asano, Tetsuo; Kitahashi, Tadahiro; Tanaka, Kohkichi; Amano, Nobutaka) A wire-routing scheme based on trunk-division methods. *IEEE Trans. Computers* **C-26** (1977), *no.* 8, 764–772. (András Recski) **56** #15165 94A20

Horinouchi, Sôichi (*with* Kannappan, Pl.) On the system of functional equations $f(x+y)=f(x)+f(y)$ and $f(xy)=p(x)f(y)+q(y)f(x)$. *Aequationes Math.* **6** (1971), 195–201. (R. A. Rosenbaum) **45** #7338 39A40

(*with* Sakai, Kôkichi) Some remarks on ergodic theory of Markov operators. I, II. *Sci. Rep. Kagoshima Univ. No.* 26 (1977), 43–50. (Authors' summary) **58** #31410 60J05 (47A35)

Horisberger, H. P. (*with* Bélanger, Pierre R.) Regulators for linear, time invariant plants with uncertain parameters. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 5, 705–708. (Peter J. Moylan) **54** #4772 93D15

Horiuchi, Kazuo (*with* Ono, Masahiko) Nonlinear system analysis by exponential norm. *Electron. Commun. Japan* **54** (1971), *no.* 7, 107–112. (From the authors' introduction) **54** #4758 93C10

A topological analysis of multivariable systems with nonlinear forward and feedback couplings. *Mem. School Sci. Engrg. Waseda Univ. No.* 39 (1975), 33–50. (Claude Foulard) **54** #12291 93C22

Horiuchi, R. (*with* Tajima, N.; Tomimatsu, A.) Time evolution of the energy spectrum of Alfvén waves due to the non-linear Landau damping. *Astronom. and Astrophys.* **65** (1978), *no.* 2, 239–243. (Authors' summary) **58** #19750 76.35

Hörmander, L. Pseudo-differential operators and hypoelliptic equations. *Singular integrals* (*Proc. Sympos. Pure Math., Vol. X, Chicago, Ill.*, 1966), *pp.* 138–183. *Amer. Math. Soc., Providence, R.I.*, 1967. (Rémi Vaillancourt) **52** #4033 47G05 (35H05, 35S05)

The spectral function of an elliptic operator. *Acta Math.* **121** (1968), 193–218. (From the introduction) **58** #29418 35P20 (58G15)

★On the existence and the regularity of solutions of linear pseudo-differential equations. Série des Conférences de l'Union Mathématique Internationale, No. 1. Monographie No. 18 de l'Enseignement Mathématique. *Secrétariat de l'Enseignement Mathématique, Université de Genève, Geneva*, 1971. 69 *pp.* (Editors) **49** #9683 47G05 (35S05)

(*with* Claesson, Tomas) ★Integrationsteori. (Swedish) [Integration theory] Second printing. *Studentlitteratur, Lund*, 1971. 103 *pp.* (Editors) **50** #7452 28–01 (26–01)

Linear differential operators. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 121–133. *Gauthier-Villars, Paris*, 1971. (Editors) **58** #23766 47F05 (47G05)

On the index of pseudodifferential operators. *Elliptische Differentialgleichungen, Band II*, *pp.* 127–146. *Schriftenreihe Inst. Math. Deutsch. Akad. Wissensch. Berlin, Reihe A, Heft* 8, *Akademie-Verlag, Berlin*, 1971. (Author's review (Zbl **188**, 409)) **58** #31292 58G10 (47G05)

The calculus of Fourier integral operators. *Prospects in mathematics* (*Proc. Sympos., Princeton Univ., Princeton, N.J.*, 1970), *pp.* 33–57. *Ann. of Math. Studies, No.* 70, *Princeton Univ. Press, Princeton, N.J.*, 1971. (Monty Strauss) **49** #5943 47G05 (35S05)

Fourier integral operators. I. *Acta Math.* **127** (1971), *no.* 1-2, 79–183. (Ju. V. Egorov) **52** #9299 58G15 (35S05, 47G05)

Uniqueness theorems and wave front sets for solutions of linear differential equations with analytic coefficients. *Comm. Pure Appl. Math.* **24** (1971), 671–704. (P. Schapira) **45** #3917 35G05 (47F05)

On the existence and the regularity of solutions of linear pseudo-differential equations. *Enseignement Math.* (2) **17** (1971), 99–163. (Ju. V. Egorov) **48** #9458 47G05 (35S05)

A remark on Holmgren's uniqueness theorem. *J. Differential Geometry* **6** (1971/72), 129–134. (R. S. Freeman) **47** #9024 35A05

On the singularities of solutions of partial differential equations with constant coefficients. *Séminaire Goulaouic–Schwartz* (1971–1972), *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 25, 6 *pp.* (*unpaged errata following Exp. No.* 30) *Centre de Math., École Polytech., Paris*, 1972. (Zbl **247** #35005) **57** #16940 35E99

(*with* Duistermaat, J. J.) Fourier integral operators. II. *Acta Math.* **128** (1972), *no.* 3-4, 183–269. (Ju. V. Egorov) **52** #9300 58G15 (35S05, 47G05)

On the singularities of solutions of partial differential equations with constant coefficients. Proceedings of the International Symposium on Partial Differential Equations and the Geometry of Normed Linear Spaces (Jerusalem, 1972). *Israel J. Math.* **13** (1972), 82–105 (1973). (H. Marcinkowska) **48** #11745 35E10

★An introduction to complex analysis in several variables. Second revised edition. North-Holland Mathematical Library, Vol. 7. *North-Holland Publishing Co., Amsterdam-London*; *American Elsevier Publishing Co., Inc., New York*, 1973. x+213 *pp.* (Editors) **49** #9246 32–02 (35N15)

Oscillatory integrals and multipliers on FL^p. *Ark. Mat.* **11**, 1–11 (1973). (Charles Fefferman) **49** #5674 42A18 (42A92)

On the existence of real analytic solutions of partial differential equations with constant coefficients. *Invent. Math.* **21** (1973), 151–182. (P. Schapira) **49** #817 35E10 (35A05)

Lower bounds at infinity for solutions of differential equations with constant coefficients. *Israel J. Math.* **16** (1973), 103–116. (J. R. Cannon) **49** #5543 35E99

On the existence and the regularity of solutions of linear pseudodifferential equations. (Russian) Translated from the English by S. G. Gindikin and L. R. Volevič.

Uspehi Mat. Nauk **28** (1973), *no.* 6(174), 109–164. (Editors) **52** #9007 47G05 (35S05)

Non-uniqueness for the Cauchy problem. *Fourier integral operators and partial differential equations* (*Colloq. Internat., Univ. Nice, Nice,* 1974), *pp.* 36–72. *Lecture Notes in Math., Vol.* 459, *Springer, Berlin,* 1975. (Maria Cinquini-Cibrario) **54** #7997 35E15

A class of hypoelliptic pseudodifferential operators with double characteristics. *Math. Ann.* **217** (1975), *no.* 2, 165–188. (Michael E. Taylor) **51** #13774 47G05 (35H05, 58G15)

★Linear partial differential operators. *Springer Verlag, Berlin-New York,* 1976. vii + 285 *pp.* (Editors) **53** #8622 35–XX (46Fxx)

The boundary problems of physical geodesy. *Arch. Rational Mech. Anal.* **62** (1976), *no.* 1, 1–52. (Gottfried Anger) **58** #29202a 35J65 (31B20, 46E35, 58C15, 86.35)

(*with* Agmon, Samuel) Asymptotic properties of solutions of differential equations with simple characteristics. *J. Analyse Math.* **30** (1976), 1–38. (J. Muszyński) **57** #6776 35B40

The existence of wave operators in scattering theory. *Math. Z.* **146** (1976), *no.* 1, 69–91. (J. Weidmann) **52** #14691 35P25 (47A40)

Correction to: "The boundary problems of physical geodesy" (Arch. Rational Mech. Anal. 62 (1976), no. 1, 1–52). *Arch. Ration. Mech. Anal.* **65** (1977), *no.* 4, 395. (Gottfried Anger) **58** #29202b 35J65 (31B20, 46E35, 58C15, 86.35)

The Cauchy problem for differential equations with double characteristics. *J. Analyse Math.* **32** (1977), 118–196. (F. Cardoso) **58** #11822 35A05

(*with* Melin, Anders) Free systems of vector fields. *Ark. Mat.* **16** (1978), *no.* 1, 83–88. (Ju. V. Egorov) **58** #31284 58G05 (35H05, 57D25)

See also **Mathematics: Periodical collection of translations of foreign articles, 48** #19; **Mathematics: Periodical collection of translations of foreign articles, 50** #12531 (EA **58**) ; **Mathematics: Periodical collection of translations of foreign articles, 50** #12532; **Mathematics: Periodical collection of translations of foreign articles, 50** #12533; **Helffer, Bernard, 52** #11662 *and* **Pseudodifferential operators, 52** #15122

Hormann, K. Zur Stabilität einer Bewegung. *Z. Elek. Informations- und Energietech.* **5** (1975), *no.* 3, 188–197. (A. M. Krall) **53** #7569 93D99

Hormozdiari, Iraj (*with* Huang, Justin C.; DeFacio, Brian) On the Green's functions for the Bethe-Salpeter equation. II. *J. Mathematical Phys.* **14** (1973), 563–568. (L. Finkelstein) **48** #10357 81.45

(*with* Huang, Justin C.) Requirements for scattering solutions and the causal Green's function of the Bethe-Salpeter equation. *Phys. Rev. D* (3) **9** (1974), 2285–2290. (Authors' summary) **53** #12307 81.45

Horn, Alfred (*with* Kimura, Naoki) The category of semilattices. *Algebra Universalis* **1** (1971), *no.* 1, 26–38. (E. Gedeonová) **47** #6568 06A20

(*with* Epstein, George) *P*-algebras, an abstraction from Post algebras. *Algebra Universalis* **4** (1974), 195–206. (Heinrich Werner) **50** #4428 06A35

(*with* Epstein, George) Chain based lattices. *Pacific J. Math.* **55** (1974), 65–84. (Ralph Freese) **51** #10186 06A35

(*with* Epstein, George) Propositional calculi based on subresiduation. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **3** (1974), *no.* 1, 41–42. (Krister Segerberg) **53** #5264 02C10 (06A35)

(*with* Epstein, George) Finite limitations on a propositional calculus for affirmation and negation. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **3** (1974), *no.* 1, 43–44. (K. Inoue) **53** #128 02J05 (02C99)

(*with* Balbes, Raymond) Projective covers of distributive lattices. *Algebra Universalis* **6** (1976), *no.* 3, 277–290. (George Hutchinson) **55** #2691 06A35

(*with* Epstein, George) Logics which are characterized by subresiduated lattices. *Z. Math. Logik Grundlagen Math.* **22** (1976), *no.* 3, 199–210. (D. Monk) **56** #8360 02J05 (02C10)

Horn, Andreas Gruppenringe fastpolyzyklischer Gruppen und Ordnungen in quasi-Frobenius-Ringen. *Mitt. Math. Sem. Giessen No.* 100 (1973), iv + 55 *pp.* (Z. Papp) **49** #7294 16A26

Twisted group rings and quasi-Frobenius quotient rings. *Arch. Math.* (*Basel*) **26** (1975), *no.* 6, 581–587. (Donald S. Passman) **52** #13916 16A26

Quasi-Frobenius quotient rings of group rings. *J. Austral. Math. Soc. Ser. A* **20** (1975), *no.* 4, 394–397. (Yutaka Kawada) **52** #5726 16A36

See also **Brickell, Frederick, 56** #379

Horn, Berthold Obtaining shape from shading information. *The psychology of computer vision, pp:* 115–155. *McGraw-Hill, New York,* 1975. (V. A. Kovalevskiĭ) **54** #4211 68A45

Horn, Der Kie (*with* Ch'ên, T'ien Wên) A note on the exact variance of products. Collection of articles dedicated to Professor Tsing Houa Teng on the occasion of his 70th birthday. *Tamkang J. Math.* **4** (1973), *no.* 2, 41–44. (From the authors' summary) **54** #8947 62E15

Horn, F. J. M. (*with* Jackson, R.) General mass action kinetics. *Arch. Rational Mech. Anal.* **47** (1972), 81–116. (J. Adler) **53** #4753 80.34

Necessary and sufficient conditions for complex balancing in chemical kinetics. *Arch. Rational Mech. Anal.* **49** (1972/73), 172–186. (Ole J. Heilmann) **54** #2041 82.35

On a connexion between stability and graphs in chemical kinetics. I. Stability and the reaction diagram. *Proc. Roy. Soc.* (*London*) *Ser. A* **334** (1973), 299–312. (J. Adler) **49** #4444 80.05

On a connexion between stability and graphs in chemical kinetics. II. Stability and the complex graph. *Proc. Roy. Soc.* (*London*) *Ser. A* **334** (1973), 313–330. (J. Adler) **49** #4445 80.05

Stability and complex balancing in mass-action systems with three short complexes. *Proc. Roy. Soc.* (*London*) *Ser. A* **334** (1973), 331–342. (J. Adler) **49** #4446 80.05

The dynamics of open reaction systems. *Mathematical aspects of chemical and biochemical problems and quantum chemistry* (*Proc. SIAM-AMS Sympos. Appl. Math., New York,* 1974), *pp.* 125–137. *SIAM-AMS Proceedings, Vol. VIII, Amer. Math. Soc., Providence, R.I.,* 1974. (Author's summary) **57** #8496 80.35

(*with* Feinberg, Martin) Chemical mechanism structure and the coincidence of the stoichiometric and kinetic subspaces. *Arch. Rational. Mech. Anal.* **66** (1977), *no.* 1, 83–97. (Richard J. Field) **56** #4441 80.05

Horn, Karl *See* **Družinin, N. K., 52** #7480

Horn, M. Note on and interpretation of an efficacy index often used. *Biometrical J.* **19** (1977), *no.* 6, 463–471. (V. P. Bhapkar) **58** #7984 62F10

Horn, M. K. (*with* Bettis, Dale G.) An optimal $(m+3)[m+4]$ Runge Kutta algorithm. Proceedings of the Fifth Conference on Mathematical Methods in Celestial Mechanics (Oberwolfach, 1975), Part I. *Celestial Mech.* **14** (1976), *no.* 1, 133–140. (J. C. Butcher) **55** #6856 65L05

Horn, P. J. A note on weakly symmetric rings. *Canad. Math. Bull.* **17** (1974), *no.* 4, 531–533. (Jitendra Manocha) **53** #10857 16A34

Horn, Roger A. Infinitely divisible positive definite sequences. *Trans. Amer. Math. Soc.* **136** (1969), 287–303. (Zbl **177**, 51) **58** #17681 42A80 (30A76, 42A88, 60E05)

Schlicht mappings and infinitely divisible kernels. *Pacific J. Math.* **38** (1971), 423–430. (H. Bergström) **46** #9310 30A24 (60E05)

On necessary and sufficient conditions for an infinitely divisible distribution to be normal or degenerate. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **21** (1972), 179–187. (S. M. Samuels) **46** #8276 60E05

(*with* Horn, Susan D.; Duncan, David B.) Estimating heteroscedastic variances in linear models. *J. Amer. Statist. Assoc.* **70** (1975), 380–385. (James N. Adichie) **51** #7169 62J05

(*with* Horn, Susan D.) Comparison of estimators of heteroscedastic variances in linear models. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 352, 872–879. (U. B. Paik) **52** #9514 62J05

On inequalities between Hermitian and symmetric forms. *Linear Algebra and Appl.* **11** (1975), *no.* 3, 189–218. (Yik-Hoi Au-Yeung) **51** #12895 15A45

Quadratic forms in harmonic analysis and the Bochner-Eberlein theorem. *Proc. Amer. Math. Soc.* **52** (1975), 263–270. (R. E. Edwards) **51** #11019 43A35 (60E05)

(*with* FitzGerald, Carl H.) On the structure of Hermitian-symmetric inequalities. *J. London Math. Soc.* (2) **15** (1977), *no.* 3, 419–430. (D. J. Hartfiel) **56** #389 15A45

(*with* FitzGerald, Carl H.) On fractional Hadamard powers of positive definite matrices. *J. Math. Anal. Appl.* **61** (1977), *no.* 3, 633–642. (Authors' summary) **58** #22121 15A48 (15A63)

On the moments of complex measures. *Math. Z.* **156** (1977), *no.* 1, 1–11. (Aharon Atzmon) **58** #23389 44A50 (30A80, 42A80)

(*with* Steutel, F. W.) On multivariate infinitely divisible distributions. *Stochastic Processes Appl.* **6** (1977/78), *no.* 2, 139–151. (V. M. Kruglov) **57** #7726 60E05

Horn, Susan D. (*with* Duncan, David B.) Linear dynamic recursive estimation from the viewpoint of regression analysis. *J. Amer. Statist. Assoc.* **67** (1972), 815–821. (E. J. Wegman) **50** #11642 62J05 (93E10)

On the optimality criterion in compound decision problems. *Ann. Statist.* **3** (1975), 767–772. (J. S. Huang) **52** #12137 62C25

(*with* Horn, Roger A.; Duncan, David B.) Estimating heteroscedastic variances in linear models. *J. Amer. Statist. Assoc.* **70** (1975), 380–385. (James N. Adichie) **51** #7169 62J05

(*with* Horn, Roger A.) Comparison of estimators of heteroscedastic variances in linear models. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 352, 872–879. (U. B. Paik) **52** #9514 62J05

Horn, W. A. Convex homotopy. *J. Res. Nat. Bur. Standards Sect. B* **75B** (1971), 47–61. (S. Dubuc) **47** #414 26A51

Three results for trees, using mathematical induction. *J. Res. Nat. Bur. Standards Sect. B* **76B** (1972), 39–43. (Paul K. Stockmeyer) **48** #5895 05C05

Single-machine job sequencing with treelike precedence ordering and linear delay penalties. *SIAM J. Appl. Math.* **23** (1972), 189–202. (Author's summary) **54** #9648 90B35

Some simple scheduling algorithms. *Naval Res. Logist. Quart.* **21** (1974), 177–185. (R. Petrović) **49** #8635 90B35

Horňák, Mirko (*with* Jucovič, Ernest) Nearly regular cell-decompositions of orientable 2-manifolds with at most two exceptional cells. (Russian summary) *Math. Slovaca* **27** (1977), *no.* 1, 73–89. (Perrin Wright) **57** #1496 57A05

Hornblower, R. J. M. A growth condition for the MacLane class $\mathcal{A}$. *Proc. London Math. Soc.* (3) **23** (1971), 371–384. (D. A. Brannan) **45** #5366 30A72

Subharmonic analogues of MacLane's classes. *Ann. Polon. Math.* **26** (1972), 135–146. (P. Lappan) **51** #896 30A72 (31A20)

(*with* Binmore, K. G.) Boundary behaviour of functions with Hadamard gaps. *Nagoya Math. J.* **48** (1972), 173–181. (D. A. Brannan) **47** #7036 30A72

(*with* Thomas, Edward S., Jr.) The access theorem for subharmonic functions. *Trans. Amer. Math. Soc.* **172** (1972), 287–297. (H. L. Jackson) **46** #7534 31A20

Hornbuckle, Gary D. (*with* Spann, Richard N.) Diagnosis of single-gate failures in combinatorial circuits. *IEEE Trans. Computers* **C-18** (1969), *no.* 3, 216–220. (Authors' summary) **52** #16881 94A20

Horndeski, Gregory Walter Dimensionally dependent divergences. *Proc. Cambridge Philos. Soc.* **72** (1972), 77–82. (C. W. Kilmister) **45** #1553 83.53

(*with* Lovelock, David) Scalar-tensor field theories. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. I. *Tensor* (*N.S.*) **24** (1972), 79–92. (H. Rund) **48** #5593 83.53

Dimensionally dependent divergences and local parallelizations. *Tensor* (*N.S.*) **27** (1973), 83–90. (C. W. Kilmister) **49** #6064 53B20 (83.53)

Second-order scalar-tensor field equations in a four-dimensional space. *Internat. J. Theoret. Phys.* **10** (1974), 363–384. (Author's summary) **54** #9576 83.53

Differential operators associated with the Euler-Lagrange operator. *Tensor* (*N.S.*) **28** (1974), 303–318. (W. S. Piper) **50** #8614 (E **55** #5296) 58G99

Sufficiency conditions under which a Lagrangian is an ordinary divergence. *Aequationes Math.* **12** (1975), *no.* 2-3, 232–241. (H. Rund) **51** #13809 49A15

Divergence-free third order tensorial concomitants of a pseudo-Riemannian metric. *Tensor* (*N.S.*) **29** (1975), *no.* 1, 21–29. (H. Rund) **51** #6635 53B30

Tensorial concomitants of an almost complex structure. *Topics in differential geometry* (*in memory of Evan Tom Davies*), *pp.* 45–55. *Academic Press, New York,* 1976 (Michał Lorens) **55** #4030 53C15

Conservation of charge and the Einstein-Maxwell field equations. *J. Mathematical Phys.* **17** (1976), *no.* 11, 1980–1987. (N. V. Mickevič) **55** #2027 83.49

Erratum: "Differential operators associated with the Euler-Lagrange operator" Tensor (N.S.) **28** (1974), 303–318. *Tensor* (*N.S.*) **30** (1976), *no.* 3, 314. (Editors) #4296 58G99

Tensorial concomitants of relative tensors and linear connections. *Utilitas Math.* **9** 976), 3–31. (Elhanan Leibowitz) **53** #11510 53A45

Examples of almost complex manifolds of non-extremal type. *Utilitas Math.* **9** 976), 59–71. (K. Yano) **57** #17553 53C15

(*with* Wainwright, J.) Energy-momentum tensor of the electromagnetic field. *Phys. ev. D.* (3) **16** (1977), *no.* 6, 1691–1701. (N. V. Mickevič) **57** #2431 83.53

(*with* McKiernan, M. A.) Gauge invariant tensorial concomitants. *Tensor* (*N.S.*) **31** 977), *no.* 1, 77–86. (Carl Brans) **57** #2430 83.53

Birkhoff's theorem and magnetic monopole solutions for a system of generalized instein-Maxwell field equations. *J. Mathematical Phys.* **19** (1978), *no.* 3, 668–674. (N. . Mickevič) **57** #11591 83.35

Static spherically symmetric solutions to a system of generalized Einstein-Maxwell eld equations. *Phys. Rev. D* (3) **17** (1978), *no.* 2, 391–395. (Author's summary) **7** #2429 83.53

e, G. (*with* Tracz, G. S.) Nonlinear programming and second variation schemes in onstrained optimal control problems. *Proceedings of the Princeton Symposium on Mathematical Programming* (1967), *pp.* 523–537. *Princeton Univ. Press, Princeton, N.J.*, 970. (V. F. Dem′janov) **51** #13829 49D99

e, G. J. (*with* Bernholtz, Ben) The time-optimal design of linear dynamic systems. *EEE Trans. Automatic Control* **AC-19** (1974), 258–259. (Authors' summary) **54** #12281 93C05

e, J. G. $SL(2)$ has no C^1-extension to a half-space. Collection of articles dedicated to lfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander oniphan Wallace on the occasion of his 68th birthday. *Semigroup Forum* **7** (1974), *no.* -4, 286–291. (P. S. Mostert) **54** #453 22A15

On ideals of cone preserving maps. *Linear Algebra Appl.* **21** (1978), *no.* 2, 95–109. Robert Grone) **58** #11009a 16A42 (15A42)

On the automorphism group of a cone. *Linear Algebra Appl.* **21** (1978), *no.* 2, 11–121. (Robert Grone) **58** #11009b 16A42 (15A42)

ell, James Intersection theory in an equicharacteristic regular local ring and the elative intersection theory. *Proc. Amer. Math. Soc.* **36** (1972), 8–12. (J.-P. Jouanolou) **6** #9040 14A25 (13H15)

Divisorial complete intersections. *Pacific J. Math.* **45** (1973), 217–227. (J. T. Arnold) **47** #6668 13A15

A note on the relationship between Weil and Cartier divisors. *Proc. Amer. Math. Soc.* **48** (1975), 276–280. (G. Horrocks) **51** #5593 14C10

A note on the geometric criteria for the factoriality of an affine ring. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 45–50. (R. M. Fossum) **51** #12832 13F15 (14C20)

The multiplicity function of a local ring. *Trans. Amer. Math. Soc.* **220** (1976), 21–341. (G. Horrocks) **53** #13246 14M10 (13H15)

er, F. *See* **Christiansen, Søren, 52** #15942

er, T. S. (*with* Morris, A. G.) Chebyshev polynomials in the numerical solution of ifferential equations. *Math. Comp.* **31** (1977), *no.* 140, 881–891. (L. Fox) **56** #1729 5L10

g, Jyi Cherng On a new double generalized sampling theorem. *Formosan Sci.* **31** 1977), *no.* 1, 20–29. (Author's summary) **56** #11482 94A05

ich, Hans Über den Zusammenhang von schlichten Funktionen im Banachraum *B*. *Monatsh. Math.* **75** (1971), 239–243. (R. B. Burckel) **45** #3737 30A98

Eine partielle Differentialgleichung in Zusammenhang mit den schlichten Funktionen. *Monatsh. Math.* **76** (1972), 121–123. (Günter Frank) **46** #2029 30A34 (32A05)

Eine Klasse unendlicher Produkte in der Funktionentheorie. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1973**, *no.* 10, 122–126. (E. P. Merkes) **52** #11403 40A20 (30A76)

Die Möbiusfunktion in der Funktionentheorie. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1974**, *no.* 7, 81–84. (G. Halász) **53** #3277 30A12

Bemerkungen über schlichte Funktionen. *Österreich. Akad. Wiss. Math.-Natur. Kl. S-B. II* **182** (1974), 103–106. (J. Clunie) **51** #13211 30A36

Zur Seltenheit der schlichten Funktionen. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1975**, *no.* 6, 59–61. (Y. Komatu) **53** #3289 30A36

Reihen und Produkte in der Funktionentheorie. 8. Steiermärkisches Mathematisches Symposium (Graz, 1976). *Ber. Math.-Statist. Sekt. Forsch. Graz No.* 57-63 (1976), *Ber. No.* 57, 4 *pp.* (Editors) **58** #28450 30A10

Zur Verteilung der schlichten Funktionen. (English summary) *Monatsh. Math.* **82** 1976), *no.* 1, 27–29. (R. McLaughlin) **54** #2942 30A32

See also **Collection: Hornich, Hans, 55** #10177; **Hlawka, Edmund, 56** #11922; **Reich, Ludwig, 56** #11990; **Stegbuchner, Hans, 56** #12255; **Gruber′, Peter M., 56** #13113 *and* **Schwaiger, Jens, 58** #6192

hing, James J. (*with* Anderson, Tim; Eve, J.) Efficient $LR(1)$ parsers. *Acta Informat.* 2 (1973), *no.* 1, 12–39. (Csaba Fabian) **47** #6124 68A20

(*with* Guttag, J. V.) The algebraic specification of abstract data types. *Acta Inform.* **10** (1978), *no.* 1, 27–52. (John Cherniavsky) **58** #13850 68A05

See also **Compiler construction, 56** #1763

inger, H. Stereographische Projektion und quadratisches Spurenprinzip im R_4. English summary) *Monatsh. Math.* **80** (1975), *no.* 3, 187–199. (L. Gyarmathi) **52** #11726 50D20

nix, E. A. M. *See* **Seip-Hornix, E. A. M.**

nung, Irena Properties of special quasi-potential of surface distribution with respect to normal parabolic equation of the second order. *Demonstratio Math.* **9** (1976), *no.* 3, 497–506. (Lu-San Chen) **55** #861 35K10

nung, U. Die approximative Lösung einer Klasse von Approximationsaufgaben. *Methoden und Verfahren der mathematischen Physik, Band* 7, *pp.* 35–52. *B. I.-Hochschultaschenbücher, No.* 726, *Bibliographisches Inst., Mannheim*, 1972. (See Zbl **251** #31008; MR **49** #10503) 31C15

Euler-Verfahren für neutrale Funktional-Differentialgleichungen. (English summary) *Numer. Math.* **24** (1975), *no.* 3, 233–240. (Syvert P. Nørsett) **52** #2257 65Q05

ol′skiĭ, V. M. Application of the generalized Fourier integral for the solution of heat conduction problems in the half-plane. (Russian) *Differential equations and their applications, No.* 2 (*Russian*), *pp.* 166–172, 179. *Kuĭbyšev. Gos. Ped. Inst., Kuybyshev*, 1975. (Author's summary) **58** #29104 35C15 (35K05)

Horomskiĭ, B. N. (*with* Židkov, E. P.) Local convergence of approximate processes for the solution of operator equations. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 5, 1052–1055. (J. W. Schmidt) **55** #4669 65J05 (47H15)

(*with* Gareev, F. A.; Gončarov, S. A.; Židkov, E. P.; Puzynin, I. V.; Jameleev, R. M.) Numerical solution of eigenvalue problems for integrodifferential equations in nuclear theory. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 2, 407–419, 547. (Authors' summary) **58** #13819 65R05

(*with* Wiesner, Jan; Židkov, E. P.; Lelek, Vladimir; Malyšev, R. V.; Hristov, E. H.; Úlehla, I.) Iteration methods for the solution of the inverse problem of scattering theory. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **9** (1978), *no.* 3, 710–768. (Authors' summary) **58** #19960 81.34 (35Q99)

Horos, John A. (*with* Hellman, Martin E.) A confidence model for finite-memory learning systems. *IEEE Trans. Information Theory* **IT-18** (1972), 811–813. (O. Gulyás) **52** #4473 62C05

Horoševskiĭ, M. V. Complete groups of odd order. (Russian) *Algebra i Logika* **13** (1973), 63–76, 121. (R. R. Struik) **52** #3323 20D45

The automorphism group of wreath products of finite groups. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 651–659, 695. (J. Wiegold) **48** #4131 20F25

Automorphisms of finite groups. (Russian) *Mat. Sb.* (*N.S.*) **93(135)** (1974), 576–587, 630. (B. Hartley) **50** #477 20D45

Horoševskiĭ, V. G. Algorithms for the scheduling of problems on a computer. (Russian) *Trudy Sibirsk. Fiz.-Tehn. Inst. No.* 47 (1965), 29–34. ((RŽMat **1966** #6 V362)) **45** #4820 90C10 (68A10)

Algorithms for the functioning of homogeneous universal computer systems. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no.* 3, 35–41. (I. Văduva) **47** #6125 68A20

(*with* Talnykin, È. A.) A game-theoretic approach to the problem of the functioning of homogeneous computing systems. (Russian) *Vyčisl. Sistemy No.* 51 (1972), 20–37. (V. Spiridonov) **51** #7370 68A05 (90D45)

The realizability of the solution of problems on homogeneous computing systems. (Russian) *Vyčisl. Sistemy No.* 51 (1972), 38–47. (V. Spiridonov) **51** #7369 68A25

(*with* Evreinov, È. V.) Computer systems. (Russian) *Problems in electronics and computer science* (*Russian*), *pp.* 164–183, 297. *Izdat. "Naukova Dumka", Kiev*, 1976. (Siegmar Gerber) **58** #32152 68A99

Horošilov, V. S. (*with* Ganiev, R. F.; Zakrževskiĭ, A. E.; Makarenko, A. I.) The creation of programmed space motions of a free rigid body under resonance conditions. (Russian) *Prikl. Meh.* **14** (1978), *no.* 3, 99–105, 143. (V. P. Milant′ev) **58** #3814 70.34

Horošilova, V. I. The solution of the Cauchy and Cauchy-Goursat problems for a certain hyperbolic equation with a line of singularity of the coefficients. (Russian) *Volž. Mat. Sb. Vyp.* 23 (1973), 124–140. (A. Pelczar) **53** #8666 35L15

Solution of problems of Bicadze-Samarskiĭ type for an equation of hyperbolic type in an unbounded domain. (Russian) *Differencial′nye Uravnenija* (*Ryazan*) *No.* 6 (1975), 214–222. **58** #29294 35L10

Solution of a problem of Bicadze-Samarskiĭ type for an equation of hyperbolic type with a curve of singularity of coefficients. (Russian) *Differencial′nye Uravnenija* (*Ryazan*) *No.* 6 (1975), 223–228. (RŽMat **1977** #11 B399) **58** #29295 35L10

Horošin, A. N. Exact asymptotic expressions for the norms of functionals of errors of Gregory's formulas in $L_2^{m*}[a,b]$. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 40 (1976), 3–8, 175. (RŽMat **1976** #11 B1231) **58** #31729 65D15

Horoško, M. P. An upper bound of the Fourier coefficients on certain classes of functions in the Haar, Rademacher and Walsh systems. (Russian) *Scientific reports: a collection of papers by graduate students at Dnepropetrovsk State University* (*mechanics and mathematics*) (*Russian*), *pp.* 212–215. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1970. (F. Móricz) **49** #5671 42A16

The best approximation in the L_p metric of functions of class $H_\omega[0,1]$ by polynomials in the Haar system. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 74–76. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (F. Schipp) **54** #5690 41A30 (42A56)

Estimation of the supremum of the Fourier coefficients on certain classes of functions with respect to Haar, Rademacher and Walsh systems. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 15 1972, 3–12. (F. Móricz) **46** #4083 42A16 (42A56)

(*with* Lipovik, V. V.) Approximation in the strong sense of functions of two variables by Fourier-Čebyšev sums. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications, No.* 6 (*Russian*), *pp.* 62–66. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (RŽMat **1976** #8 B108) **58** #29820 42A92

(*with* Lipovik, V. V.) A sharp estimate of the approximation of functions of the class $H_\omega[0,1]$ by Fourier-Haar sums in the metric of L. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications, No.* 6 (*Russian*), *pp.* 89–92. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (RŽMat **1976** #7 B70) **58** #29745 42A08

(*with* Lipovik, V. V.) An estimate for the approximation of functions of the class $H_\omega[0,1]$ by Fourier-Haar sums in the L_2 metric. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 63–66, 157. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Authors' summary) **58** #29746 42A08

Horošun, L. P. (*with* Kerimov, R. Ju.) Complex representations of plane physically nonlinear problems of the mechanics of a solid body. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 2, 120–127. (M. Mişicu) **45** #8084 73.30

On the theory of interpenetrating elastic mixtures. (Russian) *Prikl. Meh.* **13** (1977), *no.* 10, 124–132, 144. (J. F. Heyda) **57** #8274 73.00

See also **Continuum mechanics and related problems of analysis, 50** #6714

Horošun, V. V. On the theory of generalized Legendre polynomials. (Russian) *Ukrain. Mat. Ž.* **23** (1971), 837-839. (D. P. Gupta) **45** #3806 33A45

Horowitz, Abraham D. The competitive bargaining set for cooperative n-person games. *J.*

Mathematical Psychology **10** (1973), 265–289; *erratum, ibid.* **11** (1974), 161. (M. Maschler) **51** #9844 90D12

A test of the core, bargaining set, kernel and Shapley models in N-person quota games with one weak player. Game theory and conflict resolution, I. *Theory and Decision* **8** (1977), *no.* 1, 49–65. (M. Maschler) **57** #9093 90D12

See also **Game theory as a theory of conflict resolution, 49** #4579

Horowitz, C. Fourier series of functions of bounded variation. *Amer. Math. Monthly* **82** (1975), 391–392. (Editors) **50** #10657 42-01

Horowitz, Charles Zeros of functions in the Bergman spaces. *Bull. Amer. Math. Soc.* **80** (1974), 713–714. (V. Ganapathy Iyer) **49** #3164 30A98

Zeros of functions in the Bergman spaces. *Duke Math. J.* **41** (1974), 693–710. (D. Sarason) **50** #10215 30A08

(*with* Oberlin, Daniel M.) Restriction of H^p functions to the diagonal of U^n. *Indiana Univ. Math. J.* **24** (1974/75), 767–772. (B. A. Taylor) **50** #7583 32E25 (46J15)

An elementary counterexample to the open mapping principle for bilinear maps. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 293–294. (L. I. Ronkin) **54** #7831 32A99

Factorization theorems for functions in the Bergman spaces. *Duke Math. J.* **44** (1977), *no.* 1, 201–213. (Daniel M. Oberlin) **55** #681 30A98

Iterated logarithms of entire functions. *Israel J. Math.* **29** (1978), *no.* 1, 31–42. (C. Tanaka) **57** #16556 30A20 (30A66)

Horowitz, David A refinement for coefficient estimates of univalent functions. *Proc. Amer. Math. Soc.* **54** (1976), 176–178. (W. E. Kirwan) **53** #792 30A34

Coefficient estimates for univalent polynomials. *J. Analyse Math.* **31** (1977), 112–124. (M. M. Schiffer) **58** #11357 30A34

A further refinement for coefficient estimates of univalent functions. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 2, 217–221. (L. A. Aksent′ev) **58** #1126 30A34

Horowitz, Ellis A fast method for interpolation using preconditioning. *Information Processing Lett.* **1** (1971/72), 157–163. (J. W. Jerome) **47** #4413 65D05

The efficient calculation of powers of polynomials. *J. Comput. System Sci.* **7** (1973), 469–480. (R. F. Churchhouse) **49** #10180 68A20

(*with* Sahni, Sartaj K.) Computing partitions with applications to the knapsack problem. *J. Assoc. Comput. Mach.* **21** (1974), 277–292. (F. Giannessi) **50** #6488 90C10 (65K05)

(*with* Collins, George E.) The minimum root separation of a polynomial. *Math. Comp.* **28** (1974), 589–597. (T. T. Tonkov) **49** #10669 12D10 (30A08)

(*with* Sahni, Sartaj K.) On computing the exact determinant of matrices with polynomial entries. *J. Assoc. Comput. Mach.* **22** (1975), 38–50. (Ahmed H. Sameh) **58** #31767 65F05

A sorting algorithm for polynomial multiplication. *J. Assoc. Comput. Mach.* **22** (1975), *no.* 4, 450–462. (Amitava Bagchi) **51** #14642 68A20

(*with* Sahni, Sartaj K.) The computation of powers of symbolic polynomials. *SIAM J. Comput.* **4** (1975), 201–208. (N. J. Patterson) **51** #14637 68A15 (65D20)

(*with* Sahni, Sartaj K.) ★Fundamentals of data structures. Computer Software Engineering Series. *Computer Science Press, Inc., Woodland Hills, Calif.*, 1976. xii + 564 *pp.* (Bernard H. Rosman) **54** #6540 68A05

(*with* Sahni, Sartaj K.) Exact and approximate algorithms for scheduling nonidentical processors. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 2, 317–327. (Stratton C. Jaquette) **52** #16593 90B35 (68A99)

(*with* Sahni, Sartaj K.) Combinatorial problems: reducibility and approximation. *Oper. Res.* **26** (1978), *no.* 5, 718–759. (Authors' summary) **58** #19360 68A20 (68A10, 90Bxx)

Horowitz, Gary T. (*with* Wald, Robert M.) Dynamics of Einstein's equation modified by a higher-order derivative term. *Phys. Rev. D* (3) **17** (1978), *no.* 2, 414–416. (Authors' summary) **57** #2334 81.53

Horowitz, Ira (*with* Pleeter, Saul) The implications of uncertainty for firm and market behavior. *Metroecon.* **26** (1974), *no.* 1-3, 181-193. (F. Giannessi) **53** #10188 90A10

Horowitz, Isaac M. (*with* Rabbie, Harold) Optimum filtering for time-varying systems with plant parameter ignorance. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp.* 153–157. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (D. D. Sworder) **50** #4074 93E10

(*with* Shaked, Uri) The state space and transfer function approaches in practical linear multivariable systems design. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp.* 195–201. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (Jan C. Willems) **51** #2702 93C05

Optimum loop transfer function in single-loop minimum-phase feedback systems. *Internat. J. Control* (1) **18** (1973), 97–113. (Peter Stavroulakis) **49** #2166 93C30

(*with* Wu, Min Yen; Dennison, J. C.) On solution, stability, and transformation of linear time-varying systems. *Proceedings of the IEEE Conference on Decision and Control including the* 14*th Symposium on Adaptive Processes* (*Houston, Tex.*, 1975), *pp.* 362–365. *Inst. Electr. Electron. Engrs., New York*, 1975. (B. P. Molinari) **57** #18945 93B99 (34A30, 93D99)

(*with* Rosenbaum, Patrick; Sidi, Marcel; Wu, Min Yen) A synthesis theory for nonlinear systems with plant uncertainty. *Proceedings of the IFAC* 6*th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 37.2, 7 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33459 93E20

A synthesis theory for linear time-varying feedback systems with plant uncertainty. *IEEE Trans. Automatic Control* **AC-20** (1975), 454–464. (Author's summary) **51** #12364 93B15

(*with* Wu, Min Yen; Dennison, J. C.) On solution, stability and transformation of linear time-varying systems. *Internat. J. Control* **22** (1975), *no.* 2, 169–180. (Jean-Michel Bismut) **52** #10154 93C50

Synthesis of feedback systems with nonlinear time-varying uncertain plants to satisfy quantitative performance specifications. Recent trends in system theory. *Proc. IEEE* **64** (1976), *no.* 1, 123-130. (T. Kaczorek) **55** #12195 93B15 (93C10)

See also **Sensitivity, adaptivity and optimality, 49** #8697

Horowitz, Joseph Semilinear Markov processes, subordinators and renewal theory. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 167–193. (J. F. C. Kingman) **48** #1327 60J25

Short proof of a "Radon-Nikodym theorem" for additive functionals. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **25** (1972/73), 159–162. (F. B. Knight) **48** #9863 60J55

(*with* Geman, Donald) Remarks on Palm measures. *Ann. Inst. H. Poincaré Sect.* (*N.S.*) **9** (1973), 215–232. (F. B. Knight) **49** #11643 60J55 (60G17)

(*with* Geman, Donald) Occupation times for smooth stationary processes. *An* *Probability* **1** (1973), *no.* 1, 131–137. (J. Pickands, III) **50** #3325 60G10

(*with* Geman, Donald) Transformations of flows by discrete random measures. *Indiana Univ. Math. J.* **24** (1974/75), 291–306. (F. B. Knight) **50** #3341 60G5 (60J55)

(*with* Geman, Donald) Local times and supermartingales. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **29** (1974), 273–293. (Richard Griego **50** #11476 60J55

(*with* Geman, Donald) Random shifts which preserve measure. *Proc. Amer. Math Soc.* **49** (1975), 143–150. (José de Sam Lazaro) **53** #767 28A65 (60G10)

(*with* Geman, Donald) Polar sets and Palm measures in the theory of flows. *Trans Amer. Math. Soc.* **208** (1975), 141–159. (C. L. Scheffer) **52** #12057 60G10 (28A6 60J55)

(*with* Geman, Donald; Zinn, Joel) Recurrence of stationary sequences. *Ann. Probability* **4** (1976), *no.* 3, 372–381. (Richard Isaac) **53** #9351 60G10 (28A65)

(*with* Geman, Donald) Local times for real and random functions. *Duke Math. J* **43** (1976), *no.* 4, 809–828. (Simeon M. Berman) **54** #6251 60G17 (60G15)

(*with* Geman, Donald) Occupation-times for functions with countable level sets and the regeneration of stationary processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** (1976), *no.* 3, 189–211. (José de Sam Lazaro) **56** #13337 60G10 (60G1

Une remarque sur les bimesures. *Séminaire de Probabilités, XI* (*Univ. Strasbourg Strasbourg*, 1975/1976), *pp.* 59–64. *Lecture Notes in Math., Vol.* 581, *Springer, Berlin*, 1977. (S. D. Chatterji) **56** #8788 28A35 (60A10)

Horowitz, Larry L. (*with* Mitter, Sanjoy Kumar) An example of an infinite dimensiona filtering problem: filtering for gyroscopic noise. *Proceedings of the IEEE Conference on Decision and Control and the* 15*th Symposium on Adaptive Processes* (*Clearwater, Fla* 1976), *pp.* 764–773. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summar **56** #18041 93E10

(*with* Hager, William W.) Convergence and stability properties of the discret Riccati operator equation and the associated optimal control and filtering problems *SIAM J. Control Optimization* **14** (1976), *no.* 2, 295–312. (L. I. Gal′čuk) **53** #10426 93E10 (93C15, 49E20)

Horowitz, Marcu *See* **Recherches sur la philosophie des sciences, 52** #7764

Horowitz, Robert D. Characters of free groups represented in the two-dimensional specia linear group. *Comm. Pure Appl. Math.* **25** (1972), 635–649. (M. Friedberg) **47** #3542 20E35

Induced automorphisms on Fricke characters of free groups. *Trans. Amer. Math Soc.* **208** (1975), 41–50. (S. Andreadakis) **51** #5773 20E35 (10D10)

Horowitz, S. On finite invariant measures for sets of Markov operators. *Proc. Amer. Math Soc.* **34** (1972), 110–114. (L. Sucheston) **45** #5319 28A70 (47D99, 60J99)

Transition probabilities and contractions of L_∞. *Z. Wahrscheinlichkeitstheorie un Verw. Gebiete* **24** (1972), 263–274. (E. M. Klimko) **48** #9849 60J05

Semi-groups of Markov operators. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **10** (1974) 155–166. (Jacques Azéma) **51** #3396 28A65 (60J35)

Horowitz, Steven L. (*with* Pavlidis, Theodosios) Segmentation of plane curves. *IEEE Trans. Computers* **C-23** (1974), *no.* 8, 860–870. (M. Z. Nashed) **52** #9567 65D1 (68A45)

Horrebow, Peder *See* **Jørgensen, Niels Thèrkel; et al., 58** #21174

Horrent, Jean-Jacques Sur la catégorie des applications covariantes. *Esquisses mathématiques, No.* 15, *Exp. No.* 2, ii + 12 *pp. Fac. Sci. Univ. Paris VII, Paris*, 1971. (V Topenčarov) **55** #454 18C15

Sur les espèces de morphismes. *Esquisses mathématiques, No.* 18, iii + 81 *pp. Fac Sci. Univ. Paris VII, Paris*, 1972. (Johann Sonner) **54** #12852 18A99

Sur les catégories produit-croisé. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972) A1208–A1211. (J. Sonner) **45** #3509 18A30

Horrigmoe, G. (*with* Bergan, P. G.) Incremental variational principles and finite element models for nonlinear problems. *Comput. Methods Appl. Mech. Engrg.* **7** (1976), *no.* 2 201–217. (Zbl **323** #73060) **58** #32235 73.65

Horrocks, G. (*with* Mumford, David) A rank 2 vector bundle on $\mathbf{P}^4$ with 15,000 symmetries. *Topology* **12** (1973), 63–81. (W. Barth) **52** #3164 14F05

Properties of schemes inherited from orbits. *J. Algebra* **40** (1976), *no.* 2, 406–417 (J.-E. Bertin) **54** #7487 14L15

Horrox, Jeremiah *See* **Jørgensen, Niels Therkel, 58** #21134

Horský, Jan ★Úvod do teorie relativity. (Czech) [Introduction to relativity theory] Populární Přednášky o Fyzice, No. 25. [Popular Lectures in Physics, No. 25] *SNTL–Nakladatelství Technické Literatury, Prague*, 1975. 220 *pp.* (Editors) **53** #2256 83.00

(*with* Avakjan, R. M.) Gravitational field of a plane homogeneous layer. (Russian English summary) *Astrofizika* **11** (1975), *no.* 4, 689–697. (Not reviewed) 83.53

(*with* Lorenc, P.; Novotný, J.) A non-static source of the Taub solution of Einstein's gravitational equations. *Phys. Lett. A* **63** (1977), *no.* 2, 79–80. (A. H. Taub **56** #17676 83.53

Horský, Zdeněk Johannes Kepler. (Czech) *Pokroky Mat. Fyz. Astronom.* **16** (1971), 281–285. (Editors) **58** #10045 01A45 (01A70)

On the heliocentrism of Copernicus (on the occasion of the 500th anniversary of the birth of the distinguished Polish scientist). (Czech) *Pokroky Mat. Fyz. Astronom.* **18** (1973), *no.* 1, 3–8. (Not reviewed) 01A40

Horsley, R. (*with* Goddard, Peter) The group theoretic structure of dual vertices. *Nuclear Phys. B* **111** (1976), *no.* 2, 272-296. (G. Costa) **54** #4423 81.47

The group theoretic structure of the dual current vertex. *Nuclear Phys. B* **138** (1978), *no.* 3, 474–492. (Author's summary) **58** #14503 81.22

Some isomorphic function and Fock space representations of the dual model superconformal group. *Nuclear Phys. B* **138** (1978), *no.* 3, 493–516. (Author's summary) **58** #14468 81.17 (17B65)

Horst, Ernst (*with* Eilers, Manfred) The theorem of Gleason for nonseparable Hilbert spaces. *Internat. J. Theoret. Phys.* **13** (1975), *no.* 6, 419–424. (S. Gudder) **52** #9885 81.46

r Horst, José Antonio (*with* Berger, Toby) Complete decoding of iple-error-correcting binary BCH codes. *IEEE Trans. Information Theory* **IT-22** 976), *no.* 2, 138–147. (Carlos R. P. Hartmann) **53** #5165 94A15

orst, M. Frans (*with* Schoute, Frits C.; Willems, Jan C.) Hierarchic recursive image hancement. *IEEE Trans. Circuits and Systems* **CAS-24** (1977), *no.* 2, 67–78. (M. D. inath) **58** #26512 94A05 (93E10)

, Reiner Ein Beitrag zur quasi-konvexen Optimierung in topologischen linearen äumen. (English summary) *Z. Operations Res. Ser. A-B* **18** (1974), A19–A26. (A. öpfert) **51** #8916 49A25

Eine Bemerkung zur entscheidungstheoretischen Betrachtung des klassischen nearen Regressionsmodells. (English summary) *Operations Research Verfahren, Band X, pp.* 44–48. *Hain, Meisenheim an Glan*, 1975. (Emil Spjøtvoll) **55** #11509 62J05

Maximale Netzwerkflüsse mit Kantengewinnen. (English summary) *Siebente berwolfach-Tagung über Operations Research* (1974), *pp.* 113–138. *Operations Research erfahren, Band XXI, Hain, Meisenheim am Glan*, 1975. (Rainer Burkard) **56** #10874 0B10

Devisenarbitrage als Flußprobleme. (English summary) *Z. Operations Res. Ser. A-B* **9** (1975), *no.* 3, A73–A87. (Jaroslav Nešetřil) **52** #16569 90B10

Ein graphentheoretischer Algorithmus für einige Flussprobleme in Netzwerken mit antengewinnen. (English summary) *Computing* **17** (1976), *no.* 2, 121–127. (E. A. ordhaus) **55** #2652 05C35 (90B10)

An algorithm for nonconvex programming problems. *Math. Programming* **10** 1976), *no.* 3, 312–321. (Ferenc Forgó) **54** #12213 90C30

Zur Charakterisierung affin-linearer Hüllfunktionale. Vorträge der issenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und echanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T347–T348. ochem Zowe) **55** #3909 49A50 (90C25)

Der Satz von Fenchel in der konvexen Optimierung. *Jber. Deutsch. Math.-Verein.* **9** (1977), *no.* 1, 12–31. (J. Warga) **56** #4838 90C25 (49A99)

themke, W. (*with* Malek-Mansour, M.; Hayez, B.) An asymptotic expansion of the onlinear master equation. *J. Statist. Phys.* **16** (1977), *no.* 2, 201–215. (Mayer Humi) **6** #7674 82.35

(*with* Malek-Mansour, M.; Brenig, L.) A stochastic approach to the kinetic theory f gases. *Phys. A* **88** (1977), *no.* 3, 407–424. (Ł. A. Turski) **57** #2389 82.60

(*with* Brenig, L.) Non-linear Fokker-Planck equation as an asymptotic epresentation of the master equation. *Z. Phys. B* **27** (1977), *no.* 4, 341–348. (Authors' ummary) **56** #10684 82.60

tmann, Rolf P. Space as intuition and geometry. Observations on Kant's ranscendental aesthetic. *Ratio* **18** (1976), *no.* 1, 17–30. (J. A. Coffa) **56** #8257 0A25

mann, Michael Über die Lösbarkeit der $\bar{\partial}$-Gleichung auf Ringgebieten mit Hilfe von L^p-, $\mathcal{C}^*$- und $\mathcal{D}$-stetigen Integraloperatoren. *Math. Ann.* **223** (1976), *no.* 2, 139–156. (R. Michael Range) **54** #10674 32F10 (32E30)

obágyi, István Durchleuchtung gitterförmiger Kugelpackungen mit Lichtbündeln. *Studia Sci. Math. Hungar.* **6** (1971), 147–150. (M. E. Wise) **50** #1131 52A45

The Newton number of convex plane regions. (Hungarian. French summary) *Mat. Lapok* **23** (1972), 313–317 (1974). (P. Erdös) **50** #14485 52A10

Über die auf Scheibenklassen bezügliche Newtonsche Zahl der konvexen Scheiben. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **18** (1975), 123–127 (1976). (E. Jucovič) **54** #13728 52A40

Über die Anzahl der Scheiben konstanter Breite, die eine gegebene Scheibe konstanter Breite berühren. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 45–48 (1977). (J. M. Wills) **58** #24004 52A10

on, J. D. (*with* Stanton, Ralph G.) Composition of Room squares. *Combinatorial theory and its applications, III* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 1013–1021. (1 *foldout*) *North-Holland, Amsterdam*, 1970. (W. D. Wallis) **46** #73 05B05

Variations on a theme by Moore. *Proceedings of the Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1970), *pp.* 146–166. *Louisiana State Univ., Baton Rouge, La.*, 1970. (S. S. Shrikhande) **46** #8864 05B15

(*with* Mullin, Ronald C.; Stanton, Ralph G.) Minimal coverings of pairs by quadruples. *Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1971), *pp.* 495–516. *Louisiana State Univ., Baton Rouge, La.*, 1971. (W. H. Mills) **47** #6518 05B30

(*with* Mullin, Ronald C.; Stanton, Ralph G.) A recursive construction for Room designs. *Aequationes Math.* **6** (1971), 39–45. (Jane W. Di Paola) **45** #6649 05B30

Quintuplication of Room squares. *Aequationes Math.* **7** (1971), 243–245. (W. D. Wallis) **46** #3344 05B30

(*with* Mullin, Ronald C.; Schellenberg, Paul J.) On the existence of Room squares of side $8s+5$. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 425–446. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. (W. D. Wallis) **50** #150 05B30

(*with* Stanton, Ralph G.) A multiplication theorem for Room squares. *J. Combinatorial Theory Ser. A* **12** (1972), 322–325. (R. C. Mullin) **45** #6650 05B30

Sub-Latin squares and incomplete orthogonal arrays. *J. Combinatorial Theory Ser. A.* **16** (1974), 23–33. (Judith Q. Longyear) **50** #143 05B15

See also **Proceedings: Louisiana Conference on Combinatorics, Graph Theory and Computing.** **47** #4750

ton, Mary (*with* Bacon, Francis) In defence of Francis Bacon: a criticism of the critics of the inductive method. *Studies in Hist. and Philos. Sci.* **4** (1973/74), 241–278. (Not reviewed) 00A25 (01A45)

See also **Harré, Rom**, (Not reviewed)

ton, Robert Jacobi polynomials. IV. A family of variation diminishing kernels. *SIAM J. Math. Anal.* **6** (1975), 544–550. (G. Gasper) **56** #5970 33A65

ton, Wendell, Jr. (*with* Kwak, H.; Estes, R.; Choi, Duk In) Initial value problem with non-Hermitian radial mode equations. *Phys. Fluids* **20** (1977), *no.* 9, 1476–1482. (Authors' summary) **57** #15122 82.35

(*with* Hitchcock, D. A.; Brecht, S. H.) An improved polynomial representation for the delta function $\delta(\mu-\mu_0)$. *J. Computational Phys.* **26** (1978), *no.* 3, 443–446. (Jacob Steinberg) **58** #11555 33A65 (65D20)

Horužiĭ, S. S. The extended locality and other properties of local W^*-algebras. (Russian. English summary) *Teoret. Mat. Fiz.* **1** (1969), *no.* 1, 95–100. (Not reviewed) 81.46

The structure of the local W^*-algebras in relativistic quantum field theory. (Russian. English summary) *Teoret. Mat. Fiz.* **2** (1970), *no.* 3, 350–360. (Author's summary) **57** #18585 81.46 (46L10)

(*with* Suško, V. N.) Vector states on algebras of observables and superselection rules. I. Vector states and Hilbert space. (Russian. English summary) *Teoret. Mat. Fiz.* **4** (1970), *no.* 2, 171–195. (Authors' summary) **57** #4895a 81.46

(*with* Suško, V. N.) Vector states on algebras of observables and superselection rules. II. Algebraical theory of superselection rules. (Russian. English summary) *Teoret. Mat. Fiz.* **4** (1970), *no.* 3, 341–359. (Authors' summary) **57** #4895b 81.46 (46L10)

Fields and local observables in the axiomatic algebraic theory with superselection rules. (Russian. English summary) *Teoret. Mat. Fiz.* **5** (1970), *no.* 1, 10–24. (Author's summary) **57** #4896 81.46

(*with* Suško, V. N.) Properties of the pre-images of vector states on algebras of observables. (Russian. English summary) *Teoret. Mat. Fiz.* **8** (1971), *no.* 3, 324–327. (Authors' summary) **57** #11479 81.46

(*with* Suško, V. N.) Local and asymptotic structure of quantum systems with superselection rules. (Russian. English summary) *Teoret. Mat. Fiz.* **13** (1972), *no.* 3, 291–312. (Authors' summary) **57** #8660 81.46

The superposition principle in algebraic quantum theory. (Russian. English summary) *Teoret. Mat. Fiz.* **23** (1975), *no.* 2, 147–159. (Author's summary) **58** #14661 81.47

Fields and observable algebras in models with superselection rules. I. Model with abelian gauge group. (Russian. English summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 3, 291–306. (Author's summary) **58** #25477a 81.22

(*with* Zinov'ev, Ju. M.; Suško, V. N.) Equivalence properties of coherent superselection sectors and description of physical symmetries in algebraic axiomatic theory. (Russian summary) International Conference on the Mathematical Problems of Quantum Field Theory and Quantum Statistics. Part I. Axiomatic Quantum Field Theory. *Trudy Mat. Inst. Steklov.* **135** (1975), 127–136, 258. (From the authors' introduction) **56** #4518 81.46 (81.22)

Fields and algebras of observables in models with superselection rules. II. Model with nonabelian gauge group. (Russian. English summary) *Teoret. Mat. Fiz.* **26** (1976), *no.* 1, 3–15. (Author's summary) **58** #25477b 81.22

(*with* Dadašjan, K. Ju.) Algebras of observables for the free Dirac field. (Russian. English summary) *Teoret. Mat. Fiz.* **36** (1978), *no.* 2, 166–182. (Authors' summary) **58** #25558 81.46

Horvat, Ene *See* **Horváth, Jenő**

Horvat, Ĭ. *See* **Horváth, Jenő**

Horváth, E. *See* **Horváth, Jenő**

Horvath, Edward C. Efficient stable sorting with minimal extra space. *Sixth Annual ACM Symposium on Theory of Computing* (*Seattle, Wash.*, 1974), *pp.* 194–215. *Assoc. Comput. Mach., New York*, 1974. (Witold Lipski) **54** #4177 68A10 (68A20)

(*with* Lam, Shui; Sethi, Ravi) A level algorithm for preemptive scheduling. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 1, 32–43. (C. F. Kelemen) **57** #2524 90B35

Stable sorting in asymptotically optimal time and extra space. *J. Assoc. Comput. Mach.* **25** (1978), *no.* 2, 177–199. (Amitava Bagchi) **58** #3652 68A10

Horváth, Gyula (*with* Gécseg, F.) On representation of trees and context-free languages by tree automata. *Found. Control Engrg.* **1** (1976), *no.* 3, 161–168. (B. Zelinka) **55** #12350 94A30 (68A25, 68A30)

Horváth, Ion On the absolute p-centers of a graph. The stability of the absolute p-centers. (Romanian. English summary) *Rev. Anal. Numer. Teoria Aproximaţiei* **2** (1973), 151–157. (R. C. Read) **53** #10657 05C99

Linear fractional programming with additional constraints. (Romanian. English summary) *Rev. Anal. Numer. Teoria Aproximaţiei* **3** (1974), *no.* 1, 71–77 (1975). (M. Stoica) **53** #2353 90C05 (90C30)

Horvath, J. *See* **Horváth, John**

Horváth, János The mathematical work of Marcel Riesz. I. (Hungarian) *Mat. Lapok* **26** (1975), *no.* 1-2, 11–37 (1977). (Editors) **58** #10178 01A70

Horváth, Jean *See* **Horváth, John**

Horváth, Jenő Über die Durchsichtigkeit gitterförmiger Kugelpackungen. *Studia Sci. Math. Hungar.* **5** (1970), 421–426. (D. S. Khassa) **45** #7615 52A45

The densest packing of an n-dimensional cylinder by unit spheres. (Russian) *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **15** (1972), 139–143 (1973). (E. Jucovič) **49** #11391 52A45

Remarks on the theory of a cloud of spheres. (Russian) *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **15** (1972), 145–150 (1973). (E. Hertel) **48** #7125 52A45 (10E30)

Packing of unit spheres in spherical shells. (Hungarian. German summary) *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.* **20** (1972), *no.* 3-4, 291–302. (Author's summary) **56** #6551 52A45

The sum of a power of distances. (Russian) *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **17** (1974), 125–129 (1975). (Z. Nádeník) **52** #4098 50C10 (52A40)

The density of the densest packing of spheres in a four-dimensional layer. (Russian) Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 251–252. (E. Hertel) **51** #11288 52A45

Die Dichte einer Kugelpackung in einer 4-dimensionalen Schicht. *Period. Math. Hungar.* **5** (1974), 195 199. (V. C. Dumir) **51** #12718 10E30

The densest packing of unit balls in 3-dimensional and 4-dimensional layers. (Russian) *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **18** (1975), 171–176 (1976). (E. Jucovič) **54** #13731 52A45

(*with* Ryškov, S. S.) On the radii of the cylinders which fit into a lattice packing of the n-dimensional space with unit spheres. (Hungarian. Russian summary) *Mat. Lapok* **26** (1975), *no.* 1-2, 91–96 (1977). (P. Erdős) **58** #24017 52A45

(*with* Ryškov, S. S.) Estimation of the radius of a cylinder that can be imbedded in every lattice packing of n-dimensional unit balls. (Russian) *Mat. Zametki* **17** (1975), 123–128. (E. Hertel) **51** #6600 52A45

Close lattice packing of balls in lattices of the first type. (Russian) *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **20** (1977), 191–194. (W. J. Firey) **58** #5534 10E30 (52A45)

Horváth, John Finite parts of distributions. *Linear operators and approximation* (*Proc. Conf., Oberwolfach*, 1971), *pp.* 142–158. *Internat. Ser. Numer. Math., Vol.* 20, *Birkhäuser, Basel*, 1972. (M. Cotlar) **52** #6409 46F10

Eine Einführung in die Distributionentheorie. *Überblicke Mathematik, Band* 4, *pp.* 39–61. *Bibliographisches Inst., Mannheim*, 1972. (Editors) **49** #11247 46F10

Transformations de Marcel Riesz. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 12, 10 *pp. Centre de Math., École Polytech., Paris*, 1973. (L. Debnath) **53** #8806 44A15

Locally convex spaces. *Summer School on Topological Vector Spaces* (*Univ. Libre Bruxelles, Brussels*, 1972), *pp.* 41–83. *Lecture Notes in Math., Vol.* 331, *Springer, Berlin*, 1973. (Editors) **58** #2117 46A05

Quelques résultats de M. H. Powell sur le théorème du graphe fermé. Actes du Deuxième Colloque d'Analyse Fonctionnelle de Bordeaux (Univ. Bordeaux, 1973), II, pp. 65–77. *Publ. Dép. Math.* (*Lyon*) **10** (1973), *no.* 3, 219–231. (J. W. Baker) **51** #1330 (EA **51**) 46A30

Sur la convolution des distributions. *Bull. Sci. Math.* (2) **98** (1974), *no.* 3, 183–192. (Harris S. Shultz) **55** #8787 46F10

Distributions defined by analytic continuation. (Spanish) *Rev. Colombiana Mat.* **8** (1974), 47–95. (G. Marinescu) **51** #6405 46F05

Composition of hypersingular integral operators. *Applicable Anal.* **7** (1977/78), *no.* 3, 171–190. (Walter Trebels) **58** #17830 46F10 (32D15, 44A35)

See also **Several complex variables**, **45** #585 *and* **Development of functional analysis**, **51** #1316

Horvath, Raymond Normal bundles of topological manifolds. *Indian J. Math.* **12** (1970), 117–124. (T. tom Dieck) **46** #8225 55F25 (57A65)

Horváth, Robert A. The centenary of Quetelet's death and the development of statistical discipline. (French summary) Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 1. *Bull. Inst. Internat. Statist.* **45** (1973), *no.* 1, 548–554. (J. S. Joel) **55** #1544 62-03 (01A55)

Horváth, S. (*with* Andréka, Hajnal; Németi, István) Notes on maximal congruence relations, automata and related topics. (Russian summary) *Acta Cybernet.* **2**, 71–88 (1973). (A. Ádám) **49** #12203 94A30 (20M35)

Horváth, Sándor Complexity of sequence encodings. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 399–404. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (S. A. Berezin) **58** #10381 02F43 (68A20)

Optimal RASP programs for arbitrarily complex 0-1 valued functions. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnica*, 1977), *pp.* 297–302. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (From the introduction) **58** #32056 68A20 (68A25)

On the existence of *k*-separated finite and infinite dipaths. *J. Combinatorial Theory Ser. B* **22** (1977), *no.* 3, 284–285. (C. St. J. A. Nash-Williams) **56** #15481 05C20

Horváth, Zalán Exactly soluble models for interacting vector and scalar fields. *Acta Phys. Austriaca* **34** (1971), *no.* 1-2, 93–101. (P. M. Mathews) **55** #5048 81.47

(*with* Pócsik, G.) High-energy summation of ladder diagrams in nonpolynomial field theories. *Ann. Physics* **74** (1972), 555–566. (D. B. Fairlie) **48** #13058 81.45

On the local commutativity of quantized scalar and vector fields. *Acta Phys. Acad. Sci. Hungar.* **34** (1973), 281 287. (Author's summary) **56** #10579 81.47

(*with* Palla, László) On the structure of generalized monopole solutions in gauge theories. *Nuclear Phys. B* **116** (1976), *no.* 2, 500–524. (Daniel A. Akyeampong) **56** #14220 81.22

(*with* Palla, László) Dyons in classical *SU*(3) gauge theory and a new topologically conserved quantity. *Phys. Rev. D* (3) **14** (1976), *no.* 6, 1711–1714. (Authors' summary) **54** #9483 81.53

(*with* Palla, László) Monopoles and grand unification theories. *Phys. Lett. B* **69** (1977), *no.* 2, 197–201. (Authors' summary) **56** #14221 81.22

See also **Concepts in hadron physics**, **48** #1596

Horváthy, P. (*with* Úry, L.) Analogy between dynamics and statics related to variational mechanics. *Acta Phys. Acad. Sci. Hungar.* **42** (1977), *no.* 3, 251–260. (R. C. Churchill) **58** #19505 70.58 (58E99, 58F05)

Horvatić, Krešo On piecewise linear topology. (Serbo-Croatian. English summary) *Mat. Vesnik* **8(23)** (1971), 213–231. (Author's summary) **45** #2714 57-02 (57C99)

Strongly embeddable polyhedra. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 113–114. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (L. S. Husch) **48** #9731 57C35

(*with* Biliński, Stanko; Mardešić, Sibe) Dr. Rajko Draščić (29. VI. 1923—30. IV. 1972). (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **8(28)** (1973), 149–152. (Editors) **47** #6418 01A70

(*with* Mardešić, Sibe) Professor Rudolf Cesarec (2/III/1889-29/XII/1972). (Serbo-Croatian) *Glasnik Mat. Ser. III* **8(28)** (1973), 331–334. (Ju. M. Gaĭduk) **49** #2233 01A70

(*with* Ivanšić, Ivan) On unlinking of polyhedra. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 147–153. (L. S. Husch) **50** #1251 57C45

See also **Topics in topology**, **49** #3802

Horvay, Gabriel Cornelius Lanczos, in memoriam. *Comput. Math. Appl.* **3** (1977), *no.* 4, 251–252. (Editors) **56** #15327 01A70

Horvitz, D. G. (*with* Greenberg, B. G.; Abernathy, J. R.) Recent developments in randomized response designs. *A survey of statistical design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *pp.* 271–285. *North-Holland, Amsterdam*, 1975. (C. H. Kapadia) **52** #6944 62D05

(*with* Greenberg, B. G.; Abernathy, J. R.) Randomized response: a data-gathering device for sensitive questions. (French summary) International Association of Survey Statisticians Meeting on Randomized Response (Warsaw, 1975). *Internat. Statist. Rev.* **44** (1976), *no.* 2, 181 196. (David Bellhouse) **56** #16861 62D05

(*with* Greenberg, B. G.; Kuebler, R. R.; Abernathy, J. R.) Respondent hazards in the unrelated question randomized response model. *J. Stat. Plann. Inference* **1** (1977), *no.* 1, 53–60. (Claes-M. Cassel) **58** #18820 62D05

See also **Reliability and biometry: statistical analysis of lifelength**, **49** #1630

Horwitz, Barry Algebraic realization of $SU(6)_{w,\mathrm{curreents}}$ charge-algebra sum rules. *Phys. Rev. D* (3) **9** (1974), 996-1003. (Author's summary) **53** #12259 81.22

Horwitz, D. *See* **Discussion: Papers, International Association of Survey Statisticians**, **56** #4008

Horwitz, Gerald (*with* Katz, Joseph) Thermodynamic stability of relativistic rotating stellar configurations and a maximum principle for the entropy. *Astrophys. J.* **194** (1974), 439–449. (Kotik K. Lee) **50** #12142 85.49

(*with* Katz, Joseph) Steepest-descent technique and stellar equilibrium statistical mechanics. I. Newtonian clusters in a box. *Astrophys. J.* **211** (1977), *no.* 1, *part* 1, 226–243. (Attay Kovetz) **54** #9599 85.60

(*with* Katz, Joseph) Steepest descent technique and stellar equilibrium statistical mechanics. II. Relativistic clusters in a box. *Astrophys. J. Suppl. Ser.* **33** (1977), *no.* 2, 251–268. (E. Lyttkens) **56** #7755 85.60

Horwitz, Lawrence P. Statistical description of elementary processes. I. Single particle theory. *Helv. Phys. Acta* **45** (1972/73), *no.* 5, 693–712. (R. K. Pathria) **53** #10044 81.62

Statistical description of elementary processes. II. Quantum field theory. *Helv. Phys. Acta* **45** (1972/73), *no.* 5, 713–733. (R. K. Pathria) **53** #10045 81.62

(*with* Gomberoff, L.; Ne'eman, Y.) Unified picture of the algebra of strengths, $\mathrm{SU}(6)_W^{\mathrm{currents}}$, and $\mathrm{SU}(6)_W^{\mathrm{strong}}$. *Phys. Rev. D* (3) **9** (1974), 3545–3561. (Authors' summary) **53** #9976 81.46

(*with* Gal-Ezer, Eldad) Mass splitting in relativistic quantum field theory. *Lett. Math. Phys.* **1** (1975/76), *no.* 3, 225–231. (L. O'Raifeartaigh) **54** #14633 81.47

(*with* Gal-Ezer, Eldad) Spacelike charges, null-plane charges, and mass splitting. *Phys. Rev. D* (3) **13** (1976), *no.* 8, 2413–2436. (Authors' summary) **56** #2057 81.47

Hosabekov, O. On the theory of the Newton-Kantorovič method. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **15** (1972), *no.* 12, 6–9. (S. Fučík) **48** #7043 47H15

Error estimation in the method of successive approximations. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no.* 1, 10–14. (S. Fučík) **48** #7587 65J05 (47H15)

Sufficient conditions for the convergence of the Newton-Kantorovič method for a boundary value problem with a parameter. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no.* 8, 14–17. (H. Schwetlick) **49** #10158 65L10

Hosack, J. M. On when invariant subspaces of unbounded normal operators are reducing. *J. London Math. Soc.* (2) **2** (1970), 420–424. (From the author's introduction) **54** #991 47B15

Hosack, John M. Conditions on the ring of endomorphisms which imply normability or finite dimensionality of the space. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 765–767. (S. Goldberg) **52** #1412 47D15

Hosaka, H. (*with* Ishikawa, T.) On Eakin-Nagata's theorem. *J. Math. Kyoto Univ.* **13** (1973), 413–416. (E.-A. Behrens) **48** #11202 16A46

Hosaka, Mamoru (*with* Kimura, Fumihiko; Kakishita, Naotake) A unified method for processing polyhedra. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974), *pp.* 768–772. *North-Holland, Amsterdam*, 1974. (Wolfgang Böhm) **53** #15013 68A45 (50–04)

Hosam El-Din, M. On the asymptotic properties of solutions of nonlinear systems. *Arch. Math.* (*Brno*) **12** (1976), *no.* 4, 179–190. (Author's introduction) **57** #13033 34D05 (34D10)

Hosch, Frederick A. (*with* Landweber, Lawrence H.) Finite delay solutions for sequential conditions. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 45 -60. *North-Holland, Amsterdam*, 1973. (Authors' summary) **56** #15232 94A30 (02E10)

Hoschek, Josef ★Linien-Geometrie. B. I. Hochschulskripten, 733 a/b. *Bibliographisches Institut, Zurich*, 1971. vi+263 *pp.* (H. W. Guggenheimer) **48** #1067 53A25

Scheitelsätze für Regelflächen. (English summary) *Manuscripta Math.* **5** (1971), 309--321. (P. Drăgilă) **45** #4278 52A40 (53A05)

Liniengeometrie. *Überblicke Mathematik, Band* 4, *pp.* 63–91. *Bibliographisches Inst., Mannheim*, 1972. (Lieven Vanhecke) **50** #5650 53A25

Integralinvarianten von Regelflächen. *Arch. Math.* (*Basel*) **24** (1973), 218–224. (H. R. Müller) **47** #4183 53C45 (53A05)

(*with* Spreitzer, Gustav) ★Aufgaben zur darstellenden Geometrie. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1974. 229 *pp.* (Editors) **52** #1501 50-01

Räumliche Zindlerkurven. (English summary) *Manuscripta Math.* **13** (1974), 175–185. (H. W. Guggenheimer) **49** #9729 50D15

Räumliche Zindlerkurven. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 253–260. (K. Strubecker) **51** #9000 53C45

Öffnungsstrecke und Öffnungswinkel geschlossener Kongruenzflächen. *Math. Nachr.* **60** (1974), 35–42. (O. Giering) **51** #8967 53A25

Eine Verallgemeinerung des Satzes von Holditch. (English summary) *Monatsh. Math.* **80** (1975), *no.* 2, 93–99. (H. R. Müller) **53** #3906 53A05

Globale Invarianten von Raumkurven, Regelflächen und Geradenkongruenzen im einfach isotropen Raum. *J. Reine Angew. Math.* **286/287** (1976), 205–212. (Leo Boček) **54** #8482 53A25 (53C65)

Zur Berechnung der Hauptkrümmungen und Hauptkrümmungsrichtungen bei empirisch vorgegebenen Flächenstücken. *Abh. Braunschweig. Wiss. Ges.* **28** (1977), 107–117. (O. Bottema) **58** #30769 53A05

Spezielle Nockengetriebe und geometrische Eigenschaften dazu verwandter Kurven. (English and Russian summaries) *Z. Angew. Math. Mech.* **58** (1978), *no.* 2, 75–80. (O. Bottema) **57** #14694 70.53

Höschel, Hans-Peter A general approach to correlation and linear dependence between random vectors with regular or singular covariance matrix. (German and Russian summaries) *Math. Operationsforsch. Statist.* **5** (1974), *no.* 6, 487–507. (C. W. Chen) **51** #9368 62H20

Über die Pseudoinverse eines zerlegten positiven linearen Operators. *Math. Nachr.* **74** (1976), 167 -172. (K. Veselić) **54** #13591 47A05

Ein axiomatischer Zugang zu Abhängigkeitsmassen für Zufallsvektoren und die Spurkorrelation. (English and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 5, 789–802. (Franz Streit) **55** #1622 62H20

A generalization of random vectors and a correlation theory for them—a trial. (German and Russian summaries) With discussion. *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 3, 263–297. (Jacques Dauxois) **58** #18904 62H20

Marin (*with* Rival, Ivan) Diffraction of electromagnetic waves by several apertures. he plane case. (Russian) *Computing methods and programming, XIII* (*Russian*), *pp.* 7–92. *Izdat. Moskov. Univ., Moscow*, 1969. (G. Postnov (RŽFiz **1969** #12 Ž147)) **5** #9597 78.45

k, Josef Über eine nichtlinear Differentialgleichung dritter Ordnung. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **41** *Mat*. **13** (1973), 63–69. (H. Hochstadt) **55** #769 34C10

Eine Bemerkung zur sich selbst begleitenden Differentialgleichung. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci Mat*. **16** (1977), 81–93. (Author's summary) **58** #28857 34C20

i, Mamoru (*with* Miyakawa, Masahiro; Yuba, Toshitsugu; Sugito, Yoshio) Optimum equence trees. *SIAM J. Comput*. **6** (1977), *no*. 2, 201–234. (Eberhard Lüdde) **6** #10218 68A50

i, Seiichi Numerical calculation of quaternion functions. IV. *Mem. Fac. Engrg. Miyazaki Univ. No*. 7 (1973), 1–34. (Editors) **56** #17004 65D20

(*with* Furuta, Yoshito) The series of quaternions with real coefficients and its numerical calculation. *Bull. Fac. Engrg. Miyazaki Univ. No*. 23 (1977), 65–82. (B. A. Bondarenko) **57** #4477 65D15

ina, Takao On pseudoparacompactness and continuous mappings. *Proc. Japan Acad.* **48** (1972), 581–584. (C. E. Aull) **51** #13985 54D20

On unions of countably-compactifiable spaces. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 92–94 (1973). (R. Engelking) **50** #14669 54D35

(*with* Morita, Kiiti) *C*-embedding and the homotopy extension property. *General Topology and Appl*. **5** (1975), 69–81. (L. I. Sennott) **51** #1718 54C45 (55D05)

(*with* Morita, Kiiti) *P*-embedding and product spaces. *Fund. Math*. **93** (1976), *no*. 1, 71–80. (Richard A. Alò) **55** #6354 54C45

Compactifications by adding a countable number of points. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp*. 168–169. *Soc. Cezechoslovak Mathematicians and Physicists, Prague*, 1977. (N. Hadžiivanov) **57** #1431 54D40

Remarks on Sennott's *M*-embedding. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A*. **13**, *no*. 366-382, 284–289 (1977). (C. M. Pareek) **57** #1400 54C20

hino, Satoshi (*with* Ichida, Kozo) Solutions of partial differential equations by a modified random walk. *Numer. Math*. **18** (1971/72), 61–72. (G. Vainikko) **45** #4587 65C05

A formulation of variable metric methods. *J. Inst. Math. Appl*. **10** (1972), 394–403. (J. E. Dennis, Jr.) **49** #1770 65K05

A method of centres algorithm with arbitrary parameter and its application. *J. Inst. Math. Appl*. **12** (1973), 319–328. (Gerald G. L. Meyer) **49** #6610 65K05

imov, Š. *See* **Hašimov, Š.**

in, Bensaad A boundary value problem for linear differential equations with deviating argument, and its adjoint. (Russian) *Collection of scientific works of postgraduates, No. XI: Mathematics and physics* (*Russian*), *pp*. 54–61. *Univ. Družby Narodov, Moscow*, 1972. (L. J. Grimm) **50** #5138 34K10

ken, William H. (*with* Büchi, J. Richard) Canonical systems which produce periodic sets. *Math. Systems Theory* **4** (1970), 81–90. (W. Vollmerhaus) **50** #6811 02F05 (68A30)

An asymmetric regular set. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 115–117. (J. Gruska) **48** #8135 94A30

Some Post canonical systems in one letter. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 509–515. (Egon Börger) **55** #12485 02F05

Optimum partitions of tree addressing structures. *SIAM J. Comput*. **4** (1975), *no*. 3, 341–347. (A. D. Booth) **51** #9565 68A10

skin, M. A. (*with* Molland, A. G.) Swineshead on falling bodies: an example of fourteenth-century physics. *British J. Hist. Sci*. **3** (1966), *no*. 10, *part* 2, 150–182. (Not reviewed) 70.00 (01A35)

See also **Mathematical papers of Isaac Newton, 45** #8496; **History of science, 53** #25; **Mathematical papers of Isaac Newton, 55** #10193 *and* **Mathematical papers of Isaac Newton, 55** #10194

sking, R. J. Energy principle for compressible dissipative magnetoplasma. *Austral. J. Phys*. **31** (1978), *no*. 3-4, 347–349. (Author's summary) **58** #19830 78.35

skins, C. S. (*with* Glasser, M. Lawrence; Smith, E. R.) Half-space electrostatic lattice sums. *J. Phys. A* **10** (1977), *no*. 6, 879–884. (Mineo Ikeda) **56** #14182 78.65

skins, R. F. (*with* Goult, R. J.; Milner, J. A.; Pratt, M. J.) ★Applicable mathematics: a course for scientists and engineers. *Macmillan, London*; *distributed by Crane, Russak & Co., Inc., New York*, 1973. viii+491 *pp*. (Editors) **50** #9090 69.00

(*with* Goult, R. J.; Milner, J. A.; Pratt, M. J.) ★Computational methods in linear algebra. *Halsted Press* [*John Wiley & Sons*], *New York-Toronto, Ont*., 1974. vii+204 *pp*. (Robert Skeel) **56** #1681 65Fxx

skins, W. D. (*with* Gryte, D. G.) Numerical techniques for the solution of variational equations. *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man*., 1971), *pp*. 325–344. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man*., 1971. (F. Odeh) **50** #3570 65K05

Some properties of a certain class of circulant matrices. *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man*., 1971), *pp*. 361–372. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man*., 1971. (R. P. Tewarson) **49** #938 41A15 (65F35)

(*with* Meek, D. S.) Perturbation analysis applied to bicubic splines. *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man*., 1971), *pp*. 505–520. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man*., 1971. (L. L. Schumaker) **49** #939 41A15

(*with* Burkowski, Forbes J.) The application of splines to the computation of solutions of functional differential equations. *Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La*., 1971), *pp*. 173–186. *Louisiana State Univ., Baton Rouge, La*., 1971. (R. S. Varga) **47** #7917 65Q05

(*with* Burkowski, Forbes J.) Piecewise continuous approximation of solutions of first order differential equations with delay. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont*., 1971), *pp*. 303–314. *Lakehead Univ., Thunder Bay, Ont*., 1971. (R. B. Simpson) **48** #12838 65L05

(*with* Gryte, D. G.) Some multipoint expansions for odd-degree polynomial splines with equidistant knots. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont*., 1971), *pp*. 405–426. *Lakehead Univ., Thunder Bay, Ont*., 1971. (E. L. Albasiny) **52** #6251 41A15

(*with* Burkowski, Forbes J.) Rapid generation of periodic spline curves and their application to computer graphics. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont*., 1971), *pp*. 427–440. *Lakehead Univ., Thunder Bay, Ont*., 1971. (G. D. Taylor) **49** #4207 65D10

(*with* Meek, D. S.) Iterative solution of equations defining odd-degree polynomial splines with equi-spaced knots. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont*., 1971), *pp*. 493–508. *Lakehead Univ., Thunder Bay, Ont*., 1971. (P. Lipow) **50** #11718 65D05

Table for third-degree spline interpolation using equi-spaced knots. *Math. Comp*. **25** (1971), 797–801. (Author's summary) **45** #7922 65D05

(*with* Albasiny, E. L.) Some explicit error bounds for polynomial splines of odd order defined on a uniform set of knots. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla*., 1972), *pp*. 257–279. *Florida Atlantic Univ., Boca Raton, Fla*., 1972. (Dietrich Braess) **52** #11414 41A45

(*with* Binding, P. A.; Ponzo, Peter J.) Bounds for characteristic values of positive definite matrices. *Canad. Math. Bull*. **15** (1972), 51–56. (B. Levinger) **51** #12891 15A42

(*with* Albasiny, E. L.) Increased accuracy cubic spline solutions to two-point boundary value problems. *J. Inst. Math. Appl*. **9** (1972), 47–55. (Authors' summary) **45** #9500 65L10

(*with* Ponzo, Peter J.) Some properties of a class of band matrices. *Math. Comp*. **26** (1972), 393–400. (Authors' summary) **46** #2839 65F30

(*with* Ponzo, Peter J.) Explicit calculation of interpolating cubic splines on equi-distant knots. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 54–62. (Authors' summary) **46** #10168 65D05

(*with* McMaster, G. E.) Some relations between cubic spline solutions to integral equations and finite difference simulations. *Proceedings of the Second Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man*., 1972), *pp*. 195–206. *Congressus Numerantium, No. VII, Utilitas Math., Winnipeg, Man*., 1973. (G. D. Byrne) **50** #6162 65L10 (65R05)

(*with* McMaster, G. E.) Multipoint boundary expansions for spline interpolation. *Proceedings of the Second Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man*., 1972), *pp*. 261–293. *Congressus Numerantium, No. VII, Utilitas Math., Winnipeg, Man*., 1973. (J. W. Schmidt) **51** #4626 65D05

(*with* Meek, D. S.) Approximation of the second derivative of a periodic function by periodic cubic splines. *Proceedings of the Second Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man*., 1972), *pp*. 295–310. *Congressus Numerantium, No. VII, Utilitas Math., Winnipeg, Man*., 1973. (G. D. Taylor) **50** #5284 41A15

Cubic spline solutions to fourth-order boundary value problems. *Comm. ACM* **16** (1973), 382–385. (Author's summary) **58** #31861 65L10

(*with* Albasiny, E. L.) Explicit error bounds for periodic splines of odd order on a uniform mesh. *J. Inst. Math. Appl*. **12** (1973), 303–318. (M. Marsden) **49** #6546 65D15

Boundary expansions for spline interpolation. *Math. Comp*. **27** (1973), 829–830. (Author's summary) **48** #3224 65D15

(*with* Meek, D. S.) Successive polynomial spline function approximation. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 401–407. (C. A. Hall) **48** #10050 65D15

(*with* Thurgur, M. C.) Determinants and norms for the inverses of a set of band matrices. *Utilitas Math*. **3** (1973), 33–47. (J. Legras) **47** #6512 05B20 (15A09)

(*with* Ponzo, Peter J.) Some approximation properties of periodic parametric cubic splines. *Nordisk. Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 152–155. (Zbl **281** #65008) 41A15 (65D15)

(*with* Meek, D. S.) Linear dependence relations for polynomial splines at midknots. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **15** (1975), *no*. 3, 272-276. (L. L. Schumaker) **52** #12291 65D05 (41A15)

(*with* Meek, D. S.) Improved estimates for successive polynomial spline approximation. *Utilitas Math*. **7** (1975), 25–32. (Martin E. Price) **52** #7084 65D20

(*with* Andres, T. H.; Stanton, Ralph G.) The determinant of a class of skew-symmetric Toeplitz matrices. *Linear Algebra and Appl*. **14** (1976), *no*. 2, 179–186. (Bradley W. Dickinson) **58** #5713 15A15

(*with* McMaster, G. E.) On the inverses of a class of Toeplitz matrices of band width five. *Linear and Multilinear Algebra* **4** (1976/77), *no*. 2, 103–106. (Donald Kershaw) **55** #5667 15A48 (15A57)

(*with* Andres, T. H.; Stanton, Ralph G.) The elements of the inverses of a family of difference matrices. *Ars Combinatoria* **3** (1977), 319–329. (Authors' summary) **56** #7131 65F05

(*with* Meek, D. S.; Walton, D. J.) The numerical solution of $\dot{X}=A_1X+XA_2+D$, $X(0)=C$. *IEEE Trans. Automatic Control* **AC-22** (1977), *no*. 5, 881–882. (Authors' summary) **56** #14900 93B25

(*with* Meek, D. S.; Walton, D. J.) The numerical solution of $A'Q+QA=-C$. *IEEE Trans. Automatic Control* **AC-22** (1977), *no*. 5, 882–883. (Authors' summary) **57** #7969 65F10 (93B25)

(*with* Meek, D. S.; Walton, D. J.) A rapidly convergent method for the solution of the matrix equation $XA+AY=F$. *J. Comput. Appl. Math*. **3** (1977), *no*. 3, 211–215. (George P. Barker) **57** #1846 65F10

(*with* McMaster, G. E.) Properties of the inverses of a set of band matrices. *Linear and Multilinear Algebra* **5** (1977/78), *no*. 3, 183–196. (C. G. Cullen) **58** #5709 15A09 (15A60, 65F30)

(*with* Meek, D. S.) The infinity norm of a certain type of symmetric circulant matrix. *Math. Comp*. **31** (1977), *no*. 139, 733–737. (Donald Kershaw) **55** #6820 65F35

(*with* Meek, D. S.; Walton, D. J.) The numerical solution of the matrix equation

$XA + AY = F$. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **17** (1977), *no.* 2, 184–190. (David R. Kincaid) **58** #3360 65F15

(*with* Meek, D. S.) Order invariant properties of some matrices. *Linear Algebra Appl.* **21** (1978), *no.* 3, 261–269. (M. Lotkin) **58** #16733 15A60

(*with* McMaster, G. E.) On the infinity norm of the inverse of a class of Toeplitz matrices of band width five. *Linear and Multilinear Algebra* **6** (1978/79), *no.* 2, 153–156. (Robert Todd Gregory) **58** #13666 65F35 (15A60)

See also **Proceedings: Manitoba Conference on Numerical Mathematics, 48** #7525; **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing, 48** #10747 *and* **Späth, Helmuth, 50** #11722

Hösli, Hansueli (*with* Hoo, Cheong S.) Une remarque sur le bouquet et les espaces de Hopf. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A635–A637. (Marshall Walker) **50** #5790 55D45

(*with* Hoo, Cheong S.) On the division by the circle. *Fundam. Math.* **96** (1977), *no.* 1, 1–7. (M. Arkowitz) **58** #18421 55D10 (55D45)

Hosmer, David W., Jr. On MLE of the parameters of a mixture of two normal distributions when the sample size is small. *Comm. Statist.* **1** (1973), 217–227. (Author's summary) **47** #4378 62F10

Hosni, A. F. (*with* El Naschie, M. S.) A note on the accuracy of the nonlinear shell equations in the post buckling range. *Z. Angew. Math. Mech.* **57** (1977), *no.* 11, 673–674. (From the text) **58** #14208 73.53

Hosni, A. K. (*with* Siraždinov, S. H.; Mirzahmedov, M. A.) Estimation of a probability density from dependent samples. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 2, 3–6. (Wolfgang Wertz) **55** #13652 62G05

Hosoe, S. (*with* Suzuki, Masayuki; Niwa, Shohei; Kono, Michio) On the controllability and the stabilizability of linear systems. *IEEE Trans. Automatic Control* **AC-20** (1975), *no.* 5, 707. (Masao Ikeda) **53** #5083 93B05 (93D15)

On a time-domain characterization of the numerator polynomials of the Smith McMillan form. *IEEE Trans. Automatic Control* **AC-20** (1975), *no.* 6, 799–800. (Michel Fliess) **53** #12664 93B10

Hosoh, Toshio Ample vector bundles on a rational surface. *Nagoya Math. J.* **59** (1975), 135–148. (Toshiyuki Maebashi) **52** #10734 14F05

Ample vector bundles on a rational surface (higher rank). *Nagoya Math. J.* **66** (1977), 77–88. (Toshiyuki Maebashi) **56** #364 14F05

Hosoi, Kikuko (*with* Hosoya, Haruo; Gutman, Ivan M.) A topological index for the total π-electron energy. Proof of a generalised Hückel rule for an arbitrary network. *Theoret. Chim. Acta* **38** (1975), *no.* 1, 37–47. (Authors' summary) **56** #7521 81.05

Hosoi, Tsutomu (*with* Ono, Hiroakira) Axiomatization of models for intermediate logics constructed with Boolean models by piling up. *Publ. Res. Inst. Math. Sci.* **8** (1972), 1–11. (V. Jankov (RŽMat **1973** #3 A91)) **51** #12501 02G15 (02C15)

(*with* Ono, Hiroakira) Intermediate propositional logics (a survey). *J. Tsuda College No.* 5 (1973), 67–82. (Kit Fine) **49** #4753 02C10

On intermediate logics. III. *J. Tsuda College No.* 6 (1974), 23–38. (Editors) **58** #27352 02C15 (02D99)

A computer treatment of the information in mathematical journals. (Japanese) *J. Tsuda College No.* 6 (1974), 45–58. (Editors) **58** #9962 00A15

On the implicational fragment logics. *J. Tsuda College No.* 7 (1975), 1–5. (B. van Rootselaar) **51** #2875 02C15

Axiomatizability of fragments of intermediate finite logics. *J. Tsuda College No.* 8 (1976), 9–12. (From the author's introduction) **57** #5691 02C15

Non-separable intermediate propositional logics. *J. Tsuda College No.* 8 (1976), 13–17. (B. van Rootselaar) **57** #9492 02C15

On the axiomatic method and the algebraic method for dealing with propositional logics. II. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 373–380. (A. Salomaa) **58** #5027 02C05

(*with* Shundo, Shuzi) A finer classification of intermediate propositional logics. *J. Tsuda College No.* 9 (1977), 5–15. (L. L. Maksimova) **57** #12184a 02C15

Axiomatization of certain intermediate logics. *J. Tsuda College No.* 10 (1978), 9–12. (M. Makkai) **58** #5072 02C15 (06A20)

Hosokawa, Hiroshi Infinite expansions for locally finite complexes. *Bull. Tokyo Gakugei Univ.* (4) **26** (1974), 26–30. (C. W. Patty) **49** #9841 55D15 (57C05)

Z-sets in polyhedra. *Bull. Tokyo Gakugei Univ.* (4) **27** (1975), 23–34. (K. Horvatić) **53** #14500 57A30 (57A20)

Hosomatsu, Yasu Zero-sum condition: a necessary and sufficient condition for a transitive voting system. *J. Econom. Theory* **18** (1978), *no.* 2, 294–300. (Rubin Saposnik) **58** #26104 90D35 (90A20)

Hosomi, Terumasa (*with* Kinoshita, Kozo) Unate cascade realizable functions. *Systems-Computers-Controls* **4** (1973), *no.* 1, 1–9. (B. Hazeltine) **49** #4675 94A20

Hosono, Chiharu On the cardinality of some lattices. *Information Processing Lett.* **3** (1974/75), 67–68. (I. Fleischer) **53** #7880 06A23 (02C20)

(*with* Sato, Masahiko) The retracts in $P\omega$ do not form a continuous lattice—a solution to Scott's problem. *Theoret. Comput. Sci.* **4** (1977), *no.* 2, 137–142. (E. G. Wagner) **58** #8442 68A05 (02F29)

Hosono, Yuzo (*with* Nogi, Tatsuo) A difference method for Frankel's problem. *Sci. Rep. Saitama Univ. Ser. A* 7, *no.* 3, 25–36 (1973). (N. N. Janenko) **49** #7618 35M05 (65N05)

Hosotani, Yutaka Compact QED in three dimensions and the Josephson effect. *Phys. Lett. B* **69** (1977), *no.* 4, 499–502. (Author's summary) **57** #2271 81.35

Hosoya, Akio (*with* Ishida, Jun) Non-Abelian magnetic charges. *Progr. Theoret. Phys.* **57** (1977), *no.* 2, 608–619. (Jacques P. Leveille) **55** #13996 81.35

See also **Zav'jalov, O. I., 58** #25456

Hosoya, Haruo (*with* Mizutani, Kimiko; Kawasaki, Keiko) Tables of non-adjacent numbers, characteristic polynomials and topological indices. I. Tree graphs. *Natur. Sci. Rep. Ochanomizu Univ.* **22** (1971), 39–58. (W. T. Tutte) **46** #7069 05C05

(*with* Kawasaki, Keiko; Mizutani, Kimiko) Tables of non-adjacent numbers, characteristic polynomials and topological indices. II. Mono- and bicyclic graphs. *Natur. Sci. Rep. Ochanomizu Univ.* **22** (1971), 181–214. (W. T. Tutte) **47** #4864 05C99

Topological index and Fibonacci numbers with relation to chemistry. *Fibonacci Quart.* **11** (1973), *no.* 3, 255–266. (W. T. Tutte) **48** #1996 05C99

(*with* Murakami, Miyuki; Gotoh, Machiko) Distance polynomial and characterization of a graph. *Natur. Sci. Rep. Ochanomizu Univ.* **24** (1973), 27–34. (S. L. Hakimi) **48** #5912 05C35

(*with* Hosoi, Kikuko; Gutman, Ivan M.) A topological index for the total π-electron energy. Proof of a generalised Hückel rule for an arbitrary network. *Theoret. Chim. Acta* **38** (1975), *no.* 1, 37–47. (Authors' summary) **56** #7521 81.05

Fibonacci triangle. *Fibonacci Quart.* **14** (1976), *no.* 2, 173–179. (Donald L. Goldsmith) **53** #13100 10A35

(*with* Motoyama, Akiko) Tables of the king and domino polynomials for polyominoes. *Natur. Sci. Rep. Ochanomizu Univ.* **27** (1976), *no.* 2, 107–123. (Morton Abramson) **56** #11815 05A15

(*with* Graham, Ronald L.; Hoffman, Alan J.) On the distance matrix of a directed graph. *J. Graph Theory* **1** (1977), *no.* 1, 85–88. (Rudolf Halin) **58** #21771 05C20

Hosoya, Yuzo Discrete-time stable processes and their certain properties. *Ann. Probability* **6** (1978), *no.* 1, 94–105. (M. Loève) **56** #13338 60G10

Hospido Rodríguez, J. L. Notions of tripleability. (Spanish) *Collection of articles on category theory and homological algebra*, *pp.* 16–49. *Alexebra*, 13. *Departamento de Algebra y Fundamentos, Universidad de Santiago de Compostela, Santiago de Compostela*, 1973. (See Zbl **277** #18006; MR **48** #364) 18C15

Hosrovjan, O. M. Complex homogeneous spaces with two ends. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **65** (1977), *no.* 5, 263–265. (S. Kaneyuki) **58** #22689 32M10

Hossfeld, F. (*with* Mika, K.) Applications of Bayes sequential estimation using cubic splines. (German summary) *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 329–341. *Editura Acad. R.S.R., Bucharest*, 1977. (E. A. Nurminskiĭ) **57** #5341 93E10

Hosszú, M. (*with* Świątak, Halina) Notes on functional equations of polynomial form. *Publ. Math. Debrecen* **17** (1970), 61–66 (1971). (R. A. Rosenbaum) **47** #674 39A30

(*with* Csikós, M.) Normenquadrat über Gruppen. Symposium en Quasigroupes et Équations Fonctionnelles (Belgrade-Novi Sad, 1974). *Zbornik Rad. Mat. Inst. Beograd* (*N.S.*) **1(9)** (1976), 35–39. (J. Täuber) **55** #915 39A40

Host, Bernard (*with* Parreau, François) Sur la fermeture de $\mu \star L^1(G)$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 1, A15–A17. (Authors' summary) **56** #979 43A10

Hosten, Bernard (*with* Roux, José) Théorème de Green ou spectre angulaire en holographie acoustique plane. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 14, B317–B319. (Authors' summary) **58** #32312 76.31

Hosteny, R. P. (*with* Shavitt, Isaiah; Bender, C. F.; Pipano, A.) The iterative calculation of several of the lowest or highest eigenvalues and corresponding eigenvectors of very large symmetric matrices. *J. Computational Phys.* **11** (1973), 90–108. (R. D. Glauz) **49** #4230 65F15

Hostetler, Larry D. (*with* Fukunaga, Keinosuke) Optimization of *k*-nearest-neighbor density estimates. *IEEE Trans. Information Theory* **IT-19** (1973), 320–326. (W. Greblicki) **53** #9493 62G05 (62H30, 68A45)

(*with* Fukunaga, Keinosuke) The estimation of the gradient of a density function, with applications in pattern recognition. *IEEE Trans. Information Theory* **IT-21** (1975), 32–40. (Jana Zvárová) **52** #9474 62G05 (68A45)

(*with* Fukunaga, Keinosuke) *k*-nearest-neighbor Bayes-risk estimation. *IEEE Trans. Information Theory* **IT-21** (1975), 285–293. (Margaret P. Gessaman) **55** #9416 62H30

Hostetter, G. H. (*with* Meditch, James S.) Observers for systems with unknown and inaccessible inputs. *Internat. J. Control* **19** (1974), 473–480. (H. H. Rosenbrock) **49** #10406 93B05

Using the Routh-Hurwitz test to determine numbers and multiplicities of real roots of a polynomial. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), *no.* 8, 697–698. (Joaquin Bustoz) **52** #14245 30A08

(*with* Meditch, James S.) Techniques for initial condition estimation in linear systems. *Internat. J. Control* **22** (1975), *no.* 3, 409–419. (Authors' summary) **58** #15579 93E10

On the transformation of mass and momentum densities in special relativity. *Internat. J. Theoret. Phys.* **15** (1976), *no.* 4, 247–261. (Not reviewed) 83.35

Hostikjan, P. T. (*with* Danieljan, È. A.) The amount of information in a sequence of multivariate observations concerning the unknown parameter. (Russian. Armenian summary) *Erevan. Gos. Univ. Učen. Zap. Estestv. Nauki* **1976**, *no.* 3(133), 7–17. (Authors' summary) **58** #31492 62B10 (60K25)

Hostler, Levere One-dimensional excited state reduced Coulomb Green's function. *J. Math. Phys.* **16** (1975), 1585–1596. (F. C. Auluck) **51** #9686 81.35 (81.33)

Vector spherical harmonics of the unit hyperboloid in Minkowski space. *J. Mathematical Phys.* **18** (1977), *no.* 12, 2296–2307. (Mineo Ikeda) **57** #2401 83.35

Hostmaelingen, Christelle ★Formes bilinéaires non dégénérées sur un anneau de Prüfer. D. E. A. de Mathématiques Pures, Option Algèbre et Géométrie. Secrétariat des Mathématiques de la Faculté des Sciences de Montpellier, 1969-1070, Publication No. 81. *Université de Montpellier, Montpellier*, 1970. ii+43 *pp.* (H. Gross) **45** #3400 13F05 (15A63)

Sur l'anneau de Witt d'un anneau de Prüfer. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *A*i, *A*69–*A*71. (John W. Petro) **53** #412 13K05

Hota, G. C. *See* **Hotta, G. C.**

Hotaka, Ryosuke Some basic problems on excess demand functions. *Econometrica* **39** (1971), 305–307. (A. C. Williams) **49** #6888 90A15

On a method of detecting a deadlock. *Information Processing in Japan* **12** (1972), 31–33. (Author's summary) **47** #8099 90B35

Hotelling, Harold *See* **Levene, Howard, 50** #33; **Multivariate statistical methods: among-groups covariation, 51** #14407; **Multivariate statistical methods: within-groups covariation, 52** #2028 *and* **Hoeffding, Wassily, 54** #9939

Ho Tho Cao An inequality for algebraic polynomials, and the dependence between the best polynomial approximations $E(f)_{L_p}$ and $E(f)_{L_q}$ of functions $f(x)\in L_p$. (Russian) *Acta Math. Acad. Sci. Hungar.* **27** (1976), *no.* 1-2, 141–147. (M. Tomić) **54** #8087 41A10 (26A82)

(*with* Kis, Ottó) Investigation of a certain interpolation process. III. (Russian) *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 1-2, 157–176. (J. Gregor) **55** #8665 42A12 (*with* Kis, Ottó) A method of approximating continuous periodic functions by gonometric polynomials. (Russian) *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 7–381. (Paul Nevai) **58** #23314 42A08

(*with* Kis, Ottó) A method of approximating continuous functions by polynomials. Russian) *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 401–411. (Paul Nevai) #5711 42A08

uân A certain method of inverting tridiagonal block matrices. (Russian) *Ž. Vyčisl. at. i Mat. Fiz.* **11** (1971), 1557–1562. (A. Lee) **45** #6171 65F05

Some sufficient conditions for the convergence of the Jacobi and Gauss-Seidel ethods for large systems of linear equations. (Polish) *Mat. Stos.* (3) **5** (1975), 43–50. uthor's introduction) **56** #13555 65F10

Quelques résultats sur les matrices irréductibles. *Acta Math. Vietnam.* **2** (1977), *no.* 82–95. (Robert Beauwens) **58** #31776 65F10

Quelques résultats sur les matrices irréductibles. (Russian summary) *Ž. Vyčisl. Mat. Mat. Fiz.* **17** (1977), *no.* 4, 828–837, 1091. (Author's summary) **58** #8206 65F30 5A21)

uskaja, E. Z. (*with* Petrovskaja, M. S.) Group method of calculating the perturbations minor planets. *Celestial Mech.* **11** (1975), 265–274. (William B. Heard) **52** #12453 0.34

, Herbert Projektive *G*-Faserräume. (English summary) *J. Geometry* **1** (1971), 69–89. H. Lenz) **47** #4129 50D35

Anordnung und Zusammenhang in topologischen Translationsebenen. *Abh. Math. em. Univ. Hamburg* **40** (1974), 136–139. (H. Salzmann) **49** #3677 50D35

Einbettung gewisser Kettengeometrien in projektive Räume. (English summary) *J. eometry* **5** (1974), 85–94. (W. Benz) **51** #6579 50D45

Geometrische Bewertungen in affinen Räumen. *Abh. Math. Sem. Univ. Hamburg* 5 (1976), 82–90. (E. J. F. Primrose) **53** #14298 50D05

Zur Einbettung von Kettengeometrien in projektive Räume. *Math. Z.* **151** (1976), *o.* 1, 5–17. (E. W. Ellers) **54** #5965 50D35

Beziehungen zwischen einbettbaren Berührstrukturen und kinematischen Räumen. *eiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg*, 1976), *pp.* 153–156. *ehrbücher u. Monographien aus dem Gebiete der Exakt. Wiss., Math. Reihe, Band* 21, *irkhäuser, Basel*, 1977. (H. Brauner) **58** #12718 50D99

Zur Erzeugung von kinematischen Räumen aus einbettbaren Berühkrstrukturen. English summary) *J. Geometry* **9** (1977), *no.* 1–2, 65–71. (O. Bottema) **57** #10558 0A20 (50D25)

mski, Petar The theorem on the "identity with respect to sum" with application to the Urbano and Müller method for the minimization of the functions of the algebra of logic. Serbo-Croatian. Russian summary) *Mat. Vesnik* **7(22)** (1970), 481–486. (J. Gruska) 5 #6518 94A20

A certain method of finding the values of formulas of the propositional calculus. Russian) *Mat. Vesnik* **12(27)** (1975), *no.* 4, 341–345. (A. A. Mullin) **53** #5247 2B05 (02–04, 68A15)

, G. C. (*with* Kishore, Nand) On absolute matrix summability of a Fourier series. *ndian J. Math.* **13** (1971), 99–110. (F. P. Cass) **48** #11881 42A28

(*with* Kishore, Nand) On absolute Nörlund summability of a Fourier series. Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **10** (1972), 171–182. (F. C. Hsiang) **49** #7683 42A28

(*with* Kishore, Nand) On absolute Nörlund summability of a conjugate series. *ndian J. Math.* **14** (1972), 33–43. (F. P. Cass) **48** #11882 42A28

(*with* Kishore, Nand) A note on absolute Nörlund summability of a sequence of Fourier coefficients. *Math. Student* **40A** (1972), 5–12. (W. Beekmann) **49** #978 2A28

a, Ryoshi On realization of the discrete series for semisimple Lie groups. *Proc. Japan Acad.* **46** (1970), *no.* 10, *suppl. to* **46** (1970), *no.* 9, 993–996. (J. G. Horne) **45** #447 2E40

Elliptic complexes on symmetric spaces. (Japanese) *Sûgaku* **22** (1970), *no.* 3, 04–216. **58** #28288 22E45 (32M15)

On a realization of the discrete series for semisimple Lie groups. *J. Math. Soc. Japan* **23** (1971), 384–407. (D.-N. Verma) **46** #5531 22E45 (43A65)

A remark on the Laplace-Beltrami operators attached to hermitian symmetric pairs. *Osaka J. Math.* **8** (1971), 15–19. (O. Loos) **45** #7103 32M15

(*with* Parthasarathy, R.) A geometric meaning of the multiplicity of integrable discrete classes in $L^2(\Gamma\backslash G)$. *Osaka J. Math.* **10** (1973), 211–234. (C. J. Henrich) **49** #3031 22E45

(*with* Parthasarathy, R.) Multiplicity formulae for discrete series. *Invent. Math.* **26** 1974), 133–178. (A. J. Coleman) **50** #539 22E45

(*with* Wallach, Nolan R.) On Matsushima's formula for the Betti numbers of a ocally symmetric space. *Osaka J. Math.* **12** (1975), *no.* 2, 419–431. (N. N. Šapovalov) **52** #661 22E45

(*with* Murakami, Shingo) On a vanishing theorem for certain cohomology groups. *Osaka J. Math.* **12** (1975), *no.* 3, 555–564. (J. S. Joel) **57** #6291 22E40 (32M15, 32N10)

(*with* Springer, Tonny Albert) A specialization theorem for certain Weyl group representations and an application to the Green polynomials of unitary groups. *Invent. Math.* **41** (1977), *no.* 2, 113–127. (G. Lusztig) **58** #5945 20G05

(*with* Matsui, Kiyoshi) On a lemma of Tate-Thompson. *Hiroshima Math. J.* **8** (1978), *no.* 2, 255–268. (Bhama Srinivasan) **58** #5958 20G40

z, Günter ★Automatentheorie und formale Sprachen. Band II: Endliche Automaten. Vorlesung im Wintersemester 1966 an der Universität des Saarlandes in Saarbrücken. Ausgearbeitet von Hermann Walter. B. I.-Hochschulskripten, No. 822/822a. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1969. iii + 226 *pp.* (Th. Ottmann) **53** #1994 68–02 (68A25, 94A30)

(*with* Claus, Volker) ★Automatentheorie und formale Sprachen. Band III. Formale Sprachen. Nach einer Vorlesung von G. Hotz im Wintersemester 1966/67 an der Universität des Saarlandes, Saarbrücken. B.I.-Hochschulskripten, No. 823a. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1972. xi + 241 *pp.* (Th. Ottmann) **53** #1995 68–02 (68A30, 18B20)

★Informatik: Rechenanlagen. Struktur und Entwurf. Leitfäden der Angewandten Mathematik und Mechanik (LAAM), Band 16. Teubner Studienbücher: Informatik. *B. G. Teubner, Stuttgart*, 1972. 136 *pp.* (H. Maurer) **54** #1688 68–01 (94A20)

★Schaltkreistheorie. *Walter de Gruyter, Berlin-New York*, 1974. 336 *pp.* (H. Rohleder) **50** #16130 94A20

Komplexitätsmasse for Ausdrücke. (English summary) *Automata, languages and programming* (*Second Colloq., Univ. Saarbrücken, Saarbrücken*, 1974), *pp.* 398–412. *Lecture Notes in Comput. Sci., Vol.* 14, *Springer, Berlin*, 1974. (Christian Calude) **54** #14440 68A20 (02F43)

Sequentielle Analyse kontextfreier Sprachen. (English summary) *Acta Informat.* **4** (1974/75), 55–75. (Armin Cremers) **51** #2357 68A30 (68A25)

Strukturelle Verwandtschaften von semi-Thue-Systemen. (English summary) *Category theory applied to computation and control* (*Proc. First Internat. Sympos., San Francisco, Calif.*, 1974), *pp.* 174–179. *Lecture Notes in Comput. Sci., Vol.* 25, *Springer, Berlin*, 1975. (Horst Reichel) **52** #4723 68A30

Axiomatisierung von Programmiersprachen und ihre Grenzen. *Programming methodology* (*4th Informatik Sympos., Wildbad*, 1974), *pp.* 466–476. *Lecture Notes in Comput. Sci., Vol.* 23, *Springer, Berlin*, 1975. (Klaus Indermark) **56** #10107 68A05 (02G10)

Der Satz von Chomsky-Schützenberger und die schwerste kontextfreie Sprache von S. Greibach. (English summary) *Journées algorithmiques* (*École Norm. Sup., Paris*, 1975), *pp.* 105–115. *Astérisque, No.* 38–39, *Soc. Math. France, Paris*, 1976. (H. Maurer) **56** #4253 68A30

Schranken für Balanced Trees bei ausgewogenen Verteilungen. (English summary) *Theoret. Comput. Sci.* **3** (1976), *no.* 1, 51–59 (1977). (Eberhard Lüdde) **55** #7005 68A50 (68A20)

(*with* Stadel, Manfred) Network complexity. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 405–420. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (V. Ju. Meĭtus) **58** #9843 94A20 (18D10)

Space-Komplexität von klammerfreien Ausdrücken mit Typen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 12, 655–657. (Wilfred Brauer) **57** #8147 68A20

See also **Automatentheorie und formale Sprachen**, **48** #7643

Hotzel, E. On semigroups whose nontrivial left congruence classes are left ideals. *Glasgow Math. J.* **12** (1971), 1–5. (D. R. LaTorre) **45** #3607 20M10

Der Kaskadenzerlegungssatz für Halbautomaten. *Erste Fachtagung der Gesellschaft für Informatik über Automatentheorie und Formale Sprachen* (*Bonn*, 1973), *pp.* 54–63. *Lecture Notes in Computer Science, Vol.* 2, *Springer, Berlin*, 1973. (W. Wechler) **55** #12354 94A30 (68A25)

Right congruences in totally *O*-simple semigroups. *Semigroup Forum* **8** (1974), *no.* 2, 95–103. (E.-A. Behrens) **51** #10495 20M10

On semigroups with maximal conditions. *Semigroup Forum* **11** (1975/76), *no.* 4, 337–362. (D. R. La Torre) **52** #10921 20M10

Hou, Bo Yu (*with* Duan, Yi Shi; Ge, Mo Lin) Dual charge of a non-Abelian gauge field. (Chinese. English summary) *Acta Phys. Sinica* **25** (1976), *no.* 6, 514–520. (Authors' summary) **57** #18534 81.22

(*with* Xian, Ding Chang) The wave function of a charged particle near a magnetic monopole. (Chinese) *Kexue Tongbao* **22** (1977), *no.* 4-5, 204–206. (Etang Chen) **58** #8958 81.53

Hou, Chen Ting *See* **Hou, Zhen Ting**

Hou, Po Yü *See* **Hou, Bo Yu**

Hou, Tien-fang Approachability in a two-person game. *Ann. Math. Statist.* **42** (1971), 735–744. (C. Mohan) **52** #7560 90D05

Hou, Zhen Ting The criterion for uniqueness of a *Q* process. *Sci. Sinica* **17** (1974), *no.* 2, 141–159. (Editors) **58** #24567 60J25

(*with* Guo, Qing Feng) The qualitative theory of constructions for denumerable Markov processes. (Chinese) *Acta Math. Sinica* **19** (1976), *no.* 4, 239–262. (T.-C. Sun) **58** #31409 60J05

Houard, J. C. (*with* Teffo, J. L.) The Efimov-Fradkin formalism for nonpolynomial interactions of a harmonic oscillator. (Italian and Russian summaries) *Nuovo Cimento A* (11) **16** (1973), 1–36. (K. Chadan) **52** #9868 81.30

(*with* Irac-Astaud, M.) Generalized Coulomb gauges for the free photon field. *Rep. Mathematical Phys.* **10** (1976), *no.* 3, 349–362. (Adriaan Tip) **57** #8558 81.22

On invariance groups and Lagrangian theories. *J. Mathematical Phys.* **18** (1977), *no.* 3, 502–516. (Takayuki Nôno) **55** #4276 58F05

Houck, David J. (*with* Vemuganti, Ramakrishna R.) An algorithm for the vertex packing problem. *Operations Res.* **25** (1977), *no.* 5, 773–787. (Jacques A. Ferland) **56** #2868 05C35 (90C10)

Houdebine, M. (*with* Lefevre, G.; Richalet, J.) Linear time varying parametric systems and structural control. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 55, *Paper* 28G, 12 *pp. Inst. Mech. Engrs., London*, 1967. (Editors) **51** #9900 93C50

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360c

gérard-Houet, C. *See* **Gérard-Houet, C.**

Houghton, Anthony (*with* Kadanoff, Leo P.; Yalabik, Mehmet C.) Variational approximations for renormalization group transformations. *J. Statist. Phys.* **14** (1976), *no.* 2, 171–203. (Authors' summary) **56** #14457 (E **58** #14822) 82.47

(*with* Kadanoff, Leo P.; Yalabik, Mehmet C.) Erratum: "Variational approximations for renormalization group transformations" (J. Statist. Phys. **14** (1976), no. 2, 171–203). *J. Statist. Phys.* **15** (1976), *no.* 3, 263. (Editors) **58** #14822 82.47

Houghton, C. H. Directly decomposable finite relatively free groups. *J. London Math. Soc.* (2) **4** (1971), 381–384. (I. D. Macdonald) **46** #7382 20E10

Ends of groups and the associated first cohomology groups. *J. London Math. Soc.* (2) **6** (1972), 81–92. (D. E. Cohen) **47** #5142 20J05 (20F05)

Ends of groups and baseless subgroups of wreath products. *Compositio Math.* **27** (1973), 205–211. (Edward T. Ordman) **48** #8640 20F25

Ends of locally compact groups and their coset spaces. Collection of articles dedicated to the memory of Hanna Neumann, VII. *J. Austral. Math. Soc.* **17** (1974), 274–284. (Herbert Abels) **50** #10147 22D05

(*with* Lennox, John C.; Wiegold, James) Centrality in wreath products. *J. Algebra* **35** (1975), 356–366. (Zbl **319** #20050) **58** #22318 20F25 (*with* Segal, Daniel) Some sufficient conditions for groups to have one end. *J. London Math. Soc.* (2) **10** (1975), 89–96. (Robert G. Burns) **51** #5775 20E99

Wreath products of groupoids. *J. London Math. Soc.* (2) **10** (1975), 179–188. (S. C. Althoen) **51** #5806 20L05

Restricted subgroups of wreath products of groups. *Compositio Math.* **33** (1976), *no.* 2, 209–225. (J. A. Hulse) **54** #12913 20F25

Embedding inverse semigroups in wreath products. *Glasgow Math. J.* **17** (1976), *no.* 2, 77–82. (N. R. Reilly) **54** #2845 20M10

Cohomology and the behaviour at infinity of finitely presented groups. *J. London Math. Soc.* (2) **15** (1977), *no.* 3, 465–471. (J. A. Hulse) **56** #15782 20F99

Counting completely 0-simple and completely simple semigroups. *Proc. Roy. Soc. Edinburgh Sect. A* **79** (1977/78), *no.* 3-4, 293–297. (J. Kist) **58** #11190 20M30 (20M10)

Completely 0-simple semigroups and their associated graphs and groups. *Semigroup Forum* **14** (1977), *no.* 1, 41–67. (Norman Biggs) **56** #12150 20M10 (05C25)

Group pairs associated with a class of coverings. *Arch. Math.* (*Basel*) **30** (1978), *no.* 3, 275–278. (V. P. Snaith) **58** #11076 18H10 (20J99)

Finite zero-simple semigroups over an elementary abelian group. *Bull. Austral. Math. Soc.* **18** (1978), *no.* 2, 211–220. (J. B. Kim) **58** #11179 20M10

Houh, Chorng Shi Some immersions in pseudo-Riemannian manifolds of constant curvature. *Kōdai Math. Sem. Rep.* **23** (1971), 255–261. (Y. Katsurada) **45** #2631 53C50 (53B30)

(*with* Okubo, Tanjiro) Some cross-section theorems on the tangent bundle over a Finslerian manifold. *Ann. Mat. Pura Appl.* (4) **92** (1972), 129–138. (K. Yano) **50** #8354 53B40

(*with* Ishihara, Shigeru) Tensor fields and connections on a cross-section in the tangent bundle of order r. *Kōdai Math. Sem. Rep.* **24** (1972), 234–250. (R. Walden (Zbl **245** #53016)) **50** #14563 53C05

On an integral formula for closed hypersurfaces of the sphere. *Proc. Amer. Math. Soc.* **35** (1972), 234–237. (Y. Katsurada) **45** #5926 53C45

Surfaces with maximal Lipschitz-Killing curvature in the direction of mean curvature vector. *Proc. Amer. Math. Soc.* **35** (1972), 537–542. (W. F. Pohl) **46** #801 53A05

(*with* Yano, Kentaro; Chen, Bang-yen) Structures defined by a tensor field ϕ of type (1, 1) satisfying $\phi^4 \pm \phi^2 = 0$. *Tensor* (*N.S.*) **23** (1972), 81–87. (J. Virsik) **47** #7644 53C10

(*with* Chen, Bang-yen) Some differential geometric inequalities for surfaces in euclidean spaces. *Tensor* (*N.S.*) **23** (1972), 105–109. (S. Watanabe) **46** #6252 53C45

Pseudo-umbilical surfaces with parallel second fundamental form. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. III. *Tensor* (*N.S.*) **26** (1972), 262–266. (Bang-yen Chen) **50** #3123 53A05

(*with* Yano, Kentaro; Chen, Bang-yen) On quasi-umbilical submanifolds of codimension 2 in a space form. *Bull. Inst. Math. Acad. Sinica* **1** (1973), *no.* 1, 125–132. (R. L. Bishop) **48** #7144 53B25

On a structure defined by a tensor field F of type (1, 1) satisfying $F^2 = 0$. *Canad. Math. Bull.* **16** (1973), 447–449. (G. Vranceanu) **49** #3747 53C05

(*with* Yano, Kentaro; Chen, Bang-yen) Intrinsic characterization of certain conformally flat spaces. *Kōdai Math. Sem. Rep.* **25** (1973), 357–361. (Y. Tashiro) **48** #9620 53C40

Some totally real minimal surfaces in CP^2. *Proc. Amer. Math. Soc.* **40** (1973), 240–244. (R. Osserman) **47** #5737 53A10 (53C45)

Some integral formulas for submanifolds in Euclidean spaces. Collection of articles dedicated to Professor Tsing Houa Teng on the occassion of his 70th birthday. *Tamkang J. Math.* **4** (1973), *no.* 2, 83–89. (Y. Katsurada) **49** #11446 53C65

On spherical $\mathscr{C}$-submanifolds. *Chinese J. Math.* **2** (1974), *no.* 1, 128–135. (G. Tsagas) **52** #6597 53B25

On the scalar curvature and sectional curvatures of a totally real submanifold. *Proc. Amer. Math. Soc.* **47** (1975), 453 -456. (Bang-yen Chen) **50** #5699 53C40 (53Bxx)

(*with* Chen, Bang-yen) On stable submanifolds with parallel mean curvature vector. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), *no.* 102, 229–236. (K. Yano) **51** #8975 53B25

On the holonomy group of a normal complex almost contact manifold. *Kōdai Math. Sem. Rep.* **28** (1976/77), *no.* 1, 72–77. (David Blair) **55** #6324 53C15

On totally real bisectional curvature. *Proc. Amer. Math. Soc.* **56** (1976), 261–263. (Koichi Ogiue) **53** #3963 53C55

A note on pseudo-umbilical surfaces. *Proc. Edinburgh Math. Soc.* (2) **20** (1976), *no.* 2, 137–142. (David A. Hoffman) **54** #8488 53A35

Extrinsic spheres in irreducible Hermitian symmetric spaces. *Michigan Math. J.* **24** (1977), *no.* 1, 103–107. (Bang-yen Chen) **56** #6570 53C35

Houillot, Josette (*with* Bouche, Liane) Composition de déformations infinitésimales harmoniques. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 783–785. (T. J. Willmore) **49** #6084 53C20

Houk, T. William (*with* Birx, Daniel L.) Eigenvalue estimates for numerical integration of the Schrödinger equation from the WKB approximation. *Amer. J. Phys.* **45** (1977), *no.* 11, 1070–1073. (From the authors' text) **56** #4482 81.34

Hounie, Jorge G. Local solvability and Cauchy problem for a class of degenerate hyperbolic operators. *Rev. Un. Mat. Argentina* **27** (1974/75), *no.* 2, 65–82. (Corneliu Eftimiu) **54** #10868 35L15 (35S05)

(*with* Cardoso, Fernando) Globally hypoanalytic first order evolution equations. *An. Acad. Brasil. Ci.* **49** (1977), *no.* 4, 533–535. (Makhlouf Derridj) **57** #17729 58G15 (35H05)

(*with* Cardoso, Fernando) Global solvability of an abstract complex. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 1, 117–124. (W. J. Sweeney) **57** #3663 35N99 (58G15)

House, V. Dwight Countable products of generalized countably compact spaces. *Pacific J. Math.* **57** (1975), *no.* 1, 183–197. (S. T. Lin) **51** #11427 54D20

House, William C. *See* **Data base management**, **56** #4285

Householder, Alston S. ★KWIC index for matrices in numerical analysis. Vol. I: Primary authors A-J. ORNL-4418, Vol. I. *Oak Ridge National Laboratory, Oak Ridge, Tenn.*, 1969. viii + 125 *pp.* (Editors) **45** #1370 65–02 (65F99)

★KWIC index for matrices in numerical analysis. Vol. II: Primary authors K-Z. ORNL-4418, Vol. II. *Oak Ridge National Laboratory, Oak Ridge, Tenn.*, 1970. vii + 1 *pp.* (Editors) **45** #1371 65–02 (65F99)

★KWIC index for the numerical treatment of nonlinear equations. ORNL-459 *Oak Ridge National Laboratory. Oak Ridge, Tenn.*, 1970. vii + 129 *pp.* (Editors) **45** #1372 65–02 (65Hxx)

★The numerical treatment of a single nonlinear equation. International Series Pure and Applied Mathematics. *McGraw-Hill Book Co., New York-Düsseldorf-London*, 1970. viii + 216 *pp.* (J. W. Schmidt) **52** #9593 65H05

(*with* Fox, Kenneth) Determination of eigenvectors of symmetric idempotent matrices. *J. Computational Phys.* **8** (1971), 292–294. (C. G. Cullen) **45** #7963 65F15

★KWIC index for numerical algebra. Report No. ORNL-4778. *Oak Ridge National Laboratory, Oak Ridge, Tenn.*, 1972. viii + 538 *pp.* (Editors) **50** #11739 65Fxx (65Hxx)

★Lectures on numerical algebra. Notes on lectures given at the 1972 MAA Summer Seminar, Williams College, Williamstown, Mass. *Mathematical Association of America, Washington, D. C.*, 1972. iii + 250 + vii *pp.* (John Todd) **53** #11952 65–02 (15A60)

On a condition for the nonsingularity of a matrix. *Math. Comp.* **26** (1972), 119–120. (C. S. Duris) **46** #2833 65F10

Postscript to: "Generalizations of an algorithm of Sebastião e Silva". *Numer. Math.* **20** (1972/73), 205–207. (Author's summary) **47** #4439 65H05

George E. Forsythe (January 8, 1917–April 9, 1972). Collection of articles dedicated to the memory of George E. Forsythe. *SIAM J. Numer. Anal.* **10** (1973), viii-xi. (Editors) **48** #8180 01A70 (65–03)

★Principles of numerical analysis. Unabridged, corrected version of the 195 edition. *Dover Publications, Inc., New York*, 1974. x + 274 *pp.* (Editors) **57** #1826 65–01

The Koenig-Hadamard theorem again. *Studies in numerical analysis* (*papers in honour of Cornelius Lanczos on the occasion of his* 80*th birthday*), *pp.* 235–240. *Academic Press, London*, 1974. (E. Frank) **51** #905 30A82 (30A16)

Bigradients and the Euclid-Sturm algorithm. *SIAM Rev.* **16** (1974), 207–213. (W Ledermann) **50** #2133 12D99 (65H05)

Schröder and Trudi: a historical excursion. *SIAM Rev.* **16** (1974), 344–348. (Ian Gladwell) **50** #11762 65H05

★The theory of matrices in numerical analysis. Reprint of 1964 edition. *Dover Publications, Inc., New York*, 1975. xi + 257 *pp.* (Editors) **51** #14539 65Fxx

See also **Collection: Householder, Alston S.**, **50** #3515

Houska, Jan Remarks on the new approach to the foundations of analysis in the first half of the nineteenth century. (Russian) *History and methodology of the natural sciences, No XIV: Mathematics, mechanics* (*Russian*), *pp.* 65–73. *Izdat. Moskov. Univ., Moscow*, 197 (G. A. Shkolenok (Zbl **327** #01011)) **58** #21212 01A55

Houstis, Elias Application of method of collocation on lines for solving nonlinear hyperbolic problems. *Math. Comp.* **31** (1977), *no.* 138, 443–456. (Philip Brenner **56** #1749 65N35

The effect of numerical integration in the finite element approximation of hyperbolic problems. *Serdica* **3** (1977), *no.* 4, 371–380. (Author's summary) **58** #3191 65N30

A collocation method for systems of nonlinear ordinary differential equations. *J. Math. Anal. Appl.* **62** (1978), *no.* 1, 24–37. (Carl de Boor) **58** #8295 65L10

(*with* Papatheodorou, T. S.) A collocation method for Fredholm integral equations of the second kind. *Math. Comp.* **32** (1978), *no.* 141, 159–173. (G. T. Symm) **56** #17166 65R05 (45B05)

Houston, Evan G., Jr. (*with* McAdam, Stephen J.) Chains of primes in Noetherian rings. *Indiana Univ. Math. J.* **24** (1974/75), 741–753. (Robert Gilmer) **50** #13014 13G0

(*with* McAdam, Stephen J.) Rank in Noetherian rings. *J. Algebra* **37** (1975), *no.* 1, 64–73. (John W. Petro) **54** #2641 13E05

Localizations of H_1 and D_1 rings. *Canad. J. Math.* **28** (1976), *no.* 4, 815–819. (L. J. Ratliff, Jr.) **53** #13196 13C15

Chains of primes in $R\langle x\rangle$. *Michigan Math. J.* **24** (1977), *no.* 3, 353–364. (Stephen McAdam) **58** #5642 13F20 (13H15)

(*with* Hedstrom, John R.) Pseudo-valuation domains. II. *Houston J. Math.* **4** (1978), *no.* 2, 199–207. (W. Heinzer) **58** #5615b 13A15 (13G05)

(*with* Hedstrom, John R.) Pseudo-valuation domains. *Pacific J. Math.* **75** (1978), *no.* 1, 137–147. (W. Heinzer) **58** #5615a 13A15 (13G05)

Houston, W. V. (*with* Phillips, G. C.) ★Principles of quantum mechanics. The non-relativistic theory with some illustrative applications. *North-Holland Publishing Co., Amsterdam*, 1973. xi + 376 *pp.* (Editors) **50** #9192 81.00

Housworth, William J. Hybrid polynomial and periodic regression with and without missing observations. (French summary) *Biometrics* **28** (1972), 1025–1042. (Mir Al **48** #12739 62J05

van der Hout, R. The Schur multipliers of the finite primitive complex reflection groups. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no.* 2, 101–113. (H. S. M. Coxeter) **56** #493 20G10 (20F15)

Houten, Lorne *See* **Computers in number theory**, **47** #3285

Houthakker, H. S. On the logic of preference and choice. *Contributions to logic and methodology in honor of J. M. Bocheński*, *pp.* 193–207. *North-Holland, Amsterdam*, 1965. (Kit Fine) **48** #5606 90A05 (02C05)

van Houwelingen, J. C. An empirical Bayes rule for testing simple hypothesis against simple alternative. *Statistica Neerlandica* **28** (1974), 209–221. (A. K. Gayen) **52** #2010 62F15

Monotone empirical Bayes tests for the continuous one-parameter exponential family. *Ann. Statist.* **4** (1976), *no.* 5, 981–989. (Glen Meeden) **54** #11598 62C25

Monotonizing empirical Bayes estimators for a class of discrete distributions with monotone likelihood ratio. *Statistica Neerlandica* **31** (1977), *no.* 3, 95–104. (Johannes S Maritz) **57** #4388 62C25 (62F10)

van der Houwen, P. J. Difference schemes with complex time steps. *Math. Centrum Amsterdam Rekenafdeling No. MR* 105 (1969), 16 *pp.* (T. I. Seidman) **45** #9505 65Q05

A survey of stabilized Runge-Kutta formulae. *MC-25 Informatica Symposium* sterdam, 1972), *Exp. No.* 5, 20 *pp. Math. Centre Tracts, No.* 37, *Math. Centrum, sterdam*, 1971. (W. Liniger) **57** #8031 65L05

Explicit Runge-Kutta formulas with increased stability boundaries. *Numer. Math.* 1972/73), 149–164. (J. C. Butcher) **47** #6094 65L05

One-step methods with adaptive stability functions for the integration of differential ations. *Numerische, insbesondere approximationstheoretische Behandlung von ktionalgleichungen (Tagung, Math. Forschungsinst., Oberwolfach*, 1972), *pp.* 164–174. *ture Notes in Math., Vol.* 333, *Springer, Berlin*, 1973. (C. W. Gear) **55** #4682 05

(*with* Verwer, J. G.) ★Generalized linear multistep methods. I. Development of rithms with zero-parasitic roots. Mathematisch Centrum, Afdeling Numerieke skunde NW 10/74. *Mathematisch Centrum, Amsterdam*, 1974. iv+16 *pp.* (J. C. cher) **50** #3581 65L05

★On the numerical solution of Volterra integral equations of the second kind. I. bility. Mathematisch Centrum, Afdeling Numerieke Wiskunde, No. NW 42/77. athematical Center, Numerical Mathematics Section, No. NW 42/77] *Mathematisch trum, Amsterdam*, 1977. ii+35 *pp.* (G. F. Miller) **58** #13822 65R05

(*with* Dekker, K.; Verwer, J. G.; Wolkenfelt, P. H. M.) ★Comparing stabilized nge-Kutta methods for semi-discretized parabolic and hyperbolic equations. thematisch Centrum, Afdeling Numerieke Wiskunde, No. NW 45/77. [Mathematical nter, Department of Numerical Mathematics Section, No. NW 45/77] *Mathematisch ntrum, Amsterdam*, 1977. ii+40+vii*pp.* (G. C. Barozzi) **58** #19146 65L05 M99)

★Construction of integration formulas for initial value problems. North-Holland ies in Applied Mathematics and Mechanics, Vol. 19. *North-Holland Publishing Co., sterdam-New York-Oxford*, 1977. xi+269 *pp.* (Author's summary) **58** #24960 05 (65–01)

, C. *See* **Séminaire: Banach**, **51** #8773

, Christian (*with* Hirschowitz, André) Un spectre pour les algèbres bornologiques nplètes. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A401–A404. (L. Kaup) #5474 46H99 (32C35)

(*with* Galligo, André) Module des singularités isolées d'après Verdier et Grauert. *ngularités à Cargèse (Rencontre Singularités Géom. Anal., Inst. Études Sci. de Cargèse,* 72), *pp.* 139–163. *Astérisque, Nos.* 7 *et* 8, *Soc. Math. France, Paris*, 1973. (H. Kerner) #13608 32G13 (14D15, 32B05, 32C40)

Espaces analytiques relatifs et théorème de finitude. *Math. Ann.* **205** (1973), 13–54. ndrew Markoe) **52** #14361 32C35

Espaces analytiques relatifs et théorème de finitude. *Fonctions analytiques de sieurs variables et analyse complexe (Colloq. Internat. CNRS, No.* 208, *Paris*, 1972), *pp.* –88. "*Agora Mathematica*", *No.* 1, *Gauthier-Villars, Paris*, 1974. (Editors) **58** #1239 32C35 (32C15)

Déformation de fibres principaux (d'après P. Deligne). *Quelques problèmes de odules (Sém. Géom. Analytique, École Norm. Sup., Paris*, 1971-1972), *pp.* 255–276. *térisque, No.* 16, *Soc. Math. France, Paris*, 1974. (A. Hirschowitz) **51** #3534 (EA **52**) 32G13 (14F05)

(*with* Ovaert, Jean-Louis; Raymond, Pierre; Sansuc, Jean-Jacques) ★Philosophie calcul de l'infini. Collection "Algorithme". *François Maspero, Paris*, 1976. 235 *pp.* .-A. P. Youschkevitch (Juškevič)) **58** #26965 01A50 (00A25)

Fonctions elliptiques et intégrales abéliennes. *Abrégé d'histoire des mathématiques 00–1900, Tome II, pp.* 1–113. *Hermann, Paris*, 1978. (See Zbl **383** #01010) 01A05

l, K. *See* **Séminaire: Banach**, **51** #8773

uimian, A. A mathematical model for activity analysis in information systems. *mposia Mathematica, Vol. XV (Convegno di Informatica Teorica, INDAM, Rome,* 73), *pp.* 181–200. *Academic Press, London*, 1975. (Armen Gabrielian) **52** #7599 A10

n, T. S. *See* **Ho-Van Thi-Si**

essian, S. A. ★Computational mathematics in engineering. *Lexington Books [D. C. eath and Co.], Lexington, Mass.-Toronto, Ont.*, 1976. xv+252 *pp.* (Editors) **54** #4030 65–02

n-Hoà (*with* Cao-xuan-Chuan) On the conventional and modified WKB pproximation with a singular potential. (Italian and Russian summaries) *Nuovo imento B* (11) **24** (1974), 141–151. (George Zipfel, Jr.) **50** #15688 81.41

an Huong A generalization of the symbolic method of constructing the characteristic olynomial of multivariable automatic control systems. (Polish. Russian and English mmaries) *Arch. Automat. i Telemech.* **19** (1974), 27–36. (Author's summary) **3** #15447 93B25

nskiĭ, A. G. Superpositions of holomorphic functions with radicals. (Russian) *Uspehi at. Nauk* **26** (1971), *no.* 3(159), 213–214. (J. Siciak) **45** #587 32A10

The representability of functions by quadratures. (Russian) *Uspehi Mat. Nauk* **26** 971), *no.* 4(160), 251–252. (J. D. Kečkić) **45** #5340 30A36

(*with* Bernšteĭn, D. N.; Kušnirenko, A. G.) Newton polyhedra. (Russian) *Uspehi at. Nauk* **31** (1976), *no.* 3(189), 201–202. (Helmut Hamm) **58** #11500 32C40 4B05)

Newton polyhedra, and toroidal varieties. (Russian) *Funkcional. Anal. i Priložen.* **11** 1977), *no.* 4, 56–64, 96. (Gerhard Pfister) **57** #16291 14B05 (14D05)

See also **Mather, John N.**, **52** #5673 *and* **Thom, René**, **52** #6781

nskiĭ, A. N. On the question of the expansion of cubic irrationalities in hree-dimensional continued fractions. (Russian) *Works of the Department of athematical Analysis of Kaliningrad State University* (1969) (*Russian*), *pp.* 85–98. *aliningrad. Gos. Univ., Kaliningrad*, 1969. (S. V. Kotov) **53** #13130 10F35

See also **Works: Department of Mathematical Analysis, Kaliningrad State University**, **3** #2577

nskiĭ, A. V. (*with* Petrov, A. P.) Estimation of the error of the solution of linear roblems when there are inaccuracies in the operators and in the right-hand sides of the quations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 292–298, 531. (S. Burýšek) **0** #1499 65J05

nskiĭ, G. S. ★Методы номографирования. (Russian) [Methods of nomography] *yčisl. Centr. Akad. Nauk SSSR, Moscow*, 1964. 224 *pp.* (S. Borisov (RŽMat **1965** #12 635K)) **45** #8053 65S05

(*with* Denisjuk, I. M.; Ljusternik, L. A.; Smirnov, S. V.) In memoriam I. A. Vil'ner. (Russian) *Nomography collection, No.* 8 (*Russian*), *pp.* 3–9. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1971. (Editors) **50** #9503 01A70

(*with* Umarov, F.) A method for constructing approximate nomograms from aligned points of Cauchy type for dependencies with four variables. (Russian) *Nomography collection, No.* 8 (*Russian*), *pp.* 85–93. (*errata insert*) *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1971. (Editors) **50** #9024 65S05

(*with* Kuznecova, T. I.) A nomographic method of solving the fundamental problem of linear programming for the case of two variables. (Russian) *Nomography collection, No.* 8 (*Russian*), *pp.* 94–107. (*errata insert*) *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1971. (L. Bal) **51** #4674 65K05

Nomographic methods of choosing the parameters in the empirical formula $y=A+B/(x-C)$. (Russian) *Nomography collection, No.* 8 (*Russian*), *pp.* 108–114 (*errata insert*). *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1971. (L. Bal) **51** #7344 65S05

(*with* Romanov, S. A.) The representation of certain dependencies by nomograms with a transparent that has one degree of freedom of displacement. (Russian) *Nomography collection, No.* 8 (*Russian*), *pp.* 158–166. (*errata insert*) *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1971. (L. Bitay) **50** #15412 65S05

An investigation of some ways of representing the form $f_{12}+f_{13}=f_{45}+f_{46}$ and special cases of it by nomograms. (Russian) *Nomography collection, No.* 9 (*Russian*), *pp.* 63–85, 192. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1973. (L. Bitay) **51** #7345 65S05

(*with* Silaeva, E. A.) Nomographic representation of generalized equations of third and fourth nomographic order and of successive linear interpolation formulae in tables with three and four entries. (Russian) *Nomography collection, No.* 9 (*Russian*), *pp.* 114–136, 194. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1973. (L. Bal) **49** #6667 65S05

A rectilinear graph of a function in a binary field, and its use for the Čebyšev approximation of functions and for approximate nomographic representation. (Russian) *Nomography collection, No.* 9 (*Russian*), *pp.* 137–151, 195. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1973. (L. Bal) **49** #6668 65S05

Some generalizations of nomograms with oriented transparency that allow the transparency to be replaced by a sheet of paper. (Russian) *Nomographic collection, No.* 10 (*Russian*), *pp.* 80–94, 224. *Akad. Nauk SSSR Vyčisl. Centr, Moscow*, 1975. (L. Bal) **56** #1762 65S05

The connection of rhomboidal and barycentric nomograms with nomograms of other types. (Russian) *Nomographic collection, No.* 10 (*Russian*), *pp.* 95–111, 221. *Akad. Nauk SSSR Vyčisl. Centr, Moscow*, 1975. (L. Bitay) **55** #9587 65S05

Methods for the construction of composite nomograms from equidistant points: calipered, barycentric and rhomboidal nomograms. (Russian) *Nomography collection, No.* 10 (*Russian*), *pp.* 112–137. *Akad. Nauk SSSR Vyčisl. Centr. Moscow*, 1975. (L. Bitay) **57** #11140 65S05

Nomography in the last ten years. (Russian) *Algebra, logic and numerical mathematics* (*Second Interuniv. Sem. Nomography, Ivanovo*, 1975) (*Russian*), *pp.* 3–24. *Ivanov. Gos. Univ., Ivanovo*, 1976. (Editors) **57** #2849 01A65 (65S05)

Using straight-edge and divider to find answers from barycentric nomograms. (Russian) *Nomography collection, No.* 11 (*Russian*), *pp.* 36–44, 155. *Akad. Nauk SSSR Vyčisl. Centr, Moscow*, 1976. (Author's summary) **58** #31979 65S05

See also **Nomography collection**, **48** #7641; **Nomography collection**, **50** #6198; **Nomography collection**, **54** #14414; **Algebra, logic and numerical analysis**, **56** #16986 *and* **Nomography collection**, **57** #14558

Ho-Van Thi-Si Sur une caractérisation des algèbres de Dirichlet de fonctions holomorphes. (English summary) *Bull. Soc. Roy. Sci. Liège* **41** (1972), 503–505. (J. P. Ferrier) **47** #4002 46J15

Frontière de Choquet dans les espaces de fonctions et approximation des fonctions harmoniques. (English summary) *Bull. Soc. Roy. Sci. Liège* **41** (1972), 607–639. (A. de la Pradelle) **54** #5482 31B10

Sur le théorème de Choquet-Bishop-De Leeuw. (English summary) *Bull. Soc. Roy. Sci. Liège* **42** (1973), 37–40. (P. D. Morris) **48** #4709 46E15

Sur une solution du problème de Dirichlet pour les compacts de $\mathbf{R}^n$. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1289–A1291. (W. P. Ziemer) **51** #3486 31B20

Points stables et espaces de fonctions harmoniques. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1339–A1341. (B. Walsh) **48** #6447 31B05

Hövel, H. W. (*with* Westphal, Ursula) Fractional powers of closed operators. *Studia Math.* **42** (1972), 177–194. (S. Kantorovitz) **46** #2481 47D05

Hoversten, E. V. (*with* Snyder, Donald L.; Rhodes, Ian B.) A separation theorem for stochastic control problems with point-process observations. *Automatica–J. IFAC* **13** (1977), *no.* 1, 85–87. (Claude Foulard) **55** #5297 93E20

Hovgaard, William *See* **Philosophers and machines**, **52** #5275

Hovstad, Rolf M. The series $\sum_{k=1}^{\infty} 1/k^{2p}$, the area of the unit circle and Leibniz' formula. *Nordisk Mat. Tidskr.* **20** (1972), 92–98, 120. (Author's summary) **48** #1425 65B10 (40A99)

A note on an elementary idea of Gotthold Eisenstein. *Nordisk Mat. Tidskr.* **21** (1973), 141–144. (S. D. Bajpai) **49** #10928 33A25

Solution of a convergence problem in the theory of T-fractions. *Proc. Amer. Math. Soc.* **48** (1975), 337–343. (E. P. Merkes) **51** #866 30A22

Howard, Alan (*with* Smyth, Brian) Kähler surfaces of nonnegative curvature. *J. Differential Geometry* **5** (1971), 491–502. (C. I. Ispas) **45** #2635 53C55

Holomorphic vector fields on algebraic manifolds. *Amer. J. Math.* **94** (1972), 1282–1290. (M. Schneider) **46** #9384 32C10 (53C55)

A remark on Kählerian pinching. *Tôhoku Math. J.* (2) **24** (1972), 11–19. (M. do Carmo) **47** #9502 53C55

(*with* Carrell, James B.; Kosniowski, Czes) Holomorphic vector fields on complex surfaces. *Math. Ann.* **204** (1973), 73–81. (D. Lieberman) **51** #8478 32J15 (57D25)

(*with* Matsushima, Yozo) Weakly ample vector bundles and submanifolds of complex tori. *Rencontre sur l'analyse complexe à plusieurs variables et les systèmes surdéterminés* (*Texts Conf., Univ. Montréal, Montreal, Que.*, 1974), *pp.* 65–104. *Presses Univ. Montréal, Montreal, Que.*, 1975. (W. Barth) **56** #12336 32L05 (32J99)

(*with* Campbell, L. Andrew; Ochiai, Takushiro) Moving holomorphic disks off analytic subsets. *Proc. Amer. Soc.* **60** (1976), 106–108 (1977). (Adib A. Fadlalla)

54 #13143 32H15

Howard, Allen Q., Jr. On the longitudinal component of the Green's function dyadic. *IEEE* **62** (1974), 1704–1705. (V. Daniele) **51** #14754 78.35

Howard, Bernard E. *See* **Proceedings: Conference on the Numerical Solution of Ordinary Differential Equations**, **49** #4257

Howard, E. J. On the radical of a topological abelian group. *J. Korean Math. Soc.* **14** (1977/78), *no.* 1, 93–98. (S. N. Hudson) **57** #6276 22A05

Howard, F. T. Generalized van der Pol numbers. *Math. Nachr.* **44** (1970), 181–191. (D. Rearick) **45** #8600 10A40

The number of binomial coefficients divisible by a fixed power of 2. *Proc. Amer. Math. Soc.* **29** (1971), 236–242. (D. P. Roselle) **46** #1603 05A10

Prime divisors of q-binomial coefficients. *Rend. Sem. Mat. Univ. Padova* **48** (1972), 181–188 (1973). (L. Carlitz) **49** #2512 10A25 (05A10)

Properties of the van der Pol numbers and polynomials. *J. Reine Angew. Math.* **260** (1973), 35–46. (D. Rearick) **47** #6603 10A40

Formulas for the number of binomial coefficients divisible by a fixed power of a prime. *Proc. Amer. Math. Soc.* **37** (1973), 358–362. (D. P. Roselle) **46** #8842 05A10 (10A99)

A property of a class of nonlinear difference equations. *Proc. Amer. Math. Soc.* **38** (1973), 15–21. (J. H. H. Chalk) **46** #8954 10A35

The numer of multinomial coefficients divisible by a fixed power of a prime. *Pacific J. Math.* **50** (1974), 99–108. (L. Carlitz) **49** #2513 10A25 (05A10)

Properties of Liron's polynomials. *SIAM J. Math. Anal.* **5** (1974), 963–973. (J. M. Gandhi) **50** #7617 33A70 (10M05)

Factors and roots of the van der Pol polynomials. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 1–8. (D. Rearick) **52** #252 10A40

Polynomials related to the Bessel functions. *Trans. Amer. Math. Soc.* **210** (1975), 233–248. (L. Carlitz) **52** #253 10A40 (33A40)

Roots of the Euler polynomials. *Pacific J. Math.* **64** (1976), *no.* 1, 181–191. (M. Marden) **54** #5444 30A08 (33A70)

Numbers generated by the reciprocal of $e^x - x - 1$. *Math. Comp.* **31** (1977), *no.* 138, 581–598. (L. Carlitz) **55** #12627 10A40 (05A17)

See also **Complements and comments**, **48** #1835

Howard, Henry C. (*with* Gilbert, Robert Pertsch) Singularities of Sturm-Liouville expansions for second order, ordinary differential equations. *Analytic methods in mathematical physics* (*Sympos., Indiana Univ., Bloomington, Ind.*, 1968), *pp.* 443–452. *Gordon and Breach, New York*, 1970. (S. R. Bernfeld) **49** #10962 34B25 (30A14)

(*with* Gilbert, Robert Pertsch) The scope of the function theoretic approach for equations permitting a separation of variables. *J. Math. Anal. Appl.* **34** (1971), 671–684. (Manfred W. Kracht) **56** #16122 35C15 (35J15)

(*with* Gilbert, Robert Pertsch) Singularities of Stürm-Liouville expansions for second order ordinary differential equations. II. *Applicable Anal.* **2** (1972/73), 269–282. (S. R. Bernfeld) **55** #5946 34B25

Scalar and matrix complex nonoscillation criteria. *Proc. Edinburgh Math. Soc.* (2) **18** (1972/73), 173–189. (S. G. Deo) **47** #7096 34A20 (34C10)

Howard, J. V. Computable explanations. *Z. Math. Logik Grundlagen Math.* **21** (1975), 215–224. (H. E. Kyburg (Zbl **326** #60036)) **58** #5102 02E10 (02F50)

Howard, James C. *See* **Modern dimensional analysis, similitude and similarity**, **48** #10033

Howard, Joe (*with* Melendez, Kenneth) Sufficient conditions for a continuous linear operator to be weakly compact. *Bull. Austral. Math Soc.* **7** (1972), 183–190. (E. Berkson) **49** #9573 46A05

Unconditionally converging operators in locally convex Hausdorff spaces. *Comment. Math. Univ. Carolinae* **13** (1972), 637–641. (Paul S. Muhly) **47** #4047 47B10 (46L20)

A generalization of reflexive Banach spaces and weakly compact operators. *Comment. Math. Univ. Carolinae* **13** (1972), 673–684. (D. A. Herrero) **49** #1074 46B10

(*with* Melendez, Kenneth) A note on weakly compactly generated Banach spaces which are separable. *Kyungpook Math. J.* **13** (1973), 161–164. (A. Pełczyński) **49** #3502 46B05

Mackey compactness in Banach spaces. *Proc. Amer. Math. Soc.* **37** (1973), 108–110. (H. Nakano) **47** #774 46B05

Dual properties for unconditionally converging operators. *Comment. Math. Univ. Carolinae* **15** (1974), 273–281. (S. Goldberg) **50** #1040 47B05

(*with* Melendez, Kenneth) Representation theorems for unconditionally converging operators. *Proc. Amer. Math. Soc.* **45** (1974), 405–408. (K. F. Klopfenstein) **50** #2980 47B37 (46B05)

Banach spaces on which every unconditionally converging operator is completely continuous. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 4, 745–753. (Ronald E. Harrell) **53** #1223 46B05

(*with* Ostling, Edward G.) Sequential and conditional compactness in Banach and barrelled spaces. (Italian summary) *Boll. Un. Mat. Ital.* (5) **13a** (1976), *no.* 1, 91–94. (S. Simons) **54** #3347 46A05

(*with* Melendez, Kenneth) Characterizing operators by their first and second adjoints. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 1, 129–134. (K. Clancey) **57** #17347 47B05 (47A05)

On l_1-singular operators. *Colloq. Math.* **38** (1977/78), *no.* 2, 255–258. (R. H. Lohman) **58** #12468 47B05 (46B99)

(*with* Ostling, Edward G.) The topology of uniform convergence on weak star null sequences. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 2, 191–194. (N. J. Kalton) **56** #9237 46B99

Howard, John H., Jr. Using state graphs to design and verify reliable communication between processes in operating systems. *Computer systems* 1972 (*Proc. First Texas Sympos., Univ. Texas, Austin, Tex.*, 1972), *Paper No. III-4*, 4 *pp. Univ. Texas, Austin, Tex.*, 1972. (Guy Chaty) **56** #7295 68A05

Modeling operating systems with automata. *Applied computation theory: analysis, design, modeling, pp.* 582–607. *Prentice-Hall, Englewood Cliffs, N.J.*, 1976. (Armin Cremers) **58** #3618 68A05

(*with* Chandy, K. Mani; Towsley, Donald F.) Product form and local balance in queueing networks. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 2, 250–263. (Ralph L. Disney) **55** #11424 60K25

Howard, Louis N. Bounds on the periods of finite-disk generated gravity modes. *Adva in Math.* **6**, 380–388 (1971). (Brian R. Lau) **46** #1198 76.49

(*with* Kopell, Nancy) Plane wave solutions to reaction-diffusion equations. *Stu in Appl. Mat.* **52** (1973), 291–328. (J. Adler) **50** #12003 80.34

(*with* Kopell, Nancy) Wave trains, shock fronts, and transition layers in reaction-diffusion equations. *Mathematical aspects of chemical and biochemical probl and quantum chemistry* (*Proc. SIAM-AMS Sympos. Appl. Math., New York*, 1974) 1–12. *SIAM-AMS Proceedings, Vol. VIII, Amer. Math. Soc., Providence, R. I.*, 197 Smoller) **55** #6017 35K55 (80.35)

(*with* Kopell, Nancy) Pattern formation in the Belousov reaction. *Some mathematical questions in biology, VI* (*Proc. Eighth Sympos., Mathematical Biology, Francisco, Calif.*, 1974), *pp.* 201–216. *Lectures on Math. in the Life Sciences, Vo Amer. Math. Soc., Providence, R.I.*, 1974. (J. Smoller) **56** #9077 35K55 (80.35)

(*with* Kopell, Nancy) Bifurcations under nongeneric conditions. *Advances in M* **13** (1974), 274–283. (K. E. Swick) **49** #10979 34D15

Bifurcations in reaction-diffusion problems. *Advances in Math.* **16** (1975), 246– (K. E. Swick) **51** #6057 34C99 (82.34)

(*with* Kopell, Nancy) Bifurcations and trajectories joining critical points. *Adva in Math.* **18** (1975), *no.* 3, 306–358. (A. A. Reinfelds) **53** #938 34C05 (58F99)

Bifurcations in reaction-diffusion problems. *Surveys in applied mathematics* (*First Los Alamos Sympos. Math. in Natural Sci., Los Alamos, N.M.*, 1974), *pp.* 129– *Academic Press, New York*, 1976. (Editors) **58** #28883 34C99 (82.34)

(*with* Stanshine, J. A.) Asymptotic solutions of the Field-Noyes model for Belousov reaction. I. Homogeneous oscillations. *Studies in Appl. Math.* **55** (1976), *n* 129–165. (Authors' summary) **57** #11529a 82.35

(*with* Kopell, Nancy) Slowly varying waves and shock structures in reaction-diffusion equations. *Studies in Appl. Math.* **56** (1976/77), *no.* 2, 95–145. Beckert) **58** #29268 35K55 (76.35, 92A05)

Chemical wave-trains and related structures. *Applications of bifurcation th* (*Proc. Advanced Sem., Univ. Wisconsin, Madison, Wis.*, 1976), *pp.* 317–331. *Publ. M Res. Center, No.* 38, *Academic Press, New York*, 1977. (J. Smoller) **56** #10642 8 (35K55)

See also **Marsden, Jerrold Eldon; et al.**, **58** #13209

Howard, M. L. A class of models for operators. *Rocky Mountain J. Math.* **7** (1977), *n* 369–370. (P. A. Fillmore) **56** #3655 47A45

Roots of increasing sequences. *Semigroup Forum* **14** (1977), *no.* 2, 167–173. (W Deskins) **56** #508 20M10

Howard, Nigel ★Paradoxes of rationality: theory of metagames and political behav With a foreword by Walter Isard. The Peace Research Studies Series, No. 1. *The Press, Cambridge, Mass.-London*, 1971. xxiii + 248 *pp.* (Editors) **55** #14070 90 (90D99, 92A20)

'General' metagames: an extension of the metagame concept. *Game theory theory of conflict resolution, pp.* 261–283. *Theory and Decision Library, Vol.* 2, *Re Dordrecht*, 1974. (Y. I. Kannai) **52** #12817 90D10

A dynamic theory of games. Colloque sur la Théorie des Jeux (Brussels, 19 *Cahiers Centre Études Recherche Opér.* **18** (1976), *no.* 1–2, 109–160. (Author's summ **55** #12161 90D99

(*with* Shepanik, Ian) Boolean algorithms used in metagame analysis. *Cahiers Ce Études Recherche Opér.* **19** (1977), *no.* 1-2, 177–194. (Zbl **376** #90100) **58** #2054 90D99

Howard, Paul E. A proof of a theorem of Tennenbaum. *Z. Math. Logik Grundlagen M* **18** (1972), 111–112. (J. L. Bell) **46** #3293 02H15

(*with* Rubin, Herman; Rubin, Jean E.) The relationship between two weak fo of the axiom of choice. *Fund. Math.* **80** (1973), *no.* 1, 75–79. (N. H. Willia **48** #1931 04A25

Limitations on the Fraenkel-Mostowski method of independence proofs. *J. Symbolic Logic* **38** (1973), 416–422. (A. Lévy) **52** #2878 02K05

(*with* Höft, Hartmut) A graph theoretic equivalent to the axiom of choice. *Z. M Logik Grundlagen Math.* **19** (1973), 191. (J. L. Bell) **47** #4831 05B99 (02K20)

(*with* Halpern, J. D.) Cardinal addition and the axiom of choice. *Bull. Amer. M Soc.* **80** (1974), 584–586. (D. Pincus) **48** #8230 02K05 (02K20)

Łoś' theorem and the Boolean prime ideal theorem imply the axiom of choice. *P Amer. Math. Soc.* **49** (1975), 426–428. (Robert Cowen) **52** #5422 02K20

(*with* Dawson, John W., Jr.) Factorials of infinite cardinals. *Fund. Math.* **93** (19 *no.* 3, 186–195. (James D. Halpern) **55** #7779 04A10 (04A25, 02K05)

(*with* Halpern, J. D.) The law of infinite cardinal addition is weaker than the axi of choice. *Trans. Amer. Math. Soc.* **220** (1976), 195–204. (John K. Truss) **53** #1294 02K20 (02K05)

(*with* Rubin, Jean E.) The axiom of choice and linearly ordered sets. *Fund. Ma* **97** (1977), *no.* 2, 111–122. (Thomas J. Jech) **57** #115 02K20

Howard, Ronald A. Decision analysis: Perspectives on inference, decision, and experimentation. *Proc. IEEE* **58** (1970), 632–643. (R. H. Farrell) **46** #10101 62

(*with* Matheson, James E.) Risk-sensitive Markov decision processes. *Managem Sci.* **18** (1971/72), 356–369. (Author's summary) **45** #1583 90B99

Howard, Susannah *See* **Cox, D. R.**, **49** #6504

Howard, V. A. *See* **Papers: Symposia of the Meeting of the American Philosophical Association, Western Division**, **52** #10306

Howard, W. A. A system of abstract constructive ordinals. *J. Symbolic Logic* **37** (197 355–374. (A. Kino) **48** #8209 02E05

Appendix: Hereditarily majorizable function of finite type. *Metamathematical investigation of intuitionistic arithmetic and analysis, pp.* 454–461. *Lecture Notes in Ma Vol.* 344, *Springer, Berlin*, 1973. (V. P. Orevkov) **57** #9493 02C15 (02E05, 02K1

Howarth, J. C. A semigroup of endomorphisms as a structure within a group ring. *London Math. Soc.* (2) **6** (1973), 633–636. (M. Yamada) **47** #8736 20M20

Howden, William E. Reliability of the path analysis testing strategy. Special section testing. *IEEE Trans. Software Engrg.* **SE-2** (1976), *no.* 3, 208–215. (G. Saucier) **54** #14428 68A05

Algebraic program testing. *Acta Inform.* **10** (1978), *no.* 1, 53–66. (Leon Le **58** #25074 68A05

Lindenmayer grammars and symbolic testing. *Information Processing Lett.* **7** (1978), *no.* 1, 36–39. (Gheorghe Păun) **57** #1976 68A30 (68A05)

e, A. Perturbed linear Hamiltonian systems with periodic coefficients. *J. Math. Anal. Appl.* **43** (1973), 31–45. (Zbl **293** #34058) **57** #17442 49A20 (93A10)

e, D. The application of numerical methods to the conformal transformation of polygonal boundaries. *J. Inst. Math. Appl.* **12** (1973), 125–136. (*one plate*) (D. Gaier) **49** #8297 65E05 (30A28)

e, M. S. Phase jumps. *Hyperbolic equations and waves* (*Rencontres, Battelle Res. Inst., Seattle, Wash.*, 1968), *pp.* 263–273. *Springer, Berlin*, 1970. (Editors) **58** #32333 76.35

(*with* Ffowcs Williams, J. E.) On the possibility of turbulent thickening of weak shock waves. *J. Fluid Mech.* **58** (1973), 461–480. (W. R. Sears) **49** #1918 76.60

Contributions to the theory of aerodynamic sound, with application to excess jet noise and the theory of the flute. *J. Fluid Mech.* **71** (1975), *no.* 4, 625–673. (J. P. Guiraud) **54** #1842 76.35

e, P. S. (*with* Brink, Lars; di Vecchia, P.) A Lagrangian formulation of the classical and quantum dynamics of spinning particles. *Nuclear Phys. B* **118** (1977), *no.* 1-2, 76–94. (Jouko Mickelsson) **54** #14590 81.22

(*with* Tucker, R. W.) An approach to SU(2) gauge fields in Minkowski space-time. *Nuclear Phys. B* **138** (1978), *no.* 1, 73–84. (Philip Huddleston) **58** #4148 83.22

e, Richard B. (*with* Myers, Raymond H.) On alternative approximate F tests for hypotheses involving variance components. *Biometrika* **58** (1971), 393–396. **47** #2724 62F05

(*with* Crump, Kenny S.) Nonparametric estimation of the age of a Galton-Watson branching process. *Biometrika* **59** (1972), 533–538. (M. L. Puri) **51** #2121 62G05 (60J80)

(*with* Crump, Kenny S.) Estimating the age of a Bellman-Harris branching process. *Math. Biosci.* **19** (1974), 175–184. (Prem S. Puri) **54** #1407 60J80 (62M05)

ve, Richard Herbert (*with* von Foerster, Heinz) Introductory commments to Francisco Varela's: "Calculus for self-reference" (Internat. J. Gen. Syst. **2** (1975), no. 1, 5–24). *Internat. J. Gen. Syst.* **2** (1975), *no.* 1, 1–3. (Louis H. Kauffman) **58** #10278b 02A05 (02C99, 92A05, 93A10)

ve, Roger E. The Brauer group of a compact Hausdorff space and n-homogeneous C^*-algebras. *Proc. Amer. Math. Soc.* **34** (1972), 209–214. (J. M. G. Fell) **46** #4218 46L05

On the spectrum of a compact solvmanifold. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, Mass.*, 1972), *pp.* 249–253. *Amer. Math. Soc., Providence, R.I.*, 1973. (Leonard Richardson) **49** #3030 22E45 (22E25)

Two conjectures about reductive p-adic groups. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, Mass.*, 1972), *pp.* 377–380. *Amer. Math. Soc., Providence, R.I.*, 1973. (Allan J. Silberger) **49** #3044 22E50

(*with* Helton, J. William) Integral operators: commutators, traces, index and homology. *Proceedings of a Conference Operator Theory* (*Dalhousie Univ., Halifax, N.S.*, 1973), *pp.* 141–209. *Lecture Notes in Math., Vol.* 345, *Springer, Berlin*, 1973. (James A. Deddens) **52** #11652 47B47 (47G05)

A functional calculus for hyponormal operators. *Indiana Univ. Math. J.* **23** (1973/74), 631–644. (J. W. Bunce) **48** #2816 47B20

On the principal series of Gl_n over$p$-adic fields. *Trans. Amer. Math. Soc.* **177** (1973), 275–286. (R. G. Laha) **48** #6324 22E50

On the character of Weil's representation. *Trans. Amer. Math. Soc.* **177** (1973), 287–298. (V. L. Popov) **47** #5180 22E50 (20G05, 20G25, 22E70)

The Fourier transform and germs of characters (case of Gl_n over a p-adic field). *Math. Ann.* **208** (1974), 305–322. (S. I. Gel'fand) **49** #7391 22E50

Representations of p-adic division algebras: an example of the change of base problem in representation theory of algebraic groups. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *Vol.* 1, *pp.* 455–457. *Canad. Math. Congress, Montreal, Que.*, 1975. (Allan J. Silberger) **56** #312 12A65 (22E50)

(*with* Helton, J. William) Traces of commutators of integral operators. *Acta Math.* **135** (1975), *no.* 3-4, 271–305. (M. F. Atiyah) **55** #11106 47G05 (47B47, 58G10)

(*with* Silberger, Allan J.) Why any unitary principal series representation of SLn over a p-adic field decomposed simply. *Bull. Amer. Math. Soc.* **81** (1975), 599–601. (E. A. Thieleker) **51** #5855 22E50

(*with* Silberger, Allan J.) Any unitary principal series representation of $(GL)_n$ over a p-adic field is irreducible. *Proc. Amer. Math. Soc.* **54** (1975), 376–378. (G. I. Ol'šanskiĭ) **54** #10508 22E50

On representations of discrete, finitely generated, torsion-free, nilpotent groups. *Pacific J. Math.* **73** (1977), *no.* 2, 281–305. (E. Thoma) **58** #16984 22E50 (22E40)

The Fourier transform for nilpotent locally compact groups. I. *Pacific J. Math.* **73** (1977), *no.* 2, 307–327. (M. Bożejko) **58** #11215 22D12

On a connection between nilpotent groups and oscillatory integrals associated to singularities. *Pacific J. Math.* **73** (1977), *no.* 2, 329–363. (Editors) **58** #28270 22E45 (58C25)

Kirillov theory for compact p-adic groups. *Pacific J. Math.* **73** (1977), *no.* 2, 365–381. (Author's review) **58** #28314 22E50

Topics in harmonic analysis on solvable algebraic groups. *Pacific J. Math.* **73** (1977), *no.* 2, 383–435. (Jonathan M. Rosenberg) **58** #1007 22E25 (22D10, 22E50)

Tamely ramified supercuspidal representations of Gl_n. *Pacific J. Math.* **73** (1977), *no.* 2, 437–460. (Allan J. Silberger) **58** #11241 22E50

(*with* Corwin, Lawrence) Computing characters of tamely ramified p-adic division algebras. *Pacific J. Math.* **73** (1977), *no.* 2, 461–477. (G. I. Ol'šanskiĭ) **58** #11238 22E50

Some qualitative results on the representation theory of Gl_n over a p-adic field. *Pacific J. Math.* **73** (1977), *no.* 2, 479–538. (G. I. Ol'šanskiĭ) **58** #11242 22E50

See also **Mathematics: Periodical collection of translations of foreign articles**, **48** #18

we, Stephen (*with* Arrow, Kenneth J.; Gould, F. J.) A general saddle point result for constrained optimization. *Math. Programming* **5** (1973), 225–234. (Norman P. Coleman, Jr.) **48** #7983 90C30

New conditions for exactness of a simple penalty function. *SIAM J. Control* **11** (1973), 378–381. (S. Zlobec) **52** #12789 90C30

A penalty function procedure for sensitivity analysis of concave programs. *Management Sci.* **21** (1974/75), *no.* 3, 341–347. (Author's summary) **55** #12102 90C30 (65K05)

Howe, W. G. Approximate confidence limits on the mean of $X+Y$ where X and Y are two tabled independent random variables. *J. Amer. Statist. Assoc.* **69** (1974), 789–794. (Arthur Cohen) **51** #7124 62F25 (62E20)

Howell, Jo Ann An algorithm for the exact reduction of a matrix to Frobenius form using modular arithmetic. I, II. *Math. Comp.* **27** (1973), 887–904; *ibid.* **27** (1973), 905–920. (B. Levinger) **51** #14549 65F30

Howell, Joseph (*with* Warren, Peter) A strong law of large numbers for orthogonal Banach space-valued random variables. *Probability in Banach spaces* (*Proc. First Internat. Conf., Oberwolfach*, 1975), *pp.* 253–262. *Lecture Notes in Math., Vol.* 526, *Springer, Berlin*, 1976. (W. A. Woyczyński) **57** #10787 60F15 (60B05)

Howell, Russell W. Annular functions in probability. *Proc. Amer. Math. Soc.* **52** (1975), 217–221. (J. E. A. Dunnage) **51** #10598 30A10 (60G50)

Howell, Thomas D. (*with* Lyness, J. N.) On a conjecture in multidimensional quadrature. *J. Computational Phys.* **21** (1976), *no.* 3, 361–364. (Ian Gladwell) **54** #6466 65D30

Global properties of tensor rank. *Linear Algebra Appl.* **22** (1978), 9–23. (David Dobkin) **58** #22133 15A72

Howerton, Robert D. A new solution of the discrete algebraic Riccati equation. *IEEE Trans. Automatic Control* **AC-19** (1974), 90–92. (Author's summary) **51** #12885 15A24 (93C55)

Howes, Frederick A. Some singular perturbation problems. *Bull. Amer. Math. Soc.* **81** (1975), 602-604. (R. E. O'Malley, Jr.) **50** #13775 34E15

An application of Nagumo's lemma to some singularly perturbed systems. (French and German summaries) *Internat. J. Non-Linear Mech.* **10** (1975), *no.* 6, 315–325. (A. Erdélyi) **55** #3446 34E15

Singularly perturbed nonlinear boundary value problems with turning points. *SIAM J. Math. Anal.* **6** (1975), 644–660. (Claude Demuth) **53** #6040 34E20

Some classical and nonclassical singular perturbation problems. *Funkcial. Ekvac.* **19** (1976), *no.* 2, 113–132. (James A. Murdock) **55** #791 34E15

Differential inequalities and applications to nonlinear singular perturbation problems. *J. Differential Equations* **20** (1976), *no.* 1, 133–149. (P. Talpalaru) **52** #11220 34D15 (34–XX)

Singular perturbations and differential inequalities. *Mem. Amer. Math. Soc.* **5** (1976), *no.* 168, iv+75 *pp.* (A. Erdélyi) **52** #11229 34E15

A class of boundary value problems whose solutions possess angular limiting behavior. Summer Research Conference on Singular Perturbations: Theory and applications (Northern Arizona Univ., Flagstaff, Ariz., 1975). *Rocky Mountain J. Math.* **6** (1976), *no.* 4, 591–607. (R. E. O'Malley, Jr.) **54** #7934 34B15

Effective characterization of the asymptotic behavior of solutions of singularly perturbed boundary value problems. *SIAM J. Appl. Math.* **30** (1976), *no.* 2, 296–306. (F. Hoppensteadt) **52** #14499 34D05

Singularly perturbed nonlinear boundary-value problems whose reduced equations have singular points. *Studies in Appl. Math.* **57** (1976/77), *no.* 2, 135–180. (R. E. O'Malley, Jr.) **57** #763 34B10 (34E15)

Singular perturbation analysis of a class of boundary value problems arising in catalytic reaction theory. *Arch. Rational Mech. Anal.* **66** (1977), *no.* 3, 237–265. (R. E. O'Malley, Jr.) **57** #6686 34E15 (34B15, 80.34)

An approximation method for a class of singularly perturbed second-order boundary value problems. *J. Math. Anal. Appl.* **58** (1977), *no.* 3, 653–664. (Mark D. Ardema) **56** #727 34B15 (34E15)

A boundary layer theory for some linear and nonlinear boundary value problems. Proceedings of the Regional Conference on the Application of Topological Methods in Differential Equations (Boulder, Colo., 1976). *Rocky Mountain J. Math.* **7** (1977), *no.* 3, 491–504. (R. E. O'Malley, Jr.) **57** #6685 34E15 (34B15)

Boundary-interior layer interactions in nonlinear singular perturbation theory. *Mem. Amer. Math. Soc.* **15** (1978), *no.* 203, iv+108 *pp.* (Claude Demuth) **58** #17288 34B15 (34E15)

The asymptotic solution of a class of singularly perturbed nonlinear boundary value problems via differential inequalities. *SIAM J. Math. Anal.* **9** (1978), *no.* 2, 215–249. (Denise Huet) **57** #16877a 34E20

Singularly perturbed nonlinear boundary value problems with turning points. II. *SIAM J. Math. Anal.* **9** (1978), *no.* 2, 250–271. (Denise Huet) **57** #16877b 34E20

(*with* Parter, Seymour V.) A model nonlinear problem having a continuous locus of singular points. *Studies in Appl. Math.* **58** (1978), *no.* 3, 249–262. (W. Wasow) **57** #16878 34E20 (34B15)

Singularly perturbed boundary value problems with angular limiting solutions. *Trans. Amer. Math. Soc.* **241** (1978), 155–182. (S. V. Parter) **58** #17354 34D15

See also **Conference: Differential Equations**, **51** #966

Howes, Norman R. On completeness. *Pacific J. Math.* **38** (1971), 431–440. (A. H. Stone) **46** #6303 54E15 (54D20)

Howie, A. J. (*with* Macaulay, A. B.) Some problems of inference for a two-state system with incomplete information. *Biometrika* **59** (1972), 395–406. (Authors' summary) **55** #6742 62M10

Howie, J. M. Products of idempotents in certain semigroups of transformations. *Proc. Edinburgh Math. Soc.* (2) **17** (1970/71), 223–236. (C. Chou) **46** #3652 20M10

(*with* Schein, Boris M.) Products of idempotent order-preserving transformations. *J. London Math. Soc.* (2) **7** (1973), 357–366. (C. Chou) **48** #10909 06A05

Semigroup amalgams whose cores are inverse semigroups. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), 23–45. (T. E. Hall) **52** #10922 20M10

★An introduction to semigroup theory. L.M.S. Monographs, No. 7. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1976. x+272 *pp.* (T. E. Hall) **57** #6235 20Mxx

Sur les demi-groupes engendrés par des idempotents. *Séminaire d'Algèbre Paul Dubreil, 29ème année* (*Paris*, 1975–1976), *pp.* 110–115. *Lecture Notes in Math.*, 586, *Springer, Berlin*, 1977. (Editors) **58** #28229 20M10

Idempotents in completely 0-simple semigroups. *Glasgow Math. J.* **19** (1978), *no.* 2, 109–113. (W. Wiley Williams) **58** #944 20M10

Howland, B. (*with* Black, W. L.; Howland, H. C.) A theorem about zig-zags between two circles. *Amer. Math. Monthly* **81** (1974), 754–757. (L. M. Kelly) **49** #11372 50B10

Howland, H. C. (*with* Black, W. L.; Howland, B.) A theorem about zig-zags between two circles. *Amer. Math. Monthly* **81** (1974), 754–757. (L. M. Kelly) **49** #11372 50B10

Howland, James Lucien The resultant iteration for determining the stability of a polynomial. *Math. Comp.* **32** (1978), *no.* 143, 779–789. (W. M. Kincaid) **58** #13649 65E05

Howland, James S. Simple poles of operator-valued functions. *J. Math. Anal. Appl.* **36** (1971), 12–21. (From the author's introduction) **55** #6216 47A55

Analyticity of determinants of operators on a Banach space. *Proc. Amer. Math. Soc.* **28** (1971), 177–180. (Author's summary) **54** #5875 47A55 (47B10)

Nonexistence of asymptotic observables. *Proc. Amer. Math. Soc.* **35** (1972), 175–176. (Teruo Ikebe) **45** #9181 47A40 (47A55)

On a theorem of Aronszajn and Donoghue on singular spectra. *Duke Math. J.* **41** (1974), 141–143. (S. Goldberg) **48** #12100 47A55

Stationary scattering theory for time-dependent Hamiltonians. *Math. Ann.* **207** (1974), 315–335. (T. Kato) **49** #11284 47A40

Puiseux series for resonances at an embedded eigenvalue. *Pacific J. Math.* **55** (1974), 157–176. (David Pearson) **54** #5871 47A40

The Livsic matrix in perturbation theory. *J. Math. Anal. Appl.* **50** (1975), 415–437. (R. Høegh-Krohn) **51** #11153 47A55

Abstract stationary theory of multichannel scattering. *J. Functional Analysis* **22** (1976), *no.* 3, 250–282. (S. T. Kuroda) **57** #1160 47A40

Howland, Robert A., Jr. An accelerated elimination technique for the solution of perturbed Hamiltonian systems. *Celestial Mech.* **15** (1977), *no.* 3, 327–352. (B. D. Jovanović) **57** #4732 70.34

Howlett, C. (*with* Schumacher, Dietmar) Free finitary algebras in a co-complete cartesian closed category. *Canad. Math. Bull.* **15** (1972), 373–374. (Horst Reichel) **47** #1911 18D35

Howlett, P. G. The effect of smoothness on variation. *J. Austral. Math. Soc.* **18** (1974), 119–128. (E. Baiada) **50** #7443 26A45

Howlett, Robert B. On the degrees of Steinberg characters of Chevalley groups. *Math. Z.* **135** (1973/74), 125–135. (Louis Solomon) **50** #13228 20C15 (20G05)

Some irreducible characters of groups with BN pairs. *J. Algebra* **39** (1976), *no.* 2, 571–592. (Louis Solomon) **54** #388 (EA **54**) 20C15

Howorka, Edward A characterization of Ptolemaic graphs; survey of results. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing (Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 355–361. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (David C. Kay) **58** #5398 05C99

A characterization of distance-hereditary graphs. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 112, 417–420. (R. A. Melter) **58** #5371 05C35

Howrey, E. Philip The use of preliminary data in economic time-series prediction. *Mathematical economics and game theory*, *pp.* 493–504. *Lecture Notes in Econ. and Math. Systems, Vol.* 141, *Springer, Berlin*, 1977. (Paul Shaman) **55** #14153 90A20

Howroyd, T. D. Some existence theorems for functional equations in many variables and the characterization of weighted quasi-arithmetic means. *Aequationes Math.* **7** (1971), 1–15. (L. Losonczi) **45** #7337 39A30

Cancellative medial groupoids and arithmetic means. *Bull. Austral. Math. Soc.* **8** (1973), 17–21. (R. Artzy) **47** #6927 20L05

Functional inequalities. *General inequalities (Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach*, 1976), *I*, *pp.* 153–158. *Birkhäuser, Basel*, 1978. (L. Losonczi) **58** #17628 39A15

Howson, A. G. ★A handbook of terms used in algebra and analysis. *Cambridge University Press, London-New York*, 1972. ix + 238 *pp.* (Editors) **50** #1783 00A05

Charles Godfrey (1873–1924) and the reform of mathematical education. *Educational Studies in Math.* **5** (1973/74), *no.* 2, 157–180. (M. Kline) **56** #5169 01A60 (01A70)

Addendum to: "Euler and the zeta function" (Amer. Math. Monthly **81** (1974), 1067–1086) by Raymond Ayoub. *Amer. Math. Monthly* **82** (1975), *no.* 7, 737. (Bruce C. Berndt) **51** #7778 01A55 (10–03, 10H05)

Howson, D. P. ★Mathematics for electronic technology. Pergamon International Library of Science, Technology, Engineering and Social Studies. *Pergamon Press, Oxford-New York-Toronto, Ont.*, 1975. x + 270 *pp.* (Editors) **52** #16199 69.00

See also **Network theory**, **49** #12198

Howson, H. R. (*with* Sancho, N. G. F.) A new algorithm for the solution of multi-state dynamic programming problems. *Math. Programming* **8** (1975), 104–116. (A. Aganbegjan) **51** #1551 90C15

Howson, Joseph T., Jr. Equilibria of polymatrix games. *Management Sci.* **18** (1971/72), 312–318. (T. E. S. Raghavan) **52** #12818 90D10

(*with* Rosenthal, Robert W.) Bayesian equilibria of finite two-person games with incomplete information. *Management Sci.* **21** (1974/75), *no.* 3, 313–315. (Authors' summary) **55** #12136 90D10

Howze, J. W. Necessary and sufficient conditions for decoupling using output feedback. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 1, 44–46. (Author's summary) **55** #7529 93D15

(*with* Thisayakorn, C.; Cavin, Ralph K., III) Model following using partial state feedback. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 6, 844–846. (Peter J. Moylan) **54** #9748 93B25

See also **Sezer, M. Erol; et al.**, **57** #9176

Hoy, W. Sew (*with* Gibson, J. A.) Biased penalty function algorithms for optimal control problems with terminal restraints. *Internat. J. Control* **24** (1976), *no.* 5, 641–659. (See Zbl **335** #49025) 65K05

(*with* Gibson, J. A.) A generalization of Lagrange's method of undetermined multipliers using zero-zone functionals. *J. Optimization Theory Appl.* **19** (1976), *no.* 4, 509–526. (Bruce D. Craven) **54** #12212 90C30

(*with* Gibson, J. A.) Time varying terminally restrained optimal control assessment. *AIAA J.* **16** (1978), *no.* 1, 12–19. (Vincenţiu Dumitru) **58** #15485 93C99 (49D30)

Høye, Johan S. Study of spin-cell transformations for renormalization-group equations of spin systems. *Phys. Rev. B* (3) **12** (1975), *no.* 11, 5219–5225. (Author's summary) **56** #7699 82.47

(*with* Stell, G.) Ornstein-Zernike equation with core condition and direct cor function of Yukawa form. *Molecular Phys.* **32** (1976), *no.* 1, 195–207. (B. So **55** #11885a 82.45

(*with* Stell, G.; Waisman, E.) Ornstein-Zernike equation for a two-Yuka with core condition. *Molecular Phys.* **32** (1976), *no.* 1, 209–230. (B. Souillard) **55** #11885b 82.45

Hoyer, B. H. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9426

Hoyer, Robert W. (*with* Mayer, Lawrence S.) Social preference orderings under rule. *Econometrica* **43** (1975), *no.* 4, 803–806. (Authors' introduction) **56** # 90A05 (92A20)

Hoyer, Ulrich Über den Zusammenhang der Carnotschen Theorie mit der Thermodynamik. *Arch. History Exact Sci.* **13** (1974), 359–375. (J. S. Joel) **58** # 01A55

How did Carnot calculate the mechanical equivalent of heat? *Centaurus* **19** *no.* 3, 207–219. (M. Kline) **58** #15951 01A55

Über die Unvereinbarkeit der drei Keplerschen Gesetze mit der Aristot Mechanik. (English summary) *Centaurus* **20** (1976), *no.* 3, 196–209. (Ja. O. M **58** #10046 01A45

Hoyer, Wolfgang Das Majorantenprinzip bei Mehrschritt-Iterationsverfahren. *Numer. Math.* **2** (1974), 39–60. (W. C. Rheinboldt) **54** #14357 65J05

(*with* Schmidt, Jochen W.) Ein Konvergenzsatz für Verfahren vom Brown-Brent-Typ. (English and Russian summaries) *Z. Angew. Math. Mech.* **57** *no.* 7, T397–T405. (W. Niethammer) **57** #14418 65H10

Hoyle, F. (*with* Narlikar, J. V.) Electrodynamics of direct interparticle action. quantum mechanical response of the universe. *Ann. Physics* **54** (1969), *no.* 2, 2 (Authors' summary) **52** #12639 81.53

(*with* Narlikar, J. V.) Electrodynamics of direct interparticle action. II. Rel treatment of radiative processes. *Ann. Physics* **62** (1971), *no.* 1, 44–97. (A summary) **52** #12640 81.53

(*with* Narlikar, J. V.) A direct particle theory of weak interactions. (Itali Russian summaries) *Nuovo Cimento A* (11) **7** (1972), *no.* 1, 262–270. (Authors' summary) **52** #12641 81.53

Hoyle, Fred The work of Nicolaus Copernicus. *Proc. Roy. Soc. London Ser. A* **336** 105–114. (J. S. Joel) **57** #5583 01A40

Hoyle, Hughes B., III (*with* Gentry, Karl R.) *c*-continuous fundamental groups. *Math.* **76** (1972), *no.* 1, 9–17. (B. J. Ball) **46** #2668 55E05

(*with* Gentry, Karl R.; Goolsby, R. C.) Applications of weakly equivalent topologies. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **11(31)** (1976), 107–112. (J. Dugundji) **53** #11570 54D05 (54D10)

Hoyle, M. H. Transformations–an introduction and a bibliography. *Internat. Stati* **41** (1973), *no.* 2, 203–223. (Editors) **54** #11586 (E **54** #11587) 62–02

Estimating generating functions. *Ann. Statist.* **3** (1975), *no.* 6, 1361–1363 Park) **52** #6978 62F10

Comment: "Transformations–an introduction and bibliography" (Internat. Rev. **41** (1973), no. 2, 203–223). *Internat. Statist. Rev.* **44** (1976), *no.* 3, 368. (**54** #11587 62–02

See also **Box, Michael J.**, **47** #4376

Hoyle, Stephen L. (*with* Leader, Solomon) Contractive fixed points. *Fund. M* (1975), 93–108. (A. S. Finbow) **53** #9191 54H25

Hoyng, Peter (*with* Stevens, Gerard A.) Radiation from a source in a cold magnet plasma, re-examined. Application to cyclotron and multipole radiation. *Phys. F* (1977), *no.* 3, 520–532. (Authors' summary) **56** #1938 76.60

v. Hoyningen-Huene, Paul Zum asymptotischen Verhalten der Lösungen der dreidimensionalen homogenen Wellengleichung. *Z. Naturforsch.* **28a** (1973), (Corneliu Eftimiu) **53** #3506 35L05

On the connection between Zwanzig's classical projection operator formali coarse-graining. *J. Statist. Phys.* **15** (1976), *no.* 6, 517–518. (Author's summary) **56** #2156 82.60

carrillo Hoyo, Angel M. *See* **Carrillo Hoyo, Angel M.**

de Hoyos, A. Continuity and convergence of some processes parameterized by the c convex sets in R^s. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 1 (R. M. Dudley) **48** #3114 60G17 (60F05, 60G15)

Høyrup, Else On torus maps and almost periodic movements. *Mat.-Fys. Medd. Vid. Selsk.* **38**, *no.* 10, 26 *pp.* (1972). (D. G. Bourgin) **46** #8221 55E55

Hoyt, William L. On the moving lemma for rational equivalence. *J. Indian Mat* (*N.S.*) **35** (1971), 47–66(1972). (Y. Nakai) **47** #6695 14C15 (14E10)

Hozioskiĭ, S. A. (*with* Popov, A. V.) A generalization of the parabolic equation of diffraction theory. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 2, 527–5 (S. Kaliski) **56** #7497 78.41

Hrabustovskiĭ, V. I. (*with* Rofe-Beketov, F. S.) The stability of the solutions o equation with an operator coefficient. (Russian) *Teor. Funkciĭ Funkcional. Priložen. No.* 13 (1971), 140–147. (A. Szép) **46** #7655 34G05

(*with* Rofe-Beketov, F. S.) The stability of the solutions of Hill's equation operator coefficient that has a nonnegative mean value. (Russian) *Teor. Funkcional. Anal. i Priložen. No.* 14 (1971), 101–105. (A. Szép) **46** #7656 (E **46** 34G05

(*with* Rofe-Beketov, F. S.) Letter to the editors. (Russian) *Teor. Funkciĭ Fun Anal. i Priložen. No.* 14 (1971), 195. (A. Szép) **46** #7657 34G05

The perturbation of the spectrum of selfadjoint differential operators with p matrix-valued coefficients. (Russian. English summary) *Mathematical physics and functional analysis, No.* 4 (*Russian*), *pp.* 117–138, 162–163. *Fiz.-Tehn. Inst. Temperatur, Akad. Nauk Ukrain. SSR, Kharkov*, 1973. (Author's summary) **57** # 47E05 (34B25)

The perturbation of the spectrum of selfadjoint differential operators of a order with periodic matrix coefficients. (Russian. English summary) *Mathe physics and functional analysis, No. V* (*Russian*), *pp.* 123–140, 158. *Akad. Nauk SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1974. (G. B. Gustafson) **54** # 34B25

The discrete spectrum of perturbed differential operators of arbitrary orde periodic matrix coefficients. (Russian) *Mat. Zametki* **21** (1977), *no.* 6, 829–838. (Stefan Balint) **56** #16451 47E05 (34B25)

mcov, O. V. Optimal control of systems of total differential equations. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 9 (1977), 152–162. (Author's summary) **57** #9201 93C15

moi, A. V. (*with* Aĭzerman, M. A.; Bendrikov, G. A.; Krasovskiĭ, A. A.; Kusovkov, N. G.; Lerner, A. Ja.; Letov, A. M.; Petrov, B. N.; Petrov, V. V.; Šaripov, D. S.; Šatalov, A. S.; Solodovnikov, V. V.; Teodorčik, K. F.; Topčeev, Ju. I.; Uderman, E. G.; Voronov, A. A.; Cypkin, Ja. Z.) ★**Теория автоматического регулирования. Книга 1: Математическое описание, анализ устойчивости и качества систем автоматического регулирования.** (Russian) [Theory of automatic control. Book 1: Mathematical description, analysis of stability and quality of automatic control systems] Edited by V. V. Solodovnikov. *Izdat.* "*Mašinostroenie*", *Moscow*, 1967. 768 *pp.* (Editors) **50** #6557 93 -02

(*with* Aĭzerman, M. A.; Bendrikov, G. A.; Krasovskiĭ, A. A.; Kusovkov, N. G.; Lerner, A. Ja.; Letov, A. M.; Petrov, B. N.; Petrov, V. V.; Šaripov, D. S.; Šatalov, A. S.; Solodovnikov, V. V.; Teodorčik, K. F.; Topčeev, Ju. I.; Uderman, E. G.; Voronov, A. A.; Cypkin, Ja. Z.) ★Grundlagen automatischer Regelsysteme. Band 1: Stetige lineare Systeme. Gesamtredaktion der Originalausgabe von W. W. Solodownikow. Aus dem Russischen übersetzt von Klaus Biener, Klaus Franke, Manfred Krauß, Helmut Otto, Edmund Suschke und Bernd Weber. Deutsche Bearbeitung unter Manfred Peschel. *VEB Verlag Technik*, *Berlin*, 1971. 744 *pp.* (3 *foldouts*) (W. Oppelt (Zbl **229** #93002)) **50** #6558 93–02

mov, A. V. (*with* Sumarokov, S. V.) A method for the solution of a multiextremal problem on the optimization of multistream hydraulic networks. (Russian) *Optimization methods and operations research*, *applied mathematics* (*Russian*), *pp.* 157–167, 190. *Akad. Nauk SSSR Sibirsk. Otdel. Sibirsk. Ènerget. Inst.*, *Irkutsk*, 1976. (Authors' summary) **58** #4358 90C50 (90B10)

nevskaja, I. E. (*with* Rostovcev, N. A.) The plane problem for a nonhomogeneous elastic circular domain. *Prikl. Mat. Meh.* **37** (1973), 106–113 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 95–102. (S. N. Murthy) **49** #10222 73.35

novič, I. L. (*with* Burkov, V. N.; Lazebnik, A. I.) Method of branches and bounds as a regular method for the solution of irregular mathematical programming problems. I. *Avtomat. i Telemeh.* **1972**, *no.* 7, 169–177 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 7, *part* 2, 1212–1219. (Werner Krabs) **51** #5007 90C25

(*with* Burkov, V. N.; Lazebnik, A. I.) Method of branches and bounds as a regular method for the solution of irregular mathematical programming problems. II. *Avtomat. i Telemeh.* **1972**, *no.* 10, 138–147 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 10, *part* 2, 1684–1692 (1973). (Authors' summary) **56** #17842 90C99

An extremal property of electrical circuits of constant current. (Russian. English summary) *Teoret. Èlektrotehn. No.* 14 (1972), 98–105, 173. (Author's summary) **52** #16885 94A20

(*with* Lazebnik, A. I.) A solution of the generalized traveling salesman problem by the branch and bound method. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 363–364. (C. Bergthaller) **47** #10056 90C05

Electrical model of dynamic transportation problem. *Avtomat. i Telemeh.* **1976**, *no.* 4, 128–136 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 4, *part* 2, 590–597. (Robert J. Mulholland) **55** #9902 90B10

(*with* Levitin, E. S.) An estimate of the influence of errors in the original data on the accuracy of the solution of the problem of the optimal distribution of flows on a network. (Russian) *Mathematical methods for the solution of economic problems*, *No.* 7 (*Suppl. to Èkonom. i Mat. Metody*) (*Russian*), *pp.* 126–143. *Izdat.* "*Nauka*", *Moscow*, 1977. (Joachim Hirche) **58** #15092 90B10 (90C25)

pčenko, V. M. The complexity of the realization of symmetric functions by formulae. (Russian) *Mat. Zametki* **11** (1972), 109–120. (J. Kuntzmann) **46** #10242 68A20

A quadratic estimate from below for complexity that is based on the continuity of the second derivative. (Russian) Collection of articles dedicated to the memory of Èduard Ivanovič Nečiporuk. *Problemy Kibernet. No.* 26 (1973), 203–206, 327. (M. Tetruašvili) **50** #12466 94A20

The complexity of the realization of symmetric functions of the algebra of logic by finitely based formulas. (Russian) *Problemy Kibernet. No.* 31 (1976), 231–234, 238. (M. I. Dehtjar') **54** #14881 94A20 (02B05)

Some estimates for multiplication time. (Russian) *Problemy Kibernet. No.* 33 (1978), 221–227, 232. (Author's summary) **58** #19349 68A20 (94A20)

See also **Cybernetics collection**, **51** #2326

pkov, A. A. The first basic problem for a notch at the apex of an infinite wedge. (French and German summaries) *Internat. J. Fracture Mech.* **7** (1971), 373–382. (M. Sokołowski) **51** #12085 73.45

skó, P. (*with* Hasenfratz, P.) Canonical quantization of gauge theories. *Phys. Rev. D* (3) **13** (1976), *no.* 8, 2235–2244. (Authors' summary) **56** #14288 81.46

(*with* Balog, J.) Rotation symmetry in the Hamiltonian dynamics. (Hungarian and Italian summaries) *Nuovo Cimento B* (11) **45** (1978), *no.* 2, 239–254. (Authors' summary) **58** #19468 70.22

áček, Karel (*with* Gostanian, Richard) On the failure of the weak Beth property. *Proc. Amer. Math. Soc.* **58** (1976), 245–249. (J. A. Makowsky) **54** #9975 02B20 (02H10, 02B25)

(*with* Jech, Thomas J.) ★Introduction to set theory. Pure and Applied Mathematics, Vol. 45. *Marcel Dekker, Inc.*, *New York-Basel*, 1978. vi + 190 *pp.* *ISBN* 0-8247-6570-2 (L. Gillman) **58** #10453 04–01 (02K05)

ek, Charles J. A covariance matrix formulation of an asynchronous sampled-data problem. *Modeling and simulation* (*Proc. Fifth Annual Pittsburgh Conf.*, *Univ. Pittsburgh*, *Pittsburgh*, *Pa.*, 1974), *Vol.* 5, *Part* 2, *pp.* 1077–1082. *Instrument Soc. Amer.*, *Pittsburgh*, *Pa.*, 1974. (Bradley W. Dickinson) **56** #11456 93E25

nov, L. S. ★**Восьмизначные таблицы тригонометрических функций.** (Russian) [Eight place tables of trigonometric functions] Second, corrected edition. *Izdat.* "*Nauka*", *Moscow*, 1973. 464 *pp.* (*errata insert*) (Editors) **50** #11710 65A05

See also **Barlow's tables of squares, cubes, square roots, cube roots and reciprocals of all integers up to 15000**, **54** #4032

Hripkov, N. N. (*with* Skljarevič, A. N.) The general case of computation of the mean reaction of a linear stationary system with a possible disturbance to a given input. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 4, 36–42. (RŽKibernet **1970** #1 G111) **45** #9741 93C05

Hriplovič, I. B. (*with* Vaĭnšteĭn, A. I.) Zero-mass limit and renormalizability in the theory of the massive Yang-Mills field. *Jadernaja Fiz* **13** (1971), 198–211 (*Russian*); *translated as Soviet J. Nuclear Phys.* **13** (1971), 111–118. (Authors' summary) **48** #3392 81.30

Hripta, I. I. The nilpotence of the multiplicative group of a group ring. (Russian) *Mat. Zametki* **11** (1972), 191–200. (L. Bican) **47** #312 20C05 (16A26)

The nilpotence of the multiplicative group of a group ring. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 13 (*Russian*), *pp.* 119–127. *Izdat.* "*Zinatne*", *Riga*, 1973. (Uno Kaljulaid) **49** #5077 16A26

(*with* Bovdi, A. A.) Group algebras of periodic groups with solvable multiplicative group. (Russian) *Mat. Zametki* **22** (1977), *no.* 3, 421–432. (Leonid Krop) **58** #5761 16A26 (16A60, 20D10)

Hriptun, M. D. Multiplication theorems for the solutions of the *m*th order generalized Bessel differential equation. (Russian) *Differencial'nye Uravnenija* **11** (1975), 287–293, 396. (B. S. Popov) **51** #10730 34A25 (33A40)

Hrisanov, S. M. Parametric action on an oscillatory system by a random process of a special form. (Russian) *Mat. Fiz. Vyp.* 18 (1975), 35–40, 165. (A. Ja. Dorogovcev) **56** #3423 34F05 (60H10)

Stability of a linear oscillatory system that is parametrically excited by a random process of a certain class. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 5, 699–703, 719. (P. Brunovský) **55** #14379 93E15

Hristesašvili, V. G. (*with* Lenskiĭ, V. L.) Application of complexity principles in identification of dynamic systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 2, 195–201 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 2, 346–350. (I. H. Mufti) **48** #13350 93B30

See also **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics**, **47** #4666 (EA **47**)

Hristianovič, S. A. (*with* Šemjakin, E. I.) A contribution to the theory of ideal plasticity. *Inž. Ž. Meh. Tverd. Tela* **1967**, *no.* 4, 86–97 (*Russian*); *translated as Mechanics of Solids* **2** (1967), *no.* 4, 59–65 (1971). (C. I. Borş) **46** #8511 73.35

See also **Čaplygin, S. A.**, **54** #9963

Hristić, D. (*with* Vukobratović, M.; Gluhajić, N.; Stokić, D.) One method of control for large-scale humanoid systems. *Math. Biosci.* **36** (1977), *no.* 3-4, 175–198. (Authors' summary) **58** #33196 93A10 (92A99)

See also **Control in space**, **48** #8041

Hristov, E. H. (*with* Rofe-Beketov, F. S.) Asymptotic and analytic questions connected with scattering by a highly singular potential. (Russian) *Mat. Fiz. i Funkcional. Anal. Vyp.* 2 (1971), 122–168, 238–239. (Authors' summary) **57** #18616 81.47 (34B25, 47E05)

(*with* Wiesner, Jan; Židkov, E. P.; Lelek, Vladimir; Malyšev, R. V.; Horomskiĭ, B. N.; Úlehla, I.) Iteration methods for the solution of the inverse problem of scattering theory. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **9** (1978), *no.* 3, 710–768. (Authors' summary) **58** #19960 81.34 (35Q99)

Hristov, Georgi A certain problem of R. Sulanke. (Bulgarian. Russian and English summaries) *Mathematics and mathematical education* (*Proc. Second Spring Conf. Bulgarian Math. Soc.*, *Vidin*, 1973), (*Bulgarian*), *pp.* 231–235. *Izdat. B"lgar. Akad. Nauk.*, *Sofia*, 1974. (Z. Nádenik) **50** #8295 52A10 (60D05)

On the completeness of a class of nets of lines. (Bulgarian. Russian and English summaries) *Mathematics and mathematical education* (*Proc. Third Spring Conf. Bulgar. Math. Soc.*, *Burgas*, 1974) (*Bulgarian*), *pp.* 291–298, *B"lgar. Akad. Nauk*, *Sofia*, 1976. (See Zbl **362** #52002) 53C65

Hristov, Hristo Iv. A solution of the problem of nonsteady motion in pipes by means of integration with indeterminate coefficients. (Bulgarian. Russian and English summaries) *Teoret. i Prilož. Meh.* **6** (1975), *no.* 4, 4, 5, 7, 57–66. (N. D. Kopačevskiĭ) **54** #1843 (EA **54**) 76.35

Hristov, Hristo Ja. (*with* Arnaudova, Ja.; Kademova, K. V.; Mavrodiev, S.; Markovski, B. L.; Rizov, V.) The matrix elements of representations of the Lorentz group. (Russian. Bulgarian and English summaries) *B"lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Fiz. Inst. s Aneb* **20** (1971), 37–76. (A. J. Coleman) **45** #8153 81.22

(*with* Fakirov, D.) Professor Raško Zaĭkov on the occasion of his 70th birthday. (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **15(48)** (1972), 165–166. (Editors) **53** #51 01A70

(*with* Todorov, Todor D.) Asymptotic numbers—a generalization of the notion of number. (Bulgarian and Russian summaries) *B"lgar. Akad. Nauk. Izv. Fiz. Inst. s Aneb* **24** (1973), 221–231. (L. D. Kugler) **49** #10657 10N15 (02H25, 46F99)

(*with* Markovski, B. L.) Statistics of registrations by means of detectors with partially overlapping sensitivities. (Russian. English summary) *Bulgar. J. Phys.* **2** (1975), *no.* 6, 551–557. (Authors' summary) **54** #9497 81.62

(*with* Todorov, Todor D.) Asymptotic numbers—algebraic operations with them. *Serdica* **2** (1976), *no.* 1, 87–102. (W. A. J. Luxemburg) **54** #5702 41A60 (02H25)

(*with* Damjanov, Blagovest P.; Danov, Dimit"r L.) Sets of asymptotic numbers that are closed under each of the four algebraic operations. (Russian) *Serdica* **3** (1977), *no.* 2, 136–151. (S. A. Basarab) **58** #11260 26A03

See also **Palev, Čavder D.**, **53** #7695

Hristov, N. N. (*with* Tolev, B. D.) Some cubature formulas for double integrals with integral domain on a regular polygon. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **12** (1976), *no.* 4, 63–72 (1977). (M. I. Levin) **58** #31747 65D30

Hristov, Nikolaĭ D. (*with* Konstantinov, Mihail M.; Petkov, Petko Hr.; Patarinski, Simeon P.) Spectral reducibility of linear control systems with lag. (Russian. Polish and English summaries) *Arch. Automat. i Telemech.* **21** (1976), *no.* 4, 425–435. (Authors' summary) **56** #11168 93B25 (93B05)

(*with* Konstantinov, Mihail M.; Patarinski, Simeon P.; Petkov, Petko Hr.) Synthesis of linear systems with a quadratic criterion for structural limitations. *Avtomat. i Telemeh.* **1977**, *no.* 5, 21–30 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 5, *part* 1, 628–636. (Jiři Sústal) **56** #17986 93C05

(*with* Konstantinov, Mihail M.; Patarinski, Simeon P.; Petkov, Petko Hr.)

Algorithms and programs for the analysis and synthesis of linearly controlled systems. I. Analysis. (Bulgarian. Russian and English summaries) *Avtomat. Izčisl. Tehn.* **11** (1977), *no.* 4, 3,5, 31–37. (From the text) **58** #33283a 93C05

(*with* Konstantinov, Mihail M.; Patarinski, Simeon P.; Petkov, Petko Hr.) Algorithms and programs for the analysis and synthesis of linearly controlled systems. II. Synthesis. (Bulgarian. Russian and English summaries) *Avtomat. Izčisl. Tehn.* **11** (1977), *no.* 5, 2, 3, 14–25. (From the text) **58** #33283b 93C05

(*with* Konstantinov, Mihail M.; Patarinski, Simeon P.; Petkov, Petko Hr.) Synthesis of suboptimal linear systems with output regulators. (Polish and Russian summaries) *Control Cybernet.* **6** (1977), *no.* 3-4, 75–85. (A. K. Mahalanabis) **57** #9212 93C45

(*with* Konstantinov, Mihail M.; Patarinski, Simeon P.; Petkov, Petko Hr.) On the general theory of linear control systems. (Bulgarian. Russian and English summaries) Mechanics (Third Congress, Varna, 1977). *Godišnik Visš. Učebn. Zaved. Tehn. Meh.* **12** (1977), *no.* 1, 85–92. (Authors' summary) **58** #33284 93C05

(*with* Konstantinov, Mihail M.; Patarinski, Simeon P.; Petkov, Petko Hr.) Structural properties of linear regulators in stationary control systems. (Russian) *Kybernetika* (*Prague*) **13** (1977), *no.* 3, 200–210. (G. Zatiašvili) **57** #15616 93B99 (93C05)

Hristov, V. H. *See* **Hristov, Vladimir H.**

Hristov, V. Z. Limits of Carathéodory and Kobayashi pseudometrics. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 7, 951–954. (Marcus Wright) **55** #5902 32H15

The Carathéodory pseudometric under factorization of complex manifolds. *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 5, 643–644. (L. Andrew Campbell) **56** #12330 32H15

Hristov, Vladimir H. The absolute convergence of the Fourier-Haar series of absolutely continuous functions. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 3, 36–42. (J. Musielak) **48** #11892 42A56

(*with* Petrušev, Penčo P.) Approximation by Müntz polynomials in the Hausdorff metric. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 7, 955–958. (J. T. Scheick) **55** #934 41A10

(*with* Petrušev, Penčo P.) On convergence of Fourier series in Banach space. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 8, 1099–1102. (W. W. Breckner) **58** #6864 41A65 (47D10)

(*with* Petrušev, Penčo P.) An improvement of the Dini-Lipschitz test for the uniform convergence of a Fourier series. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 11, 1579–1582. (Z. Čanturija) **55** #10944 42A20

(*with* Petrušev, Penčo P.) Convergence of a Fourier series in the Hausdorff metric. (Russian) *PLISKA Studia Math. Bulgar.* **1** (1977), 21–36. (J. Szabados) **57** #3724 42A20

(*with* Petrušev, Penčo P.) Convergence of a Fourier series in a Banach space. (Russian) *PLISKA Studia Math. Bulgar.* **1** (1977), 37–48. (S. V. Ovčinnikov) **58** #6881 42A20 (42A92)

A test of Dini-Lipschitz type for the uniform convergence of interpolation polynomials. (Russian) *PLISKA Studia Math. Bulgar.* **1** (1977), 128–133. (M. Tomić) **58** #6873 42A08

Hristova, E. H. (*with* Dobrev, V. K.; Petkova, V. B.; Stamenov, D. B.) Symmetric part of the conformal covariant operator product expansion of two spin 1/2 fields. New developments in relativistic quantum field theory (Tenth Winter School Theoret. Phys., Karpacz, 1973), Vol. I. *Acta Univ. Wratislav. No.* 207 (1974), 187–199. (M. A. Rashid) **57** #8549 81.22 (81.47)

(*with* Dobrev, V. K.; Petkova, V. B.; Stamenov, D. B.) Conformal covariant operator product expansion (OPE) of two spin 1/2 fields. (Russian summary) *Bulgar. J. Phys.* **1** (1974), *no.* 1, 42–57. (Authors' summary) **54** #9476a (E **54** #9476b) 81.53

(*with* Dobrev, V. K.; Petkova, V. B.; Stamenov, D. B.) Errata to "Conformal covariant operator product expansion (OPE) of two spin 1/2 fields" (Bulgar. J. Phys. **1** (1974), no. 1, 42–57). *Bulgar. J. Phys.* **1** (1974), *no.* 2, 220. (Authors' summary) **54** #9476b 81.53

Hristova, Ivanka (*with* Čobanov, Ivan) The kinematics of a point in curvilinear coordinates. (Bulgarian. German summary) *Annuaire Univ. Sofia Fac. Math.* **65** (1970/71), 69–91 (1972). (V. Topenčarov) **47** #7980 70.53

(*with* Čobanov, Ivan) On the potentiality of a certain plane fluid flow in the presence of sources and vortices. (Bulgarian. German summary) *Annuaire Univ. Sofia Fac. Math.* **66** (1971/72), 59–91 (1974). (N. D. Kopačevskiĭ) **54** #4281 76.31

(*with* Čobanov, Ivan) On multidimensional point kinematics in curvilinear coordinates. (Bulgarian summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **68** (1973/74), 85–137 (1977). (Vadim Komkov) **58** #19503 70.53

Hristova, Ju. H. The computation of the minimal number of inputs with respect to controlled systems. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1975**, *no.* 1, 70–71, 91. (Russell D. Rupp) **52** #2659 93B05 (93C15)

Hristova, N. P. Synchronization of the assembly process. (Russian) *Primenen. Mat. Ekonom. No.* 8 (1973), 66–78. **48** #1684 90B30

(*with* Romanovskiĭ, I. V.) Solution of discrete minimax problems by the method of dichotomy. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 1200–1209, 1363. (I. Gh. Ciobanu) **48** #7603 65K05

Hristova, S. G. (*with* Baĭnov, Drumi D.) Globally bounded solutions of systems of integrodifferential equations of superneutral type. (Russian) *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no.* 3-4, 303–309 (1977). (Nicolae Luca) **56** #3602 45K05

(*with* Baĭnov, Drumi D.) Application of the averaging method for the investigation of the stability of the zero solution of a class of integro-differential equations in Banach space. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **12** (1976), *no.* 4, 191–197 (1977). (Authors' summary) **58** #29949 45J05 (34C30)

(*with* Baĭnov, Drumi D.) Globally bounded solutions of a certain class of integro-differential equations with deviating argument. (Russian) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **23** (1977), *no.* 1, 59–62. (R. D. Driver) **58** #28983 34K05

(*with* Baĭnov, Drumi D.) Globally bounded solutions of a certain class of integrodifferential equations with deviating argument. (Russian) *Univ. Kiril Metodij–Skopje Fac. Math.* **3(20)** (1977), 23–28. (M. Tvrdý) **56** #9208 45J05 (34K05)

Hristovič, N. L. (*with* Movšovič, S. M.) Gross replaceability in distribution models. (Russian) *Èkonom. i Mat. Metody* **11** (1975), *no.* 5, 999–1001. (RŽMat **1976** #2 V
57 #9007 90A15

Hrivňák, Juraj A certain type of one-parameter nonlinear digital control system. (Sl
English summary) *Kybernetika* (*Prague*) **6** (1970), 351–362. (P. Brunovský) **45** #1
93C55

One type of multi-parameter non-linear digital control systems. *Kybernetika* (*Prague*) **11** (1975), 68–83. (Manfred Feilmeier) **53** #5096 93C10

Hrjaščev, S. M. (*with* Aksenov, G. S.; Fomin, V. N.) Linear adaptive control system
(Russian) *Metody Vyčisl.* **9** (1974), 73–104, 182. (S. P. Bingulac) **55** #2250 9

(*with* Aksenov, G. S.; Fomin, V. N.) Linear adaptive control systems. III. (Rus
Metody Vyčisl. **10** (1976), 164–175, 189. (Authors' summary) **58** #15463 93C4

Hrmová, Renáta Partial groupoids with some associativity conditions. *Mat. Časopis Sloven. Akad. Vied* **21** (1971), 285–311. (D. A. Robinson) **46** #1930 20L05

Hromatov, V. E. Density of the eigenfrequencies of thin shallow orthotropic shells. (Russian) *Prikl. Meh.* **13** (1977), *no.* 7, 37–41, 140. **56** #1899 73.47

Hromoĭ, Ja. V. ★Збірник вправ і задач з математичної логіки. (Ukrainian) [A colle
of exercises and problems in mathematical logic] *Golovne Vidavnictvo Vidavn. Ob'ēdnannja "Višča Škola", Kiev*, 1978. 159 *pp.* (Editors) **58** #16075 02–01

Hromov, A. P. The summability of expansions in the eigenfunctions of a boundary
problem for an ordinary differential equation with splitting boundary conditions, a
certain analogue of the Weierstrass theorem. (Russian) *Ordinary differential equa
and expansions in Fourier series, No.* 1 (*Russian*), *pp.* 29–41. *Izdat. Saratov. U
Saratov*, 1968. (Vojislav Marić) **51** #8530 34B25

The differentiation operator and Dirichlet type series. (Russian) *Mat. Zame*
(1969), 759–766. (Author's summary) **55** #8329 30A16

A certain application of the transformation operators of M. K. Fage and
Leont'ev. (Russian) *Ordinary differential equations and Fourier series, No.* 2 (*Rus*
pp. 16–31. *Izdat. Saratov. Univ., Saratov*, 1971. (Vojislav Marić) **51** #8531 34

Transformation operators for differential equations of arbitrary order. (Russ
Studies in differential equations and the theory of functions, No. 3 (*Russian*), *pp.* 1
Izdat. Saratov. Univ., Saratov, 1971. (N. K. Nikol'skiĭ) **53** #13692 34A25

The representation of entire functions by series of Dirichlet type. (Russian) *St*
in differential equations and the theory of functions, No. 3 (*Russian*), *pp.* 24–31. *I*
Saratov. Univ., Saratov, 1971. (N. K. Nikol'skiĭ) **53** #13557 30A62

Expansion in the eigenelements of certain classes of nonselfadjoint opera
(Russian) *Differential and integral equations* (*Russian*), *pp.* 18–32. *Izdat. Saratov. U
Saratov*, 1972. (Boris Pavlov) **49** #3578 47A70

(*with* Molodenkov, V. A.) Expansion in the eigenfunctions of a certain bou
value problem for the operator of differentiation. (Russian) *Differential equation
numerical analysis, No.* 1 (*Russian*), *pp.* 17–26. *Izdat. Saratov. Univ., Saratov*,
(Boris Pavlov) **51** #13766 47E05 (34B25)

A certain representation for the resolvent kernels of Volterra operators, an
applications. (Russian) *Mat. Sb.* (*N.S.*) **89(131)** (1972), 207–226, 349. (F. Smit
49 #1230 47G05

(*with* Macenko, P. K.) Asymptotic behavior of the kernel of the resolvent
Volterra integral operator. (Russian), *Studies in differential equations and the theo
functions* (*Russian*), *pp.* 34–39. *Izdat. Saratov. Univ., Saratov*, 1973. (C. Avram
49 #11161 44A15 (45M05)

Finite-dimensional perturbations of Volterra operators in a Banach space. (Russ
Differencial'nye Uravnenija i Vyčisl. Mat. Vyp. 3 (1973), 3–23, 169. (H. Baumg
55 #3838 47A55

Finite-dimensional perturbations of Volterra operators. (Russian) *Dokl. A
Nauk SSSR* **209** (1973), 309–311. (B. V. Loginov) **47** #9318 47A55

The asymptotic behavior of the resolvent kernel of a Volterra operator, an
application. (Russian) *Mat. Zametki* **13** (1973), 857–868. (R. D. Driver) **51** #63
45D05

Finite-dimensional perturbations of Volterra operators. (Russian) *Mat. Zamet*
(1974), 669–680. (Boris Pavlov) **51** #8868 47A55 (34B25, 45D05)

Expansion in the eigen- and associated functions of finite-dimensional perturba
of Volterra integral operators. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat.*
2 (1975), 28–56, 177. (H. Baumgärtel) **55** #3837 47A55

The equiconvergence of expansions in eigenfunctions of second order differe
operators. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 5 (1975), *pa*
3–20, 143. (Author's summary) **57** #10078 34B25

An application of the fractional differentiation operator. (Russian) *Differencial Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 1, 3–22, 173. (Author's summary) **58** #6963 45D05 (47G05)

A differential operator with nonregular splitting boundary conditions. (Russ
Mat. Zametki **19** (1976), *no.* 5, 763–772. (Boris Pavlov) **55** #760 34B25 (47E05

Generating functions of Volterra operators. (Russian) *Mat. Sb.* (*N.S.*) **102(**
(1977), *no.* 3, 457–472. (F. Smithies) **57** #3916 47G05 (45C05, 34B25, 45D05)

Hromova, G. V. The problem of reconstructing the derivative. (Russian) *Comp
methods and programming, No.* 4 (*Russian*), *pp.* 3–13 (*loose errata*). *Izdat. Saratov. U
Saratov*, 1970. (Walter Gautschi) **51** #7336 65R05

The construction of approximate solutions of operator equations of the first kin
Banach spaces. (Russian) *Differential and integral equations* (*Russian*), *pp.* 33–52. *I
Saratov. Univ., Saratov*, 1972. (I. K. Marek) **49** #5895 47A50

The regularization of integral equations of the first kind with a Green's ke
(Russian) *Differential equations and numerical analysis, No.* 1 (*Russian*), *pp.* 34
Izdat. Saratov. Univ., Saratov, 1972. (L. Janos) **48** #9318 45L05

The regularization of integral equations of the first kind with a Green's ke
(Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 8(123), 94–104. (V. V. Va
47 #7355 45A05

A way of finding approximate solutions to operator equations of the first k
(Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 3 (1973), 53–79, 171. (Auth
summary) **58** #30378 47A50 (65J05)

Finding uniform approximations for the solutions of integral equations of the

nd. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 4 (1974), 3–10, 147.
uthor's summary) **57** #17170 45L05 (45B05)

(*with* Zjuzin, V. S.) On the question of the solution of equations of the first kind by
ration methods. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 4 (1974),
5–112, 151. (Authors' summary) **57** #14439 65J05 (47A50)

On the question of the approximate solution of integral equations of the first kind.
ussian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 2 (1975), 93–103, 179.
uthor's summary) **58** #2104 45L05 (65J05)

(*with* Bočkareva, V. Ja.) On the question of the reconstruction of continuous
nctions in the uniform metric. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat.*
p. 5 (1975), *part* 2, 118–131, 146. (Authors' summary) **58** #29715 41A65

The problem of the reconstruction of functions. (Russian) *Differencial'nye*
ravnenija i Vyčisl. Mat. Vyp. 5 (1975), *part* 2, 60–76, 144. (Author's summary)
#6865 41A65

(*with* Gur'janov, V. M.) The influence of input data error on the smoothing of
dographs of seismic waves. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.*
(1976), *part* 1, 76–83, 174. (Authors' summary) **58** #14991 86.65

The reconstruction problem and equations of the first kind. (Russian)
ifferencial'nye Uravnenija i Vyčisl. Mat. Vyp. 6 (1976), *part* 1, 83–87, 175. (Author's
mmary) **58** #12451 47A50 (65J05, 68A45, 41A65)

The problem of the reconstruction of functions that are given with error. (Russian)
Vyčisl. Mat. i Mat. Fiz. **17** (1977), *no.* 5, 1161–1171, 1333. (Author's summary)
#13529 65D15

ova, L. N. A generalization of the method of Wegstein for the solution of systems of
nlinear equations. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 394 (1970),
5–192 (1971). (H. Shintani) **46** #1069 65H10

The approximate solution of nonlinear operator equations by iteration methods.
ussian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 11, 8–9. (Not reviewed) 65J05
H15)

va, N. L. A certain class of multipoint methods. (Russian) *Taškent. Gos. Univ.*
učn. Trudy No. 418 *Voprosy Mat.* (1972), 323–329, 390. (I. Păvăloiu) **51** #9469
H05

M. (*with* Razavy, M.) Two discrete forms of the inverse scattering problem. (French
mmary) *Canad. J. Phys.* **55** (1977), *no.* 16, 1434–1441. (Authors' summary)
#10554 81.45

(*with* Razavy, M.) Integral equation approach to the problem of scattering by a
mber of fixed scatterers. (French summary) *Canad. J. Phys.* **55** (1977), *no.* 16,
42–1452. (Authors' summary) **56** #10555 81.45

a, Jaroslav A contribution to Balas' algorithm. (Czech summary) *Apl. Mat.* **16**
71), 336–353. (M. Stoica and V. Nica) **57** #5080 90C10

Staging in Balas' algorithm. (Czech summary) *Apl. Mat.* **16** (1971), 354–369. (M.
ica) **57** #5081 90C10

Method of shifting units for solving the zero-one linear programming problem.
zech summary) *Apl. Mat.* **17** (1972), 169–182. (K. Swarup) **45** #6416 90C05

A modified Benders algorithm. (Czech. English summary) *Ekonom.-Mat. Obzor* **11**
75), *no.* 4, 423–443. (Author's summary) **58** #9236 90C10

The Benders method and parametrization of the right-hand sides in the mixed
eger linear programming problem. (Czech and loose Russian summaries) *Apl. Mat.*
(1976), *no.* 5, 327–364. (See Zbl **357** #90041) 90C10

A generalization of Gomory's all-integer algorithm. (Czech. English summary)
onom.-Mat. Obzor **13** (1977), *no.* 2, 164–178. (Author's summary) **56** #10952
C10

, Ivo (*with* Taufer, Jiří) Comparison of the factorization method and the method of
nbination of solutions. (Czech summary) *Apl. Mat.* **17** (1972), 209–224. (F. Perrin)
#4650 65L10

J. Supergauge transformations and the discrete-symmetry *TCP*. *Lett. Nuovo*
nento (2) **11** (1974), 437–440. (Not reviewed) 81.22

The local quantized superfield, CPT, and the connection between spin and statistics.
ernat. J. Theoret. Phys. **15** (1976), *no.* 8, 595–604. (Author's summary) **58** #32504
22 (81.46)

On the supersymmetric sine-Gordon model and a two-dimensional bag. *Nuclear*
s. B **131** (1977), *no.* 2–3, 275–284. (Author's summary) **57** #11455 81.35

, E. A. (*with* Sakovič, V. A.) Some questions on the interconnected planning of
duction and supply. (Russian) *Èkonom. i Mat. Metody* **14** (1978), *no.* 1, 96–111. (M.
ñas) **58** #9139 90A15

Karel *See* **Koman, Milan**, **55** #7696

, Josef (*with* Kubík, Stanislav; Kotek, Zdeněk; Wachtl, Jaroslav; Chalupa,
clav) ★Optimální systémy automatického řízení. (Czech) [Optimal automatic control
tems] Teoretická Knižnice Inženýra. [Theoretical Library for the Engineer]
TL-Nakladatelství Technické Literatury, Prague, 1972. 499 *pp.* (Publisher's
cription) **55** #2203 93–02

, S. V. Paley singularities of power series. (Russian) Investigations on linear
rators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst.*
klov. (*LOMI*) **30** (1972), 176–179. (Boris Pavlov) **49** #5314 30A12

Removal of singularities for Cauchy integrals and an analogue of the
nčin-Ostrovskiĭ theorem for sequences of increasing functions. (Russian) *Dokl. Akad.*
uk SSSR **214** (1974), 524–527. (L. I. Hedberg) **50** #2505 30A86

(*with* Dyn'kin, E. M.) Interpolation by boundary values of smooth analytic
ctions. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 516–518. (P. L. Duren)
#10270 30A80

(*with* Širokov, N. A.) A remark on a theorem of V. P. Gurariĭ. (Russian)
estigations on linear operators and the theory of functions, IV. *Zap. Naučn. Sem.*
ingrad. Otdel. Mat. Inst. Steklov. (*LOMI*) **39** (1974), 196–197. (M. Rabindranathan)
#7464 30A98 (46J15)

Singularities of linear operators in spaces of analytic functions. (Russian)
thematical programming and related questions (*Proc. Seventh Winter School,*
gobych, 1974), *Theory of functions and functional analysis* (*Russian*), *pp.* 87–114.
tral. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow, 1976. (Author's review)
#22570 30A78 (46E10, 47B37)

(*with* Dyn'kin, E. M.) Interpolation by analytic functions that are smooth on the boundary. (Russian. English summary) Investigations on linear operators and theory of functions, VI. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **56** (1976), 59–72, 195. (Authors' summary) **57** #16607 30A80

Sets of uniqueness for Gevrey classes. (Russian. English summary) Investigations on linear operators and theory of functions, VI. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **56** (1976), 163–169, 198. (Author's summary) **57** #16603 30A78

Every ideal of the ring C_A^n is principal. (Russian. English summary) Investigations on linear operators and the theory of functions, VII. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov* (*LOMI*) **65** (1976), 149–160, 206. (Author's summary) **58** #30282 46J20

Sets of uniqueness for the Gevrey classes. *Ark. Mat.* **15** (1977), *no.* 2, 253–304. (Anne-Marie Chollet) **57** #3393 30A78

See also **Investigations on linear operators and the theory of functions**, **52** #14241 (EA 53)

Hruščev, V. V. Central extensions of the Poincaré group. (Russian. English summary) *Teoret. Mat. Fiz.* **22** (1975), *no.* 3, 422–424. (Author's summary) **58** #6089 22E99 (22E70)

Hruščeva, I. V. The rate of convergence in laws of large numbers for weighted sums of independent identically distributed random variables. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 17 (1977), 141–153, 166. (R. J. Tomkins) **56** #6796 60F05

Hrušková, T. *See* **Dictionary: Czech-Russian**, **50** #4202

Hruslov, Ē. Ja. (*with* Kotljarov, V. P.) The limit boundary condition of a certain Neumann problem. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 10 (1970), 83–96. (J. Kačur) **45** #7298 35J05

Conditions for the convergence of a sequence of solutions of the first boundary value problem. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 12 (1970), 103–110. (S. V. Temko) **45** #7088 31B20

(*with* L'vov, V. A.) A study of the solution of the second boundary value problem in a domain with a boundary that consists of a large number of perforated surfaces. (Russian) *Mat. Fiz. i Funkcional. Anal. Vyp.* 2 (1971), 76–98, 237. (Authors' summary) **56** #12562 35J05

The first boundary value problem for an elliptic selfadjoint operator in a domain with a fine-grained boundary. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A.* **1972**, 343–345, 382. (J. Chrastina) **46** #3980 35J25 (47F05)

(*with* Kotljarov, V. P.) The second boundary value problem of linear elasticity theory in domains with a fine-grained boundary. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 415–418, 477. (V. Komkov) **46** #2956 73.35

(*with* Kotljarov, V. P.) The equations of an elastic medium with a large number of small absolutely rigid insertions. (Russian. English summary) *Mat. Fiz. i Funkcional. Anal. Vyp.* 3 (1972), 39–51, 108. (Authors' summary) **58** #3858 73.35

The method of orthogonal projections and the Dirichlet boundary value problem in domains with a "fine-grained" boundary. (Russian) *Mat. Sb.* (*N.S.*) **88(130)** (1972), 38–60. (J. Kačur) **53** #11223 35J40

The measure connected with a sequence of solutions of first boundary value problems. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 16 (1972), 29–38, 216. (G. Wildenhain) **48** #8822 31B20

(*with* Kotljarov, V. P.) The equations of an elastic medium with a large number of small perfectly solid insertions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 500–503, 572. (J. Murzewski) **48** #7731 73.35

(*with* Marčenko, V. O.) ★Краевые задачи в областях с мелкозернистой границей. (Russian) [Boundary value problems in domains with a fine-grained boundary] *Izdat. "Naukova Dumka", Kiev*, 1974. 279 *pp.* (Publisher's description) **58** #29143 35Jxx

(*with* L'vov, V. A.) Boundary value problems in domains with a fine-grained boundary for the linearized system of Navier-Stokes equations. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 119 *Mat. i Meh. Vyp.* 40 (1975), 3–22, i. (J. P. Guiraud) **53** #8682a 35Q10

(*with* L'vov, V. A.) Boundary value problems in domains with a fine-grained boundary for the general system of Navier-Stokes equations. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 119 *Mat. i Meh. Vyp.* 40 (1975), 23–36, i. (J. P. Guiraud) **53** #8682b 35Q10

(*with* Marčenko, V. O.) Estimation of the accuracy of approximation of solutions of boundary value problems with a fine-grained boundary. (Russian) *Problems in mechanics and mathematical physics* (*Russian*), *pp.* 208–223, 298. *Izdat. "Nauka", Moscow*, 1976. (Authors' summary) **58** #29166 35J25 (35A35)

Asymptotic behavior of the solution of the Cauchy problem for the Korteweg-de Vries equation with steplike initial data. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 2, 261–281, 296. (Author's summary) **58** #6754 35Q99 (35B40)

The first boundary value problem in domains with a complex boundary for higher order equations. (Russian) *Mat. Sb.* (*N.S.*) **103(145)** (1977), *no.* 4, 614–629, 632. (Jan Bochenek) **57** #3623 35J40

Hrustalev, M. M. Necessary and sufficient conditions for weak invariance. *Avtomat. i Telemeh.* **1968**, *no.* 4, 17–22 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no.* 4, 540–544. (Nicolae Luca) **52** #16764 93C15 (93D99)

Sufficient conditions in an optimal control problem. (Russian) *Theory and methods of construction of multivariable control systems* (*Russian*), *pp.* 65–83, 335. *Izdat. "Nauka", Moscow*, 1973. (L. von Wolfersdorf) **52** #1470 49B30

Necessary and sufficient conditions for an optimal control problem. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 59–62. (F. M. Kirillova) **48** #4880 49B10

(*with* Krotov, V. F.) Optimal control of the thrust and angle of attack of an aircraft during a climbing and acceleration maneuver. (Russian) *Problems in analytical mechanics, stability and control theories* (*Second Četaev Conf., Kazan*, 1973) (*Russian*), *pp.* 168–175, 339. *Izdat. "Nauka", Moscow*, 1975. (Djordje Djukic) **56** #13872 70.49

Hrustalev, O. A. (*with* Logunov, A. A.) The two-body problem in quantum field theory. (Russian. English summary) *Problems of theoretical physics* (*in memory of I. E. Tamm*)

(*Russian*), *pp*. 96–106, 484, 491. *Nauka, Moscow*, 1972. (From the text) **58** #32478 81.01 (81.35)

(*with* Logunov, A. A.; Mestvirišvili, M. A.) The limit state of cross-sections in strong interactions at high energy. (Russian. English summary) *Teoret. Mat. Fiz.* **16** (1973), *no*. 2, 233–234. (Authors' summary) **58** #14674 81.47

(*with* Savrin, V. I.; Tjurin, N. E.) The 𝔘-matrix method in the theory of strong interactions. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **7** (1976), *no*. 1, 21–54. (Authors' summary) **57** #11498 81.47

(*with* Razumov, A. V.) An application of Bogoljubov's method to the quantization of boson fields in the neighborhood of the classical solution. (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no*. 3, 300–308. (Authors' summary) **56** #14327 81.47

See also **Feynman, Richard P.; et al.**, **55** #9633a *and* **Feynman, Richard P.; et al.**, **55** #9633b

Hrůza, Bohuslav Sur quelques propriétés des inverse-faibles. (Czech and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učeni Tech. v Brně* **B-56** (1975), 101–107. (V. D. Belousov) **52** #8312 20N05

Hryptun, V. G. An addition to a theorem of S. Mandelbrojt. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no*. 6, 849–853, 864. (Wiesław Pleśniak) **55** #12887 26A93

Hsi, Bartholomew P. (*with* Louis, Thomas A.) A modified play-the-winner rule for sequential trials. *J. Amer. Statist. Assoc.* **70** (1975), *no*. 351, *part* 1, 644–647. (Rasul A. Khan) **52** #15900 62L10

(*with* Kapadia, Asha Seth; Diamond, Harvey) Renewal processes with restriction on success runs. *SIAM J. Appl. Math.* **33** (1977), *no*. 4, 575–580. (John G. Basterfield) **56** #16818 60K05

Hsi, Tsê Tsung (*with* Yen, Tun Chieh; Po, Shu Jên; Wang, Chien Min; Ch'ên, Chiu Chin; Ch'ên, Mei Tung) Heliocentric theory in China. *Sci. Sinica* **16** (1973), 364–376. (R. C. Gupta) **56** #15274 01A25

Hsia, John S. An invariant for integral equivalence. *Amer. J. Math.* **93** (1971), 867–871. (Manfred Knebusch) **47** #6608 10C05 (13H99)

On the Hasse principle for K_0 of quadratic forms over commutative rings. *Quart. J. Math. Oxford Ser.* (2) **22** (1971), 535–544. (Manfred Knebusch) **46** #3538 15A63 (13D15)

On the representation of cyclotomic polynomials as sums of squares. *Acta Arith.* **25** (1973/74), 115–120. (O. H. Körner) **49** #4967 10M05 (10J05)

On the Witt ring and some arithmetical invariants of quadratic forms. The arithmetical theory of quadratic forms, I (Proc. Conf., Louisiana State Univ., Baton Rouge, La., 1972; dedicated to Louis Joel Mordell). *J. Number Theory* **5** (1973), 339–355. (Manfred Knebusch) **49** #2538 10C05 (13K05)

(*with* Johnson, Robert P.) Round and group quadratic forms over global fields. The arithmetical theory of quadratic forms, I (Proc. Conf., Louisiana State Univ., Baton Rouge, La., 1972; dedicated to Louis Joel Mordell). *J. Number Theory* **5** (1973), 356–366. (T.-Y. Lam) **48** #2073 10C05 (12A95)

(*with* Johnson, Robert P.) Round and Pfister forms over $R(t)$. *Pacific J. Math.* **49** (1973), 101–108. (E. Hornix) **51** #8031 10C05 (15A63)

On the Hasse principle for quadratic forms. *Proc. Amer. Math. Soc.* **39** (1973), 468–470. (D. G. James) **47** #134 10C05

(*with* Johnson, Robert P.) On the representation in sums of squares for definite functions in one variable over an algebraic number field. *Amer. J. Math.* **96** (1974), 448–453. (J. W. S. Cassels) **50** #12917 10B35 (12D15)

(*with* Peterson, Roger D.) An invariant ideal of a group ring of a finite group, and applications. *J. Algebra* **32** (1974), *no*. 3, 576–599. (A. Dress) **52** #5778 20C05

(*with* Ankeny, N. C.) Unimodular round forms over dyadic local fields. Collection of articles dedicated to K. Mahler on the occasion of his seventieth birthday. *J. Number Theory* **6** (1974), 443–447. (D. G. James) **51** #5497 10C20

(*with* Earnest, A. G.) Springer-type theorems for spinor genera of quadratic forms. *Bull. Amer. Math. Soc.* **81** (1975), *no*. 5, 942–943. (Donald Maurer) **51** #10226 10C05

Spinor norms of local integral rotations. I. *Pacific J. Math.* **57** (1975), *no*. 1, 199–206. (D. G. James) **51** #10229 10C20

(*with* Earnest, A. G.) Spinor norms of local integral rotations. II. *Pacific J. Math.* **61** (1975), *no*. 1, 71–86. (D. G. James) **53** #7946 10C20

(*with* Peterson, Roger D.) An invariant ideal of a group ring of a finite group. II. *Proc. Amer. Math. Soc.* **51** (1975), *no*. 2, 275–281. (A. Dress) **52** #5779 20C05

Representations by spinor genera. *Pacific J. Math.* **63** (1976), *no*. 1, 147–152. (G. Frei-Imfeld) **54** #12644 10C05

Representations by integral quadratic forms over algebraic number fields. *Conference on Quadratic Forms—1976* (*Proc. Conf., Queen's Univ., Kingston, Ont.*, 1976), *pp*. 528–537. *Queen's Papers in Pure and Appl. Math., No.* 46, *Queen's Univ., Kingston, Ont.*, 1977. (Paul Ponomarev) **58** #16505 10C05

(*with* Earnest, A. G.) Spinor genera under field extensions. III. Quadratic extensions. *Number theory and algebra*, *pp*. 43–62. *Academic Press, New York*, 1977. (Bart Rice) **58** #10731b 10C05

(*with* Earnest, A. G.) Spinor genera under field extensions. I. *Acta Arith.* **32** (1977), *no*. 2, 115–128. (Bart Rice) **55** #7913 10C05

Two theorems on integral matrices. *Linear and Multilinear Algebra* **5** (1977/78), *no*. 4, 257–264. (Morris Newman) **58** #734 15A36

(*with* Earnest, A. G.) Spinor genera under field extensions. II. 2 unramified in the bottom field. *Amer. J. Math.* **100** (1978), *no*. 3, 523–538. (Bart Rice) **58** #10731a 10C05

(*with* Kitaoka, Yoshiyuki; Kneser, Martin) Representations of positive definite quadratic forms. *J. Reine Angew. Math.* **301** (1978), 132–141. (Thomas C. Craven) **58** #27758 10C05

See also **Proceedings: Conference on Orders, Group Rings and Related Topics**, **48** #3666

Hsia, Pei (*with* Yeh, Raymond T.) Finite automata with markers. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp*. 443–451. *North-Holland, Amsterdam*, 1973. (From the authors' introduction) **56** #11648 94A30

(*with* Ng, Peter A.; Yeh, Raymond T.) Graph walking automata. *Mathematical foundations of computer science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp*. 330–336. *Lecture Notes in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (Michel C **52** #12410 68A25

(*with* Yeh, Raymond T.) Marker automata. *Information Sci.* **8** (1975), 71–8 Hartmanis) **52** #7203 68A25

Hsia, T. C. (*with* Ghandi, M.) An iterative algorithm for non-linear discrete sy identification. *Internat. J. Control* (1) **16** (1972), 763–775. (Authors' summary) **47** #4674 93B30

On least squares algorithms for system parameter identification. *IEEE T Automatic Control* **AC-21** (1976), *no*. 1, 104–108. (F. M. Kirillova) **52** #16750 9 (93E10)

Hsia, Wei Shen On Rutenberg's decomposition method. *Management Sci.* **21** (1974 *no*. 1, 10–12. (Author's summary) **55** #12103 90C30

Decomposition of the convex simplex method. *J. Optimization Theory App* (1975), *no*. 5-6, 399–407. (S. P. Aggarwal) **53** #12594 90C30

A convergence theorem. *Opsearch* **12** (1975), *no*. 1-2, 24–29. (Robert A. Abr **54** #2203 90C25

Bounds for the solution of a stochastic program with recourse. *Bull. Inst. M Acad. Sinica* **4** (1976), *no*. 2, 307–311. (I. M. Stancu-Minasian) **57** #9065 90C1

The joint probability density function of the function of the occupation time three-state problem. *J. Appl. Probability* **13** (1976), *no*. 1, 57–64. (Brian Cor **52** #15684 60J15

(*with* Babu, A. J. G.) A more efficient algorithm for an optimal tour of a health consumer with multiple health care facilities in each county. *Nonlinear systems applications* (*Proc. Internat. Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp*. 373– *Academic Press, New York*, 1977. (Jan Weglarz) **57** #15482 90C50 (90B10)

On a stochastic program with simple recourse. *J. Math. Anal. Appl.* **58** (1977), 705–712. (I. M. Stancu-Minasian) **56** #7981 90C15

Probability density function of a stochastic linear programming problem. *N Res. Logist. Quart.* **24** (1977), *no*. 3, 417–424. (Dominic S. P. Leung) **57** #25 90C15

A method for strictly convex quadratic programming problems. *Opsearch* **14** (1 *no*. 2, 118–124. (Richard S. Sacher) **56** #10961 90C20

See also **Rutenberg, David P.**, **55** #12104

Hsiang, Fu Cheng On Nörlund summability of Fourier series. *Bull. Calcutta Math. So* (1969), 1–5. (B. N. Sahney) **45** #7379 42A24

On the Nörlund summability of a Fourier series. II. *Studies and essays* (*present Yu-why Chen on his* 60*th birthday, April* 1, 1970), *pp*. 27–32. *Math. Res. Center, Taiwan Univ., Taipei*, 1970. (From the author's introduction) **55** #8670 (EA **55**/5 42A24

On a convergence criterion of Fourier series. *Math. Student* **41** (1973), 189–191 Sunouchi) **48** #9228 42A20

On the Abel summability of the differentiated Fourier series. *Math. Studer* (1974), 405–408 (1975). (Prem Chandra) **53** #3575 42A24

On a theorem of Wang concerning (C) summability of Fourier series. *Rend. Mat. Palermo* (2) **25** (1976), *no*. 3, 234–242 (1977). (M. K. Nayak) **58** #17677 4

On formal multiplication of two series. *Bull. Inst. Math. Acad. Sinica* **5** (197 2, 359–361. (E. Reimers) **57** #17067 40A05

Hsiang, Wu Chung Differentiable actions of compact connected Lie group on R^n. *du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp*. 73–77. *Gauthier-Villars, Paris*, 1971. (H.-T. Ku) **54** #13949 57E15

(*with* Szczarba, R. H.) On embedding surfaces in four-manifolds. *Algebraic topology* (*Proc. Sympos. Pure Math., Vol. XXII, Univ. Wisconsin, Madison, Wis.*, 19 *pp*. 97–103. *Amer. Math. Soc., Providence, R.I.*, 1971. (J. M. Boardman) **49** #40 57D95

Manifolds with $\pi_1 = \mathbf{Z}^k$. *Manifolds—Amsterdam* 1970 (*Proc. Nuffic Summer School*), *pp*. 36–43. *Lecture Notes in Math., Vol.* 197, *Springer, Berlin*, 1971. (B Casler) **45** #9340 57A65 (55E05)

(*with* Erle, Dieter) On certain unitary and symplectic actions with three orbit ty *Amer. J. Math.* **94** (1972), 289–308. (H. Scheerer) **46** #4558 57E15

Decomposition formula of Laurent extension in algebraic K-theory and the ro codimension 1 submanifold in topology. *Algebraic K-theory, II: "Classical" alge K-theory and connections with arithmetic* (*Proc. Conf., Seattle Res. Center, Ba Memorial Inst.*, 1972), *pp*. 308–327. *Lecture Notes in Math., Vol.* 342, *Springer, Be* 1973. (D. W. Anderson) **51** #6828 57C25 (18F25)

(*with* Farrell, F. Thomas) Manifolds with $\pi_i = G \times \alpha T$. *Amer. J. Math.* **95** (1 813–848. (Sylvain Cappell) **52** #6726 57C10 (57D65)

(*with* Hsiang, Wu Yi) Differentiable actions of compact connected Lie groups. *Ann. of Math.* (2) **99** (1974), 220–256. (G. E. Bredon) **49** #11550 57E15

On the codimension 1 isotopy problem. *Manifolds—Tokyo* 1973 (*Proc. Inte Conf., Tokyo*, 1973), *pp*. 117–122. *Univ. Tokyo Press, Tokyo*, 1975. (F. Laudenb **51** #9085 57D80 (57D50)

(*with* Anderson, Douglas R.) Extending combinatorial PL structures on strat spaces. *Invent. Math.* **32** (1976), *no*. 2, 179–204. (Martin Scharlemann) **54** #12 57C25 (57C10)

(*with* Sharpe, Richard) Parametrized surgery and isotopy. *Pacific J. Math* (1976), *no*. 2, 401–459. (D. Burghelea) **58** #13091 57E05 (57D60, 58D05)

(*with* Anderson, Douglas R.) The functors K_{-1} and pseudo-isotopies of polyhe *Ann. of Math.* (2) **105** (1977), *no*. 2, 201–223. (L. Guillou) **55** #13447 57 (57C25)

(*with* Davis, Michael) Concordance classes of regular U_n and Sp_n action homotopy spheres. *Ann. of Math.* (2) **105** (1977), *no*. 2, 325–341. (Allan Edmo **55** #11282 57E15 (57D60, 57D65)

(*with* Farrell, F. Thomas) Rational L-groups of Bieberbach groups. *Comm Math. Helv.* **52** (1977), *no*. 1, 89–109. (Jean-Louis Loday) **56** #6679 57D65 (18F

(*with* Farrell, F. Thomas) The topological-Euclidean space form problem. *In Math.* **45** (1978), *no*. 2, 181–192. (H. R. Gluck) **58** #2824 57A15 (53C30)

Hsiang, Wu Yi On some fundamental theorems in cohomology theory of topolog transformation groups. *Taita J. Math.* **2** (1970), 61–87. (J. A. Schafer) **46** #824 57E10

On characteristic classes and the topological Schur lemma from the topolog ansformation groups viewpoint. *Algebraic topology* (*Proc. Sympos. Pure Math., Vol. XII, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 105–112. *Amer. Math. Soc., ovidence, R.I.*, 1971. (M. F. Atiyah) **47** #5892 57E15

Some fundamental theorems in cohomology theory of topological transformation oups. *Bull. Amer. Math. Soc.* **77** (1971), 1094–1098. (C. N. Lee) **46** #8249 57E15 5C35)

On the geometric weight system of differentiable compact transformation groups on yclic manifolds. *Invent. Math.* **12** (1971), 35–47. (P. L. Antonelli) **46** #916 57E15

(*with* Lawson, H. Blaine, Jr.) Minimal submanifolds of low cohomogeneity. *J. fferential Geometry* **5** (1971), 1–38. (Bang-yen Chen) **45** #7645 53C40

On the degree of symmetry and the structure of highly symmetric manifolds. *amkang J. Math.* **2** (1971), *no.* 1, 1–22. (R. Z. Goldstein) **46** #8250 57E15 (57D15)

On the splitting principle and the geometric weight system of topological ansformation groups. I. *Proceedings of the Second Conference on Compact ansformation Groups* (*Univ. Massachusetts, Amherst, Mass.*, 1971), *Part I*, *pp.* 334–402. *cture Notes in Math., Vol.* 298, *Springer, Berlin*, 1972. (G. E. Bredon) **52** #1742 E15

(*with* Hsiang, Wu Chung) Differentiable actions of compact connected Lie groups. I. *Ann. of Math.* (2) **99** (1974), 220–256. (G. E. Bredon) **49** #11550 57E15

Structural theorems for topological actions of Z_2-tori on real, complex and aternionic projective spaces. *Comment. Math. Helv.* **49** (1974), 479–491; *addendum, d.* **50** (1975), 277–279. (G. E. Bredon) **51** #11557 57E25

★Cohomology theory of topological transformation groups. Ergebnisse der athematik und ihrer Grenzgebiete, Band 85. *Springer-Verlag, New York-Heidelberg,* 75. x+164 *pp.* (Theodore Chang) **54** #11363 57Exx

Global and local characteristic class theory in topological transformation groups. *oceedings of the International Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *l.* 1, *pp.* 525–532. *Canad. Math. Congress, Montreal, Que.*, 1975. (Czes Kosniowski) #13947 57E10 (57D20)

(*with* Su, J. C.) A cohomological structural theorem for topological actions of -tori on spaces of Z_2cohomology type of successive fibration of projective spaces. *ll. Amer. Math. Soc.* **81** (1975), 714–717. (Czes Kosniowski) **51** #9092 57E10

(*with* Su, J. C.) On the geometric weight system of topological actions on homology quaternionic projective spaces. *Invent. Math.* **28** (1975), 107–127. (G. E. edon) **52** #1743 57E25

C. H. (*with* Chen, C. F.) A state-space approach to Walsh series solution of linear stems. *Internat. J. Systems Sci.* **6** (1975), *no.* 9, 833–858. (Ezio M. Biglieri) **53** #10391 93C05 (42A56)

(*with* Chen, C. F.) A Walsh series direct method for solving variational problems. *Franklin Inst.* **300** (1975), *no.* 4, 265–280. (Editors) **56** #7179 65K05

Cheng Statistical inference for a model with both random cross-sectional and time fects. *Internat. Econom. Rev.* **15** (1974), 12–30. (D. G. Kabe) **55** #4521 62H15 2J05)

Some estimation methods for a random coefficient model. *Econometrica* **43** (1975), 5–325. (Author's summary) **55** #13673 62J05

Identification and estimation of simultaneous equation models with measurement ror. *Internat. Econom. Rev.* **17** (1976), *no.* 2, 319–339. (P. C. B. Phillips) **54** #9031 (E #7923) 62P20 (90A20)

Identification for a linear dynamic simultaneous error-shock model. *Internat. onom. Rev.* **18** (1977), *no.* 1, 181–194. (B. W. Stuck) **56** #14592 90A15 (62P20)

Corrigendum: "Identification and estimation of simultaneous equation models with easurement error" (Internat. Econom. Rev. **17** (1976), no. 2, 319–339). *Internat. onom. Rev.* **18** (1977), *no.* 1, 252. (Editors) **57** #7923 62P20

(*with* Robinson, Peter M.) Efficient estimation of a dynamic error-shock model. *ternat. Econom. Rev.* **19** (1978), *no.* 2, 467–479. (Edwin H. Neave) **58** #8100 M15 (62P20, 90A20)

, David K. Recent advances in information secure systems research. *Computing stems* 1975 (*Proc. Fourth Texas Conf., Univ. Texas, Austin, Tex.*, 1975), *Paper No.* -2, 9 *pp. Univ. Texas, Austin, Tex.*, 1975. (E. C. Posner) **56** #1773 68A05

, George C. Singular perturbations for a nonlinear differential equation with a small rameter. *SIAM J. Math. Anal.* **4** (1973), 283–301. (Claude Demuth) **48** #9015 E15

(*with* MacCamy, Richard C.) Solution of boundary value problems by integral uations of the first kind. *SIAM Rev.* **15** (1973), 687–705. (R. F. Millar) **48** #2594 Q99 (76.45)

(*with* Gilbert, Robert Pertsch) On Dirichlet's problem for quasi-linear elliptic uations. *Constructive and computational methods for differential and integral equations ympos., Indiana Univ., Bloomington, Ind.*, 1974), *pp.* 184–236. *Lecture Notes in Math., l.* 430, *Springer, Berlin*, 1974. (See Zbl **285** #00005) 35J25

(*with* Gilbert, Robert Pertsch) On a normal form for second order elliptic equations d constructive methods for Dirichlet's problem. *Math. Nachr.* **67** (1975), 139–143. (H. eckert) **52** #11287 35C15 (35J25)

(*with* Ahner, John F.) A Neumann series representation for solutions to oundary-value problems in dynamic elasticity. *Quart. Appl. Math.* **33** (1975/76), –80. (Authors' summary) **56** #7429 73.45

(*with* Brown, Patrick M.; Gilbert, Robert Pertsch) Constructive function theoretic ethods for fourth order pseudoparabolic equations in two space variables. (Italian mmary) *Rend. Mat.* (6) **8** (1975), *no.* 4, 935–951 (1976). (E. Kreyszig) **53** #6069 C15 (35Q99)

(*with* Gilbert, Robert Pertsch) Constructive function theoretic methods for higher der pseudoparabolic equations. *Function theoretic methods for partial differential uations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 51–67. *Lecture Notes in Math., ol.* 561, *Springer, Berlin*, 1976. (R. E. Showalter) **58** #11847a 35C15 (35K99)

A Neumann series representation for solutions to the exterior boundary-value oblems of elasticity. *Function theoretic methods for partial differential equations* (*Proc. ternat. Sympos., Darmstadt*, 1976), *pp.* 252–260. *Lecture Notes in Math., Vol.* 561, *ringer, Berlin*, 1976. (I. M. Longman) **58** #3878 73.45

(*with* Weinacht, Richard J.) Singular perturbation problems for a class of singular rtial differential equations. *Ordinary and partial differential equations* (*Proc. Fourth onf., Univ. Dundee, Dundee*, 1976), *pp.* 249–258. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #29076 35B25

(*with* Wendland, Wolfgang L.) On Galerkin's method for a class of integral equations of the first kind. *Applicable Anal.* **6** (1976/77), *no.* 2, 155–157. (L. Fox) **56** #1754 65R05

(*with* Comstock, Craig) Singular perturbations for difference equations. Summer Research Conference on Singular Perturbations: Theory and applications (Northern Arizona Univ., Flagstaff, Ariz., 1975). *Rocky Mountain J. Math.* **6** (1976), *no.* 4, 561–567. (R. E. O'Malley, Jr.) **54** #13359 39A10

(*with* Ahner, John F.) On the two-dimensional exterior boundary-value problems of elasticity. *SIAM J. Appl. Math.* **31** (1976), *no.* 4, 677–685. (H. R. Aggarwal) **54** #14514 73.45

(*with* Wendland, Wolfgang L.) A finite element method for some integral equations of the first kind. *J. Math. Anal. Appl.* **58** (1977), *no.* 3, 449–481. (P. M. Anselone) **57** #1945 65R05

Singular perturbation of an exterior Dirichlet problem. *SIAM J. Math. Anal.* **9** (1978), *no.* 1, 160–184. (R. E. O'Malley, Jr.) **57** #3578 35B25 (76.35)

See also **Constructive and computational methods for differential and integral equations**, **50** #8907

Hsiao, Hung Jên A note on automorphic forms relative to the Hecke group $G(\lambda)$. *Bull. Inst. Math. Acad. Sinica* **6** (1978), *no.* 1, 43–47. (Marvin I. Knopp) **58** #10745 10D05

Hsiao, Ling *See* **Xiao, Ling**

Hsiao, Mu Y. Incomplete block design codes for ultra high speed computer applications. *Discrete Math.* **3** (1972), 89–108. (R. Alter) **47** #4707 94A10

(*with* Patel, Arvind M.; Pradhan, Dhiraj K.) Store address generator with on-line fault-detection capability. *IEEE Trans. Computers* **C-26** (1977), *no.* 11, 1144–1147. (Authors' summary) **58** #33525 94A15

Hsiao, Shêng Yen (*with* Lin, Charles S. C.) Ergodic theorems of semigroups and application. *Bull. Inst. Math. Acad. Sinica* **6** (1978), *no.* 1, 181–188. (J. A. Goldstein) **58** #12508 47D05 (47A35)

Hsiao, Sherman Hsing-Chung Carleman-type estimates and the Neumann problem. *J. Differential Geometry* **9** (1974), 329–345. (W. J. Sweeney) **50** #3275 58G05 (35J55, 35N15)

wang Hs'iao-t'ung *See* **Wang Hs'iao-t'ung**

Hsieh, C. C. (*with* Hwang, Jia Cherng; Sheng, C. L.) On the modulo-two-sum decomposition of binary sequences of finite periods. *Internat. J. Electron.* **39** (1975), *no.* 1, 97–104. (Authors' summary) **56** #15139 94A10 (94A20)

Hsieh, David K. Topological properties associated with the λ-map. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 1–6. (H. Gordon) **46** #6038 46J10 (54D99)

A characterization of the *B*-realcompact space. *Compositio Math.* **29** (1974), 63–66. (Richard A. Alò) **51** #6737 54D60

The representation of the $\mathfrak{N}$-compactification by the λ-compactification. *Math. Japon.* **19** (1974), 57–61. (R. Grant Woods) **50** #14665 54D30

The ε-filters and maximal positive cones. *Math. Japon.* **19** (1974), *no.* 3, 239–245. (W. T. Whitley) **55** #1289 54C30

Hsieh, Din Yu A study of relaxing waves. *J. Mathematical Phys.* **13** (1972), 1769–1776. (J. P. Guiraud) **47** #2910 76.45

Variational methods and nonlinear forced oscillations. *J. Mathematical Phys.* **16** (1975), 275–280. (G. V. Hmelevskaja-Plotnikova) **55** #778 34C15

Variational method and nonlinear oscillations and waves. *J. Mathematical Phys.* **16** (1975), 1630–1636. (W. F. Ames) **51** #8653 35Q99

Lagrangian formulation of bubble dynamics. *Quart. Appl. Math.* **33** (1975/76), 115–130. (Author's summary) **56** #4410 76.53

Variational method and Mathieu equation. *J. Mathematical Phys.* **19** (1978), *no.* 5, 1147–1151. (Harold Exton) **57** #10081 34B30

Hsieh, Edward P. Checking experiments for sequential machines. *IEEE Trans. Computers* **C-20** (1971), *no.* 10, 1152–1166. (Editors) **57** #15774a (E **57** #15774b) 94A25

See also **Wakimura, Y.; et al.**, **53** #5192 *and* **Wakimura, Y.; et al.**, **57** #15774b

Hsieh, G. T. C. (*with* Knight, J. M.; Aharonov, Yakir) Are super-radiant phase transitions possible? *Phys. Rev. A* (3) **17** (1978), *no.* 4, 1454–1462. (Authors' summary) **58** #14550 81.31

Hsieh, Hsueh Y. (*with* Singh, Vijendra Pal) Statistical properties of the noise output current. *J. Engrg. Math.* **5** (1971), 249–255. (L. L. Campbell) **51** #5152 94A05

(*with* Ghausi, Mohammed S.) On optimal-pivoting algorithms in sparse matrices. *IEEE Trans. Circuit Theory* **CT-19** (1972), 93 -96. (R. P. Tewarson) **48** #7559 65F05

(*with* Ghausi, Mohammed S.) A probabilistic approach to optimal pivoting and prediction of fill-in for random sparse matrices. *IEEE Trans. Circuit Theory* **CT-19** (1972), 329–336. (R. P. Tewarson) **48** #12789 65F05

Pivoting-order computation method for large random sparse systems. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 225–230. (Iain S. Duff) **54** #14329 65F05

(*with* Rabbat, Naguib B.) A latent macromodular approach to large-scale sparse networks. Special issue on large-scale networks and systems. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 12, 745–752. (Authors' summary) **58** #9881 94A20 (65F99)

Hsieh, M. S. (*with* Morrell, J. S.; Retherford, J. R.) On ideals of compact operators. *Bull. Amer. Math. Soc.* **80** (1974), 907–909. (Norberto Salinas) **54** #951 46L15 (47B05)

Hsieh, Ming-Shan (*with* Silvester, P.) Finite-element solution of 2-dimensional exterior-field problems. *Proc. Inst. Elec. Engrs.* **118** (1971), 1743–1748. (R. E. Barnhill) **48** #12872 65N30

Quasi-normed ideals of bounded linear operators on Banach spaces. *Bull. Inst. Math. Acad. Sinica* **4** (1976), *no.* 1, 87–98. (Yehoram Gordon) **54** #8312 46L20 (47B10)

Hsieh, Po Fang ★Analytic simplification of a system of ordinary differential equations at an irregular-type singularity. Mathematics Research Center, Report 71-6. NRL Report 7265. *Naval Research Laboratory, Washington, D.C.*, 1971. 31 *pp.* (W. Strodt) **46** #2134 34A20

Successive approximations method for solutions of nonlinear differential equations at an irregular type singular point. *Comment. Math. Univ. St. Paul.* **20** (1971/72), 27–53. (H. Hochstadt) **45** #5439 34A10

Analytic simplification of a system of ordinary differential equations at an irregular type singularity. *Comment. Math. Univ. St. Paul.* **20** (1971/72), 55–82. (H. Hochstadt) **45** #5440 34A10

Note on analytic solutions of nonlinear ordinary differential equations at an irregular type singularity. *Ordinary differential equations* (*Proc. Conf., Math. Res. Center, Naval Res. Lab., Washington, D. C.*, 1971), *pp.* 419–431. *Academic Press, New York*, 1972. (Frank G. Hagin) **54** #10719 34A25 (34A20)

Bounded solutions of nonlinear equations at an irregular type singularity. *Symposium on Ordinary Differential Equations* (*Univ. Minnesota, Minneapolis, Minn.*, 1972; *dedicated to Hugh L. Turrittin*), *pp.* 65–73. *Lecture Notes in Math., Vol.* 312, *Springer, Berlin*, 1973. (Nicolae Luca) **52** #14433 34A25

A general solution of a system of nonlinear differential equations at an irregular type singularity. *Funkcial. Ekvac.* **16** (1973), 103–136. (Nicolae Luca) **48** #8914 34A25

(*with* Sibuya, Yasutaka) On distribution of zeros of solutions of a second order linear differential equation with polynomial coefficients. *J. Math. Anal. Appl.* **43** (1973), 101–113. (H. A. DeKleine) **47** #3755 34C10 (34A20)

On a reduction of nonlinear ordinary differential equations at an irregular type singularity. *Arch. Math.* (*Brno*) **10** (1974), *no.* 3, 129–147 (1975). (Zbl **334** #34011) **57** #10092 34C20

On an analytic simplification of a system of ordinary differential equations at an irregular type singularity. *Chinese J. Math.* **2** (1974), *no.* 1, 113–127. (Günter Frank) **52** #6081 34A25

On a system of nonlinear differential equations with an irregular type singularity. *Comment. Math. Univ. St. Paul.* **23** (1974/75), *no.* 2, 87–120. (Nicolae Luca) **51** #8554 34C20

Recent advances in the analytic theory of nonlinear differential equations with an irregular type singularity. *International Conference on Differential Equations*(*Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 370–384. *Academic Press, New York*, 1975. (D. A. Lutz) **55** #8444 34A25

See also **Analytic theory of differential equations, 51** #6002

Hsieh, S. H. (*with* Spiegel, Edward A.) The equations of photohydrodynamics. *Astrophys. J.* **207** (1976), *no.* 1, *part* 1, 244–252. (Authors' summary) **54** #9308 76.35

(*with* Canuto, V.; Adams, P. J.) Mach's principle, the cosmological constant, and the scale-covariant theory of gravity. *Phys. Rev. D* (3) **18** (1978), *no.* 10, 3577–3580. (Editors) **58** #25767 83.53

Hsieh, Simon C. An embedding theorem for semilattices. *Tamkang J. Math.* **2** (1971), *no.* 2, 177–180. (Joseph Chacron) **47** #375 20M10 (06A20)

(*with* Li, Ing Yung) Idempotent-separating congruences and group congruences on direct products of semigroups. *Tamkang J. Math.* **3** (1972), 97–99. (G. J. Lallement) **47** #6904 20M10

(*with* Chen, S. Y.) A note on rectangular semigroups. *Tamkang J. Math.* **4** (1973), 27–28. (S. Lajos) **48** #11364 20M10

(*with* Chen, S. Y.) Factorizable inverse semigroups. *Semigroup Forum* **8** (1974), *no.* 4, 283–297. (B. Pondělíček) **51** #13089 20M10

Cancellability of chains. (Chinese summary) Collection of articles in commemoration of the 75th anniversary of the founding of Soochow University. *Soochow J. Math. Natur. Sci.* **1** (1975), 41–51. (Richard A. Alò) **53** #13049 06A05

Hsieh, Tsu Teh (*with* Tan, Kok Keong) Remark on almost weakly periodic nonexpansive mappings. *J. Math. Anal. Appl.* **44** (1973), 288–290. (K. Goebel) **48** #7028 47H10

(*with* Tan, Kok Keong) Periodic points and contractive mappings. *Canad. Math. Bull.* **17** (1974), 209–211. (W. J. Gray) **51** #4198 54H25

Invariant normal positive functionals. *J. Math. Anal. Appl.* **45** (1974), 556–562. (S. Anastasio) **48** #9409 46L10

Invariant normal positive functionals. II. *J. Math. Anal. Appl.* **47** (1974), 554–562. (S. Anastasio) **50** #2932 46L10

Hsieh, Ts'ung Chih (*with* Chang, Chên Hua; Hu, Mên Ch'ang; Li, Kuo Wei) Exact difference triangles. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 1, 191–197. (H. Levinson) **58** #10483 05A99

Hsieh, W. N. Proportions of irreducible diagrams. *Studies in Appl. Math.* **52** (1973), 277–283. (R. Balakrishnan) **49** #7185 05C99

(*with* Kleitman, Daniel J.) Normalized matching in direct products of partial orders. *Studies in Appl. Math.* **52** (1973), 285–289. (Harald Scheid) **53** #7870 06A10

Intersection theorems for systems of finite vector spaces. *Discrete Math.* **12** (1975), 1–16. (G. O. H. Katona) **52** #2903 05A05

Families of intersecting finite vector spaces. *J. Combinatorial Theory Ser. A* **18** (1975), 252–261. (Michael Henle) **52** #2904 05A05

(*with* Harper, L. H.; Savage, John E.) A class of Boolean functions with linear combinational complexity. *Theoret. Comput. Sci.* **1** (1975), *no.* 2, 161–183. (I. Hal Sudborough) **54** #4184 68A20 (94A20)

Hsien, Ting Ch'ang *See* **Xian, Ding Chang**

Hsing, C. C. (*with* Monopoli, Richard) Parameter adaptive control of multivariable systems. *Internat. J. Control* **22** (1975), *no.* 3, 313–327. (Authors' summary) **58** #4527 93C40

Hsing, Deh-phone Kung Asymptotic behavior of the solutions of an integrodifferential system. *Ann. Mat. Pura Appl.* (4) **109** (1976), 235–245. (John M. Bownds) **54** #13510 45M05

Existence and uniqueness theorem for the one-dimensional backwards two-body problem of electrodynamics. *Phys. Rev. D* (3) **16** (1977), *no.* 4, 974–982. (Author's summary) **56** #7493 78.35 (34K05)

Hsiung, Chao Agnes (*with* Chow, Y. S.) Limiting behavior of $\max_{j<n}S_jj^{-\alpha}$ and the first passage times in a random walk with positive drift. *Bull. Inst. Math. Acad. Sinica* **4** (1976), *no.* 1, 35–44. (Allan Gut) **53** #11715 60F15

Hsiung, Chuan Chih (*with* Levko, John J., III) Complex Laplacians on almost-Hermitian manifolds. *J. Differential Geometry* **5** (1971), 383–403. (K. Yano) **45** #2636 53C55

(*with* Mittra, Sitansu S.) Isometries of compact hypersurfaces with boundary in a Riemannian space. *Differential geometry* (*in honor of Kentaro Yano*), *pp.* 145–161. *Kinokuniya, Tokyo*, 1972. (Shochichi Kobayashi) **52** #1578 53C40

Conformal transformations of Riemannian manifolds. *Proceedings of the Thirte Biennial Seminar of the Canadian Mathematical Congress* (*Dalhousie Univ., Hal N.S.*, 1971) *Vol.* 2, *pp.* 78–87. *Canad. Math. Congr., Montreal, Que.*, 1972. (K Y. **51** #6651 53C20

(*with* Mugridge, Larry R.) Riemannian manifolds admitting certain confo changes of metric. Collection of articles commemorating Władysław Ślebodzi *Colloq. Math.* **26** (1972), 135–143. (K. Yano) **48** #4961 53C20

The signature and *G*-signature of manifolds with boundary. Collection of art dedicated to S. S. Chern and D. C. Spencer on their sixtieth birthdays. *J. Differe Geometry* **6** (1972), 595–598. (Don Zagier) **48** #7298 57D20

(*with* Ackler, Lynn L.) Isometry of Riemannian manifolds to spheres. *Ann. Pura Appl.* (4) **99** (1974), 53–64. (K. Yano) **51** #11340 53C20

(*with* Brickell, Frederick) The total absolute curvature of closed curves in Riemannian manifolds. *J. Differential Geometry* **9** (1974), 177–193. (Y. Katsur **49** #3795 53C65

A remark on pinched manifolds with boundary. *Ann. Mat. Pura Appl.* (4) (1975), 103–107. (Y. Katsurada) **50** #14580 53C20

The generalized Poincaré conjecture on higher dimensional manifolds with boundary. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 177–181. (Laurence R. Tay **53** #14510 57D60

(*with* Lo, Timothy P.) Congruence theorems for compact hypersurfaces of a Riemannian manifold. *Ann. Mat. Pura Appl.* (4) **109** (1976), 289–304. (Authors' summary) **54** #13793 53C40

A remark on cobordism of manifolds with boundary. *Arch. Math.* (*Basel*) (1976), *no.* 5, 551–555. (R. E. Stong) **54** #6172 57D90

(*with* Ackerman, Neill H.) Isometry of Riemannian manifolds to spheres. *Canad. J. Math.* **28** (1976), *no.* 1, 63–72. (K. Yano) **53** #3942 53C20

(*with* Liu, Jong Diing; Mittra, Sitansu S.) Integral formulas for closed submanifolds of a Riemannian manifold. *J. Differential Geometry* **12** (1977), *no* 133–151. (Y. Katsurada) **57** #1366 53C40

(*with* Liu, Jong Diing) A generalization of the rigidity theorem of Cohn-Vossen *London Math. Soc.* (2) **15** (1977), *no.* 3, 557–565. (T. J. Willmore) **58** #7510 53

(*with* Mugridge, Larry R.) Conformal invariants of submanifolds. *Proc. Ar Math. Soc.* **62** (1977), *no.* 2, 316–318. (Walter O. Vogel) **55** #6337 53C40

See also **Problems: Differential geometry, 51** #13876

Hsu, Agnes Chi Ling A characterization of the Hopf map by stretch. *Math. Z.* **129** (19 195–206. (J. G. Timourian) **47** #1076 55E25

Stretch and degree. *Tamkang J. Math.* **3** (1972), 181–190. (T. J. Willmore) **48** #1098 53C20

(*with* Timourian, J. G.) Monotone real analytic maps which are not homeomorphisms. *Proc. Amer. Math. Soc.* **51** (1975), 231–236. (M. L. Gromov) **51** #6850 57D45 (54C10)

Hsu, C. J. A note on the modularity of an atomistic upper-continuous lattice. Collec of articles dedicated to Professor Tsing Houa Teng on the occasion of his 70th birth *Tamkang J. Math.* **4** (1973), *no.* 2, 203–206. (R. J. Bumcrot) **51** #7976 06A30

A note on the decomposition of Wille incidence geometry of grade *n*. *Tôhoku M J.* (2) **25** (1973), 521–525. (O. Frink) **48** #10917 06A20 (50A20)

A version of Birkhoff-Frink's theorem in the abstract geometry. *Yokohama Mat* **22** (1974), 11–24. (O. Frink) **54** #5063 06A20

Hsu, C. S. (*with* Lee, Muo S.) On the τ-decomposition method of stability analysis retarded dynamical systems. *SIAM J. Control* **7** (1969), 242–259. (Authors' summa **55** #10805 34K20

(*with* Lee, T. H.) A stability study of continuous systems under parametric excitation via Liapunov's direct method. *Instability of continuous systems* (*IUT Sympos., Herrenalb*, 1969), *pp.* 112–118. *Springer, Berlin*, 1971. (J. L. Nowinski) **51** #14703 73.35

(*with* Lee, T. H.) Liapunov stability criteria for continuous systems under parametric excitation. *Trans. ASME Ser. E J. Appl. Mech.* **39** (1972), 244–250. (Authors' summary) **45** #1441 70.34

Impulsive parametric excitation: Theory. *Trans. ASME Ser. E. J. Appl. Mech.* (1972), 551–558. (C. Carton-Lebrun) **47** #4502 70.34

On approximating a general linear periodic system. *J. Math. Anal. Appl.* **45** (19 234–251. (H. O. Tẹjumọla) **54** #5542 34C25

(*with* Yee, H. C.; Cheng, W. H.) Determination of global regions of asympto stability for difference dynamical systems. *Trans. ASME Ser. E. J. Appl. Mech.* (1977), *no.* 1, 147–153. (Authors' summary) **56** #7390 70.39

Hsu, Chen Chi (*with* Guderley, Karl Gottfried) A predictor-corrector method for a cert class of stiff differential equations. *Math. Comp.* **26** (1972), 51–69. (T. E. H **45** #8001 65M99

★A special Galerkin method for a class of steady two-dimensional incompressi laminar boundary-layer flows. ARL 73-0167. *Aerospace Research Laboratories, Force Systems Command, United States Air Force, Wright-Patterson Air Force B Ohio; distributed by National Technical Information Services Clearinghouse, Springfi Va.*, 1973. v + 61 *pp.* (E. J. Watson) **55** #9701 76.41

A Galerkin method for a class of steady, two-dimensional, incompressible, lami boundary-layer flows. *J. Fluid Mech.* **69** (1975), *no.* 4, 783–802. (Jacques Cou **53** #2140 76.65

Hsu, Chên Jung Determination of Scherk's minimal surfaces in higher dimensional euclidean spaces. *Chinese J. Math.* **2** (1974), *no.* 1, 136–147. (Lieven Vanhec **52** #1536 53A10

On contact metric manifolds with constant holomorphic curvature. *Formosan S* **28** (1974), 11–30. (K. Yano) **50** #8363 53C15

(*with* Sasaki, Shigeo) On a property of Brieskorn manifolds. *Tôhoku Math. J.* (2) (1976), *no.* 1, 67–78. (Koichi Ogiue) **53** #1473 53C15 (57D60)

On systems of center-circles derived successively from that of Steiner-Kantor-Morley. *Soochow J. Math. Natur. Sci.* **3** (1977), 17–34. (W. R. Hei **58** #18083 50B20

Hsü, Chin Shui Functorial subgroups commuting with inverse limits. *Math. Ann.* 2 (1973), 177–186. (K. M. Rangaswamy) **48** #2277 20K40 (16A62)

A class of Abelian groups closed under direct limits and subgroups formatio

Pacific J. Math. **50** (1974), 495–503. (J. Hausen) **50** #2363 20K05

Problem 26 of L. Fuchs. *Proc. Amer. Math. Soc.* **42** (1974), 81–84. (C. Lemaire) **49** #440 20K25

u, Ching-hwang (*with* Chen, Chi Tsong) Conversion of cyclicity for transfer-function matrices. *Internat. J. Control* (1) **16** (1972), 451–463. (C. P. Tsokos) **48** #1762 93D15

u, D. F. (*with* Leahey, W. J.) The Diophantine equation $Y^4=X^3+X^2+1$. *Rocky Mountain J. Math.* **6** (1976), *no.* 1, 141–153. (E. L. Cohen) **52** #8031 10B10

u, David Y. Green's functions and transition matrices for *n*th order ordinary linear differential equations. *Tamkang J. Math.* **7** (1976), *no.* 1, 115–116. (G. B. Gustafson) **54** #3064 34A30

u, Derbiau F. (*with* Murata, Kentarō) Generalized prime elements in a compactly generated *l*-semigroup. I. *Proc. Japan Acad.* **49** (1973), 134–139. (D. C. Murdoch) **48** #10936 06A50

(*with* Murata, Kentarō) Generalized prime elements in a compactly generated *l*-semigroup. II. *Proc. Japan Acad.* **49** (1973), 310–313. (D. C. Murdoch) **49** #10620 06A50

On isolated components of elements in a compactly generated l-semigroup. *Proc. Japan Acad.* **50** (1974), 598–602. (D. C. Murdoch) **52** #221 06A50 (16A66)

On prime ideals and primary decompositions in *G*-rings. *Math. Japon.* **21** (1976), *no.* 5 *suppl.*, 455–460. (T. de W. Jooste) **55** #10531 16A66

(*with* Harary, Frank; Miller, Zevi) The bichromaticity of a lattice-graph. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 3, 354–359. (Linda Lesniak-Foster) **58** #21756 05C15

(*with* Harary, Frank; Miller, Zevi) The biparticity of a graph. *J. Graph Theory* **1** (1977), *no.* 2, 131–133. (D. H. Younger) **56** #2874 05C99

u, Feng Hsia On reachable sets. *Optimal control theory and its applications* (*Proc.* 14*th Biennial Sem. Canad. Math. Congr., Univ. Western Ontario, London, Ont.*, 1973), *Part II*, *pp.* 197–218. *Lecture Notes in Econom. and Math. Systems*, *Vol.* 106, *Springer*, *Berlin*, 1974. (From the author's introduction) **57** #5242 93B25

u, Harry T. A class of *q*-nary recurrent codes for burst-error correction. *Internat. J. Control* (1) **13** (1971), 273–287. (E. L. Cohen) **48** #10644 94A10

A class of majority decodable multiple solid burst-error correcting cyclic codes. *Internat. J. Control* (1) **13** (1971), 289–294. (E. L. Cohen) **46** #8758 94A10

A note on burst-error correcting recurrent codes. *Internat. J. Control* (1) **13** (1971), 465–472. (E. L. Cohen) **46** #10491 94A10

Some properties of cyclic codes. *Internat. J. Control* (1) **13** (1971), 473–478. (E. L. Cohen) **46** #8759 94A10

Minimum redundancy multiple burst-error-correcting cyclic codes. *Internat. J. Control* (1) **14** (1971), 669–672. (P. Deussen) **47** #10136 94A10

On the decoding of a class of shortened cyclic codes for a compound channel. *Information and Control* **22** (1973), 79–88. (E. L. Cohen) **52** #12965 94A10

(*with* Olson, John E.) Application of coding theory to the construction of the Singer difference sets. *Internat. J. Control* (1) **17** (1973), 1247–1250. (I. Gerst) **48** #8264 05B10 (94A10)

Maximum length codes and their relation with the incomplete block design. *Internat. J. Control* (1) **18** (1973), 209–215. (Derek Smith) **49** #2424 05B05 (94A10)

(*with* Olson, John E.) A note on constant weight cyclic codes. *Internat. J. Control* (1) **18** (1973), 217–220. (I. M. Chakravarti) **48** #8102 94A10

A class of shortened cyclic codes for a compound channel. *IEEE Trans. Information Theory* **IT-20** (1974), 129–131. (R. J. McEliece) **50** #16083 94A10

An algorithm for finding a minimal equivalent graph of a digraph. *J. Assoc. Comput. Mach.* **22** (1975), 11–16. (P. E. O'Neil and Sukhamay Kundu) **58** #10573 05C20 (68A10)

Isu, Hsing-yuan Distributional Watson transforms. *Canad. J. Math.* **24** (1972), 1191–1197. (L. Arteaga) **47** #2361 46F10 (44A15)

Isu, Ih Ching (*with* Bentley, H. L.) Pseudo-lattices: theory and applications. *Ark. Mat.* **8**, 259–270 (1971). (R. P. Dilworth) **45** #3260 06A20

On a converse of Young's inequality. *Proc. Amer. Math. Soc.* **33** (1972), 107–108. (J. Calvert) **45** #476 26A48

On some functional inequalities. *Aequationes Math.* **9** (1973), 129–135. (L. Losonczi) **48** #9152 39A15

(*with* Kuller, Robert G.) Convexity of vector-valued functions. *Proc. Amer. Math. Soc.* **46** (1974), 363–366. (S. Dubuc) **54** #11059 46G99 (26A51)

A fundamental functional equation for vector lattices. *Aequationes Math.* **13** (1975), *no.* 3, 275–278. (S. Kurepa) **53** #8708 39A20 (06A20)

A functional inequality and its relation to convexity of vector-valued functions. *Proc. Amer. Math. Soc.* **58** (1976), 119–123. (H. Gordon) **54** #3356 46A40 (26A51)

Hsü, In Ding Existence of periodic solutions for the Belousov-Zaikin-Zhabotinskiĭ reaction by a theorem of Hopf. *J. Differential Equations* **20** (1976), *no.* 2, 399–403. (A. Halanay) **56** #16062 34C25

(*with* Kazarinoff, Nicholas D.) An applicable Hopf bifurcation formula and instability of small periodic solutions of the Field-Noyes model. *J. Math. Anal. Appl.* **55** (1976), *no.* 1, 61–89. (H. O. Tejumola) **57** #6634 34C25 (34D05)

A higher-order Hopf bifurcation formula and its application to Fitzhugh's nerve conduction equations. *J. Math. Anal. Appl.* **60** (1977), *no.* 1, 47–57. (C. P. Bruter) **57** #10108 34C40 (58F10, 92A05)

Oscillatory phenomena for the Glass-Kauffman model of cellular dynamics. *Math. Biosci.* **34** (1977), *no.* 3-4, 221–235. (Author's summary) **58** #33085 92A05

(*with* Kazarinoff, Nicholas D.) Existence and stability of periodic solutions of a third-order non-linear autonomous system simulating immune response in animals. *Proc. Roy. Soc. Edinburgh Sect. A* **77** (1977), *no.* 1-2, 163–175. (R. F. Matlak) **58** #11629 34C05 (92A15)

Hsu, J. (*with* Burke, P. J.) Behavior of tandem buffers with geometric input and Markovian output. *IEEE Trans. Comm.* **COM-24** (1976), *no.* 3, 358–361. (Ralph L. Disney) **53** #4284 60K25 (90B15)

Hsu, J. P. (*with* Sudarshan, E. C. G.) Theory of massive and massless Yang-Mills fields. *Phys. Rev. D* (3) **9** (1974), 1678–1686. (Authors' summary) **53** #12318 81.46

New four-dimensional symmetry. *Found. Phys.* **6** (1976), *no.* 3, 317–339. (Author's summary) **58** #20213 (E **58** #25783) 83.53

Generalized local gauge symmetry and the Ward-Takahashi identities in unified field theories. *Found. Phys.* **6** (1976), *no.* 6, 707–716. (S. Deser) **54** #12059 81.53

(*with* Chiang, Chin Long) On multiple transition time in a simple illness death process—a Fix-Neyman model. *Math. Biosci.* **31** (1976), *no.* 1-2, 55–71. (Authors' summary) **58** #31472 60K99 (62P05)

(*with* Chiang, Chin Long) An alternating renewal process with an absorbing state. *Applications of statistics* (*Proc. Sympos., Wright State Univ., Dayton, Ohio*, 1976), *pp.* 109–121. *North-Holland, Amsterdam*, 1977. (Jacques Janssen) **58** #18760 60K05 (60K15)

Exact magnetic monopole solutions in Yang-Mills and unified gauge theories. *Found. Phys.* **7** (1977), *no.* 11-12, 801–812. (Author's summary) **56** #7651 81.55

Erratum and addendum: "New four-dimensional symmetry" (Found. Phys. **6** (1976), no. 3, 317–339). *Found. Phys.* **7** (1977), *no.* 11-12, 953–954. (Editors) **58** #25783 83.53

Finite confinement potential and relativistic field theories. *Lett. Nuovo Cimento* (2) **19** (1977), *no.* 17, 655–659. (From the author's text) **56** #4481 81.35

Hsu, Jiunn (*with* Kleinrock, Leonard; Muntz, Richard R.) Tight bounds on the average response time for time-shared computer systems. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems*, *pp.* 124–133. *North-Holland, Amsterdam*, 1972. (Masafumi Sasaki) **53** #10252 90B35 (68A99)

Hsu, Kuang Yau On elliptic curves related to modular form. *Formosan Sci.* **29** (1975), *no.* 1, 13–18. (Editors) **53** #10716 10D05 (14K15)

On *L*-series of a formal group. *Tamkang J. Math.* **6** (1975), 1–4. (J. Dieudonné) **55** #2932 14L05

On decomposition of certain formal groups. *Tamkang J. Math.* **6** (1975), 69–78. (J. Dieudonné) **55** #2931 14L05

On *L*-functions of modular curves. *Tamkang J. Math.* **7** (1976), *no.* 2, 207–218. (From the author's introduction) **57** #5906 10D15 (12A70, 14K15)

Hsü, Kung Ou The generator coordinate method and nuclear collective motions. *Sci. Sinica* **17** (1974), *no.* 5, 639–655. (C. J. Eliezer) **56** #4541 81.49

Hsu, L. C. *See* **Xu, Li Zhi**

Hsu, L. S. Fixed angular momenum and isospin sum-rules for coefficients of fractional parentage. *Nanyang Univ. J. Part I* **4** (1970), 76–101. (Author's summary) **45** #6290 81.22

Hsu, Liu (*with* Stewart, Neil-Frederick; Bernussou, Jacques) Sur une majoration de l'erreur faite par traitement numérique de transformations ponctuelles conservatives du second ordre. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A545–A548. (C. Ilioi) **46** #4761 65Q05

Sur un cas critique à multiplicateurs unitaires, pour une récurrence autonome ou une transformation ponctuelle, du deuxième ordre à variables réelles. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A671–A674. (J. Kaplan) **46** #2160 34C35

(*with* Bernussou, Jacques) Analysis of conservative systems by approximating area-preserving point mapping. *J. Franklin Inst.* **299** (1975), 151–170. (Michel Cotsaftis) **55** #3430 34C35 (58F10)

(*with* Bernussou, Jacques) Sur l'obtention de transformations entières crémoniennes osculatrices à une transformation ponctuelle analytique conservant les aires. With discussion. *Transformations ponctuelles et leurs applications* (*Colloq. Internat. CNRS, No.* 229, *Toulouse*, 1973), *pp.* 93–105, 138. *Éditions Centre Nat. Recherche Sci., Paris*, 1976. (Q. K. Ghori) **58** #3815 70.34

(*with* Bernussou, Jacques) Numerical study of periodic Hamiltonian systems by means of associated point mappings. *Quart. Appl. Math.* **34** (1976/77), *no.* 2, 149–171. (R. Barrar) **56** #10264 70.65

Sur l'obtention d'une transformation ponctuelle associée à un système d'équations différentielles à coefficients périodiques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 13, A779–A781. (Author's summary) **55** #6874 65L99

See also **Bernussou, Jacques**, **58** #1412

Hsu, M. B. (*with* Yeung, S. F.) A mesh generation method based on set theory. *Computers & Structures* **3** (1973), 1063–1077. (P. P. Teodorescu) **48** #3265 65N05

Hsu, N. C. Inner automorphisms and semistable automorphisms of some split group extensions. *Kyungpook Math. J.* **12** (1972), 263–266. (L. R. Vermani) **51** #10483 20F55

Quasi-homology and universal coefficients. *Glasgow Math. J.* **15** (1974), 30–38. (J. L. Palmquist) **51** #654 18H15

Hsu, Pao Sheng An application of compactifications: some theorems on maximal ideals. *Ann. Mat. Pura Appl.* (4) **112** (1977), 107–118. (S. Warner) **56** #6604 54D35 (54C40)

(*with* Bachman, George) Extension of lattice continuous maps to generalized Wallman spaces. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **62** (1977), *no.* 2, 107–114. (Paul Bankston) **57** #13855 54D35

Hsu, S. B. (*with* Hubbell, S.; Waltman, Paul) A mathematical theory for single-nutrient competition in continuous cultures of micro-organisms. *SIAM J. Appl. Math.* **32** (1977), *no.* 2, 366–383. (M. W. Green) **55** #7458 92A05

On global stability of a predator-prey system. *Math. Biosci.* **39** (1978), *no.* 1–2, 1–10. (J. M. Skowroński) **57** #11837 92A15 (93D99)

Limiting behavior for competing species. *SIAM J. Appl. Math.* **34** (1978), *no.* 4, 760–763. (Author's summary) **58** #4450 92A15

Hsü, Shih Hsiung Some iterated logarithm results for sums of independent two-dimensional random variables. *Ann. Probability* **2** (1974), 1139–1151. (W. Vervaat) **50** #11406 60F15

On the subspaces of L^0 spanned by sequences of independent random variables. *Bull. Inst. Math. Acad. Sinica* **6** (1978), *no.* 1, 151–157. (Gilles Pisier) **58** #13343 60G99 (60F99)

Hsu, Tong An Sufficiency in the coherent case. *Tamkang J. Math.* **7** (1976), *no.* 1, 27–30. (Daniel Solomon) **55** #1553 62B20

Hsu, Y. C. (*with* Ju, Frederick D.; Wang, W. J.) A couple-stresses elastic solution of an infinite tension plate bounded by an elliptical hole. *J. Math. Anal. Appl.* **40** (1972), 708–722. (S. Drobot) **48** #1568 73.35

Hsuan, A. (*with* Robson, D. S.) The χ^2-goodness-of-fit tests with moment type estimators. *Comm. Statist.—Theory Methods* **A5** (1976), *no.* 15, 1509–1519. (M. M. Siddiqui) **56** #1555 62F10 (62G10)

Hsuan, H. C. S. (*with* Lonngren, Karl E.; Ames, William F.) Self-similar behavior of plasma fluid equations. *J. Engrg. Math.* **8** (1974), 303–309. (R. R. Gold) **50** #15565 76.35

(*with* Lonngren, Karl E.; Malik, Norbert R.; Shen, Hayley) Self-similar solution of distributed linear and nonlinear networks. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), *no.* 11, 882–886. (Clarence M. Ablow) **52** #16289 78.35

(*with* Lonngren, Karl E.; Ames, William F.) On the soliton, invariant, and shock solutions of a fourth-order nonlinear equation. *J. Math. Anal. Appl.* **52** (1975), *no.* 3, 538–545. (Ll. G. Chambers) **53** #12223 78.35

Hu, B. Galilean structure of the Poincaré group on the light-cone. (Italian and Russian summaries) *Nuovo Cimento A* (11) **11** (1972), 937–942. (Virendra Singh) **48** #5528 81.22

Hu, B. L. Separation of tensor equations in a homogeneous space by group theoretical methods. *J. Mathematical Phys.* **15** (1974), 1748–1755. (Helmuth K. Urbantke) **54** #12106 83.22

(*with* Fulling, Stephen A.; Parker, Leonard) Conformal energy-momentum tensor in curved spacetime: adiabatic regularization and renormalization. *Phys. Rev. D* (3) **10** (1974), 3905–3924; *erratum, ibid.* (3) **11** (1975), 1714. (Authors' summary) **53** #12469 83.53

Gravitational waves in a Bianchi type-I universe. *Phys. Rev. D* (3) **18** (1978), *no.* 4, 969–982. (From the summary) **58** #14928 83.53

Hu, Chia Lun J. (*with* Barnes, Frank S.) Model for some nonthermal effects of radio and microwave fields on biological membranes. *IEEE Trans. Microwave Theory Tech.* **MTT-25** (1977), *no.* 9, 742–746. (Alwyn C. Scott) **56** #14808 92A05

Hu, He Sheng (*with* Gu, Chao Hao) Spherically symmetric SU_2 gauge fields and monopoles. (Chinese. English summary) *Acta Phys. Sinica* **26** (1977), *no.* 2, 155–168. (Authors' summary) **58** #32501 81.22 (22E70)

Hu, Hung Tzaw (*with* Sigmon, Kermit) Continuously factorable groupoids. *Semigroup Forum* **12** (1976), *no.* 3, 251–264. (Anne L. Hudson) **54** #454 22A15

Hu, J. J. (*with* Messiter, Arthur F.) Laminar boundary layer at a discontinuity in wall curvature. *Quart. Appl. Math.* **33** (1975/76), 175–181. (Authors' summary) **56** #4403 76.41

Hu, Mên Ch'ang Conical distributions for rank one symmetric spaces. *Bull. Amer. Math. Soc.* **81** (1975), 98–100. (P. C. Trombi) **51** #6297 43A85

(*with* Wang, Ju Kwei) Polynomial spaces generated by linear substitution. *Chinese J. Math.* **4** (1976), *no.* 2, 63–69. (Dennis Stanton) **58** #11551 33A45

(*with* Chang, Chên Hua; Li, Kuo Wei; Hsieh, Ts'ung Chih) Exact difference triangles. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 1, 191–197. (H. Levinson) **58** #10483 05A99

Hu, Ming Hung (*with* Shiue, Jau Shyong) Some remarks on the uniform distribution of a linear recurrence of the second order. Collection of articles dedicated to Professor Tsing Houa Teng on the occasion of his 70th birthday. *Tamkang J. Math.* **4** (1973), *no.* 2, 101–103. (Calvin T. Long) **49** #10631 10A35 (10F40)

Hu, Ming Kuei (*with* Iosupovicz, Alexander) Analysis of the terminal behavior of some classes of iterative arrays of linear machines. *IEEE Trans. Computers* **C-21** (1972), 1394–1399. (J. C. Muzio) **50** #4148 94A25

(*with* Chen, Kuo An) A finite state probabilistic automaton that accepts a context sensitive language that is not context free. *Information and Control* **35** (1977), *no.* 3, 196–208. (K. S. Fu) **56** #10161 68A30 (94A35)

Hu, Ning The positive definite property of the energy density in gravitational fields. *Sci. Sinica* **20** (1977), *no.* 3, 335–344. (Steve Kloster) **58** #14929 83.53

Hu, Sheng Cheng Optimal capital accumulation and regional allocation. *Metroecon.* **23** (1971), 16–34. (Michael D. Intriligator) **52** #2531 90A10

On optimal capital accumulation in a two class model of economic growth. *Metroecon.* **25** (1973), 229–249. (G. Tintner) **50** #3888 90A10

Hu, Sung C. A ternary algebra for probability computation of digital circuits. *Proceedings of the* 1975 *International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.*, 1975), *pp.* 280–289. *IEEE Comput. Soc., Long Beach, Calif.*, 1975. (Author's summary) **58** #9844 94A20

Hu, T. C. On the asymptotic integer algorithm. *Integer and nonlinear programming*, *pp.* 381–383. *North-Holland, Amsterdam*, 1970. (Editors) **55** #9966 90C10

On the asymptotic integer algorithm. *Linear Algebra and Appl.* **3** (1970), 279–294. (Csaba Fabian) **46** #3076 90C10

(*with* Tucker, Alan C.) Optimal computer search trees and variable-length alphabetical codes. *SIAM J. Appl. Math.* **21** (1971), 514–532. (M. A. Harrison) **46** #3198 94A10

(*with* Tan, K. C.) Path length of binary search trees. *SIAM J. Appl. Math.* **22** (1972), 225–234. (E. M. Reingold) **46** #3355 05C05

Some results and problems in binary trees. *Combinatorial algorithms* (*Courant Comput. Sci. Sympos.* 9, *New York Univ., New York*, 1972), *pp.* 11–15. *Algorithmics Press, New York*, 1973. (M. Aigner) **51** #222 05C05

A new proof of the T-*C* algorithm. *Transactions of the Nineteenth Conference of Army Mathematicians* (*U.S. Army Training Device Agency, Naval Training Equipment Center, Orlando, Fla.*, 1973), *pp.* 973–1002. *U.S. Army Research Office* (*Durham*), *Report No.* 73-3, *U.S. Army Research Office* (*Durham*), *Durham, N.C.*, 1973. (Editors) **51** #2336 68A10 (94A20)

Two-commodity cut-packing problem. *Math. Programming* **4** (1973), 108–109. (From the author's introduction) **55** #12057 90C05 (90B10)

A new proof of the T-C algorithm. *SIAM J. Appl. Math.* **25** (1973), 83–94. (Ivan Havel) **48** #1506 68A10 (94A20)

(*with* Adolphson, D.) Optimal linear ordering. Collection of articles dedicated to William Prager on the occasion of his seventieth birthday. *SIAM J. Appl. Math.* **25** (1973), 403–423. (Kenji Onaga) **49** #10349 90B35 (05A05)

★Целочисленное программирование и потоки в сетях. (Russian) [Integer programming and network flows] Edited by A. A. Fridman. Translated from the English by P. L. Buzyckiĭ, E. V. Levner and B. G. Litvak. *Izdat. "Mir", Moscow*, 1974. 519 *pp.* (Editors) **50** #3935 90C10 (90B10)

(*with* Gomory, Ralph E.; Yohe, J. M.) *R*-separating sets. *Canad. J. Math.* **26** (1974), 1418 1429. (J. J. Charatonik) **50** #11238 57A05 (90B10)

Optimum communication spanning trees. *SIAM J. Comput.* **3** (1974), 188–195. (W.-K. Chen) **55** #152 05C05 (94A20)

(*with* Gomory, Ralph E.) Multi-terminal flows in a network. *Studies in g theory, Part I*, *pp.* 172–199. *Studies in Math., Vol.* 11, *Math. Assoc. Amer., Washin D.C.*, 1975. (Editors) **52** #16568 90B10

(*with* Koutas, P. J.) Shortest string containing all permutations. *Discrete Mat* (1975), 125–132. (G. F. Clements) **50** #12740 05A05

(*with* Tien, B. N.) Generating permutations with nondistinct items. *Amer. M Monthly* **83** (1976), *no.* 8, 629–631. (Roger C. Grimson) **55** #2595 05A99

(*with* Lenard, Melanie L.) Optimality of a heuristic solution for a class of knap problems. *Operations Res.* **24** (1976), *no.* 1, 193–196. (M. M. Sysło) **54** #96 90C10 (68A20)

(*with* Blewett, W. J.) Tree decomposition algorithm for large networks. *Networ* (1977), *no.* 4, 289–296. (Jonathan Halpern) **57** #5437 94A20 (90B10)

(*with* Tien, B. N.) Error bounds and the applicability of the greedy solution to coin-changing problem. *Operations Res.* **25** (1977), *no.* 3, 404–418. (Leon Coo **56** #2412 90C50 (90C10)

(*with* Ruskey, F.) Generating binary trees lexicographically. *SIAM J. Comp* (1977), *no.* 4, 745–758. (Fabrizio Luccio) **57** #18212 68A10 (68A50)

See also **Mathematical programming**, **50** #9347

Hu, Tah Kai On the topological duality for primal algebra theory. *Algebra Universa* (1971/72), 152–154. (M. Gould) **45** #3291 08A25

Characterization of algebraic functions in equational classes generated by independent primal algebras. *Algebra Universalis* **1** (1971/72), 187–191. (G. Grät **45** #5061 08A25

(*with* Kelenson, Philip) Independence and direct factorization of universal algeb *Math. Nachr.* **51** (1971), 83–99. (G. Grätzer) **48** #3843 08A25

Locally equational classes of universal algebras. *Chinese J. Math.* **1** (1973), *no* 143–165. (Alden Pixley) **52** #234 08A15

Hu, Thakyin Common fixed point theorem for non-Lipschitzian non-linear operators Banach space. *Tamkang J. Math.* **8** (1977), *no.* 2, 239–243. (K. Goebel) **58** #3054 47H10

(*with* Kirk, William A.) Local contractions in metric spaces. *Proc. Amer. M Soc.* **68** (1978), *no.* 1, 121–124. (Harold Bell) **57** #4115 54E40 (54H25)

Hu, Wen Rui Properties of galactic shock waves in density wave theory. (Chinese) *Ke Tongbao* **22** (1977), *no.* 2, 79–83. (Kotik K. Lee) **58** #9095 85.35

On the frozen force-free magnetic field. *Sci. Sinica* **20** (1977), *no.* 2, 158–176. (L Oster) **57** #14922 78.35

The influence of co-rotation singularity on density-wave in disk galaxies. *Sci. Sin* **20** (1977), *no.* 3, 325–334. (Giulio Mattei) **58** #20263 85.35

Hua, Luo Geng (*with* Wang, Yuan) On uniform distribution and numerical analysis Number-theoretic method. *Sci. Sinica* **16** (1973), 483–505. (M. Mendès France) **55** #12675a 10K05 (65C10, 65D30)

(*with* Wang, Yuan) On uniform distribution and numerical analysis. Number-theoretic method. II, III. *Sci. Sinica* **17** (1974), *no.* 3, 331–348; *ibid.* **18** (19 *no.* 2, 184–198. (M. Mendès France) **55** #12675b 10K05 (65C10, 65D30)

★Cong danwei yuan tanqi. (Chinese) [Starting from the unit circle] *Kexue Chubanshe* (*Science Press*), *Peking*, 1977. iii+200 *pp.* (M. K. F. Wong) **58** #2824 22-01 (43A80, 81.22)

(*with* Wang, Yuan) A note on simultaneous diophantine approximations to algebraic integers. *Sci. Sinica* **20** (1977), *no.* 5, 563–567. (W. W. Adams) **56** #11911 10F10

See also **Salaff, Stephen**, **58** #21323

Hua, Tsushung A. (*with* Owen, Donald B.) Tables of confidence limits on the tail area the normal distribution. *Comm. Statist. B—Simulation Comput.* **6** (1977), *no.* 3, 285–311. (Authors' summary) **58** #24825 62Q05

Hua, Yang A decomposition of the Fourier transform on the space of 2×2 Hermit matrices. *Bull. Inst. Math. Acad. Sinica* **4** (1976), *no.* 2, 263–272. (Kenneth I. Gro **57** #10367 43A30 (22E30, 33A75)

On a degenerate principal series of representations of U(2, 2). *Trans. Amer. Ma Soc.* **238** (1978), 229–252. (J. Szmidt) **57** #6297 22E45 (43A30)

Huang, C. (*with* Reiss, H.) Transmission time and bandwidth in pulse code modulati (Application of the statistical thermodynamic formalism). *J. Statist. Phys.* **3** (197 261–289. (I. Vajda) **45** #9784 94A10

Huang, C. C. (*with* Wehrung, Donald A.; Ziemba, William T.) A homogeneous distribution problem with applications to finance. *Management Sci.* **23** (1976/77), *no.* 297–304. (Authors' summary) **56** #2393 90C30

(*with* Brumelle, Shelby L.; Sawaki, K.; Vertinsky, I.) Optimal control for multi-servers queueing systems under periodic review. *Naval Res. Logist. Quart.* (1977), *no.* 1, 127–135. (Micha Yadin) **58** #13399 60K25

(*with* Vertinsky, I.; Ziemba, William T.) Sharp bounds on the value of perfe information. *Operations Res.* **25** (1977), *no.* 1, 128–139. (C. Harvey) **56** #2379 90C15

(*with* Ziemba, William T.; Ben-Tal, Aharon) Bounds on the expectation of convex function of a random variable: with applications to stochastic programming *Operations Res.* **25** (1977), *no.* 2, 315–325. (E. A. Nurminskiĭ) **56** #2380 90C15

Huang, C. L. Laminar non-Newtonian fluid flow in a porous annulus. *J. Math. Anal. App* **59** (1977), *no.* 1, 130–144. (J. N. Kapur) **56** #14089 76.41

Huang, C. P. (*with* Eberlein, Patricia J.) Global convergence of the QR algorithm f unitary matrices with some results for normal matrices. *SIAM J. Numer. Anal.* 1 (1975), 97–104. (Authors' summary) **50** #8948 65F30

A Jacobi-type method for triangularizing an arbitrary matrix. *SIAM J. Nume Anal.* **12** (1975), *no.* 4, 566–670. (Author's summary) **52** #2171 65F30

Computing powers of arbitrary Hessenberg matrices. *Linear Algebra Appl.* 2 (1978), *no.* 2, 123–134. (R. P. Brent) **58** #13664 65F30

Huang, Charlotte (*with* Rosa, Alexander) Complete classification of solutions to the problem of 9 prisoners. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont.*, 1971), *pp.* 553–562. *Lakehead Univ., Thunder Bay, Ont.*, 1971. (Pavol Hell) **49** #92 05B30

(*with* Rosa, Alexander) On sets of orthogonal Hamiltonian circuits. *Proceedings o the Second Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg* an., 1972), *pp*. 327–332. *Congressus Numerantium, No. VII, Utilitas Math., Winnipeg, an.*, 1973. (Michael S. Martin) **50** #6920 05C35

(*with* Rosa, Alexander) On the existence of balanced bipartite designs. *Utilitas ath*. **4** (1973), 55–75. (Pavol Hell) **48** #10861 05B30

On the existence of balanced bipartite designs. II. *Discrete Math*. **9** (1974), 147–159. avol Hell) **50** #148 05B30

(*with* Rosa, Alexander) Another class of balanced graph designs: balanced circuit esigns. *Discrete Math*. **12** (1975), 269–293. (Pavol Hell) **54** #7292 05B30

Resolvable balanced bipartite designs. *Discrete Math*. **14** (1976), *no*. 4, 319–335. Renu Laskar) **53** #2706 05B05

Balanced bipartite weighing designs. *J. Combinatorial Theory Ser. A* **21** (1976), *no*. 20–34. (Sanpei Kageyama) **53** #7806 05B05

Balanced graph designs on small graphs. *Utilitas Math*. **10** (1976), 77–108. (A. osa) **55** #5466 05B30

g, Cheng Chi (*with* Isaacson, Dean) Ergodicity using mean visit times. *J. London ath. Soc*. (2) **14** (1976), *no*. 3, 570–576. (Martin Jacobsen) **55** #6574 60J10

(*with* Isaacson, Dean; Vinograde, Bernard) The rate of convergence of certain onhomogeneous Markov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** 1976), *no*. 2, 141–146. (Serban Grigorescu) **53** #11757 60J10

g, Cheng Sheng (*with* Wu, Alfred C. T.) Structure of the combinatorial generalization f hypergeometric functions for SU(n) states. II. *J. Mathematical Phys*. **14** (1973), 63–266. (S. Newberger) **48** #10348 81.33

(*with* Wu, Alfred C. T.) Structure of the $12j$ and $15j$ coefficients in the Bargmann pproach. *J. Mathematical Phys*. **15** (1974), 1490–1493. (Philip H. Butler) **50** #1657 1.22

g, Chi Lung (*with* Smith, G. F.) A canonical form for symmetric functions of three ectors. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci*. **11** 1973), *no*. 4, 405–408. (J. P. Boehler) **57** #8235 69.00 (15A72)

A direct method for solving nonlinear eigenvalue problems. *Computational methods n nonlinear mechanics* (*Proc. Internat. Conf., Austin, Tex.*, 1974), *pp*. 47–55. *Texas Inst. omput. Mech., Austin, Tex.*, 1974. (David R. Hill) **53** #4556 65L15

g, Chih P'ing (*with* Shiue, Jau Shyong) A complete residue system in the integral uaternions. *Soochow J. Math. Natur. Sci*. **3** (1977), 77–82. (K. Nageswara Rao) **58** #5477 10A10 (12A20)

(*with* Shiue, Jau Shyong) Complete residue systems in the ring of matrices of rational integers. *Internat. J. Math. Math. Sci*. **1** (1978), *no*. 2, 217–225. (Jack Sonn) **58** #617 12F05

g, Chün Hsiung (*with* Hannan, James) A stability of symmetrization of product measures with few distinct factors. *Ann. Math. Statist*. **43** (1972), 308–319. (E. S. Boylan) **46** #4573 60A10

(*with* Yang, Mark C. K.) The effect of correlated defective inspection scheme for process control. *J. Nat. Chiao Tung Univ*. **3** (1977), 67–75. (K. Sarkádi) **58** #8111 62N10

ng, Cliff J. Bias in routine calculation of the variance of OLS estimators when the disturbances are autocorrelated. *Amer. Statist*. **30** (1976), *no*. 2, 70–72. (Andrew Harvey) **56** #7028 62J05

ng, Deng Yuan A note on generalized unique extension of measures. *J. Austral. Math. Soc*. **14** (1972), 59–61. (E. O. Elliott) **47** #3627 28A10

On some characterizations of semifinite measures. *Tamkang J. Math*. **3** (1972), 133–138. (T. P. Srinivasan) **48** #8729 28A10

(*with* Gupta, Shanti S.) Nonparametric subset selection procedures for the t best populations. Collection of articles in celebration of the sixtieth birthday of Ky Fan. *Bull. Inst. Math. Acad. Sinica* **2** (1974), 377–386. (V. Kurotschka) **51** #14364 62F07 (62G10)

(*with* Gupta, Shanti S.) On subset selection procedures for Poisson populations and some applications to the multinomial selection problems. *Applied statistics* (*Proc. Conf., Dalhousie Univ., Halifax, N.S.*, 1974), *pp*. 97–109. *North-Holland, Amsterdam*, 1975. (Eve Bofinger) **52** #12179 62F07

(*with* Gupta, Shanti S.) On some parametric and nonparametric sequential subset selection procedures. *Statistical inference and related topics* (*Proc. Summer Res. Inst. Statist. Inference for Stochastic Processes, Indiana Univ., Bloomington, Ind.*, 1974, *Vol*. 2; *dedicated to Z. W. Birnbaum*), *pp*. 101–128. *Academic Press, New York*, 1975. (Jan C. Geertsema) **53** #9541 62L10 (62F07)

(*with* Gupta, Shanti S.) On Γ-minimax classification procedures. (French summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. Inst. Internat. Statist*. **46** (1975), *no*. 3, 330–335 (1976). (Daniel Solomon) **57** #17954 62H30 (62C99)

(*with* Carroll, Raymond J.; Gupta, Shanti S.) Selection procedures for the t best populations. *Comm. Statist*. **4** (1975), *no*. 11, 987–1008. (G. C. McDonald) **54** #3919 62F07

A note on an efficiency of the Bechhofer-Kiefer-Sobel sequential selection procedure. *Bull. Inst. Math. Acad. Sinica* **4** (1976), *no*. 2, 249–252. (Yung L. Tong) **57** #10944 62L10 (62F07)

(*with* Panchapakesan, S.) A modified subset selection formulation with special reference to one-way and two-way layout experiments. *Comm. Statist.–Theory Methods* **A5** (1976), *no*. 7, 621–633. (G. C. McDonald) **53** #14760 62F07

On some selection procedures for normal means problems with unequal sample sizes. *Comm. Statist.—Theory Methods* **A5** (1976), *no*. 15, 1489–1499. (Ashok Singh) **56** #1551 62F07

(*with* Gupta, Shanti S.) On subset selection procedures for the entropy function associated with the binomial populations. *Sankhyā Ser. A* **38** (1976), *no*. 2, 153–173. (Joseph A. Yahav) **57** #14230 62F07

(*with* Gupta, Shanti S.) Subset selection procedures for the means and variances of normal populations: unequal sample sizes case. *Sankhyā Ser. B* **38** (1976), *no*. 2, 112–128. (Thomas J. Santner) **57** #17920 62F07

(*with* Gupta, Shanti S.) On some G-minimax selection and multiple comparison procedures. *Statistical decision theory and related topics, II* (*Proc. Sympos., Purdue Univ., Lafayette, Ind.*, 1976), *pp*. 139–155. *Academic Press, New York*, 1977. (Thomas J. Santner) **55** #9373 62F07 (62C99)

(*with* Gupta, Shanti S.) On some optimal sampling procedures for selection problems. *The theory and applications of reliability, with emphasis on Bayesian and nonparametric methods, Vol. I* (*Conf., Univ. South Florida, Tampa, Fla.*, 1975), *pp*. 495–505. *Academic Press, New York*, 1977. (Thomas J. Santner) **56** #16884 62F07

See also **Special issue: Selection and ranking**, **57** #14232

Huang, Fa Lun Linearizing principles of asymptotic stability for nonlinear differential equations. (Chinese) *Acta Math. Sinica* **20** (1977), *no*. 4, 291–293. **58** #28890 34D05

The problem of existence and continuous dependence of solutions of a nonlinear Volterra integral equation. (Chinese) *Kexue Tongbao* **22** (1977), *no*. 3, 121–124, 137. (Editors) **58** #29899 45D05

Huang, Falin (*with* Chang, Shih Sheng) On common fixed points of mappings. (Chinese) *Kexue Tongbao* **21** (1976), *no*. 6, 272–275. (Chi-Song Wong) **55** #8893 47H10

Huang, H. W. (*with* Aharonov, Yakir; Lerner, E. C.; Knight, J. M.) Oscillator phase states, thermal equilibrium and group representations. *J. Mathematical Phys*. **14** (1973), 746–756. (H. Wakita) **48** #10332 81.22

Huang, H. Y. (*with* Naqvi, S.) Unconstrained approach to the extremization of constrained functions. *J. Math. Anal. Appl*. **39** (1972), 360–374. (Gerard G. L. Meyer) **47** #2822 65K05

(*with* Naqvi, S.) Extremization of terminally constrained control problems. *J. Astronaut. Sci*. **20** (1973), 193–222. (D. F. Lawden) **49** #1291 49D10

(*with* Esterle, A.) Anchoring conditions for the sequential gradient-restoration algorithm and the modified quasilinearization algorithm for optimal control problems with bounded state. *J. Optimization Theory Appl*. **12** (1973), 471–484. (Kailash C. Kapur) **50** #11777 65K05 (93C10)

Method of dual matrices for function minimization. *J. Optimization Theory Appl*. **13** (1974), 519–537. (B. T. Poljak) **51** #7286 65K05

A direct method for the general solution of a system of linear equations. *J. Optimization Theory Appl*. **16** (1975), *no*. 5-6, 429–445. (Claude Carasso) **53** #4509 65F20

(*with* Aggarwal, A. K.) A class of quadratically convergent algorithms for constrained function minimization. *J. Optimization Theory Appl*. **16** (1975), *no*. 5-6, 447–485. (Werner Krabs) **52** #16018 65K05

Huang, Han Shui Rings of quotients in ring extensions with central basis. *Chinese J. Math*. **4** (1976), *no*. 1, 9–24. (W. D. Burgess) **54** #7516 16A08

On the (G, σ) tensor products of free modules. *Chinese J. Math*. **4** (1976), *no*. 2, 71–80. (John D. Leadley) **57** #9684 13C10 (15A72)

Huang, Hsien Lu A generalized-Jordan-form-approach one-step irreducible realization of matrices. *IEEE Trans. Automatic Control* **AC-19** (1974), 271–272. (Yik-Hoi Au-Yeung) **53** #8093 15A21 (93B20)

Huang, J. C. A note on information organization and storage. *Comm. ACM* **16** (1973), 406–410. (Author's summary) **55** #13900 68A50

A formal basis for program analysis. *Computing systems* 1975 (*Proc. Fourth Texas Conf., Univ. Texas, Austin, Tex.*, 1975), *Paper No. 4B*-3, 5 *pp. Univ. Texas, Austin, Tex.*, 1975. (V. N. Agafonov) **56** #7296 68A05

A method for program analysis and its applications to program-correctness problems. *Internat. J. Comput. Math*. **5** (1975/76), *no*. 3, 203–227. (V. Căzănescu) **53** #14965 68A05

Huang, J. S. *See* **Huang, Chün Hsiung**

Huang, Jin-sheng (*with* Hannan, James) Equivariant procedures in the compound decision problem with finite state component problem. *Ann. Math. Statist*. **43** (1972), 102–112. (J. J. Deely) **47** #7843 62C25

A note on Robbins' compound decision procedure. *Ann. Math. Statist*. **43** (1972), 348–350. (Author's summary) **45** #7870 62C25

On a theorem of Ahsanullah and Rahman. *J. Appl. Probability* **11** (1974), 216–218. (A. P. Basu) **50** #15059 62E10

Characterizations of the exponential distribution by order statistics. *J. Appl. Probability* **11** (1974), 605–608. (Ramesh C. Gupta) **52** #1968 62E10

Characterization of distributions by the expected values of the order statistics. *Ann. Inst. Statist. Math*. **27** (1975), 87–93. (Barry C. Arnold) **51** #14340 62E10 (62G30)

A note on order statistics from Pareto distribution. *Scand. Actuar. J*. **1975**, *no*. 3, 187–190. (D. G. Kabe) **52** #7005 62G30

(*with* Gilliland, Dennis C.; Hannan, James) Asymptotic solutions to the two state component compound decision problem, Bayes versus diffuse priors on proportions. *Ann. Statist*. **4** (1976), *no*. 6, 1101–1112. (V. Susarla) **56** #6952 62C25

(*with* Raktoe, B. L.) A note on the proportion of singular (0, 1)-matrices in a class associated with fractional 2^n factorial designs. *J. Combinatorial Theory Ser. A* **22** (1977), *no*. 2, 231–234. (Mikhail Deza) **55** #2611 05B20

Huang, John W. (*with* Wing, Omar) A parallel triangulation process for sparse matrices. *Proceedings of the* 1977 *International Conference on Parallel Processing* (*Wayne State Univ., Detroit, Mich.*, 1977), *pp*. 207–214. *Inst. Elect. Electron. Engrs., New York*, 1977. (Authors' summary) **58** #32045 68A10 (65F05)

Huang, Jun S. *See* **Huang, Chün Hsiung**

Huang, Justin C. (*with* Hormozdiari, Iraj; DeFacio, Brian) On the Green's functions for the Bethe-Salpeter equation. II. *J. Mathematical Phys*. **14** (1973), 563–568. (L. Finkelstein) **48** #10357 81.45

(*with* Hormozdiari, Iraj) Requirements for scattering solutions and the causal Green's function of the Bethe-Salpeter equation. *Phys. Rev. D* (3) **9** (1974), 2285–2290. (Authors' summary) **53** #12307 81.45

Huang, Kerson (*with* Stump, Daniel R.) Mixing of internal and space-time symmetries. *Phys. Rev. Lett*. **37** (1976), *no*. 9, 545–548. (S. Deser) **53** #15209 81.53

Huang, Kuo An Discrete time common control delay queuing system. *J. Nat. Chiao Tung Univ*. **1** (1976), 19–39. (Brian Conolly) **55** #1527 60K25 (90B35)

Huang, Lily C. A nonsimple conjoint measurement model. *J. Mathematical Psychology* **12** (1975), *no*. 4, 437–448. (Author's summary) **57** #18888 92A25

Huang, N. C. *See* **Collection: Prager, William**, **50** #3723

Huang, Nai Chien Minimum-volume design of elastic trusses with deflection constraints. (German summary) *Z. Angew. Math. Phys*. **26** (1975), *no*. 4, 437–452. (V. Komkov) **52** #2357 73.49

Huang, Nancy M. (*with* Cline, Randall E.) Inversion of persymmetric matrices having Toeplitz inverses. *J. Assoc. Comput. Mach*. **19** (1972), 437–444. (D. H. McLain) **47** #1260 65F05 (15A09)

Huang, S. C. *See* **Huang, Sheng-chao**

Huang, Samuel (*with* Tamari, Dov) Problems of associativity: A simple proof for the lattice property of systems ordered by a semi-associative law. *J. Combinatorial Theory Ser. A* **13** (1972), 7–13. (K. A. Baker) **46** #5191 06A20

Huang, Sheng-chao A constructive approach to the maximum principle for differential-difference problems using Balakrishnan's ε-technique. *J. Optimization Theory Appl.* **5** (1970), 39–51. (H. T. Banks) **52** #1473 49B35

Note on the mean-square strategy for vector-valued objective functions. *J. Optimization Theory Appl.* **9** (1972), 364–366. (J. Fichefet) **45** #9675 90C99

Optimal control problems with a system of integral equations and restricted phase coordinates. *SIAM J. Control* **10** (1972), 14–36. (A. Halanay) **46** #8009 49B35

Huang, Su Shu A hypothetical four-body problem and its application. *Vistas in astronomy, Vol.* 10, *pp.* 113–124. *Pergamon, Oxford*, 1968. (Not reviewed) 70.34

Huang, T. (*with* Fu, King Sun) On stochastic context-free languages. *Information Sci.* **3** (1971), 201–224. (B. Brainerd) **46** #8478 68A30

(*with* Fu, King Sun) Stochastic syntactic analysis for programmed grammars and syntactic pattern recognition. *Comput. Graphics and Image Processing* **1** (1972), *no.* 3, 257–283. (Rani Siromoney) **52** #9710 68A45 (68A30)

(*with* Fu, King Sun) Stochastic grammars and languages. *Internat. J. Comput. Information Sci.* **1** (1972), 135–170. (Rani Siromoney) **52** #9696 68A30

Huang, T. C. (*with* Lin, P. M.; Leon, Benjamin J.) A new algorithm for symbolic system reliability analysis. *IEEE Trans. Reliab.* **R-25** (1976), *no.* 1, 2–15. (J. J. Stiffler) **55** #12332 94A20

Huang, Tao (*with* He, Zuo Xiu) A possible new composite quantum field theory. (Chinese. English summary) *Acta Phys. Sinica* **23** (1974), *no.* 2, 113–152. (Etang Chen) **56** #10584 81.47

(*with* He, Zuo Xiu) The composite field theory, and the straton model. I. (Chinese. English summary) *Acta Phys. Sinica* **23** (1974), *no.* 4, 264–291. (Etang Chen) **57** #8687 81.47

(*with* He, Zuo Xiu) A new formulation of the quantum theory of the composite fields. *Sci. Sinica* **18** (1975), *no.* 4, 502 516. (Robert L. Warnock) **56** #14267 81.35

Huang, Ter Jenq Note on maximally almost periodic groups. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 1, 187–188. (Paul Milnes) **54** #460 22D05

On topologies of maximally almost periodic groups. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 2, 251–254. (Paul Milnes) **58** #6939 43A60 (22B05, 43A40)

Huang, Thomas S. Stability of two-dimensional recursive filters. *IEEE Trans. Audio Electroacoust.* **AU-20** (1972), *no.* 2, 158–163. (Seihaku Higuchi) **52** #12997 94A20

Bounds on the bit rate of linear runlength codes. *IEEE Trans. Information Theory* **IT-21** (1975), *no.* 6, 707–708. (K. S. Miller) **52** #7702 94A10

Huang, T'i Yüan (*with* Klotz, Jerome H.) Bahadur efficiency of linear rank statistics for scale alternatives. *Ann. Statist.* **3** (1975), *no.* 4, 947–954. (M. Raghavachari) **52** #9490 62G20

(*with* Chang, Ho Lun) Chernoff efficiency of likelihood ratio test. (Chinese summary) Collection of articles in commemoration of the 75th anniversary of the founding of Soochow University. *Soochow J. Math. Natur. Sci.* **1** (1975), 79–84. (M. Raghavachari) **55** #13654 62G10 (62G20)

On the probability of a large deviation for type A Chernoff-Savage statistics. *Tamkang J. Math.* **7** (1976), *no.* 2, 233–246. (Author's summary) **58** #24712 62G20 (60F10)

On the probability of large deviations of linear rank statistics with continuity assumption. *Chinese J. Math.* **5** (1977), *no.* 1, 27–42. (M. Raghavachari) **56** #16909 62G10

Huang, Wen Tao On partitioning *k* multivariate normal populations with respect to a control. *Bull. Inst. Math. Acad. Sinica* **1** (1973), *no.* 2, 191–206. (P. R. Krishnaiah) **49** #6459 62F07

Some selection procedures of Poisson populations conditioned on the sum of observations. Collection of articles dedicated to Professor Tsing Houa Teng on the occasion of his 70th birthday. *Tamkang J. Math.* **4** (1973), *no.* 2, 195–202. (G. C. McDonald) **50** #8799 62F07

(*with* Gupta, Shanti S.) On a maximin strategy for sampling based on selection procedures from several populations. *Comm. Statist.* **3** (1974), 325–342. (T. A. Bishop) **49** #11681 62C99

(*with* Gupta, Shanti S.) A note on selecting a subset of normal populations with unequal sample sizes. *Sankhyā Ser. A* **36** (1974), *no.* 4, 389–396. (S. Panchapakesan) **54** #3920 62F07

Selection procedures of Pareto populations. *Sankhyā Ser. B* **36** (1974), *no.* 4, 417–426. (S. Panchapakesan) **53** #14761 62F07

Bayes approach to a problem of partitioning *k* normal populations. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 87–97. (George T. Duncan) **54** #1459 62F15

(*with* Gupta, Shanti S.) Some selection procedures based on the Robbins-Monro stochastic approximation. *Tamkang J. Math.* **6** (1975), *no.* 2, 301–314. (V. Fabian) **55** #9372 62F07 (62L20)

Huang, Wu Hsiung Equivariant method for periodic maps. *Trans. Amer. Math. Soc.* **189** (1974), 175–183. (R. L. Bishop) **48** #12566 57D70

A contour technique in deriving the generalized Steiner formula without integral geometry. *Bull. Inst. Math. Acad. Sinica* **4** (1976), *no.* 1, 165–176. (L. A. Santaló) **53** #9106 53C65

On the weak Riemannian degree of freedom. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 2, 317–322. (K. Nomizu) **58** #12848 53C40 (57E99)

Huang, Y. K. *See* **Transactions: Conference of Army Mathematicians**, **49** #4736 *and* **Transactions: Conference of Army Mathematicians**, **49** #4737

Huard, Pierre Programmation mathématique convexe. (English summary) *Bull. Direction Études Recherches Sér. C. Math. Informat.* **1968**, *no.* 1, 3, 61–74. (O. Gürel) **52** #12784 90C25

Programmes mathématiques non linéaires à variables bivalentes. (English summary) *Bull. Direction Études Recherches Sér. C Math. Informat.* **1968**, *no.* 2, 3, 37–45. (I. Maruşciac) **51** #12339 90C30

Programmes mathématiques nonlinéaires à variables bivalentes. *Proceedings of the Princeton Symposium on Mathematical Programming* (*Princeton Univ.*, 1967), *pp.* 313–322. *Princeton Univ. Press, Princeton, N.J.*, 1970. (Csaba Fabian) **50** #12239 90C10

Méthode des centres et méthode des centres par majorations. (English summa *Bull. Direction Études Recherches Sér. C Math. Informat.* **1970**, *no.* 2, 3, 33–51. (reviewed) 65K05

Tour d'horizon en programmation non linéaire. (English summary) *Bull. Direc Études Recherches Sér. C Math. Informat.* **1971**, *no.* 1, 3, 35–70. (W. W. Breckr **52** #7549 90C30

Tour d'horizon: Programmation non linéaire. (Loose English summary) *Rev. Française Informat. Recherche Opérationnelle* **5** (1971), *Sér.* R-1, 3–48. (R. W. Cot **45** #3076 90C30

Algorithmes d'optimisation et fonctions multivoques. (English summary) *B Direction Études Recherches Sér. C Math. Informat.* **1972**, *no.* 2, 3, 43–61 (19 (Dumitru Vincenţiu) **51** #14989 90C30

Convergence of the reduced gradient method. *Nonlinear programming*, 2 (*P Special Interest Group on Math. Programming Sympos., Univ. Wisconsin, Madison, W* 1974) *pp.* 29–54. *Academic Press, New York*, 1974. (E. M. L. Beale) **54** #9674 90C

(*with* Denel, J.) Programmation non linéaire et linéairisation. *Optimization meth for resource allocation* (*Proc. NATO Conf., Elsinore*, 1971), *pp.* 237–260. *English Universities Press, London*, 1974. (R. L. Graves) **58** #25994 90C25

Tentatives de synthèse dans les méthodes de programmation non linéaire. Colloc sur la Programmation Mathématique (Brussels, 1974). *Cahiers Centre Études Recher Opér.* **16** (1974), 347–367. (I. Maruşciac) **51** #5020 90C30

(*with* Fiorot, Jean-Charles) Composition et réunion d'algorithmes généraux d'optimisation. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A A1455–A1458. (H. Weber) **53** #4535 65K05 (90C30)

Optimization algorithms and point-to-set-maps. *Math. Programming* **8** (1975), 308 331. (J. S. Kowalik) **51** #7631 90C30

Implémentation de méthodes de gradients par discrétisation tangentielle. (Engli summary) *Bull. Direction Études Recherches Sér. C Math. Informat.* **1977**, *no.* 2, 43–57. (M. Stoica) **58** #26009 90C30

Huat, Lee Kok Jackknife method of estimation of population mean. *Nanta Math.* **9** (197 *no.* 1, 24–32. (Author's summary) **58** #31541 62F10

Huaux, Aimé Instabiltät der Ruhelage für ein System mit zwei Freiheitsgraden. *Instabili of continuous systems* (*IUTAM Sympos., Herrenalb*, 1969), *pp.* 399–406. *Springer, Berli* 1971. (O. Gürel) **51** #6066 34D20

La méthode directe de Liapounoff, théorie et applications récentes. Exposés faits cours international post-universitaire (Mons, 1966). *Bull. Soc. Math. Belg.* **23** (197 16–59. (Editors) **52** #14509 34D20

Sur la séparation des variables dans l'équation aux dérivées partielles de Hamilton-Jacobi. *Ann. Mat. Pura Appl.* (4) **108** (1976), 251–282. (Antonio F. Quesad **57** #8257 70.35

Über eine kanonische Transformation von Henri Poincaré. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik u Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T49–T51. (Kla Horneffer) **53** #15036 70.53

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #89

Huband, F. L. (*with* Hoard, R. E.) On the inversion of a particular matrix. *IEEE Tran Automatic Control* **AC-17** (1972), *no.* 3, 374–375. (Charles R. Johnson) **54** #2678 (E #2679) 15A09 (93A99)

See also **Simaan, Marwan A.**, **54** #2679

Hubatsch, Walther *See* **Jahresfeier: Geburt von Nicolaus Copernicus**, **48** #29

Hubaut, Xavier L. Construction of *t*-designs with weighted blocks. *Bull. Soc. Math. Bel* **23** (1971), 271–273. (L. D. Baumert) **46** #3335 05B05

Systèmes de Steiner minimaux. Collection of articles honoring P. Burniat, T Lepage and P. Libois. *Bull. Soc. Math. Belg.* **23** (1971), 411–415. (E. F. Assmus, Jr **48** #120 05B05 (05B25)

Designs et graphes de Schläfli. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972 622–624. (R. K. Guy) **48** #3756 05B05

Two new families of 4-designs. *Discrete Math.* **9** (1974), 247–249. (J. F. Lawless **49** #10570 05B05

Strongly regular graphs. *Discrete Math.* **13** (1975), *no.* 4, 357–381. (E. A. Nordhaus **53** #5375 05C99

(*with* Buekenhout, Francis) Locally polar spaces and related rank 3 groups. *J Algebra* **45** (1977), *no.* 2, 391–434. (Donald E. Taylor) **57** #151 05B25

See also **Atti: Convegno di Geometria Combinatoria e sue Applicazioni**, **48** #8244

Hubbard, Bert Computing transient solutions for certain renal counterflow systems. *Summer Computer Simulation Conference* (*Washington, D.C.*, 1976), *pp.* 507–510. *AFIPS Press, Montvale, N.J.*, 1977. (Philip R. Wohl) **58** #33086 92A05

See also **Numerical solution of partial differential equations**, **52** #15940

Hubbard, J. Critical behaviour of the Ising model. *Phys. Lett.* **39A** (1972), 365–367. (R. Kubo) **48** #7868 82.44

Hubbard, J. B. Statistical mechanics of small systems. *J. Computational Phys.* **7** (1971) 502–514. (R. K. Pathria) **45** #6341 82.41

Convergence of activity expansions for lattice gases. *Phys. Rev. A* (3) **6** (1972), 1686–1689. (P. Caldirola) **48** #7878 82.60

Hubbard, John Hamal Sur la non-existence de sections analytiques à la courbe universelle de Teichmüller. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A978–A979. (W. Barth) **45** #3787 32G15

On the cohomology of Nash sheaves. *Topology* **11** (1972), 265–270. (C. B. Thomas) **45** #4446 58D15 (14F05, 55B30)

(*with* Douady, Adrien) Le problème des modules locaux pour les espaces *C*-analytiques compacts. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A901–A904. (Y.-T. Siu) **49** #3215 32G05

Transversalité. *Quelques problèmes de modules* (*Sém. Géom. Analytique, École Norm Sup., Paris*, 1971–1972), *pp.* 33–48. *Astérisque, No.* 16, *Soc. Math. France, Paris*, 1974. (Y.-T. Siu) **51** #3509 32C35 (46M05)

Le théorème de M. Artin sur les solutions d'équations analytiques. *Quelques problèmes de modules* (*Sém. Géom. Analytique, École Norm. Sup., Paris*, 1971–1972), *pp.* 105–115. *Astérisque, No.* 16, *Soc. Math. France, Paris*, 1974. (Gerhard Pfister) **50** #4581 14D15 (14B10) (*with* Douady, Adrien) On the density of Strebel differentials. *Invent. Math.* **30** 975), *no.* 2, 175–179. (K. Strebel) **53** #796 30A52 (32G15)

(*with* Masur, Howard) On the existence and uniqueness of Strebel differentials. *ull. Amer. Math. Soc.* **82** (1976), *no.* 1, 77–79. (Jane Gilman) **52** #14392 32G15 0A52)

Sur les sections analytiques de la courbe universelle de Teichmüller. *Mem. Amer. ath. Soc.* **4** (1976), *no.* 166, ix + 137 *pp.* (A. Duma) **55** #3326 32G15

ard, John R. Approximation of compact homogeneous maps. *Pacific J. Math.* **62** 1976), *no.* 1, 149–151. (E. Dubinsky) **54** #8238 46B05

art, W. M. Some results on blocks over local fields. *Pacific J. Math.* **40** (1972), 01–109. (B. Fein) **46** #1895 20C20

ell, S. (*with* Hsu, S. B.; Waltman, Paul) A mathematical theory for single-nutrient ompetition in continuous cultures of micro-organisms. *SIAM J. Appl. Math.* **32** (1977), *o.* 2, 366–383. (M. W. Green) **55** #7458 92A05

uck, J. R. Homotopy homomorphisms of Lie groups. *New developments in topology Proc. Sympos. Algebraic Topology, Oxford*, 1972), *pp.* 33–41. *London Math. Soc. Lecture ote Ser., No.* 11, *Cambridge Univ. Press, London*, 1974. (J. Stasheff) **49** #1519 5F35

Stable homotopy invariant non embedding theorems in Euclidean space. *Bol. Soc. rasil. Mat.* **5** (1974), *no.* 2, 195–205. (David Handel) **54** #13937 57D40 (55G25)

Mapping degrees for classifying spaces. I. *Quart. J. Math. Oxford Ser.* (2) **25** (1974), 13–133. (J. F. Adams) **50** #8521 55F35 (55D45)

Simply connected H-spaces of rank 2 with 2-torsion. *Quart. J. Math. Oxford Ser.* 2) **26** (1975), *no.* 102, 169–177. (S. Gitler) **52** #15446 55D45

(*with* Kane, Richard) On π_3 of a finite H-space. *Trans. Amer. Math. Soc.* **213** 1975), 99–105. (J. Stasheff) **53** #1582 55D45

edžašvili, Š. S. A method for the approximate solution of singular integral equations in he exceptional case. (Georgian. Russian summary) Questions of computational nathematics (collection dedicated to the memory of M. B. Gagua). *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **12** (1973), *no.* 1, 53–61. (R. P. Boas, Jr.) **0** #14133 45L05 (30A88, 65R05)

(*with* Sanikidze, D. G.) A remark on the estimation of the accuracy of a certain rocess of approximation of singular integrals for functions that have an absolutely ontinuous derivative of given order. (Russian. Georgian and English summaries) *akharth. SSR Mecn. Akad. Moambe* **78** (1975), *no.* 3, 561–564. (F. Pecka) **52** #12304 65D30

A remark on the estimation of the accuracy of an approximation of singular ntegrals by sums of a complicated type. (Russian. Georgian and English summaries) *akharth. SSR Mecn. Akad. Moambe* **83** (1976), *no.* 1, 21–23. (Bl. Sendov) **56** #12733 1A55

(*with* Arseni, V. F.) On the approximate solution of a singular integral equation vith a Carleman shift. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **17** 1977), *no.* 1, *Vyčisl. Mat. i Programmirovanie*, 19–25. (G. F. Miller) **58** #25034 5R05

r, A. Local behavior of subharmonic functions. *Proceedings of the Symposium on omplex Analysis* (*Univ. Kent, Canterbury*, 1973), *pp.* 89–90. *London Math. Soc. Lecture ote Ser., No.* 12, *Cambridge Univ. Press, London*, 1974. (Editors) **52** #8451 31A05

(*with* Essén, Matts R.; Hayman, W. K.) Slowly growing subharmonic functions. I. *omment. Math. Helv.* **52** (1977), *no.* 3, 329–356. (E. F. Beckenbach) **57** #16630 1A05

r, Alfred Konforme und metrische Kreise auf vollständigen Flächen. *Comment. ath. Helv.* **47** (1972), 409–420. (H. Wu) **54** #8538 53C55

(*with* Arsove, Maynard) Local behavior of subharmonic functions. *Indiana Univ. ath. J.* **22** (1972/73), 1191–1199. (E. F. Beckenbach) **48** #11536 31A05

Konforme Verheftung von Gebieten mit beschränkter Randdrehung. *Comment. ath. Helv.* **50** (1975), 179–186. (R. Osserman) **51** #13204 30A30

Subharmonische Funktionen und einige ihrer Anwendungen. 8. Steiermärkisches athematisches Symposium (Graz, 1976). *Ber. Math.-Statist. Sekt. Forsch. Graz No.* 7-63 (1976), *Ber. No.* 58, 51 *pp.* (Editors) **58** #28563 31C05

Isometrische und Konforme Verheftung. *Comment. Math. Helv.* **51** (1976), *no.* 3, 19–331. (A. Marden) **54** #13068 30A48

Eine Klasse von hyperbolischen Verheftungen. *Math. Z.* **151** (1976), *no.* 1, 25–28. Y. Komatu) **55** #10666 30A48 (30A30)

r, B. Über die Analyse einer Klasse nichtlinearer Systeme. I. Theorie. (English ummary) *Z. Elek. Informations- und Energietech.* **8** (1978), *no.* 2, 97–110. (T. Kaczorek) **7** #15632 93C10 (93C45)

r, C. (*with* Lellouch, J.) Estimation dans les tableaux de contingence à un grand ombre d'entrées. (English summary) *Internat. Statist. Rev.* **42** (1974), 193–203. Gordon Cook) **55** #4479 62F10 (62P10)

r, Catherine *See* **Théorie de la robustesse et estimation d'un paramètre**, **57** #17941

r, Heinz Über den ersten Eigenwert des Laplace-Operators auf kompakten iemannschen Flächen. *Comment. Math. Helv.* **49** (1974), 251–259. (B. Randol) **1** #1660 53C20 (30A46)

Über den ersten Eigenwert des Laplace-Operators auf kompakten annigfaltigkeiten konstanter negativer Krümmung. *Arch. Math.* (*Basel*) **26** (1975), 78–182. (J. Eells) **51** #14173 58G99 (35P15)

Über die Eigenwerte des Laplace-Operators auf kompakten Riemannschen Flächen. *omment. Math. Helv.* **51** (1976), *no.* 2, 215–231. (Burton Randol) **55** #3238 30A46 10D05)

Über die Darstellungen der Automorphismengruppe einer Riemannschen Fläche in en Eigenräumen des Laplace-Operators. *Comment. Math. Helv.* **52** (1977), *no.* 2, 77–184. (J. Lehner) **58** #11379 30A58 (10D15, 58G99)

See also **Pfanzagl, Johann**, **50** #12847 *and* **Pfanzagl, Johann**, **54** #5057

r, Martin Klassen von Moduln über Dedekind-Ringen und Satz von Stein-Serre. *omment. Math. Helv.* **51** (1976), *no.* 4, 527–546. (Chr. U. Jensen) **54** #12745 3C10

Sur le problème de Whitehead concernant les groupes abéliens libres. (English ummary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 9, A471–A472. (Author's ummary) **55** #98 02K05 (20K20, 20A10)

Caractérisation des groupes abéliens libres, et cardinalités. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 1, A1–A2. (Author's summary) **56** #501 20K99

Sur les groupes abéliens de la forme Ext(A, G). (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 8, A529–A531. (Author's summary) **56** #5288 02K05 (02H15, 20K20)

(*with* Meier, Willi) Cohomology theories and infinite CW-complexes. *Comment. Math. Helv.* **53** (1978), *no.* 2, 239–257. (Richard R. Patterson) **58** #2796 55B35

(*with* Hiller, Howard Lyn; Shelah, Saharon) The structure of Ext(A, **Z**) and $V = L$. *Math. Z.* **162** (1978), *no.* 1, 39–50. (Paul C. Eklof) **58** #11171 20K20 (20K40, 02H15)

Huber, Oswald *See* **Mally, Ernst**, **54** #7187

Huber, Paul B. *See* **Applied statistics**, **52** #1944

Huber, Peter J. (*with* Andrews, David F.; Bickel, Peter J.; Hampel, Frank R.; Rogers, William H.; Tukey, John W.) ★Robust estimates of location: Survey and advances. *Princeton University Press, Princeton, N.J.*, 1972. ix + 373 *pp.* (M. M. Siddiqui) **48** #9927 62F10 (62G35)

The 1972 Wald lecture. Robust statistics: A review. *Ann. Math. Statist.* **43** (1972), 1041–1067. (P. J. Bickel) **47** #2732 62F10 (62G05)

(*with* Strassen, Volker) Minimax tests and the Neyman-Pearson lemma for capacities. *Ann. Statist.* **1** (1973), 251–263. (M. Skibinsky) **50** #8776 (E **50** #15027) 62C07

Robust regression: asymptotics, conjectures and Monte Carlo. *Ann. Statist.* **1** (1973), 799–821. (K. S. Fu) **50** #8843 62J05

The use of Choquet capacities in statistics. With discussion by P. Gänssler, W. S. Hall, L. Schmetterer, Charles Stein, and G. N. Wilkinson and with reply by the author. Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973). Vol. 4. *Bull. Inst. Internat. Statist.* **45** (1973), *book* 4, 181–191. (H. P. Edmundson) **50** #8792 (EA **51**) 62Fxx

(*with* Dutter, Rudolf) Numerical solution of robust regression problems. *Compstat 1974* (*Proc. Sympos. Computational Statist., Univ. Vienna, Vienna*, 1974), *pp.* 165–172. *Physica Verlag, Vienna*, 1974. (E. J. Williams) **51** #9353 62G35 (62J05)

(*with* Strassen, Volker) Correction: "Minimax tests and the Neyman-Pearson lemma for capacities" (Ann. Statist. **1** (1973), 251–263). *Ann. Statist.* **2** (1974), 223–224. (M. Skibinsky) **50** #15027 62C10

Fisher information and spline interpolation. *Ann. Statist.* **2** (1974), 1029–1033. (T. Nemetz) **50** #8822 62G05 (41A15)

Robustness and designs. *A survey of statistical design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins Colo.*, 1973), *pp.* 287–301. *North-Holland, Amsterdam*, 1975. (Joachim Krauth) **53** #1842 62G35

Some mathematical problems arising in robust statistics. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *Vol.* 2, *pp.* 153–156. *Canad. Math. Congress, Montreal, Que.*, 1975. (Rudolph J. Beran) **54** #6375 62G35

Kapazitäten statt Wahrscheinlichkeiten? Gedanken zur Grundlegung der Statistik. *Jber. Deutsch. Math.-Verein.* **78** (1976/77), *no.* 2, 81–92. (Günter Menges) **55** #9344 62A99 (62B15)

★Robust statistical procedures. CBMS-NSF Regional Conference Series in Applied Mathematics, No. 27. *Society for Industrial and Applied Mathematics, Philadelphia, Pa.*, 1977. v + 56 *pp.* (Rudolph J. Beran) **57** #4423 62G35

Robust covariances. *Statistical decision theory and related topics, II* (*Proc. Sympos., Purdue Univ., Lafayette, Ind.*, 1976), *pp.* 165–191. *Academic Press, New York*, 1977. (V. J. Yohai) **55** #9406 (EA **55/56**) 62G35

Robust methods of estimation of regression coefficients. *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 1, 41–53. (Jana Jurečková) **58** #24716 62G35 (62J05, 62F10)

See also **Hogg, Robert V.**, **57** #1763

Huber-Carol, Catherine ★Étude asymptotique de tests robustes. Thèse présentée à l'École Polytechnique Fédérale, Zürich pour l'obtention du grade de Docteur ès sciences mathématiques. Thèse No. 4553. *École Polytechnique Fédérale, Zurich*, 1970. 57 *pp.* (P. K. Sen) **48** #3182 62G35 (62E20)

Huber-Dyson, Verena *See* **Dyson, Verena Huber**

Huberjan, B. K. Estimating quality of teaching and self-teaching algorithms for automatic systems. *Avtomat. i Telemeh.* **1969**, *no.* 4, 94–106 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 4, 554–564. **56** #11261 93C40

Investigation of system models on the basis of complex criteria by the method of statistical trials. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 1, 204–211, 224 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 1, 154–161. (Author's summary) **56** #5002 93E10

Huberman, Alain Décodages des codes de Goppa. (English summary) *Rev. CETHEDEC No.* 52 (1977), 1–8. (J.-M. Goethals) **58** #15676 94A10

Hubert, D. Irreversibility in the hard-spheres gas: H theorem and the Gibbs relation. *Phys A* **83** (1975), *no.* 3, 548–560. (Nina B. Maslova) **54** #2065 82.60

sánchez-palencia-Hubert, Jacqueline *See* **Sánchez-Palencia-Hubert, Jacqueline**

Hubert, Lawrence J. Some extensions of Johnson's hierarchical clustering algorithms. *Psychometrika* **37** (1972), 261–274. (Robert Hultquist) **47** #2773 62P15

Approximate evaluation techniques for the single-link and complete-link hierarchical clustering procedures. *J. Amer. Statist. Assoc.* **69** (1974), 698–704. (Byron J. T. Morgan) **51** #9372 62H30

Some applications of graph theory to clustering. *Psychometrika* **39** (1974), 283–309. (Author's summary) **58** #31601 62H30 (05C99)

A note on Freeman's measure of association for relating an ordered to an unordered factor. *Psychometrika* **39** (1974), 517–520. (Gordon Cook) **53** #6893 62H20

Seriation using asymmetric proximity measures. *British J. Math. Statist. Psychology* **29** (1976), *no.* 1, 32–52. (David Foster) **55** #2199 92A25

(*with* Schultz, James) Quadratic assignment as a general data analysis strategy. *British J. Math. Statist. Psychology* **29** (1976), *no.* 2, 190–241. (Authors' summary) **56** #1643 62P15 (62H30)

(*with* Busk, Patricia) Normative location theory: placement in continuous space. *J. Mathematical Psychology* **14** (1976), *no.* 3, 187–210. (David N. Burghes) **58** #26185 92A25 (90B99)

(*with* Baker, Frank B.) Applications of combinatorial programming to data analysis: seriation using asymmetric proximity measures. *British J. Math. Statist. Psychology* **30** (1977), *no.* 2, 154–164. (Bernard Lemaire) **57** #4438 62J15 (90C99)

A set-theoretical approach to the problem of hierarchical clustering. *J. Mathematical Psychology* **15** (1977), *no.* 1, 70–88. (L. N. Kanal) **58** #26186 92A25 (05C99)

Data analysis implications of some concepts related to the cuts of a graph. *J. Mathematical Psychology* **15** (1977), *no.* 2, 199–208. (Kenji Onaga) **56** #8092 94A25

(*with* Baker, Frank B.) The comparison and fitting of given classification schemes. *J. Mathematical Psychology* **16** (1977), *no.* 3, 233–253. (Authors' summary) **58** #4464 92A25

(*with* Baker, Frank B.) Applications of combinatorial programming to data analysis: the traveling salesman and related problems. *Psychometrika* **43** (1978), *no.* 1, 81–91. (Authors' summary) **58** #26034 90C50

Hubert, Michel Torsion des courbes elliptiques. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A661–A663. (F. Oort) **47** #8546 14G05

Hubežty, I. A. Almost *IP*-Veblen-Wedderburn incidence structures of order 9. (Russian) *Geometry of homogeneous spaces* (*Russian*), *pp.* 147–156. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1973. (D. Betten) **53** #1396 50D35

IP-Veblen-Wedderburn systems, and incidence structures over them. (Russian) *Geometry of homogeneous spaces* (*Russian*), *pp.* 157–189. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1973. (D. Betten) **53** #1397 50D35

Monoassociative almost Veblen-Wedderburn incidence structures of order 9. (Russian) *Geometry of homogeneous spaces* (*Russian*), *pp.* 138–146. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (D. Betten) **53** #1395 50D35

Hubicka, Elżbieta (*with* Sysło, Maciej M.) Minimal bases of cycles of a graph. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 283–293. *Academia, Prague*, 1975. (Authors' summary) **52** #2952 05C35

Hubien, H. A new basis for classical propositional calculus. *Logique et Analyse* (*N.S.*) **20** (1977), *no.* 79, 225–228. (K. Inoue) **57** #2871 02B05

Hubien, Hubert On two of Professor Rescher's modal theses. *Logique et Analyse* (*N.S.*) **14** (1971), 669–674. **45** #8504 02C10

John Buridan on the fourth figure of the syllogism. Collection of articles dedicated to the memory of Martin Grabmann. *Rev. Internat. Philos.* **29** (1975), *no.* 3, 271–285. (Mary J. Sirridge) **56** #15284 01A35 (02–03)

Hübner, Gerhard On the fixed points of the optimal reward operator in stochastic dynamic programming with discount factor greater than one. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1975), *no.* 3, *T*348–*T*349. (K. Hinderer) **54** #2214 90C40

Contraction properties of Markov decision models with applications to the elimination of non-optimal actions. *Dynamische Optimierung* (*Tagung, Inst. Angewandte Math., Univ. Bonn, Bonn*, 1976), *pp.* 57–65. *Bonner Math. Schriften, No.* 98, *Inst. Angew. Math., Univ. Bonn, Bonn*, 1977. (Author's summary) **58** #25860 90A05 (90C40)

(*with* Hinderer, Karl) On approximate and exact solutions for finite stage dynamic programs. *Markov decision theory* (*Proc. Adv. Sem., Amsterdam*, 1976), *pp.* 57–76. *Math. Centre Tracts, No.* 93, *Math. Centr., Amsterdam*, 1977. (H. Taylor) **57** #11777 90C40

(*with* Hinderer, Karl) An improvement of J. F. Shapiro's turnpike theorem for the horizon of finite stage discrete dynamic programs. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 245–255. *Reidel, Dordrecht*, 1977. (From the summary) **58** #20472 90C40

Improved procedures for eliminating suboptimal actions in Markov programming by the use of contraction properties. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 257–263. *Reidel, Dordrecht*, 1977. (Author's summary) **58** #15201 90C40

On the fixed points of the optimal reward operator in stochastic dynamic programming with discount factor greater than one. (German and Russian summaries) *Z. Angew. Math. Mech.* **57** (1977), *no.* 8, 477–480. (Joseph A. Yahav) **57** #15440 90C15 (90C40)

Hübner, H. *See* **Applications of Walsh functions.** **48** #8080

Hübner, Otto Zweiparametrige Überrelaxation. (English summary) *Numer. Math.* **18** (1971/72), 354–366. (J. G. Herriot) **46** #6574 65F10

(*with* Gaier, Dieter) Schnelle Auswertung von *Ax* bei Matrizen *A* zyklischer Bauart, Toeplitz- und Hankel-Matrizen. *Mitt. Math. Sem. Giessen Heft* 121 (1976), 27–38. (Colin M. Campbell) **58** #8181 65F05

Untersuchungen zur mehrparametrigen Überrelaxation. *Mitt. Math. Sem. Giessen Heft* 128 (1977), ii + 77 *pp.* (W. Niethammer) **57** #1847 65F10

Hübner, Wolfgang Kritische Bemerkungen zu zwei Texten über die Sonnenbewegung. *Centaurus* **17** (1973), *no.* 4, 253–259. (Editors) **58** #26811 01A35

Die Paranatellonten im *Liber Hermetis*. (French summary) *Sudhoffs Arch.* **59** (1975), *no.* 4, 387–414. (Eberhard Knobloch) **57** #15840 01A20

Hucher, Monique (*with* Grolier, Jacques) Inventaire des polyèdres 3-valents ayant *n* faces (*n* ⩽ 14), chacune comportant au plus 6 côtés. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 4, A219–A221. (Authors' summary) **55** #12537 05A15

Hucišvili, N. G. A certain allocation problem. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **63** (1971), 557–559. (A. Prékopa) **47** #3000 90B35

(*with* Piranašvili, Z. A.) A method for estimating the correlation function and the spectral density of a stationary random process. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 2, 313–316. (Paul Deheuvels) **57** #7914 62M15

(*with* Piranašvili, Z. A.) On the problem of estimating a matrix-valued covariance function. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **87** (1977), *no.* 2, 313–316. (P. S. Knopov) **58** #3258 62M15

Huck, H. (*with* Roitzsch, R.; Simon, Udo; Vortisch, W.; Walden, R.; Wegner, Bernd; Wendland, Wolfgang L.) ★Beweismethoden der Differentialgeometrie im Grossen. Lecture Notes in Mathematics, Vol. 335. *Springer-Verlag, Berlin-New York*, 1973. 168 *pp.* (T. Nagano) **51** #6666 53C40

Huckaba, J. (*with* Kirch, A.) Additive subgroups of the rationals. *Math. Gaz.* **54** (1970 *no.* 389, 299–300. (Editors) **58** #11083 20–01

Huckaba, James A. (*with* Gilmer, Robert) The transform formula for ideals. *J. Algebra* 2 (1972), 191–215. (W. Heinzer) **46** #9030 13G05

On valuation rings that contain zero divisors. *Proc. Amer. Math. Soc.* **40** (1973 9–15. (Ron Brown) **47** #6683 13F05

(*with* Gilmer, Robert) Maximal overrings of an integral domain not containing given element. *Comm. Algebra* **2** (1974), 377–401. (J. W. Brewer) **50** #9856 13F0

(*with* Gilmer, Robert) *D*-rings. *J. Algebra* **28** (1974), 414–432. (J. Ohm) **55** #342 13F05

The integral closure of a Noetherian ring. *Trans. Amer. Math. Soc.* **220** (1976 159–166. (L. J. Ratliff, Jr.) **53** #5561 13B20

(*with* Hinkle, George W.) The generalized Kronecker function ring and the rin *R*(*X*). *J. Reine Angew. Math.* **292** (1977), 25–36. (Anne Grams) **56** #5528 13F05

Huckabay, Gary M. On the classification of locally compact separable metric spaces *Fund. Math.* **97** (1977), *no.* 3, 215–219. (T. B. Rushing) **58** #12991 54H99 (54E3 54F65)

Properties of standard maps. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 1, 169–172. (H R. Bennett) **55** #13365 54C10

Huckaby, Dale A. Phase transitions in lattice gases of hard-core molecules having tw orientations. *J. Statist. Phys.* **17** (1977), *no.* 5, 371–375. (Author's summary) **57** #1514 82.50

Huckemann, Friedrich (*with* Gehring, F. W.) Quasiconformal mappings of a cylinder *Proc. Romanian-Finnish Seminar on Teichmüller Spaces and Quasiconformal Mappings* (*Braşov*, 1969), *pp.*171–186. (*errata insert*) *Publ. House of the Acad. of the Socialis Republic of Romania, Bucharest*, 1971 (T. Kuusalo) **49** #10879 30A60

Connected sets with a directional property. *Topics in analysis* (*Colloq. Math. Anal. Jyväskylä*, 1970), *pp.* 190–202. *Lecture Notes in Math., Vol.* 419, *Springer, Berlin*, 1974 (H. M. Reimann) **52** #11868 54F99 (30A60)

Some properties of certain extremal decompositions of a rectangle. *Ann. Acad. Sc Fenn. Ser. A I Math.* **2** (1976), 233–256. (K. Strebel) **58** #6227 30A60

An extremal problem for harmonic measure. *Comment. Math. Helv.* **52** (1977), *no* 4, 611–624. (K. Strebel) **58** #1130 30A44 (30A40)

Moduln des Sechsecks und ihre Variationen. Dem Andenken an Karl Maruhn gewidmet. *Mitt. Math. Sem. Giessen Heft* 123 (1977), 37–44. (I. N. Baker) **56** #15900 30A30

An extremal problem for harmonic measure. *General inequalities* (*Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach*, 1976), *I*, *pp.* 243–245. *Birkhäuser, Basel*, 1978. (Author's summary) **58** #17146 31A15

Huckleberry, Alan T. On local images of holomorphic mappings. *Ann. Scuola Norm. Sup Pisa* (3) **25** (1971), 447–467. (D. A. Pelles) **46** #9381 32B05

(*with* Nirenberg, Ricardo) On a class of complex spaces intermediate to Stein and Compact. *Bull. Amer. Math. Soc.* **78** (1972), 852–853. (S. Hitotumatu) **45** #7106 32E10

(*with* Andreotti, Aldo) Pseudoconcave Lie groups. *Compositio Math.* **25** (1972) 109–115. (H. H. Johnson) **47** #5300 32F15 (20H10, 22E10, 32N05)

(*with* Nirenberg, Ricardo) On *k*-pseudoflat complex spaces. *Math. Ann.* **200** (1973). 1–10. (A. Duma) **48** #2417 32C25

The weak envelope of holomorphy for algebras of holomorphic functions. *Pacific J Math.* **47** (1973), 115–128. (A. Hirschowitz) **52** #3594 32D10

(*with* Stoll, Wilhelm) On the thickness of the Shilov boundary. *Math. Ann.* **207** (1974), 213–231. (Andrew Markoe) **49** #3210 32E25 (46J20)

★Riemann surfaces: a view toward several complex variables. Schriftenreihe des Mathematischen Instituts der Universität Münster. *Mathematisches Institut der Universität Münster, Münster*, 1975. iv + 57 *pp.* (J. S. Joel) **57** #12885 32–01 (30A46)

Über Funktionenkörper auf komplexen Mannigfaltigkeiten. *Schr. Math. Inst. Univ Münster* (2) *No.* 9 (1975), 43 *pp.* (W. Barth) **51** #3546 32J10 (32F15)

The Levi problem on pseudoconvex manifolds which are not strongly pseudoconvex. *Math. Ann.* **219** (1976), *no.* 2, 127–137. (Claudio Rea) **53** #13644 32E05 (32F15)

The holomorphic convexity of pseudoconvex complex manifolds. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 2, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 25–29. *Amer. Math. Soc., Providence, R.I.*, 1977. (Klaus Fritzsche) **56** #8904 32E05 (32C10, 32F99)

Holomorphic fibrations of bounded domains. *Math. Ann.* **227** (1977), *no.* 1, 61–66 (Alessandro Silva) **55** #8417 32L05

(*with* Gilligan, B.) Pseudoconcave homogeneous surfaces. *Comment. Math. Helv* **53** (1978), *no.* 3, 429–438. (D. N. Ahiezer) **58** #17236 32M10 (53C30)

See also **Mathematics: Periodical collection of translations of foreign articles.** **50** #12534

Hudaĭberdiev, R. A relaxation method for the computation of linear automatic control systems. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1969**, *no.* 4, 9–11. (F. M Kirillova) **47** #6396 94A20

(*with* Citovič, P. A.) Method of characteristic functions in the theory of the structural development of systems. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1973**, *no.* 4, 11–13. (K. Magnus) **47** #8145 93A10

Hudaĭberdiev, S. (*with* Mamažanov, B.) Approximation by entire functions with weight on the exterior of a segment and half-axis. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp* 87–98. *Samarkand. Gos. Univ., Samarkand*, 1972. (Anthony G. O'Farrell) **54** #5474 30A82

The convergence of a sequence of differentiable functions with weight on the exterior of a segment and of a halfaxis. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **17** (1973), *no.* 3, 34–41, 107. (G. Godini) **49** #3393 41A30

Hudaĭberdiev, V. N. Topological *l*-groups. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1974**, *no.* 11, 6–7. (J. Karásek) **51** #5440 06A55

Hudaĭberganov, G. A remark on linear convexity. (Russian) *Holomorphic functions of several complex variables* (*Sem., Krasnoyarsk*, 1972) (*Russian*), *pp.* 205–208, 214. *Inst.*

. *Sibirsk. Otdel. Akad. Nauk SSSR*, *Krasnoyarsk*, 1972. (P. Agranovič) **57** #12908 15

(*with* Makarova, L. Ja.; Čerkašin, V. P.) On the question of polynomial and linear ıvexity. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), –219, 383–384. (R. O. Wells, Jr.) **49** #10917 32E15

Some remarks on polynomial convexity in $\mathbf{C}^n$. (Russian) *Taškent. Gos. Univ. Naučn. udy No.* 418 *Voprosy Mat.* (1972), 330–337, 390. (H. Tornehave) **50** #7582 32E20

Some bounds for bounded vector-valued functions of several complex variables. ussian) *Properties of holomorphic functions of several complex variables* (*Russian*), *pp.* –165, 238. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR*, *Krasnoyarsk*, 1973. (Wolfgang tschke) **57** #682 32A30

A generalization of the Carathéodory-Fejér problem. (Russian) *Properties of omorphic functions of several complex variables* (*Russian*), *pp.* 225–233, 241. *Inst. Fiz. birsk. Otdel. Akad. Nauk SSSR*, *Krasnoyarsk*, 1973. (V. Kabaĭla) **57** #683 32A30 E30)

(*with* Makarova, L. Ja.; Čerkašin, V. P.) A remark on polynomial and linear nvexity. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **17** 73), *no.* 1, 36–41, 88. (L. Gogoladze) **48** #2424 32E20 (32E30)

A certain special case of an analogue of the Carathéodory-Fejér problem. (Russian. bek summary) *Dokl. Akad. Nauk UzSSR* **1974**, *no.* 9, 5–6. (L. Gogoladze) **51** #3492 32A05

A certain problem of Grauert. (Russian. Uzbek summary) *Dokl. Akad. Nauk SSR* **1975**, *no.* 3, 7–8. (J. Siciak) **53** #5938 32E20

erganov, R. The approximation of functions of two variables. (Russian) Studies in thematical statistics, and related questions. *Taškent. Gos. Univ. Naučn. Trudy No.* 402 72), 131–137. (D. D. Stancu) **49** #5661 41A63

The approximation of a random field. (Russian. English summary) *Teor. rojatnost. i Mat. Statist. No.* 6 (1972), 129–132. (R. Ambartzumian (Zbl **249** #60021)) #14926 60G99

(*with* Mirzahmedov, M. A.) The question of approximating stochastic processes. ussian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** 973), 1147–1151. (A. V. Nagaev) **49** #9943 60G99

The interpolation of random processes by positive linear operators. (Russian) *Izv. kad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 4, 63–65. (M. I. Jadrenko) #4367 60G25

The interpolation of random fields. (Russian. English summary) *Teor. Verojatnost. i at. Statist. Vyp.* 10 (1974), 154–166, 178. (M. I. Jadrenko) **55** #13547 60G10

kuliev, O. A certain continual model of pure exchange. (Russian. Turkmen and nglish summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **75**, *no.* 2, 11–13. (A. Aganbegjan) **54** #4588 90A15

nazarov, S. H. An asymptotic formula for generalized de la Vallée Poussin integrals. ussian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 22 (1973), 14–17, 195. (Author's mmary) **58** #19038 65D20

A certain representation of functions of two variables by sums of convergent series a special form. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1974**, *no.* 6, –61. (Gheorghe Coman) **52** #11463 42A92

Saturation classes of Fourier-Jacobi series for functions of two variables. (Russian. zbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 4, 33–38, –87. (Tom Koornwinder) **55** #6076 41A40 (42A56)

See also **Questions on differential equations**, **52** #7762

-Verenov, M. G. On the question of the structure of a solution of the equation $/dx = R(x,y)$. (Russian. English summary) *Izv. Akad. Nauk Turkmen. SSR Ser. z.-Tehn. Him. Geol. Nauk* **1969**, *no.* 5, 7–19. (Ju. Il′jašenko (RŽMat **1970** #6 B228, 6 B229)) **49** #7527a 34C30

On the question of the structure of a solution of the equation $y' = R(x,y)$ ontinuation). (Russian. English summary) *Izv. Akad. Nauk Turkmen. SSR Ser. z.-Tehn. Him. Geol. Nauk* **1969**, *no.* 5, 20–30. (Ju. Il′jašenko (RŽMat **1970** #6 B228, 6 B229)) **49** #7527b 34C30

Two remarks on solutions of a certain equation. (Russian. Turkmen and English mmaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1970**, *no.* 7–13. (Ju. Il′jašenko (RŽMat **1970** #8 B242)) **50** #666 34A20

(*with* Seĭsov, Ju. B.) Development of mathematical scholarship in Turkmenistan. ussian) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1974**, *no.* 1, –53. (Editors) **50** #9485 01A05

A canonical property of a certain class of differential equations. (Russian) *Izv. kad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1974**, *no.* 1, 54–58. (C. E. angenhop) **49** #10944 34A05

(*with* Geĭhman, L. M.) Construction of the solutions of a certain class of differential uations in P^2. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1974**, *no.* 5, 3–11. (From the authors' troduction) **57** #10052 34A20 (32G99, 58A15)

-Verenov, O. M. (*with* Toraev, A.; Redžepov, A. R.) Oscillation properties of the lutions of differential equations of elliptic type. (Russian. Turkmen and English mmaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1976**, *no.* 3–10. (H. Marcinkowska) **54** #13274 35B05 (35J15)

(*with* Toraev, A.) Integral oscillation conditions for second order partial differential uations of elliptic type. (Russian) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz-Tehn. im. Geol. Nauk* **1976**, *no.* 4, 18–23. (A. D. Ziebur) **55** #3488 35B05

, Ju. I. (*with* Maslennikov, V. A.) On stable methods for the solution of the problem identification of a linear stationary object. (Russian) *Computing methods and ogramming, XIV* (*Russian*), *pp.* 32–39. *Izdat. Moskov. Univ.*, *Moscow*, 1970. (Ja. Fodor) #3095 93B30

Two inclusion theorems for the generalized series summability method $T\{\lambda_k\}$. ussian) *Dokl. Akad. Nauk SSSR* **202** (1972), 1284–1287. (M. Abel (RŽMat **1971** #6 30)) **45** #768 40D25

The convergence of a certain family of regularizing algorithms. (Russian) *Ž. Vyčisl. at. i Mat. Fiz.* **12** (1972), 497–502. (Z. V. Kovarik) **47** #857 47A50 (65J05)

The regularization of operator equations of the first kind. (Russian) *Dokl. Akad. auk SSSR* **221** (1975), *no.* 1, 45–47. (A. V. Džiškariani) **55** #13770 65J05 (47H15)

Regularizing algorithms. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), 12–18, 274. (V. V. Ivanov) **51** #11954 65J05 (47H15)

A certain method of regularizing operator equations in Banach spaces. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 4, 1044–1046, 1087. (C. Ilioi) **54** #11083 47A50 (65J05)

Hudaverdiev, K. I. Analysis of the classical solution of a one-dimensional mixed problem for a certain class of functional equations. (Russian. Azerbaijani summary) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **26** (1970), *no.* 12, 11–15. (O. John) **45** #693 35A05

An investigation of the mixed problem for a certain class of second order hyperbolic equations with a nonlinear operator right-hand side. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **27** (1971), *no.* 9, 3–7. (M. Kopáčková) **46** #494 35A35 (35L20)

Investigation by the Fourier method of the classical solution of a multidimensional mixed problem for a certain class of second order hyperbolic equations whose right-hand side is a nonlinear operator. (Russian. English and Azerbaijani summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **27** (1971), *no.* 10, 8–14. (M. Kopáčková) **46** #9548c 35L60

An investigation of the solution almost everywhere of a multidimensional mixed problem for a certain class of second order hyperbolic equations whose right-hand side is a nonlinear operator. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 5-6, 25–31. (M. Kopáčková) **46** #9548a 35L60

An investigation of the strongly generalized solution of a multidimensional mixed problem for a certain class of second order hyperbolic equations whose right-hand side is a nonlinear operator. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 5–6, 84–90. (M. Kopáčková) **46** #9548b 35L60

A study of the weakly generalized solution of a multidimensional mixed problem for a certain class of second order hyperbolic equations with nonlinear operator right-hand side. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp.* 37–47. *Samarkand. Gos. Univ.*, *Samarkand*, 1972. (A. Haimovici) **54** #740 35L20 (47H15)

An investigation of the classical solution of the multidimensional mixed problem for a certain class of second order quasilinear hyperbolic equations. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1972**, *no.* 1, 3–27. (M. Kopáčková) **50** #13901 35L60

Hudde, Johannes *See* **MacLean, J.**, **58** #26905

Huddleston, John V. Computational approaches to nonlinear dynamic stability problems. *Computational methods in nonlinear mechanics* (*Proc. Internat. Conf.*, *Austin*, *Tex.*, 1974), *pp.* 221–228. *Texas Inst. Comput. Mech.*, *Austin*, *Tex.*, 1974. (Author's summary) **53** #7199 73.65

Huddleston, P. L. (*with* Roman, Paul; Aghassi, J. J.) Relativistic dynamical symmetries and dilatations. *J. Mathematical Phys.* **13** (1972), 1852–1861. (A. Wyler) **48** #13113 83.22

(*with* Roman, Paul; Aghassi, J. J.; Santilli, Ruggero Maria) Nonrelativistic composite elementary particles and the conformal Galilei group. (Italian and Russian summaries) *Nuovo Cimento A* (11) **12** (1972), 185–204. (J.-P. Antoine) **49** #8540 81.22

(*with* Lorente, Miguel; Roman, Paul) Some properties of matrices occuring in SL$(2, C)$ invariant wave equations. *J. Mathematical Phys.* **14** (1973), 1495–1497. (C. J. Henrich) **48** #7809 81.22

(*with* Roman, Paul; Lorente, Miguel) A bilocal scale-invariant field theory for massive particles. (Italian and Russian summaries) *Nuovo Cimento A* (11) **21** (1974), 592–610. (Panayotis Tsilimigras) **53** #4785 81.22

(*with* Lorente, Miguel; Roman, Paul) Contractions of space-time groups and relativistic quantum mechanics. *Found. Phys.* **5** (1975), *no.* 1, 75–87. (Authors' summary) **58** #4017 81.22

(*with* Conatser, C. W.) Computation of Casimir invariants of Lie algebras. *Computers in nonassociative rings and algebras* (*Special Session*, 82*nd Annual Meeting Amer. Math. Soc.*, *San Antonio*, *Tex.*, 1976), *pp.* 157–165. *Academic Press*, *New York*, 1977. (Johan G. Belinfante) **56** #8639 17–04

Huddleston, Robert E. Some relations between the values of a function and its first derivative at n abscissa points. *Math. Comp.* **25** (1971), 553–558. (J. D. Lambert) **45** #6155 65D25

Selection of stepsize in the variable-step predictor-corrector method of Van Wyk. *J. Computational Phys.* **9** (1972), 528–537. (Jochen Werner) **46** #2868 65L05

Variable-step truncation error estimates for Runge-Kutta methods of order 4 or less. *J. Math. Anal. Appl.* **39** (1972), 636–646. (H. Brunner) **46** #8422 65L05

On the conditional equivalence of two starting methods for the second algorithm of Remez. *Math. Comp.* **28** (1974), 569–572. (Author's summary) **49** #6550 65D15

Hudenko, V. N. The fundamental object of an $(n-1)$ dimensional manifold of subquadratic elements. (Russian) *Kaliningrad. Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figur No.* 6 (1975), 222–227. (From the text) **58** #30799 53A20

Manifolds of multidimensional quadrics in projective space. (Russian) *Kaliningrad. Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figur Vyp.* 8 (1977), 126–134, 157. (Author's introduction) **58** #24053 53A20

Hudgin, Richard H. Generalizing Riemannian geometry. *J. Mathematical Phys.* **14** (1973), 1794–1799. (J. K. Beem) **48** #13147 83.53

Hudiĭ, M. Ī. The separation of a linear factor from a matrix polynomial. (Ukrainian. Russian summary) *Vīsnik L′vīv. Polītehn. Inst. No.* 59 (1971), 9–13, 146. (G. M. Bergman) **54** #12807 15A30

(*with* Kazīmīrs′kiĭ, P. S.) Representation of a matrix polynomial in block form. (Ukrainian. Russian summary) *Vīsnik L′vīv. Polītehn. Īnst. No.* 75 (1973), 14–19, 92. (G. M. Bergman) **48** #3985 15A21

An algorithm for the solution of a class of matrix equations. (Ukrainian. Russian summary) *Vīsnik L′vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 157–160, 200. (Author's summary) **58** #28035 15A24

Hudimoto, Hirosi Statistical approach involving Bayes' theorem and the estimation of the prior distribution. *Ann. Japan Assoc. Philos. Sci.* **4** 35–45 (1971). (A. K. Gayen) **45** #4539 62F15

Empirical Bayes approach to multiple decision. *J. Japan Statist. Soc.* **2** (1971/72), *no.* 1, 27–32. (J. N. K. Rao) **46** #8336 62C99

Hudjaev, S. I. (*with* Vol'pert, A. I.) The Cauchy problem for composite systems of nonlinear differential equations. (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 504–528. (S. A. Tersenov) **52** #11353 35M05

(*with* Vasil'ev, V. M.; Vol'pert, A. I.) The method of quasistationary concentrations for the equations of chemical kinetics. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 683–697, 813. (Alexej Sitenko) **48** #10399 (E **49** #4507) 82.34

(*with* Vasil'ev, V. M.; Vol'pert, A. I.) On the article "The method of quasistationary concentrations for the equations of chemical kinetics" (Ž. Vyčisl. Mat. i Mat. Fiz. **13** (1973), 683–697). (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 263. (Alexej Sitenko) **49** #4507 82.60

(*with* Vol'pert, A. I.) ★**Анализ в классах разрывных функций и уравнения математической физики.** (Russian) [Analysis in classes of discontinuous functions, and the equations of mathematical physics] *Izdat. "Nauka", Moscow*, 1975. 394 *pp.* (*errata on inside back cover*) (P. C. Fife) **55** #903 35Q99 (46E35, 35–01, 46–01)

Certain approximate methods in radiative transfer theory. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 2, 412–428, 540. (Hans Kaper) **51** #12231 82.45

Hudjakov, G. F. (*with* Aĭzenberg, N. N.; Ivas'kiv, Ju. L.; Pospelov, D. A.) Multivalent threshold functions. I. Boolean complex threshold functions and their generalization. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 4, 44–51. (A. A. Mullin) **47** #3112 94A20

(*with* Aĭzenberg, N. N.; Ivas'kiv, Ju. L.; Pospelov, D. A.) Multivalued threshold functions. II. Synthesis of multivalued threshold elements. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 1, 53–66. (A. A. Mullin) **49** #8742 94A20

Hudjakov, G. I. A spectral-correlational method for representation of random processes and random fields. *Radiotehn. i Èlektron.* **19** (1974), 715–720 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **19** (1974), 42–46. (Simeon M. Berman) **51** #6958 60G17

A method of mathematical representation of regular random processes and fields. *Radiotehn. i Èlektron.* **19** (1974), *no.* 2, 265–273 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **19** (1974), *no.* 2, 20–28. (Author's summary) **56** #15035 93E10

Hudjakov, Ju. A. (*with* Docenko, S. V.) The reconstruction of a process from discrete measurements by means of a sliding polynomial. (Russian) *Avtometrija* **1974**, *no.* 3, 17–21, 113. (Walter Gautschi) **50** #1465 65D05

A probability model of an economy. (Russian) *Operations research* (*models, systems, solutions*), *No.* 5 (*Russian*), *pp.* 80–92, 182. *Vyčisl. Centr, Akad. Nauk SSSR, Moscow*, 1976. (Ju. G. Pavlov) **58** #32861 90A15

Hudjakova, G. I. (*with* Vilenkin, N. Ja.; Šapiro, R. L.) Generalized Jacobi polynomials and their limit values. (Russian) *Functional analysis, No.* 9: *Harmonic analysis on groups* (*Russian*), *pp.* 29–39. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk*, 1977. (S. I. Gel'fand) **58** #1048 22E70 (33A75)

Hudlet, Raul (*with* Johnson, Richard A.) Linear discrimination and some further results on best lower dimensional representations. *Classification and clustering* (*Proc. Adv. Sem., Univ. Wisconsin, Madison, Wis.*, 1976), *pp.* 371–394. *Math. Res. Center Publ., No.* 37, *Academic Press, New York*, 1977. (Anant M. Kshirsagar) **57** #17955 62H30

Hudry, Alain Une remarque sur la décomposition primaire de O. Goldman. *Publ. Dép. Math.* (*Lyon*) **8** (1971), *no.* 1, 63–68. (C. Niţă) **48** #8567 16A64

Modules homogènes et anneaux localement homogènes. *Séminaire P. Dubreil, M.-L. Dubreil-Jacotin, L. Lesieur et C. Pisot*, 24*e année* (1970/71), *Algèbre et théorie des nombres, Fasc.* 2, *Exp. No.* 15, 10 *pp. Secrétariat Mathématique, Paris*, 1972. (V. C. Cateforis) **52** #13905 16A08

Sur les modules primaires de O. Goldman. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1772–A1774. (E. P. Armendariz) **46** #3568 16A64

Localisations premières. Colloque d'Algèbre Non Commutative (Lyon, 1973). *Publ. Dép. Math.* (*Lyon*) **10** (1973), *no.* 1, 1–8. (J. C. Robson) **49** #5062 16A08

Une note sur les anneaux noethériens à droite avec assez d'idéaux bilatères. *Arch. Math.* (*Basel*) **25** (1974), 361–367. (B. J. Müller) **50** #7247 16A46

Sur les anneaux noethériens à droite avec assez d'idéaux bilatères à droite. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 533–535. (B. J. Müller) **50** #2241 16A46

Sur les anneaux satisfaisant à la propriété de décomposition primaire. *Mitt. Math. Sem. Giessen No.* 112 (1974), 34–54. (K. A. Byrd) **50** #7264 16A66

Décomposition primaire de O. Goldman et décomposition primaire classique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Ai, A1089–A1092. (K. A. Byrd) **51** #5675 16A66

Sur un problème de C. Faith. *J. Algebra* **34** (1975), 365–374. (K. A. Byrd) **51** #5640 16A18

Épimorphismes plats à buts locaux, quasi-locaux et semi-locaux. *Publ. Dép. Math.* (*Lyon*) **12** (1975), *no.* 2, 31–41. (Jacques Raynaud) **52** #8173 16A08

(*with* Chamarie, Marc) Anneaux noethériens à droite entiers sur leurs centres. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 15, Ai, A1011–A1012. (B. J. Müller) **55** #5673 16A08 (16A46)

(*with* Chamarie, Marc) Anneaux noethériens à droite entiers sur un sous-anneau de leur centre. *Comm. Algebra* **6** (1978), *no.* 2, 203–222. (G. Michler) **57** #3194 16A56

Hudson, Carolyn Brauer On pandiagonal magic squares of order $6t\pm 1$. *Math. Mag.* **45** (1972), 94–96. (From the author's introduction) **45** #3309 10A45

Hudson, D. J. Interval estimation from the likelihood function. *J. Roy. Statist. Soc. Ser. B* **33** (1971), 256–262. (D. A. Sprott) **47** #4381 62F25

Hudson, H. M. A natural identity for exponential families with applications in multiparameter estimation. *Ann. Statist.* **6** (1978), *no.* 3, 473–484. (James Berger) **57** #7832 62C15 (62F10)

Hudson, Irene L. (*with* Seneta, Eugene) A note on simple branching processes with infinite mean. *J. Appl. Probability* **14** (1977), *no.* 4, 836–842. (D. R. Grey) **57** #1677 60J80

Hudson, J. F. P. Embeddings of bounded manifolds. *Proc. Cambridge Philos. Soc.* **72** (1972), 11–20. (D. W. L. Sumners) **45** #7728 57D40

Hudson, Malcolm (*with* Gordon, Louis) A characterization of the von Mises distribution. *Ann. Statist.* **5** (1977), *no.* 4, 813–814. (S. G. Maloševskiĭ) **55** #11460 62E10 (60J65)

Hudson, R. L. A quantum-mechanical central limit theorem for anti-commuting observables. *J. Appl. Probability* **10** (1973), 502–509. (H. Araki) **50** #9228 81.46

A new system of Casimir operators for U(n). *J. Mathematical Phys.* **15** (1974), 1067–1070. (Author's summary) **49** #9122 22E70

When is the Wigner quasi-probability density non-negative? *Rep. Mathema Phys.* **6** (1974), *no.* 2, 249–252. (James McDonald) **52** #4896 81.60

(*with* Moody, G. R.) Locally normal symmetric states and an analogue of Finetti's theorem. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **33** (1975/76), *n* 343–351. (E. Størmer) **53** #1280 46L05

Translation-invariant quantizations and algebraic structures on phase space. *Mathematical Phys.* **10** (1976), *no.* 1, 9–20. (Guy Loupias) **55** #5025 81.46

(*with* Cockroft, A. M.) Quantum mechanical Wiener processes. *J. Multivar Anal.* **7** (1977), *no.* 1, 107–124. (R. A. Minlos) **56** #8789 28A40 (60H05, 81.60)

(*with* Cockroft, A. M.; Gudder, Stanley P.) A quantum-mechanical functi central limit theorem. *J. Multivariate Anal.* **7** (1977), *no.* 1, 125–148. (R. A. Min **56** #8790 28A40 (60B10, 81.60)

Hudson, Richard H. On the distribution of k-th power nonresidues. *Duke Math. J.* (1972), 85–88. (O. H. Körner) **45** #158 10A15

Prime k-th power non-residues. *Acta Arith.* **23** (1973), 89–106. (O. H. Kör **48** #214 10A15

A bound for the first occurrence of three consecutive integers with equal quadr character. *Duke Math. J.* **40** (1973), 33–39. (K. S. Williams) **47** #3295 10A15

On the distribution of k-th power non residues in the interval $[1,p^a], 2/5<a<4$, *J. Reine Angew. Math.* **260** (1973), 178–180. (H. London) **47** #4909 10A15

A note on Dirichlet characters. *Math. Comp.* **27** (1973), 973–975. (D. H. Lehm **49** #2619 10H35 (10H15)

On the least kth power non-residue. *Ark. Mat.* **12** (1974), 217–220. (E. M. Horadam) **50** #12885 10A15

Totally multiplicative sequences with values ± 1 which exclude four consecu values of 1. *J. Reine Angew. Math.* **271** (1974), 218–220. (S. L. G. Choi) **50** #976 10A20 (10L10)

A note on the second smallest prime kth power nonresidue. *Proc. Amer. Math. S* **46** (1974), 343–346. (G. Greaves) **51** #394 10H35

Power residues and nonresidues in arithmetic progressions. *Trans. Amer. Math. S* **194** (1974), 277–289. (H. London) **51** #10202 10A15

A bound for the first $k-1$ consecutive k-th power non-residues (mod$p$). *Acta Ar* **28** (1975/76), *no.* 3, 341–343. (E. M. Horadam) **52** #10634 10H35

A sharper bound for the least pair of consecutive k-th power non-residues non-principal characters (mod p) of order $k>3$. *Acta Arith.* **30** (1976), *no.* 2, 133–1 (D. Suryanarayana) **54** #10172 10H35

The least pair of consecutive character non-residues. *J. Reine Angew. Math.* (1976), 219–220. (E. M. Horadam) **52** #10635 10H35

Generalizations of a classical theorem in number theory. *Math. Comp.* **30** (19 *no.* 135, 649–656. (Philip A. Leonard) **53** #7916 10A10

A formula for the exact number of primes below a given bound in any arithme progression. *Bull. Austral. Math. Soc.* **16** (1977), *no.* 1, 67–73. (J. W. Porter) **55** #12 10H20

On a conjecture of Issai Schur. *J. Reine Angew. Math.* **289** (1977), 215–220. (H Kanold) **58** #16481 10A15 (10H35)

(*with* Brauer, Alfred) On the exact number of primes in the arithmetic progressi $4n\pm 1$ and $6n\pm 1$. *J. Reine Angew. Math.* **291** (1977), 23–29. (Judith Sunley) **56** #2 10H20

(*with* Bays, Carter) The mean behavior of primes in arithmetic progressions. *Reine Angew. Math.* **296** (1977), 80–99. (Aleksandar Ivić) **57** #255 10H20

(*with* Bays, Carter) The segmented sieve of Eratosthenes and primes in arithme progressions to 10^{12}. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **17** (1977), *no.* 121–127. (D. H. Lehmer) **56** #5405 10A25 (10–04)

(*with* Bays, Carter) The appearance of tens of billions of integers x with $\pi_{24,13}(x)<\pi_{24,1}(x)$ in the vicinity of 10^{12}. *J. Reine Angew. Math.* **299/300** (197 234–237. (I. Kátai) **57** #12418 10H05

(*with* Bays, Carter) On the fluctuations of Littlewood for primes of the form $4n\pm$ *Math. Comp.* **32** (1978), *no.* 141, 281–286. (S. L. Segal) **57** #16174 10–04 (10H15

(*with* Bays, Carter) Details of the first region of integers x with $\pi_{3,2}(x)<\pi_{3,1}(x$ *Math. Comp.* **32** (1978), *no.* 142, 571–576. (J.-C. Herz) **57** #16175 10–04 (10H20)

Hudson, Suzanne (*with* Ross, John) Nonequilibrium kinetics: exact and approximate solutions. *J. Statist. Phys.* **14** (1976), *no.* 6, 469–481. (M. Dutta) **55** #5129 82.62

Hudson, William N. A decomposition theorem for biadditive processes. *Pacific J. Math.* (1972), 333–341. (D. W. Stroock) **47** #4341 60J30

Continuity of sample functions of biadditive processes. *Pacific J. Math.* **42** (197 343–358. (D. W. Stroock) **47** #4342 60J30 (60G15, 60G17)

(*with* Yeh, J.) Transformation of the generalized Wiener measure under a class linear transformations. *Tôhoku Math. J.* (2) **24** (1972), 423–433. (H. Salehi) **47** #97 60J65

(*with* Tucker, Howard G.) Limit theorems for variational sums. *Trans. Amer. Mat Soc.* **191** (1974), 405–426. (Harry I. Cohn) **50** #11385 60F05

(*with* Tucker, Howard G.) Equivalence of infinitely divisible distributions. *An Probability* **3** (1975), 70–79. (F. W. Steutel) **51** #9148 60E05

(*with* Mason, Jesse David) More on equivalence of infinitely divisible distribution *Ann. Probability* **3** (1975), *no.* 3, 563–568. (Stephen James Wolfe) **51** #11620 60E

(*with* Tucker, Howard G.) On admissible translates of infinitely divisible distributions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **32** (1975), 65–72. (Stephen James Wolfe) **51** #11619 60E05

Admissible translates for probability distributions. *Ann. Probability* **4** (1976), *no.* 505–508. (Patrick L. Brockett) **54** #14040 60E05 (28A10)

(*with* Mason, Jesse David) Variational sums for additive processes. *Proc. Ame Math. Soc.* **55** (1976), *no.* 2, 395–399. (Bert Fristedt) **53** #9385 60J30

(*with* Tucker, Howard G.) A bivariate strong law of large numbers. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **39** (1977), *no.* 2, 103–110. (Gábor Székely) **56** #6807 60F15

(*with* Brockett, Patrick L.; Tucker, Howard G.) The distribution of the likeliho ratio for additive processes. *J. Multivariate Anal.* **8** (1978), *no.* 2, 233–243. (G. M Molčan) **58** #18701 60G30 (62M99)

Hudzik, Henryk A generalization of Sobolev spaces. I. *Funct. Approximatio Comment*

Math. **2** (1976), 67–73. (A. Kufner) **57** #7141a 46E35

A generalization of Sobolev spaces. II. *Funct. Approximatio Comment. Math.* **3** (1976), 77–85. (A. Kufner) **57** #7141b 46E35

On generalized Orlicz-Sobolev space. *Funct. Approximatio Comment. Math.* **4** (1976), 37–51. (J. Albrycht) **56** #1052 46E35

On problem of density of $C_0^\infty(\Omega)$ in generalized Orlicz-Sobolev space $W_M^k(\Omega)$ for every open set $\Omega\subset\mathbf{R}^n$. *Comment. Math. Prace Mat.* **20** (1977/78), *no.* 1, 65–78. (J. G. Dhombres) **58** #23541 46E35

On density of $C^\infty(\Omega)$ in Orlicz-Sobolev space $W_M^k(\Omega)$ for every open set $\Omega\subset\mathbf{R}^n$. *Funct. Approximatio Comment. Math.* **5** (1977), 113–128. (R. A. Adams) **58** #12333 46E35

Huebener, M. Jeanette Complementation in the lattice of regular topologies. *Pacific J. Math.* **43** (1972), 139–149. (Anne K. Steiner) **47** #4193 54A10

Hueber, Hermann Über die Existenz harmonischer Minoranten von superharmonischen Funktionen. *Math. Ann.* **225** (1977), *no.* 2, 99–114. (M. Brelot) **55** #684 31A05

Huebschmann, Johannes Sur les premières différentielles de la suite spectrale cohomologique d'une extension de groupes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 15, A929–A931. (Author's summary) **57** #12649 18G40 (18H10)

Extensions de groupes et paires croisées. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 16, A993–A995. (Author's summary) **58** #16846 18H10

Hueckel, Manfred H. A local visual operator which recognizes edges and lines. *J. Assoc. Comput. Mach.* **20** (1973), 634–647; *erratum, ibid.* **21** (1974), 350. (Arnold Griffith) **53** #4657 68A45

Hueckel, T. (*with* Maier, Giulio) Incremental boundary value problems in the presence of coupling of elastic and plastic deformations: a rock mechanics oriented theory. *Internat. J. Solids and Structures* **13** (1977), *no.* 1, 1–15. (Authors' summary) **57** #8300 73.35

Huelsman, Charles B., III Quadrature formulas over fully symmetric planar regions. *SIAM J. Numer. Anal.* **10** (1973), 539–552. (A. H. Stroud) **48** #7550 65D30

v. hoyningen-Huene, Paul *See* **v. Hoyningen-Huene, Paul**

trân Huê Nhuong *See* **Trân Huê Nhuong**

Huerta, M. A. (*with* Robertson, H. S.; Nearing, J. C.) Exact equilibration of harmonically bound oscillator chains. *J. Mathematical Phys.* **12** (1971), 2305–2311. (C. J. Eliezer) **45** #4785 82.62

Huet, Christian Opérateurs intégrodifférentiels matriciels pour l'étude des systèmes à réponse différée présentant du vieillissement. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1119–1122. (John M. Ball) **49** #10232 73.47

Huet, Denise ★Distributions and Sobolev spaces. An elementary introduction and a few applications. Lecture Note No. 6. *Department of Mathematics, University of Maryland, College Park, Md.*, 1970. ii+171*pp.* (Editors) **57** #1115 46Fxx (46E35)

Singular perturbations of elliptic problems. *Ann. Mat. Pura Appl.* (4) **95** (1973), 77–114. (W. M. Greenlee) **48** #6631 35B25 (35J35, 47A99)

Convergence discrète et rapidité de convergence dans les problèmes de perturbation singulière. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 23, *A*ii, *A*1035–*A*1037. (Boro Döring) **53** #8940 47A55 (65J05)

★Décomposition spectrale et opérateurs. Le Mathématicien, No. 16. *Presses Universitaires de France, Paris*, 1976, 148 *pp.* (P. Szeptycki (Zbl **334** #47012)) **57** #13559 47B25 (46M35, 47A55)

Perturbations singulières de problèmes elliptiques. *Singular perturbations and boundary layer theory* (*Proc. Conf., École Centrale, Lyon*, 1976), *pp.* 288–300. *Lecture Notes in Math., Vol.* 594, *Springer, Berlin*, 1977. (Z. C. Motteler) **58** #1589 35J40 (35B25)

See also **Schwartz, Laurent**, **50** #9459

Huet, Gérard The undecidability of unification in third order logic. *Information and Control* **22** (1973), 257–267. (A. Rose) **54** #2442 02G05 (02B15, 68A40)

Unification in typed lambda calculus. *λ-calculus and computer science theory* (*Proc. Sympos., Rome*, 1975), *pp.* 192–212. *Lecture Notes in Comput. Sci., Vol.* 37, *Springer, Berlin*, 1975. (John Staples) **57** #2886 02C20

A unification algorithm for types λ-calculus. *Theoret. Comput. Sci.* **1** (1975), *no.* 1, 27–57. (Curt Christian) **54** #6583 68A40 (02C20)

Confluent reductions: abstract properties and applications to term rewriting systems. 18*th Annual Symposium on Foundations of Computer Science* (*Providence, R.I.*, 1977), *pp.* 30–45. *IEEE Comput. Soc., Long Beach, Calif.*, 1977. (Author's summary) **58** #32033 68A10 (02C20)

An algorithm to generate the basis of solutions to homogeneous linear Diophantine equations. *Information Processing Lett.* **7** (1978), *no.* 3, 144–147. (Ezra Brown) **57** #12376 10B05 (68A10)

Huet, Patrick Un exemple d'épimorphisme d'anneaux non surjectif. *Bull. Sci. Math.* (2) **96** (1972), 151–153. (N. Popescu) **52** #13807 13D99

Huff, Barthel W. Further comments on the continuity of distribution functions obtained by superposition. *Proc. Amer. Math. Soc.* **35** (1972), 561–564. (A. Fuchs) **46** #2711 60E05

On the continuity of infinitely divisible distributions. *Sankhyā Ser. A* **34** (1972), 443–446. (R. A. Horn) **51** #9149 60E05

A comparison of sample path properties for the inverse Gaussian and Bessel processes. *Scand. Actuar. J.* **1974**, 157–166. (V. V. Anisimov) **51** #4362 60G15 (60J65)

Random walks and the continuity of infinitely divisible distributions. *SIAM J. Appl. Math.* **26** (1974), 372–375. (A. Fuchs) **49** #11593 60E05

The inverse Gaussian distribution and Root's barrier construction. *Sankhyā Ser. A* **37** (1975), *no.* 3, 345–353. (C. Park) **55** #6589 60J65 (60E05)

(*with* Broughton, Allen) A comment on unions of sigma-fields. *Amer. Math. Monthly* **84** (1977), *no.* 7, 553–554. (V. Ficker) **56** #8778 28A05

Some comments on mixtures and infinite divisibility. *SIAM J. Appl. Math.* **35** (1978), *no.* 1, 17–20. (F. W. Steutel) **58** #7781 60E05

Huff, G. B. On pairings of the first $2n$ natural numbers. *Acta Arith.* **23** (1973), 117–126. (D. A. Klarner) **48** #10849 05B10 (10A10)

Huff, Melvyn Conformal maps on Hilbert space. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 1, 147–149. (Sadayuki Yamamuro) **52** #15536 58C05

Huff, Robert E. The Yosida-Hewitt decomposition as an ergodic theorem. *Vector and operator valued measures and applications* (*Proc. Sympos., Alta, Utah*, 1972), *pp.* 133–139. *Academic Press, New York*, 1973. (T. Traynor) **48** #8743 28A45

(*with* Biggs, J. H.; Deutsch, Frank; Morris, Peter D.; Olson, J. E.) Interpolating subspaces in l_1-spaces. *J. Approximation Theory* **7** (1973), 293–301. (D. E. Wulbert) **49** #5664 41A65 (46B05)

Dentability and the Radon-Nikodým property. *Duke Math J.* **41** (1974), 111–114. (J. J. Uhl, Jr.) **49** #5783 46B05 (46G10)

(*with* Morris, Peter D.) Dual spaces with the Krein-Milman property have the Radon-Nikodým property. *Proc. Amer. Math. Soc.* **49** (1975), 104–108. (J. Diestel) **50** #14220 46G10 (28A45, 46B05)

The Radon-Nikodým property for Banach spaces. *Measure theory* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 229–242. *Lecture Notes in Math., Vol.* 541, *Springer, Berlin*, 1976. (Barbara T. Faires) **56** #1034 46B99 (28A45)

(*with* Morris, Peter D.) Geometric characterizations of the Radon-Nikodým property in Banach spaces. *Studia Math.* **56** (1976), *no.* 2, 157–164. (J. Diestel) **54** #897 46B05

The Radon-Nikodým property for Banach-spaces—a survey of geometric aspects. *Functional analysis: surveys and recent results* (*Proc. Conf., Paderborn*, 1976), *pp.* 1–13. *North-Holland Math. Studies, Vol.* 27; *Notas de Mat., No.* 63, *North-Holland, Amsterdam*, 1977. (Barbara T. Faires) **58** #7037 46B05 (46G10)

Huffaker, J. N. (*with* Dwivedi, P. H.) Factorization-method treatment of the perturbed Morse oscillator. *J. Mathematical Phys.* **16** (1975), 862–867. (Z. Janković) **51** #14789 81.34

Huffman, Alice A. Lifting isomorphisms between l-ideals of Φ-algebras. *Symposia Mathematica, Vol. XXI* (*Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Convegno sui Gruppi e Anelli Ordinati, INDAM, Rome*, 1975), *pp.* 589–607. *Academic Press, London*, 1977. (P. Nanzetta) **58** #7101 46J20 (06A70)

Huffman, David A. (*with* Hall, D. J.; Duda, R. O.; Wolf, D. E.) ★Development of new pattern-recognition methods. ARL 73-0153. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1973. xii+223 *pp.* (W. Greblicki) **50** #3668 68A45

See also **Key papers in the development of information theory**, **52** #5177

Huffman, Ed W. Strict convexity in locally convex spaces and fixed point theorems. *Math. Japon.* **22** (1977), *no.* 3, 323–333. (B. E. Rhoades) **57** #7091 46A05 (47H10)

(*with* Hicks, Troy L.) Fixed point theorems in generalized Hilbert spaces. *J. Math. Anal. Appl.* **64** (1978), *no.* 3, 562–568. (Heinrich Steinlein) **58** #12543 47H10

Huffman, Shirley M. (*with* Hicks, Troy L.) A note on locally quasi-uniform spaces. *Canad. Math. Bull.* **19** (1976), *no.* 4, 501–504. (S. Swaminathan) **56** #1268 54E15

Huffman, W. Cary Linear groups containing an element with an eigenspace of codimension two. *J. Algebra* **34** (1975), 260–287. (G. I. Lehrer) **53** #5762 20G20

(*with* Wales, David B.) Linear graphs of degree n containing an element with exactly -2 equal eigenvalues. Collection of articles dedicated to Olga Taussky-Todd. *Linear and Multilinear Algebra* **3** (1975/76), *no.* 1/2, 53–59. (G. I. Lehrer) **53** #5763 20G20

(*with* Wales, David B.) Linear groups containing an element with an eigenspace of codimension two. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah*, 1975), *pp.* 425–429. *Academic Press, New York*, 1976. (Robert W. Kilmoyer) **55** #8199 20G05

(*with* Wales, David B.) Linear groups of degree eight with no elements of order seven. *Illinois J. Math.* **20** (1976), *no.* 3, 519–527. (J. L. Brenner) **53** #13430 20G40

(*with* Wales, David B.) Linear groups containing an involution with two eigenvalues -1. *J. Algebra* **45** (1977), *no.* 2, 465–515. (Ulrich Dempwolff) **55** #8203 20G20

Huffstutler, R. G. A sequence of best approximate solutions of $y'=F(x,y)$ using the L_q norm. *Rend. Circ. Mat. Palermo* (2) **20** (1971), 263–268 (1972). (E. W. Cheney) **48** #11647 34A45 (41A10)

(*with* Smith, L. D.; Liu, Ya Yin) Criterion for the polynomial solutions of certain first order differential equations. *Portugal. Math.* **31** (1972), 139–145. (From the authors' introduction) **46** #422 34A05

(*with* Vorheis, R.) Orthogonal polynomial solutions of even-ordered ordinary differential equations. *J. Approximation Theory* **7** (1973), 163–166. (Y. L. Luke) **49** #3247 33A65

Hüfner, Heinrich Vier Algorithmen zur Informationsreduktion an fehlerbehafteten Punktfolgen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernet.* **11** (1975), *no.* 1-2, 117–130. (R. H. Bartels) **51** #7232 65D10

Hüfner, Jörg (*with* Auerbach, Naftali; Kerman, A. K.; Shakin, C. M.) A theory of isobaric analog resonances. *Rev. Modern Phys.* **44** (1972), 48–125. (Authors' summary) **55** #9760 81.47

Hugelshofer, Rene ★Die Laplacetransformation auf lokalkompakten abelschen Gruppen. Mit einer Englischen Zusammenfassung. Abhandlung zur Erlangung des Titels eines Doktors der Naturwissenschaften. Diss. No. 5803. *Eidgenössische Technische Hochschule, Zurich*, 1976. 75 *pp.* (B. Dreseler) **58** #12208 43A32 (44A10)

Hugenholtz, N. M. (*with* Kadison, Richard V.) Automorphisms and quasi-free states of the CAR algebra. *Comm. Math. Phys.* **43** (1975), *no.* 2, 181–197. (H. Araki) **52** #4881 81.46

Equilibrium states in quantum statistical mechanics. *C^*-algebras and their applications to statistical mechanics and quantum field theory* (*Proc. Internat. School of Physics "Enrico Fermi", Course LX, Varenna*, 1973), *pp.* 226–234. *North-Holland, Amsterdam*, 1976. (From the introduction) **58** #32671 82.46 (46L05)

Certain automorphisms of the C.A.R.-algebra. *Symposia Mathematica, Vol. XX* (*Convegno sulle Algebre C^* e loro Applicazioni in Fisica Teorica, Convegno sulla Teoria degli Operatori Indice e Teoria K, INDAM, Rome*, 1975), *pp.* 327–334. *Academic Press, London*, 1976. (H. Araki) **57** #2297 81.46 (46L05)

Operator algebras in quantum statistical mechanics. *Nieuw Arch. Wisk.* (3) **25** (1977), *no.* 3, 206–212. (Gérard G. Emch) **58** #14662 81.47 (46Lxx, 82.46)

See also **Mathematics of contemporary physics**, **53** #7

Huggins, Frank N. A generalization of a theorem of F. Riesz. *Pacific J. Math.* **39** (1971), 695–701. (W. D. L. Appling) **46** #3713 26A45

Some interesting properties of the variation function. *Amer. Math. Monthly* **83** (1976), *no.* 7, 538–546. (Mauro Boni) **54** #7716 26A45

On the equivalence of certain integrals. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 4, 359–364. (W. D. L. Appling) **55** #8291 28A25

Bounded slope variation and generalized convexity. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 1, 65–69. (Jaroslav Smítal) **57** #6326 26A45 (26A42, 26A51)

Huggins, W. H. (*with* Blinchikoff, H. J.) Quasi-stationary analysis of linear time-varying systems excited by modulated signals. *J. Franklin Inst.* **292** (1971), 369–385. (B. J. Leon) **47** #10125 94A05

Hughen, James H. (*with* Lee, Jong-sen) An optimum phase synchronizer in a partially coherent receiver. *IEEE Trans. Aerospace and Electron. Systems* **AES-7** (1971), 652–661. (Authors' summary) **45** #6505 94A05

Hughes, A. O. *See* **Neave, Henry R.**, **56** #13484

Hughes, Ann (*with* Grawoig, Dennis) ★Statistics: a foundation for analysis. *Addison-Wesley Publishing Co., Reading, Mass.-London-Don Mills, Ont.*, 1971. xvi + 525 *pp.* (Editors) **50** #15009 62–01

Hughes, Anthony Characterization of $^3D_4(q^3)$, $q=2^n$ by its Sylow 2-subgroup. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah*, 1975), *pp.* 103–105. *Academic Press, New York*, 1976. (H. Kurzweil) **53** #10923 20D20

An application of catastrophe theory. *Math. Gaz.* **61** (1977), *no.* 415, 1–20. (M. J. Sewell) **56** #6706 58C25 (73.58)

Hughes, B. A. On the interaction of surface and internal gravity waves: uniformly valid solution by extended stationary phase. *J. Fluid Mech.* **74** (1976), *no.* 4, 667–683. (E. G. Broadbent) **53** #7209 76.35

Hughes, Barnabas B. Johann Scheubel's revision of Jordanus de Nemore's *De numeris datis*: an analysis of an unpublished manuscript. *Isis* **63** (1972), *no.* 217, 221–234. (Eberhard Knobloch) **58** #21084 01A40 (01A35)

The earliest known record of California Indian numbers. (Spanish summary) *Historia Math.* **1** (1974), *no.* 1, 79–82. (Author's summary) **57** #15836 01A15

Biographical information on Jordanus de Nemore to date. *Janus* **62** (1975), *no.* 1-3, 151–156. (J. S. Joel) **58** #26812 01A35

Hughes, C. Bruce Some properties of Whitney continua in the hyperspace $C(X)$. *Topology Proceedings, Vol. I* (*Conf., Auburn Univ., Auburn, Ala.*, 1976), *pp.* 209–219. *Math. Dept., Auburn Univ., Auburn, Ala.*, 1977. (Jozef Krasinkiewicz) **56** #16585 54F20 (54B20)

Hughes, Carl C. (*with* Struble, Raimond A.) Neocontinuous Mikusiński operators. *Trans. Amer. Math. Soc.* **185** (1973), 383–400. (S. Łojasiewicz) **48** #12043 46Fxx (44A40)

Hughes, Charles E. Degrees of unsolvability associated with Markov algorithms. *Internat. J. Comput. Information Sci.* **1** (1972), 355–365. (Forbes D. Lewis) **49** #7129 02F30 (02F05, 02F15)

Many-one degrees associated with semi-Thue systems. *J. Comput. System Sci.* **7** (1973), 497–505. (D. A. Clarke) **48** #5838 02F30 (02F05)

Many-one degrees associated with problems of tag. *J. Symbolic Logic* **38** (1973), 1–17. (Robert M. Baer) **48** #5834 02F25 (02F15, 02F30)

(*with* Singletary, W. E.) Combinatorial systems with axiom. *Notre Dame J. Formal Logic* **14** (1973), 354–360. (L. Bokut′) **48** #10791 02F47

Single premise Post canonical forms defined over one-letter alphabets. *J. Symbolic Logic* **39** (1974), 489–495. (Forbes D. Lewis) **51** #98 02F30 (02G05)

(*with* Singletary, W. E.) Combinatorial systems defined over one- and two-letter alphabets. *Arch. Math. Logik Grundlagenforsch.* **17** (1975), *no.* 1-2, 25–33. (Forbes D. Lewis) **53** #105 02F05 (02G05, 02F30)

The general decision problem for Markov algorithms with axiom. *Notre Dame J. Formal Logic* **16** (1975), 208–216. (Vladimir Lifšic) **52** #2854 02F30 (02E10, 02G05)

(*with* Singletary, W. E.) Triadic partial implicational propositional calculi. *Z. Math. Logik Grundlagen Math.* **21** (1975), 21–28. (Forbes D. Lewis) **52** #13348 02F30

Sets derived by deterministic systems with axiom. *Z. Math. Logik Grundlagen Math.* **21** (1975), 71–80. (John P. Helm) **56** #2810 02F30 (02F15, 02G05)

Two variable implicational calculi of prescribed many-one degrees of unsolvability. *J. Symbolic Logic* **41** (1976), *no.* 1, 39–44. (M. R. Krom) **53** #12911 02F30 (02B05)

A reduction class containing formulas with one monadic predicate and one binary function symbol. *J. Symbolic Logic* **41** (1976), *no.* 1, 45–49. (H. Schwichtenberg) **54** #4955 02G05

(*with* Singletary, W. E.) The one-one equivalence of some general combinatorial decision problems. *Notre Dame J. Formal Logic* **18** (1977), *no.* 2, 305–309. (Cristian Calude) **57** #9513 02F50 (02G05)

Hughes, D. E. Recurrence relations for radial matrix elements obtained from hypervirial relations. *J. Phys. B* **10** (1977), *no.* 16, 3167–3174. (Pierre C. Sabatier) **57** #15068 81.47

Hughes, D. J. (*with* Jacobs, O. L. R.) Simultaneous identification and control using a neutral control law. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 30.2, 7 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33422 93E10

Hughes, Dafydd Rowlands (*with* Bacsich, Paul D.) Syntactic characterisations of amalgamation, convexity and related properties. *J. Symbolic Logic* **39** (1974), 433–451. (John T. Baldwin) **52** #71 02H05 (08A20)

Hughes, Daniel E. (*with* Hirschman, I. I., Jr.) ★Extreme eigenvalues of Toeplitz operators. Lecture Notes in Mathematics, Vol. 618. *Springer-Verlag, Berlin-New York*, 1977. iii + 145 *pp. ISBN* 3-540-07147-4 (A. Devinatz) **58** #12488 47B35 (42A56, 47A70)

Hughes, Daniel R. Peter Dembowski. (German) *Jber. Deutsch. Math.-Verein.* **74** (1972/73), *part* 1, 93–95. (Editors) **58** #10179 01A70

(*with* Piper, Fred C.) ★Projective planes. Graduate Texts in Mathematics, Vol. 6. *Springer-Verlag, New York-Berlin*, 1973. x + 291 *pp.* (G. Pickert) **48** #12278 50D35

Free closures and related topics. *Proceedings of the International Conference on Projective Planes* (*Washington State Univ., Pullman, Wash.*, 1973), *pp.* 107–113. *Washington State Univ. Press, Pullman, Wash.*, 1973. (M. J. Kallaher) **50** #11019 50D35

(*with* Piper, Fred C.) On resolutions and Bose's theorem. *Geometriae Dedicata* **5** (1976), *no.* 1, 129–133. (R. C. Mullin) **55** #129 05B05

Hughes, David K. Linear differential-difference operators and their adjoints. *Proc. Amer. Math. Soc.* **26** (1970), 408–414. (Author's summary) **54** #679 34K10

The adjoint of a linear functional-differential operator. *J. Differential Equations* **1** (1975), 11–17. (B. Stephan) **51** #6083 34K05

Hughes, Edward Perturbation theorems for relative spectral problems. *Canad. J. Math.* **2** (1972), 72–81. (Robert D. Brown) **45** #958 47A55

A short proof of an interpolation theorem. *Canad. Math. Bull.* **17** (1974), 127–128 (K. F. Klopfenstein) **50** #5510 47A60 (46M35)

On a quadratic eigenvalue problem. *SIAM J. Math. Anal.* **5** (1974), 319–326 (Jerome Eisenfeld) **49** #9321 34B25 (47E05)

(*with* Pandey, J. N.) An approximate Hilbert transform and its inversion. *Tôhok Math. J.* (2) **28** (1976), *no.* 4, 497–509. (M. K. Jain) **55** #3689 44A15

An optimization problem arising in resource management. *Utilitas Math.* **11** (1977 73–85. **58** #26035 90C50 (90A15)

Hughes, George E. (*with* Cresswell, Max J.) ★An introduction to modal logic. *Methue and Co., Ltd., London*, 1968. xii + 388 *pp.* (Brian F. Chellas) **55** #12472 02C10

(*with* Cresswell, Max J.) Omnitemporal logic and converging time. *Theoria* **4** (1975), *no.* 1, 11–34. (Editors) **58** #21474 02C10

Modal systems with no minimal proper extensions. *Rep. Math. Logic No.* 6 (1976) 93–98. (I. Ruzsa) **57** #9484 02C10

Omnitemporal logic and nodal time. *Rep. Math. Logic No.* 8 (1977), 41–61 (Editors) **58** #27333 02C10

Hughes, Ian (*with* Wei, Chou-hsiang) Group rings with only trivial units of finite order. *Canad. J. Math.* **24** (1972), 1137–1138. (I. B. S. Passi) **47** #313 20C05

(*with* Pearson, K. R.) The group of units of the integral group ring ZS_3. *Canad Math. Bull.* **15** (1972), 529–534. (S. K. Sehgal) **48** #4089 20C05

Division rings of fractions for group rings. II. *Comm. Pure Appl. Math.* **25** (1972) 127–131. (S. K. Sehgal) **45** #2037 20C05

Hurwitz-Radon matrices associated with quadratic forms. *Report of the Algebr Group*, *pp.* 336–345. *Queen's Papers in Pure and Appl. Math., No.* 36, *Queen's Univ. Kingston, Ont.*, 1973. (Richard Elman) **51** #567 15A63

Artinian quotient rings of group rings. Collection of articles dedicated to th memory of Hanna Neumann, III. *J. Austral. Math. Soc.* **16** (1973), 379–384. (A. V Jategaonkar) **49** #7291 16A18

Hughes, J. B. On some tensor identities. *Matrix Tensor Quart.* **23** (1972/73), 73–75. (C W. Kilmister) **47** #6744 15A72 (69.00)

Hughes, J. Steven (*with* Kandel, Abraham) Applications of fuzzy algebra to hazar detection in combinational switching circuits. *Internat. J. Comput. Information Sci.* (1977), *no.* 1, 71–82. (Masaharu Mizumoto) **55** #7602 94A20

Hughes, J. W. B. Corrigendum: "A theorem concerning partitions and its consequence i the theory of Lie algebras". *Canad. J. Math.* **25** (1973), 224. (Editors) **47** #401 22E60 (10A45)

$SU(3)$ in an $O(3)$ basis. II. Solution of the state labelling problem. *J. Phys. A* (1973), 281–298. (Author's summary) **54** #14635 81.47

$SU(3)$ in an $O(3)$ basis. I. Properties of shift operators. *J. Phys. A* **6** (1973), *no.* 48–58. (Author's summary) **54** #14634 81.47

$O(3)$ shift operators and the group $\mathrm{SL}(3, R)$. *J. Phys. A* **7** (1974), 779–786 (Author's summary) **53** #12260 81.22

Lie algebraic proofs of some theorems on partitions. *Number theory and algebra*, *pp* 135–155. *Academic Press, New York*, 1977. (James Lepowsky) **58** #10478 05A1 (10A45, 17B10)

Hughes, K. R. Deep topological invariants from the de Rham theory. *Math. Colloq. Univ Cape Town* **9** (1974), 123–133. (K.-T. Chen) **56** #16617 55D15 (58A10)

Hughes, Lawrence R. (*with* Justesen, Jørn) On maximum-distance-separable convolutiona codes. *IEEE Trans. Information Theory* **IT-20** (1974), 288. (R. J. McEliece) **50** #1608 94A10

Hughes, M. H. (*with* Post, D. E.) A Monte Carlo algorithm for calculating neutral ga transport in cylindrical plasmas. *J. Comput. Phys.* **28** (1978), *no.* 1, 43–55. (Authors summary) **58** #20144 82.65

Hughes, Michael (*with* Priemer, Roland) On sub-optimal fixed point and fixed lag smoothing in non-linear systems. *Internat. J. Control* **19** (1974), 1117–1127. (Ĭ. M. Stojanov) **50** #6609 93E10

Hughes, N. *See* **Control in space**, **48** #8040

Hughes, O. F. A useful relationship in the conformal mapping of quadrilaterals. *Bull Austral. Math. Soc.* **9** (1973), 99–104. (G. Opfer) **48** #8766 30A24

(*with* Mistree, F.) Some considerations regarding structural optimization and finite element analysis. *Finite element methods in engineering* (*Proc. Internat. Conf., Univ. New South Wales, Kensington*, 1974), *pp.* 139–159. *Unisearch, Kensington*, 1974. (Hwan-Sha Ho) **57** #8347 73.65

A simplification of the Schwarz-Christoffel formula for symmetric quadrilateral transformation. *SIAM J. Math. Anal.* **6** (1975), 258–261. (G. Opfer) **51** #870 30A28

Hughes, P. G. Calculation of square roots by iteration. *New Zealand Math. Mag.* **14** (1977), *no.* 1, 42–44. (M. A. Wolfe) **56** #1671 65D20

Hughes, R. B. Erratum: "Zero sets of functions from non-quasi-analytic classes". *Proc Amer. Math. Soc.* **39** (1973), 651. (Editors) **47** #3624 26A93

Hughes, Ralph Compactness in locally compact groups. *Bull. Amer. Math. Soc.* **79** (1973). 122–123. (L. Corwin) **46** #9231 22D10

Hughes, Rhonda Jo On fractional integrals and derivatives in L^p. *Indiana Univ. Math. J.* **26** (1977), *no.* 2, 325–328. (Philip Heywood) **55** #5816 26A33

On the convergence of unbounded sequences of semi-groups. *J. London Math. Soc.* (2) **16** (1977), *no.* 3, 517–528. (Author's summary) **58** #23749 47D05

Semigroups of unbounded linear operators in Banach space. *Trans. Amer. Math. Soc.* **230** (1977), 113–145. (Author's summary) **58** #30484 47D05

Hughes, Thomas J. R. (*with* Marsden, Jerrold Eldon) ★A short course in fluid mechanics. Mathematics Lecture Series, No. 6. *Publish or Perish, Inc., Boston, Mass.*, 1976. v + 162 *pp.* (Zbl **329** #76001) **57** #8358 76.00

(*with* Kato, Tosio; Marsden, Jerrold Eldon) Well-posed quasi-linear second-order hyperbolic systems with applications to nonlinear elastodynamics and general relativity. *Arch. Rational Mech. Anal.* **63** (1976), *no.* 3, 273–294 (1977). (M. Fabrizio) **54** #8041 35L55 (58D15)

Stability, convergence and growth and decay of energy of the average acceleration method in nonlinear structural dynamics. *Computers & Structures* **6** (1976), *no.* 4-5, 313–324. **56** #14009 73.65

(*with* Taylor, Robert Lee; Kanoknukulchai, Worsak) A finite element method for large displacement contact and impact problems. *Formulations and computational algorithms in finite element analysis* (*U.S.-Germany Sympos., Mass. Inst. Tech., Cambridge, Mass.*, 1976), *pp.* 468–495. *M.I.T. Press, Cambridge, Mass.*, 1977. (Authors' summary) **57** #14814 73.65

(*with* Marsden, Jerrold Eldon) Some applications of geometry in continuum mechanics. *Rep. Mathematical Phys.* **12** (1977), *no.* 1, 35–44. (John M. Ball) **58** #8698 73.58 (58A10, 58D99)

(*with* Chorin, Alexandre Joel; McCracken, Marjorie F.; Marsden, Jerrold Eldon) Product formulas and numerical algorithms. *Comm. Pure Appl. Math.* **31** (1978), *no.* 2, 205–256. (Juhani Pitkäranta) **58** #8230 65J05 (47D05, 58D05)

(*with* Pister, Karl S.) Consistent linearization in mechanics of solids and structures. *Comput. & Structures* **8** (1978), *no.* 3-4, 391–397. (F. V. Pohle) **58** #19605 73.41 (69.00)

(*with* Marsden, Jerrold Eldon) Classical elastodynamics as a linear symmetric hyperbolic system. *J. Elasticity* **8** (1978), *no.* 1, 97–110. (L. E. Payne) **57** #8301 73.35 (58D05)

ighes, Thomas Parke ENIAC: invention of a computer. *Technikgeschichte* **42** (1975), *no.* 2, 148–165. (D. J. Struik) **58** #4897 01A60 (68–03)

ghes-Hallett, A. J. *See* **Lyttkens, Ejnar**, **56** #4104

ghes-Jones, R. (*with* Makinson, G. J.) The generation of Chisholm rational polynomial approximants to power series in two variables. *J. Inst. Math. Appl.* **13** (1974), 299–310. (Gerhard Merz) **51** #11928 65D15

(*with* Graves-Morris, P. R.; Makinson, G. J.) The calculation of some rational approximants in two variables. *J. Inst. Math. Appl.* **13** (1974), 311–320. (Gerhard Merz) **51** #11929 65D15

(*with* Chisholm, J. S. R.) Relative scale covariance of *N*-variable approximants. *Proc. Roy. Soc. London Ser. A* **344** (1975), *no.* 1639, 465–470. (Gerhard Merz) **52** #6247 41A10

General rational approximants in *N*-variables. *J. Approximation Theory* **16** (1976), *no.* 3, 201–233. (A. Magnus) **53** #5889 30A82

(*with* Craggs, D.) On the no-three-in-line problem. *J. Combinatorial Theory Ser. A* **20** (1976), *no.* 3, 363–364. (Michael Henle) **53** #10590 05A05

(*with* Graves-Morris, P. R.) An analysis of two variable rational approximants. *J. Comput. Appl. Math.* **2** (1976), *no.* 1, 41–48. (Gerhard Merz) **55** #939 41A20

ghston, Lane P. On an Einstein-Maxwell field with a null source. *Methods of local and global differential geometry in general relativity* (*Proc. Regional Conf. on Relativity, Univ. Pittsburgh, Pittsburgh, Pa.*, 1970), *pp.* 121–125. *Lecture Notes in Physics*, *Vol.* 14, *Springer, Berlin*, 1972. (B. K. Datta) **55** #5141 83.35

(*with* Penrose, R.; Sommers, Paul; Walker, Martin) On a quadratic first integral for the charged particle orbits in the charged Kerr solution. *Comm. Math. Phys.* **27** (1972), 303–308. (Authors' summary) **51** #9739 83.53

(*with* Sommers, Paul) Spacetimes with Killing tensors. *Comm. Math. Phys.* **32** (1973), 147–152. (J. Charles-Renaudie) **49** #12033 83.53

andet-Hugot, Marthe *See* **Grandet-Hugot, Marthe**

uguenin, P. Applications d'une représentation de la mécanique quantique par des fonctions sur l'espace de phase. (English summary) *Z. Naturforsch.* **28a** (1973), 1090–1098. (D. A. Dubin) **54** #1964 81.46

Expression explicite de l'exponentielle gauche pour les éléments finis du groupe symplectique inhomogène. (English summary) *Lett. Math. Phys.* **2** (1977/78), *no.* 4, 321–324. (Author's summary) **58** #32505 81.22

(*with* Grossmann, A.) Group-theoretical aspects of the Wigner-Weyl isomorphism. *Helv. Phys. Acta* **51** (1978), *no.* 2, 252–261. (V. L. Girko) **58** #25562 81.46 (22E70, 81.60)

uguet, Danièle La structure du treillis des polyèdres de parenthésages. *Algebra Universalis* **5** (1975), 82–87. (Jacques Lévy-Bruhl) **55** #7862 06A20

uguier, P. *See* **Control in space**, **48** #8040

uh, Won Some properties of pseudonormable semilinear spaces. *J. Korean Math. Soc.* **11** (1974), 77–85. (M. Valdivia) **50** #10757 46A99

uhn, András P. Schwach distributive Verbände. Lectures on the theory of ordered sets and general algebra (Abstracts, Summer Session, Harmonia, 1970). *Acta Fac. Rerum Natur. Univ. Comenian. Math. Mimoriadne Číslo* (1971), 51–56. (Hartmut Höft) **52** #2994 06A35

Schwach distributive Verbände. I. *Acta Sci. Math.* (*Szeged*) **33** (1972), 297–305. (K. A. Baker) **49** #2479 06A30

Über einige Probleme der Theorie der primitiven Klassen der modularen Verbände. (Russian summary) *Scripta Fac. Sci. Natur. UJEP Brunensis–Math.* **4** (1974), *no.* 1, 27–29. (K. A. Baker) **53** #2779 06A30

On G. Grätzer's problem concerning automorphisms of a finitely presented lattice. *Algebra Universalis* **5** (1975), 65–71. (A. C. Choudhury) **52** #13530 06A20

(*with* Herrmann, Christian) Zum Wortproblem für freie Untermodulverbände. *Arch. Math.* (*Basel*) **26** (1975), *no.* 5, 449–453. (George Hutchinson) **53** #5389 06A20

(*with* Herrmann, Christian) Zum Begriff der Charakteristik modularer Verbände. *Math. Z.* **144** (1975), *no.* 3, 185–194. (V. S. Krishnan) **52** #5503 06A30

(*with* Herrmann, Christian) Lattices of normal subgroups which are generated by frames. *Lattice theory* (*Proc. Colloq., Szeged*, 1974), *pp.* 97–136. *Colloq. Math. Soc. János Bolyai*, *Vol.* 14, *North-Holland, Amsterdam*, 1976. (E. T. Schmidt) **56** #5379 06A30

Two notes on *n*-distributive lattices. *Lattice theory* (*Proc. Colloq., Szeged*, 1974), *pp.* 137–147. *Colloq. Math. Soc. János Bolyai*, *Vol.* 14, *North-Holland, Amsterdam*, 1976. (K. A. Baker) **56** #11861 06A35

n-distributivity and some questions of the equational theory of lattices. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp.* 167–178. *Colloq. Math. Soc. János Bolyai*, *Vol.* 17, *North-Holland, Amsterdam*, 1977. (James B. Nation) **58** #408 06A20

See also **Lattice theory**, **55** #2670

uhro, E. I. Fixed points of *p*-automorphisms of finite *p*-groups. (Russian) *Algebra i Logika* **14** (1975), *no.* 6, 697–703, 727–728. (N. D. Podufalov) **55** #504 20D45

(*with* Borovik, A. V.) Automorphism groups of finite *p*-groups. (Russian) *Mat. Zametki* **19** (1976), *no.* 3, 401–418. (Sergei A. Syskin) **54** #2798 20D45

Finite groups that admit a 2-automorphism without fixed points. (Russian) *Mat. Zametki* **23** (1978), *no.* 5, 651–657. (Sergei A. Syskiń) **58** #11114 20D45 (20D10)

Huhunašvili, Z. V. The symmetry of the differential equations of field theory. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1971**, *no.* 3, 95–103. (C. Teleman) **47** #9966 81.22

On spatial symmetry. *Izv. Vysš. Učebn. Zaved. Fizika* **1972**, *no.* 7, 75–79 (*Russian*); *translated as Soviet Physics J.* **15** (1972), 990–993 (1974). (C. Teleman) **52** #14167 22E70

On spatial symmetry. II. *Izv. Vysš. Učebn. Zaved. Fizika* **1973**, *no.* 6, 89–93 (*Russian*); *translated as Soviet Physics J.* **16** (1973), 813–817. (C. Teleman) **52** #14168 22E70

Symmetry of a space and of a field. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 6, 12–19. (Author's summary) **58** #31157 58A99

Geometry of a space and of a field. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 6, 19–25. (Author's summary) **58** #30835 53A99

The fundamental equation of space and field. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 7, 7–12. (R. I. Pimenov) **55** #2031 83.53

Space–the field and the questions connected with it. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 7, 12–16. (R. I. Pimenov) **55** #2032 83.53

The group structure of a space and field. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 11, 7–13. (From the text) **58** #30831 53A55

On the question of the unitarity of a fundamental group. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1977**, *no.* 4, 13–18. (Not reviewed) 81.22 (55A05)

liu Hui *See* **Liu Hui**

yang-Hui *See* **Yang-Hui**

Hui, W. H. (*with* Tenti, G.) Some classes of exact solutions of the nonlinear Boltzmann equation. *J. Mathematical Phys.* **19** (1978), *no.* 4, 774–779. (Authors' summary) **57** #4933 82.35

Huige, Gustavus E. Perturbation theory of some spectral operators. *Comm. Pure Appl. Math.* **24** (1971), 741–757. (G. K. Kalisch) **46** #694 47A55 (47B40)

The spectral resolution of some non-selfadjoint partial differential operators. *Canad. J. Math.* **27** (1975), *no.* 6, 1316–1322. (J. B. McLeod) **53** #1050 35P05 (47F05)

Huijsmans, C. B. Some analogies between commutative rings, Riesz spaces and distributive lattices with smallest element. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 132–147. (J. A. Johnson) **50** #7113 13A15

Riesz spaces for which every ideal is a projection band. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 1, 30–35. (P. A. Fillmore) **53** #7897 06A65 (46A40)

Huik, J. The mathematical modeling of the memorizing of numbers. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* **337** (1974), 71–86. (R. N. Goss) **52** #5092 92A25 (68A55)

Huikeshoven, Frans A duality theorem for divisors on certain algebraic curves. *Compositio Math.* **26** (1973), 331–338. (M. Miyanishi) **49** #2738 14F10 (14H45)

On the versal resolutions of deformations of rational double points. *Invent. Math.* **20** (1973), 15–33. (Michael Schlessinger) **53** #13637 32C45 (14D15, 14B05, 32C40)

Huilgol, Raja R. A second order fluid of the differential type. (French, German and Russian summaries) *Internat. J. Non-Linear Mech.* **3** (1968), *no.* 4, 471–482. (T. W. Ting (Zbl **181**, 540)) **52** #12520 76.35

On the structure of the group $\mathbf{g}_1{}^*$ appearing in hyperelasticity. (French, German and Russian summaries) *Internat. J. Non-Linear Mech.* **6** (1971), 677–681. (J. W. Craggs) **49** #1859 73.20

Growth of plane shock waves in materials with memory. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **11** (1973), *no.* 1, 75–86. (Peter J. Chen) **56** #13916 73.35

On uniqueness and nonuniqueness in the plane creeping flows of second order fluids. *SIAM J. Appl. Math.* **24** (1973), 226–233. (T. W. Kao) **47** #9944 76.35

(*with* Tao, L. N.) Stokes' paradox in second-order fluids. *Phys. Fluids* **17** (1974), 1468. (E. A. Boyd) **50** #11976 76.35

★Continuum mechanics of viscoelastic liquids. *Hindustan Publishing Corp., Delhi*; *Halsted Press* [*John Wiley & Sons, Inc.*], *New York*, 1975. xix + 367 *pp.* (V. P. Madan) **53** #7201 76.00 (73.00)

On the concept of the Deborah number. *Trans. Soc. Rheol.* **19** (1975), *no.* 2, 297–306. (Author's summary) **52** #12519 76.35

Bifurcation theory for odd potential operators. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. II*, *pp.* 57–61. *Academic Press, New York*, 1976. (Editors) **58** #30554 47H15 (58F10)

Sur les conditions nécessaires et suffisantes pour les mouvements à histoire de déformation constante. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 1, *Aiii*, A67–69. (Jacques Mauss) **52** #16277 76.53

Hopf-Friedrichs bifurcation and the hunting of a railway axle. *Quart. Appl. Math.* **36** (1978/79), *no.* 1, 85–94. (V. Szebehely) **57** #18324 70.34 (34Cxx)

Huiser, A. M. J. (*with* Drenth, A. J. J.; Ferwerda, H. A.) The problem of phase retrieval in light and electron microscopy of strong objects. (French and German summaries) *Optica Acta* **22** (1975), 615–628. (Authors' summary) **56** #1961 78.65

(*with* Ferwerda, H. A.) The problem of phase retrieval in light and electron microscopy of strong objects. II. On the uniqueness and stability of object reconstruction procedures using two defocused images. (French and German summaries) *Optica Acta* **23** (1976), *no.* 6, 445–456. (Authors' summary) **56** #1962 78.65

zimmermann-Huisgen, Birge *See* **Zimmermann-Huisgen, Birge**

Huitson, A. *See* **Barnett, Vic**, **56** #4060

Huiu, Constantin (*with* Chiriacescu, Sergiu T.; Mangeron, Dumitru Ion) Concepts of "systems theory" in the study of linear mechanical systems. (Romanian) *Stud. Cerc. Mec. Apl.* **36** (1977), *no.* 3, 335–350. (Authors' summary) **58** #20682 93C05

Huizinga, David (*with* Polson, Peter G.) Statistical methods for absorbing Markov-chain models for learning: estimation and identification. *Psychometrika* **39** (1974), 3–22. (M. Iosifescu) **50** #11670 62M05 (62P15)

Huk, Joanna Heterogeneous queueing systems $M/M_i/2$ with balking. (Polish summary) *Zastos. Mat.* **15** (1976), *no.* 2, 149–154. (Author's introduction) **58** #31450 60K25

Generation of realizations of Gaussian random functions on digital computers. (Polish) *Mat. Stos.* (3) **9** (1977), 73–115. (V. Dupač) **58** #8143 65C10

Hukuhara, Masuo Formal treatment of power series. (Japanese) *J. Tsuda College No.* 1 (1969), 1–24. (P. F. Hsieh) **48** #11632 34A25

Differential equations of Fuchsian type which are rationally transformable to each other. (Japanese) *J. Tsuda College No.* 2 (1970), 1–12. (P. F. Hsieh) **48** #11634 34A25

On the Cauchy problem for ordinary differential equations in Banach spaces. (Japanese) *J. Tsuda College No.* 5 (1973), 29–37. (T. Yoshizawa) **49** #5501 34G05

Sur le problème de connexion pour l'équation différentielle linéaire. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 87–94. (R. L. Anderson) **54** #3114 34E05 (34C05)

(*with* Iwano, Masahiro; Okubo, Kenjiro; Kimura, Tosihusa) Analytic theory of ordinary differential equations. *Recent Progr. Natur. Sci. Japan* **1** (1976), 1–55. (R. Gérard) **58** #6408 34–02 (34A20, 58A15)

On the existence and isolatedness of solutions of boundary value problems for ordinary differential equations. (Japanese) *J. Tsuda College No.* 9 (1977), 81–90. (T. Yoshizawa) **58** #6448 34B15

Hukui, Takehiro On a proof of theorem in passing a critical level. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no. X*, 4 *pp.* (A. J. Tromba) **53** #6623 58E05 (57D70)

Hulanicki, Andrzej On positive functionals on a group algebra multiplicative on a subalgebra. *Studia Math.* **37** (1970/71), 163–171. (M. Rajagopalan) **46** #9645 43A20

On the spectrum of convolution operators on groups with polynomial growth. *Invent. Math.* **17** (1972), 135–142. (J. M. G. Fell) **48** #2304 22D12 (43A20)

(*with* Pytlik, Tadeusz) Corrigendum to: "Cyclic vectors of induced representations" (Proc. Amer. Math. Soc. **31** (1972), 633–634). *Proc. Amer. Math. Soc.* **38** (1973), 220. (R. Goodman) **48** #6318 22D30

(*with* Pytlik, Tadeusz) On commutative approximate identities and cyclic vectors of induced representations. *Studia Math.* **48** (1973), 189–199. (James T. Burnham) **49** #3024 22D30

Unipotent groups of automorphisms of abelian groups and free products of *p*-groups. *Symposia Mathematica, Vol. XIII* (*Convegno di Gruppi Abeliani, INDAM, Rome*, 1972), *pp.* 163–177. *Academic Press, London*, 1974. (J. D. Tarwater) **51** #752 20K30

Subalgebra of $L_1(G)$ associated with Laplacian on a Lie group. *Colloq. Math.* **31** (1974), 259–287. (G. P. Johnson) **51** #8743 43A20 (22E30)

On L_p-spectra of the laplacian on a Lie group with polynomial growth. *Proc. Amer. Math. Soc.* **44** (1974), 482-484. (Y. Guivarc'h) **50** #13378 22E30

Commutative subalgebra of $L^1(G)$ associated with a subelliptic operator on a Lie group G. *Bull. Amer. Math. Soc.* **81** (1975), 121–124. (S. G. Gindikin) **50** #10694 43A80 (22E30)

On the spectrum of the Laplacian on the affine group of the real line. *Studia Math.* **54** (1975/76), *no.* 3, 199–204. (Edward N. Wilson) **53** #3195 22E30

On the domain of holomorphy of the heat-diffusion semigroup on a nilpotent Lie group. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 11, 947–950. (A. Korányi) **55** #10603 22E25 (22E30)

(*with* Jenkins, J. W.; Leptin, Horst; Pytlik, Tadeusz) Remarks on Wiener's Tauberian theorems for groups with polynomial growth. *Colloq. Math.* **35** (1976), *no.* 2, 293–304. (Helmut Boseck) **53** #13469 22D15 (43A20)

The distribution of energy in the Brownian motion in the Gaussian field and analytic-hypoellipticity of certain subelliptic operators on the Heisenberg group. *Studia Math.* **56** (1976), *no.* 2, 165–173. (Erik Jørgensen) **54** #6298 60J65 (22E30)

Growth of the L^1 norm of the convolution powers of functions on nilpotent groups of class 2. *Symposia Mathematica, Vol. XXII* (*Convegno sull'Analisi Armonica e Spazi di Funzioni su Gruppi Localmente Compatti, INDAM, Rome*, 1976), *pp.* 439–447. *Academic Press, London*, 1977. (H. Leptin) **58** #12193 43A15 (22D15)

Hulbert, L. E. *See* **Applied mechanics**, **50** #11914

Hul'chuk, H. H. *See* **Gul'čuk, G. G.**

Hule, Harald (*with* Müller, Winfried B.) Cyclic groups of permutations induced by polynomials over Galois fields. (Spanish) *An. Acad. Brasil. Ci.* **45** (1973), 63–67. (L. Carlitz) **48** #8453 12C05 (20B10)

(*with* Sidki, Saïd N.) Full ideals over the ring of integers. (Portuguese) *An Acad. Brasil. Ci.* **47** (1975), *no.* 1, 5–17. (P. Samuel) **54** #301 13F20

Über den Verband der Polynomalgebren über einer universalen Algebra. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 1-4, 1–9. (Jaroslav Ježek) **54** #5091 08A25

(*with* Müller, Winfried B.) On the compatibility of algebraic equations with extensions. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 3, 381–383. (H. Lausch) **53** #13076 08A15

Über die Eindeutigkeit der Lösungen algebraischer Gleichungssysteme. *J. Reine Angew. Math.* **282** (1976), 157–161. (A. Goetz) **53** #13080 08A25

Polynomial normal forms and the embedding of polynomial algebras. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp.* 179–187. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam*, 1977. (H. Lausch) **57** #12346 08A25

(*with* Maurer, Hermann A.; Ottmann, Thomas) Good OL forms. *Acta Inform.* **9** (1977/78), *no.* 4, 345–353. (Juhani Karhumäki) **58** #13970 68A30

(*with* Nöbauer, Wilfried) Local polynomial functions on universal algebras. *An. Acad. Brasil. Ci.* **49** (1977), *no.* 3, 365–372. (H. Lausch) **57** #5872 08A25

(*with* Nöbauer, Wilfried) Local polynomial functions on abelian groups. *An. Acad. Brasil. Ci.* **49** (1977), *no.* 4, 491–498. (J. Karásek) **57** #5873 08A25 (20K99)

Relations between the amalgamation property and algebraic equations. *J. Austral. Math. Soc. Ser. A* **25** (1978), *no.* 3, 257–263. (H. Lausch) **58** #5454 08A15

Hulin, Adam J. Extensions of ordered semigroups. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 1, 1–12. (T. S. Blyth) **52** #13554 06A50

Hulina, Paul T. (*with* Bredeson, Jon G.) Elimination of static and dynamic hazards for multiple input changes in combinational switching circuits. *Information and Control* 2 (1972), 114–124. (Authors' summary) **49** #12173 94A20

(*with* Bredeson, Jon G.) Synthesis of multiple-input change asynchronous circuits using transition-sensitive flip-flops. *IEEE Trans. Computers* **C-22** (1973), 524–531 (Author's summary) **56** #11546 94A20

Huling, Stephen (*with* Mintz, Max) Optimal evasion strategies against multiple missiles—based on differential game theory. *Proceedings of the* 1977 *IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 480–486. *Inst. Electrical Electron. Engrs., New York*, 1977. (From the introduction) **58** #33019 90D25

Hull, Bradley Two algorithms for matroids. *Discrete Math.* **13** (1975), *no.* 2, 121–128 (Robert E. Bixby) **52** #10459 05B35

Hull, D. G. (*with* Edgeman, L. J.) Suboptimal control using a second-order parameter-optimization method. Collection of articles dedicated to Professor Adol Busemann. *J. Optimization Theory Appl.* **17** (1975), *no.* 5/6, 481–491. (Gerard G. L. Meyer) **53** #7028 65K05

(*with* Tapley, Byron D.) Square-root variable-metric methods for minimization. *J. Optimization Theory Appl.* **21** (1977), *no.* 3, 251–259. (Nobuo Sannomiya) **56** #10978 90C30

Hull, D. L. *See* **Logic, methodology and philosophy of science**, **55** #7657

Hull, T. E. Proving the correctness of algorithms. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont.*, 1971), *pp.* 77–102. *Lakehead Univ., Thunder Bay, Ont.*, 1971. (P. E. O'Neil) **51** #2328 68A05 (68A10)

(*with* Enright, W. H.; Fellen, B. M.; Sedgwick, A. E.) Comparing numerical methods for ordinary differential equations. *SIAM J. Numer. Anul.* **9** (1972), 603–637; *errata, ibid.* **11** (1974), 681. (J. C. Butcher) **50** #3577 65L05

The development of software for solving ordinary differential equations. *Conference on the Numerical Solution of Differential Equations* (*Univ. of Dundee, Dundee*, 1973), *pp.* 55–63. *Lecture Notes in Math., Vol.* 363, *Springer, Berlin*, 1974. (Ian Gladwell) **55** #1735 65L05

Numerical solutions of initial value problems for ordinary differential equations. *Numerical solutions of boundary value problems for ordinary differential equations* (*Proc. Sympos., Univ. Maryland, Baltimore, Md.*, 1974), *pp.* 3–26. *Academic Press, New York*, 1975. (C. W. Gear) **53** #7038 65L05

(*with* Enright, W. H.; Lindberg, Bengt) Comparing numerical methods for stiff systems of O.D.E.:s. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **15** (1975), *no.* 1, 10–48. (See Zbl **301** #65040) 65L99

(*with* Enright, W. H.) Test results on initial value methods for non-stiff ordinary differential equations. *SIAM J. Numer. Anal.* **13** (1976), *no.* 6, 944–961. (C. W. Gear) **55** #1734 65L05

(*with* Jackson, K. R.; Enright, W. H.) A theoretical criterion for comparing Runge-Kutta formulas. *SIAM J. Numer. Anal.* **15** (1978), *no.* 3, 618–641. (A. R. Gourlay) **57** #11052 65L05

See also **Stiff differential systems**, **49** #8359

Hullett, Wayne Optimal estuary aeration: an application of distributed parameter control theory. *Appl. Math. Optim.* **1** (1974/75), *no.* 1, 20–63. (S. G. Tzafestas) **54** #5934 49A20 (93C20, 92A99)

Hullinger, H. (*with* Fuller, Kent R.; Haack, Joel) Stable equivalence of uniserial rings. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 2, 153–158. (Idun Reiten) **57** #3186 16A36

Hulme, Bernie L. Piecewise polynomial Taylor methods for initial value problems. *Numer. Math.* **17** (1971), 367–381. (J. D. Lambert) **45** #8002 65M99

A new bicubic interpolation over right triangles. Collection of articles dedicated to J. L. Walsh on his 75th birthday, I. *J. Approximation Theory* **5** (1972), 66–73. (C. A. Hall) **49** #1892 73.65 (41A15)

One-step piecewise polynomial Galerkin methods for initial value problems. *Math. Comp.* **26** (1972), 415–426. (W. Liniger) **47** #9834 65L05

Discrete Galerkin and related one-step methods for ordinary differential equations. *Math. Comp.* **26** (1972), 881–891. (T. E. Hull) **47** #4448 65L05

(*with* Worrell, Richard B.) Efficient ordering of set expressions for symbolic expansion. *J. Assoc. Comput. Mach.* **20** (1973), 482–488. (Authors' summary) **48** #10201 68A20

A lattice algebra for finding simple paths and cuts in a graph. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 419–428. *Congressus Numerantium, No. XIV. Utilitas Math., Winnipeg, Man.*, 1975. (Khee-meng Koh) **53** #5368 (EA **54**) 05C35

(*with* Worrell, Richard B.) Finding simple paths in a graph by symbolic manipulation of Boolean equations. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 627–638. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (Dorothy Bollman) **53** #12073 68A15 (68A20)

(*with* Worrell, Richard B.) A prime implicant algorithm with factoring. *IEEE Trans. Computers* **C-24** (1975), *no.* 11, 1129–1131. (Jürgen Dassow) **52** #10253 94A20

Hulse, J. A. Joins of ascendant subgroups. *Proc. London Math. Soc.* (3) **25** (1972), 399–412. (I. M. S. Dey) **47** #1954 20E15

Automorphism towers of certain almost soluble groups. *Proc. Cambridge Philos. Soc.* **74** (1973), 397–420. (D. J. S. Robinson) **48** #2258 20E15

Local systems in groups. Collection of articles dedicated to the memory of Hanna Neumann, VIII. *J. Austral. Math. Soc.* **17** (1974), 426–433. (Charles S. Holmes) **50** #7352 20E25

(*with* Lennox, John C.) Marginal series in groups. *Proc. Roy. Soc. Edinburgh Sect. A* **76** (1976/77), *no.* 2, 139–154. (S. Andreadakis) **56** #3126 20E15

Hülsmann, J. Spieltheoretische Ansätze im stochastischen linearen Optimieren. *Dritte Oberwolfach-Tagung über Operations Research* (1970), *pp.* 236–243. *Operations Research-Verfahren, X, Hain, Meisenheim am Glan*, 1971. (R. Theodorescu) **52** #2582a 90C15 (90D45)

Optimale Entscheidungen im zweistufigen stochastischen Programmieren als Lösung linearer Programme. *Operations Research-Verfahren, XIV* (*gewidmet Rudolf Henn zu seinem 50. Geburtstag*), *pp.* 316–321. *Hain, Meisenheim am Glan*, 1972. (R. Theodorescu) **52** #2582c 90C15 (90D45)

Zweistufiges stochastisches Programmieren bei Unsicherheit über die Verteilung von (A, b, c). *Vierte Oberwolfach-Tagung über Operations Research* (1971), *Teil 2, pp.* 236–245. *Operations Research-Verfahren, XIII, Hain, Meisenheim am Glan*, 1972. (R. Theodorescu) **52** #2582b 90C15 (90D45)

(*with* Steinmetz, Volker) A note on the nonexistence of optimal price vectors in the general balanced-growth model of Gale. *Econometrica* **40** (1972), 387–389. (Michael D. Intriligator) **51** #14892 90A15

(*with* Steinmetz, Volker) Zur Nichtexistenz von Wachstumsgleichgewichten im Wachstumsmodell von Gale. (English summary) *Z. Operations Res. Ser. A-B* **16** (1972), *no.* 5, A179–A187. (G. Tintner) **55** #7313 90A15

(*with* Hellwig, Klaus) Über ein Modell der Investitionsprogrammplanung unter Unsicherheit. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I, pp.* 141–146. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. (See Zbl **368** #90004; MR **54** #6892) 90A15

Hulst, Wim G. (*with* van Lieshout, Jan Th.) Investment/financial planning with endogenous lifetimes: a heuristic approach to mixed-integer programming. (French summary) *RAIRO Recherche Opér.* **11** (1977), *no.* 1, 85–101, 111. (John C. Gittins) **56** #11009 90C50 (90A05)

surkar, S. G. Proof of Verma's conjecture on Weyl's dimension polynomial. *Invent. Math.* **27** (1974), 45–52. (G. I. Lehrer) **51** #5788 20G05

, Jan *See* **Topics in applied continuum mechanics**, **49** #8465 *and* **Mechanics of visco-elastic media and bodies**, **55** #9646

en, Charles R. Divisia index numbers. *Econometrica* **41** (1973), 1017–1025. (From the author's introduction) **55** #14129 90A15

gren, Bror O., III (*with* Shimony, Abner) The lattice of verifiable propositions of the spin-1 system. *J. Mathematical Phys.* **18** (1977), *no.* 3, 381–394. (S. Gudder) **55** #4969 81.06

quist, Robert (*with* Atzinger, Erwin M.) The mixed effects model and simultaneous diagonalization of symmetric matrices. *Ann. Math. Statist.* **43** (1972), 2024–2030. (M. Atiqullah) **50** #11644 62J05

z, John (*with* Klingman, Darwin; Russell, Robert A.) An advanced dual basic feasible solution for a class of capacitated generalized networks. *Operations Res.* **24** (1976), *no.* 2, 301–313. (K. Swarup) **54** #4674 90C35

(*with* Klingman, Darwin) Solving singularly constrained generalized network problems. *Appl. Math. Optim.* **4** (1977/78), *no.* 2, 103–119. (M. Mañas) **57** #15414 90C05

z, John W. (*with* Armstrong, Ronald D.) An algorithm for a restricted discrete approximation problem in the L_1 norm. *SIAM J. Numer. Anal.* **14** (1977), *no.* 3, 555–565. (D. C. Handscomb) **55** #11568 65D15

Hulzen, J. A. (*with* Hettich, Rainer P.) Approximation with a class of rational functions. *Information processing* 77 (*Proc. IFIP Congr., Toronto, Ont.*, 1977), *pp.* 487–492. *IFIP Congr. Ser., Vol. 7, North-Holland, Amsterdam*, 1977. (Menachem Dishon) **57** #6971 41A20 (68A20)

nak, K. M. S. ★Statistische Methoden der Modellbildung. Band I. Statistische Inferenz für lineare Parameter. Mathematische Lehrbücher und Monographien, II. Abteilung, Mathematische Monographien, Band 43. *Akademie-Verlag, Berlin*, 1977. xvi+516 *pp.* (Ivar Petersen) **57** #4433 62J05 (62F10, 62K05)

al, A. Relative frequency of conditional round-off errors in a table of functions. (Russian. Estonian and German summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 3, 255–263. (Walter Gautschi) **53** #9621 65G05

berstone, Lloyd Logic for saints and heroes. *Ratio* **16** (1974), 103–114. (Editors) **58** #16150 02C10

(*with* Bell, J. M.) Two systems of presupposition logic. *Notre Dame J. Formal Logic* **18** (1977), *no.* 3, 321–339. (Editors) **58** #21438 02C05 (02A05, 02C10)

(*with* Crossley, John N.) The logic of "actually". *Rep. Math. Logic No.* 8 (1977), 11–29. (Wiesław Dziobiak) **58** #5046 02C10

bert, Claude (*with* Ragot, José; Roesch, Michel) Optimalisation quadratique par décomposition en fonctions de Laguerre. *C. R. Acad. Sci. Paris Sér. B* **278** (1974), 961–963. (Hansgeorg Jeggle) **50** #12365 93C10

blet, Pierre A. Optimal source coding for a class of integer alphabets. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 1, 110–112. (J. J. Stiffler) **58** #20808 94A15

Humboldt, Alexander *See* **Biermann, Kurt Reinhard**, **52** #13150; **Biermann, Kurt Reinhard**, **56** #5171; **Biermann, Kurt Reinhard**, **56** #11702; **Briefwechsel: Alexander von Humboldt und Carl Friedrich Gauß**, **57** #48; **Faak, Margot**, **57** #5599; **Biermann, Kurt Reinhard**, **58** #4870 *and* **Biermann, Kurt Reinhard**, **58** #4871

burg, Jürgen The principle of instantial relevance. *Studies in inductive logic and probability, Vol. I, pp.* 225–233. *Univ. California Press, Berkeley, Calif.*, 1971. (Editors) **58** #5088a 02C99 (60A05)

Die Problematik apriorischer Wahrscheinlichkeiten im System der induktiven Logik von Rudolf Carnap. *Arch. Mat. Logik Grundlagenforsch.* **14** (1971), 135–147. (Y.-K. Chan) **48** #1277 60A05 (02C99)

Wahrscheinlichkeits- und Wettbegriff. *Metrika* **19** (1972), 48–53. (J. Kiefer) **48** #9784 60A05

eau, Jean-Pierre (*with* Grolleau, Maryvonne) Application de la L méthode des moments à la simulation hybride d'un problème de commande en temps minimal de systèmes à paramètres répartis. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 23, Aiii, A1645–A1648. (Guy Jumarie) **51** #15074 93C05

es, Ana F. (*with* Jury, Eliahu I.) Stability tests for two-dimensional linear multivariable digital filters. Routh centenary issue. *Internat. J. Control* **26** (1977), *no.* 2, 225–234. (Bradley W. Dickinson) **58** #9649 93D99

hal, Emil One iterative method concerning the solution of Dirichlet's problem. (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 2, 120–135. (J. R. Cannon) **53** #7065 65N10

(*with* Wiesner, Jan; Lelek, Vladimir) ★Результаты численного решения обратной задачи теории рассеяния. (Russian) [Results of the numerical solution of the inverse problem of scattering theory] Report Úvt-1/77. *Ústav Výpočtové Techniky ČVUT, Prague*, 1977. 57 *pp.* (E. L. Albasiny) **58** #8971 81.65 (65L99)

i, M. (*with* LeBritton, J. A.) Interior solutions to plane-symmetric Einstein-Maxwell equations. *Phys. Rev. D* (3) **11** (1975), 2689–2691. (Authors' summary) **57** #8852 83.35

Humi, Mayer Lattice transformations and charge quantization. *Methods of local and global differential geometry in general relativity* (*Proc. Regional Conf. on Relativity, Univ. Pittsburgh, Pittsburgh, Pa.*, 1970), *pp.* 113–120. *Lecture Notes in Physics, Vol.* 14, *Springer, Berlin*, 1972. (Charles A. Nelson) **54** #14737 83.58

Finite dimensional representations of the SU(2)-current Lie algebra. *Comm. Math. Phys.* **33** (1973), 207–214. (L. O'Raifeartaigh) **49** #6802 81.22

On the hull of a linear differential operator. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 235–241. (G. R. Sell) **54** #692 35B15

Humke, Paul D. Samely ambiguous points of arbitrary planar sets and functions. *Z. Math. Logik Grundlagen Math.* **19** (1973), 427–433. (K. M. Garg) **49** #5261 26A54

(*with* Bagemihl, Frederick) Rectifiably ambiguous points of planar sets. *J. Austral. Math. Soc.* **20** (1975), *no.* 1, 85–109. (P. V. Reichelderfer) **51** #14004 54F50 (30A72)

The Baire category of sets of access. *Z. Math. Logik Grundlagen Math.* **21** (1975), *no.* 4, 331–342. (K. M. Garg) **52** #11867 54F50 (30A72)

An example of a function with multiple ambiguities. *Z. Math. Logik Grundlagen Math.* **21** (1975), *no.* 5, 413–416. (George L. Csordas) **52** #5970 30A72

Cluster sets of arbitrary functions defined on plane sets. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 3, 448–457. (Editors) **56** #5889 30A72

(*with* Belna, Charles L.; Evans, Michael J.) A directional cluster set example. *Enseignement Math.* (2) **22** (1976), *no.* 3-4, 219–225. (George L. Csordas) **55** #8361 30A72

Baire category and disjoint rectilinear accessibility. *J. London Math. Soc.* (2) **14** (1976), *no.* 2, 245–248. (J. C. Oxtoby) **56** #563 28A05 (30A72, 54F65)

(*with* Evans, Michael J.) On qualitative cluster sets. *Colloq. Math.* **37** (1977), *no.* 2, 255–261. (William T. Sledd) **57** #3391 30A72

(*with* Solomon, Arthur) Transfinite separation axioms in topological spaces. *Kyungpook Math. J.* **17** (1977), *no.* 1, 71–77. (Mary Powderly) **58** #24186 54D15

(*with* Evans, Michael J.) Directional cluster sets and essential directional cluster sets of real functions defined in the upper half plane. *Rev. Roumaine Math. Pures Appl.* **23** (1978), *no.* 4, 533–542. (William T. Sledd) **58** #11415 30A72

Hummel, H. Konvergenzbetrachtungen bei der Vorhersage des Ausgabeverhaltens allgemeiner stochastischer Systeme. *Erste Fachtagung der Gesellschaft für Informatik über Automatentheorie und Formale Sprachen* (*Bonn*, 1973), *pp.* 64–73. *Lecture Notes in Computer Science, Vol.* 2, *Springer, Berlin*, 1973. (R. G. Buharaev) **56** #8244 94A35

See also **Jahrestagung: Gesellschaft für Informatik**, **48** #1502

Hummel, J. A. Inequalities of Grunsky type for Aharonov pairs. *J. Analyse Math.* **25** (1972), 217–257. (W. E. Kirwan) **47** #455 30A36

The Marx conjecture for starlike functions. *Michigan Math. J.* **19** (1972), 257–266. (M. S. Robertson) **46** #3761 30A32

A variational method for Gel′fer functions. *J. Analyse Math.* **30** (1976), 271–280. (Evelyn M. Silvia) **55** #12906 30A38

(*with* Schiffer, Menahem M.) Variational methods for Bieberbach-Eilenberg functions and for pairs. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **3** (1977), *no.* 1, 3–42. (Evelyn M. Silvia) **58** #28473 30A38

(*with* Scheinberg, Stephen; Zalcman, Lawrence) A coefficient problem for bounded nonvanishing functions. *J. Analyse Math.* **31** (1977), 169–190. (J. G. Krzyż) **58** #11358 30A34

Lagrange multipliers in variational methods for univalent functions. *J. Analyse Math.* **32** (1977), 222–234. (W. C. Royster) **57** #3377 30A38

Hummel, Kenneth E. (*with* Armendariz, Efraim P.) Restricted semiprimary rings. *Ring theory* (*Proc. Conf., Park City, Utah*, 1971), *pp.* 1–8. *Academic Press, New York*, 1972. (J. K. Luedeman) **50** #13136 16A46

Hummel, Kenneth G. The order of the automorphism group of a central product. *Proc. Amer. Math. Soc.* **47** (1975), 37–40. (Richard Davitt) **50** #4740 20D15

Hummel, Robert A. Histogram modification techniques. *Comput. Graphics and Image Processing* **4** (1975), *no.* 3, 209–224. (Jerzy Seidler) **53** #12737 94A05

(*with* Rosenfeld, Azriel; Zucker, Steven W.) Scene labeling by relaxation operations. *IEEE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 6, 420–433. (Arnold Griffith) **54** #6591 68A45

Hummer, D. G. (*with* Burgess, A.; Tully, J. A.) Electron impact excitation of positive ions. *Philos. Trans. Roy. Soc. London Ser. A* **266** (1970), *no.* 1175, 225–279. (A. Terry Amos) **55** #7175 81.35

(*with* Rybicki, George B.) A generalization of the Sobolev method for flows with nonlocal radiative coupling. *Astrophys. J.* **219** (1978), *no.* 2, *part* 1, 654–675. (A. C. Srivastava) **58** #19736 76.35

Hummitzsch, Peter Zur schwachen Äquivalenz von endlichen Automaten. (Russian and English summaries) *Elektron. Informationsverarbeit. Kybernetik* **7** (1971), 467–483. (J. A. Schatz) **48** #1824 94A30 (02F10)

Die Entscheidbarkeit der endlichen Ununterscheidbarkeit endlicher Automaten. *Z. Math. Logik Grundlagen Math.* **17** (1971), 315–322. (J. Hartmanis) **46** #40 02G05 (94A30)

Beziehungen zwischen einigen schwachen Äquivalenzen endlicher Automaten. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 77–86. (C. Reischer) **48** #3642 94A30

(*with* Gerber, Siegmar; Zander, Hans Joachim) Bemerkung zur Minimierung asynchroner Automaten. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **9** (1973), 45–48. (W. D. Maurer) **50** #6669 94A30

Humpert, W. Ringe mit dichtem Quasizentrum. *Arch. Math.* (*Basel*) **28** (1977), *no.* 4, 387–392. (J. L. Dawson) **57** #16350 16A48

Humphreys, J. F. Groups with modular irreducible representations of bounded degree. *J. London Math. Soc.* (2) **5** (1972), 233–234. (P. Fong) **47** #1928 20C20

(*with* Johnson, David L.) On Lagrangian groups. *Trans. Amer. Math. Soc.* **180** (1973), 291–300. (Sergei A. Syskin) **47** #6859 20D99

On groups satisfying the converse of Lagrange's theorem. *Proc. Cambridge Philos. Soc.* **75** (1974), 25–32. (David Finkel) **52** #8246 20D10

(*with* Gow, Roderick) Normal p-complements and irreducible representations. *J. London Math. Soc.* (2) **11** (1975), *no.* 3, 308–312. (H. K. Farahat) **52** #557 20C20

Finite p-soluble groups with irreducible modular representations of given degrees. *Proc. Edinburgh Math. Soc.* (2) **20** (1976/77), *no.* 3, 219–223. (B. Hartley) **55** #12802 20C20

Generator conditions on the Fitting subgroup of a polycyclic group. *Proc. Edinburgh Math. Soc.* (2) **20** (1976/77), *no.* 4, 273–278. (M. F. Newman) **56** #12132 20F15

A characterization of the projective characters of a finite group. *Bull. London Math. Soc.* **9** (1977), *no.* 3, 289–294. (J. E. Adney) **56** #15750 20C25

Projective modular representations of finite groups. *J. London Math. Soc.* (2) **16** (1977), *no.* 1, 51–66. (S. B. Conlon) **57** #441 20C25

(*with* Haggarty, R. J.) Projective characters of finite groups. *Proc. London Math. Soc.* (3) **36** (1978), *no.* 1, 176–192. (A. O. Morris) **57** #6170 20C25

Humphreys, James E. ★Introduction to Lie algebras and representation theory. Graduate Texts in Mathematics, Vol. 9. *Springer-Verlag, New York-Berlin*, 1972. xii + 169 *pp.* (F. W. Lemire) **48** #2197 17Bxx

Remarks on "A theorem on special linear groups". *J. Algebra* **22** (1972), 316–318. (B. A. F. Wehrfritz) **45** #8739 20G15

Variations on Milnor's computation of K_2Z. *Algebraic K-theory, II: "Classical" algebraic K-theory and connections with arithmetic* (*Proc. Conf., Battelle Memorial Inst., Seattle, Wash.*, 1972), *pp.* 304–307. *Lecture Notes in Math., Vol.* 342, *Springer, Berlin*, 1973. (Keith Dennis) **53** #644 20H25

(*with* Verma, Daya-Nand) Projective modules for finite Chevalley groups. *Bull. Amer. Math. Soc.* **79** (1973), 467–468. (A. Dress) **47** #8715 20G40

Some computations of Cartan invariants for finite groups of Lie type. Collection of articles dedicated to Wilhelm Magnus. *Comm. Pure Appl. Math.* **26** (1973), 745–755. (Louis Solomon) **52** #8274 20G30

Projective modules for $\mathrm{SL}(2, q)$. *J. Algebra* **25** (1973), 513–518. (D.-N. Verma) **53** #3092 20C20

Weyl groups, deformations of linkage classes, and character degrees for Chevalley groups. *Comm. Algebra* **1** (1974), 475–490. (R. W. Carter) **49** #10792 20G15

★Linear algebraic groups. Graduate Texts in Mathematics, No. 21. *Springer-Verlag, New York-Heidelberg*, 1975. xiv + 247 *pp.* (T. Ono) **53** #633 20Gxx (14Lxx)

Representations of $\mathrm{SL}(2,p)$. *Amer. Math. Monthly* **82** (1975), 21–39. (G. I. Lehrer) **51** #732 20G05 (20C05)

★Ordinary and modular representations of Chevalley groups. Lecture Notes in Mathematics, Vol. 528. *Springer-Verlag, Berlin-New York*, 1976. iii + 127 *pp.* (Louis Solomon) **56** #12137 20G05

On the hyperalgebra of a semisimple algebraic group. *Contributions to algebra* (*collection of papers dedicated to Ellis Kolchin*), *pp.* 203–210. *Academic Press, New York*, 1977. (A. H. Kushkuley) **57** #6211 20G05 (14L15, 17B45)

A construction of projective modules in the category $\mathcal{O}$ Bernstein-Gel'fand-Gel'fand. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no.* 4, 301–303. (S. I. Gel'fand) **57** #6124 17B10

Weyl modules and Bott's theorem in characteristic p. *Lie theories and their applications* (*Proc. Ann. Sem. Canad. Math. Congr., Queen's Univ., Kingston, Ont.*, 1977), *pp.* 474–483. *Queen's Papers in Pure Appl. Math., No.* 48, *Queen's Univ., Kingston, Ont.*, 1978. (S. I. Gel'fand) **58** #28013 14M15 (20C20)

Symmetry for finite dimensional Hopf algebras. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 2, 143–146. (David E. Radford) **58** #5757 16A24 (17B50)

Humphreys, Paul W. Randomness, independence, and hypotheses. Foundations of probability and statistics, III. *Synthese* **36** (1977), *no.* 4, 415–426. (Author's introduction) **58** #24429 60A05 (02A05)

Humphries, P. D. Change of velocity in dynamical systems. *J. London Math. Soc.* (2) **7** (1974), 747–757. (Zbigniew Nitecki) **49** #6280 58F10 (28A65, 54H20)

Hundhausen, Joan Rohrer A generating operator for solutions of certain partial difference and differential equations. *SIAM J. Math. Anal.* **4** (1973), 15–21. (I. Fenyő) **48** #2606 39A10 (35C99)

Hundžua, T. G. *See* **Mathematical and engineering cybernetics**, **53** #5141

Huneke, J. P. (*with* Akcoglu, Mustafa A.; Rost, Hermann) A counter example to the Blum Hanson theorem in general spaces. *Pacific J. Math.* **50** (1974), 305–308. (S. Newberger) **50** #2947 47A35 (28A65)

Huneke, John Philip (*with* Glover, Henry H.) Cubic irreducible graphs for the projective plane. *Discrete Math.* **13** (1975), *no.* 4, 341–355. (Authors' summary) **52** #13501 05C99

(*with* Glover, Henry H.) Graphs with bounded valency that do not embed in the projective plane. *Discrete Math.* **18** (1977), *no.* 2, 155–165. (Gary Haggard) **57** #5802 05C10

A minimum-vertex triangulation. *J. Combin. Theory Ser. B* **24** (1978), *no.* 3, 258–266. (Michael O. Albertson) **58** #327 05C10 (57C10)

Huneycutt, James E., Jr. On an abstract Stieltjes measure. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **21** (1971), *no.* 3, 143–154. (Colin C. Graham) **48** #8744 28A45

Products and convolutions of vector valued set functions. *Studia Math.* **41** (1972), 119–129. (Colin C. Graham) **46** #1998 28A45

(*with* Faulkner, Gary D.) Orthogonal decomposition of isometries in a Banach space. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 1, 125–128. (T. Andô) **57** #3892 47A65

(*with* Faulkner, Gary D.) The canonical form of a scalar operator on a Banach space. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 1, 81–84. (Igor Kluvánek) **58** #7196 47B40 (46G10)

čan Hung *See* **Čan Hung**

nguyễn mạnh Hùng *See* **Nguyễn Mạnh Hùng**

nguyen dang Hung *See* **Nguyen Đang Hung**

nguyen Hung *See* **Nguyen Hung**

nguyen-trung Hung *See* **Nguyen-Trung Hung**

pham huy Hung *See* **Pham Huy Hung**

tran thuong Hung *See* **Tran Thuong Hung**

Hung, Ch'êng Wan Comments on the first uncountable ordinal. (Chinese summary) *Formosan Sci.* **26** (1972), 11–14. (G. Fodor) **49** #2397 04A10

On the axiomatic structures of intensional logic. III. B^+, N^+, T^+, E^+, $S4^+$, R^+, J^+. Collection of articles dedicated to Professor Tsing Houa Teng on the occasion of his 70th birthday. *Tamkang J. Math.* **4** (1973), *no.* 2, 69–81. (Editors) **58** #27334c (E **58** #27334d) 02C10

On the axiomatic structures of intensional logics. II. Gentzen type system GX, X = E, EQ. *Chinese J. Math.* **2** (1974), *no.* 1, 1–30. (Editors) **58** #27334b 02C10

On the axiomatic structures of intensional logics. I. E, EM, R, RM and Π′. *Chine J. Math.* **3** (1975), *no.* 1, 27–68. (Editors) **58** #27334a 02C10

Errata and addenda to: "On the axiomatic structures of intensional logic. III (Tamkang J. Math. **4** (1973), no. 2, 69–81). *Tamkang J. Math.* **6** (1975), 103. (Editor **58** #27334d 02C10

Independence of connectives in *E,EM,R,RM*. *Tamkang J. Math.* **6** (1975), *no.* 197–204. (Victor K. Finn) **54** #12485 02C10

The independence of the axiom schemata and the inference rules of *E*. *Tamkang* *Math.* **6** (1975), *no.* 2, 205–214. (Victor K. Finn) **54** #12486 02C10

Hung, Chia Wei *See* **Hong, Jia Wei**

Hung, Ching Hsiang (*with* Markham, Thomas L.) The Moore-Penrose inverse of a partitioned matrix $M = \left(\begin{smallmatrix} A & 0 \\ B & C \end{smallmatrix}\right)$. *Czechoslovak Math. J.* **25(100)** (1975), *no.* 3, 354–361. (M F. Smiley) **52** #8145 15A09

(*with* Markham, Thomas L.) The Moore-Penrose inverse of a partitioned matri $M = \left(\begin{smallmatrix} A & D \\ B & C \end{smallmatrix}\right)$. *Linear Algebra and Appl.* **11** (1975), 73–86. (R. J. Plemmons) **51** #5616 15A09

(*with* Markham, Thomas L.) The Moore-Penrose inverse of a sum of matrices. *Austral. Math. Soc. Ser. A* **24** (1977), *no.* 4, 385–392. (J. K. Baksalary) **58** #715 15A09

Hung, George (*with* Stark, Lawrence) The kernel identification method (1910–1977). Review of theory, calculation, application, and interpretation. *Math. Biosci.* **37** (1977) *no.* 3-4, 135–190. (Authors' summary) **58** #33087 92A05

Hung, H. H. (*with* Negrepontis, S.) Spaces homeomorphic to $(2^\alpha)_\alpha$. *Bull. Amer. Math Soc.* **79** (1973), 143–146. (Andreas Blass) **51** #4172 54D35 (02K30, 02K35)

The amalgamation property for *G*-metric spaces. *Proc. Amer. Math. Soc.* **37** (1973) 53–58. (L. Skula) **47** #2560 54E35 (06A60)

(*with* Negrepontis, S.) Spaces homeomorphic to $(2^\alpha)_\alpha$. II. *Trans. Amer. Math. Soc* **188** (1974), 1–30. (D. V. Čudnovs'kiĭ) **51** #6690 54A25 (02K15, 02K35, 54D3 54G10)

Some metrization theorems. *Proc. Amer. Math. Soc.* **54** (1976), 363–367. (P. W Harley, III) **53** #9159 54E35

One more metrization theorem. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 351–353 (Jacob Kofner) **53** #9160 54E35

A contribution to the theory of metrization. *Canad. J. Math.* **29** (1977), *no.* 6 1145–1151. (H. R. Bennett) **56** #13172 54E35

Hung, H. M. *See* **Transactions: Conference of Army Mathematicians**, **49** #4735

Hung, Hing Sum *See* **Dictionary: Chinese-English**, **56** #25 *and* **Dictionary: English-Chinese**, **56** #26

Hung, Pham Huy *See* **Pham Huy Hung**

Hung, Stephen H. Y. (*with* Mendelsohn, N. S.) On the Steiner systems $S(3,4,14)$ and $S(4,5,15)$. *Utilitas Math.* **1** (1972), 5–95. (R. C. Mullin) **46** #1618 (EA **47**) 05B0

(*with* Mendelsohn, N. S.) Directed triple systems. *J. Combinatorial Theory Ser. A* **14** (1973), 310–318. (J. Spencer) **47** #3190 05B05

(*with* Mendelsohn, N. S.) Handcuffed designs. *Aequationes Math.* **11** (1974), 256–266. (J. F. Lawless) **51** #188 05B05

(*with* Mendelsohn, N. S.) On Howell designs. *J. Combinatorial Theory Ser. A* **16** (1974), 174–198. (R. C. Mullin) **48** #8271 05B30

(*with* Mendelsohn, N. S.) Handcuffed designs. *Discrete Math.* **18** (1977), *no.* 1 23–33. (J. F. Lawless) **56** #5318 05B05

Hung, W. (*with* Joseph, Daniel D.) Contributions to the nonlinear theory of stability of viscous flow in pipes and between rotating cylinders. *Arch. Rational Mech. Anal.* **44** (1971/72), 1–22. (M. G. Hall) **50** #3745 76.35

Hungerford, Thomas W. ★Algebra. *Holt, Rinehart and Winston, Inc., New York-Montreal, Que.-London*, 1974. xix + 502 *pp.* (F. De Meyer) **50** #6693 00A05

le Hung Son *See* **Le Hung Son**

Hunjadvari, L. Probabilistic automata with variable structure in the prediction problem (Russian) *Vyčisl. Tehn. i Voprosy Kibernet. Vyp.* 12 (1975), 134–148, 163. (W. Greblick **58** #9936 94A35

Approximating operators in the problem of the prediction of an external medium (Russian) *Vyčisl. Tehn. i Voprosy Kibernet. Vyp.* 13 (1977), 125–155. (Stephen Souk **58** #15755 94A35

Hunjić, J. (*with* Polonijo, M.; Volenec, Vladimir) Uniqueness of the completion of the Euclidean plane to a Möbius plane. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 125–130. (W. R. Heise) **50** #1122 50D45

Hunkins, Dalton R. Product type multiple integration formulas. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 408–414. (F. Stenger) **49** #6565 65D30

Cubatures of precision $2k$ and $2k+1$ for hyperrectangles. *Math. Comput.* **29** (1975) *no.* 132, 1098–1104. (David R. Ferguson) **52** #9572 65D30

Hunkler, Richard (*with* Heatherly, Henry E.) Convergence of $\{\frac{1}{n}\}$ and the Archimedean property. *Math. Student* **41** (1973), 201–205. (B. K. Lahiri) **50** #10164 26A03

Hünlich, Rolf Uber einige Näherungsverfahren zur Lösung nichtlinearer Funktionalgleichungen. *Math. Nachr.* **46** (1970), 219–233. (G. Vaĭnikko (RŽMat 1971 #4 B839)) **45** #4617 65Q05 (47B99)

Über einige Näherungsverfahren zur Lösung nichtlinearer Funktionalgleichungen mit Nebenbedingungen. *Math. Nachr.* **47** (1970), 171–182. (C. E. Pearson) **45** #9522 65Q05

Zur plastischen Knickung gerader Stäbe. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **19** (1970), 613–616. (Yi-Yuan Yu **48** #7727 73.35

Über einige Näherungsverfahren zur Lösung nichtlinearer Variationsungleichungen (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur Reihe* **19** (1970), 617–627. (F. Stenger) **47** #9859 65N30 (49D15)

Die elastisch-plastische Torsion von Stäben. Tagungsbericht zur ersten Tagung der WK Analysis (Martin Luther Univ., Halle-Wittenberg, 1970). *Beiträge Anal. No.* 4 (1972), 81–88. (W. Prager) **48** #7728 73.35

Positive Fixpunkte parameterabhängiger Operatoren. *Theory of nonlinear operators* (*Proc. Summer School, Neuchâtel*, 1972), *pp.* 105–116. *Schr. Zentralinst. Math. Mech Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin*, 1974. (Ulrich Kosel) **50** #3034 47H15

Differenzierbarkeitseigenschaften von Operatoren der Kontinuumsmechanik. *Math* *lachr*. **63** (1974), 289–296. (Ulrich Kosel) **51** #1522 47H99

argikar, Ranjana (*with* Mirashi, Manik; Joshi, N. E.) Totally bounded sets in ornology. *J. Mathematical and Physical Sci*. **10** (1976), *no*. 3, 231–241. (H. logbe-Nlend) **54** #11016 46A09

aker, W. N. (*with* Lindgren, William F.) Upper semi-continuous functions and uasi-proximity classes. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **19(23)** 1973), *no*. 3-4, *secţ*. *I*, 23–30. (P. Fletcher) **48** #12472 54E05

(*with* Naimpally, S. A.) *C*-embedding of Hausdorff spaces in certain extensions. *opology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.*, 1973), *pp*. 37–142. *Lecture Notes in Math., Vol*. 375, *Springer*, *Berlin*, 1974. (Jack R. Porter) **1** #6731 54D35 (54C45)

(*with* Sharma, P. L.) Nearness structures compatible with a topological space. *Arch. lath*. (*Basel*) **25** (1974), 172–178. (H. Herrlich) **49** #6164 54E05

(*with* Naimpally, S. A.) Hausdorff compactifications as epireflections. *Canad. lath. Bull*. **17** (1974/75), *no*. 5, 675–677. (H. Herrlich) **51** #13990 54D35

(*with* Naimpally, S. A.) Local compactness of families of continuous point-compact elations. *Pacific J. Math*. **52** (1974), 101–105. (R. E. Smithson) **50** #8426 54C35

(*with* Herrington, Larry L.; Lindgren, William F.; Naimpally, S. A.) A ounterexample concerning almost continuous functions. *Proc. Amer. Math. Soc*. **43** 1974), 475. (B. J. Ball) **48** #9640 54C05

(*with* Sharma, P. L.) Proximity spaces and topological functors. *Proc. Amer. Math. oc*. **45** (1974), 419–425. (S. A. Naimpally) **50** #5749 54E05

(*with* Lindgren, William F.) Spaces with σ-point finite bases. *General Topology and ppl*. **8** (1978), *no*. 3, 229–232. (C. E. Aull) **57** #7525 54D20

ucker, John L. Primitive representation of a binary quadratic form as a sum of four quares. *Acta Arith*. **19** (1971), 321–325. (O. Taussky-Todd) **45** #173 10C05

(*with* Wardlaw, W. P.) Complete sequences of Fibonacci powers. *Fibonacci Quart*. **1** (1973), *no*. 4, 387–394. (I. Niven) **49** #207 10A35

(*with* Nebb, Jack; Stearns, Robert E., Jr.) Computational results concerning some quations involving σ(*n*). *Math. Student* **41** (1973), *no*. 3-4, 285–289 (1974). Chung-Ming An) **52** #8004 10–04

(*with* Pomerance, Carl) On an interesting property of 112359550561797752809. *ibonacci Quart*. **13** (1975), *no*. 4, 331–333. (J. B. Roberts) **52** #3032 10A30

(*with* Dandapat, G. G.; Pomerance, Carl) Some new results on odd perfect umbers. *Pacific J. Math*. **57** (1975), *no*. 2, 359–364. (H.-J. Kanold) **52** #5554 (EA **53**) 10A40

B. R. A matrix theory proof of the discrete convolution theorem. *IEEE Trans. udio Electroacoust*. **AU-19** (1971), *no*. 4, 285–288. (K. M. Saksena) **53** #8809 4A35 (65D30)

Deconvolution of linear systems by constrained regression and its relationship to the Viener theory. *IEEE Trans. Automatic Control* **AC-17** (1972), *no*. 5, 703–705. (Author's ummary) **56** #11373 93E10

(*with* Cannon, T. M.) Nonstationary assumptions for Gaussian models of images. *EEE Trans. Systems Man Cybernet*. **SMC-6** (1976), *no*. 12, 876–882. (Authors' ummary) **56** #11470 (E **57** #19064) 94A05

See also **Trussell, H. J.; et al., 57** #19064

Charles Approximation de la solution d'une inéquation variationnelle. *C. R. Acad. ci. Paris Sér. A-B* **272** (1971), A1308–A1310. (H. Georgescu) **45** #9226 47B99 6N05, 49D99)

(*with* Nassif, Nabil R.) Inéquations variationnelles et détermination de la charge espace de certains semi-conducteurs. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 409–1412. (S. Dümmel) **49** #8509 78.35

(*with* Nassif, Nabil R.) On a variational inequality and its approximation, in the eory of semiconductors. *SIAM J. Numer. Anal*. **12** (1975), *no*. 6, 938–950. (Georges A. ebaud) **53** #15111 78.65

David C. Character tables of certain finite simple groups. *Bull. Austral. Math. Soc*. **5** 971), 1–42. (M. Herzog) **46** #1896 20C15

Skew-Hadamard matrices of order less than or equal to 100. *Proceedings of the First ustralian Conference on Combinatorial Mathematics* (*Univ. Newcastle, Newcastle*, 1972), . 23–27. *Univ. of Newcastle Res. Associates*, *Newcastle*, 1972. (J. J. Seidel) **52** #140 5B20

A characterization of the finite simple group *M*(22). *J. Algebra* **21** (1972), 103–112. lenry S. Leonard, Jr.) **45** #8721 20D05

(*with* Seberry, Jennifer) Cyclotomy, Hadamard arrays and supplementary fference sets. *Proceedings of the Second Manitoba Conference on Numerical lathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1972), *pp*. 351–381. *Congressus umerantium, No. VII, Utilitas Math., Winnipeg, Man.*, 1973. (H. B. Mann) **51** #202 5B20 (05B10)

A characterization of the finite simple group *M*(23). *J. Algebra* **26** (1973), 431–439.)avid R. Mason) **48** #410 20D05

(*with* Morris, Sidney A.) Free subgroups of free topological groups. *Proceedings of e Second International Conference on the Theory of Groups* (*Australian Nat. Univ., anberra*, 1973), *pp*. 377–387. *Lecture Notes in Math., Vol*. 372, *Springer*, *Berlin*, 1974. dward T. Ordman) **50** #4804 22A05

The character table of an eight-dimensional orthogonal group. *Math. Comp*. **28** 974), 659–660; *addendum*, *ibid*. **28** (1974), *no*. 126, *loose microfiche suppl*. D1-E5. (M. erzog) **51** #5726 20C15 (20D05)

The character table of Fischer's simple group, *M*(23). *Math. Comp*. **28** (1974), 0–661; *addendum*, *ibid*. **28** (1974), *no*. 126, *loose microfiche suppl*. E6-F9. (M. Herzog) #5727 20C15 (20D05)

(*with* Morris, Sidney A.; Van der Poorten, Alfred J.) Closed subgroups of products reals. *Bull. London Math. Soc*. **7** (1975), 124–128. (Bernard L. Madison) **51** #8329 B05

Earl *See* **Computer models of thought and language**, **48** #1549

Giles W. (*with* Thompson, John M. T.) ★A general theory of elastic stability. *iley-Interscience* [*John Wiley & Sons*], *London-New York-Sydney*, 1973. xii + 322 *pp*. ditors) **53** #4698 73.49

(*with* Thompson, John M. T.) Towards a unified bifurcation theory. (German ummary) *Z. Angew. Math. Phys*. **26** (1975), *no*. 5, 581–603. (B. V. Loginov) **52** #9277 58C25 (73.49, 92A05, 93A10)

Imperfection-sensitivity of semi-symmetric branching. *Proc. Roy. Soc. London Ser. A* **357** (1977), *no*. 1689, 193–211. (M. J. Sewell) **57** #18419 73.58 (58C25)

(*with* Thompson, John M. T.) A bifurcation theory for the instabilities of optimization and design. Mathematical methods of the social sciences. *Synthese* **36** (1977), *no*. 3, 315–351. (M. J. Sewell) **57** #18420 73.58 (58C25)

See also **Instability of continuous systems**, **49** #10495

Hunt, Harry B., III On the time and tape complexity of languages. I. *Fifth Annual ACM Symposium on Theory of Computing* (*Austin, Tex.*, 1973), *pp*. 10–19. *Assoc. Comput. Mach., New York*, 1973. (Jan van Leeuwen) **54** #9150 68A20

(*with* Szymanski, Thomas G.; Ullman, Jeffrey D.) Operations on sparse relations and efficient algorithms for grammar problems (extended abstract). *15th Annual Symposium on Switching and Automata Theory* (*Univ. New Orleans, New Orleans, La.*, 1974), *pp*. 127–132. *IEEE Comput. Soc., Long Beach, Calif.*, 1974. (Robert L. Cannon, Jr.) **58** #3725 68A30

(*with* Hartmanis, Juris) The LBA problem and its importance in the theory of computing. *Complexity of computation* (*Proc. SIAM-AMS Sympos., New York*, 1973), *pp*. 1–26. *SIAM-AMS Proc., Vol. VII, Amer. Math. Soc., Providence, R.I.*, 1974. (Derick Wood) **50** #11845 68A20 (68A30)

(*with* Rosenkrantz, Daniel J.) Computational parallels between the regular and context-free languages. *Sixth Annual ACM Symposium on Theory of Computing* (*Seattle, Wash.*, 1974), *pp*. 64–74. *Assoc. Comput. Mach., New York*, 1974. (I. M. Havel) **55** #1841 68A30

(*with* Geller, Matthew M.; Szymanski, Thomas G.; Ullman, Jeffrey D.) Economy of description by parsers, DPDA's and PDA's. *16th Annual Symposium on Foundations of Computer Science* (*Berkeley, Calif.*, 1975), *pp*. 122–127. *IEEE Computer Society, Long Beach, Calif.*, 1975. (Authors' summary) **55** #1838 68A30

(*with* Rangel, Jose Lucas) Decidability of equivalence, containment, intersection, and separability of context-free languages (extended abstract). *16th Annual Symposium on Foundations of Computer Science* (*Univ. California, Berkeley, Calif.*, 1975), *pp*. 144–150. *IEEE Computer Society, Long Beach, Calif.*, 1975. (S. A. Greibach) **55** #6973 68A30

(*with* Szymanski, Thomas G.) On the complexity of grammar and related problems. *Seventh Annual ACM Symposium on Theory of Computing* (*Albuquerque, N. M.*, 1975), *pp*. 54–65. *Assoc. Comput. Mach., New York*, 1975. (From the authors' introduction) **55** #6948 68A20 (68A30, 68A05)

(*with* Szymanski, Thomas G.; Ullman, Jeffrey D.) On the complexity of LR(*k*) testing. Papers from the Second ACM Symposium on Principles of Programming Languages (Palo Alto, Calif., 1975). *Comm. ACM* **18** (1975), *no*. 12, 707–716. (Pavel Strnad) **52** #12402 68A20 (68A30)

(*with* Szymanski, Thomas G.) Dichotomization, reachability, and the forbidden subgraph problem (extended abstract). *Eighth Annual ACM Symposium on Theory of Computing* (*Hershey, Pa.*, 1976), *pp*. 126–134. *Assoc. Comput. Mach., New York*, 1976. (A. J. Kfoury) **56** #13806 68A30 (68A20)

(*with* Rosenkrantz, Daniel J.; Szymanski, Thomas G.) On the equivalence, containment, and covering problems for the regular and context-free languages. Sixth Annual ACM Symposium on the Theory of Computing (Seattle, Wash., 1974). *J. Comput. System Sci*. **12** (1976), *no*. 2, 222–268. (Steven S. Muchnick) **53** #4615 68A20 (68A30)

(*with* Szymanski, Thomas G.) Complexity metatheorems for context-free grammar problems. Working Papers presented at the ACM-SIGACT Symposium on the Theory of Computing (Albuquerque, N.M, 1975). *J. Comput. System Sci*. **13** (1976), *no*. 3, 318–334. (S. A. Greibach) **58** #3726 68A30

On the complexity of finite, pushdown, and stack automata. *Math. Systems Theory* **10** (1976), *no*. 1, 33–52. (Zvi Galil) **55** #1810 68A20 (68A30)

(*with* Rosenkrantz, Daniel J.; Szymanski, Thomas G.) The covering problem for linear context-free grammars. *Theoret. Comput. Sci*. **2** (1976), *no*. 3, 361–382. (Tadao Takaoka) **54** #6568 68A30

(*with* Szymanski, Thomas G.; Ullman, Jeffrey D.) Operations on sparse relations. *Comm. ACM* **20** (1977), *no*. 3, 171–176. (Armin Cremers) **55** #4774 68A20 (68A30)

(*with* Rosenkrantz, Daniel J.) On equivalence and containment problems for formal languages. *J. Assoc. Comput. Mach*. **24** (1977), *no*. 3, 387–396. (S. A. Greibach) **56** #1817 68A30

(*with* Geller, Matthew M.; Szymanski, Thomas G.; Ullman, Jeffrey D.) Economy of description of parsers, DPDA's, and PDA's. *Theoret. Comput. Sci*. **4** (1977), *no*. 2, 143–153. (Daniel J. Rosenkrantz) **57** #18244 68A30

(*with* Szymanski, Thomas G.) Lower bounds and reductions between grammar problems. *J. Assoc. Comput. Mach*. **25** (1978), *no*. 1, 32–51. (Ju. G. Karpov) **57** #11173 68A20 (68A30)

(*with* Rosenkrantz, Daniel J.) Computational parallels between the regular and context-free languages. *SIAM J. Comput*. **7** (1978), *no*. 1, 99–114. (Thomas G. Szymanski) **57** #14622 68A30

Hunt, J. C. R. A theory of turbulent flow round two-dimensional bluff bodies. *J. Fluid Mech*. **61** (1973), 625–706. (J. C. J. Nihoul) **48** #12992 76.35

(*with* Graham, J. M. R.) Free-stream turbulence near plane boundaries. *J. Fluid Mech*. **84** (1978), *no*. 2, 209–235. (Authors' summary) **58** #19789 76.60

Hunt, J. H. V. A connectivity map $f: S^n \to S^{n-1}$ does not commute with the antipodal map. *Bol. Soc. Mat. Mexicana* (2) **16** (1971), 43–45. (R. F. Dickman, Jr.) **47** #9579 54F60

A counter-example on unicoherent Peano spaces. *Colloq. Math*. **23** (1971), 257–260, 326. (B. L. Brechner) **46** #9944 54F15

On semi-closed sets and semi-open sets and their applications. *Fund. Math*. **76** (1972), *no*. 1, 29–41. (Edwin Duda) **46** #4455 54B05

(*with* Tymchatyn, E. D.) The theorem of Miss Mullikin-Mazurkiewicz-van Est for unicoherent Peano spaces. *Fund. Math*. **77** (1973), *no*. 3, 285–287. (B. L. Brechner) **47** #9578 54F55

The Phragmén-Brouwer theorem for separated sets. *Bol. Soc. Mat. Mexicana* (2) **19** (1974), *no*. 1, 26–35. (F. Burton Jones) **55** #4110 54F35

Hunt, J. N. (*with* White, D. J.; Dresel, L. A. G.) Uniform Huffman sequences do not exist. *Bull. London Math. Soc*. **9** (1977), *no*. 2, 193–198. (Stefan Dodunekov) **56** #241 10A40 (94A15)

Hunt, J. R. (*with* Deakin, Michael A. B.) An equation of continuity and the theory of stable populations. *Internat. J. Math. Ed. Sci. Tech*. **9** (1978), *no*. 1, 1–7. (H. A. DeKleine) **58** #9414 92A15

Hunt, James W. (*with* Szymanski, Thomas G.) A fast algorithm for computing longest common subsequences. *Comm. ACM* **20** (1977), *no.* 5, 350–353. (C. L. Liu) **55** #9596 68A10 (68A20)

Hunt, L. R. The local envelope of holomorphy of an *n*-manifold in C^n. *Boll. Un. Mat. Ital.* (4) **4** (1971), 12–35. (Richard M. Aron) **45** #3758 32E05

Locally holomorphic sets and the Levi form. *Pacific J. Math.* **42** (1972), 681–688. (W. Barth) **48** #567 32F15

An extension of the theorem of Hartogs. *Trans. Amer. Math. Soc.* **166** (1972), 491–495. (J. Kajiwara) **45** #5402 32D99 (57D40)

(*with* Wells, R. O., Jr.) Holomorphic extension for nongeneric CR-submanifolds. *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Stanford Univ., Stanford, Calif.,* 1973), *Part* 2, *pp.* 81–88. *Amer. Math. Soc., Providence, R.I.,* 1975. (Daniel M. Burns, Jr.) **52** #6032 32D15 (32E99)

Error detecting and correcting codes. *Austral. Comput. J.* **7** (1975), *no.* 2, 70–74. (V. M. Amerbaev) **53** #10469 94A10

(*with* Wells, R. O., Jr.) Extensions of CR-functions. *Amer. J. Math.* **98** (1976), *no.* 3, 805–820. (John E. Fornaess) **55** #5892 32D15

(*with* Strauss, Monty J.) Uniqueness of analytic continuation: necessary and sufficient conditions. *J. Differential Equations* **21** (1976), *no.* 2, 279–296. (Jacques Vauthier) **53** #13643 32D99

A uniqueness theory for the induced Cauchy-Riemann operator. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.,* 1975), *pp.* 157–160. *Amer. Math. Soc., Providence, R. I.,* 1977. (Thomas Bloom) **55** #12949 32D20

(*with* Polking, John C.; Strauss, Monty J.) Unique continuation for solutions to the induced Cauchy-Riemann equations. *J. Differential Equations* **23** (1977), *no.* 3, 436–447. (Authors' summary) **58** #28663 32D20 (35A05)

Uniqueness properties of CR-functions. *Trans. Amer. Math. Soc.* **231** (1977), *no.* 2, 329–338. (S. I. Pinčuk) **56** #8903 32D15 (32C05)

The complex Frobenius theorem and uniqueness of solutions to the tangential Cauchy-Riemann equations. *J. Differential Equations* **27** (1978), *no.* 2, 214–223. (M. Kalka) **58** #17190 32C05 (35A99)

Hunt, R. E. (*with* Woodside, C. Murray) Medical facilities planning using general queueing network analysis. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no.* 11, 793–799. (Authors' summary) **57** #14190 60K25 (92A05)

Hunt, Richard A. Almost everywhere convergence of Walsh-Fourier series of L^2 functions. *Actes du Congrès International des Mathématiciens* (*Nice,* 1970), *Tome* 2, *pp.* 655–661. *Gauthier-Villars, Paris,* 1971. (Zbl **224** #42009) **58** #23330 42A56

(*with* Taibleson, Mitchell H.) Almost everywhere convergence of Fourier series on the ring of integers of a local field. *SIAM J. Math. Anal.* **2** (1971), 607–625. (V. R. Celeste) **47** #718 43A50 (12J99)

An estimate of the conjugate function. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, IV. *Studia Math.* **44** (1972), 371–377. (P. G. Rooney) **49** #3431 42A40

(*with* Muckenhoupt, Benjamin; Wheeden, Richard L.) Weighted norm inequalities for the conjugate function and Hilbert transform. *Trans. Amer. Math. Soc.* **176** (1973), 227–251. (P. G. Rooney) **47** #701 42A40 (44A15, 47G05)

Comments on Lusin's conjecture and Carleson's proof for L^2 Fourier series. *Linear operators and approximation, II* (*Proc. Conf., Oberwolfach Math. Res. Inst., Oberwolfach,* 1974), *pp.* 235–245. *Internat. Ser. Numer. Math., Vol.* 25, *Birkhäuser, Basel,* 1974. (S. K. Pichorides) **52** #6300 42A20

(*with* Young, Wo Sang) A weighted norm inequality for Fourier series. *Bull. Amer. Math. Soc.* **80** (1974), 274–277. (R. Kaufman) **49** #3419 42A20 (46E30)

Developments related to the a.e. convergence of Fourier series. *Studies in harmonic analysis* (*Proc. Conf., DePaul Univ., Chicago, Ill.,* 1974), *pp.* 20–37. *MAA Stud. Math., Vol.* 13, *Math. Assoc. Amer., Washington, D.C.,* 1976. (S. K. Pichorides) **56** #16239 42A20 (42A56)

Harmonic measure and estimates of Green's function. *Bull. Amer. Math. Soc.* **84** (1978), *no.* 2, 194–200. (D. H. Armitage) **57** #668 31B25

Hunt, William J. (*with* Goddard, William A., III; Dunning, Thom. H., Jr.) The proper treatment of off-diagonal Lagrange multipliers and coupling operators in self-consistent field equations. *Chem. Phys. Lett.* **4** (1969/70), 231–234. (E. Zeidler) **48** #10371 81.47

Hunter, C. The disklike Riemann ellipsoids. *Astrophys. J.* **162** (1970), 97–103. (Author's summary) **46** #10370 85.34

On secular stability, secular instability, and points of bifurcation of rotating gaseous masses. *Astrophys. J.* **213** (1977), *no.* 2, *part* 1, 497–517. (Author's summary) **56** #7753 85.35

Hunter, D. B. The evaluation of integrals of periodic analytic functions. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **11** (1971), 175–180. (J. Kofroň) **45** #4636 65D30

(*with* Regan, T.) A note on the evaluation of the complementary error function. *Math. Comp.* **26** (1972), 539–541. (Authors' summary) **46** #2821 65D20

Some Gauss-type formulae for the evaluation of Cauchy principal values of integrals. *Numer. Math.* **19** (1972), 419–424. (F. M. Pascal) **47** #7899 65D30

The numerical evaluation of Cauchy principal values of integrals by Romberg integration. *Numer. Math.* **21** (1973/74), 185–192. (J. Kofroň) **49** #8286 65D30

(*with* Parsons, Susan J.) On the numerical integration of an odd periodic function over a half-period. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 413–415. (Authors' summary) **50** #8920 65D30

Some properties of orthogonal polynomials. *Math. Comp.* **29** (1975), 559–565. (R. E. Barnhill) **51** #10988 42A52

(*with* Parsons, Susan J.) A note on the numerical evaluation of finite integrals of oscillatory functions. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **15** (1975), *no.* 2, 221–223. (See Zbl **302** #65015) 65D30

The positive-definiteness of the complete symmetric functions of even order. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 2, 255–258. (John P. Coleman) **56** #8378 05A15 (26A69, 30A10)

Hunter, D. L. (*with* Baker, George A., Jr.) A diverse strategy method of minimization. *J. Computational Phys.* **9** (1972), 273–289. (A. S. Householder) **48** #3246 65K05

(*with* Sykes, M. F.) On the determination of weights for the high temperature star cluster expansion of the free energy of the Ising model in zero magnetic field. *J. Phys. A* **7** (1974), 1589–1595. (Authors' summary) **53** #12408 82.05

Hunter, David An upper bound for the probability of a union. *J. Appl. Probability* 13 (1976), *no.* 3, 597–603. (J. Galambos) **54** #3802 60E05 (60C05)

Hunter, G. (*with* Bui, Thuy T. T.) The significant order of symmetric tridiagonal matrices. *J. Inst. Math. Appl.* **14** (1974), 293–301. (Claude Brezinski) **50** #8938 65F15

(*with* Kuriyan, Mary) Asymptotic expansions of Mathieu functions in wave mechanics. *J. Computational Phys.* **21** (1976), *no.* 3, 319–325. (John P. Coleman) **54** #9502 81.65

Hunter, Geoffrey ★Metalogic. An introduction to the metatheory of standard first order logic. *University of California Press, Berkeley, Calif.,* 1973. xiii + 288 *pp.* (Scott K. Lehmann) **56** #5186 02–01 (02Bxx, 02Gxx)

Hunter, J. Bockett Moment sequences in l^p. *Pacific J. Math.* **58** (1975), *no.* 2, 463–465. (G. G. Johnson) **52** #8877 46A45 (44A50)

Hunter, J. Stuart (*with* Box, George E. P.; Hunter, William G.) ★Statistics for experimenters. An introduction to design, data analysis, and model building. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-Chichester-Brisbane,* 1978. xviii + 653 *pp. ISBN* 0-470-09315-7 (H. L. Harter) **58** #3135 62–01 (62Kxx)

Hunter, Jeffrey J. On the renewal density matrix of a semi-Markov process. *Sankhyā Ser A* **31** (1969), 281–308. (S. Orey) **46** #10088 60K15

Independence, conditional expectation, and zero covariance. *Amer. Statist.* 26 (1972), *no.* 5, 22–24. (S. M. Samuels) **50** #11550 62–01

On the occurrence of the sequence *sf* in Markov dependent Bernoulli trials. *Math Chronicle* **2** (1972/73), 131–136. (M. Csorgo) **50** #3278 60–01

Renewal theory in two dimensions: basic results. *Advances in Appl. Probability* 6 (1974), 376–391. (H. Kesten) **49** #11649a 60K05

Renewal theory in two dimensions: asymptotic results. *Advances in Appl. Probability* **6** (1974), 546–562. (H. Kesten) **49** #11649b 60K05

Renewal theory in two dimensions: bounds on the renewal function. *Advances in Appl. Probability* **9** (1977), *no.* 3, 527–541. (Author's summary) **58** #24585 60K05

Two queues in parallel with exponential type semi-Markovian inputs. *Opsearch* 14 (1977), *no.* 1, 29–37. (Ralph L. Disney) **56** #9728 60K25

Hunter, John E. Dynamic sociometry. *J. Math. Sociol.* **6** (1978/79), *no.* 1, 87–138 (Stephen B. Seidman) **58** #20631 92A20

Hunter, Richard J. (*with* Lloyd, John W.) Weakly compactly generated locally convex spaces. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 1, 85–98. (H. Buchwalter) **57** #7092 46A05

Hunter, Robert P. Continuous homomorphisms. *Topology Conference* (*Proc. General Topology Conf., Emory Univ., Atlanta, Ga.,* 1970), *pp.* 46–51. *Dept. Math., Emory Univ., Atlanta, Ga.,* 1970. (John A. Hildebrant) **49** #7386 22A15

(*with* Anderson, Lee W.) On the infinite subsemigroups of a compact semigroup. *Fund. Math.* **74** (1972), *no.* 1, 1–19. (K. H. Hofmann) **45** #5265 22A15

(*with* Anderson, Lee W.) Homomorphisms having a given $\mathcal{H}$-class as a single class. *J. Austral. Math. Soc.* **15** (1973), 7–14. (C. F. Kelemen) **48** #2287 20M15 (22A15)

Compact semigroups with low dimensional orbit spaces. *Proc. Amer. Math. Soc.* 40 (1973), 277–279. (John A. Hildebrant) **47** #5168 22A15

(*with* Anderson, Lee W.) A remark on finite dimensional compact connected monoids. *Proc. Amer. Math. Soc.* **42** (1973), 602–606. (Anne L. Hudson) **48** #11386 22A15

Lee W. Anderson (1926-1973). *Semigroup Forum* **6** (1973), *no.* 3, 273–281. (Editors) **51** #5237 01A70

(*with* Hofmann, Karl Heinrich) On a centralizer result of Hunter's. Correspondence between Karl Heinrich Hofmann and Robert P. Hunter. *Semigroup Forum* **6** (1973), *no.* 4, 365–372. (John A. Hildebrant) **51** #13120 22A15

Certain idempotents lying in the centralizer of the group of units. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 2, 339–344. (M. I. Kabenjuk) **58** #16941 22A15

Hunter, Roger H. Les projectifs et les injectifs des suites exactes équilibrées des groupes abéliens. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1395–1396. (C. Lemaire) **49** #7377 20K40

Balanced subgroups of abelian groups. *Trans. Amer. Math. Soc.* **215** (1976), 81–98. (L. Procházka) **58** #22337 20K40

(*with* Richman, Fred; Walker, Elbert A.) Warfield modules. *Abelian group theory* (*Proc. Second New Mexico State Univ. Conf., Las Cruces, N. M.,* 1976), *pp.* 87–123. *Lecture Notes in Math., Vol.* 616, *Springer, Berlin,* 1977. (Editors) **58** #22041 13C10 (20K99)

(*with* Richman, Fred; Walker, Elbert A.) Simply presented valuated abelian *p*-groups. *J. Algebra* **49** (1977), *no.* 1, 125–133. (RŽMat **1978** #6 A215) **58** #22338 20K40 (13A15, 20K10)

(*with* Richman, Fred; Walker, Elbert A.) Finite direct sums of cyclic valuated *p*-groups. *Pacific J. Math.* **69** (1977), *no.* 1, 97–104. (R. J. Ensey) **55** #8212 20K25

(*with* Richman, Fred; Walker, Elbert A.) Existence theorems for Warfield groups. *Trans. Amer. Math. Soc.* **235** (1978), 345–362. (C. Lemaire) **57** #12723 20K25

See also **Abelian group theory**, **56** #8662

Hunter, S. C. ★Mechanics of continuous media. Mathematics & its Applications. *Ellis Horwood Ltd., Chichester; Halsted Press* [*John Wiley & Sons Inc.*], *New York-London-Sydney,* 1976. 567 *pp.* (M. N. L. Narasimhan) **56** #4317 73.00 (76.00)

Hunter, William G. (*with* Hill, William J.) Design of experiments for subsets of parameters. *Technometrics* **16** (1974), 425–434. (E. J. Williams) **50** #11655 62K05

(*with* Box, George E. P.; Hunter, J. Stuart) ★Statistics for experimenters. An introduction to design, data analysis, and model building. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-Chichester-Brisbane,* 1978 xviii + 653 *pp. ISBN* 0-470-09315-7 (H. L. Harter) **58** #3135 62–01 (62Kxx)

Huntington, Edward V. *See* **Festschrift: Weber, Heinrich**, **50** #12626

Huntington, Raymond J. (*with* Naus, Joseph I.) A simpler expression for Kth nearest neighbor coincidence probabilities. *Ann. Probability* **3** (1975), *no.* 5, 894–896. (Frank K. Hwang) **52** #9328 60E05

Mean recurrence times for *k* successes within *m* trials. *J. Appl. Probability* 13 (1976), *no.* 3, 604–607. (S. G. Mohanty) **54** #8786 60C05

Huntley, E. (*with* Turner, Peter R.) Variable metric methods in Hilbert space with applications to control problems. *J. Optimization Theory Appl.* **19** (1976), *no.* 3, 381–400 (D. F. Lawden) **54** #9084 65K05 (49D99)

(*with* Turner, Peter R.) Direct-prediction quasi-Newton methods in Hilbert space
th applications to control problems. *J. Optimization Theory Appl.* **21** (1977), *no.* 2,
9–211. (Werner Krabs) **55** #6276 49D05

(*with* Turner, Peter R.) Direct prediction methods in Hilbert space with applications
control problems. *J. Optimization Theory Appl.* **22** (1977), *no.* 3, 399–415. (V. L.
kke) **56** #17070 65K05

(*with* Pickering, W. M.; Zinober, A. S. I.) The numerical solution of linear
ne-dependent partial differential equations by the Laplace and fast Fourier
nsforms. *J. Computational Phys.* **27** (1978), *no.* 2, 256–271. (K. C. Gupta) **58** #8386
65P05

ey, H. E. The golden ellipse. *Fibonacci Quart.* **12** (1972), 38–40. (Florica T. Câmpan)
#5600 50B10

berger, David V. (*with* Billingsley, Patrick) ★Elements of statistical inference.
hird edition. *Allyn and Bacon, Inc., Boston, Mass.*, 1973. ix+349 *pp.* (Editors)
#3412 62–01

(*with* Billingsley, Patrick) ★Elements of statistical inference. Fourth edition. *Allyn
d Bacon, Inc., Boston, Mass.-London-Sydney*, 1977. ix+385 *pp.* (Editors) **56** #3986
–01

, P. Some remarks on the paper of K. Varga and P. Fejes. (Russian summary) *Acta
bernet.* **2**, 61–64 (1973). (H. Weber) **49** #6619 65K05

di, László (*with* Dancs, István; Sivák, József) Control based on stock signals in a
ont'ev type economy. (Hungarian. English and Russian summaries)
igma–Mat.-Közgazdasági Folyóirat **6** (1973), 185–207. (Authors' summary)
#14114 90A15

ker, Walter On the nonrelativistic limit of the Dirac theory. *Comm. Math. Phys.* **40**
975), 215–222. (H. Wakita) **50** #15713 81.47

On the asymptotic behaviour of atomic spectra near the continuum. *Helv. Phys.
cta* **48** (1975), 145–150. (W. O. Amrein) **55** #11857 81.47

Huong *See* **Ho Van Huong**

, Georges (*with* Drygas, Hilmar) A new proof of Hsu's theorem in regression
alysis—a coordinate-free approach. (German and French summaries) *Math.
perationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 3, 333–335. (R. Zmyślony)
#18918 62J05

, F. (*with* Bopp, Fritz) Runaway und Renormierung. (English summary) *Bayer.
kad. Wiss. Math.-Natur. Kl. S.-B.* **1974**, 133–144 (1975). (Ll. G. Chambers) **52** #4817
78.34 (81.34)

ert, Bertram Zur Konstruktion der reellen Spiegelungsgruppe H_4. *Acta Math. Acad.
ci. Hungar.* **26** (1975), *no.* 3-4, 331–336. (F. A. Sherk) **56** #15790 20H15

Bemerkungen zur modularen Darstellungstheorie. I. Absolut unzerlegbare Moduln.
rch. Math. (Basel) **26** (1975), 242–249. (S. Andreadakis) **51** #8223 20C05

(*with* Willems, Wolfgang) Bemerkungen zur modularen Darstellungstheorie. II.
arstellungen von Normalteilern. *Arch. Math. (Basel)* **26** (1975), *no.* 5, 486–496. (S.
ndreadakis) **52** #8231 20C05

Syed A. Right abelian categories. (Italian summary) *Atti Accad. Naz. Lincei Rend.
l. Sci. Fis. Mat. Natur.* (8) **50** (1971), 284–289. (John D. P. Meldrum) **46** #1880
3E10 (16A76)

A note on generators in categories. (French summary) *Cahiers Topologie Géom.
ifférentielle* **13** (1972), 393–395, 443. (M. Barr) **48** #367 18A20

A note on monics and epics in varieties of categories. *Fund. Math.* **76** (1972), *no.* 2,
17–119. (J. Sonner) **46** #3587 18A20

Upper central series in a category. *J. Reine Angew. Math.* **252** (1972), 209–214. (D.
. Newell) **45** #3510 18A99

Automorphisms of exact sequences. *Publ. Inst. Math. (Beograd) (N.S.)* **14(28)**
1972), 67–68. (J. L. Williams) **54** #5321 18H15

Some remarks on non-abelian homological algebra. *Publ. Math. Debrecen* **19**
1972), 105–113 (1973). (C. Niţă) **48** #8604 18H10

The semiring of quotients of commutative semirings. *Colloq. Math.* **28** (1973),
85–188. (O. Steinfeld) **49** #2856 16A78

A note on mutants in semigroups. *Czechoslovak Math. J.* **23(98)** (1973), 229–230. (J.
. Kim) **47** #5151 20M10

(*with* Cornu, R.) A remark on the existence of limits in categories. *Math. Nachr.* **55**
1973), 223–224. (J. Duskin) **50** #4686 18A30

Universal arrows. *Nieuw Arch. Wisk.* (3) **21** (1973), 37–42. (R. Fritsch) **49** #374
8A40

Some remarks on multicategories. *Studia Sci. Math. Hungar.* **8** (1973), 1–3. (R.
Viegandt) **48** #8593 18A05

Categorical properties of free algebras. *Comment. Math. Univ. St. Paul.* **24**
1975/76), *no.* 2, 81–82. (G. Birkhoff) **53** #7904 08A10 (18C10)

A remark on a paper of F. A. Szász. *Period. Math. Hungar.* **6** (1975), *no.* 2, 173–174.
T. de W. Jooste) **53** #527 16A48

e, Fazle (*with* Katti, S. K.) A note on maximum conditional likelihood estimators.
ankhyā Ser. B **38** (1976), *no.* 1, 1–13. (Authors' summary) **58** #31542 62F10

ilava, V. K. The convergence of a difference scheme of a certain boundary value
roblem for a biharmonic equation (the Sophie German equation). (Ukrainian. English
nd Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 8,
92–696, 764. (T. Styś) **52** #4661 65N10

See also **Numerical analysis**, **58** #31701

, Albert Local conditions for equivalence of compact dynamical systems. *Amer. J.
Math.* **93** (1971), 742–752. (T. Ura) **46** #5750 34C35 (02H25)

Near periods and Bohr compactifications. *Victoria Symposium on Nonstandard
nalysis (Univ. Victoria, Victoria, B.C.*, 1972), *pp.* 106–112. *Lecture Notes in Math., Vol.*
69, *Springer, Berlin*, 1974. (R. B. Kirk) **58** #12212 43A60 (02H25, 22A99)

Synergy of homomorphisms in relational systems. *Proceedings of the Conference on
Algebraic Aspects of Combinatorics (Univ. Toronto, Toronto, Ont.*, 1975), *pp.* 243–247.
Congressus Numeratium, No. XIII, Utilitas Math., Winnipeg, Man., 1975. (László Lovász)
52 #8000 08A05

Synergy of homomorphisms in relational systems. *J. Combinatorial Theory Ser. A*
21 (1976), *no.* 3, 329–335. (James Baumgartner) **54** #4985 04A05 (02H20)

See also **Symposium: Victoria, Nonstandard Analysis**, **57** #12159

d, H. L. Stationarizing properties of random shifts. *SIAM J. Appl. Math.* **26** (1974),
203–212. (A. De Hoyos) **48** #12637 60G10

Periodically correlated processes with discontinuous correlation functions. (Russian summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 834–838. (T. Kawata) **50** #11409 60G10

Hurd, R. A. The Wiener-Hopf-Hilbert method for diffraction problems. (French summary) *Canad. J. Phys.* **54** (1976), *no.* 7, 775–780. (Carlo Pagani) **54** #1886 78.45

(*with* Przeździecki, S.) Diffraction by a half-plane perpendicular to the distinguished axis of a gyrotropic medium. *J. Mathematical Phys.* **17** (1976), *no.* 10, 1838–1847. (E. Meister) **55** #1948 78.45

(*with* Przeździecki, S.) Diffraction by a half-plane perpendicular to the distinguished axis of a general gyrotropic medium. (French summary) *Canad. J. Phys.* **55** (1977), *no.* 4, 305–324. (Maurice Bouix) **56** #14157 78.45

Hurdle, B. G., Jr. (*with* Archie, Lee C.; Thomblison, William Stewart) A note on the truth-table for "if *p* then *q*". *Notre Dame J. Formal Logic* **18** (1977), *no.* 4, 596–598. (K. Inoue) **58** #115 02A05 (02B05)

Hurdle, V. F. Minimum cost schedules for a public transportation route. I. Theory. *Transportation Sci.* 7 (1973), 109–137. (N. Zierler) **49** #4556 90B35

Minimum cost schedules for a public transportation route. II. Examples. *Transportation Sci.* 7 (1973), 138–157. (N. Zierler) **49** #4557 90B35

Hurgin, Ja. I. (*with* Kivelidi, V. H.) Construction of probabilistic search. *Avtomat. i Telemeh.* **1970**, *no.* 11, 192–193 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 11, 1892–1894. (Authors' summary) **46** #1320 90B40

(*with* Glogovskiĭ, V. M.; Kac, S. A.) Systems of algebraic equations with random coefficients. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1574–1581. (B. Jankó) **46** #6579 65F99

(*with* Butkovskiĭ, A. G.; Krasičkov-Ternovskiĭ, I. F.; Poltavskiĭ, L. N.) Problems of compactly supported control. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics (Tbilisi*, 1968), *Vol.* 1: *Optimal and adaptive systems (Russian)*, *pp.* 15–26, 305. *Izdat. "Nauka", Moscow*, 1972. **48** #7064 49A99

(*with* Glogovskiĭ, V. M.) Attention! The problem has been reduced to a linear one. (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **20(53)** (1977), *no.* 2, 139–150. (Petr Liebl) **57** #14389 65F99

Hurkmans, A. *See* **von Kutschera, Franz**, **55** #2474

Hurley, Bernard On length functions and normal forms in groups. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 3, 455–464. (R. C. Lyndon) **58** #11152 20F99

Hurley, D. G. A general method for solving steady-state internal gravity wave problems. *J. Fluid Mech.* **56** (1972), 721–740. (A. R. Rao (Zbl **254** #76019)) **50** #15566 76.35

Hurley, Donal Topological entropy of the geodesic flow on manifolds of hyperbolic type. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 2, 149–159. (Peter Walters) **53** #6637 58F15 (28A65)

Hurley, James F. Some normal subgroups of elementary subgroups of Chevalley groups over rings. *Amer. J. Math.* **93** (1971), 1059–1069. (I. Stewart) **46** #5478 20H25

Normality and terminality in the elementary subgroups of Steinberg groups over rings. *Proc. Amer. Math. Soc.* **34** (1972), 30–34. (R. W. Carter) **45** #8740 20G35

Terminality in elementary subgroups of Chevalley groups over rings. *Math. Japon.* **18** (1973), 5–10. (E. L. Spitznagel, Jr.) **52** #5824 20G35

Orders of Lie algebras over domains. *Portugal. Math.* **32** (1973), 81–90. (Robert Lee Wilson) **49** #5109 17B20

The normality of certain subgroups of elementary subgroups of Steinberg groups over rings. *Proc. Amer. Math. Soc.* **42** (1974), 377–380. (G. I. Lehrer) **48** #8650 20G35

Normality in elementary subgroups of Chevalley groups over rings. *Canad. J. Math.* **28** (1976), *no.* 2, 420–428. (I. Stewart) **53** #3145 20H25

(*with* Rudvalis, Arunas) Finite simple groups. *Amer. Math. Monthly* **84** (1977), *no.* 9, 693–714. (George Glauberman) **57** #6149 20–01 (20D05)

Hurley, T. C. Representations of some relatively free groups in power series rings. *Proc. London Math. Soc.* (3) **24** (1972), 257–294. (B. H. Neumann) **58** #896 20E10 (20E35)

(*with* Leedham-Green, C. R.) Homology in varieties of groups. IV. *Trans. Amer. Math. Soc.* **170** (1972), 293–303. (L. Ribes) **46** #5479 20J10

On a problem of Fox. *Invent. Math.* **21** (1973), 139–141. (K. W. Gruenberg) **48** #6245 20E05

The lower central factors of some relatively free groups. *J. London Math. Soc.* (2) **7** (1974), 476–482. (B. H. Neumann) **58** #22299 20E05 (20E35, 20F25)

Some properties of certain relatively free groups. *Proc. Amer. Math. Soc.* **47** (1975), 317–322. (A. H. Rhemtulla) **51** #713 20E25

Residual properties of groups determined by ideals. *Proc. Roy. Irish Acad. Sect. A* **77** (1977), *no.* 8, 97–104. (Ian M. Chiswell) **58** #899 20E15

Hurley, William J. Nonrelativistic quantum mechanics for particles with arbitrary spin. *Phys. Rev. D* (3) **3** (1971), 2339–2347. (T. Arai) **49** #6820 81.35

(*with* Sudarshan, E. C. G.) Algebraic study of a class of relativistic wave equations. *Ann. Physics* **85** (1974), 546–590. (Authors' summary) **54** #12008 81.22

(*with* Sudarshan, E. C. G.) On the determination of the relativistic wave equations associated with a given representation of SL(2, *C*). *J. Mathematical Phys.* **16** (1975), *no.* 10, 2093–2098. (Marcos D. Maia) **55** #7157 81.22

(*with* Sudarshan, E. C. G.; Khalil, M. A. K.) A criterion for reducibility of a relativistic wave equation. *J. Mathematical Phys.* **18** (1977), *no.* 5, 855–857. (Authors' summary) **58** #25606 81.47

Hurley, Wm. *See* **Concepts in hadron physics**, **48** #1596

Hurodze, T. A. (*with* Opoĭcev, V. I.) Spectral properties of pseudoconcave operators. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **83** (1976), *no.* 3, 557–560. (J. Daneš) **58** #7255 47H15

(*with* Opoĭcev, V. I.) Some theorems on differential and integral inequalities. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **87** (1977), *no.* 3, 565–568. (A. D. Ziebur) **57** #16776 34A40

(*with* Opoĭcev, V. I.) The positive spectrum of a pseudoconcave operator. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 4, 849–856, 955. (A. V. Džiškariani) **58** #18022 47H99

Hurramov, A. Arithmetic minima of positive definite quadratic forms. (Russian) Questions on differential equations. *Trudy Samarkand. Gos. Univ. (N.S.) Vyp.* 191 (1970), 204–210. (Editors) **56** #15565 10E20

Hurrelbrink, Jürgen (*with* Rehmann, Ulf) Eine endliche Präsentation der Gruppe $G_2(Z)$. *Math. Z.* **141** (1975), 243–251. (Geoffrey Mason) **54** #10432 20G25

(*with* Rehmann, Ulf) Zur endlichen Präsentation von Chevalley-Gruppen über den euklidischen imaginär-quadratischen Zahlringen. *Arch. Math.* (*Basel*) **27** (1976), *no.* 2, 123–133. (R. Steinberg) **54** #7648 20G30

Endlich präsentierte arithmetische Gruppen und K_2 über Laurent-Polynomringen. *Math. Ann.* **225** (1977), *no.* 2, 123–129. (J. E. Humphreys) **54** #12921 20G30

The elements of $K_2(\mathbf{Z}_S)$. *Manuscripta Math.* **24** (1978), *no.* 2, 173–177. (K. Shiratani) **57** #12463 12A65

Hursch, J. L., Jr. The local connections of GA compactifications generated by all closed connected sets. *Nederl. Akad. Wetensch. Proc. Ser. A* **74** = *Indag. Math.* **33** (1971), 411–417. (J. W. Rogers, Jr.) **46** #9934 54D35

(*with* Verbeek, A.) A class of connected spaces with many ramifications. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 201–202. *Academia, Prague*, 1972. (Hans-Christian Reichel) **51** #6720 54D05

(*with* de Groot, Johannes H.; Jensen, G. A.) Local connectedness and other properties of GA compactifications. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 11–18. (S. A. Naimpally) **46** #4480 54D35

(*with* Verbeek, A.) A class of connected spaces with many ramifications. *Czechoslovak Math. J.* **23(98)** (1973), 218–228. (F. Burton Jones) **47** #4227 54D05

Hursin, L. A. The development of technology as an information process. (Russian) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2 *Informacionnye. Processy i Sistemy* **1974**, *no.* 2, 3–14, 39. (*errata insert*) (P. Vondráček) **52** #5099 93A10

Hurst, C. A. (*with* Lohe, M. A.) The boson calculus for the orthogonal and symplectic groups. *J. Mathematical Phys.* **12** (1971), 1882–1889. (A. O. Barut) **45** #6293 81.22

(*with* Lohe, M. A.) Relation between the boson calculus and Zhelobenko's method. *J. Mathematical Phys.* **14** (1973), 1955–1958. (W. Miller, Jr.) **49** #4457 81.22

(*with* Gray, D. A.) Explicit representations of a single para-bose operator. *J. Mathematical Phys.* **16** (1975), 326–333. (Authors' summary) **52** #4854 81.22

(*with* Green, H. S.; Ilamed, Y.) The state labeling problems for SO(N) in U(N) and U(M) in Sp($2M$). *J. Mathematical Phys.* **17** (1976), *no.* 8, 1376–1382. (M. K. F. Wong) **54** #1921 81.22 (22E70)

(*with* Corbett, J. V.) Are wave functions uniquely determined by their position and momentum distributions? *J. Austral. Math. Soc. Ser. B* **20** (1977/78), *no.* 2, 182–201. (John R. Taylor) **58** #8911 81.44

(*with* Carey, A. L.; Gaffney, Janice) A C^*-algebra formulation of the quantization of the electromagnetic field. *J. Mathematical Phys.* **18** (1977), *no.* 4, 629–640. (Woodford W. Zachary) **55** #5020 (E **55** #11827) 81.46

(*with* Carey, A. L.) The Fermi method of quantizing the electromagnetic field as a model for quantum field theory. *J. Mathematical Phys.* **18** (1977), *no.* 8, 1553–1561. (Woodford W. Zachary) **56** #2045 81.46

(*with* Carey, A. L.; Gaffney, Janice) Erratum: "A C^*-algebra formulation of the quantization of the electromagnetic field" (J. Mathematical Phys. **18** (1977), no. 4, 629–640). *J. Mathematical Phys.* **18** (1977), *no.* 8, 1708. (Editors) **55** #11827 81.22 (81.46)

(*with* Carey, A. L.) A note on the Fermi quantisation of Landau gauge. *Lett. Math. Phys.* **2** (1977/78), *no.* 3, 227–234. (Pierre Hillion) **58** #14606 81.46

Hurst, David B. *See* **Operational Research**, **49** #12059

Hurst, E. Gerald, Jr. (*with* Bensoussan, A.; Näslund, B.) ★Management applications of modern control theory. Studies in Mathematical and Managerial Economics, Vol. 18. *North-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publishing Co., Inc., New York*, 1974. xvii+346 *pp.* (B. L. Ovsievič) **56** #10751 90–01 (93Cxx)

Hurst, S. L. Correlation between Karnaugh-map patterns and Chow parameters for 3-variable linearly separable (threshold) functions. *Electron. Lett.* **6** (1970), 182–183. (Author's summary) **46** #6946 94A20

(*with* Eves, J. M.) Improvements in multioutput threshold-logic gates. *Comput. J.* **21** (1978), *no.* 1, 79–85. (From the summary) **58** #20837 94A20

Hurt, Jan On a simple estimate of correlations of stationary random sequences. (Czech summary) *Apl. Mat.* **18** (1973), 176–187. (E. J. Hannan) **47** #6043 62M10

On estimation of reliability in the exponential case. (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 4, 263–272. (Lai K. Chan) **57** #7917 62N05 (62F10)

Asymptotic expansions of functions of statistics. (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 6, 444–456. (Richard A. Johnson) **54** #6350 62E20

Hurt, Michiel F. (*with* Waid, Carter) A generalized inverse which gives all the integral solutions to a system of linear equations. *SIAM J. Appl. Math.* **19** (1970), 547–550. (M. P. Drazin) **45** #1936 15A06

Hurt, Norman E. Remarks on unified field structures, spin structures and canonical quantization. *Internat. J. Theoret. Phys.* **3** (1970), 289–294. (G. Zaĭcev) **51** #12176 81.34

Remarks on Morse theory in canonical quantization. *J. Mathematical Phys.* **11** (1970), 539–551. (Editors) **58** #2923 58G99 (81.58)

Differential geometry of canonical quantization. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **14** (1971), 153–170. (J. R. Vanstone) **45** #6041 58H05 (58B20, 81.58, 83.58)

Deformation theory of quantizable dynamical systems. *Ann. Mat. Pura Appl.* (4) **89** (1971), 353–361. (S. Takizawa) **47** #5904 58F99 (58H05)

A classification theory for quantizable dynamical systems. *Rep. Mathematical Phys.* **2** (1971), *no.* 3, 211–220. (Robert Wells) **48** #1263 58F05 (53C15, 81.58)

Topology of quantizable dynamical systems and the algebra of observables. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **16** (1972), 203–217. (Clark Robinson) **46** #2161 34C35 (81.58)

Homogeneous fibered and quantizable dynamical systems. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **16** (1972), 219–222. (Clark Robinson) **46** #2162 34C35 (81.58)

Proof of an analogue of a conjecture of Langlands for the "Heisenberg-Weyl" group. *Bull. London Math. Soc.* **4** (1972), 127–129. (I. I. Pjateckiĭ-Šapiro) **48** #8691 22E45 (10D20, 32N15)

Examples of quantisable dynamical systems: the hydrogen atom and automorphism groups. *Internat. J. Theoret. Phys.* **7** (1973), 423–430. (Author's summary) **50** #1563 81.22

Gauge invariant unified field structures, quantizable dynamical systems, charge, a spin structures. *Rep. Mathematical Phys.* **4** (1973), 131–138. (M. Carmeli) **48** #343 83.53 (81.53)

Quantizable dynamical systems and the Borel-Weil-Tits theorem. *J. Math. Pu Appl.* (9) **53** (1974), 23–38. (S. I. Gel′fand) **50** #4817 22E45 (32L10)

Propagators in quantum mechanics on multiply connected spaces. *Group theoret methods in physics* (*Fourth Internat. Colloq., Nijmegen*, 1975), *pp.* 182–192. *Lecture No in Phys., Vol.* 50, *Springer, Berlin*, 1976. (J. S. Joel) **58** #1010 22E30 (58G99, 81.

See also **Proceedings: International Colloquium on Group Theoretical Methods Physics**, **48** #10342

Hurter, Arthur P., Jr. (*with* Unger, P. S.) Some properties of the dual of the dual nonlinear programming. *Cahiers Centre Études Recherche Opér.* **14** (1972), 169–176. Fichefet) **49** #4575 90C30

(*with* Wendell, Richard E.) Location theory, dominance, and convexity. Mathematical programming and its applications. *Operations Res.* **21** (1973), 314–3 (Robert G. Jeroslow) **50** #3897 90B05

(*with* Wendell, Richard E.) Optimal locations on a network. *Transportation Sci* (1973), 18–33. (P. Vondráček) **51** #2619 90B10

(*with* Unger, P. S.) The dual of the dual as an approximation of the prima *Internat. J. Systems Sci.* **5** (1974), 1119–1130. (I. Maruşciac) **52** #16648 90C30

(*with* Schaefer, Margaret K.) An algorithm for the solution of a location proble with metric constraints. *Naval Res. Logist. Quart.* **21** (1974), 625–636. (J. Falk) **50** #15926 90C30

(*with* Schaefer, Margaret K.; Wendell, Richard E.) Solutions of constrained location problems. *Management Sci.* **22** (1975/76), *no.* 1, 51–56. (Edwin Burmeiste **53** #10221 90B05

(*with* Lowe, Timothy J.) The generalized market area problem. *Management Sci.* (1975/76), *no.* 10, 1105–1115. (Michael J. Todd) **55** #12048 90B99

(*with* Planchart, Alejo) An efficient algorithm for the solution of the Weber problem with mixed norms. *SIAM J. Control* **13** (1975), 650–665. (Norihiko Adach **51** #14997 90C30

(*with* Wendell, Richard E.) Minimization of a non-separable objective functi subject to disjoint constraints. *Operations Res.* **24** (1976), *no.* 4, 643–657. (Jochem Zow **55** #14222 90C30 (65K05)

(*with* Wendell, Richard E.; Lowe, Timothy J.) Efficient points in location problems. *AIIE Trans.* **9** (1977), *no.* 3, 238–246. (J. Parida) **57** #11785 90C (90B99)

Hurtevent, J. Interprétation en tronçonnage de diverses constructions de plans. *Mi Math. Sem. Giessen Heft* 120 (1976), 11–28. (Francis Buekenhout) **53** #11484 50D35

Huruya, Tadashi The second dual of a tensor product of C^*-algebras. *Sci. Rep. Niiga Univ. Ser. A No.* 9 (1972), 35–38. (J. W. Bunce) **45** #7483 46L05 (46M05)

The second dual of a tensor product of C^*-algebras. II. *Sci. Rep. Niigata Univ. Se A No.* 11 (1974), 21–23. (J. W. Bunce) **49** #5860 46L05

Boundary representations of a tensor product of C^*-algebras. *Sci. Rep. Niiga Univ. Ser. A No.* 11 (1974), 55–59. (W. B. Arveson) **49** #1132 46L05

The second dual of a tensor product of C^*-algebras. III. *Sci. Rep. Niigata Uni Ser. A No.* 13 (1976), 25–29. (J. W. Bunce) **53** #14149 46L05

The normed space numerical index of C^*-algebras. *Proc. Amer. Math. Soc.* (1977), *no.* 2, 289–290. (John Duncan) **55** #11057 46L05

A spectral characterization of a class of C^*-algebras. *Sci. Rep. Niigata Univ. Ser. No.* 15 (1978), 21–24. (J. Tomiyama) **58** #2322 46L05

Hurwic, Józef The Polish contribution to mathematical and physical sciences in the yea 1918–1970. *Organon No.* 12-13 (1976/77), 261–274. (Editors) **58** #4898 01A60

Hurwicz, Leonid (*with* Richter, Marcel K.) Revealed preference without demand continuity assumptions. *Preferences, utility and demand* (*a Minnesota symposium*), *p* 59–76. *Harcourt Brace Jovanovich, New York*, 1971. (See Zbl **294** #90006; MR 5 #5187) 90A15

(*with* Uzawa, Hirofumi) On the integrability of demand functions. *Preference utility and demand* (*a Minnesota symposium*), *pp.* 114–148. *Harcourt Brace Jovanovic New York*, 1971. (A. C. Williams) **56** #7801 90A10

On the problem of integrability of demand functions. *Preferences, utility an demand* (*a Minnesota symposium*), *pp.* 174–214. *Harcourt Brace Jovanovich, New Yor* 1971. (G. Chichilnisky) **56** #17714 90A10 (58E15)

On informationally decentralized systems. *Decision and organization* (*a volume i honor of Jacob Marschak*), *pp.* 297–336. *Studies in Mathematical and Managerial Economics, Vol.* 12, *North-Holland, Amsterdam*, 1972. (Y. C. Ho) **54** #12174 90A1

(*with* Reiter, Stanley) On the boundedness of the feasible set without convexit assumptions. *Internat. Econom. Rev.* **14** (1973), 580–586. (G. Tintner) **49** #6889 90A15

The design of mechanisms for resource allocation. *Frontiers of quantitative economics* (*Invited Papers, Econometric Soc. Winter Meetings, Toronto, Ont.*, 1972), *Vo II, pp.* 3–42. *Contributions to Economic Analysis, Vol.* 87. *North-Holland, Amsterdam* 1974.*Amsterdam*, 1974. (From the author's introduction) **55** #9889 90A99

(*with* Radner, Roy; Reiter, Stanley) A stochastic decentralized resource allocatio process. I. *Econometrica* **43** (1975), 187–221. (Authors' summary) **56** #2241 90A1

(*with* Radner, Roy; Reiter, Stanley) A stochastic decentralized resource allocatio process. II. *Econometrica* **43** (1975), 363–393. (Authors' summary) **56** #2242 90A1

See also **Preferences, utility and demand**, **55** #5187

Hurwitz, Adolf (*with* Courant, Richard) ★Теория функций. (Russian) [Theory of functions] Translated and adapted from the fourth German edition by M. A. Evgrafo *Izdat. "Nauka", Moscow*, 1968. 648 *pp.* (Editors) **50** #4902 30–XX

Hurwitz, Alexander Homogeneous 0-1 matrices. *Combinatorics* (*Proc. Sympos. Pure Math Vol. XIX, Univ. California, Los Angeles, Calif.*, 1968), *pp.* 121–135. *Amer. Math. Soc Providence, R.I.*, 1971. (Stanley E. Payne) **47** #3210 05B20

Hurwitz, R. Daniel On the conjugacy problem in a free product with commuting subgroups. *Math. Ann.* **221** (1976), *no.* 1, 1–8. (R. B. J. T. Allenby) **54** #414 20F1

Husain, Asghar Non-numerical problem solving methods in computer-aided synthesi (Russian summary) *Systems Sci.* **2** (1976), *no.* 4, 81–101 (1977). (*errata insert*) (G. E

Peterson) **58** #3757 68A40

Husain, S. I. (*with* Sharfuddin, A.) Semi-symmetric metric connexions in almost contact manifolds. *Tensor* (*N.S.*) **30** (1976), *no.* 2, 133–139. (S. Takizawa) **54** #13776a (E **54** #13776b) 53C15

(*with* Sharfuddin, A.) Erratum: "Semi-symmetric metric connexions in almost contact manifolds" (Tensor (N.S.) **30** (1976), no. 2, 133–139). *Tensor* (*NS.*) **30** (1976), *no.* 3, 315. (S. Takizawa) **54** #13776b 53C15

(*with* Sharfuddin, A.) Curvature tensors of semi-symmetric metric connexions in almost contact manifolds. *Tensor* (*N.S.*) **31** (1977), *no.* 3, 227–234. (Authors' introduction) **58** #30909 53C15

Husain, Syed A. Convergence factors of Fourier series of summable functions. *J. Reine Angew. Math.* **259** (1973), 183–185. (S. M. Mazhar) **47** #696 42A20 (42A40)

(*with* Sehgal, V. M.) On common fixed points for a family of mappings. *Bull. Austral. Math. Soc.* **13** (1975), *no.* 2, 261–267. (Authors' summary) **55** #9057 54H25

On uniform summability-Λ of orthonormal expansions of functions of class $L^p(1<p<\infty)$. *Jñānabha Sect. A* **5** (1975), 67–74. (Shri Nivas Bhatt) **58** #1983 42A52

(*with* Sehgal, V. M.) On some theorems of Tarafdar. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 2, 213–221. (Heinrich Steinlein) **55** #8901 47H10

On uniform summability-Λ of orthonormal expansions of functions of class L^∞. *Jñānabha Sect. A* **6** (1976), 15–21. (J. A. Siddiqi) **58** #29786 42A52 (40C05, 42A24)

(*with* Sehgal, V. M.) A fixed point theorem for a semigroup of mappings with contractive iterates. *Jñānabha Sect. A* **6** (1976), 23–27. (From the introduction) **58** #31025 54H25

(*with* Sehgal, V. M.) A remark on a theorem of Kasahara. *Math. Japon.* **21** (1976), *no.* 1, 63–65. (From the introduction) **58** #31026 54H25

(*with* Sehgal, V. M.) A fixed point theorem in metric spaces. *Math. Japon.* **22** (1977/78), *no.* 4, 449–454. (L. F. Guseman, Jr.) **58** #18392 54H25

(*with* Sehgal, V. M.) A fixed point theorem with a functional inequality. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **21(35)** (1977), 89–91. (L. Górniewicz) **56** #13194 54H25

(*with* Sehgal, V. M.) Fixed point theorem for a nonlinear type contraction. *Internat. J. Math. Math. Sci.* **1** (1978), *no.* 1, 57–61. (Simeon Reich) **57** #10695 54H25

Husain, Taqdir On bases in locally convex spaces. *Aligarh Bull. Math.* **1** (1971), 1–7. (*errata insert*) (E. Beckenstein) **47** #9226 46A35

(*with* Dubinsky, Ed) Space of solutions of homogeneous elliptic equations. *Canad. Math. Bull.* **14** (1971), 17–24. (M. Schechter) **45** #7259 35J30

(*with* Malviya, B. D.) On semi-inner product spaces. I. *Colloq. Math.* **24** (1971/72), 235–240. (R. C. James) **47** #9255 46C05

(*with* Malviya, B. D.) Representations of locally *m*-convex *-algebras. *Math. Japon.* **17** (1972), 39–47. (G. Maltese) **48** #9406 46K10

(*with* Wong, Pak Ken) On modular complemented and annihilator algebras. *Proc. Amer. Math. Soc.* **34** (1972), 457–462. (B. Yood) **45** #9136 46H05

(*with* Wong, Pak Ken) Quasi-complemented algebras. *Trans. Amer. Math. Soc.* **174** (1972), 141–154. (From the authors' introduction) **53** #14127 46H05

(*with* Wong, James C. S.) Invariant means on vector valued functions. I, II. *Ann. Scuola Norm. Sup. Pisa* (3) **27** (1973), 717–727 (1974); *ibid.* (3) **27** (1973), 729–742 (1974). (C. Chou) **53** #14011 43A07

(*with* Bozel, F.) On isomorphisms of locally convex spaces with similar biorthogonal systems. *Canad. Math. Bull.* **16** (1973), 179–183. (A. McIntosh) **48** #11978 46A35

(*with* Malviya, B. D.) On semi-inner product spaces. II. *Colloq. Math.* **27** (1973), 95–105. (R. C. James) **48** #6947 46K05

(*with* Wong, Pak Ken) On generalized right modular complemented algebras. *Studia Math.* **45** (1973), 37–42. (*errata insert*) (B. Yood) **48** #6933 46H05

Quasicomplemented Banach algebras. *Functional analysis and its applications* (*Internat. Conf., Eleventh Anniversary of Matscience, Madras*, 1973; *dedicated to Alladi Ramakrishnan*), *pp.* 248–253. *Lecture Notes in Math., Vol.* 399, *Springer, Berlin*, 1974. (Pak-Ken Wong) **53** #6325 46H05

(*with* Ng, Shu-Bun) Boundedness of multiplicative linear functionals. *Canad. Math. Bull.* **17** (1974), *no.* 2, 213–215; *correction*, *ibid.* **17** (1974), *no.* 3, 427. (D. W. Bailey) **51** #6430 46J05

(*with* Ng, Shu-Bun) On continuity of algebra homomorphisms and uniqueness of metric topology. *Math. Z.* **139** (1974), 1–4. (G. Maltese) **50** #5472 46H20

Amenability of locally compact groups and vector-valued function spaces. *Symposia Mathematica, Vol. XVI* (*Convegno sui Gruppi Topologici e Gruppi di Lie, INDAM, Rome*, 1974), *pp.* 417–431. *Academic Press, London*, 1975. (R. Rao Chivukula) **53** #14012 43A07

(*with* Warsi, S. A.) Positive definite functions for the class $L_p(G)$. *Canad. J. Math.* **27** (1975), *no.* 5, 1149–1156. (J. L. B. Cooper) **52** #11478 43A35

(*with* Khaleelulla, S. M.) On countably, σ-, and sequentially barrelled spaces. *Canad. Math. Bull.* **18** (1975), *no.* 3, 431–432. (Robert Knowles) **52** #14895 46A07

(*with* Khaleelulla, S. M.) Countably order-quasibarrelled vector lattices and spaces. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 3–15. (Henri Mascart) **54** #8222 46A40

(*with* Khaleelulla, S. M.) Order-quasiultrabarrelled vector lattices and spaces. *Period. Math. Hungar.* **6** (1975), *no.* 4, 363–371. (Yau-Chuen Wong) **56** #1016 46A40

★The open mapping and closed graph theorems in topological vector spaces. Reprint of the 1965 original. *Robert E. Krieger Publishing Co., Huntington, N.Y.*, 1976. 118 *pp. ISBN* 0-88275-412-2 (Editors) **58** #30014 46A30

(*with* Warsi, S. A.) A note on *A*-convex *Q*-algebras. (French summary) *Bull. Soc. Roy. Sci. Liège* **45** (1976), *no.* 5-8, 163–165. (Mohammed Akkar) **58** #23601 46H99

(*with* Wong, Yau Chuen) On various types of barrelledness and the hereditary property of (DF)-spaces. *Glasgow Math. J.* **17** (1976), *no.* 2, 134–143. (M. Valdivia) **54** #8206 46A07

(*with* Ng, Shu-Bun) On the boundedness of multiplicative and positive functionals. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 4, 498–503. (Peter Dixon) **53** #11376 46H05

(*with* Warsi, S. A.) Representations of BP^*-algebras. *Math. Japon.* **21** (1976), *no.* 3, 237–247. (G. Maltese) **55** #3796 46K05

(*with* Liang, Chang) Continuity of multiplicative linear functionals on Fréchet algebras with bases. *Bull. Soc. Roy. Sci. Liège* **46** (1977), *no.* 1-2, 8–11. (W. Żelazko) **56** #12885 46H05

(*with* Liang, J.) Multiplicative functionals on Fréchet algebras with bases. *Canad. J. Math.* **29** (1977), *no.* 2, 270–276. (Sandy Grabiner) **55** #1068 46H05 (46A35)

(*with* Khaleelulla, S. M.) Topologies on generalized semi-inner product algebras, lattices, and spaces. *Kyungpook Math. J.* **17** (1977), *no.* 1, 7–15. (Roy M. Rakestraw) **56** #12838 46A99 (46C10)

(*with* Warsi, S. A.) Positive functionals on BP*-algebras. *Period. Math. Hungar.* **8** (1977), *no.* 1, 15–28. (G. Maltese) **56** #6399 46K05

(*with* Tarafdar, E.) Duality in fixed point theory of multivalued mappings with applications. *J. Math. Anal. Appl.* **63** (1978), *no.* 2, 371–376. (Bal Kishan Dass) **58** #7244 47H10

Husaĭnov, D. Ja. Stability of the motions of nonautonomous systems under constantly acting perturbations. (Russian) *Certain questions on simulation and systems control* (*Russian*), *pp.* 129–133. *Izdat.* "*Naukova Dumka*", *Kiev*, 1973. (Wolfgang Hahn) **54** #3111 34D20

(*with* Kasperov, V. N.) The study of stability by Ljapunov's second method. (Russian) *Dynamical systems, and questions on the stability of the solutions of differential equations* (*Russian*), *pp.* 54–62. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (P. Talpalaru) **54** #5562 34D20

(*with* Šarkovs′kiĭ, O. M.) The stability of motion with respect to part of the variables. (Russian) *Dynamical systems, and questions on the stability of the solutions of differential equations* (*Russian*), *pp.* 122–127. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (D. Bobrowski) **54** #10773 34D20

(*with* Šarkovs′kiĭ, O. M.) The stability of the solutions of differential equations with retarded argument. (Russian) *Functional and differential-difference equations* (*Russian*), *pp.* 141–147. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1974. (Š. Schwabik) **51** #10819 34K20

(*with* Cītric′kiĭ, O. Ē.) Some generalizations of A. M. Ljapunov's second method. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 2, 267–271, 287. (Editors) **55** #11224 54H20 (34D20)

The stability of the solutions of systems of differential equations with deviating argument of neutral type under a small deviation of the argument. (Russian) *Qualitative methods in the theory of differential equations with deviating argument* (*Russian*), *pp.* 156–167. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (A. Staruszkiewicz) **57** #16918 34K20

Some questions on the stability of the solutions of systems with random perturbations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 32 (1977), 37–41, 157. (Author's summary) **58** #15603 93E15

Stability of the solutions of certain systems of differential equations with deviating argument of neutral type. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 34 (1978), 24–32, 164. (Józef Kalinowski) **58** #17429 34K20

Husainov, Ja. M. (*with* Azlarov, T. A.) Limit theorems for a queueing system with absolute priority in conditions of heavy loading. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1974**, *no.* 6, 53–55. (František Zítek) **53** #14712 60K25

(*with* Azlarov, T. A.) Some limit theorems for a queuing system with absolute priority in heavy traffic. *Proceedings of the Third Japan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 1–13. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (Douglas P. Kennedy) **55** #9320 60K25

See also **Questions on differential equations**, **52** #7762

Husainov, Š. N. A topological method of determination of the parameters of a network that corresponds to a given subscheme of an electrical circuit. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1971**, *no.* 11, 1185–1189. (D. Simovici) **45** #8412 94A20

Husam ad-Dīn as-Salar Premises for the proof of the parallel line postulate that was introduced by Euclid at the beginning of his first book. (Russian) Translated from the Arabic by and annotated by B. A. Rozenfel′d and N. G. Haĭretdinova. *Studies in the history of mathematics, No.* 19 (*Russian*), *pp.* 285–293, 303. *Izdat.* "*Nauka*", *Moscow*, 1974. (Editors) **58** #4807 01A30

Husanov, B. (*with* Šaripov, Š. R.) Generalized nodes and generalized saddle points of a three-dimensional homogeneous system. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 11, 9–11. (M. Bertolino) **47** #7116 34C05

Husanov, M. The average number of reflections in a semicontinuous random walk. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 6, 8–9. (A. M. Zaharin) **55** #5563 10J20

The average number of reflections in a semicontinuous random walk. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 6, 8–9. (A. M. Zaharin) **57** #10830 60J15 (60K25)

An analysis of the distribution of the maximum length of the queue in the queuing system $M/G/1/\infty$ by the method of potential. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 4, 29–33, 85. (R. H. Rodine) **57** #4359 60K25

The average number of reflections in a semicontinuous random walk. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1978**, *no.* 1, 30–32, 92. (Constance Elson) **58** #3107 60K25 (60J15)

Husar, M. *See* **Huszár, Miklós**

Hušbaktov, Š. D. Geometric properties of a function of a discrete complex argument. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 460 *Voprosy Mat.* (1974), 144–148, 180. (C. R. Deeter) **54** #5475 30A95 (39A12)

Husch, L. S. Product of two incompressible spaces need not be incompressible. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **6(26)** (1971), 357–359. (S. Mardešić) **47** #1013 54C25 (57A10)

Homotopy groups of PL-embedding spaces. II. *Pacific J. Math.* **38** (1971), 653–655. (C. L. Seebeck, III) **46** #4544 57C35

A homotopy theoretic characterization of the translation in E^n. *Compositio Math.* **24** (1972), 55–61. (S. Kinoshita) **49** #4009 57E30

(*with* Duvall, Paul F.) Analysis on topological manifolds. *Fund. Math.* **77** (1972), *no.* 1, 75–90. (S. Kinoshita) **51** #4194 54H15 (57E05)

(*with* Row, W. H., Jr.) Translations and quasi-translations in E^3. *General Topology and Appl.* **2** (1972), 333–348. (S. Kinoshita) **49** #6263 57E30 (57A10)

Local algebraic invariants of Δ-sets. *Rocky Mountain J. Math.* **2** (1972), *no.* 2, 289–298. (B. J. Sanderson) **46** #917 57C35 (55J10)

Equicontinuous commutative semigroups of onto functions. *Czechoslovak Math. J.* **23(98)** (1973), 45–49. (S. N. Hudson) **47** #5853 54H15

(*with* Duvall, Paul F.) Regular properly discontinuous Z^n-actions on open manifolds. *Illinois J. Math.* **17** (1973), 290–300. (Herbert Abels) **47** #7753 57A65 (57E30)

(*with* Duvall, Paul F.) On the homotopy type of irregular sets. *Proc. Amer. Math. Soc.* **38** (1973), 419–422. (H. Scheerer) **47** #1015 54C55

(*with* Duvall, Paul F.) Homeomorphisms with polyhedral irregular sets. I. *Trans. Amer. Math. Soc.* **180** (1973), 389–406. (W. S. Piper) **47** #9629 57A35

Semi-regular actions. *Topology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.*, 1973), *pp.* 143–148. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin*, 1974. (W. J. Gray) **50** #8481 54H15 (57E30)

(*with* Lam, Ping Fun) Homeomorphisms of manifolds with zero-dimensional sets of nonwandering points. *Pacific J. Math.* **50** (1974), 109–124. (K. W. Kwum) **49** #11517 57A15 (58F10)

Regular Z^n-actions. *Geometric topology* (*Proc. Conf., Park City, Utah*, 1974), *pp.* 276–282. *Lecture Notes in Math., Vol.* 438, *Springer, Berlin*, 1975. (Paul F. Duvall) **53** #6602 57E20

Actions of locally compact groups with zero on manifolds. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 239–254. *Academic Press, New York*, 1975. (R. Z. Goldstein) **52** #6766 57E99 (54H15)

(*with* Row, W. H., Jr.) One-dimensional polyhedral irregular sets of homomorphisms of 3-manifolds. *Trans. Amer. Math. Soc.* **202** (1975), 299–323. (B. G. Casler) **51** #9065 57A10

Diffeomorphisms with convergent iterates. *Indiana Univ. Math. J.* **25** (1976), *no.* 11, 1039–1048. (S. Kinoshita) **57** #7622 57D50 (58F20)

Hurewicz fibrations need not be locally trivial. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 155–156 (1977). (Editors) **56** #6656 55F05

Approximating approximate fibrations by fibrations. *Canad. J. Math.* **29** (1977), *no.* 5, 897–913. (R. C. Lacher) **58** #18472 57C55 (55D05)

Diffeomorphisms of 3-manifolds which are homotopy equivalent to S^1. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 2, 327–333. (Roger Fenn) **56** #6661 57A10 (57D50)

Huschilt, J. (*with* Baylis, W. E.) Nonuniqueness of physical solutions to the Lorentz-Dirac equation. *Phys. Rev. D* (3) **13** (1976), *no.* 12, 3237–3239. (Evangelos Ifantis) **56** #14256 81.35

hassan attija Huseĭn *See* **Hassan Attija Huseĭn**

Huseĭn, Bensaad A boundary value problem for a nonlinear differential equation of order *n* with deviating argument of neutral type. (Russian) *Collection of Scientific Works of Graduates, No. 7: Mathematics, mechanics, physics* (*Russian*), *pp.* 119–129. *Univ. Družby Narodov, Moscow*, 1970. (K. Schmitt) **45** #5512 34K10

Huseĭn, H. A. The order of exponential growth of the solutions of certain linear partial differential equations. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 17 (1975), 163–169, 183. (J. Muszyński) **55** #10813 35B40 (35R20)

Huseĭn-Zade, M. I. On a plane problem of elasticity theory for a half-strip. *Prikl. Mat. Meh.* **41** (1977), *no.* 1, 124–133 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 1, 115–124. (R. D. Low) **57** #18387 73.35

Hušek, Miroslav Pseudo-$\mathfrak{m}$-compactness and $\nu(P \times Q)$. *Nederl. Akad. Wetensch. Proc. Ser. A* **74** = *Indag. Math.* **33** (1971), 320–326. (W. W. Comfort) **45** #5957 54D35

Simple categories of topological spaces. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 203–207. *Academia, Prague*, 1972. (W. W. Comfort) **50** #8416 54B30 (54D30)

Perfect images of E-compact spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 41–45. (G. E. Strecker) **46** #6289 54D20

Products as reflections. *Comment. Math. Univ. Carolinae* **13** (1972), 783–800. (W. W. Comfort) **47** #9515 54B10 (54C05, 54D50)

Realcompactness of function spaces and $\nu(P \times Q)$. *General Topology and Appl.* **2** (1972), 165–179. (W. W. Comfort) **46** #6301 54D60

Hewitt realcompactification of products. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 427–435. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (W. W. Comfort) **51** #9029 54D60 (54B10)

(*with* Pelant, Jan) Note about atom-categories of topological spaces. *Comment. Math. Univ. Carolinae* **15** (1974), 767–773. (Eric Nummela) **50** #8417 54B30

Reflective and coreflective subcategories of Unif (and Top). *Seminar Uniform Spaces* (*Prague*, 1973-1974), *pp.* 113–126. *Mat. Ústav Československě Akad. Věd, Prague*, 1975. (V. Kannan) **52** #15381 54E20

Factorization of mappings (products of proximally fine spaces). *Seminar Uniform Spaces* (*Prague*, 1973-1974), *pp.* 173–190. *Mat. Ústav Československě Akad. Věd, Prague*, 1975. (J. R. Isbell) **52** #11844 54E15

(*with* Koutník, Václav) On the occasion of the 70th birthday of Academician Josef Novák. (Czech) *Pokroky Mat. Fyz. Astronom.* **20** (1975), *no.* 2, 61–65. (Editors) **58** #4942 01A70

Lattices of reflections and coreflections in continuous structures. *Categorical topology* (*Proc. Conf., Mannheim*, 1975), *pp.* 404–424. *Lecture Notes in Math., Vol.* 540, *Springer, Berlin*, 1976. (V. Kannan) **56** #3798 54E05 (54E15)

Continuous mappings on subspaces of products. *Symposia Mathematica, Vol. XVII* (*Convegno sugli Anelli di Funzioni Continue, INDAM, Rome*, 1973), *pp.* 25–41. *Academic Press, London*, 1976. (O. T. Alas) **54** #3645 54C05

Categorial aspects are useful in topology. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 170–172. *Soc. Czech. Mathematicians and Physicists, Prague*, 1977. (J. R. Isbell) **56** #13169 54E15

Topological spaces without κ-accessible diagonal. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 4, 777–788. (A. H. Kruse) **58** #24198 54D99

Husemoller, Dale (*with* Moore, John C.) Differential graded homological algebra of several variables. *Symposia Mathematica, Vol. IV* (*INDAM, Rome*, 1968/69), *pp.* 397–429. *Academic Press, London*, 1970. (A. K. Bousfield) **46** #9143 18E25

(*with* Milnor, John W.) ★Symmetric bilinear forms. Ergebnisse der Mathematik und ihrer Grenzgebiete, Band 73. *Springer-Verlag, New York-Heidelberg*, 1973. viii + 1 *pp.* (Louis H. Kauffman) **58** #22129 15A63 (10C05, 57D65)

On the homology of the fibre $\psi^q - 1$. *Algebraic K-theory, I: Higher K-theor* (*Proc. Conf. Seattle Res. Center, Battelle Memorial Inst.*, 1972), *pp.* 199–204. *Lectu Notes in Mathematics, Vol.* 341, *Springer, Berlin*, 1973. (J. P. May) **50** #3224 55F

(*with* Moore, John C.; Stasheff, James Dillon) Differential homological algeb and homogeneous spaces. *J. Pure Appl. Algebra* **5** (1974), 113–185. (Harold Hasting **51** #1823 55H20 (18G15, 57F15)

★Fibre bundles. Second edition. Graduate Texts in Mathematics, No. 20. *Springer-Verlag, New York-Heidelberg*, 1975. xv + 327 *pp.* (Editors) **51** #6805 55Fxx (18Fxx)

(*with* Bombieri, Enrico) Classification and embeddings of surfaces. *Algebraic geometry* (*Proc. Sympos. Pure Math., Vol.* 29, *Humboldt State Univ., Arcata, Cali* 1974), *pp.* 329–420. *Amer. Math. Soc., Providence, R.I.*, 1975. (Miles Reid) **58** #22085 14J10 (14J15, 32J15)

Homology of certain H-spaces as group ring objects. *Algebra, topology, and catego theory* (*a collection of papers in honor of Samuel Eilenberg*), *pp.* 77–94. *Academic Pres New York*, 1976. (J. P. May) **54** #1222 55F45 (55D45)

Husen, Gregory J. (*with* Eakman, James M.) Quadratically convergent techniques linearly constrained optimization. *AIChE J.* **20** (1974), *no.* 3, 555–563. (M. Rusi **53** #7029 65K05 (90C30)

Huseyin, Koncay The stability boundary of systems with one degree of freedom. I, I (Italian summaries) *Meccanica—J. Italian Assoc. Theoret. Appl. Mech.* **5** (1970), 306–311; *ibid.* **5** (1970), 312–316. (R. J. Knops) **48** #1569 73.35

(*with* Roorda, J.) The loading-frequency relationship in multiple eigenvalue problems. *Trans. ASME Ser. E J. Appl. Mech.* **38** (1971), 1007–1011. (From th authors' summary) **45** #1439 73.34

(*with* Plaut, R. H.) Derivatives of eigenvalues and eigenvectors in non-self-adjoi systems. *AIAA J.* **11** (1973), 250–251. (I. H. Mufti) **47** #8565 15A18 (47A55)

(*with* Leipholz, Horst H. E.) Divergence instability of multiple-parameter circulatory systems. *Quart. Appl. Math.* **31** (1973/74), 185–197. (Ljubomir Lilov **55** #9638 70.34

(*with* Plaut, R. H.) Extremum properties of the generalized Rayleigh quotien associated with flutter instability. *Quart. Appl. Math.* **32** (1974/75), 189–201. (L. Janos **55** #3432 34C99 (49G99)

★Nonlinear theory of elastic stability. Monographs and Textbooks on Mechanic of Solids and Fluids, Mechanics of Elastic Stability, No. 4. *Noordhoff Internationa Publishing, Leiden*, 1975. xxii + 220 *pp.* (R. J. Knops) **58** #19623 73.49

(*with* Mandadi, V.) Classification of critical conditions in the general theory o stability. *Mech. Res. Comm.* **4** (1977), *no.* 1, 11–15. (Authors' introduction) **58** #3229 73.58 (58C25)

(*with* Hagedorn, Peter) The effect of damping on the stability of pseudo-conservative systems. *Z. Angew. Math. Mech.* **58** (1978), *no.* 6, 147–148. (A Corduneanu) **58** #17350 34D05

Hüseýin, Özay (*with* Manavoğlu, Erkan) Realization of high-pass and zig-zag band-pas LC ladder networks. (Turkish summary) *METU J. Pure Appl. Sci.* **5** (1972), *no.* 3 439–461. (Yilmaz Tokad) **52** #2763 94A20

(*with* Manavoğlu, Erkan) Realization of the canonic band-pass *LC* ladder networks (Turkish summary) *METU J. Pure Appl. Sci.* **5** (1972), *no.* 3, 463–469. (Yilmaz Tokad **52** #2764 94A20

Stability of multivariable control systems. (Turkish summary) *METU J. Pure Appl Sci.* **5** (1972), *no.* 3, 471–482. (S. Prusty) **53** #2477 93D15

On the Popov criterion. *Internat. J. Control* (1) **17** (1973), 1137–1142. (A. N. V Rao) **48** #13388 93D10

On the circle criterion. *Internat. J. Control* (1) **18** (1973), 9–16. (W. D. Collins) **48** #3566 93D10

The Popov criterion and the inverse Nyquist method. *Internat. J. Control* (1) **18** (1973), 1303–1312. (V. M. Popov) **49** #4620 93D10

(*with* Sezer, M. Erol) Graphical test for positive real matrices. (German summary) *AEÜ—Arch. Elektron. Übertragungstech. Electron. Commun.* **28** (1974), 233–234. (Authors' summary) **56** #13562 65F15 (93B15, 94A20)

(*with* Emre, Erol; Abdullah, Khaldun) On the dynamic simulation of electrical networks. (German summary) *AEÜ—Arch. Elektron. Übertragungstech. Electron. Commun.* **28** (1974), 380–382. (Authors' summary) **56** #13571 65F30 (94A20)

(*with* Emre, Erol; Abdullah, Khaldun) A new algorithm for the inversion of rational matrices. (German summary) *AEÜ—Arch. Elektron. Übertragungstech. Electron. Commun.* **28** (1974), 461–464. (Authors' summary) **56** #13550 65F05

(*with* Emre, Erol) Invertibility criteria for linear multivariable systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 609–610. (Peter A. Cook) **55** #7490 93B25

(*with* Emre, Erol; Abdullah, Khaldun) On the inversion of rational matrices. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 8–10. (S. Zlobec) **53** #13262 15A09 (65F05)

Extension of characteristic loci techniques. (Turkish summary) *METU J. Pure Appl. Sci.* **7** (1974), *no.* 2, 211–217. (N. Harris McClamroch) **56** #11309 93D10

(*with* Emre, Erol) Generalization of Leverrier's algorithm to polynomial matrices of arbitrary degree. *IEEE Trans. Automatic Control* **AC-20** (1975), 136. (Ja. I. Al'ber) **55** #11592 65F30 (15A15)

(*with* Emre, Erol) Relative primeness of multivariable polynomials. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), 56–57. (P. Abellanas) **52** #10694 12D05 (93A10, 94A20)

(*with* Sezer, M. Erol) A counterexample on: "On the controllability of composite systems" (IEEE Trans. Automatic Control **AC-16** (1971), 205–206) by F. M. Brasch, Jr., J. W. Howze and J. B. Pearson. With a reply by the authors. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 4, 683–684. (Editors) **57** #9176 93B05

Pole assignment using feedback compensator. *Automat. Control Theory Appl.* **6** (1978), *no.* 1, 21–28. (Author's summary) **58** #26277 93B99

(*with* Sezer, M. Erol) Stabilization of linear time-invariant interconnected systems using local state feedback. *IEEE Trans. Systems Man Cybernet.* **8** (1978), *no.* 10, 751–756. (Authors' summary) **58** #26404 93D15

(*with* Sezer, M. Erol) Input and output regularity of composite systems. *Internat. J. Control* **27** (1978), *no.* 5, 789–800. (T. Kaczorek) **58** #9496 93B05

See also **Tan, Sevim**, **56** #11310

skey, Harry D. *See* **Anniversary: IEEE Trans. Computers**, **57** #1949

skivadze, A. P. (*with* Mikadze, I. S.; Bebiašvili, Š. A.; Ciramua, S. G.) An analytic investigation of the redundancy of automatic systems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 6: *Technological means of automation* (*Russian*), *pp.* 160–167. *Izdat.* "*Nauka*", *Moscow*, 1971. (Editors) **48** #10194 68A20

skivadze, G. A. The boundedness of a singular operator with Cauchy kernel. (Russian. Georgian summary) Collection of articles on the theory of functions, 4. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **42** (1972), 95–103. (*loose errata*) (A. Corduneanu) **49** #5945 47G05 (45E05)

Cauchy type integrals. (Russian) *Proceedings of the Symposium on Continuum Mechanics and Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 1 (*Russian*), *pp.* 233–240. *Izdat.* "*Mecniereba*", *Tbilisi*, 1973. (N. K. Karapetjanc) **51** #13244 30A86

The Cauchy singular operator, and the integral of Cauchy type. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 1, 33–35. (V. G. Kravčenko) **56** #630 30A86 (45E05)

The singular Cauchy integral, and the integral of Cauchy type. (Russian. Georgian summary) Collection of articles on the theory of functions, Vol. 7. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **53** (1976), 73–86. (V. P. Havin) **57** #12860 30A86 (44A25)

šková, Marie Asymptotic distribution of rank statistics used for multivariate testing symmetry. *J. Multivariate Anal.* **1** (1971), 461–484. (From the author's summary) **46** #998 62E20

Multivariate rank statistics for testing randomness concerning some marginal distributions. *J. Multivariate Anal.* **5** (1975), *no.* 4, 487–496. (Author's summary) **56** #16910 62G10 (62H15)

The rate of convergence of simple linear rank statistics under hypothesis and alternatives. *Ann. Statist.* **5** (1977), *no.* 4, 658–670. (Z. Govindarajulu) **56** #16911 62G10 (62E20)

Rates of convergence of quadratic rank statistics. *J. Multivariate Anal.* **7** (1977), *no.* 1, 63–73. (Hira L. Koul) **55** #6678 62G10 (62E20)

isler, J. A remark on the strong law of large numbers. *Monatsh. Math.* **84** (1977), *no.* 3, 209–212. (V. K. Rohatgi) **57** #1618 60F15

On limit distributions of first crossing points of Gaussian sequences. *Stochastic Processes Appl.* **6** (1977/78), *no.* 1, 65–75. (Y. Mittal) **57** #1627 60G15

Convergence rates in the law of large numbers for random variables on partially ordered sets. *Monatsh. Math.* **85** (1978), *no.* 1, 53–58. (R. T. Smythe) **58** #13297 60F15 (60G50)

usnetdinov, M. Z. (*with* Fridlender, V. R.) A certain invariant of the Cauchy and Goursat systems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 2(153), 93–103. (Piero Bassanini) **54** #13289 35A99 (35G25)

usnine, Syed Muhammad A characterization of the Chevalley group $F_4(2)$. *J. Algebra* **44** (1977), *no.* 2, 539–549. (Geoffrey Mason) **55** #524 20G40

usnutdinov, R. Š. Nonlinear equations in Banach spaces. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1969), *no.* 3, 162–175. (J. W. Thomas) **46** #4289 47H15

usnutdinova, N. V. (*with* Alekseev, G. V.) The solvability of the first boundary value problem and the Cauchy problem for the equation of one-dimensional filtration of a two-phase fluid. (Russian) *Dinamika Splošn. Sredy Vyp.* 7 (1971), 33–46. **56** #14042 76.35

A temperature boundary layer in a two-component compressible medium. (Russian) *Dinamika Splošn. Sredy Vyp.* 10 (1972), 149–157, 248. (V. Komkov) **56** #10371 76.35

A boundary value problem for the system of equations of a temperature boundary layer. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 64–67. (Şt. I. Gheorghiţă) **47** #9945 76.35

Mathematical questions of the control of the boundary layer by means of suction. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 485–489. (J. P. Guiraud) **47** #2903 76.35

On classes of uniqueness of solutions of boundary value problems in the theory of temperature boundary layer. (Russian) *Dinamika Splošn. Sredy Vyp.* 15 *Dinamika Bystroprotckajuščih Processov* (1973), 175–184, 188 (1974). (Author's summary) **57** #2107 76.35

On conditions of continuability of compressible boundary layer. (Russian) *Dinamika Splošn. Sredy Vyp.* 17 *Bystroprotekajuščie Processy* (1974), 112–114, 118–119. (V. Komkov) **56** #17415 76.35

The unique solvability of boundary value problems for the equations of a stationary thermal boundary layer in an inhomogeneous compressible fluid. (Russian) *Dinamika Splošn. Sredy Vyp.* 21 *Tečenie Židkost. so Svobod. Granicami* (1975), 99–177, 190. (P. C. Fife) **58** #14272 76.35 (35Q99)

uss, R. (*with* Kalaba, Robert E.) Computation of the moments of solutions of certain random two point boundary value problems. *Conference on Applications of Numerical Analysis* (*Univ. Dundee*, *Dundee*, 1971), *pp.* 93–102. *Lecture Notes in Math.*, *Vol* 228, *Springer*, *Berlin*, 1971. (Jochen Werner) **52** #2224 65L10

(*with* Kalaba, Robert E.; Vasudevan, R.) On a boundary value problem for integro-differential equations. *J. Mathematical Phys.* **15** (1974), 1285–1287. (Authors' summary) **50** #3623 65R05

(*with* Kagiwada, Harriet H.; Kalaba, Robert E.) Reduction of a family of nonlinear boundary value problems to a Cauchy system. *Function theoretic methods in differential equations*, *pp.* 244–258. *Res. Notes in Math.*, *No.* 8, *Pitman*, *London*, 1976. (Walter G. Kelley) **58** #1348 34B15 (65L10)

(*with* Kalaba, Robert E.; Zagustin, Elena; Holbrow, W.) A modification of Davidenko's method for nonlinear systems. *Comput. Math. Appl.* **3** (1977), *no.* 4, 315–319. (Authors' summary) **58** #13675 65H05

Hussain, A. B. Shahidul Compound sequential probability ratio test for the classification of statistically dependent patterns. *IEEE Trans. Computers* **C-23** (1974), 398–410. (S. Csibi) **52** #5181 94A05 (68A45)

Hussain, Ashiq Asymptotic expansion of mixed Poisson distribution and the posterior distribution of Poisson parameter. *J. Natur. Sci. and Math.* **11** (1971), 213–221. (Author's summary) **47** #4367 62E15

Asymptotic expansion of mixed Poisson distribution and the posterior distribution of Poisson parameter. *Pubjab Univ. J. Math.* (*Lahore*) **6** (1973), 11–19. (A. F. Ifram) **50** #15066 62E15 (62F15)

Hussain, M. *See* **Hussain, Munawar**

Hussaĭn, M. (*with* Petrenko, V. P.) The growth of entire curves. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 466–477. (I. N. Baker) **48** #6423 30A70

The defects and deviations of entire curves. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 20 (1974), 161–171, 176. (W. H. J. Fuchs) **52** #810 32H25 (30A70)

(*with* Petrenko, V. P.) The defects of entire curves of lower order $\lambda < 1$. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 24 (1975), 128–138, iv. (I. N. Baker) **52** #14298 30A70

Hussain, M. A. (*with* Pu, S. L.) A variational principle for singular integral equations with bounded solutions. *Transactions of the Eighteenth Conference of Army Mathematicians* (*Feltman Res. Lab. Picatinny Arsenal*, *Dover*, *N.J.*, 1972), *pp.* 315–340. *U.S. Army Res. Office* (*Durham*, *N.C.*), *Report No.* 73-1, *U.S. Army Res. Office-Durham*, *Durham*, *N.C.*, 1973. (R. C. MacCamy) **50** #10720 45E99

(*with* Pu, S. L.) A variational principle for singular integral equations with bounded solutions. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **11** (1973), *no.* 7, 767–781. (K. N. Srivastava) **55** #13193 45E99

Hussain, Munawar (*with* Ghori, Q. K.) Poincaré's equations for nonholonomic dynamical system. (German and Russian summaries) *Z. Angew. Math. Mech.* **53** (1973), 391–396. (Gh. Silaş) **50** #6246 70.34

(*with* Ghori, Q. K.) Poincaré's equations for a nonholonomic system with variable masses. *Arch. Rational Mech. Anal.* **56** (1974/75), 70–78. (Djordje Djukic) **50** #1586 70.35

(*with* Ghori, Q. K.) Equations of motion of nonholonomic dynamical systems in Poincaré-Četaev variables. (German and Russian summaries) *Z. Angew. Math. Mech.* **54** (1974), 311–318. (Gh. Silaş) **50** #6247 70.34

(*with* Ghori, Q. K.) On some forms of the equations of motion in Poincaré-Četaev variables. (German and Russian summaries) *Z. Angew. Math. Mech.* **54** (1974), 495–499. (Author's summary) **54** #6607 70.35

(*with* Ghori, Q. K.) Generalisation of the Hamilton-Jacobi theorem. (German summary) *Z. Angew. Math. Phys.* **25** (1974), 536–540. (Gh. Silaş) **50** #6248 70.34

On the equations of motion for a nonholonomic system with variable mass in Poincaré-Četaev variables. *J. Natur. Sci. and Math.* **15** (1975), *no.* 1-2, 93–112. (L. S. Wollenberg) **55** #4821 70.34

Hamilton-Jacobi theorem in group variables. *J. Natur. Sci. and Math.* **16** (1976), *no.* 1-2, 39–49. (Manfred Andrié) **57** #7671 58F05 (70.58)

A generalisation of the Hamilton-Jacobi theorem to Poincaré-Četaev variables. *Z. Angew. Math. Mech.* **56** (1976), *no.* 1, 60–61. (Author's summary) **54** #9205 70.34

Hamilton-Jacobi theorem in group variables. (German summary) *Z. Angew. Math. Phys.* **27** (1976), *no.* 2, 285–287. (F. V. Pohle) **54** #1758 70.35 (70.49)

Generalized Whittaker's equations for holonomic mechanical systems. *Internat. J. Math. Math. Sci.* **1** (1978), *no.* 2, 245–253. (Author's summary) **58** #14050 70.34

manzur Hussain, S. *See* **Manzur Hussain, S.**

al-Hussaini, Ata N. *See* **Al-Hussaini, Ata N.**

al-Hussaini, M. M. *See* **Al-Hussaini, M. M.**

Hussaini, M. Y. On the differential equation of the mixing layer. *J. Mathematical and Physical Sci.* **5** (1971), 219–222. (J. F. Clarke) **46** #2972 76.34

(*with* Devasia, K. J.) An integral solution to a nonlinear diffusion problem. *Comput. Methods Appl. Mech. Engrg.* **13** (1978), *no.* 1, 119–123. (P. C. Jain) **58** #8387 65P05 (80.65)

Hussaini, Mohammed Y. (*with* Holt, Maurice) Laminar wakes in supersonic flow. *Singular perturbations and boundary layer theory* (*Proc. Conf.*, *École Centrale*, *Lyon*, 1976), *pp.* 260–274. *Lecture Notes in Math.*, *Vol.* 594, *Springer*, *Berlin*, 1977. (M. Honda) **57** #2141 76.41

Husseĭn, A. È. The approximation of functions on a radial-spherical net. (Russian. English summary) *Vestnik Leningrad. Univ.* **1977**, *no.* 7 *Mat. Meh. Astronom. vyp.* 2, 103–110, 165. (S. D. Riemenschneider) **58** #1925 41A65

The stability and the condition number of a matrix for a radial-spherical net. (Russian. English summary) *Vestnik Leningrad. Univ.* **1978**, *no.* 7 *Mat. Meh. Astronom. vyp.* 2, 57–61, 163. (A. A. Martinjuk) **58** #13767 65N20

Hussein, D. A. (*with* Hassard, Brian) On Cesàro function spaces. *Tamkang J. Math.* **4** (1973), 19–25. (R. Rao Chivukula) **48** #12025 46E30

Husseĭn, M. Ī. The approximation of the solutions of Fredholm integral equations of the second kind in the space L_p. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 124–126, 144. (S. G. Samko) **49** #1041 45L05

The approximation of the solutions of nonlinear integral equations of Hammerstein type in the space L_p. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 16 (1974), 109–112, 176. (M. Tvrdý) **56** #6321 45L05

The approximation by polynomials of the solutions of first order ordinary differential equations in the space L_p. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 3, 411–415, 432. (A. D. Ziebur) **51** #13331 34A45

Husseini, S. Y. Manifolds with the fixed point property. I. *Bull. Amer. Math. Soc.* **80** (1974), 664–666. (M. L. Curtis) **49** #8044 57D99 (55C20)

The products of manifolds with the f.p.p. need not have the f.p.p. *Bull. Amer. Math. Soc.* **81** (1975), 441–442. (Czes Kosniowski) **51** #4223 55C20 (57A65)

The fixed-point property of $(2m-1)$-connected $4m$-manifolds. *Trans. Amer. Math. Soc.* **220** (1976), 343–359. (R. H. Rosen) **54** #8615 55C20 (57D99)

The products of manifolds with the f.p.p. need not have the f.p.p. *Amer. J. Math.* **99** (1977), *no.* 5, 919–931. (K. W. Kwun) **56** #13203 55C20 (57A99)

Husserl, E. *See* **Frege, Gottlob**, **47** #1564 *and* **Frege, Gottlob**, **49** #10510

Husson, Léon *See* **Études de logique juridique**, **48** #5826 (EA **52**)

Hustad, Otte A norm preserving complex Choquet theorem. *Math. Scand.* **29** (1971), 272–278 (1972). (Harold H. McFaden) **48** #852 46E15

★Intersection properties of balls in complex Banach spaces whose duals are L_1 spaces. Mathematics Preprint Series, No. 9 (1973). *Matematisk Institutt*, *Universitetet i Oslo*, *Oslo*, 1973. i+49 *pp.* (Editors) **52** #14929 46B05

★A note on complex $\mathcal{P}_1$ spaces. Mathematics Preprint Series, No. 10 (1973). *Matematisk Institutt*, *Universitetet i Oslo*, *Oslo*, 1973. i+4 *pp.* (Editors) **52** #14930 46B05

A note on complex $\mathcal{P}_1$ spaces. *Israel J. Math.* **16** (1973), 117–119. (R. D. Bourgin) **48** #9351 46B05

Intersection properties of balls in complex Banach spaces whose duals are L_1 spaces. *Acta Math.* **132** (1974), *no.* 3-4, 283–313. (A. J. Lazar) **52** #8886 46B05

Huston, Gail S. (*with* Spira, Robert S.) Table errata: "On the syllogism (IV) and on the logic of relations" (Trans. Cambridge Philos. Soc. **10** (1864), 331–358), by A. De Morgan. *Math. Comp.* **28** (1974), 341. (Editors) **55** #5571 12–04 (65H05)

Huston, Ronald L. (*with* Stouffer, Donald C.) A topological theory for constitutive equations. *Tensor* (*N.S.*) **23** (1972), 351–361. (E. J. Post) **48** #12979 73.53

(*with* Passerello, Chris E.) A note on matrix inversion. *Matrix Tensor Quart.* **24** (1973/74), 136–138. (Ion Enescu) **50** #2196 15A09

Hustý, Zdeněk Algebraische Theorie der Transformation der linearen Differentialgleichungen. *Czechoslovak Math. J.* **25(100)** (1975), 317–329. (Stefan Balint) **51** #13329 34A30

Husu, A. P. (*with* Vitenberg, Ju. R.; Pal′mov, V. A.) ★Шероховатость поверхностей. (Russian) [Roughness of surfaces] Теоретико-вероятностный подход. [A probabilistic approach] Edited by A. A. Pervozvanskiĭ. Физико-Математическая Библиотека Инженера. [Library of Mathematics and Physics for the Engineer] *Izdat.* "*Nauka*", *Moscow*, 1975. 343 *pp.* (Kazimierz Sobczyk) **58** #3891 73.60

Hušvaktov, M. Distribution of absolutely Abelian cyclic fields of degree l^k and of special absolutely Abelian fields of given type. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), 338–351, 391. (Matti Jutila) **49** #7234 12A35 (10H25)

The distribution of absolutely abelian cyclic fields of degree $q^h(h \geqslant 2)$. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 5, 5–6. (J. S. Joel) **52** #3108 12A35 (10H10)

Distribution of the discriminants of absolutely abelian cyclic fields of degree q^h $(h \geqslant 2)$. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 1, 34–39, 91. (Matti Jutila) **53** #8002 12A35 (10H25)

On a theorem on the distribution of discriminants of cyclic fields of prime degree. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 4, 73–74. (W. Narkiewicz) **57** #3091 10H25 (12A35, 12A50)

The distribution of certain finite Abelian extensions with small discriminants over the field of rational numbers. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 6, 47–52, 102. (W. Narkiewicz) **57** #12453 12A35 (10H25)

Distribution of the discriminants of regular abelian extensions of degree n of the field of rational numbers. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 548 *Voprosy Mat.* (1977), 109–114, 146. (W. Narkiewicz) **58** #27895 12A35 (10H25)

Hušvaktov, Š. D. (*with* Fuksman, N. A.; Čumakov, S. A.) Analytic functions of a discrete complex argument on invariant lattices. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 490 *Voprosy Matematiki* (1976), 218–229, 272. (Authors' summary) **57** #12868 30A95

Huszár, Miklós (*with* Smorodinskiĭ, Ja. A.) Representations of the Lorentz group and the generalization of helicity states. (Russian. English summary) *Teoret. Mat. Fiz.* **4** (1970), *no.* 3, 328–340. (Authors' summary) **57** #2250 81.22

Spherical functions of the Lorentz group on the two dimensional complex sphere of zero radius. *Comm. Math. Phys.* **23** (1971), 132–136. (A. O. Barut) **46** #4872 81.22

(*with* Smorodinskiĭ, Ja. A.) Unitary representations of the Lorentz group. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **3** (1972), *no.* 1, 223–237. (Authors' summary) **58** #6074 22E43 (22E70)

Unitary representations of the $\mathrm{SL}(2, C)$ group in horospheric basis. *J. Mathematical Phys.* **14** (1973), 1620–1625. (R. Delbourgo) **48** #7806 81.22

Unitary spinors in the Lorentz group. *Acta Phys. Slovaca* **24** (1974), 3–11. (Author's summary) **51** #815 22E70 (81.22)

Deformation of the $\mathrm{SO}(2, C)$ subgroup of the Lorentz group. *J. Mathematical Phys.* **15** (1974), 654–658. (M. Carmeli) **49** #1952 81.22

Horospheric basis of the $\mathrm{SL}(2, C)$ group. *Acta Phys. Acad. Sci. Hungar.* **39** (1975), *no.* 1, 3–14. (L. O'Raifeartaigh) **56** #15836 22E45 (81.22)

Hut'a, Anton Contribution to the numerical solution of differential equations by means of Runge-Kutta formulas with Newton-Cotes numbers weights. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* 28 (1972), 51–65. (C. W. Gear) **46** #8423 65L05

Eine Verallgemeinerung des Runge-Kutta Verfahrens zur numerischen Lösung der Gleichung $y' = f(x,y)$. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech.* **54** (1974), T221. (N. N. Janenko) **50** #8984 (EA **51**) 65L05

See also **Malina, Štefan, 52** #5317; **Birthday: Hut'a, Anton, 52** #5318; **Duchoň, Miloslav; et al., 54** #31 *and* **Dávid, Arnold, 58** #10167

Hutcheson, Kermit (*with* Shenton, L. R.) Some moments of an estimate of Shannon's measure of information. *Comm. Statist.* 3 (1974), 89–94. (L. L. Campbell) **49** #7016 94A15

(*with* Sugg, Merritt N.) Gauss-Krawtchouk quadrature approximations for moments of multinomial type distributions. *Biometrika* **63** (1976), *no.* 2, 395–400. (Authors' summary) **54** #14190 62E15

(*with* Lyons, N. I.) An application of graph theory to a computer storage problem in residual analysis. *Comm. Statist.—Simulation Comput.* **B6** (1977), *no.* 2, 157–166. (Kenneth N. Berk) **58** #3220 62J05

Hutchings, Donald Isaac Newton, 1642–1727. *Late seventeenth century scientists, pp.* 158–183. *Pergamon Press, Oxford*, 1969. (Editors) **52** #13142 01A45

See also **Late seventeenth century scientists**, **52** #13146

Hutchins, G. J. (*with* Soler, A. I.) Extended validity of single segment stepwise integration schemes for solution of two-point boundary value problems. *Comput. Methods Appl. Mech. Engrg.* **1** (1972), 307–316. (Robert D. Russell) **55** #1741 65L10

Hutchins, Sandra E. Data compression in context-free languages. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems, pp.* 104–109. *North-Holland, Amsterdam*, 1972. (V. Ju. Meĭtus) **53** #9732 68A30 (68A50)

Moments of string and derivation lengths of stochastic context-free grammars. *Information Sci.* **4** (1972), 179–191. (B. Brainerd) **46** #8479 68A30

Hutchinson, Charles E. (*with* D'Appolito, Joseph A.) A minimax approach to the design of low sensitivity state estimators. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 3: *Ecology and systems engineering, Large scale sensitivity optimization and adaptation theory, Paper No.* 31.3, 8 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 [1972]. (V. N. Igolkin) **51** #5118 93E10

(*with* D'Appolito, Joseph A.) A minimax approach to the design of low sensitivity state estimators. (French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 599–608. (D. D. Sworder) **48** #10594 93E10

(*with* D'Appolito, Joseph A.; Bongiovanni, P. L.) Minimax design of Kalman- filters in the presence of large-parameter uncertainties. *AIAA J.* **11** (1973), 694–6 (Authors' summary) **56** #11374 93E10

Hutchinson, D. *See* **Numerical methods for nonlinear optimization**, **48** #10490 *and* **Software for numerical mathematics**, **50** #6095

Hutchinson, David (*with* Blyth, Colin R.) Tables of expected sample size for curtailed fix sample size tests of a Bernoulli parameter. *Selected tables in mathematical statistics, V II, pp.* 177–198. *Amer. Math. Soc., Providence, R. I.*, 1974. (Authors' summary) **53** #11935 62Q05

Hutchinson, George On classes of lattices representable by modules. *Proceedings of University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 69–94. *De Math., Univ. Houston, Houston, Tex.*, 1973. (Daniel D. Anderson) **52** #13531 06A20

The representation of lattices by modules. *Bull. Amer. Math. Soc.* **79** (197 172–176. (S. P. Bandyopadhyay) **47** #1693 06A20

Recursively unsolvable word problems of modular lattices and diagram-chasing. *Algebra* **26** (1973), 385–399. (R. J. Greechie) **48** #10925 06A30 (18A15)

On the representation of lattices by modules. *Trans. Amer. Math. Soc.* **209** (197 311–351. (S. P. Bandyopadhyay) **51** #12637 06A20

Embedding and unsolvability theorems for modular lattices. *Algebra Universalis* (1977), *no.* 1, 47–84. (Ralph Freese) **56** #198 06A30

A duality principle for lattices and categories of modules. *J. Pure Appl. Algebra* (1977/78), *no.* 2, 115–119. (Wolfgang Grölz) **57** #410 18E20

Termination of reactions in chemical systems specified by mass-balance reactic formulas. *Math. Biosci.* **33** (1977), *no.* 3-4, 213–226. (Author's summary) **58** #33088 92A05

(*with* Czédli, Gábor) A test for identities satisfied in lattices of submodules *Algebra Universalis* **8** (1978), *no.* 3, 269–309. (Ralph Freese) **57** #9621 06A30 (16A64)

Hutchinson, George K. (*with* Szwarc, Włodzimierz) Johnson's approximate method for th $3 \times n$ job shop problem. *Naval Res. Logist. Quart.* **24** (1977), *no.* 1, 153–157. (Ja Weglarz) **56** #10913 90B35

Hutchinson, James R. (*with* Hartzman, Mark) Nonlinear dynamics of solids by the fini element method. *Computers & Structures* **2** (1972), 47–77. (Authors' summary) **45** #1452 73.65

Hutchinson, Joan P. Cancelling Eulerian graphs. *Graphs and combinatorics* (*Proc. Capit Conf., George Washington Univ., Washington, D.C.*, 1973), *pp.* 302–313. *Lecture Notes i Math., Vol.* 406, *Springer, Berlin*, 1974. (Michael O. Albertson) **51** #2981 05C35

Eulerian graphs and polynomial identities for sets of matrices. *Proc. Nat. Acad. Sc U.S.A.* **71** (1974), 1314–1316. (Frank W. Owens) **50** #2209 15A30 (05C99)

(*with* Albertson, Michael O.) The maximum size of an independent set in a toroid graph. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theor and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 35–46. *Congressu Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (A. T. White) **52** #1345 05C10

(*with* Albertson, Michael O.) The maximum size of an independent set in nonplanar graph. *Bull. Amer. Math. Soc.* **81** (1975), 554–555. (Alan Tucker) **51** #267 05C99

Eulerian graphs and polynomial identities for skew-symmetric matrices. *Canad. J Math.* **27** (1975), *no.* 3, 590–609. (Herbert S. Wilf) **53** #7858 05C35 (15A24)

(*with* Wilf, Herbert S.) On Eulerian circuits and words with prescribed adjacenc patterns. *J. Combinatorial Theory Ser. A* **18** (1975), 80–87. (G. Purdy) **51** #10115 05A15

On words with prescribed overlapping subsequences. *Utilitas Math.* **7** (1975) 241–250. (N. G. de Bruijn) **51** #12602 05C35 (92A05)

On coloring maps made from Eulerian graphs. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 343–354. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (F. Bernhart) **53** #2728 05C15

(*with* Albertson, Michael O.) The independence ratio and genus of a graph. *Trans Amer. Math. Soc.* **226** (1977), 161–173. (S. F. Kapoor) **55** #10303 05C10

(*with* Albertson, Michael O.) On the independence ratio of a graph. *J. Graph Theory* **2** (1978), *no.* 1, 1–8. (Alan Tucker) **58** #10545a 05C10

(*with* Albertson, Michael O.) Erratum: "On the independence ratio of a graph" (J Graph Theory **2** (1978), no. 1, 1–8). *J. Graph Theory* **2** (1978), *no.* 2, 179. (Alan Tucker **58** #10545b 05C10

Hutchinson, John E. Model theory via set theory. *Israel J. Math.* **24** (1976), *no.* 3– 286–304. (M. Boffa) **55** #10268 02H05 (02B25)

Elementary extensions of countable models of set theory. *J. Symbolic Logic* 4 (1976), *no.* 1, 139–145. (John W. Dawson, Jr.) **53** #12944 02K15 (02H05)

Order types of ordinals in models of set theory. *J. Symbolic Logic* **41** (1976), *no.* 489–502. (James H. Schmerl) **53** #7767 02H13 (02K15)

Hutchinson, John J. Essential subdirect sum decompositions of extension rings. *Arc Math.* (*Basel*) **22** (1971), 150–154. (R. B. Warfield, Jr.) **45** #3477 16A56

Quotient full linear rings. *Proc. Amer. Math. Soc.* **28** (1971), 375–378. (Author summary) **54** #12825 16A42

(*with* Zelmanowitz, Julius) Quotient rings of endomorphism rings of modules wit zero singular submodule. *Proc. Amer. Math. Soc.* **35** (1972), 16–20. (J. Luh) **45** #685 16A40

(*with* Zelmanowitz, Julius) Subdirect sum decompositions of endomorphism rings *Pacific J. Math.* **47** (1973), 129–134. (L. Š. Ioffe) **48** #4023 16A42

Nonsingular Noetherian rings of exponent 2. *Math. Ann.* **209** (1974), 267–276. (H H. Storrer) **50** #2242 16A46

(*with* Lü, Ch'i Mu) Rings of quotients of R and eRe. *Chinese J. Math.* **4** (1976), *n* 1, 25–35. (J. Kuzmanovich) **54** #7517 16A08

(*with* Turnidge, Darrell R.) Morita equivalent quotient rings. *Comm. Algebra* (1976), *no.* 7, 669–675. (B. J. Muller) **53** #8112 16A08

(*with* Lü, Ch'i Mu) Kernel functors and quotient rings. *Bull. Inst. Math. Acad Sinica* **5** (1977), *no.* 1, 145–155. (E. A. Walker) **58** #16741 16A08 (18E40)

(*with* Fenrick, Maureen H.) Primary decompositions and Morita contexts. *Comm*

Algebra **6** (1978), *no.* 13, 1359–1368. (Author's review) **58** #11027 16A66 (18E40)

tchinson, John W. (*with* Niordson, Frithiof I.) Designing vibrating membranes. *Continuum mechanics and related problems of analysis* (*on the occasion of the eightieth birthday of Academician N. I. Mushelišvili*) (*Russian*), *pp.* 581–590. *Izdat. "Nauka", Moscow*, 1972. (Joseph J. Roseman) **52** #4785 73.35

(*with* Hill, R.) Bifurcation phenomena in the plane tension test. *J. Mech. Phys. Solids* **23** (1975), *no.* 4-5, 239–264. (S. N. Murthy) **52** #16221 73.35

tchinson, M. F. Non-tall compact groups admit infinite Sidon sets. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 4, 467–475. (C. F. Dunkl) **57** #17130 43A46

tchinson, P. C. (*with* Beale, E. M. L.) Note on constrained optimum regression. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **23** (1974), 208–210. (Colin L. Mallows) **51** #11835 62J05

tchison, D. A. (*with* Riordon, J. S.; Mahmoud, S. A.) A recursive algorithm for deadlock preemption in computer networks. *Information processing* 77 (*Proc. IFIP Congr., Toronto, Ont.*, 1977), *pp.* 241–246. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam*, 1977. (Narsingh Deo) **58** #3619 68A05 (94A20)

tchison, M. C. A Monte Carlo comparison of some ratio estimators. *Biometrika* **58** (1971), 313–321. (Author's summary) **47** #2712 62D05

See also **Brown, R. Leonard; et al., 51** #14478

th, Gaylord K. (*with* Weber, Charles L.) Minimum weight convolutional codewords of finite length. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 2, 243–246. (Jack K. Wolf) **52** #16855 94A10

thnance, John M. On trapped waves over a continental shelf. *J. Fluid Mech.* **69** (1975), *part* 4, 689–704. (G. F. D. Duff) **51** #14733 76.35

-Huti, M. H. *See* **Èl'-Huti, M. H.**

toreckiĭ, A. B. Nonprincipal numerations. (Russian) *Algebra i Logika* **8** (1969), 726–732. (Robert M. Baer) **45** #1756 02F25

The power of the upper semilattice of computable numerations. (Russian) *Algebra i Logika* **10** (1971), 561–569. (Stephen L. Bloom) **46** #1577 02F25

(*with* Kibalov, E. B.) The problem of volume scheduling for the construction industry. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 6, 1092–1103. (D. Obradović) **58** #20384 90B35

utorjanskaja, I. V. Certain questions of the theory of local algorithms on graphs. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 1, 29–33. (D. Simovici) **45** #1674 94A20

utorjanskiĭ, N. M. (*with* Ugodčikov, A. G.) The quasiregularity of infinite systems in problems of plane elasticity theory for doubly connected domains. (Russian) *Prikladna. Meh.* **8** (1972), *no.* 5, 113–117. (S. Drobot) **46** #4827 73.30

On the solution of stationary dynamical boundary value problems of three-dimensional elasticity theory. (Russian) *Applied problems in strength and plasticity*, 4 (*Russian*), *pp.* 22–27, 109. *Gor'kov. Gos. Univ., Gorki*, 1976. (Author's summary) **58** #32233 73.35

On the solution of mixed boundary value problems of the plane theory of elasticity by the method of boundary integral relations. (Russian) *Prikl. Problemy Proč. i Plast. No.* 7 (1977), 13–20, 150. (S. Matysiak) **58** #25282 73.45

utorovskiĭ, Z. N. Effective memory of a discrete Kalman filter. *Avtomat. i Telemeh.* **1972**, *no.* 2, 71–77 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 2, *part* 1, 228–233. (D. D. Sworder) **53** #7575 93E10

utschenreuther, H. *See* **Sachs, Horst, 49** #10587

utson, V. (*with* Pym, John) Generalized translations associated with a differential operator. *Proc. London Math. Soc.* (3) **24** (1972), 548–576. (Vo-Khac Khoan) **49** #11308 47B37 (35G15)

(*with* Pym, John) Measure algebras associated with a second order differential operator. *J. Functional Analysis* **12** (1973), 68–96. (Leo F. Boron) **50** #10903 47E05 (34B25, 43A10)

A note on a boundary value problem for linear differential difference equations of mixed type. *J. Math. Anal. Appl.* **61** (1977), *no.* 2, 416–425. (R. D. Driver) **58** #28999 34K10

ütt, V. Aristotle's physical doctrine, and the Copernican revolution. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised Vih.* 360 (1975), 29–40. (A. Ahmedov) **57** #15860 01A40 (01A20)

The Copernican revolution as a transition to a classical type of physical knowledge. (Russian) *Tartu Riikl. Ül. Toimetised* **404** *Trudy Filosof. no.* 19 (1977), 72–85. (Editors) **58** #26846 01A40

üttemann, Hans ★Modelle der dynamischen Programmierung zur Bestimmung optimaler Beschaffungsmengen. Schriften zur Handelsforschung, No. 46. *Verlag Otto Schwartz & Co., Göttingen*, 1971. v+180 *pp.* (A. Prékopa) **49** #10338 90B05

utter, Kolumban On thermodynamics and thermostatics of viscous thermoelastic solids in the electromagnetic fields. A Lagrangian formulation. *Arch. Rational Mech. Anal.* **58** (1975), *no.* 4, 339–368. (N. D. Sengupta) **52** #16294 (E **54** #6697) 78.49 (80.49)

(*with* Pao, Yih Hsing) Electrodynamics for moving elastic solids and viscous fluids. *Proc. IEEE* **63** (1975), *no.* 7, 1011–1021. (D. Graffi) **53** #15105 78.35 (73.35)

Corrigenda: "On thermodynamics and thermostatics of viscous thermoelastic solids in the electromagnetic fields. A Lagrangian formulation" (Arch. Rational Mech. Anal. **58** (1975), no. 4, 339–368). *Arch. Rational Mech. Anal.* **62** (1976), *no.* 4, 393–394. (N. D. Sengupta) **54** #6697 78.49 (80.49)

The foundations of thermodynamics, its basic postulates and implications. A review of modern thermodynamics. (German summary) *Acta Mech.* **27** (1977), *no.* 1-4, 1–54. (Douglas Henderson) **58** #19859 80.00

(*with* Olunloyo, V. O. S.) The response of an anisotropically prestressed thick rectangular membrane to dynamic loading. (German summary) *Acta Mech.* **28** (1977), *no.* 1-4, 295–311. (S. N. Murthy) **57** #8317 73.41

A thermodynamic theory of fluids and solids in electromagnetic fields. *Arch. Rational Mech. Anal.* **64** (1977), *no.* 3, 269–298. (Author's summary) **57** #8511 73.60 (78.60, 80.60)

See also **Gallagher, Richard H., 57** #8346

Hüttner, B. (*with* Knöll, L.) On the theory of the combined influence of collision and Doppler broadening on the shape of spectral lines. *Acta Phys. Polon. A* **52** (1977), *no.* 1, 135–147. (Authors' summary) **58** #32583 81.47

Hutton, B. (*with* Davies, Robert B.) The effect of errors in the independent variables in linear regression. *Biometrika* **62** (1975), *no.* 2, 383–391. (Federico O'Reilly) **52** #15863 62J05

Hutton, Bruce Normality in fuzzy topological spaces. *J. Math. Anal. Appl.* **50** (1975), 74–79. (C. K. Wong) **51** #6684 54A05 (54D15)

(*with* Reilly, Ivan L.) On compactness and finiteness in topological spaces. *Mat. Vesnik* **13(28)** (1976), *no.* 1, 59–61. (C. E. Aull) **53** #14417 54D30

Uniformities on fuzzy topological spaces. *J. Math. Anal. Appl.* **58** (1977), *no.* 3, 559–571. (Author's summary) **58** #30986 54E15 (02K10, 54A05)

Hutton, C. V. (*with* Morrell, J. S.; Retherford, J. R.) Approximation numbers and Kolmogoroff diameters of bounded linear operators. *Bull. Amer. Math. Soc.* **80** (1974), 462–466. (D. J. Randtke) **49** #1166 47A30

On the approximation numbers of an operator and its adjoint. *Math. Ann.* **210** (1974), 277–280. (M. S. Ramanujan) **49** #11296 47B10

p-factorable operators. *Trans. Amer. Math. Soc.* **205** (1975), 167–180. (A. Pietsch) **53** #1321 47B10

(*with* Morrell, J. S.; Retherford, J. R.) Diagonal operators, approximation numbers, and Kolmogoroff diameters. *J. Approximation Theory* **16** (1976), *no.* 1, 48–80. (Bernd Rosenberger) **56** #12952 46B10

Hutton, Maurice F. Solutions of the singular stochastic regulator problem. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **95** (1973), 414–417. (H. J. Kushner) **49** #4632 93E20

(*with* Friedland, Bernard) Routh approximation method and power series approximation. *Proceedings of the Ninth Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1976), *pp.* 28–30. *Western Periodicals, North Hollywood, Calif.*, 1974. (Authors' summary) **56** #17945 93A99 (93D10)

(*with* Friedland, Bernard) Routh approximations for reducing order of linear, time-invariant systems. *IEEE Trans. Automatic Control* **AC-20** (1975), 329–337. (Edward W. Kamen) **55** #12227 93C45 (93C05)

(*with* Friedland, Bernard) Theory and error analysis of vibrating-member gyroscope. *IEEE Trans. Automat. Control* **23** (1978), *no.* 4, 545–556. (Alan Jupp) **58** #14044 70.34

nguyen-van-Huu *See* **Nguyen-van-Huu**

nguyên Huu Anh *See* **Nguyên Huu Anh**

nguyen-Huu-Bong *See* **Nguyen-Huu-Bong**

nguyễn Hũu Dúc *See* **Nguyễn Hũu Dúc**

hoàng Hũ'u Đu'ò'ng *See* **Hoàng Hũ'u Đu'ò'ng**

hoang Huu Nhu *See* **Hoang Huu Nhu**

trân Hũ'u Phát *See* **Trân Hũ'u Phát**

phạm Hũ'u Sách *See* **Phạm Hũ'u Sách**

nguyen Huu Vinh *See* **Nguyen Huu Vinh**

Huwig, H. (*with* Claus, Volker) Das Äquivalenzproblem für spezielle Klassen von Loop-1-Programmen. *Theoretical computer science* (*Third GI Conf., Darmstadt*, 1977), *pp.* 73–82. *Lecture Notes in Comput. Sci., Vol.* 48, *Springer, Berlin*, 1977. (E. Fachini) **58** #25111 68A20

Huxley, Martin The distribution of Farey points. I. *Acta Arith.* **18** (1971), 281–287. (F. Dress) **45** #6774 10H20

★The distribution of prime numbers. Large sieves and zero-density theorems. Oxford Mathematical Monographs. *Clarendon Press, Oxford*, 1972. x+128 *pp.* (H. Siebert (Zbl **148** #10030)) **56** #2943 10H30 (10H15)

On the difference between consecutive primes. *Invent. Math.* **15** (1972), 164–170. (H. L. Montgomery) **45** #1856 10H15

Irregularity in sifted sequences. *J. Number Theory* **4** (1972), 437–454. (H. Halberstam) **47** #180 10L10

The difference between consecutive primes. *Analytic number theory* (*Proc. Sympos. Pure Math., Vol. XXIV, St. Louis Univ., St. Louis, Mo.*, 1972), *pp.* 141–145. *Amer. Math. Soc., Providence, R.I.*, 1973. (Editors) **50** #9816 10H15

Large values of Dirichlet polynomials. Collection of articles dedicated to Carl Ludwig Siegel on the occasion of his seventy-fifth birthday. IV. *Acta Arith.* **24** (1973), 329–346. (Matti Jutila) **48** #8406 10G05 (10H10, 10H30)

Small differences between consecutive primes. *Mathematika* **20** (1973), 229–232. (B. Garrison) **50** #4509 10H15

Large values of Dirichlet polynomials. III. *Acta Arith.* **26** (1974/75), *no.* 4, 435–444. (Matti Jutila) **52** #300 10H10

Large values of Dirichlet polynomials. II. Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 159–169. (Matti Jutila) **50** #12934 10H05 (10H10)

(*with* Iwaniec, Henryk) Bombieri's theorem in short intervals. *Mathematika* **22** (1975), *no.* 2, 188–194. (J. W. Porter) **52** #10620 10H15 (10H30)

An imperfect hybrid zero-density theorem. *J. London Math. Soc.* (2) **13** (1976), *no.* 1, 53–56. (Matti Jutila) **53** #2863 10H10

(*with* Ramachandra, K.) A note on recent papers of Ramachandra and Huxley. *J. Number Theory* **8** (1976), *no.* 3, 366–368. (Matti Jutila) **54** #252 10H10

(*with* Jutila, Matti) Large values of Dirichlet polynomials. IV. *Acta Arith.* **32** (1977), *no.* 3, 297–312. (Bruce C. Berndt) **58** #5550 10H10

Small differences between consecutive primes. II. *Mathematika* **24** (1977), *no.* 2, 142–152. (B. Garrison) **57** #5925 10H15

Huyberechts, Simone Introduction à l'analyse statistique des séries chronologiques. I. *Cahiers Centre Études Recherche Opér.* **16** (1974), 87–105. (David F. Findley) **52** #2093 62M10

Analyse statistique des séries chronologiques non stationnaires (approche fréquentielle). (English summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 3, 403–408 (1976). (Roch Roy) **57** #17998 62M15

Huy Duong Bui Dualité entre les intégrales indépendantes du contour dans la théorie des solides fissurés. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1425–A1428. (M. Mişicu) **47** #6182 73.44

Application des potentiels élastiques à l'étude des fissures planes de forme arbitraire en milieu tridimensionnel. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aiii, A1157–A1160. (G. Paria) **51** #14710 73.45

Sur les équations intégrales en thermoélastoplasticité tridimensionnelle. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 10, A487–A489. (Author's summary) **58** #19561 73.35

Huygens, Christiaan Christiaan Huygens' *The motion of colliding bodies*. Translated by

Richard J. Blackwell. *Isis* **68** (1977), *no.* 244, 574–597. (Editors) **58** #26863 01A45

A letter to the author [to Leibniz]. (Russian) Translated from the Latin and annotated by A. B. Štykan. *Istor.-Mat. Issled. Vyp.* 22 (1977), 286–288, 304. (Editors) **58** #26930c 01A45 (26–03)

See also **Bruins, E. M.**, (See Zbl **214**, 259); **Sloth, Flemming**, (See Zbl **192** #321); **Newbold, D. E.**, **52** #13144; **Dupont, Pascal**, **57** #12044; **Costabel, Pierre**, **58** #15884; **van Helden, Albert**, **58** #21126; **Gurova, A. K.**, **58** #26782 *and* **Van Broeckhoven, R.**, **58** #26933

pham Huy Hung *See* **Pham Huy Hung**

Huynen, J. Richard (*with* McNolty, Frank; Hansen, Eldon R.) Component distributions for fluctuating radar targets. *IEEE Trans. Aerospace and Electron. Systems* **AES-11** (1975), *no.* 6, 1316–1332. (P. N. Rathie) **53** #15538 94A05

dinh van Huynh *See* **Dinh Van Huynh**

Huỳnh, H. T. (*with* Lecours, M.) The Poisson process as a model of impulse noise in discrete communication systems. (Polish. English and Russian summaries) *Podstawy Sterowania* 3 (1973), 123–129. (A. I. Ponomarenko) **48** #1789 94A05

Huynh, Huynh Statistical consideration of mastery scores. *Psychometrika* **41** (1976), *no.* 1, 65–78. (Author's summary) **58** #8116 62P15

Huỳnh Mui Modular invariant theory and cohomology algebras of symmetric groups. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **22** (1975), *no.* 3, 319–369. (A. Babakhanian) **54** #10440 20J05

hà Huy Vui *See* **Hà Huy Vui**

nguyen Huy Xuong *See* **Nguyen Huy Xuong**

Hužajarov, N. Ju. (*with* Muhidinov, N. M.) On the question of the numerical realization of boundary value problems for a system of fourth order ordinary differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 46 (1977), 40–61, 192. (Authors' summary) **58** #8303 65L10

Huzii, Mituaki Note on the estimation of correlogram by using transformed variables. *Ann. Inst. Statist. Math.* **23** (1971), 399–410. (E. J. Hannan) **47** #2768 62M10

On a spectral estimate obtained by an autoregressive model fitting. *Ann. Inst. Statist. Math.* **29** (1977), *no.* 3, 415–431. (P. S. Knopov) **58** #8101 62M15

(*with* Toyooka, Yasuyuki) Asymptotic properties of weighted least squares estimators in a polynomial regression with a nonstationary error process. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **24** (1977), *no.* 4, 191–199. (Authors' summary) **58** #31663 62M10 (62J05)

Huzino, Seiiti (*with* Togasi, Akira) Syntax-directed translation scheme of M-S translation in a list processing language lisp. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 6–9. (P. Deussen) **46** #8480 68A30

(*with* Iimori, Sueo) List processing for finding Wirth-Weber type precedence relations between symbols. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 152–166. (P. Deussen) **46** #10247 68A30

(*with* Togasi, Akira) On information retrieval based on list processing techniques. (Japanese. English summary) *Rep. Fac. Sci. Kagoshima Univ. No.* 7 (1974), 11–19. (Kenji Onaga) **55** #1883 68A50

On an application of list processing techniques to a recognition problem. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 1, 99–104. (Amitava Bagchi) **53** #9720 68A25

On an application of L^6 to the theory of automata. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 1, 105–111. (Amitava Bagchi) **53** #9721 68A25

(*with* Togasi, Akira) On an application of structural diagrams of languages. (Japanese. English summary) *Rep. Fac. Sci. Kagoshima Univ. No.* 8 (1975), 1–16. (Tadao Takaoka) **57** #8179 68A30 (94A30)

(*with* Togasi, Akira) On minimal solutions of some structural equations of languages. (Japanese. English summary) *Rep. Fac. Sci. Kagoshima Univ. No.* 8 (1975), 17–21. (Tadao Takaoka) **57** #8199 68A30

(*with* Togasi, Akira) On relation between languages by derivative-mapping. (Japanese. English summary) *Rep. Fac. Sci. Kagoshima Univ. No.* 9 (1976), 15–17. (Tadao Takaoka) **57** #8180 68A30

(*with* Shibata, Ryoko) An elementary proof of R. W. Ritchie's theorem on the set of squares. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 1, 9–14. (S. Hitotumatu) **56** #1818 68A30

On Salomaa's abstract pushdown automata. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), *no.* 1, 67–71. (Kenneth B. Salomon) **57** #18248 68A30

Huzurbazar, M. S. (*with* Sivaramakrishnan, K.) Jacobson's theorem on commutativity of rings. *Aligarh Bull. Math.* **1** (1971), 9–12. (J. A. Johnson) **47** #283 16A70

Huzurbazar, V. S. A lemma on the positive and the negative parts of a function. *J. Univ. Poona No.* 46 (1974), 61–64. (Editors) **55** #3179 26–01

Hval, V. *See* **Chvál, Viliam**

Hvedeliani, I. R. *See* **Problems of applied mathematics**, **48** #24

Hvedelidze, B. V. Cauchy integrals and boundary value problems of linear conjugacy. (Slovenian) Translated from the Russian by France Križanič. *Obzornik Mat. Fiz.* **20** (1972), 145–152. (See Zbl **323** #30046) 30A88

Integrals of Cauchy type and boundary value problems of linear conjugacy. (Russian) Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* 3 (1973), 134–144. (I. I. Bavrin) **50** #7536 30A88

(*with* Gordadze, È. G.) A certain singular integral operator. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **71** (1973), 33–36. (Jürgen Leiterer) **49** #1228 47G05 (45E05)

The method of Cauchy type integrals in discontinuous boundary value problems of the theory of holomorphic functions of a complex variable. (Russian) *Current problems in mathematics, Vol. 7* (*Russian*), *pp.* 5–162 (*errata insert*). *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow,* 1975. (P. Ju. Alekna) **56** #12276 30A88

(*with* Arekškin, G. Ja.; Il'in, V. P.; Čogošvili, G. S.) David Fomič Harazov. Obituary. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 6(186), 153–157 (1 *plate*). (Editors) **52** #13181 01A70

(*with* Gordadze, È. G.) On singular integral operators. *Function theoretic methods in differential equations, pp.* 132–157. *Res. Notes in Math., No.* 8, *Pitman, London,* 1976. (Kevin Clancey) **58** #6970 45E05

(*with* Gordadze, È. G.) Singular integral operators, and the regularization problem. (Russian. Georgian summary) Collection of articles on the theory of functions, Vol. 7. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **53** (1976), 15–37. (N. K. Karapetjanc) **56** #9325 47G05 (45E05)

(*with* Litvinčuk, G. S.; Mihaĭlov, L. G.; Čerskiĭ, Ju. I.) Fedor Dmitrievič Gahov (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 4 (190), 289–297. (1 *plate*) (Editors) **54** #33 01A70 (30–03)

See also **Collection: Theory of functions**, **49** #3; **Collection: Number theory**, **50** #9758; **Collection: Theory of functions**, **52** #3489; **Collection: Functional analysis**, **53** #3730; **Collection: Theory of functions**, **55** #10648; **Collection: Number theory**, **56** #5429 *and* **Collection: Theory of functions**, **56** #15953

Hvilon, E. A. (*with* Kamenskiĭ, G. A.) Necessary condition for the optimal control of systems with deviating argument of neutral type. *Avtomat. i Telemeh.* **1969**, *no.* 3, 20–32 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 3, 327–339. (See RŽMat **1969** #10 B379) 49B10

(*with* Kamenskiĭ, G. A.) The optimal processes for systems that are described by differential equations with deviating argument of neutral type. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravnenií s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **8** (1972), 83–88. (M. M. Konstantinov) **49** #1280 49B10 (34K99)

The synthesis of optimal equations in systems with a lag in the control. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravnenií s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **8** (1972), 187–192. (M. M. Konstantinov) **49** #1300 49E05 (34K99)

Hvoles, A. A. The boundedness of a multidimensional singular operator in Lipschitz spaces. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **74** (1974), 293–296. (L. Janos) **49** #11319 47G05

Singular integral equations in Lipschitz spaces. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **76** (1974), 29-32. (S. G. Samko) **51** #3975 47G05 (45E05)

The smoothness of the solution of a singular integral equation in the space $L_p(M)$. (Russian) Questions of the theory of functions and mathematical physics. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **58** (1978), 208 223. (M. Z. Berkolaĭko) **58** #29911 45E05 (47G05)

Hvoles, A. R. A general representation of the solutions of equations of equilibrium of a prismatic shell of variable thickness. (Russian. English and Georgian summaries) *Gamoqeneb. Math. Inst. Sem. Mohsen. Anotacie. No.* 5 (1971), 19–23. (P. P. Teodorescu) **46** #1168 73.35

See also **Probabilistic automata and their application**, **48** #5745

Hvostenko, E. S. An analogue of A. A. Markov's theorem for the linear-fractional kernels of M. G. Kreĭn. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 57–63, 157. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk,* 1976. (Author's summary) **58** #28521 30A82 (41A30)

Hvostov, A. T. The behavior of Temljakov type integrals outside a domain. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **225**, 101–105 (1969). (I. P. Ramadanov) **46** #7545 32A25

An investigation of certain integral representations of analytic functions of two complex variables. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **269**, 54–64 (1969). (Peter Russev) **48** #557 32A25

Linear transformation of the Temljakov integral formula. (Russian) *Moskov. Oblast. Ped. Inst. Sb. Trudov* **15** (1973), *no.* 1 *Teor. Funkciĭ Funkcional. Anal. i Priložen.*, 76–81. (See RŽMat **1973** #12 B191) 32A25

An integral representation of functions of two complex variables that are analytic in circular domains. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 1, 49–52. (I. I. Bavrin) **52** #6013 32A25

Hwa, H. R. Contradiction equations in a B matrix of vertex weight method and their correspondence with the k-summability property of vertices. *IEEE Trans. Computers* **C-21** (1972), 606–612. (E. Ikaunieks) **49** #4677 94A20

A method for generating prime implicants of a Boolean expression. *IEEE Trans. Computers* **C-23** (1974), *no.* 6, 637–641. (Author's summary) **55** #14426 94A20

Hwa, Rudolph C. Derivation of the Wu-Yang conjecture in the bootstrap model. *Phys. Rev. Lett.* **25** (1970), 1728–1731. (K. Kawarabayashi) **45** #4759 81.30

Nonstatic solutions of the sourceless Yang-Mills equation for SO(4) and SO(3, 1). *Phys. Rev. D* (3) **15** (1977), *no.* 8, 2341–2344. (G. Costa) **57** #8615 81.35

Hwang, Antonio On a theorem of Brickman-Fillmore. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 93–94. (P. A. Fillmore) **52** #15048 47A15

Hwang, Chie Ping *See* **Huang, Chih P'ing**

Hwang, Ching Lai (*with* Daccarett, Jose E.; Fan, Liang-tseng) Optimization of equipment investment. *J. Operations Res. Soc. Japan* **14** (1971), 19–34. (I. M. Stancu-Minasian) **45** #9650 90B05

(*with* Tillman, Frank A.; Kuo, Way) Optimization techniques for system reliability with redundancy—a review. *IEEE Trans. Reliab.* **R-26** (1977), *no.* 3, 148–155. (D. Hochstädter) **57** #11708 90B25

Hwang, Dar Shong (*with* Buehler, Robert J.) Confidence intervals for some functions of several Bernoulli parameters with reliability applications. *J. Amer. Statist. Assoc.* **68** (1973), 211–217. (A. C. Cohen) **52** #6985 62F25 (62N05)

Hwang, Frank Kwangming (*with* Lin, Shen) Optimal merging of 2 elements with n elements. *Acta Informat.* **1** (1971/72), *no.* 2, 145–158. (A. L. Rosenberg) **48** #7654 68A10

(*with* Berlekamp, Elwyn R.) Constructions for balanced Howell rotations for bridge tournaments. *J. Combinatorial Theory Ser. A* **12** (1972), 159–166. (R. K. Guy) **46** #8862 05B15

Rearrangeability of multiconnection three-stage Clos networks. *Networks* **2** (1972), 301–306. (P. Vondráček) **47** #4725 94A20

(*with* Lin, Shen) A simple algorithm for merging two disjoint linearly ordered sets. *SIAM J. Comput.* **1** (1972), *no.* 1, 31–39. (Petre Preoteasa) **45** #6146 68A10 (06–04)

Efficiencies for stepwise regressions-K-regressor case. *Tamkang J. Math.* **3** (1972), 17–20. (M. D. Perlman) **48** #3192 62J05

A group-testing problem. *Proceedings of the Fourth Southeastern Conference on* ombinatorics, *Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 73), *pp*. 345–355. *Utilitas Math., Winnipeg, Man.*, 1973. (I. Z. Chorneyko) **52** #6965 F05 (05C05)

Constructions for some classes of neighbor designs. *Ann. Statist*. **1** (1973), 786–790. . Vijayan) **49** #1705 62K99

(*with* Deutsch, D. N.) A class of merging algorithms. *J. Assoc. Comput. Mach*. **20** 973), 148–159. (Authors' summary) **48** #7653 68A10

On finding a single defective in binomial group testing. *J. Amer. Statist. Assoc*. **69** 974), 146–150. (D. Y. Huang) **52** #4494 62F07

(*with* Garey, Michael R.) Isolating a single defective using group testing. *J. Amer. tatist. Assoc*. **69** (1974), 151–153. (D. Y. Huang) **52** #4495 62F07

(*with* Lin, Shen) A direct method to construct triple systems. *J. Combinatorial heory Ser. A* **17** (1974), 84–94. (Jean Doyen) **52** #127 05B05

(*with* Deutsch, D. N.) Constructions for doubly balanced matrices. *Tamkang J. ath*. **5** (1974), 191–196. (W. D. Wallis) **51** #204 05B20

An inductive proof of a theorem of Gale. *Bull. Inst. Math. Acad. Sinica* **3** (1975), . 1, 81–85. (Rainer Burkard) **54** #2167 90B10

A generalized binomial group testing problem. *J. Amer. Statist. Assoc*. **70** (1975), . 352, 923–926. (Author's summary) **56** #4074 62L05 (62N10)

Linear neighbor designs. *Proceedings of the Seventh Southeastern Conference on ombinatorics, Graph Theory, and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 76), *pp*. 335–340. *Congressus Numerantium, No. XVII, Utilitas Math., Winnipeg, Man.*, 76. (Charlotte Huang) **56** #5332 05B30

On the rearrangeability of some multistage connecting networks. *Bell System Tech.* **55** (1976), *no*. 9, 1411–1422. (Fan R. K. Chung) **57** #9317 94A20

An optimum nested procedure in binomial group testing. (French summary) *iometrics* **32** (1976), *no*. 4, 939–943. (Author's summary) **56** #4075 62L05

Random factors of bipartite multigraphs. *Bull. Inst. Math. Acad. Sinica* **4** (1976), . 1, 1–6. (D. E. Daykin) **54** #10083 05C99

(*with* Graham, Ronald L.) A remark on Steiner minimal trees. *Bull. Inst. Math. cad. Sinica* **4** (1976), *no*. 1, 177–182. (V. Krishnamoorthy) **55** #10302 05C05 4A20)

The rank distribution of the maximin in a random matrix. *Comm. Statist.–Theory ethods* **A5** (1976), *no*. 15, 1533–1538. (Yvo M. I. Dirickx) **55** #13523 60C05 5A19)

(*with* Lee, Jerry H.; Bose, Nirmal K.) Use of Steiner's problem in suboptimal uting in rectilinear metric. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no*. 7, 70–476. (Fan R. K. Chung) **57** #9327 94A20 (05Cxx, 68A10)

New constructions for balanced Howell rotations. *J. Combinatorial Theory Ser. A* 1 (1976), *no*. 1, 44–51. (W. D. Wallis) **55** #142 05B30

New classes of complete balanced Howell rotations. *J. Combinatorial Theory Ser. A* 1 (1976), *no*. 1, 86–92. (W. D. Wallis) **55** #143 05B30

(*with* Lin, Shen) Construction of 2-balanced (n, k, λ) arrays. *Pacific J. Math*. **64** 976), *no*. 2, 437–453. (Charlotte Huang) **56** #5331 05B30

On Steiner minimal trees with rectilinear distance. *SIAM J. Appl. Math*. **30** (1976), . 1, 104–114. (F. Harary) **52** #10463 05C05

Several problems on knockout tournaments. *Proceedings of the Eighth Southeastern onference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton ouge, La.*, 1977), *pp*. 363–380. *Congressus Numerantium, No. XIX, Utilitas Math., innipeg, Man.*, 1977. (J. W. Moon) **58** #16374 05C20

A generalization of the Karlin-McGregor theorem on coincidence probabilities and n application to clustering. *Ann. Probability* **5** (1977), *no*. 5, 814–817. (Gérard Letac) 7 #10757 60C05

(*with* Odlyzko, Andrew M.) A probability inequality and its application to vitching networks. *Bell System Tech. J*. **56** (1977), *no*. 5, 821–826. (Fan R. K. Chung) 6 #2674 94A20

(*with* Chung, Fan Rong K.) On blocking probabilities for switching networks. *Bell vstem Tech. J*. **56** (1977), *no*. 8, 1431–1446. (Takao Ozawa) **56** #15172 94A20

(*with* Liang, T. C.) Construction for group-balanced connecting networks. *Bell vstem Tech. J*. **56** (1977), *no*. 9, 1643–1649. (Takao Ozawa) **57** #5455 94A20

Hypergeometric group testing procedures and merging procedures. *Bull. Inst. Math. cad. Sinica* **5** (1977), *no*. 2, 335–343. (Stephen Soule) **57** #4597 68A10 (94A20)

(*with* Lagarias, J. C.) Minimum range sequences of all k-subsets of a set. *Discrete ath*. **19** (1977), *no*. 3, 257–264 (1978). (Alan Tucker) **57** #5770 05A05

(*with* Garey, Michael R.; Johnson, David Stifler) Algorithms for a set partitioning roblem arising in the design of multipurpose units. *IEEE Trans. Computers* **C-26** 1977), *no*. 4, 321–328. (Fabrizio Luccio) **56** #13760 68A10 (68A20, 90B99)

(*with* Lin, Shen) Neighbor designs. *J. Combinatorial Theory Ser. A* **23** (1977), *no*. 3, 02–313. (Charlotte Huang) **57** #2951 05B30

(*with* Aho, Alfred V.; Garey, Michael R.) Rectilinear Steiner trees: efficient pecial-case algorithms. *Networks* **7** (1977), *no*. 1, 37–58. (D. H. Younger) **57** #4588 8A10 (05B05, 94A20)

(*with* Chung, Fan Rong K.) A problem on blocking probabilities in connecting etworks. *Networks* **7** (1977), *no*. 2, 185–192. (Roman Słowiński) **56** #5356 05C35 90B10)

(*with* Chung, Fan Rong K.) A generalization of Takagi's theorem on optimal hannel graphs. *Bell. System Tech. J*. **57** (1978), *no*. 1, 171–178. (Authors' summary) **8** #26558 94A20

(*with* Têng, Chin Ts'ai) A matrix algorithm for larger knapsack problems. *Bull. nst. Math. Acad. Sinica* **6** (1978), *no*. 1, 197–201. (K. G. Murty) **58** #15151 90C10

A note on hypergeometric group testing procedures. *SIAM J. Appl. Math*. **34** 1978), *no*. 2, 371–375. (S. Blumenthal) **58** #3158 62F05 (62N10)

ng, H. L. (*with* Wolovich, William A.) Composite system controllability and bservability. (French, German and Russian summaries) *Automatica–J. IFAC* **10** 1974), 209–212. (Editors) **56** #11149 93B05

ng, J. S. *See* **Hwang, Jun Shung**

ng, Jenn Tai (*with* Pechukas, Philip) The adiabatic theorem in the complex plane and ne semiclassical calculation of nonadiabatic transition amplitudes. *J. Chem. Phys*. **67** 1977), *no*. 10, 4640–4653. (G. S. Agarwal) **58** #20120 82.60

(*with* Dougherty, Eugene P.; Rabitz, Suzanne; Rabitz, Herschel) The Green's nction method of sensitivity analysis in chemical kinetics. *J. Chem. Phys*. **69** (1978), *no*. 11, 5180–5191. (N. Trinajstić) **58** #25421 80.34 (34A25)

Hwang, Jia Cherng (*with* Sheng, C. L.; Hsieh, C. C.) On the modulo-two-sum decomposition of binary sequences of finite periods. *Internat. J. Electron*. **39** (1975), *no*. 1, 97–104. (Authors' summary) **56** #15139 94A10 (94A20)

(*with* Shih, Mau Hsiang) A fixed point theorem in reflexive Banach spaces. *Comment. Math. Univ. St. Paul*. **25** (1976/77), *no*. 2, 95–96. (From the authors' introduction) **55** #6248 47H10

Hwang, Jun Shung (*with* Schnitzer, Franz; Seidel, Wladimir) Uniqueness theorems for bounded holomorphic functions. *Math. Z*. **122** (1971), *no*. 4, 366–370. (S. M. Shah) **52** #11052 30A76

A uniqueness theorem for functions of exponential type. *J. Math. Anal. Appl*. **37** (1972), 452–456. (A. Baillette) **45** #549 30A66

A generalization of Mergelyan's uniqueness theorem. *Michigan Math. J*. **20** (1973), 137–143. (W. E. Kirwan) **48** #2397 30A72

An extension of Heins and Shaginian's uniqueness theorem for functions holomorphic in a half-plane. *Tamkang J. Math*. **5** (1974), *no*. 1, 125–131. (M. Hervé) **51** #3451 30A76

The range of a gap series. *Canad. Math. Bull*. **18** (1975), *no*. 5, 753–754. (G. Halász) **54** #522 30A10

A uniqueness theorem for entire functions. *Chinese J. Math*. **3** (1975), *no*. 1, 69–74. (S. K. Bajpai) **57** #16593 30A66

Maximum and minimum modulus for polynomials and rational functions. *Tamkang J. Math*. **6** (1975), 95–102. (M. Zedek) **53** #5836 30A06

On the recurrence property of Gaussian Taylor series. *Ann. Probability* **4** (1976), *no*. 3, 453–455. (A. C. Offord) **54** #523 30A10 (60G15)

(*with* Gauthier, Paul M.) Asymptotic values along Julia rays. *Canad. J. Math*. **28** (1976), *no*. 6, 1210–1215. (J. P. Singh) **55** #8357 30A66

(*with* Gauthier, Paul M.) The set of Julia points for functions omitting two values. *Canad. Math. Bull*. **19** (1976), *no*. 4, 441–443. (G. Piranian) **55** #12922 30A72

(*with* Gauthier, Paul M.) The distribution of cercles de remplissage for functions having spiral asymptotic values. *J. Math. Kyoto Univ*. **16** (1976), *no*. 3, 653–664. (Joseph Warren) **56** #5888 30A72

Note on a problem of Catherine Rényi about Julia lines. *Acta Math. Acad. Sci. Hungar*. **29** (1977), *no*. 1–2, 67–68. (A. Edrei) **55** #12913 30A66

A note on the Bloch-Nevanlinna conjecture. *Chinese J. Math*. **5** (1977), *no*. 1, 21–25. (F. Huckemann) **58** #1160 30A76 (30A74)

(*with* Shih, Hui Jan) Complete stable marriages. *Soochow J. Math. Natur. Sci*. **3** (1977), 41–51. (Peter Eades) **58** #10468 05A05 (05B15)

Plessner points, Julia points, and ρ^*-points. *J. Math. Kyoto Univ*. **18** (1978), *no*. 1, 173–188. (Paul M. Gauthier) **58** #6250 30A72

Hwang, K. (*with* Yao, S. B.) Optimal batched searching of tree structured files in multiprocessor computer systems. *J. Assoc. Comput. Mach*. **24** (1977), *no*. 3, 441–454. (C. Tartia) **56** #4280 68A50

Hwang, Kai Periodic realization of synchronous sequential machines. *IEEE Trans. Computers* **C-22** (1973), 923–927. (R. Shirtladze) **52** #2774 94A25

Cyclic decomposition of finite stochastic systems. *J. Comput. System Sci*. **9** (1974), 56–68. (R. Shirtladze) **51** #2813 94A35

Some structural complexities of time-varying sequential machines. *Internat. J. Comput. Information Sci*. **4** (1975), *no*. 3, 237–245. (Dorothy Bollman) **51** #15237 94A25

On syntactic edge detection in noisy pictures. *Internat. J. Comput. Information Sci*. **6** (1977), *no*. 1, 27–40. (Hidemitsu Ogawa) **55** #1867 68A45

Hwang, Kuo An *See* **Huang, Kuo An**

Hwang, Leou Nan On the function space $C^*(X, Y)$. *Tamkang J. Math*. **6** (1975), 25–32. (Edwin Duda) **51** #6708 54C35

Hwang, Lian Pin (*with* Anderson, C. F.; Friedman, H. L.) The Ursell-function structure of the memory function. *J. Chem. Phys*. **62** (1975), 2098–2110. (Authors' summary) **50** #15793 82.47

(*with* Freed, Jack H.) Generalized Einstein relations for rotational and translational diffusion of molecules including spin. *J. Chem. Phys*. **63** (1975), 118–130. (Authors' summary) **51** #9724 82.45

Hwang, M. (*with* Seinfeld, John H.; Gavalas, G. R.) Optimal least-square filtering and interpolation in distributed parameter systems. *J. Math. Anal. Appl*. **39** (1972), 49–74. (M. Zakai) **46** #8728 93E10

(*with* Seinfeld, John H.) Observability of nonlinear systems. *J. Optimization Theory Appl*. **10** (1972), 67–77. (S. F. Moon) **48** #8032 93B05

(*with* Greenhut, M. L.; Ohta, H.) Observations on the shape and relevance of the spatial demand function. *Econometrica* **43** (1975), *no*. 4, 669–682. (Authors' summary) **56** #2238 90A15

Hwang, Raphael R. (*with* Manohar, Ram P.) Error estimates for some parabolic equations. *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1971), *pp*. 373–384. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man.*, 1971. (W. H. Enright) **49** #1810 65P05

(*with* Manohar, Ram P.) A finite element method for wave equation. *Proceedings of the Fourth Manitoba Conference on Numerical Mathematics* (*Winnipeg, Man.*, 1974), *pp*. 273–286. *Congr. Numer., No. XII, Utilitas Math., Winnipeg, Man.*, 1975. (Alfred R. Mitchell) **51** #9505 65M10

Hwang, Sheng Y. Roundoff noise in a state-space digital filtering: a general analysis. *IEEE Trans. Acoust. Speech Signal Processing* **ASSP-24** (1976), *no*. 3, 256–262. (Author's summary) **57** #15728 94A05 (93C55)

Hwang, Suk Geun Almost c-continuous functions. *J. Korean Math. Soc*. **14** (1977/78), *no*. 2, 229–234. (Hughes B. Hoyle, III) **57** #7508 54C05

A note on nearly compact spaces. *J. Korean Math. Soc*. **15** (1978/79), *no*. 1, 25–27. (B. J. Pearson) **58** #12920 54D30

Hwang, T. Y. *See* **Huang, T'i Yüan**

Hwang, Tai Yang (*with* Hartmann, Carlos R. P.) Correction to a proof in the coding literature. *IEEE Trans. Information Theory* **IT-21** (1975), 351. (Editors) **50** #16084 94A10

(*with* Hartmann, Carlos R. P.) Some results on the weight structure of cyclic codes of composite length. *IEEE Trans. Information Theory* **IT-22** (1976), *no*. 3, 340–348. (W. E. Clark) **56** #8171 94A10 (*with* Hartmann, Carlos R. P.) Some results on arithmetic codes of composite length. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 1, 93–99. (W. E. Clark) **58** #4610 94A10

Hwang, Tea Yuan *See* **Huang, T'i Yüan**

Hwang, W. G. (*with* Todd, John) A recurrence relation for the square root. *J. Approximation Theory* **9** (1973), 299–306. (L. Fox) **51** #9470 65H05

nguyen mong Hy *See* **Nguyen Mong Hy**

nguyen quy Hy *See* **Nguyen Quy Hy**

Hyafil, Laurent (*with* Prusker, F.; Vuillemin, Jean) Design of optimal merge on direct access devices. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974), *pp.* 979–982. *North-Holland, Amsterdam*, 1974. (P. E. O'Neil) **56** #1792 68A10 (68A20, 68A50)

(*with* Prusker, F.; Vuillemin, Jean) An efficient algorithm for computing optimal disk merge patterns. (French summary) *Sixth Annual ACM Symposium on Theory of Computing* (*Seattle, Wash.*, 1974), *pp.* 216–229. *Assoc. Comput. Mach., New York*, 1974. (Witold Lipski) **54** #4178 68A10 (68A20)

Bounds for selection. *International Computing Symposium* (*Antibes*, 1975), *pp.* 65–68. *North-Holland, Amsterdam*, 1975. (Author's summary) **57** #4598 68A10 (68A20)

(*with* Kung, H. T.) The complexity of parallel evaluation of linear recurrence. *Seventh Annual ACM Symposium on Theory of Computing* (*Albuquerque, N. M.*, 1975), *pp.* 12–22. *Assoc. Comput. Mach., New York*, 1975. (Jo Ann Howell) **55** #4775 68A20 (68A10)

(*with* Kung, H. T.) Bounds on the speed-ups of parallel evaluation of recurrences. *2nd USA-Japan Computer Conference Proceedings* (*Tokyo*, 1975), *pp.* 178–182. *AFIPS Press, Montvale, N.J.*, 1975. (Ahmed H. Sameh) **57** #14598 68A20 (68A10)

(*with* Van de Wiele, J. P.) On the additive complexity of specific polynomials. *Information Processing Lett.* **4** (1975/76), *no.* 2, 45–47. (From the introduction) **58** #19350 68A20

(*with* Rivest, Ronald L.) Constructing optimal binary decision trees is *NP*-complete. *Information Processing Lett.* **5** (1976/77), *no.* 1, 15–17. (C. F. Kelemen) **54** #1712 68A20

Bounds for selection. *SIAM J. Comput.* **5** (1976), *no.* 1, 109–114. (Maurice Mignotte) **53** #2019 68A20

The power of commutativity. *18th Annual Symposium on Foundations of Computer Science* (*Providence, R.I.*, 1977), *pp.* 171–174. *IEEE Comput. Sci., Long Beach, Calif.*, 1977. (Ian Munro) **58** #13927 68A20 (65F30)

(*with* Kung, H. T.) The complexity of parallel evaluation of linear recurrences. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 3, 513–521. (Jo Ann Howell) **55** #11705 68A20

Hyams, W. H. (*with* Anderson, C. L.; McKnight, C. K.) Center points of nets. *Canad. J. Math.* **27** (1975), 418–422. (R. F. Dickman, Jr.) **51** #13962 54A20 (46B05)

Hyde, J. M. Integrability conditions for shear-free motion in general relativity with applications to perfect fluids. *J. Phys. A* **7** (1974), 455–464. (Author's summary) **53** #12476 83.53

Hyde, John Testing survival under right censoring and left truncation. *Biometrika* **64** (1977), *no.* 2, 225–230. (Author's summary) **58** #13585 62N05

Hyers, D. H. On the stability of minimum points. *J. Math. Anal. Appl.* **62** (1978), *no.* 3, 530–537. (S. Rolewicz) **58** #12619 49B99

Hyett, B. J. (*with* Warming, R. F.) The modified equation approach to the stability and accuracy analysis of finite-difference methods. *J. Computational Phys.* **14** (1974), 159–179. (P. Gordon) **49** #4284 65Q05

(*with* Warming, R. F.; Beam, Richard M.) Diagonalization and simultaneous symmetrization of the gas-dynamic matrices. *Math. Comput.* **29** (1975), *no.* 132, 1037–1045. (W. F. Ames) **52** #9799 76.35

Hylán, Jaroslav A certain generalization of Fourier series. (Czech) *Fourth Scientific Conference, College of Transport Engineering* (*Žilina*), *Section* 1: *Mathematics, Physics, Cybernetics* (*Slovak*), *pp.* 15–23. *Vysoká Škola Dopravná v Žiline, Žilina*, 1973. (Todor G. Genčev) **53** #1135 42A20

Hyland, J. M. E. A survey of some useful partial order relations on terms of the lambda calculus. *λ-calculus and computer science theory* (*Proc. Sympos., Rome*, 1975), *pp.* 83–95. *Lecture Notes in Comput. Sci., Vol.* 37, *Springer, Berlin*, 1975. (Henk Barendregt) **57** #9496 02C20

(*with* Gandy, Robin O.) Computable and recursively countable functions of higher type. *Logic Colloquium* 76 (*Oxford*, 1976), *pp.* 407–438. *Studies in Logic and Found. Math., Vol.* 87, *North-Holland, Amsterdam*, 1977. (E. Z. Dyment) **58** #10368 02F29

Aspects of constructivity in mathematics. *Logic Colloquium* 76 (*Oxford*, 1976), *pp.* 439–454. *Studies in Logic and Found. Math., Vol.* 87, *North-Holland, Amsterdam*, 1977. (V. Ja. Kreĭnovič) **58** #5105 02E15

See also **Colloquium: Logic**, **57** #53

Hyland, John P. *See* **Operational Research**, **49** #12059

Hyland, Martin A syntactic characterization of the equality in some models for the lambda calculus. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 3, 361–370. (Henk Barendregt) **53** #100 02C20

Hylland, Aanund A note on an article from 1907 on proportional representation. (Norwegian. English summary) *Nordisk Mat. Tidskr.* **23** (1975), *no.* 1, 15–19, 48. (Mogens Esrom Larsen) **52** #9982 90A05 (92A20)

Hyllengren, Anders Connections between two set functions. *Ark. Mat.* **13** (1975), *no.* 2, 273–285. (P. R. Goodey) **52** #8367 28A10

Hyman, D. M. A remark on Fox's paper on shape. *Fund. Math.* **75** (1972), *no.* 3, 205–208. (R. H. Fox) **46** #2635 54C55

Hyman, Edward (*with* Kashef, R. Sohrab) An optimum cellular realization of synchronous sequential machines with uniform interconnections. *Proceedings of the Seventh Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), *pp.* 167–170. *Western Periodicals, North Holywood, Calif.*, 1974. (Bolesław Mikołajczak) **56** #11638 94A25

Hyman, James M. (*with* Harten, Amiram; Lax, Peter D.) On finite-difference approximations and entropy conditions for shocks. With an appendix by B. Keyfitz. *Comm. Pure Appl. Math.* **29** (1976), *no.* 3, 297–322. (J. R. Cannon) **54** #1640 65M10 (76.65)

Mesh refinement and local inversion of elliptic partial differential equations. *J. Computational Phys.* **23** (1977), *no.* 2, 124–134. (Amnon Barak) **55** #4717 65N05

(*with* Hoppensteadt, Frank C.) Periodic solutions of a logistic difference equatio *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 73–81. (G. S. Ladde) **57** #17053 39A (58F15, 92A15)

Time evolution of almost periodic solutions of the KdV equation. Conference the Theory and Application of Solitons (Tucson, Ariz., 1976). *Rocky Mountain J. Ma* **8** (1978), *no.* 1-2, 95–104. (Alan Jeffrey) **58** #6755 35Q99 (35B10, 76.35)

(*with* Carasso, Alfred S.; Sanderson, James G.) Digital removal of random me image degradations by solving the diffusion equation backwards in time. *SIAM Numer. Anal.* **15** (1978), *no.* 2, 344–367. (Clarence M. Ablow) **58** #4594 94A (65M30)

Hyman, Joseph (*with* Nation, J. B.) Automorphisms of 1-unary algebras. II. *Alge Universalis* **4** (1974), 127–131. (S. Comer) **51** #5454 08A25

Automorphisms of 1-unary Algebras. *algebra Universalis* **4** (1974), 61–77. Comer) **51** #5453 08A25

Hyman, William A. An extremum principle for infinite slow viscous flows contain particles. *Internat. J. Engrg. Sci.* **14** (1976), *no.* 2, 149–154. (D. E. Edmunds) **56** #17463 76.49

Hymas, C. E. (*with* Cavin, Ralph K., III; Colunga, D.) Neighboring extremals for optim control problems. *AIAA J.* **11** (1973), 1101–1109. (R. N. P. Singh) **47** #9392 (E #1467) 49B50

See also **Wood, Lincoln J.**, **52** #1467

Hynar, Ladislav (*with* Barták, Rudolf) Optimal routes. (Czech. English summary) *Ekonom.-Mat. Obzor* **9** (1973), 167–183. (K. Zimmermann) **48** #3471 90B10

Hynes, James T. Initial condition effects for a Brownian particle in a harmonic chain. *Statist. Phys.* **11** (1974), 257–275. (R. Kubo) **51** #12244 82.60

(*with* Kapral, Raymond; Weinberg, Michael) Nonlinear momentum relaxation an impurity in a harmonic chain. *J. Statist. Phys.* **13** (1975), *no.* 5, 427–449. (A. Rajagopal) **56** #7714 82.60

(*with* Kapral, Raymond; Weinberg, Michael) Particle rotation and translation in fluid with spin. *Phys. A* **87** (1977), *no.* 3, 427–452. (M. Drăganu) **57** #8378 76.

(*with* Northrup, Scott H.) Coupling of translational and reactive dynamics for Fokker-Planck model. *J. Chem. Phys.* **68** (1978), *no.* 7, 3203–3216. (S. Harris) **58** #14789 82.35

bak Hyng Khang *See* **Bak Hyng Khang**

Hynne, F. A class of molecular correlation functions related to Ursell functions. *Mat.-F Medd. Danske Vid. Selsk.* **39**, *no.* 8, 19 *pp.* (1975). (M. Lawrence Glasser) **52** #1264 82.05

Dielectric screening and susceptibility fluctuations in optical scattering. *Molecul Phys.* **34** (1977), *no.* 3, 681–712. (Author's summary) **56** #14139 78.35

Hyōdō, Terukazu Down-crossings and sojourn time of the reflecting barrier stable process *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **11**, 261–267 (1972). (F. B. Knight) **46** #10 60J30

Hys, Elżbieta (*with* Butkiewicz, Jan) On a class of bi- and multivariate distributio generated by marginal Weibull distributions. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes a of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *A*, *pp.* 73–81. *Reidel, Dordrecht*, 1977. (Moshe Shaked) **58** #13500 62H05

Hyslop, J. M. ★Serie. Traduzione dall'inglese di Maria Luisa Marziale. Poliedro, No. *Edizioni Cremonese, Rome*, 1971. viii+156 *pp.* (Editors) **49** #11089 40–01

(*with* Alaylioglu, Ayse; Evans, Gwynne A.) Automatic generation of quadratu formulae for oscillatory integrals. *Comput. J.* **18** (1975), 173–176. (Martin E. Pric **51** #11937 65D30

(*with* Alaylioglu, Ayse; Evans, Gwynne A.) The use of Chebyshev series for th evaluation of oscillatory integrals. *Comput. J.* **19** (1976), *no.* 3, 258–267. (A. M. Cohe **56** #1673 65D30

(*with* Blakemore, Michael; Evans, Gwynne A.) Comparison of some methods f evaluating infinite range oscillatory integrals. *J. Computational Phys.* **22** (1976), *no.* 352–376. (Authors' summary) **56** #13539 65D30 (65T05)

Hyslop, John (*with* Blakemore, Michael; Evans, Gwynne A.) The evaluation of two-centr molecular integrals involving one-electron Green's functions. *Theoret. Chim. Acta* 3 (1975), *no.* 4, 311–326. (Authors' summary) **56** #10508 81.33

vu the Hyu *See* **Vu The Hyu**

dao Hyu Ho *See* **Dao Hyu Ho**

Hyun, Kwang Nam (*with* Mitsuo, Gen; Okuno, Haruo) Optimization of the redunda allocation in a system with several failure modes by zero-one programming. *Proceedin of the Seventh Hawaii International Conference on System Sciences* (*Univ. Hawai Honolulu, Hawaii*, 1974), *pp.* 189–191. *Western Periodicals, North Hollywood, Cali* 1974. (Masanori Kodama) **56** #14723 90C30 (90C10)

Reliability optimization by 0-1 programming for a system with several failur modes. *IEEE Trans. Reliab.* **R-24** (1975), *no.* 3, 206–210. (Kailash C. Kapur) **54** #468 90C50 (90B25)

fam Hyu Šak *See* **Fam Hyu Šak**

le Hyu Zien *See* **Le Hyu Zien**

Hyvärinen, L. P. ★Information theory for systems engineers. Ökonometrie und Unternehmensforschung, Band XVII. *Springer-Verlag, Berlin-New York*, 1970. viii+19 *pp.* (See Zbl **247** #94001) 94A15

Hyvönen, Jaakko On resolutive compactifications of harmonic spaces. *Ann. Acad. Sc Fenn. Ser. A I Math. Dissertationes no.* 8 (1976), 55 *pp.* (Klaus Janssen) **54** #7826 31D05

Hyży, Andrzej On the rapidity of convergence of sequences of errors in the methods Newton and of regula falsi. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 15 (197 67–69. (Gerhard Merz) **48** #5364 65H05

Hzardžjan, S. M. Application of the method of expansion in eigenfunctions of a nonselfadjoint boundary value problem in the solution of certain problems of elastic theory. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 35 (1978), 152–15 168. (Editors) **58** #19562 73.35

Hzmaljan, A. D. (*with* Morozov, A. K.; Penin, P. I.) Simulation of information channe with frequency-dependent characteristics. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 180 (1974), 11–21. (Editors) **58** #14378 78.35 (94A05)

, F. Clifford algebra and relativistic wave mechanics. (Italian summary) *Rend. m. Fac. Sci. Univ. Cagliari* **44** (1974), *no.* 3-4, 115–139. (V. Syamala Devi) **52** #9860 1.22

Andrei Invariant manifolds in the motion of a rigid body about a fixed point. *Rev. umaine Math. Pures Appl.* **16** (1971), 1497–1521. (Clark Robinson) **46** #2937 34

★Metode topologice în mecanica clasică. (Romanian) [Topological methods in ssical mechanics] With an English abstract. *Editura Academiei Republicii Socialiste mânia, Bucharest*, 1973. 175 *pp.* (tudor S. Raţiu) **51** #4314 58F05

Some geometry in the problem of the motion of a heavy rigid body with a fixed int. (French summary) *Géométrie symplectique et physique mathématique* (*Colloq. ernat. C.N.R.S., Aix-en-Provence*, 1974), *pp.* 115–124. *Éditions Centre Nat. Recherche ., Paris*, 1975. (Manfred Andrié) **56** #6729 58F05 (70.58)

Caius The Volterra problem with prescribed singularities and some of its plications to fluid mechanics. *Fluid dynamics transactions, Vol.* 6, *Part II* (*Proc.* 10*th mpos. Advanced Problems and Methods in Fluid Mechanics, Rynia*, 1971), *pp.* 317–332. *istw. Wydawn. Nauk., Warsaw*, 1971. (R. P. Kanwal) **57** #14850 76.35

Professor Mircea Drăganu. (Romanian) *Gaz. Mat. Ser. A* **77** (1972), 269–277. litors) **50** #12591 01A70

(*with* Bucur, Ion; Ciucu, George; Mihoc, Gheorghe; Galbură, Gheorghe; rescu, Ciril; Bulgaru, Valerin; Cuculescu, Ion; Guiasu, Silvan) Celebration in nor of academician Octav Onicescu. (Romanian) *An. Univ. Bucureşti Mat.-Mec.* **22** 73), *no.* 1, 117–142. (Editors) **49** #7076 01A70

Academician Tiberiu Popoviciu (1906–1975). (Romanian) *Gaz. Mat. Publ. Lunară ntru Tineret* **80** (1975), *no.* 12, 451–453. (Editors) **52** #2798 01A70

Dimitrie Pompeiu's lectures on mechanics. (Romanian) "*Gheorghe Ţiţeica and mitrie Pompeiu" Symposium on Geometry and Global Analysis* (*Bucharest*, 73)(*Romanian*), *pp.* 57–69. *Editura Acad. R.S.R., Bucharest*, 1976. (Editors) #10180 01A70

Sur l'expansion d'un jet supersonique plan dans l'atmosphère. *Ann. Mat. Pura Appl.* **108** (1976), 69–84. (Author's summary) **55** #9692 76.35

Spiru Haret. (Romanian) *Gaz. Mat. Publ. Lunară Pentru Tineret* **81** (1976), *no.* 6, –202. (Editors) **55** #49 01A70

Sur une extension des théorèmes de Koenig et Vâlcovici. *Rev. Roumaine Math. res Appl.* **21** (1976), *no.* 3, 329–333. (Takayuki Nôno) **53** #12137 70.53

On the determination of the dimensionless coefficient in Emden's formula. omanian. French summary) *Stud. Cerc. Mat.* **28** (1976), *no.* 1, 45–56. (Author's mmary) **58** #19765 76.41

The formula of Vâlcovici, and some extensions of it. (Romanian. French summary) *d. Cerc. Mat.* **28** (1976), *no.* 3, 271–281. (Takayuki Nôno) **53** #12138 70.53

Elementary methods for solving the plane harmonic Dirichlet problem for some onical domains. *Applicable Anal.* **7** (1977/78), *no.* 4, 289–295. (Kenneth J. Brown) #17156 31A25

Tiberiu Popoviciu (1906–1976). (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **(53)** (1977), *no.* 1, 80–82. (Editors) **56** #15335 01A70

Academician Gheorge Călugăreanu. (Romanian) *Gaz. Mat. Publ. Lunară Pentru eret* **82** (1977), *no.* 2, 41–43. (Editors) **55** #50 01A70

See also **Gheorghiţă, Ştefan I.**, **46** #1534

F. (*with* Gottlieb, J.; Jucan, Toader; Vescan, R. T.) On a class of Fourier-type egral transforms. *An. Ştiinţ. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **23** (1977), 2, 391–402. (N. D. Sengupta (Zbl **382** #47027)) **58** #23770 47G05

(*with* Pavel, Nicolae H.) Invariant sets for a class of perturbed differential equations retarded type. *Israel J. Math.* **28** (1977), *no.* 3, 254–264. (G. F. Webb) **57** #6703 G05 (35R10)

Viorica On the expression of the remainder in the formulas of Simpson and Cotes. omanian. French summary) *An. Univ. Bucureşti Mat.-Mec.* **22** (1973), *no.* 1, 69–74. D. Stancu) **50** #3542 65D30

i, E. Remarks on some nonunitary representations of the Poincaré group. (Italian Russian summaries) *Nuovo Cimento A* (11) **18** (1973), 205–236. (L. Méder) #2165 81.22 (22D30)

tzer, Daniel (*with* Bros, Jacques) Causality and local analyticity: mathematical dy. *Ann. Inst. H. Poincaré Sect. A.* (*N.S.*) **18** (1973), 147–184. (A. C. Manoharan) #13044 81.32

(*with* Duneau, M.; Souillard, Bernard) Decrease properties of truncated correlation ctions and analyticity properties for classical lattices and continuous systems. *mm. Math. Phys.* **31** (1973), 191–208. (O. Penrose) **49** #2000 82.30

(*with* Duneau, M.; Souillard, Bernard) Strong cluster properties for classical tems with finite range interaction. *Comm. Math. Phys.* **35** (1974), 307–320. (O. nrose) **49** #2001 82.30

Macrocausality, physical-region analyticity and independence property in *S*-matrix ory. *Hyperfunctions and theoretical physics* (*Rencontre, Nice*, 1973; *dédié à la mémoire A. Martineau*), *pp.* 102–120. *Lecture Notes in Math., Vol.* 449, *Springer, Berlin*, 1975. . I. Olive) **53** #15187 81.46

Appendix: Microlocal essential support of a distribution and decomposition orems—an introduction. *Hyperfunctions and theoretical physics* (*Rencontre, Nice*, 73; *dédié à la mémoire de A. Martineau*), *pp.* 121–132. *Lecture Notes in Math., Vol.* , *Springer, Berlin*, 1975. (Carlos A. Berenstein) **52** #11583 46F10 (32A10)

Analyticity properties of scattering amplitudes: a review of some recent velopments. *International Symposium on Mathematical Problems in Theoretical Physics voto Univ., Kyoto*, 1975), *pp.* 1–12. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. uthor's summary) **58** #32555 81.46 (46F10)

Tuboïdes et structure analytique des distributions. II. Support essentiel et structure alytique des distributions. *Séminaire Goulaouic-Lions-Schwartz* 1974–1975: *Équations dérivées partielles linéaires et non linéaires, Exp. No.* 18, 34 *pp. Centre Math., École lytech., Paris*, 1975. (A. G. Sergeev) **53** #3338 32A10 (46F10)

The structure theorem in *S*-matrix theory. *Comm. Math. Phys.* **41** (1975), 39–53. erre Hillion) **55** #5026 81.46

(*with* Duneau, M.; Souillard, Bernard) Decay of correlations for infinite-range eractions. *J. Mathematical Phys.* **16** (1975), 1662–1666. (M. E. Mayer) **51** #7538 32 (82.47)

(*with* Bros, Jacques) Causality and local analyticity: general results and some applications to quantum field theory. International Conference on the Mathematical Problems of Quantum Field Theory and Quantum Statistics. Part I. Axiomatic Quantum Field Theory. *Trudy Mat. Inst. Steklov.* **135** (1975), 54–67, 256. (Masatsugu Minami) **58** #14552 81.32

Physical-region properties of multiparticle collision amplitudes. *Structural analysis of collision amplitudes/Analyse structurale des amplitudes de collision* (*Lectures, École d'Été Phys. Théor., Les Houches*, 1975), *pp.* 161–190. *North-Holland, Amsterdam*, 1976. (Masatsugu Minami) **57** #15005 81.32

Analytic structure of distributions and essential support theory. *Structural analysis of collision amplitudes/Analyse structurale des amplitudes de collision* (*Lectures, École d'Été Phys. Théor., Les Houches*, 1975), *pp.* 295–358. *North-Holland, Amsterdam*, 1976. (A. G. Sergeev) **57** #17278 46F10 (81.32, 32D15)

(*with* Bros, Jacques) Tuboïdes dans C^n et généralisation d'un théorème de Cartan et Grauert. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **26** (1976), *no.* 3, ix, 49–72. (A. G. Sergeev) **55** #698 32A07 (32E10)

(*with* Souillard, Bernard) Decay of correlations for slowly decreasing potentials. *Phys. Rev. A* (3) **16** (1977), *no.* 4, 1700–1704. (James McDonald) **58** #20067 82.28

(*with* Souillard, Bernard) On the analyticity in the potential in classical statistical mechanics. *Comm. Math. Phys.* **60** (1978), *no.* 2, 131–152. (Authors' summary) **58** #14851 82.60

See also **Structural analysis of collision amplitudes**, **57** #8521

Iakin, A. L. Generalized quaternions of higher order. *Fibonacci Quart.* **15** (1977), *no.* 4, 343–346. (L. Carlitz) **57** #12366 10A35

Generalized quaternions with quaternion components. *Fibonacci Quart.* **15** (1977), *no.* 4, 350–352. (L. Carlitz) **57** #12365 10A35

Iakovlev, M. F. *See* **Jakovlev, M. F.**

Iakubovich, V. A. *See* **Jakubovič, V. A.**

Iancău, V. (*with* Imecs, Maria) On the representation in oblique projection of ruled helicoidal surfaces. (Romanian. French summary) *Bul. Ştiinţ Inst. Politehn. Cluj-Napoca* **16** (1973), 29–30 (1976). (Authors' summary) **58** #30723 50D15

Ianculescu, George D. (*with* McClamroch, N. Harris) Global stability of two linearly interconnected nonlinear systems. *IEEE Trans. Automatic Control* **AC-20** (1975), *no.* 5, 678–682. (M. M. Konstantinov) **53** #5111 93D10

Ianenko, N. N. *See* **Janenko, N. N.**

Ianiro, Nicoletta (*with* Cantoni, Vittorio; Maffei, Carlotta) Construction of representations of the Poincaré Lie algebra by extension of direct integrals of representations of SL(2, *C*). II. *Ann. Mat. Pura Appl.* (4) **94** (1972), 387–396. (A. O. Barut) **47** #8020 81.22

(*with* Gerardi, Anna; Maffei, Carlotta; Marchioro, C.) A variational principle in statistical mechanics for particle systems with bounded pair interactions. *J. Mathematical Phys.* **16** (1975), 438–441. (Nicolae Angelescu) **53** #12431 82.49

(*with* D'Onofrio, Biancamaria; Gerardi, Anna; Maffei, Carlotta) The problem of structural properties for dynamical systems. (Italian summary) *Rend. Sem. Mat. Univ. e Politec. Torino* **34** (1975/76), 227–233. (O. Hajek) **55** #4117 54H20 (34C35)

(*with* Maffei, Carlotta) A result on total stability. (Italian summary) *Boll. Un. Mat. Ital. A*(5) **15** (1978), *no.* 1, 231–236. (K. Kreith) **57** #10114 34D05

Iannacci, Rita Un teorema relativo alla estensione di Henkin del calcolo predicativo. (English summary) *Rend. Mat.* (6) **9** (1976), *no.* 2, 337–346. (Flavio Previale) **54** #2432 02D99 (02B10)

Iannelli, Mimmo On the Green function for abstract evolution equation. (Italian summary) *Boll. Un. Mat. Ital.* (4) **6** (1972), 154–174. (C. L. Dolph) **47** #9347 47D05

Quelques remarques sur les semi-groupes non-linéaires non-contractifs. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 694–698 (1974). (Simeon Reich) **50** #10912 47H05

(*with* Vergara Caffarelli, Giorgio) On the boundary value problem and the related evolution problem for surfaces of prescribed mean curvature. *Symposia Mathematica, Vol. XIV* (*Convegno di Teoria Geometrica dell'Integrazione e Varietà Minimali, INDAM, Rome* 1973), *pp.* 473–480. *Academic Press, London*, 1974. (Robert Gulliver) **52** #9057 49F10 (35K60)

Opérateurs dérivables et semi-groupes non-linéaires non-contractifs. *J. Math. Anal. Appl.* **46** (1974), 700–724. (T. Kato) **51** #6521 47H99

(*with* Da Prato, Giuseppe; Tubaro, Luciano) Some results on a stochastic differential equation. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no.* 3, 202–204. (Toshio Yamada) **57** #10825 60H15

(*with* Da Prato, Giuseppe; Tubaro, Luciano) Stochastic differential equations in Banach spaces, variational formulation. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **61** (1976), *no.* 3-4, 168–176 (1977). (Hui-Hsiung Kuo) **58** #3042 60H15 (35R15, 46G99, 58D99)

(*with* Da Prato, Giuseppe) On a method for studying abstract evolution equations in the hyperbolic case. *Comm. Partial Differential Equations* **1** (1976), *no.* 6, 585–608. (T. Kato) **56** #1130 47D05 (34G05)

On a certain class of semilinear evolution systems. *J. Math. Anal. Appl.* **56** (1976), *no.* 2, 351–367. (G. F. Webb) **54** #13648 47H15 (35R20)

Ianovici, M. Analytic solutions of certain integrals that are needed in the computation of magnetic and electric fields. (Romanian) *Stud. Cerc. Fiz.* **23** (1971), 909–916. (Editors) **47** #8007 78.33

Certain aspects of the application of the elliptic integral of the third kind and of its derivatives in the computation of magnetic and electrostatic fields. (Romanian) *Stud. Cerc. Fiz.* **24** (1972), 103–113. (Editors) **47** #8008 78.33

Ianuş, Gheorghe Syntactic projectivity and isomorphism of graphs. (Romanian. French summary) *Stud. Cerc. Mat.* **29** (1977), *no.* 4, 377–379. (E. Olaru) **58** #16400 05C35

Ianuş, Stere Parallel distributions on varieties with affine connection. (Romanian. French summary) *An. Univ. Bucureşti Mat.-Mec.* **19** (1970), *no.* 2, 75–81. (Ion D. Teodorescu) **45** #7636 53B05

(*with* Udrişte, Constantin N.) On the tangent bundle of a differentiable manifold. (Romanian. English summary) *Stud. Cerc. Mat.* **22** (1970), 599–611. (V. Oproiu) **47** #7646 53C15

Quelques remarques sur l'espace fibré tangent d'une variété cosymplectique. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **17** (1971), 465–471. (S. Takizawa) **46** #6225 53C15

Some almost product structures on manifolds with linear connection. *Kōdai Math. Sem. Rep.* **23** (1971), 305–310. (R. S. Millman) **45** #2609 53C15

On certain distributions on the tangent bundle. (Romanian. French summary) *Stud. Cerc. Mat.* **23** (1971), 873–880. (D. I. Papuc) **49** #1401 53C05

Sulle varietà di Cauchy-Riemann. (English summary) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **39** (1972), 191–195. (R. Miron) **49** #7948 53C15

Sulle strutture canoniche dello spazio fibrato tangente di una varietà riemanniana. (English summary) *Rend Mat.* (6) **6** (1973), 75–96. (Y. Tashiro) **49** #6082 53C15

(*with* Roşca, Radu) Variétés para-kählériennes structurées par une connexion géodésique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 23, Aii, A1621–A1623. (Y. Tashiro) **52** #9108 53B35

Sulla struttura fogliata di una varietà cosimpletica. (English summary) *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 1-2, 125–130 (1977). (Raymond Barre) **56** #16647 57D30 (53C15)

(*with* Smaranda, D.) Some remarkable structures on the product of an almost contact metric manifold with the real line. *Papers from the National Colloquium on Geometry and Topology* (*Univ. Timişoara, Timişoara*, 1977), *pp.* 107–110. *Soc. Şti. Mat., Univ. Timişoara, Timişoara*, 1977. (David Blair) **58** #30904 53C15

(*with* Roşca, Radu) Space-times carrying a quasirecurrent pairing of vector fields. *General Relativity and Gravitation* **8** (1977), *no.* 6, 411–420. (C. T. J. Dodson) **57** #13755 53B30 (83.53)

Iarrobino, Anthony A. Punctual Hilbert schemes. *Bull. Amer. Math. Soc.* **78** (1972), 819–823. (C. M. Knighten) **46** #7235 14C05

Reducibility of the families of 0-dimensional schemes on a variety. *Invent. Math.* **15** (1972), 72–77. (S. L. Kleiman) **46** #170 14C05

The number of generic singularities. Complex analysis, 1972 (Proc. Conf., Rice Univ., Houston, Tex., 1972), Vol. I: Geometry of singularities. *Rice Univ. Studies* **59** (1973), *no.* 1, 49–51. (Bernard Teissier) **49** #10693 14C05 (14C25)

An algebraic fibre bundle over $\mathbf{P}_1$ that is not a vector bundle. *Topology* **12** (1973), 229–232. (Audun Holme) **49** #5009 14C05

(*with* Altman, Allen B.; Kleiman, Steven L.) Irreducibility of the compactified Jacobian. *Real and complex singularities* (*Proc. Ninth Nordic Summer School/NAVF Sympos. Math., Oslo*, 1976), *pp.* 1–12. *Sijthoff and Noordhoff, Alphen aan den Rijn*, 1977. (T. Oda) **58** #16650 14C05 (14H40)

Punctual Hilbert schemes. *Mem. Amer. Math. Soc.* **10** (1977), *no.* 188, viii + 112 *pp.* (Mary Schaps) **58** #5667 14C05

Iasnogorodski, Roudolf M. (*with* Abol'nikov, L. M.) Investigation of many-channel nonstationary Markov systems with nonordinary input flow. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 4, 85–92 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 4, 636–642. (A. Prékopa) **54** #6316 60K25 (90B35)

(*with* Abol'nikov, L. M.) A class of queueing problems with priorities when there are urgent orders. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 4, 84–95, 221 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 4, 62–72. (W. Greblicki) **53** #7428 90B35 (60K25)

Iazeolla, Giuseppe G. Walking strategies for a single-server multiqueue service system. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems*, *pp.* 141–148. *North-Holland, Amsterdam*, 1972. (Takehisa Fujisawa) **53** #4285 60K25 (90B35)

A graph model for scheduling processes in systems with parallel computations. *Calcolo* **13** (1976), *no.* 3, 321–349. (Author's summary) **58** #20381 90B35

(*with* Martinelli, Enzo; Tedone, O.) Analysis and simulation of queueing systems with setup classes. *RAIRO Informat.* **11** (1977), *no.* 2, 185–200. (Ralph L. Disney) **56** #9729 60K25

Iba, Glenn A. (*with* Greene, Curtis) Cayley's formula for multidimensional trees. *Discrete Math.* **13** (1975), *no.* 1, 1–11. (J. W. Moon) **53** #10627 05C05

Ibaraki, Toshihide Shortest path problems visiting specified nodes. *Electron. Commun. Japan* **53** (1970), *no.* 12, 10–17. (G. Chartrand) **46** #7077 05C20 (68A10)

(*with* Muroga, Saburo) Synthesis of networks with a minimum number of negative gates. *IEEE Trans. Computers* **C-20** (1971), 49–58. (B. Hazeltine) **45** #1672 94A20

Gate-interconnection minimization of switching networks using negative gates. *Systems-Computers-Controls* **2** (1971), *no.* 3, 37–44 (1972). (P. Vondráček) **46** #8771 94A20

Theory of finite-state sequential decision processes and its application to dynamic programming. *Electron. Commun. Japan* **55** (1972), *no.* 7, 116–123. (I. V. Romanovskiĭ) **50** #8778 90C40

(*with* Takaoka, Tadao) *N*-fail-safe sequential machines. *IEEE Trans. Computers* **C-21** (1972), 1189–1196. (B. P. Zeigler) **49** #12208 94A30

Representation theorems for equivalent optimization problems. *Information and Control* **21** (1972), 397–435. (M. A. Harrison) **49** #4310 68A25

(*with* Takaoka, Tadao) Fail-safe realization of sequential machines. *Information and Control* **22** (1972), 31–55. (Shuzo Yajima) **53** #7646 94A25

Complementary convex programming. *J. Operations Res. Soc. Japan* **15** (1972), 138–160. (B. Bereanu) **49** #8662 90C25

Complementary programming. (Japanese) *Keiei-Kagaku* **16** (1972), 33–51. (M. Yamasaki) **47** #6303 90C05

(*with* Mine, Hisashi) Finite automaton and sequential circuit. (Japanese) *Systems and Control* **16** (1972), 595–599. **47** #3128 94A30

Solvable classes of dynamic programming. *Systems-Computers-Controls* **3** (1972), *no.* 6, 23–30 (1973). (J. Kiefer) **53** #7497 90C47

Finite state representations of certain discrete optimization problems. *Systems-Computers-Controls* **3** (1972), *no.* 6, 71–78 (1973). (H. Taylor) **52** #16657 90C47

Solvable classes of discrete dynamic programming. *J. Math. Anal. Appl.* **43** (1973), 642–693. (J. Kiefer) **48** #1825 94A30 (90C99)

The use of cuts in complementary programming. Mathematical programming and its applications. *Operations Res.* **21** (1973), 353–359. (J. Fichefet) **51** #9788 90C05

Finite state representations of discrete optimization problems. *SIAM J. Comput.* **2** (1973), 193–210. (Author's summary) **58** #15202 90C40 (90A05)

Algorithms for obtaining shortest paths visiting specified nodes. *SIAM Rev.* **15** (1973), 309–317. (I. M. Stancu-Minasian) **51** #7601 90B10

Scheduling and integer programming. (Japanese) *Systems and Control* **17** (19 269–274. **47** #4621 90B35

Classes of discrete optimization problems and their decision problems. *J. Com System Sci.* **8** (1974), 84–116. (I. V. Romanovskiĭ) **50** #8777 90C40

(*with* Mine, Hisashi; Kise, Hiroshi) An algorithm for a certain kind of schedu problem. (Japanese) *Keiei-Kagaku* **18** (1974), 23–37. (Authors' summary) **48** #132 90B35

Optimal control of discrete finite systems. *Systems-Computers-Controls* **5** (1974), 1, 77–85 (1975). (Author's summary) **55** #12228 93C55

(*with* Tanaka, Yasuhiro; Hasegawa, Toshiharu) Minimal representation of s finite-state optimization problems. *Systems-Computers-Controls* **5** (1974), *no.* 6, 39 (1975). (Kailash C. Kapur) **52** #16658 90C47 (68A20, 94A20)

Minimal representations of some classes of dynamic programming. *Information Control* **27** (1975), 289–328. (Claude Benzaken) **51** #7754 94A30

(*with* Ishii, Hiroaki; Mine, Hisashi) A certain traveling salesman problem that an objective function of minimax type. (Japanese) *Keiei-Kagaku* **19** (1975), *no.* 112–122. (M. Yamasaki) **53** #15356 90C10

(*with* Ishii, Hiroaki; Mine, Hisashi) Traveling salesman problems with a capa constraint of the delivery truck. *Mem. Fac. Engrg. Kyoto Univ.* **37** (1975), *no* 252–263. (Kailash C. Kapur) **53** #10232 90B10 (90C50)

Several subclasses of discrete finite systems. *Systems-Computers-Controls* **6** (19 *no.* 1, 69–77. (C. L. Liu) **52** #12407 68A25 (90D35, 93A10)

Recognition capacity of finite automata having cost functions (sequential decis processes). *Systems-Computers-Controls* **6** (1975), *no.* 5, 32–40. (Author's summa **58** #32076a 68A25 (94A30)

Recognition capacity of finite automata having cost functions: nondetermini models. *Systems-Computers-Controls* **6** (1975), *no.* 5, 41–48. (Author's summary) **58** #32076b 68A25 (94A30)

Integer programming formulation of combinatorial optimization problems. *Disc Math.* **16** (1976), *no.* 1, 39–52. (Robert G. Jeroslow) **55** #7385 90C10 (02G 04A20)

Finite automata having cost functions. *Information and Control* **31** (1976), *no* 153–176. (C. L. Liu) **53** #15588 94A30 (90D35)

Theoretical comparisons of search strategies in branch-and-bound algorithn *Internat. J. Comput. Information Sci.* **5** (1976), *no.* 4, 315–344. (G. Băr) **54** #655 68A20 (90C10)

On the optimality of algorithms for finite state sequential decision processes. *Math. Anal. Appl.* **53** (1976), *no.* 3, 618–643. (Author's summary) **57** #5508 94 (90C35)

(*with* Ishii, Hiroaki; Mine, Hisashi) An assignment problem on a network. *Operations Res. Soc. Japan* **19** (1976), *no.* 1, 70–90. (Zbl **342** #90026) **58** #428 90B35

(*with* Ishii, Hiroaki; Iwase, Jiro; Hasegawa, Toshiharu; Mine, Hisashi) Algorith for quadratic fractional programming problems. *J. Operations Res. Soc. Japan* (1976), *no.* 2, 174–191. (Authors' summary) **55** #9984 90C20

(*with* Ishii, Hiroaki; Mine, Hisashi) A primal cutting plane algorithm for inte fractional programming problems. *J. Operations Res. Soc. Japan* **19** (1976), *no.* 228–244. (Ferenc Forgó) **54** #4642 90C10

Computational efficiency of approximate branch-and-bound algorithms. *Ma Oper. Res.* **1** (1976), *no.* 3, 287–298. (See Zbl **369** #90090) 90C05

(*with* Shirai, Yasuyoshi; Hasegawa, Toshiharu) Minimal representation of combinatorial optimization problems by finite-state positively monotone models. *Systems-Computers-Controls* **7** (1976), *no.* 1, 70–79 (1977). (Authors' summary) **58** #33590 94A25 (68A10, 68A25)

The power of dominance relations in branch-and-bound algorithms. *J. Ass Comput. Mach.* **24** (1977), *no.* 2, 264–279. (Kåre M. Mjelde) **55** #11936 90A05

On the computational efficiency of branch-and-bound algorithms. *J. Operati Res. Soc. Japan* **20** (1977), *no.* 1, 16–35. (R. L. Graves) **58** #26010 90C30 (49C 90B25)

(*with* Ishii, Hiroaki; Mine, Hisashi) Fractional knapsack problems. *Math. Programming* **13** (1977), *no.* 3, 255–271. (P. L. Hammer) **57** #2555 90C10

Finite automata having cost functions: nondeterministic models. *Information Control* **37** (1978), *no.* 1, 40–69. (Masaharu Mizumoto) **58** #3695 68A25 (68A 94A30)

(*with* Hasegawa, Toshiharu; Teranaka, Katsumi; Iwase, Jiro) The multiple-cho knapsack problem. (Japanese summary) *J. Operations Res. Soc. Japan* **21** (1978), *no* 59–95. (Csaba Fabian) **58** #4315 90C10

(*with* Kise, Hiroshi; Mine, Hisashi) A solvable case of the one-machine scheduli problem with ready and due times. *Operations Res.* **26** (1978), *no.* 1, 121–126. (K Richter) **57** #2525 90B35

See also **Cybernetics collection.** **51** #2326

Ibaraki, Yoshio Inspection models for the train wireless warning equipment. (Japanes *Keiei-Kagaku* **16** (1972), 139–151. **51** #14925 90B25

Ibarra, Oscar H. Characterizations of transductions defined by abstract families of transducers. *Math. Systems Theory* **5** (1971), 271–281. (M. Fliess) **46** #5077 94A

A note concerning nondeterministic tape complexities. *J. Assoc. Comput. Mach.* (1972), 608–612. (John T. Gill) **48** #7659 68A20

Controlled pushdown automata. *Information Sci.* **6** (1973), 327–342. (A. L. Rosenberg) **48** #5422 68A25

On two-way multihead automata. *J. Comput. System Sci.* **7** (1973), 28–36. (R. Buharaev) **53** #12082 68A25 (94A30)

(*with* Kim, Chul E.) On 3-head versus 2-head finite automata. *Acta Informat* (1974/75), *no.* 2, 193–200. (J. Hartmanis) **55** #11719 68A25

A note on semilinear sets and bounded-reversal multihead pushdown automat *Information Processing Lett.* **3** (1974), 25–28. (K. S. Fu) **49** #11862 68A25

(*with* Melson, Richard T.) Some results concerning automata on two-dimensio tapes. *Internat. J. Comput. Math.* **4**, 269–279 (1974). (Pavel Strnad) **51** #2887 02F10 (68A25)

A hierarchy theorem for polynomial-space recognition. *SIAM J. Comput.* **3** (197

84–187. (M. I. Dehtjar′) **55** #6949 68A20 (02F20)

(*with* Sahni, Sartaj K.) Polynomially complete fault detection problems. *IEEE rans. Computers* **C-24** (1975), *no.* 3, 242–249. (Chantal Robach) **54** #9863 94A20 58A20)

(*with* Kim, Chul E.) Fast approximation algorithms for the knapsack and sum of ubset problems. *J. Assoc. Comput. Mach.* **22** (1975), *no.* 4, 463–468. (V. V. Ivanov) **1** #14631 68A10

(*with* Sahni, Sartaj K.) Hierarchies of Turing machines with restricted tape alphabet ize. *J. Comput. System Sci.* **11** (1975), *no.* 1, 56–67. (Pavel Strnad) **51** #14643 8A20

(*with* Kim, Chul E.) On two-processor scheduling of one- or two-unit time tasks vith precedence constraints. *J. Cybernet.* **5** (1975), *no.* 3, 87–109 (1976). (Menachem Dishon) **54** #2177 90B35

(*with* Kim, Chul E.) A useful device for showing the solvability of some decision roblems. *Eighth Annual ACM Symposium on Theory of Computing* (*Hershey, Pa.*, 976), *pp.* 135–140. *Assoc. Comput. Mach., New York*, 1976. (Claus-Peter Schnorr) **6** #10149 68A25 (02G05)

(*with* Kim, Chul E.) A useful device for showing the solvability of some decision roblems. *J. Comput. System Sci.* **13** (1976), *no.* 2, 153–160. (S. A. Greibach) **54** #1716 68A25

(*with* Sahni, Sartaj K.; Kim, Chul E.) Finite automata with multiplication. *Theoret. omput. Sci.* **2** (1976), *no.* 3, 271–294. (S. Ginsburg) **54** #1722 68A30

The unsolvability of the equivalence problem for ε-free NGSM's with unary input output) alphabet and applications. *18th Annual Symposium on Foundations of Computer cience* (*Providence, R.I.*, 1977), *pp.* 74–81. *IEEE Comput. Sci., Long Beach, Calif.*, 1977. A. L. Selman) **58** #15726 94A25 (68A30)

(*with* Kim, Chul E.) Heuristic algorithms for scheduling independent tasks on onidentical processors. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 2, 280–289. (Jacek łażewicz) **55** #14180 90B35

(*with* Gonzalez, Teofilo; Sahni, Sartaj K.) Bounds for LPT schedules on uniform rocessors. *SIAM J. Comput.* **6** (1977), *no.* 1, 155–166. (C. L. Liu) **55** #9928 90B35 68A50)

Reversal-bounded multicounter machines and their decision problems. *J. Assoc. omput. Mach.* **25** (1978), *no.* 1, 116–133. (S. Ginsburg) **57** #1970 68A25

On two-way sequential transductions of full semi-AFL's. *Theoret. Comput. Sci.* **7** 1978), *no.* 3, 287–309. (S. Ginsburg) **58** #25141 68A30

ola Muñoz, María del Pilar (*with* Quesada Paloma, Vicente) Neobayesian statistics. Spanish) *Estadíst. Española No.* 56 (1972), 5–20. (P. Fortunati) **49** #11706 62F15

Empirical Bayes estimation in non-orthogonal linear regression models. (Spanish) *rabajos Estadíst.* **23** (1972), *no.* 1-2, 3–7. **54** #6385 62J05

Empirical Bayes estimation in nonlinear regression models. (Spanish) *Trabajos stadíst.* **23** (1972), *no.* 3, 3–8. (E. H. Lehman) **49** #11705 62F15

(*with* Quesada Paloma, Vicente) Comparison of experiments from the point of view of statistical decision theory. (Spanish) *Estadíst. Española Nos.* 58 *y* 59 (1973), 163–194. Hardeo Sahai) **54** #14177 62B15 (62C05)

An application of stochastic control theory to a discrete stochastic model with etarded variables. (Spanish. English summary) *Rev. Real Acad. Ci. Exact. Fís. Natur. Madrid* **70** (1976), *no.* 4, 709–726. (Author's summary) **57** #11904 93E20

(*with* Quesada Paloma, Vicente) Equivalence between behavioral decision rules and andomized decision rules. (Spanish. English summary) *Trabajos Estadíst. Investigación Oper.* **27** (1976), *no.* 1-3, 89–105. (Authors' summary) **58** #24640 62C05

A deterministic control problem: the problem of distribution. (Spanish. English ummary) *Rev. Real Acad. Ci. Exact. Fís. Natur. Madrid* **71** (1977), *no.* 2, 223–233. (J. . Babary) **57** #15651 93C99

Optimal adaptive control for linear systems. (Spanish. English summary) *Rev. Real cad. Ci. Exact Fís. Natur. Madrid* **71** (1977), *no.* 3-4, 499–514. (Virginia M. Warfield) **8** #4579 93E20

H.-K. Existenz und Eindeutigkeit eines linearen hyperbolischen Anfangs-Randwertproblems und die praktische Anwendung auf Probleme aus der Hydraulik. (English and Russian summaries) *Z. Angew. Math. Mech.* **58** (1978), *no.* 8, 43–351. (G. A. Nariboli) **58** #14273 76.35

leid, Wolf Splitting the tangent bundle. *Trans. Amer. Math. Soc.* **191** (1974), 53–59. Vincent Giambalvo) **50** #1269 57D75

(*with* Petrie, Ted) ★Smooth S^1 manifolds. Lecture Notes in Mathematics, Vol. 57. *Springer-Verlag, Berlin-New York*, 1976. 163 *pp.* (Czes Kosniowski) **56** #3867 7E25

(*with* Feder, Samuel) Secondary operations in *K*-theory and the generalized vector ield problem. *Geometry and topology* (*Proc. III Latin Amer. School of Math., Inst. Mat. Pura Aplicada CNPq, Rio de Janeiro*, 1976), *pp.* 161–175. *Lecture Notes in Math., Vol.* 97, *Springer, Berlin*, 1977. (Donald M. Davis) **56** #9531 55G25 (57D25)

o, Michel Calcul différentiel stochastique intrinsèque sur un groupe de Lie. *C. R. cad. Sci. Paris Sér. A-B* **280** (1975), A13–A16. (H. P. McKean, Jr.) **50** #11477 0J60

Perturbation de la diffusion horizontale sur *SL*(2, *R*). (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *A*i, *A*985–*A*988. (J. S. Joel) **57** #7788 60J60 22E30)

Déviation de la loi empirique d'une variable bidimensionnelle. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 23, Aiii, A1059–A1062. (Evarist Giné) **52** #12045 60F05

Intégrales stochastiques multiplicatives et construction de diffusions sur un groupe de Lie. *Bull. Sci. Math.* (2) **100** (1976), *no.* 2, 175–191. (Zbl **337** #60052) **58** #24542 60H05 (60J60)

Un test d'ajustement bidimensionnel indépendant de la loi. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 6, *A*v, *A*387–*A*390. (Evarist Giné) **54** #11648 62G10

Un test d'ajustement bidimensionnel convergent indépendant de la loi. (English ummary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 15, A903–A906. (Author's ummary) **55** #6679 62G10

Approximation forte du processus empirique multidimensionnel et application à un est non paramétrique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 6, A469–A472. (Author's summary) **56** #6999 62G10 (62E20, 60F05)

See also **Oeuvres: Lévy, Paul**, **58** #27164a; **Oeuvres: Lévy, Paul**, **58** #27164b *and* **Oeuvres: Lévy, Paul**, **58** #27164c

Ibidapo-Obe, O. A new technique for analysis of nonlinear dynamical systems: stochastic approximation based on the martingale theory. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras*, 1976), *Vol.* 1, *pp.* 202–205. *Hemisphere, Washington, D.C.*, 1977. (Virginia M. Warfield) **58** #15570 93E10

(*with* Prasad, Tribhuan) An adaptive algorithm for optimal non-linear estimation in stochastic systems. *Internat. J. Systems Sci.* **8** (1977), *no.* 11, 1209–1232. (Authors' summary) **58** #26493 93E25 (93E10)

(*with* Prasad, Tribhuan) Stochastic analysis and control of physiological systems: cancer detection and therapy. *Internat. J. Systems Sci.* **8** (1977), *no.* 11, 1233–1242. (G. S. Davies) **56** #14816 92A05 (93E20)

Ibisch, Horst Microfibrés normaux équivariants. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 155–156. (Allan Edmonds) **53** #9235 57C50 (57D10)

Ibn Aflaḥ, Jābir *See* **ibn Aflaḥ, Jabir**

Ibn al-Baghdādī, Abū 'Abd Allahah Hasan ibn Muḥammad ibn Hamlā *See* **ibn al-Baghdādī, Abū 'Abd Allahah Hasan ibn Muḥammad ibn Hamlā**

Ibn al-Haitham, Ḥasan *See* **ibn al-Haitham, Ḥasan**

Ibn al-Razzāz al-Jazarī, Badī 'al-Zamān Abū al-'Izz Isma'il *See* **ibn al-Razzāz al-Jazarī, Badī 'al-Zamān Abū al-'Izz Isma'il**

Ibn al-Shāṭir *See* **ibn al-Shāṭir**

Ibn aṣ-Ṣalāḥ *See* **Abū l-Futūḥ Aḥmad ibn Muḥammad ibn as-Sarī**

Ibn Sīnā, Abū 'Ali al-Ḥusayn ibn 'Abdallāh *See* **Kahhorov, A.; et al.**, **58** #4808 *and* **Correspondence: al-Bīrūnī and Ibn Sīnā**, **58** #10016

Ibn Yūnus, 'Alī b. 'Abd al-Raḥmān *See* **ibn Yūnus, 'Alī b. 'Abd al-Raḥman**

Ibn Zakarīza, Abū Bakr Muḥammad al-Rāzī *See* **ibn Zakarīza, Abū Bakr Muḥammad al-Rāzī**

Ibraev, G. K. (*with* Mart′janova, R. A.) The problem of finding an asymptotic solution of a nonlinear differential equation by the method of successive approximations. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 257 (1972), 134–139. (Vojislav Marić) **48** #611 34A35

Ibragim, Goma On the theory of semi-explicit differential equations with retarded argument. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 6, 975–985, 1147. (C. Corduneanu) **52** #949 34K05

Ibragimov, A. I. The behavior on the boundary of the solutions of a degenerate second order elliptic equation. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 3, 519–522. (G. Wildenhain) **53** #6101 35J70

The regularity of boundary points for the solution of a quasilinear elliptic equation that is degenerate on the boundary of the domain. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 10, 1815–1823, 1918. (Todor G. Genčev) **55** #10827 35J15

The behavior at the boundary of the solution of a second order linear degenerate equation with continuous coefficients. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 3, 281–284. (Ja. A. Roĭtberg) **55** #13075 35J70

Ibragimov, È. Dž. The family of positive linear operators on the sphere in connection with linear summability methods for ultraspherical series. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **29** (1973), *no.* 6, 3–7. (P. C. Sikkema) **52** #1103 41A35

A certain local theorem on the order of convergence on the sphere of the generalized D. Jackson operator. (Russian. English and Azerbaijani summaries) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1974**, *no.* 2-3 *Fiz. i Mat.*, 26–31. (D. P. Gupta) **58** #1305 33A45

(*with* Asadov, Š. M.) A certain local theorem on the order of convergence on the sphere of the generalized Poisson operator. (Russian. English and Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1974**, *no.* 2–3 *Fiz. i Mat.*, 32–35. (D. P. Gupta) **55** #13529 60E05

(*with* Asadov, Š. M.) A certain local theorem on the order of convergence on the sphere of the generalized Poisson operator. (Russian. English and Azerbaijani summaries) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1974**, *no.* 2-3 *Fiz. i Mat.*, 32–35. (D. P. Gupta) **58** #1306 33A45

Cesàro means of an ultraspherical series.mlang(Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1976**, *no.* 4, 48–51. (Not reviewed) 33A45

Cesàro means of hyperspherical Laplace series. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 2, 40–44. (From the text) **58** #11552 33A45

Ibragimov, F. I. (*with* Orudžev, G. A.) The domain of convergence of some improper integrals. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **33** (1977), *no.* 6, 8–12. (D. Mitrović) **57** #12891 32A99

(*with* Orudžev, G. A.) The convergence of some improper integrals with an application to interpolation problems. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **33** (1977), *no.* 7, 3–6. (D. Mitrović) **57** #12892 32A99

The domain of convergence of a multiple integral of Laplace-Stieltjes type. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no.* 5, 69–76. (C. Tanaka) **57** #6933 40A10

Ibragimov, F. S. Bounds for approximations by quadrature formulas for certain classes of differentiable functions. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1975**, *no.* 6, 12–18. (Gheorghe Coman) **58** #1906 41A55

(*with* Levin, M. I.) Generalization of an extremal problem for quadrature formulas. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1977**, *no.* 1, 76–80. (V. Komkov) **57** #980 41A55

(*with* Levin, M. I.) A quadrature formula. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no.* 6, 37–40. (Authors' summary) **58** #17671 41A55

Best quadrature formulas for fixed nodes for certain sets of functions. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no.* 6, 116–120. (Author's summary) **58** #12135 41A55

Ibragimov, G. I. Mean values of entire functions of two complex variables that are represented by Dirichlet series. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no*. 6(121), 36–40. (G. Halász) **46** #7543 32A15

The growth of functions that are defined by multiple Dirichlet series. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no*. 7(134), 32–40. (H. Tornehave) **50** #7519 30A62 (32A30)

Ibragimov, I. A. Completely regular multidimensional stationary processes with discrete time. (Russian) *Trudy Mat. Inst. Steklov.* **111** (1970), 224–251. (M. Loève) **45** #7805 60G10

(*with* Linnik, Ju. V.) ★Independent and stationary sequences of random variables. With a supplementary chapter by I. A. Ibragimov and V. V. Petrov. Translation from the Russian edited by J. F. C. Kingman. *Wolters-Noordhoff Publishing, Groningen*, 1971. 443 *pp*. (Editors) **48** #1287 60Fxx

(*with* Maslova, N. B.) The average number of real roots of random polynomials. (Russian) *Dokl. Akad. Nauk SSSR* **199** (1971), 13–16. (F. Huckemann) **45** #1221 60F99 (26A78)

(*with* Golinskiĭ, B. L.) A limit theorm of G. Szegő. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **35** (1971), 408–427. (F. Schipp) **45** #804 42A16

(*with* Has′minskiĭ, R. Z.) The successive invariant estimation of the shift parameter. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 18–20. (I. Vajda) **46** #4639 62L12

(*with* Has′minskiĭ, R. Z.) Information inequalities and superefficient estimates. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 1300–1302. (O. Gulyás) **47** #2733 62F10

(*with* Vallander, S. V.; Ladyženskaja, O. A.; Lozinskiĭ, S. M.; Petrašen′, G. I.; Petrov, V. V.; Romanovskiĭ, I. V.; Smirnov, V. I.; Faddeev, D. K.) Juriĭ Vladimirovič Linnik (1915–1972). (Bulgarian) Translated from the Russian (Vestnik Leningrad. Univ. No. 13 Mat. Meh. Astronom. Vyp. 3 (1972), 146–147). *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **15(48)** (1972), 244. (Editors) **53** #63 01A70

(*with* Has′minskiĭ, R. Z.) Asymptotic behavior of statistical estimators for samples with discontinuous density. (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 554–586. (J. Štěpán) **46** #1007 62F15 (62E20)

(*with* Has′minskiĭ, R. Z.) Transmission of a weak signal over a memoryless channel. (Russian) *Problemy Peredači Informacii* **8** (1972), *no*. 4, 28–39. (S. Kotz) **48** #1790 94A05

On a problem of C. R. Rao on I. D. laws. *Sankhyā Ser. A* **34** (1972), 447–448. (Author's summary) **48** #9797 60E05

(*with* Has′minskiĭ, R. Z.) The asymptotic behavior of certain statistical estimates in the smooth case. I. Investigation of the likelihood ratio. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 469–486. (A. Ja. Dorogovcev) **46** #10106 62E20

(*with* Vallander, S. V.; Ladyženskaja, O. A.; Lozinskiĭ, S. M.; Petrašen′, G. I.; Petrov, V. V.; Romanovskiĭ, I. V.; Smirnov, V. I.; Faddeev, D. K.) Juriĭ Vladimirovič Linnik. (Russian) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1972), 146–147. **48** #3684 01A70

(*with* Has′minskiĭ, R. Z.) The admissibility of Pitman estimators for the location parameter. (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 57–61. (V. Kurotschka) **49** #8177 62C10

(*with* Has′minskiĭ, R. Z.) The approximation of statistical estimators by sums of independent variables. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 1273–1276. (J. H. Kučkarov) **49** #10020 62F10

(*with* Has′minskiĭ, R. Z.) Information inequalities and superefficient estimates. (Russian) *Problemy Peredači Informacii* **9** (1973), *no*. 3, 53–67. (S. Kotz) **48** #5237 62F10

(*with* Has′minskiĭ, R. Z.) Asymptotic behavior of certain statistical estimates. II. Limit theorems for a posteriori density and for Bayesian estimates. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 78–93. (A. Ja. Dorogovcev) **46** #10107 62E20

(*with* Has′minskiĭ, R. Z.) Asymptotic analysis of statistical estimates for the "almost smooth" case. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 250 260. (W. Hoeffding) **47** #6017 62F10

Properties of realizations of random processes, and imbedding theorems. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 468–480. (R. M. Dudley) **48** #5169 60G17

(*with* Has′minskiĭ, R. Z.) The moments of generalized Bayesian estimates and maximum likelihood estimates. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 535–546. (J. Wolfowitz) **48** #3170 62F10

(*with* Presman, È. L.) The rate of convergence of the distributions of sums of independent random variables to accompanying laws. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 753–766. (P. Révész) **48** #9808 60F05

(*with* Lozinskiĭ, S. M.; Malyšev, A. V.; Petrov, V. V.; Prohorov, Ju. V.; Sapogov, N. A.; Faddeev, D. K.) Juriĭ Vladimirovič Linnik: obituary. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no*. 2(170), 197–213 (1 *plate*). (Editors) **52** #5305 01A70 (10–03)

(*with* Has′minskiĭ, R. Z.) Amount of information in a sample relative to a parameter. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1973), 42–48, 152. (S. Kotz) **48** #12667 62B10 (94A15)

(*with* Has′minskiĭ, R. Z.) An estimator of the parameter of a signal in a Gaussian white noise. (Russian) *Problemy Peredači Informacii* **10** (1974), *no*. 1, 39–59. (A. Ja. Dorogovcev) **53** #6939 62M10 (93E10)

(*with* Has′minskiĭ, R. Z.) Estimation of the mean in a normal population. (Russian) *Problemy Peredači Informacii* **10** (1974), *no*. 2, 64–74. (Editors) **58** #7995a (E **58** #7995b) 62F15

(*with* Has′minskiĭ, R. Z.) Sequential estimation. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 245–256. (N. L. Johnson) **49** #8245 62L12

(*with* Has′minskiĭ, R. Z.) The sequential estimation of the location parameter for samples with discontinuous density. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 700–713. (W. Hoeffding) **50** #11666 62L12

(*with* Has′minskiĭ, R. Z.) Asymptotic behavior of statistical estimators of the location parameter for samples with continuous density with singularities. (Russian) Problems in the theory of probability distributions, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **41** (1974), 67–93, 166–167. (S. Kotz) **51** #2108 62F10

(*with* Has′minskiĭ, R. Z.) On a lower bound for moments of point estimators. *Statist.* 3 (1975), 228–233. (Tze Leung Lai) **54** #3931 62F10

(*with* Has′minskiĭ, R. Z.) Letter to the editors: "Estimation of the mean in a no population" (Problemy Peredači Informacii **10** (1974), no. 2, 64–74). (Russian) *Problemy Peredači Informacii* **11** (1975), *no*. 2, 103–104. (Editors) **58** #7995b 6

(*with* Has′minskiĭ, R. Z.) Estimation of the parameter of a discontinuous sign Gaussian white noise. (Russian) *Problemy Peredači Informacii* **11** (1975), *no*. 3, 3 (Authors' summary) **58** #18863 62F10 (62M99, 94A05)

A remark on the central limit theorem for dependent random variables. (Ru English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), 134–140. (G. K. Eagl **50** #14889 60F05 (60G10)

A remark on the ergodic theorem for Markov chains. (Russian. English summ *Teor. Verojatnost. i Primenen.* **20** (1975), 175–177. (Joseph Horowitz) **51** #19 60J10

(*with* Has′minskiĭ, R. Z.) Local asymptotic normality for not identically distrib observations. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975 2, 251 -266. (S. Kotz) **51** #11759 62E20 (62F10)

(*with* Has′minskiĭ, R. Z.) Properties of maximum likelihood and Bayesian estimators for not identically distributed observations. (Russian. English summ *Teor. Verojatnost. i Primenen.* **20** (1975), *no*. 4, 703–711. (W. Hoeffding) **52** #157 62F10 (62F20)

(*with* Has′minskiĭ, R. Z.) Some problems of statistical data processing in communications. *Proceedings of the IEEE-USSR Joint Workshop on Information T* (*Moscow*, 1975), *pp*. 86–92. *Inst. Electr. Electron. Engrs., New York*, 1976. (A Dorogovcev) **57** #5334 93E10 (94A05)

(*with* Cirel′son, B. S.; Sudakov, V. N.) Norms of Gaussian sample functi *Proceedings of the Third Japan-USSR Symposium on Probability Theory* (*Tash* 1975), *pp*. 20–41. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (R Dudley) **56** #16756 60G15

(*with* Has′minskiĭ, R. Z.) Asymptotic behavior of statistical estimates of the loca parameter for samples with unbounded density. (Russian. English summary) Prob in the theory of probability distributions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Inst. Steklov.* (*LOMI*) **55** (1976), 175–184, 201. (W. Hoeffding) **54** #1452 6 (62E20)

(*with* Has′minskiĭ, R. Z.) Estimation of infinite-dimensional parameter in Gaus white noise. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no*. 5, 1053–1055. (A Dorogovcev) **58** #3250 62M10

(*with* Has′minskiĭ, R. Z.) A statistical estimation problem in Gaussian white n (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no*. 6, 1300–1302. (A. Ja. Dorogov **58** #3251 62M10

(*with* Has′minskiĭ, R. Z.) A uniform condition for local asymptotic norm (Russian. English summary) Studies in statistical estimation theory, I. *Zap. Naučn.* *Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **74** (1977), 108–117, 147, 148–149. Hoeffding) **58** #13458 62E20

See also **Theoretical problems in mathematical statistics**, **48** #7424; **Theory methods of construction of multivariable control systems**, **50** #6585; **Symposium: Information Theory**, **50** #9416; **Problems in the theory of probability distributions**, **52** #4355; **Bibliography: Linnik, Ju. V.**, **56** #15336 *and* **Studies in statistical estim theory**, **57** #17901

Ibragimov, I. I. ★Методы интерполяции функций и некоторые их применения. (Russian) [Methods for the interpolation of functions, and some of their applicatic *Izdat. "Nauka", Moscow*, 1971. 518 *pp*. (W. H. J. Fuchs) **51** #5936 30A80

(*with* Babaev, M.-B. A.) Estimates of the best approximation of a functior several variables by means of sums of two functions of a smaller number of varial (Russian) *Dokl. Akad. Nauk SSSR* **201** (1971), 1037–1040. (H. Weber) **45** #73 41A50

The works of S. N. Bernštein on the constructive theory of functions. (Russi *Proceedings of the Conference on the Constructive Theory of Functions* (*Approxima Theory*) (*Budapest*, 1969), *pp*. 27–40. *Akadémiai Kiadó, Budapest*, 1972. (Editors) **52** #5306 01A70 (41–03)

The completeness of two different systems of analytic functions. (Russian) *Proceedings of the Conference on the Constructive Theory of Functions* (*Approxima Theory*) (*Budapest*, 1969), *pp*. 209–224. *Akadémiai Kiadó, Budapest*, 1972. (Bl. Senc **53** #11029 30A18

(*with* Nagnībīda, M. Ī.) The basis property of certain systems of analytic functi (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 1043–1045. (T. Kubo) **47** #365 30A18

(*with* Nagnībīda, M. Ī.) The completeness and the basis property of certain syst of analytic functions. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 1290–1292. Kubo) **47** #3653 30A18

A certain method of investigating the completeness of systems of analytic functi (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 36–38. (I. P. Ramadanov) **47** #365 30A18

(*with* Ahmedov, T. G.) The set of points of absolute convergence of certain Stiel integrals with complex parameter. (Russian) *Dokl. Akad. Nauk SSSR* **208** (19 524–527. (V. V. Kokilašvili) **48** #11525 30A86

(*with* Trukačev, V. N.) An extremal problem in the class of entire functions of fi type. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 768–770. (T. Kubo) **47** #885 30A64

(*with* Aršon, I. S.) The completeness of the systems $\{x^{\lambda}n\}$ on a curve. (Russi *Dokl. Akad. Nauk SSSR* **209** (1973), 29–32. (S. Aljančic) **47** #8828 30A18

(*with* Nagnībīda, M. Ī.) Some remarks on the completeness of the system $\{f(a$ $k^{\infty} = 0$. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 1277–1279. (R. P. Boas, **47** #8829 30A18

The estimation of the norm of certain linear operators in classes of entire functi of finite order. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 1276–1279. (V. P. Ha **48** #6910 46E15 (30A98)

(*with* Gadžiev, A. D.) The order of convergence of singular integrals of Cauchy-Stieltjes type. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 23–26. (N. Karapetjanc) **48** #6434 30A86 (*with* Nagnībīda, M. Ī.; Šmata, T. S.) A certain basis for the space of analytic nctions in an annulus. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 284–287. (Z. anturija) **48** #9367 46E10 (30A98)

(*with* Kušnīrčuk, Ĭ. F.) The equivalence of the Bessel and Euler operators in spaces f functions analytic in a disc. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 33–36. (J. ovnyak) **57** #10484 47B37 (30A82, 41A65)

(*with* Ibragimov, S. I.) The completeness of certain systems of functions on curves. ussian) *Dokl. Akad. Nauk SSSR* **214** (1974), 268–271. (R. P. Boas, Jr.) **48** #11455 0A18

(*with* Līnčuk, S. S.; Nagnībīda, M. Ī.) Bases in an analytic space that are nearly ower bases. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 501–504. (Z. Čanturija) **9** #5319 30A18

(*with* Kušnīrčuk, Ĭ. F.) The completeness, in analytic spaces, of systems of ylindrical functions. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 758–760. (C. anaka) **49** #5318 30A18

(*with* Nagnībīda, M. Ī.) A multiply complete system of analytic functions. (Russian) *okl. Akad. Nauk SSSR* **214** (1974), 1009–1012. (C. Tanaka) **49** #5317 30A18

(*with* Nagnībīda, M. Ī.) The completeness of a certain system of functions on a urve. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 1256–1258. (A. Olevskiĭ) **1** #5904 30A18

A certain method of representation of an entire function of finite degree. (Russian) *okl. Akad. Nauk SSSR* **218** (1974), 13–16. (I. I. Bavrin) **50** #10252 30A62

(*with* Nagnībīda, M. Ī.) The completeness of certain system of analytic functions. Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. iz.-Tehn. Mat. Nauk* **1974**, *no.* 2, 10–14. (G. M. Fel′dman) **50** #10221 30A18

(*with* Babaev, M.-B. A.) Approximation of functions of several variables by the ums of two functions of a smaller number of variables. *Approximation theory* (*Proc. onf., Inst. Math., Adam Mickiewicz Univ., Poznań*, 1972), *pp.* 97–116. *Reidel*, *Dordrecht*, 975. (O. D. Gabisonija) **56** #16217 41A30

(*with* Mamedhanov, Dž. I.) Best power approximations of functions of a complex ariable on curves. (Russian. Azerbaijani and English summaries) *Akad. Nauk zerbaĭdžan. SSR Dokl.* **31** (1975), *no.* 9, 7–10. (V. Kabaĭla) **53** #8433 30A82

(*with* Kasimov, È. I.) A certain basic system of analytic functions, and its pplication to the Abel-Gončarov interpolation problem. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 3, 527–529. (P. M. Tamrazov) **57** #3394 30A80

(*with* Nagnībīda, M. Ī.) Some remarks on the multiple completeness of systems of nalytic functions. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 4, 769–771. (G. M. Fel′dman) **52** #5949 30A18

(*with* Kušnīrčuk, Ī. F.) The completeness of the system of eigenfunctions of a ertain class of partial differential operators. (Russian) *Dokl. Akad. Nauk SSSR* **222** 1975), *no.* 5, 1020–1023. (Boris Pavlov) **52** #3753 35P10 (47F05)

(*with* Nagnībīda, M. Ī.) On the Whittaker problem. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 6, 1269–1271. (G. M. Fel′dman) **52** #5976 30A80

(*with* Mamedhanov, Dž. I.) A constructive characterization of a certain class of unctions. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 1, 35–37. (Editors) **57** #9976 30A82

(*with* Nagnībīda, M. Ī.) The multiple completeness in the sense of M. V. Keldyš of a ertain system of entire functions. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 2, 288–291. (V. P. Havin) **52** #3495 30A18

(*with* Līnčuk, S. S.; Nagnībīda, M. Ī.) The Whittaker problem in a certain class of ntire functions of exponential type. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 5, 1301–1303. (C. Tanaka) **52** #11057 (E **53** #13582) 30A80

(*with* Nagnībīda, M. Ī.) The matrix method and quasipower bases in the space of analytic functions in the disc. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 6(186), 101–146. (V. P. Havin) **55** #8770 46E10 (30A98)

(*with* Līnčuk, S. S.; Nagnībīda, M. Ī.) Correction: "The Whittaker problem in a ertain class of entire functions of exponential type" (Dokl. Akad. Nauk SSSR **223** 1975), no. 6, 1301–1303). (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 2 264. Editors) **53** #13582 30A80

(*with* Šihaliev, N. I.) Best polynomial approximation in a space of analytic functions. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 2, 280–283. (R. P. Boas, Jr.) **54** #10612 30A82 (30A66)

(*with* Ahmedov, T. G.) The domain of convergence of a Laurent-Dirichlet series with complex exponents. (Russian) *Special questions in the theory of functions* (*Russian*), *pp.* 31–45. *Izdat.* "*Èlm*", *Baku*, 1977. (Shlomo Strelitz) **58** #1109 30A16

(*with* Gadžiev, A. D.) The rate of convergence of singular integrals of I. I. Privalov type in the complex domain. (Russian) *Special questions in the theory of functions* (*Russian*), *pp.* 46–57. *Izdat.* "*Èlm*", *Baku*, 1977. (N. L. Vasilevskiĭ) **58** #1171 30A86 (45Exx)

(*with* Gadžiev, A. D.) A general sequence of linear positive operators in the space of continuous functions. (Russian) *Special questions in the theory of functions* (*Russian*), *pp.* 58–71. *Izdat.* "*Èlm*", *Baku*, 1977. (A. Lupaş) **58** #23276 41A35

(*with* Kasimov, È. I.) A basis system of analytic functions, and its application to the convergence of the interpolation process of Abel-Gončarov. (Russian) *Special questions in the theory of functions* (*Russian*), *pp.* 72–83. *Izdat.* "*Èlm*", *Baku*, 1977. (Paul Nevai) **58** #1111 30A18 (30A80)

(*with* Šihaliev, N. I.) The best approximation in the mean of analytic functions in the space $A_p(|z|<1)$. (Russian) *Special questions in the theory of functions* (*Russian*), *pp.* 84–96. *Izdat.* "*Èlm*", *Baku*, 1977. (V. M. Kokilašvili) **58** #11428 30A82

(*with* Šihaliev, N. I.) The constructive characterization of a certain class of functions of a complex variable. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 4, 789–791. (Anthony G. O'Farrell) **56** #15942 30A82

See also **Birthday: Ibragimov, I. I., 45** #6565; **Rjatin, A. G., 52** #3821; **Evgrafov, M. A.; et al., 52** #5302 *and* **Special questions in the theory of functions**, 57 #3357

gimov, K. H. A certain method for the approximate construction of the solutions of integrodifferential equations that arise in problems of the theory of viscoelasticity. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 3, 11–13 (L. Jentsch) **54** #1807 73.45 (73.41)

gimov, M. A. The singular solutions of a certain class of operator differential equations. (Russian. English and Azerbaijani summaries) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1974**, *no.* 2-3 *Fiz. i Mat.*, 88–94. (K. Seitz) **54** #8356 47E05 (34B99)

Ibragimov, M. I. *See* **Abstracts: Conference of the Faculties on Advances in Research, 48** #3665

Ibragimov, M. Ja. General fixed points. (Russian) *Probabilistic methods and cybernetics, Vol.* 12-13, *pp.* 40–45. *Kazan. Univ.*, *Kazan*, 1976. (Editors) **58** #27392 02F20

Ibragimov, M. N. (*with* Ivnickiĭ, V. A.; Kasumov, A. B.) A study of a certain switching system that allows for the possibility of breakdown and repair of the control units. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 3, 104–113. (Authors' summary) **57** #9323 94A20

Ibragimov, N. H. Invariant variational problems and the conservation laws (remarks on E. Noether's theorem). (Russian. English summary) *Teoret. Mat. Fiz.* **1** (1969), *no.* 3, 350–359. (Author's summary) **57** #4916 81.49

Huygens' principle. (Russian) *Certain problems of mathematics and mechanics* (*on the occasion of the seventieth birthday of M. A. Lavrent′ev*) (*Russian*), *pp.* 159–170. *Izdat.* "*Nauka*", *Leningrad*, 1970. (P. Günther) **45** #9009 35L05

Contributions to the problem of diffusion of waves. *Fluid dynamics transactions Vol.* 6, *Part II*, (*Proc.* 10*th Sympos. Advanced Problems and Methods in Fluid Mechanics*, *Rynia*, 1971), *pp.* 297–306. *Państw. Wydawn. Nauk.*, *Warsaw*, 1971. (R. Glassey) **57** #3649 35L15

★Группы Ли в некоторых вопросах математической физики. (Russian) [Lie groups in some problems of mathematical physics] *Novosibirsk. Gos. Univ.*, *Novosibirsk*, 1972. 160 *pp.* (J. S. Joel) **58** #2924 58G99 (35A30, 53B20)

Conservation laws in hydrodynamics. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 1307–1309. (M. Yanowitch) **48** #7762 76.35

(*with* Ovsjannikov, L. V.) Group analysis of the differential equations of mechanics. (Russian) *General mechanics, Vol.* 2 (*Russian*), *pp.* 5–52, 115. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii*, *Moscow*, 1975. (J. S. Joel) **58** #31320 58H05

Group theoretical nature of conservation theorems. *Lett. Math. Phys.* **1** (1975/77), *no.* 5, 423–428. (J. Chrastina) **56** #1376 58H05 (35A30, 70.58)

(*with* Anderson, Robert L.) Lie-Bäcklund tangent transformation groups. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 3, 539–542. (J. Chrastina) **53** #6649 58H05 (35A30, 22E05)

Lie-Bäcklund groups and conservation laws. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 1, 26–29. (J. Śniatycki) **54** #13960 58A15 (35A30)

(*with* Anderson, Robert L.) Lie-Bäcklund tangent transformations. *J. Math. Anal. Appl.* **59** (1977), *no.* 1, 145–162. (Y. Lehrer-Ilamed) **58** #1002 22E05 (35A30, 58H05)

(*with* Mamontov, E. V.) The Cauchy problem for the equation $u_{tt}-u_{xx}-\Sigma_{i,}^{n-1}{}_{j=1}a_{ij}(x-t)u_{y_iy_j}=0$. (Russian) *Mat. Sb.* (*N.S.*) **102(144)** (1977), *no.* 3, 391–409. (P. Günther) **55** #13086 35L15

Ibragimov, N. K. The stability of nonlinear systems in the presence of resonance. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Voprosy Prikl. Mat. i Kibernet.* **1973**, 92–97. (From the author's text) **56** #17286 70.34

Ibragimov, Nail H. *See* **Ibragimov, N. H.**

Ibragimov, R. (*with* Farmanov, Š. K.) A limit theorem for branching processes with immigration in the critical case. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 394 (1970), 176–184 (1971). (F. L. Spitzer) **46** #963 60J80

Limit theorems for branching random processes. (Russian) *Random processes and statistical inference, No. II* (*Russian*), *pp.* 67–72, 95. *Izdat.* "*Fan*" *Uzbek. SSR*, *Tashkent*, 1972. (F. L. Spitzer) **48** #9868 60J80

A local limit theorem for supercritical branching random processes with continuous time. (Russian) *Random processes and statistical inference*, *No.* 3 (*Russian*), *pp.* 78–84. *Izdat.* "*Fan*" *Uzbek. SSR*, *Tashkent*, 1973. (P. Jagers) **51** #7026 60J80

A limit theorem for a supercritical branching process. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **17** (1973), *no.* 4, 89–90. (P. Jagers) **55** #1512 60J80

Certain theorems for supercritical branching processes with two types of particles. (Russian) *Random processes and statistical inference*, *No.* 4 (*Russian*), *pp.* 52–57, 210. *Izdat.* "*Fan*" *Uzbek. SSR*, *Tashkent*, 1974. (P. Jagers) **53** #4270 60J80

(*with* Badalbaev, I. S.) A certain property of a supercritical branching process with two types of particles. I. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 2, 3–6, 92. (K. Dietz) **50** #3377 60J80

A generalization of Lamperti's theorem to branching processes with two types of particles. (Russian) *Random processes and statistical inference*, *No.* 5 (*Russian*), *pp.* 49–54, 201. *Izdat.* "*Fan*", *Uzbek. SSR*, *Tashkent*, 1975. (Miloslav Jiřina) **53** #6774 60J80

(*with* Badalbaev, I. S.) A certain property of a supercritical branching process with two types of particles. II. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 1, 10–14, 104. (K. Dietz) **51** #11683 60J80

Estimates for the rate of convergence in some limit theorems for branching random processes. (Russian) *Limit theorems for random processes* (*Russian*), *pp.* 51–59, 165. *Izdat.* "*Fan*" *Uzbek. SSR*, *Tashkent*, 1977. (P. Jagers) **56** #16812 60J80

(*with* Formanov, Š. K.) A local limit theorem for supercritical branching random processes with two types of particles. (Russian) *Limit theorems for random processes* (*Russian*), *pp.* 128–141, 166–167. *Izdat.* "*Fan*" *Uzbek. SSR*, *Tashkent*, 1977. (P. Jagers) **56** #13375 60J80

(*with* Atakuziev, D. A.) The rate of convergence in a limit theorem for supercritical branching processes and its application in limit theorems for sums of a random number of terms. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1978**, *no.* 2, 3–8, 89. (L. A. Anorina) **58** #7787 60F05 (60J80)

Ibragimov, S. G. Consequence logic of Paul Lorenzen. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Voprosy Prikl. Mat. i Kibernet.* **1973**, 83–91. (Perry Smith) **57** #5692 02C15

Ibragimov, S. I. The completeness of a certain system of analytic functions. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 33–36. (I. P. Ramadanov) **47** #3655 30A18

The completeness of certain systems of functions analytic in an annulus. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 767–770. (James G. Caughran) **48** #6379 30A18

The completeness of two systems of analytic functions. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 1240–1242. (W. H. J. Fuchs) **48** #11456 30A18

The distribution of the zeros of the partial sums of Newton-Dirichlet series. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1973**, *no.* 2, 102–107. (C. Tanaka) **52** #11015 30A16 (30A08)

(*with* Ibragimov, I. I.) The completeness of certain systems of functions on curves. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 268–271. (R. P. Boas, Jr.) **48** #11455 30A18

(*with* Nagnībida, M. Ī.) A method of forming doubly complete systems of entire functions in the sense of M. V. Keldyš. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 2, 32–36. (Authors' summary) **58** #6234 30A64

Ibragimov, Š. I. (*with* Ismailov, D. A.) An analogue of the method of straight lines for a first order nonlinear differential equation in a Banach space. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1970**, *no.* 1, 57–69. (L. Janos) **45** #7323 35R20 (47H15)

The method of lines for a first order differential equation in a Banach space. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1972**, *no.* 3, 33–40. (A. Szép) **46** #9477 34G05

Ibragimov, T. A. *See* **Theoretical cybernetics. 50** #15417

Ibragimov, V. A. (*with* Alihanova, R. I.) The solvability of the first boundary value problem for higher order elliptic quasilinear equations with discontinuous and rapidly increasing coefficients in Orlicz classes. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 5-6, 39–44. (O. Horáček) **46** #7703 35J60 (35K55)

(*with* Alihanova, R. I.) Solvability of the mixed problem for parabolic quasilinear equations of higher order with discontinuous and rapidly increasing coefficients in Orlicz classes. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1972**, *no.* 3, 45–51. (V. Durikovič) **51** #1126 35K35

Increasing the smoothness of the solutions of quasilinear equations of elliptic type with discontinuous and rapidly increasing coefficients. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1973**, *no.* 2, 49–53. (V.-V. Olariu) **52** #11319 35J60

An invariant integral in the theory of cracks for elastoplastic media. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 2, 335–337. (G. P. Cherepanov (Čerepanov)) **55** #1907 73.35

Ibragimov, V. R. Application of a certain numerical method to the solution of higher order differential equations. (Russian. Azerbaijani summary) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **27** (1971), *no.* 5, 9–12. (S. Maloň) **46** #6600 65L05

A certain numerical method for the solution of first order differential equations. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1974**, *no.* 1 *Voprosy Prikl. Mat. i Kibernet.*, 49–55. (E. G. D'jakonov) **54** #1613 (EA **54**) 65L05

Ibragimova, H. B. (*with* Hasanova, M. H.) Qualitative properties of the motion of a satellite of a triaxial planet. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 12, 16–19. (Gh. Silaş) **58** #14051 70.34

Ibrahim, A. Shawky Existence theorem for abelian groups. (Arabic summary) *Arabian J. Sci. Engrg.* **1** (1975/76), *no.* 1, 27–29. (K. Faltings) **56** #8721 20K30

İbrahim, Aysel (*with* Nutku, Yavuz) Generalized Einstein static universe. *General Relativity and Gravitation* **7** (1976), *no.* 12, 949–958. (Richard Sigal) **57** #15186 83.35

Ibrahim, E. M. A note on the principal parts of the products of *S*-functions. (Arabic summary) *Proc. Math. Phys. Soc. A.R.E. No.* 34 (1970), 41–42 (1972). (J. S. Frame) **50** #10047 20C30

Ibrahim, Jorga *See* **Ibrahim, R. Jorga**

Ibrahim, R. A. (*with* Roberts, J. W.) Stochastic stability of the stationary response of a system with autoparametric coupling. (German and Russian summaries) *Z. Angew. Math. Mech.* **57** (1977), *no.* 11, 643–649. (Koichiro Matsuno) **58** #19508 70.60

Ibrahim, R. Jorga Sur les zéros des vecteurs holomorphes de certaines variétés kählériennes. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A980–A982. (R. S. Millman) **45** #6039 57D25 (32L05, 53C55)

(*with* Lichnerowicz, André) Tenseurs holomorphes sur une variété kählérienne compacte. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A801–A805. (Y. Mutô) **48** #4975 53C55

(*with* Lichnerowicz, André) Fibrés vectoriels, holomorphes, structures symplectiques ou unimodulaires complexes exactes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 9, Aii, A713–A717. (Josiane Lehmann-Lejeune) **55** #4304 58H05 (32L05, 57D25)

Ibramhalilov, I. Š. Certain generalized parameter estimates with respect to sampling from distributions that contain auxiliary parameters. (Russian) *Problems of computational mathematics* (*Russian*), *pp.* 76–86. *Izdat. "Èlm", Baku*, 1970. (M. E. Thompson) **47** #9761 62F10

Estimators for functionally connected parameters. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 6 (1972), 60–73. (N. L. Johnson) **48** #12698 62F10

The existence of consistent estimators for the correlation operator of a Gaussian distribution. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp.* 106–115. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Author's introduction) **55** #1583 62F10

Bayesian estimator of the correlation operator of Gaussian variables in Hilbert space. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp.* 116-125. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Author's introduction) **55** #1590 62F15

Bayesian estimators of the means of Gaussian distributions. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 27–28. (A. M. Kagan) **51** #9331 62F15

Consistent estimators for the mean of Gaussian distributions in Hilbert space. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 8 (1973), 65–72, 175. (A. Ja. Dorogovcev) **54** #11703 62M99 (62F10)

(*with* Skorohod, A. V.) Determination of the mean for a Wiener process that is observed on an infinite interval. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 804 808. (E. M. Klimko) **48** #10009 62M05 (60J65)

Consistent estimates of the mean for Gaussian distributions in Hilbert space. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 662–667, 717. (R. M. Dudley) **48** #74 62F10

Consistent estimators of the mean for stationary Gaussian sequences. (Russ *Theory of random processes, No.* 2 (*Russian*), *pp.* 54–60, 139. *Izdat. "Naukova Dum Kiev*, 1974. (M. I. Jadrenko) **52** #4553 (E **55** #6743) 62M10

Consistent estimators of the mean of a stationary Gaussian process observed o infinite interval. (Russian) *Theory of random processes, No.* 2 (*Russian*), *pp.* 60–65, *Izdat. "Naukova Dumka", Kiev*, 1974. (M. I. Jadrenko) **52** #4554 (E **55** #6743 62M10

The existence of consistent estimates of the mean for stationary Gaussian seque (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dok.* (1974), *no.* 12, 3–8. (Ju. M. Ryžov) **53** #14823 62M10

The existence of consistent estimates for the mean of stationary Gaussian proc with discontinuous parameter. (Russian. English and Azerbaijani summaries) *Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 3, 12–16. (Ju. Ryžov) **51** #7201 62M10

Bayesian estimators of the mean for Gaussian distributions in Hilbert sp (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 10 (1974), 99–176. (David Eaves) **55** #11480 62F15 (62M99)

A remark on consistent estimators of the correlation operator of a Gaussian proc (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 11 (1974), 61–179. (A. Ja. Dorogovcev) **53** #1892 62M99 (62F10)

A general theorem on Bayesian estimators of the correlation operator of Gaus variables in a Hilbert space. (Russian) *Theory of random processes, No.* 3 (*Russian*), 33–37, 157. *Izdat. "Naukova Dumka", Kiev*, 1975. (J. Štěpán) **51** #14385 62F1

Letter to the editors: "Consistent estimators of the mean for stationary Gaus sequences" (Theory of random processes, No. 2 (Russian), pp. 54–60, Izdat. "Nauk Dumka", Kiev, 1974), and "Consistent estimators of the mean of a stationary Gaus process observed on an infinite interval" (Theory of random processes, No. 2 (Russi pp. 60–65, Izdat. "Naukova Dumka", Kiev, 1974). (Russian) *Theory of random processes, No.* 4 (*Russian*), *p.* 119. *Izdat. "Naukova Dumka", Kiev*, 1976. (M. I. Jadren **55** #6743 62M10

An estimate of the spectral density of a stationary Gaussian process. (Russ English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 17 (1977), 80–87, 164. (M. Mirzahmedov) **57** #4455 62M15

Ibsen, Karsten Equivalent propositions. (Danish. English summary) *Nordisk Mat. Tid* **19** (1971), 77–80, 108. (H. B. Curry) **48** #53 02B05

Ibuki, Kazuhiko Dirichlet problem for elliptic equations of the second order in a sing domain of R^2. *J. Math. Kyoto Univ.* **14** (1974), 55–71. (D. L. Colton) **48** #1175 35J25

On the regularity of solutions of a mixed problem for hyperbolic equations second order in a domain with corners. *J. Math. Kyoto Univ.* **16** (1976), *no.* 1, 167-1 (N. D. Kazarinoff) **53** #13853 35L20

Ibukiyama, Tomoyoshi A basis for the algebra of quaternions over the field of ratio numbers and its maximal orders. (Japanese) *Sûgaku* **24** (1972), *no.* 4, 316–318. (Edit **58** #27909 12A80

Formal groups and *L* functions. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (19 249–262. (Michiel Hazewinkel) **50** #7170 14L05 (14G10)

İçen, Orhan Ş. Über die Charakterisierung der im arithmetischen Sinne algebraisc Funktionen. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **33** (1968), 1- (1971). (E. İnaba) **46** #7210 10F35 (12A10)

Über die Grössenordnung der Koeffizienten einiger in der Theorie der elliptisc Funktionen vorkommender Polynome. (Turkish summary) *İstanbul Üniv. Fen F Mecm. Ser. A* **35** (1970), 63–70 (1972). (F. van der Blij) **49** #639 33A25

Über die Funktionswerte der *p*-adisch elliptischen Funktionen. I, II. (Turk summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **36** (1971), 53–87 (1974); *ibid.* (1970), 139–166 (1972). (S. V. Kotov) **50** #9809 (E **52** #10608) 10F35

Anhang zu den Arbeiten "Über die Funktionswerte der *p*-adisch elliptischen Funktionen. I, II" (İstanbul Üniv. Fen Fak. Mecm. Ser. A **36** (1971), 53–87 (1974); ib **35** (1970), 139–166 (1972)). (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser.* **38** (1973), 25–35 (1975). (S. V. Kotov) **52** #10608 10F35

Ichida, Kozo (*with* Hoshino, Satoshi) Solutions of partial differential equations by modified random walk. *Numer. Math.* **18** (1971/72), 61–72. (G. Vainikko) **45** #4587 65C05

(*with* Yoshimoto, Fujiichi; Kiyono, Takeshi) Data fitting by a spline. *Mem. F Engrg. Kyoto Univ.* **35** (1973), 237–250. (C. A. Hall) **48** #5326 65D10

(*with* Kiyono, Takeshi) Numerical integration in the irregular region. (Germ summary) *Computing* (*Arch. Elektron. Rechnen*) **12** (1974), *no.* 1, 9–15. (Sven-Å Gustafson) **53** #4494 65D30

(*with* Kiyono, Takeshi) Interpolation of multivariable functions with respect random points. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), 3-4, 229-233. (D. C. Handscomb) **53** #6972 65C05 (65D05)

(*with* Kiyono, Takeshi) Numerical interpolation and differentiation of multivaria functions. *Internat. J. Comput. Math.* **4**, 111–120 (1974). (J. Spanier) **51** #11914 65C05 (65D25)

(*with* Kiyono, Takeshi) Estimation of a probability density function of very ma variables. *IEEE Trans. Systems, Man Cybernet.* **SMC-5** (1975), 463–466. (R. Pfaffenberger) **51** #11798 62G05 (65C05)

(*with* Yoshimoto, Fujiichi; Kiyono, Takeshi) Curve fitting by a piecewise cub polynomial. (German summary) *Computing* **16** (1976), *no.* 4, 329–338. (Philip W. Smit **53** #6981 65D10

(*with* Yoshimoto, Fujiichi; Kiyono, Takeshi) An automatic method for smoothi two-dimensional data with a piecewise bicubic polynomial. *Information Processing Japan* **17** (1977), 99–103. (Authors' summary) **57** #18024 65D10

Ichida, Ryosuke On an isometry of Riemannian manifolds of negative curvature. *Kōd Math. Sem. Rep.* **26** (1974/75), 100–102. (T. Nagano) **51** #13918 53C20

On Riemannian manifolds of non-positive sectional curvature admitting a Killi vector field. *Math. J. Okayama Univ.* **17** (1975), *no.* 2, 131–134. (K. Yano) **51** #139 53C20

Remarks on manifolds of negative curvature. *Math. J. Okayama Univ.* **17** (197

. 2, 177–180. (T. J. Willmore) **52** #1566 53C20

On non-parametric surfaces in three dimensional spheres. *Kōdai Math. Sem. Rep.* (1976/77), *no.* 1, 38–50. (R. N. Abdulaev) **55** #8963 53A05

On hypersurfaces in a homogeneous Riemannian manifold. *Yokohama Math. J.* **25** 977), *no.* 2, 169–182. (O. Kowalski) **57** #1360 53C30

ra, Kanji (*with* Kunita, Hiroshi) A classification of the second order degenerate liptic operators and its probabilistic characterization. *Z. Wahrscheinlichkeitstheorie nd Verw. Gebiete* **30** (1974), 235–254. (D. W. Stroock) **52** #1904 (E **58** #7877) 0J35 (35J15, 60J60)

(*with* Kunita, Hiroshi) Supplements and corrections to the paper: "A classification f the second order degenerate elliptic operators and its probabilistic characterization" . Wahrscheinlichkeitstheorie und Verw. Gebiete **30** (1974), 235–254). *Z. ahrscheinlichkeitstheorie und Verw. Gebiete* **39** (1977), *no.* 1, 81–84. (Erik Jørgensen) **8** #7877 60J60

hi, Tatsuro Economies with a mean demand function. *J. Math. Econom.* **3** (1976), *no.* , 167–171. (Amoz Kats) **55** #2076 90A15

Coalition structure in a labor-managed market economy. *Econometrica* **45** (1977), *o.* 2, 341–360. (Wilhelm Neuefeind) **57** #15332 90A15

ō, Yoshihiro Almost complex projective connections. *J. Math. Tokushima Univ.* **6** 1972), 1–15. (R. S. Millman) **47** #7647 53C15

(*with* Hashiguchi, Masao) On some special (α, β)-metrics. *Rep. Fac. Sci. agoshima Univ. No.* 8, (1975), 39–46. (R. B. Misra) **57** #7435 53B40

Finsler manifolds modeled on a Minkowski space. *J. Math. Kyoto Univ.* **16** (1976), *o.* 3, 639–652. (Makoto Matsumoto) **55** #4015 53B40

Finsler manifolds with a linear connection. *J. Math. Tokushima Univ.* **10** (1976), –11. (Makoto Matsumoto) **54** #13819 53C60

(*with* Hashiguchi, Masao) On conformal transformations of Wagner spaces. *Rep. ac. Sci. Kagoshima Univ. No.* 10 (1977), 19–25. (Makoto Matsumoto) **57** #13767 3B40

awa, Akira Linear quadratic differential games in a Hilbert space. *SIAM J. Control ptimization* **14** (1976), *no.* 1, 120–136. (Ruth Curtain) **52** #16681 90D25 (93C20)

(*with* Curtain, Ruth F.) The separation principle for stochastic evolution equations. *SIAM J. Control Optimization* **15** (1977), *no.* 3, 367–383. (Robert Kertz) **58** #9709 3E20

(*with* Curtain, Ruth F.) Optimal location of sensors for filtering for distributed ystems. *Distributed parameter systems: modelling and identification* (*Proc. IFIP Working Conf., Rome*, 1976), *pp.* 236–255. *Lecture Notes in Control and Informat. Sci., Vol.* 1, *Springer, Berlin*, 1978. (Yaakov Yavin) **58** #4554 93E10

Linear stochastic evolution equations in Hilbert space. *J. Differential Equations* **28** (1978), *no.* 2, 266–277. (M. Métivier) **58** #24548 60H10

(*with* Sawaki, Katsushige) Optimal control for partially observable Markov decision processes over an infinite horizon. (Japanese summary) *J. Operations Res. Soc. Japan* **21** (1978), *no.* 1, 1–16. (Agostino Villa) **58** #9725 93E20 (90B25)

kawa, Kunihiko (*with* Tamura, Katsutoshi) Optimal problem with discontinuity. *Bull. JSME* **14** (1971), 1069–1076. (Thomas S. Angell) **50** #8212 49B10

Output feedback stabilization. *Internat. J. Control* (1) **16** (1972), 513–522. (S. P. Bingulac) **47** #4687 93D15

Steepest descent method. (Japanese) *Systems and Control* **17** (1973), 591–595. (Editors) **51** #11962 65K05

(*with* Kanai, Kimio) Computational algorithms for the optimization of distributed parameter system based on impulse response. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 8.5, 6 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33291 93C10

kawa, Satoshi (*with* Kishima, Akira) Matric operational calculus and its applications. II. (With appendix) *Mem. Fac. Engrg. Kyoto Univ.* **33** (1971), 80–93. (A. Erdélyi) **46** #5955 44A40

kawa, Tadao (*with* Kawata, Toru) A systematic procedure for constructing a cellular interconnection network and its minimal realization. *Systems-Computers-Controls* **3** (1972), *no.* 6, 1–9 (1973). (Rolland Vollmar) **52** #16884 94A20

See also **Proceedings: International Symposium on Uniformly Structured Automata and Logic**, **57** #19194

ikawa, Yoshi-Hiko (*with* Mitsuhashi, Teruo; Konno, Kimiaki) Contribution of higher order terms in the reductive perturbation theory. I. A case of weakly dispersive wave. *J. Phys. Soc. Japan* **41** (1976), *no.* 4, 1382–1386. (Alan Jeffrey) **54** #9328 76.41 (76.35)

(*with* Yajima, Nobuo; Takano, Kaoru) Coherent states and the Kortweeg-de Vries equation for a system of interacting phonons. *Progr. Theoret. Phys.* **55** (1976), *no.* 6, 1723–1732. (M. Lawrence Glasser) **56** #2026 81.35

(*with* Aoyama, Toshihisa) Contribution of the second order terms to the nonlinear shallow water waves. *J. Phys. Soc. Japan* **42** (1977), *no.* 1, 313–318. (J. P. Guiraud) **56** #7473 76.41

(*with* Wadati, Miki; Sanuki, Heiji; Konno, Kimiaki) Circular polarized nonlinear Alfvén waves—a new type of nonlinear evolution equation in plasma physics. Conference on the Theory and Application of Solitons (Tucson, Ariz., 1976). *Rocky Mountain J. Math.* **8** (1978), *no.* 1-2, 323–331. (T. Kahan) **58** #14796 82.35

him, Ion (*with* Isac, George) Quelques critères de normalité pour des cônes dans les espaces localement convexes. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1633–1637. (J. Loustaunau) **52** #1246 46A40

Une propriété des semi-normes aux valeurs vectorielles. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 907–909. (N. J. Kalton) **48** #6880 46A40

Fonctions de Tonelli sur une variété riemannienne. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 179–198. (N. Boboc) **51** #10657 31C05 (53C20)

Fonctions de Dirichlet sur une variété riemannienne. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 1205–1220. (M. Glasner) **52** #780 31C05 (53C20)

Sur une condition suffisante pour l'existence d'un extremum relatif dans un espace de Banach. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no.* 3-4, 311–314 (1977). (H. Beckert) **56** #13048 49B30 (46C05)

(*with* Cornea, Aurel) Sur l'existence des valeurs propres pour les applications compactes. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 5, 599–606. (J. Schmets) **57** #10522 47H15

See also **Actes: Colloque d'Analyse Fonctionnelle de Bordeaux**, **49** #11181

Ichimura, Hideo (*with* Rauk, Arvi) Magnetic dipole moment integrals over Slater orbitals. *J. Chem. Phys.* **59** (1973), 5720–5724. (Authors' summary) **50** #15658 81.33

Ichimura, Hiroshi (*with* Shimojima, Kiyoko) Statistical mechanics of quantum mixtures. I. A general formulation and its application to the binary hard-sphere system. *Progr. Theoret. Phys.* **57** (1977), *no.* 6, 1917–1931. (Authors' summary) **56** #14455 82.47

Ichimura, Minoru (*with* Miyatake, Osamu; Shimoida, Hiroo) Randomization of sequences of numbers. *Math. Japon.* **23** (1978/79), *no.* 1, 151–164. (Artenio De Matteis) **58** #19022 65C10

Ichino, Manabu (*with* Hiramatsu, Keiji) Feature-effectiveness criteria of a statistical pattern classifier. *Systems-Computers-Controls* **1** (1970), *no.* 5, 60–67 (1971). (Author's summary) **46** #2929 68A45

(*with* Hiramatsu, Keiji) Suboptimum linear feature selection in multiclass problem. *IEEE Trans. Systems Man Cybernet.* **SMC-4** (1974), 28–33. (Authors' summary) **53** #9745 68A45

Multiclass pattern recognition systems based on independent subrecognition systems. *IEEE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 4, 256–269. (Akio Kudô) **54** #6589 68A45

Ichinohe, Akira Sur certains théorèmes de J. K. Hale. *TRU Math.* **9** (1973), 41–61. (R. Gérard) **50** #5115 34D35

Ichinomiya, Kazuo On values of unit length of old measures estimated from the diameters of old coins in China. (Japanese) *Sûgakushi Kenkyû No.* 75 (1977), 21–34. **58** #26733 01A25

Ichinose, Takashi Operators on tensor products of Banach spaces. *Trans. Amer. Math. Soc.* **170** (1972), 197–219. (H. O. Cordes) **48** #915 47A60

Operators on tensor products of $\mathfrak{L}_1, \mathfrak{L}_2$ and $\mathfrak{L}_\infty$ spaces. *Nagoya Math. J.* **50** (1973), 185–198. (Paul S. Muhly) **48** #916 47A60

Tensor products of linear operators and the method of separation of variables. *Hokkaido Math. J.* 3 (1974), 161–189. (A. Brown) **57** #1156 47A10 (46M05)

Operational calculus for tensor products of linear operators in Banach spaces. *Hokkaido Math. J.* **4** (1975), *no.* 2, 306–334. (Robin Harte) **51** #11154 47A60 (46M05)

On approximate eigenvalues of tensor products of operators. (Japanese) Approximation theory in functional analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 265 (1976), 67–75. (Takayuki Furuta) **57** #7227 47A60

On tensor products of linear operators. *Hokkaido Math. J.* **7** (1978), *no.* 1, 110–121. (J. R. Holub) **57** #10465 47A60 (46M05)

Ichiraku, Shigeo On realization of Kirby-Siebenmann's obstructions by 6-manifolds. *Osaka J. Math.* **9** (1972), 159–164. (R. C. Kirby) **46** #4541 57C15

(*with* Kato, Mitsuyoshi) On higher-dimensional strings of codimension two. *Quart. J. Math. Oxford Ser.* (2) **23** (1972), 239–248. (L. Neuwirth) **47** #5881 57C25

On the transversality conditions in electrical circuits. *Yokohama Math. J.* **25** (1977), *no.* 1, 85–89. (Clark Robinson) **57** #19127 94A20 (58F10)

Ichiyanagi, Masakazu Projection operators in the theory of two-time Green functions. *J. Phys. Soc. Japan* **32** (1972), 604–609. (P. Achuthan) **48** #13107 82.47

Ichtiaroglou, S. (*with* Katopodis, K.; Michalodimitrakis, M.) On the continuation of periodic orbits in the three-body problem. *Astronom. and Astrophys.* **70** (1978), *no.* 4, 531–536. (Authors' summary) **58** #19499 70.49 (49H05, 58F05)

Icik, B. G. (*with* Sobolevs′kiĭ, P. O.) The stability of the Bubnov-Galerkin method for first order differential equations with unbounded operators in a Hilbert space. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 2 *Cykl Stateĭ po Prikl. Analizu* (1970), 39–42. (D. Lik (RŽMat **1971** #9 B712)) **58** #6580 34G05 (65J05)

Ickovič, È. L. (*with* Trahtengerc, È. A.) Optimal composition of production monitoring and control programs. *Avtomat. i Telemeh.* **1968**, *no.* 5, 135–144 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no.* 5, 810–817. (Jerzy Seidler) **53** #12560 90B35 (68A20, 90C50)

Ickovič, I. A. The method of fractional steps for the solution of optimal problems. (Russian) *Optimizacija Vyp.* 14(31) (1974), 55–65, 183. (K. Zimmermann) **54** #2204 90C25

'Id, Yusuf (*with* Kennedy, E. S.) A letter of al-Bīrūnī: Ḥabash al-Ḥāsib's analemma for the gibla. (French and Arabic summaries) *Historia Math.* **1** (1974), *no.* 1, 3–11. (Authors' summary) **57** #15846 01A30

Ida, Masakuni (*with* Matsumoto, Hideki; Yazaki, Shigeo) Factorization and duality of multiloop diagrams. *Progr. Theoret. Phys.* **44** (1970), 456–472. (P. Pascual) **46** #6752 81.46

Ida, Tetsuo (*with* Goto, Eiichi; Gunji, Takao) Parallel hashing algorithms. *Information Processing Lett.* **6** (1977), *no.* 1, 8–13. (Eberhard Lüdde) **56** #10216 68A50

(*with* Goto, Eiichi) Analysis of parallel hashing algorithms with key deletion. Special issue: J. Inform. Process., first issue. *J. Inform. Process.* **1** (1978), *no.* 1, 25–32. (K. H. V. Booth) **57** #18289 68A50

Ide, Mikio (*with* Tsukiyama, Shuji; Ariyoshi, Hiromu; Shirakawa, Isao) A new algorithm for generating all the maximal independent sets. *SIAM J. Comput.* **6** (1977), *no.* 3, 505–517. (Takao Ozawa) **57** #16142 05C99 (68A10)

Ide, Saburo On certain connections in a higher order space of order two. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. III. *Tensor* (*N.S.*) **26** (1972), 155–156. (T. Ohkubo) **48** #9594 53B40

Ideh, A. *See* **Īvanov, V. V.**, **53** #8841

Idel′čik, V. I. Existence and uniqueness for the Dirichlet problem with complex resistances. (Russian) *Irkutsk. Politehn. Inst. Trudy No.* 52 (1969), 247–252. (S. V. Temko) **46** #10504 94A20

★Расчеты установившихся режимов электрических систем. (Russian) [Computations of the steady states of electrical systems] *Izdat. "Ènergija", Moscow*, 1977. 191 *pp.* (Author's summary) **57** #14945 78.65

Idelovici, Aurel Boundary layer for bending of micropolar plates. *Proceedings of the Institute of Mathematics Iaşi* (1974), *pp.* 275–285. *Editura Acad. R. S. R., Bucharest*, 1976. (A. Radu) **56** #7425 73.41

Idel′s, L. V. The convergence of conjugate trigonometric integrals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 7(110), 38–43. (F. Ustina) **48** #9240 42A40

Summable integrals. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **64** (1971), 277–280. (V. I. Mel′nik) **45** #9029 40G05 (42A24)

Conjugate trigonometric integrals. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 13 (1971), 101–108. (J. L. B. Cooper) **45** #4059 42A68 (42A40)

The summability of integrals by the Bernšteĭn-Rogosinski method. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 225–233. (L. Berg) **45** #4011 40G99

Idel′son, A. V. *See* **American Mathematical Society Translations, Ser. 2, 48** #3

Idel′son, N. I. ★Этюды по истории небесной механики. (Russian) [Studies in the history of celestial mechanics] Edited and with an introduction by A. R. Grigor′jan and D. R. Merkin. *Izdat. "Nauka", Moscow*, 1975. 496 *pp.* (Editors) **54** #2401 01A75 (70.01)

İdemen, Mithat On the functional equation related to the three-part mixed boundary value problems. *SIAM J. Appl. Math.* **27** (1974), 404–415. (R. F. Millar) **51** #2477 78.45

On a system of p-tuple series equations related to the scattering by an inhomogeneous sphere. (Russian and German summaries) *Z. Angew. Math. Mech.* **58** (1978), *no.* 4, 225–232. (Clarence M. Ablow) **58** #3966 78.33

Iden, Oddvar Natural bases for subplanes of free completions. *Math. Z.* **138** (1974), 97–109. (E. Glock) **51** #1598 50D35

(*with* Moe, Jan G.) Automorphism groups of free Moebius planes and free Laguerre planes. *Geom. Dedicata* **7** (1978), *no.* 2, 209–222. (K. Strambach) **58** #18084 50B20

Ider, Z. (*with* Hess, J.; Kagiwada, Harriet H.; Kalaba, Robert E.) Team decision theory and integral equations. *J. Optimization Theory Appl.* **22** (1977), *no.* 2, 251–264. (Authors' summary) **58** #25859 90A05 (90D35)

Idlis, G. M. *See* **Nicolaus Copernicus. On the 500th anniversary of his birth, 50** #12560

Idowu, Elayne A. p-n groups and p-saturated formations. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah*, 1975), *pp.* 537–540. *Academic Press, New York*, 1976. (David Finkel) **58** #5904 20D10

p-saturated formations. *Israel J. Math.* **30** (1978), *no.* 4, 307–312. (W. E. Deskins) **58** #11106 20D10

Idrisova, S. The intersections of a fixed level by a Gaussian stochastic field. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **13** (1969), *no.* 5, 10–15. (M. I. Jadrenko) **45** #7800 60G15

(*with* Malevič, T. L.) The number of common points of two random fields in a plane of fixed level. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **14** (1970), *no.* 5, 5–9. (M. R. Leadbetter) **45** #1239 60G99

(*with* Malevič, T. L.) Some properties of random fields. (Russian) Studies in mathematical statistics, and related questions. *Taškent. Gos. Univ. Naučn. Trudy No.* 402 (1972), 45–57. (E. V. Bulinskaja) **49** #8094 60G17

(*with* Malevič, T. L.) The simultaneous crossing of fixed levels by two Gaussian fields. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **17** (1973), *no.* 2, 17–20, 69. (M. I. Jadrenko) **49** #9928 60G15

A refinement of the central limit theorem for the zeros of a stationary Gaussian process. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 9 (1974), 209–210. (See RŽMat **1974** #7 V135) 60G15

Idt, Jeanne Calcul des ordres des groupes de ramification et des nombres de ramification des extensions $k^{(t)}/k$ de Chafarévitch. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 669–670. (K. Shiratani) **49** #4978 12B10

Idzik, Adam Equilibria in von Neumann models with compact metric spaces of commodities and processes. *Mathematical models in economics* (*Proc. Sympos. and Conf. on von Neumann Models, Warsaw*, 1972), *pp.* 59–62. *North-Holland, Amsterdam*, 1974. (John Roberts) **56** #14593 90A15

On Markov policies in continuous time discounted dynamic programming. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 265–275. *Reidel, Dordrecht*, 1977. (Author's summary) **58** #15203 90C40

Ĭeh, T. *See* **Jech, Thomas J.**

Iervolino, F. (*with* DeBlasi, Francesco S.) Euler method for differential equations with set-valued solutions. (Italian summary) *Boll. Un. Mat. Ital.* (4) **4** (1971), 941–949. (H. T. Banks) **46** #7652 34G05

Ieşan, Carmen Maria Existence theorem in the linear theory of multipolar elasticity. (Czech summary) *Apl. Mat.* **18** (1973), 385–390. (S. C. Das) **49** #4376 73.35

Torsion of inhomogeneous micropolar elastic beams. *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **108** (1974), *no.* 5-6, 657–665. (M. Mişicu) **53** #4700 73.53

On the existence and uniqueness of the solution of the dynamic theory of the linear elasticity with microstructure. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 329–336. (M. Mişicu) **50** #6259 73.53 (73.35)

Ieşan, Dorin Some theorems in the linear theory of coupled micropolar thermo-viscoelasticity. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 121–129. (J. Ignaczak) **48** #12961 73.35

The plane micropolar strain of orthotropic elastic solids. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 547–561. (J. Mazumdar) **52** #2348 73.45

On the second boundary value problem in the linear theory of micropolar elasticity. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **55** (1973), 456–459 (1974). (S. C. Das) **51** #12077 73.35

(*with* Radu, Anton) Mendel Haimovici. (Romanian) *Gaz. Mat. Ser. A* **78** (1973), 249-252. (Editors) **55** #7694 01A70

On reciprocity theorems and variational theorems in linear elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 411–419. (G. Rieder) **52** #12498 73.49

On the positive definiteness of the operator of the micropolar elasticity. *J. Engrg. Math.* **8** (1974), 107–112. (G. Rieder) **51** #12090 73.47

On some reciprocity theorems and variational theorems in linear dynamic theories of continuum mechanics. *Mem. Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* (4) *No.* 17 (1974), iii + 20 *pp.* (Vadim Komkov) **58** #14199 73.49

Some fundamental problems of the linear theory of elastic media of Cosserat type. (Russian) *Contemporary problems in solid mechanics, Vol. I* (*Romanian*), *pp.* 11–131. *Editura Acad. R.S.R., Bucharest*, 1975. (V. Gheorghiţă) **58** #19563 73.35

Saint-Venant's problem for inhomogeneous and anisotropic solids. *J. Engrg. Math.* **9** (1975), *no.* 4, 281-290. **53** #12157 73.35

Saint-Venant's problem for heterogeneous elastic solids. (Polish and Russian summaries) *Rozprawy Inż.* **24** (1976), *no.* 2, 289-306. (Author's summary) **55** #1908 73.35

Torsion of anisotropic micropolar elastic cylinder. *Proceedings of the Conferen Differential Equations and their Applications* (*Univ. Iaşi, Iaşi*, 1973), *pp.* 157–158. *Ec Acad. R.S.R., Bucharest*, 1977. (V. Komkov) **57** #8302 73.35

(*with* Chiriţă, Stan) Theory of loaded elastic cylinders. *An. Şti. Univ. "Al. I. C Iaşi Secţ. I a Mat.* (*N.S.*) **23** (1977), *no.* 1, 169–182. (From the authors' introduc **57** #2416 83.53

Saint-Venant's problem for inhomogeneous and anisotropic elastic solids microstructure. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos* (1977), *no.* 3, 419–430. (Author's summary) **57** #14731 73.35

Reciprocal theorems and variational theorems in nonlocal elastodynamics. *Inte J. Engrg. Sci.* **15** (1977), *no.* 12, 693–699. (S. N. Murthy) **57** #18409 73.49

Saint-Venant's problem for inhomogeneous and anisotropic Cosserat elastic s (German and Russian summaries) *Z. Angew. Math. Mech.* **58** (1978), *no.* 2, 95–99 P. Madan) **57** #14732 73.35

Ievlev, I. I. The approximate solution of equations of the first kind. (Russian) *Ž. V Mat. i Mat. Fiz.* **13** (1973), 1049–1056, 1094. (S. Rolewicz) **49** #1765 65J05 (47

Ifantis, Evangelos K. Solution of the Schrödinger equation in the Hardy-Lebesgue sp *J. Mathematical Phys.* **12** (1971), 1961–1965. (J. V. Baxley) **45** #3019 81.47 (34

Minimal uncertainty states for bounded observables. *J. Mathematical Phys* (1971), 2512–2516. (J. T. Cushing) **45** #1510 81.46

On the nature of the spectrum of generalized oscillator phase operators. *Lett. Nu Cimento* (2) **2** (1971), 1096–1100. (E. C. G. Sudarshan) **50** #15720 81.47

Perturbation of non-normal isometries. *Duke Math. J.* **39** (1972), 735–736. Gilfeather) **47** #860 47A55

States, minimizing the uncertainty product of the oscillator phase operators. *Mathematical Phys.* **13** (1972), 568–575. (Author's summary) **45** #3021 81.60

(*with* Kouris, Christos B.) Study of differential equations of physics in the Hardy-Lebesgue space. *J. Mathematical Phys.* **13** (1972), 1193–1195. (J. V. Baxl **46** #9791 47B99 (34A10)

(*with* Kouris, Christos B.) A Hilbert space approach to the localization problem the roots of analytic functions. *Indiana Univ. Math. J.* **23** (1973/74), 11–22. (J. Ullman) **47** #3644 30A08

(*with* Kouris, Christos B.) Lower bounds for the zeros for analytic functio *Numer. Math.* **27** (1976/77), *no.* 2, 239–247. (H. E. Fettis) **57** #11010 65E05 (65J

An existence theory for functional-differential equations and functional-different systems. *J. Differential Equations* **29** (1978), *no.* 1, 86–104. (Hans-Otto Walther) **58** #6596 34K05 (34A20)

Ifram, Adnan F. On the characteristic functions of the F and t distributions. *Sankhyā S A* **32** (1970), 350–352. **45** #2829 (E **58** #13455) 62E10

★Tables of the noncentral F and beta variable. Publication of the Jordan Research Council, No. 2. *The Jordan Research Council, Amman*, 1971. i + 26 *pp.* (Edito **50** #15248 62Q05

Inadmissibility and unbiasedness of some estimates of noncentrality paramete (French summary) Proceedings of the 40th Session of the International Statistic Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. Inst. Internat. Statist.* (1975), *no.* 3, 409–412 (1976). (Author's summary) **57** #7852 62F10 (62C15)

See also **Pestana, D., 58** #13455

Iftimie, Viorel Sur le problème de Dirichlet. *Bull. Math. Soc. Sci. Math. R.S. Rouman* (*N.S.*) **12(60)** (1968), *no.* 4, 103–126 (1969). (Zbl **179**, 435) **58** #6682 35J65 (35J2

Sur les solutions périodiques des équations pseudo-différentielles. *Rev. Roumain Math. Pures Appl.* **14** (1969), 1277–1287. (Zbl **187**, 33) **58** #22966 35B10 (35S05)

On a theorem of Borel. (Romanian. French summary) *Stud. Cerc. Mat.* **22** (1970 613–615. (D. Pascali) **47** #9104 35S99 (26A33)

Periodic solutions of convolution equations. (Romanian. French summary) *Stu Cerc. Mat.* **22** (1970), 1427–1434. (Stefan Balint) **48** #9446 47B37

Sur les opérateurs intégraux singuliers dans des espaces L_p avec poids. *Re Roumaine Math. Pures Appl.* **18** (1973), 911–913. (G. O. Okikiolu) **48** #4839 47G

(*with* Dermenjian, Yves) Une classe d'opérateurs pseudo-différentiels presque-hypoelliptiques. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 507–510. (Bent Petersen) **51** #1488 35S05 (47G05)

(*with* Dermenjian, Yves) Une classe d'opérateurs pseudo-différentiels partielleme hypoelliptiques. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 561–563. (Bent E. Peterse **51** #1489 35S05 (47G05)

Deux applications de l'hypoellipticité partielle. *Bull. Math. Soc. Sci. Math. R. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 1-2, 131–141 (1977). (R. S. Freeman) **58** #29141 35H05

Sur un problème non linéaire pour un système hyperbolique. *Rev. Roumaine Mat Pures Appl.* **21** (1976), *no.* 3, 303–328. (E. Goldhagen) **53** #13856 35L50

Remarque concernant l'approximation des solutions des équations fonctionnell linéaires. *An. Univ. Bucureşti Mat.* **26** (1977), 53–56. (J. W. Schmidt) **58** #2378 47A50 (65J05)

(*with* Croc, Elisabeth; Dermenjian, Yves) Une classe d'opérateurs pseudo-différentiels partiellement hypoelliptique-analytiques. (English summary) *C. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 1, A53–A56. (Authors' summary) **55** #839 35H05 (35S05)

(*with* Dermenjian, Yves) Une classe d'opérateurs pseudo-différentiels presque-hypoelliptiques. I. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 6, 747–76 (Authors' summary) **58** #23200a 35S05 (35H05)

(*with* Dermenjian, Yves) Une classe d'opérateurs pseudo-différentiels partielleme hypoelliptiques. II. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 6, 761–76 (Authors' summary) **58** #23200b 35S05 (35H05)

Igarashi, Akira (*with* Ogawa, Hidemitsu; Iijima, Taizo) Functional analytic foundations the theory of linear spatial networks. *Systems-Computers-Controls* **1** (1970), *no.* 3, 69– (1971). (Siegmar Gerber) **46** #6930 94A15 (46N05, 68A50, 68A55)

(*with* Toraichi, Kazuo; Ogawa, Hidemitsu) A note on several orthogonal bases f digital signal processing. *Electron. Commun. Japan* **60** (1977), *no.* 2, 1–7. (Anastasios Venetsanopoulos) **58** #33492 94A05

Igarashi, Akito (*with* Munakata, Toyonori) Dynamical correlation functions of classic liquids. I. *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1345–1356. (A. K. Rajagopa **56** #14460 82.47

hi, Masataka Beta-decay of pseudoscalar mesons in spectrum-generating $SU(3)$. *cta Phys. Polon. B* **8** (1977), *no.* 10, 823–835. (John J. Sullivan) **57** #8559 81.22

hi, S. (*with* Honda, M.) An analysis of turbulent boundary-layer flow without ressure gradient. I. Incompressible flow. *Rep. Inst. High Speed Mech. Tôhoku Univ.* **33** 976), 1–21. (W. Michael Lai) **58** #19764a 76.41

(*with* Honda, M.) An analysis of turbulent boundary-layer flow without pressure radient. II. Compressible flow. *Rep. Inst. High Speed Mech. Tôhoku Univ.* **33** (1976), 3–49. (W. Michael Lai) **58** #19764b 76.41

shi, Shigeru Semantics of ALGOL-like statements. *Symposium on Semantics of lgorithmic Languages*, 117–177. *Lecture Notes in Math., Vol.* 188, *Springer, Berlin*, 1971. R. J. Orgass) **45** #8528 02E10

Admissibility of fixed-point induction in first-order logic of typed theories. *nternational Symposium on Theoretical Programming* (*Novosibirsk*, 1972), *pp.* 344–383. *ecture Notes in Comput. Sci., Vol.* 5, *Springer, Berlin*, 1974. (From the author's ntroduction) **56** #5254 02F43 (68A05, 02C20)

(*with* London, Ralph L.; Luckham, David C.) Automatic program verification. I. A gical basis and its implementation. *Acta Informat.* **4** (1974/75), *no.* 2, 145–182. Andrea Maggiolo-Schettini) **57** #8121 68A05

A natural deduction system for assertions. Proceedings of the Third Symposium on asic Theory of Programs (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1973) and of he Workshop for Proof Theory about Algorithms (Res. Inst. Math. Studies, Kyoto Jniv., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 236 (1975), 8–14. (Author's ummary) **58** #5089 02C99 (68A05)

shi, Takanori On a conformal motion of areal space $A_n^{(2)}$. *Mem. Muroran Inst. Tech.* **7** 1970/71), 605–606. (T. Ohkubo) **46** #2593 53B40

On a conformal transformation in areal spaces. *Mem. Muroran Inst. Tech.* **9** (1977), *o.* 2, 593–599. (H. Rund) **58** #18234 53B40

shi, Yoshihide (*with* Honda, Namio) Languages generated by context-sensitive rammars with certain restrictions on derivations. *Electron. Commun. Japan* **52** (1969), *o.* 10, 144–151. (I. M. Havel) **48** #5433 68A30

(*with* Honda, Namio) A classification of phrase-structure languages. *Systems-Computers-Controls* **1** (1970), *no.* 4, 10–17 (1971). (Ronald V. Book) **48** #10210 68A30

(*with* Honda, Namio) Deterministic real-time list-storage languages. *Systems-Computers-Controls* **1** (1970), *no.* 4, 41–48 (1971). (H. Jürgensen) **46** #4793 68A30

(*with* Honda, Namio) Some properties of $T(n)$-derivable languages. *Systems-Computers-Controls* **1** (1970), *no.* 5, 23–30 (1971). (H. Jürgensen) **48** #1524 68A30

(*with* Honda, Namio) Deterministic multitape automata and recognition of context-free languages. *Systems-Computers-Controls* **3** (1972), *no.* 6, 55–62 (1973). (J. Hartmanis) **52** #7204 68A25

(*with* Honda, Namio) On the extension of Gladkij's theorem and the hierarchies of languages. *J. Comput. System Sci.* **7** (1973), 199–217. (Sheila A. Greibach) **47** #9896 (E **52** #9698) 68A30

(*with* Honda, Namio) Deterministic multitape automata computations. *J. Comput. System Sci.* **8** (1974), 167–189. (S. A. Greibach) **48** #12898 68A25

On the complexity of generalized monadic recursion schemes. *Systems-Computers-Controls* **5** (1974), *no.* 4, 18–25 (1975). (A. Ja. Dikovskiĭ) **53** #7100 68A05 (68A20)

(*with* Honda, Namio) Erratum: "On the extension of Gladkij's theorem and the hierarchies of languages" (J. Comput. System Sci. 7 (1973), 199–217). With an editor's note by E. K. Blum and a counter example by A. Gladkij. *J. Comput. System Sci.* **11** (1975), *no.* 3, 397. (S. A. Greibach) **52** #9698 68A30

General properties of derivational complexity. *Acta Informat.* **8** (1977), *no.* 3, 267–283. (Ronald V. Book) **58** #13928 68A20 (68A30)

The tape complexity of some classes of Szilard languages. *SIAM J. Comput.* **6** (1977), *no.* 3, 460–466. (Thomas G. Szymanski) **56** #10136 68A20 (68A25, 68A30)

Tape bounds for some subclasses of deterministic context-free languages. *Inform. and Control* **37** (1978), *no.* 3, 321–333. (Kurt Mehlhorn) **58** #3727 68A30

ri, Katsuju Cauchy problem for degenerate parabolic equations. *Proc. Japan Acad.* **49** (1973), 229–232. (Philippe-A. Dionne) **48** #9112 35K15

Degenerate parabolic differential equations. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 493–504. (V. G. Sigillito) **50** #766 35K15

Well-posedness of the Cauchy problem for some evolution equations. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 613–629. (V. G. Sigillito) **50** #770 35K30

A necessary condition for well-posed Cauchy problems. *J. Math. Kyoto Univ.* **16** (1976), *no.* 3, 531–543. (Lu-San Chen) **55** #3512 35G10

Initial-boundary value problem for degenerate parabolic differential equations. *Mem. Ehime Univ. Sect. III Engrg.* **8** (1976), *no.* 3, 5–15. (Todor G. Genčev) **53** #13840 35K20

Cauchy problem in Gevrey classes for non-strictly hyperbolic equations of second order. *J. Math. Kyoto Univ.* **17** (1977), *no.* 3, 513–531. (Editors) **58** #29300 35L15

ri, Satoru Functions of L^p-multipliers. *Tôhoku Math. J.* (2) **21** (1969), 304–320. (C. McGehee) **53** #14017 43A22

(*with* Uno, Yoshikazu) Banach algebra related to the Jacobi polynomials. *Tôhoku Math. J.* (2) **21** (1969), 668–673; *correction, ibid.* (2) **22** (1970), 142. (Editors) **55** #6102 42A52

(*with* Kuratsubo, Shigehiko) A sufficient condition for L^p-multipliers. *Pacific J. Math.* **38** (1971), 85–88. (J. H. Hedlund) **46** #5915 42A18

On the multipliers of Hankel transform. Collection of articles dedicated to Gen-ichirô Sunouchi on his sixtieth birthday. *Tôhoku Math. J.* (2) **24** (1972), 201–206. (A. Schwartz) **48** #2684 44A15 (33A40, 33A65, 40G05)

Problems on the convergence of multiple Fourier series. (Japanese) *Sûgaku* **25** (1973), *no.* 2, 110–119. (Editors) **58** #29817 42A92

On the (L^p, L^p) multipliers. *Functional analysis and its applications* (*Internat. Conf., Eleventh Anniversary of Matscience, Madras*, 1973; *dedicated to Alladi Ramakrishnan*), *pp.* 254–257. *Lecture Notes in Math., Vol.* 399, *Springer, Berlin*, 1974. (Helmut Boseck) **53** #6236 43A22

Functions of L^p-multipliers. II. *Tôhoku Math. J.* (2) **26** (1974), 555–561. (C. McGehee) **53** #14018 43A22 (42A18)

Igawa, Akira (*with* Watabe, Tsuyoshi) A note on SO(3)-action on CP_3. *Sci. Rep. Niigata Univ. Ser. A No.* 14 (1977), 41–46. (M.-C. Ku) **56** #13240 57E25

Igbo, Liliwan Ademola On optimal asymptotically stabilizing control. *Internat. J. Control* (1) **18** (1973), 607–631. (Edward J. Davison) **50** #10957 49B10

Synthesis of time-optimal control for linear systems and the minimal-time Lyapunoff function. *Kybernetika* (*Prague*) **9** (1973), 138–150. (Edward J. Davison) **49** #6970 93C05

Igi, Keiji (*with* Fukugita, Masataka) Phenomenological duality. *Phys. Rep.* **31** (1977), *no.* 4, 237–338. (Editors) **58** #32578 81.47

Igisinov, K. (*with* Zadiraka, V. K.; Hlobistov, V. V.) Application of an algorithm for the fast Fourier transform to the estimation of the density of the distribution of a sum of independent random variables. (Russian) *Software of electronic digital computers* (*Proc. Sem. Optimization of Computations, Kiev*, 1971) (*Russian*), *pp.* 278–286. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1971. (Authors' introduction) **51** #14395 62G05 (65D30)

A certain economical algorithm for the computation of an interpolation polynomial. (Russian) *Software of electronic digital computers* (*Proc. Sem. Optimization of Computations, Kiev*, 1971) (*Russian*), *pp.* 295–306. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1971. (Author's introduction) **51** #14515 65D05

(*with* Zadiraka, V. K.) An analysis of the accuracy and efficiency of a fast Fourier transform algorithm and of some of its applications. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 6, 57–61. (I. Păvăloiu) **49** #11847 65T05

Iglarsh, Harvey J. (*with* Cheng, David C.) Principal component estimators in regression analysis. *Rev. Econom. Statist.* **58** (1976), *no.* 2, 229–234. (D. G. Kabe) **55** #6707 62J05

Iglehart, Donald L. Functional limit theorems for the queue $GI/G/1$ in light traffic. *Advances in Appl. Probability* **3** (1971), 269–281. (D. V. Lindley) **45** #2821 60K25

(*with* Whitt, Ward) The equivalence of functional central limit theorems for counting processes and associated partial sums. *Ann. Math. Statist.* **42** (1971), 1372–1378. (E. Çinlar) **46** #10039 60F05

(*with* Morey, Richard C.) Optimal policies for a multi-echelon inventory system with demand forecasts. *Naval Res. Logist. Quart.* **18** (1971), 115–118. (F. Weinberg) **45** #6389 90B05

Multiple channel queues in heavy traffic. IV. Law of the iterated logarithm. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **17** (1971), 168–180. (D. J. Daley) **47** #1161 60K25 (60F99)

Extreme values in the $GI/G/1$ queue. *Ann. Math. Statist.* **43** (1972), 627–635. (T. Kawata) **46** #4628 60K25

Weak convergence in queueing theory. *Advances in Appl. Probability* **5** (1973), 570–594. (J. F. C. Kingman) **49** #6404 60K25

(*with* Lemoine, Austin J.) Approximations for the repairman problem with two repair facilities. I. No spares. *Advances in Appl. Probability* **5** (1973), 595–613. (Z. Khalil) **50** #1355a 60K30 (90B25)

Weak convergence of compound stochastic process. I. *Stochastic Processes Appl.* **1** (1973), 11–31; *corrigendum, ibid.* **1** (1973), 185–186. (Douglas P. Kennedy) **53** #14573 60B10

(*with* Lemoine, Austin J.) Approximations for the repairman problem with two repair facilities. II. Spares. *Advances in Appl. Probability* **6** (1974), 147–158. (Z. Khalil) **50** #1355b 60K30 (90B25)

Functional central limit theorems for random walks conditioned to stay positive. *Ann. Probability* **2** (1974), 608–619. (Douglas P. Kennedy) **50** #14939 60J15 (60F05)

Random walks with negative drift conditioned to stay positive. *J. Appl. Probability* **11** (1974), 742–751. (Douglas P. Kennedy) **51** #4410 60J15

(*with* Crane, Michael A.) Simulating stable stochastic systems. II. Markov chains. *J. Assoc. Comput. Mach.* **21** (1974), 114–123. (A. Prékopa) **53** #7433 90B35 (60K10)

(*with* Crane, Michael A.) Simulating stable stochastic systems. I. General multiserver queues. *J. Assoc. Comput. Math.* **21** (1974), 103–113. (A. Prékopa) **53** #7432 90B35 (60K25)

Weak convergence in applied probability. *Stochastic Processes Appl.* **2** (1974), 211–241. (Barry Belkin) **50** #11357 60B10 (60K25)

Conditioned limit theorems for random walks. *Stochastic processes and related topics* (*Proc. Summer Res. Inst. Statist. Inference for Stochastic Processes, Indiana Univ., Bloomington, Ind.*, 1974, *Vol.* 1; *dedicated to Jerzy Neyman*), *pp.* 167–194. *Academic Press, New York*, 1975. (Douglas P. Kennedy) **51** #9216 60J15

(*with* Shedler, Gerald S.) Regenerative simulation of response times in networks of queues. *J. Assoc. Comput. Mach.* **25** (1975), *no.* 3, 449–460. (Erol Gelenbe) **58** #3108 60K25 (68A99)

(*with* Crane, Michael A.) Simulating stable stochastic systems. IV. Approximation techniques. *Management Sci.* **21** (1975/76), *no.* 11, 1215–1224. (A. Prékopa) **55** #4409 60K05 (60K25, 62F25)

Simulating stable stochastic systems. V. Comparison of ratio estimators. *Naval Res. Logist. Quart.* **22** (1975), *no.* 3, 553–565. (A. Prékopa) **55** #4410 60K05 (60K25, 62F25)

(*with* Crane, Michael A.) Simulating stable stochastic systems. III. Regenerative processes and discrete-event simulations. *Operations Res.* **23** (1975), *no.* 1, 33–45. (A. Prékopa) **55** #4408 60K05

(*with* Hordijk, Arie; Schassberger, Rolf) Discrete time methods for simulating continuous time Markov chains. *Advances in Appl. Probability* **8** (1976), *no.* 4, 772–788. (M. F. Neuts) **54** #11690 62M05 (60J10, 60K15, 65C05)

Simulating stable stochastic systems. VI. Quantile estimation. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 2, 347–360. (A. Prékopa) **58** #18776 60K25 (62F25, 90B05)

(*with* Durrett, Richard T.; Miller, Douglas R.) Weak convergence to Brownian meander and Brownian excursion. *Ann. Probability* **5** (1977), *no.* 1, 117–129. (Douglas P. Kennedy) **55** #9300 60J65

(*with* Durrett, Richard T.) Functionals of Brownian meander and Brownian excursion. *Ann. Probability* **5** (1977), *no.* 1, 130–135. (Douglas P. Kennedy) **55** #9301 60J65

Iglehart, S. C. (*with* Leondes, Cornelius T.) A design procedure for intermediate-order observer-estimators for linear discrete-time dynamical systems. *Internat. J. Control* (1) **16** (1972), 401–415. (Authors' summary) **47** #3053 93C05

torres Iglesias, Miguel *See* **Torres Iglesias, Miguel**

Iglewicz, Boris (*with* Mendoza, Gaston) A three-phase sequential model for clinical trials. *Biometrika* **64** (1977), *no.* 2, 201–205. (Graham J. G. Upton) **58** #8071 62L05 (62P10)

Iglikov, A. A certain nonlinear problem of hydrodynamics. (Russian) *Mathematical physics, No. 7 (Russian), pp.* 88–101. *Naukova Dumka, Kiev*, 1970. (S. Raman) **45** #2985 76.46

A certain problem with a free boundary that takes into account mass forces. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 5, 46–49. (M. Haimovici) **45** #7312 35Q15 (30A88, 76.35)

An approximate solution by the Fourier method of a mixed problem for the equation of a vibrating string and for the equation of heat conduction. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 1, 82–85, 95. (T. Styś) **51** #14604 65M99

Ignaczak, Józef Tensorial equations of motion for elastic materials with microstructure. *Trends in elasticity and thermoelasticity, pp.* 89–111. *Wolters-Noordhoff, Groningen*, 1971. (R. Muki) **57** #14733 73.35

Existence of generalized stresses in linear elastodynamics. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **23** (1971), 413–422. (R. J. Knops) **46** #1169 73.35

Upper and lower bounds on the velocity of surface waves in a nonhomogeneous isotropic elastic semi-space. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **23** (1971), 789–800. (J. W. Craggs) **46** #10273 73.35

Polynomial estimate of the stress tensor of linear elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 585–590. (D. R. Bland) **48** #7729 73.34

Domain of influence theorem for stress equations of motion of linear elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 741–746. (Author's summary) **57** #11260a (E **57** #11260b) 73.35

Tensorial acceleration waves in linear elasticity. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 11, 925–932. (Author's summary) **56** #13917 73.35

Thermoelastic counterpart to Boggio's theorem of linear elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 3, 185-193. (Author's summary) **56** #10283 73.35

Errata: "Domain of influence theorem for stress equations of motion of linear elastodynamics" (Bull. Acad. Polon. Sci. Sér. Sci. Tech. **22** (1974), 741–746). *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 3, 248. (Author's summary) **57** #11260b 73.35

Theorems of Boggio's type in asymmetric elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 4, 285–295. (Author's summary) **56** #13918 73.35

Theorems of Zaremba type for thermoelastic solid. *Internat. J. Engrg. Sci.* **15** (1977), *no.* 4, 221–236. (Aloknath Chakrabarti) **58** #19564 73.35

Domain of influence theorem in linear thermoelasticity. *Internat. J. Engrg. Sci.* **16** (1978), *no.* 2, 139–145. (L. Jentsch) **58** #14141 73.35

Ignall, Edward (*with* Kolesar, Peter J.) Quelques propriétés stationnaires du système $M/G/1$-envoi. (English summary) *INFOR—Canad. J. Operational Res. and Information Processing* **10** (1972), 292–298. (T. Kawata) **50** #8748 60K25

(*with* Chaiken, Jan M.) An extension of Erlang's formulas which distinguishes individual servers. *J. Appl. Probability* **9** (1972), 192–197. (F. G. Foster) **46** #10090 60K25

(*with* Carter, Grace M.; Chaiken, Jan M.) Response areas for two emergency units. *Operations Res.* **20** (1972), 571–594. (Authors' summary) **48** #1688 90B99

(*with* Kolesar, Peter J.) Optimal dispatching of an infinite-capacity shuttle: control at a single terminal. *Operations Res.* **22** (1974), *no.* 5, 1008–1024. (David N. Burghes) **58** #20382 90B35

(*with* Derman, Cyrus) On the stochastic ordering of Markov chains. *Operations Res.* **23** (1975), *no.* 3, 574–576. (Richard F. Serfózo) **55** #13575a (E **55** #13575b) 60J10

(*with* Derman, Cyrus) Acknowledgment: "On the stochastic ordering of Markov chains" (Operations Res. **23** (1975), 574–576). *Operations Res.* **24** (1976), *no.* 3, 592. (Richard F. Serfozo) **55** #13575b 60J10

Ignat, Călin Structures d'approximation, opérateurs d'adhérence généralisée et structures syntopogènes. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **21** (1975), 15–24. (Á. Császár) **53** #14371 54A15

Approximation structures, convergence spaces and Katetov's merotopy. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 2, 101-107. (Á. Császár) **55** #6341 54A05

Runge-Kutta methods for initial value problems. *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **22** (1976), *no.* 1, 67–78. (Rolf Jeltsch) **55** #6877 65M20

Liapounoff stability of fuzzy sets. *An. Ştiinţ. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **23** (1977), *no.* 2, 321-324. (From the summary) **58** #15357 93A99 (93D05)

Ignat, Ju. Ī. (*with* Sljusarčuk, P. V.) Convergence to stable laws. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 10, 912–913, 960. (L. A. Anorina) **57** #17776 60F05

Ignat, Margareta (*with* Géorgiev, Géorgi Iv.) Sui riferimenti naturali nell'idrodinamica e magnetoidrodinamica. *Ist. Lombardo Accad. Sci. Lett. Rend. A* **105** (1971), 467–499. (R. Thibault) **46** #4856 76.53

(*with* Géorgiev, Géorgi Iv.) Sui moti rigidi nei mezzi continui. *Atti Sem. Mat. Fis. Univ. Modena* **21** (1972), *no.* 1, 37–61 (1973). (P. Havas) **51** #2575 83.35

Sui moti magnetoidrodinamici non stazionari su superfici. *Atti Sem. Mat. Fis. Univ. Modena* **24** (1975), *no.* 1, 40–50 (1976). (Giovanni Carini) **54** #9309 76.35

(*with* Géorgiev, Géorgi Iv.) Certain generalizations of quasirigid motions in hydrodynamics. (Russian) Geometry collection, No. 12. *Trudy Tomsk. Gos. Univ.* **244** (1975), 82–91. (L. Dragoş) **53** #9871 76.53

Sulle superfici di discontinuità debole di ordine I in un plasma rarefatto radiativo. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **61** (1976), *no.* 5, 455–463 (1977). (L. F. Oster) **57** #11360 78.35

Su una classe notevole dei moti magnetoidrodinamici. *Tensor* (*N.S.*) **30** (197
1, 12–14. (Tommaso Ruggeri) **55** #1938 76.53 (78.35)

Onde piane in un plasma radiativo. *Tensor* (*N.S.*) **31** (1977), *no.* 2, 118–122. (
Ingraham) **57** #2190 78.35

See also **Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seve
birthday**. **48** #15

Ignatenko, L. T. (*with* Rutman, M. A.) The order of the exponential growth o
solutions of certain linear difference equations. (Russian) *Dokl. Akad. Nauk SSS*
(1972), 530–532. (I. M. Sheffer) **47** #2214 39A12 (47B45)

The order of the exponential growth of the solutions of certain first order l
difference equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 9
52–55. (B. Choczewski) **51** #10926 39A10 (47A50)

Ignatenko, V. F. Certain properties of algebraic surfaces. (Russian) *Ukrain. Geometr*
No. 7 (1969), 36–38, 184 (1970). (W. Burau) **49** #308 14M10

(*with* Leĭbin, A. S.) On the theory of planes of orthogonal symmetry of surfac
E^m. (Russian) *Ukrain. Geometr. Sb. No.* 7 (1969), 39–54, 184 (1970). (C. Simione
48 #1059 53A05 (14N05)

(*with* Leĭbin, A. S.) The orthogonal symmetry planes of surfaces in Euclidean s
E^m. (Russian) *Ukrain. Geometr. Sb. No.* 8 (1970), 38–48. (W. Burau) **45** #51
14N99 (50A05)

(*with* Leĭbin, A. S.) Planes of symmetry of algebraic surfaces in the space
(Russian) *Ukrain. Geometr. Sb. No.* 10 (1971), 34–40. (E. J. F. Primrose) **45** #34
14J10 (50A05)

(*with* Leĭbin, A. S.) The algebraic surfaces in E^4 that have the symmetry
regular four-dimensional simplex and a regular four-dimensional 600-tope. (Russ
Ukrain. Geometr. Sb. No. 11 (1971), 26–31. (K. Burian) **46** #5339 50B30 (14N

On the estimation of the number of principal diametral planes in an algeb
surface of the space E^m. (Russian) *Ukrain. Geometr. Sb. No.* 11 (1971), 31–35.
Burian) **46** #5343 14N10 (50B10)

(*with* Leĭbin, A. S.) On the general equation of an algebraic surface in E^4 with
symmetry of a regular 24-hedron. (Russian) *Ukrain. Geometr. Sb. No.* 12 (1972), 57–
168. (L. Guggenbuhl) **48** #6126 14N99 (50B05)

(*with* Leĭbin, A. S.) Algebraic surfaces with the symmetry of pyramids and
bipyramids in E^4. (Russian) *Ukrain. Geometr. Sb. No.* 12 (1972), 60–65, 168.
Guggenbuhl) **48** #11122 (EA **51**) 14J10

(*with* Leĭbin, A. S.) General equation of an algebraic surface with the symmetry
the regular 600-tope in the space E^4. (Russian) *Ukrain. Geometr. Sb. No.* 13 (197
71–74, 3. (K. Burian) **48** #6110 14D99 (50B30)

(*with* Leĭbin, A. S.) The diametral planes of an algebraic surface in the space
(Russian) *Ukrain. Geometr. Sb. Vyp.* 15 (1974), 54–59, ii. (W. Burau) **53** #5609
14J25 (14N05)

(*with* Leĭbin, A. S.) Algebraic surfaces with the symmetry of the regular
m-dimensional simplex. (Russian) *Ukrain. Geometr. Sb. No.* 16 (1974), 3–8, i. (V.
Popov) **51** #576 15A72 (14N10)

(*with* Leĭbin, A. S.) On the case of degeneracy of the equation of the diamet
plane of a symmetric surface in E^m. (Russian) *Ukrain. Geometr. Sb. Vyp.* 17 (197
58–62, 146. (W. Burau) **56** #5572 14J25

Certain constructive properties of algebraic translation surfaces. (Russian) *Ukra*
Geometr. Sb. Vyp. 18 (1975), 59–65, iii. (Konrad Drechsler) **53** #5608 14J25

Algebraic surfaces with an infinite set of planes of oblique symmetry in the spa
E^m. (Russian) *Kaliningrad. Gos. Univ. Differencial'naja Geom. Mnogoobraz. Figur Vy*
7 (1976), 34–39, 151. (E. J. F. Primrose) **58** #16690 14J25

Constructive properties of algebraic translation surfaces. (Russian) *Ukrain. Geometr. Sb. Vyp.* 19 (1976), 33–36, ii. (E. J. F. Primrose) **58** #693 14J25

Diametral planes and planes of oblique symmetry of an algebraic surface in t
space E^m. (Russian) *Ukrain. Geometr. Sb. Vyp.* 20 (1977), 35–46, 2. (E. J. F. Primros
58 #16691 14J25

A sixth order algebraic surface with two translation nets. (Russian) *Ukrain. Geometr. Sb. Vyp.* 20 (1977), 46–48, 2. (E. J. F. Primrose) **58** #16692 14J25

Ignatenko, V. N. (*with* Kostjuk, V. I.; Stenin, A. A.) Fuel-optimal control of system w
delay. (Russian summary) *Systems Sci.* **3** (1977), *no.* 2, 159–169. (Authors' summar
58 #20707 93C45

Ignatenko, V. V. (*with* Krahotko, V. V.) Controllability of a linear system with aftereffe
(Russian) *Differencial'nye Uravnenija* **10** (1974), 241–245, 371. (G. Zatiašvili) **49** #21
93B05

Controllability of systems of neutral type with several inputs by a group of ordina
dynamical regulators. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **197**
no. 3, 26–33, 140. (M. M. Konstantinov) **53** #15440 93B05

Controllability of dynamical systems by means of a regulator. (Russian) *Vestn*
Beloruss. Gos. Univ. Ser. I **1976**, *no.* 2, 56–58, 82. (J. Jarnik) **54** #3557 49E
(34H05)

(*with* Krahotko, V. V.) A proof of a relative controllability criterion for syste
with lag. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 3, 64–65, 95. (Edito
58 #15375 93B05

(*with* Metel'skiĭ, A. V.) Controllability of linear systems with a distributed l
(Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1978**,
3, 15–19, 137. (Authors' summary) **58** #26237 93B05

Ignat'ev, Ju. G. Perturbation theory for a gravitational field. (Russian) *Gravitacija i Te*
Otnositel'nosti No. 10-11 (1975), 195–201. (RŽMat **1977** #10 A524) **58** #32776
83.53

(*with* Zaharov, A. V.) Radiation propagation in plasma encountered in a gravitational field. I. Construction of a general relativistic tensor operator of electr
conduction. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 9, 57–62. (Autho
summary) **58** #9096a 85.35

(*with* Zaharov, A. V.) Radiation propagation in plasma encountered in a gravitational field. II. Electromagnetic waves in the approximation of geometric opti
(Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 9, 62–69. (Authors' summar
58 #9096b 85.35

Equilibrium states of a relativistic charged gas in the framework of general relativ eory. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 12, 1970–1977, 2106. uthor's summary) **58** #25747 83.35

ev, M. B. (*with* Britov, G. S.; Mironovskiĭ, L. A.; Smirnov, Ju. M.) ★Управление числительными процессами. Том I. (Russian) [Control of computing processes. Vol. *Izdat. Leningrad. Univ., Leningrad*, 1973. 296 *pp.* (D. Obradović) **48** #3284 –02

(*with* Gluškov, V. M.; Mjasnikov, V. A.; Torgašev, V. A.) Recursive machines and mputing technology. *Information processing* 74 (*Proc. IFIP Congress, Stockholm,* 74), *pp.* 65–70. *North-Holland, Amsterdam*, 1974. (A. D. Booth) **53** #9764 68A99

See also **Control in space**, **48** #8041

ev, S. G. (*with* Lobodina, L. F.) A numerical solution of a linear integral equation of e first kind in an inverse problem of the symmetric flow around a wing. (Russian) *čen. Zap. CAGI* **8** (1977), *no.* 1, 108–114. (V. B. Dybin) **58** #25039 65R05 (76.65)

ev, V. A. Solution of a symmetric finite difference equation in problems of the ability and dynamics of regular rod systems. (Russian) *Computing methods and ogramming, No.* 3 (*Russian*), *pp.* 49–55. *Izdat. Saratov. Univ., Saratov*, 1970. (Z. ączkowski) **53** #12176 73.65

ev, V. N. (*with* Valiullin, A. N.) A certain scheme of increased accuracy for the lculation of a two-dimensional laminar boundary layer. (Russian) *Čisl. Metody Meh. lošnoĭ Sredy* **1** (1970), *no.* 3, 70–74. (Murli M. Gupta) **48** #10309 76.65

v, Cvetan (*with* Stojanov, Ĭordan; Mirazčiĭski, Ivan; Tanušev, Miroslav) Ръководство за упражнения по теория на вероятностите. (Bulgarian) [Exercise anual in probability theory] *Izdat. Nauka i Izkustvo, Sofia*, 1976. 303 *pp.* (Publisher's escription) **58** #18631 60–01

v, Ju. A. Free groups generated by two parabolic-fractional linear transformations. ussian) *Modern algebra, No.* 4 (*Russian*), *pp.* 87–90. *Leningrad. Gos. Ped. Inst., eningrad*, 1976. (M. M. Murač) **56** #8696 20E05 (10D05)

v, V. N. (*with* Kafarov, V. V.; Mešalkin, V. P.; Perov, V. L.) A two-level method r the solution of the inverse problem of optimizing the reliability of chemical ngineering systems. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 4, 904–906. 7 #2532 90B99

vič, V. K. *See* **Tolman, Richard C.**, **51** #9728

ščenko, V. V. Switching-function synthesis in certain types of homogeneous ructures. *Avtomat. i Telemeh.* **1968**, *no.* 5, 155–165 (*Russian. English summary*); *anslated as Automat. Remote Control* **1968**, *no.* 5, 826–834. (Krzysztof Sapiecha) 3 #2532 94A20

Method for structural optimization of logical networks in homogeneous icro-electronic structures. *Avtomat. i Telemeh.* **1971**, *no.* 5, 83–91 (*Russian. English mmary*); *translated as Automat. Remote Control* **32** (1971), *no.* 5, *part* 1, 763–769. (R. hirtladze) **46** #6971 94A30

(*with* Karavanova, L. V.) One method of static parallelization of serial programs. *vtomat. i Telemeh.* **1977**, *no.* 6, 176–191 (*Russian. English summary*); *translated as utomat. Remote Control* **38** (1977), *no.* 6, *part* 2, 921–933. (K. W. Han) **57** #1954 8A05 (94A20)

yev, M. B. *See* **Ignat′ev, M. B.**

io, James P. (*with* Gupta, Jatinder N. D.) ★Operations research in decision making. Vith the collaboration of Gerald R. McNichols. *Crane, Russak & Co., Inc., New York*, 975. x + 343 *pp.* (I. Gh. Ciobanu) **56** #4716 90–01

in, V. N. (*with* Kovrigin, A. B.; Miheev, S. E.) Optimal arrangement of observers in he case of a step-by-step observation. (Russian) *Operations research and statistical nodeling, No.* 1 (*Russian*), *pp.* 71–78. *Izdat. Leningrad. Univ., Leningrad*, 1972. (Editors) **8** #10108 65K05

n, V. I. (*with* Grevceva, V. N.) The nonstationary heat exchange problem for a plane vall. (Russian) *Differential equations and their applications, No.* 2 (*Russian*), *pp.* 42–145, 179. *Kuĭbyšev. Gos. Ped. Inst., Kuybyshev*, 1975. (Authors' summary) **8** #32441 80.35 (35K05)

n, V. I. Characterizable varieti of lattices. (Russian) *Ordered sets and lattices, No.* 1 *Russian*), *pp.* 22–30. *Izdat. Saratov. Univ., Saratov*, 1971. (R. S. Pierce) **51** #7970 6A20

h-characterizable classes of algebraic systems. (Russian) *Studies in algebra, No.* 3 *Russian*), *pp.* 14–19, 79. *Izdat. Saratov. Univ., Saratov*, 1973. (G. Grätzer) **48** #8350 8A25 (02H15)

Projective planes and characteristic closures of universal classes. (Russian) *ifferential geometry, No.* 1 (*Russian*), *pp.* 36–40, 136. *Izdat. Saratov. Univ., Saratov*, 974. (V. Havel) **54** #206 08A05 (50D35)

On the question of Schreier varieties of lattices. (Russian) *Ordered sets and lattices, o.* 2 (*Russian*), *pp.* 32–41. *Izdat. Saratov. Univ., Saratov*, 1974. (E. T. Schmidt) **8** #447 08A15

Characterizable classes of algebraic systems. (Russian) *Studies in algebra, No.* 4 *Russian*), *pp.* 27–42. *Izdat.Saratov. Univ., Saratov*, 1974. (S. R. Kogalovskiĭ) **5** #12598 08A15

Remarks on characterizable classes of algebras with examples from the theory of emigroups. (Russian) *Theory of semigroups and its applications, No.* 3 (*Russian*), *pp.* 0–39, 152. *Izdat. Saratov. Univ., Saratov*, 1974. (P. Goralcik) **56** #15535 08A15

Quasivarieties of lattices. (Russian) *Mat. Zametki* **16** (1974), 49–56. (R. S. Pierce) **50** #12833 06A20 (08A15)

(*with* Fofanova, T. S.) Varieties of lattices. Category problems. (Russian) *Ordered ets and lattices, No.* 3 (*Russian*), *pp.* 41–49, 103. *Izdat. Saratov. Univ., Saratov*, 1975. Klaus Keimel) **55** #214 06A20

Lattices of quasivarieties, and quasivarieties of lattices. (Russian) *Ordered sets and attices, No.* 4 (*Russian*), *pp.* 62–68, 134. *Izdat. Saratov. Univ., Saratov*, 1977. (Editors) **58** #21898 08A15 (06A20)

Quasivarieties of modular lattices. (Russian) *Studies in algebra, No.* 5 (*Russian*), *pp.* 20–29, 75. *Izdat. Saratov. Univ., Saratov*, 1977. (E. T. Schmidt) **58** #10643 06A30

hi, Ken On the Aitken's δ^2-process. *Information Processing in Japan* **15** (1975), 36–40. Sven-Åke Gustafson) **53** #11958 65B05

An algorithm of an acceleration process covering the Aitken δ^2-process. *Information Processing in Japan* **16** (1976), 89–93. (Sven-Åke Gustafson) **56** #13506 5B05

a, Jun-ichi Some results and problems on modular functions. (Japanese) *Sûgaku* **21** (1969), *no.* 2, 121–129. (Editors) **58** #27790 10D20

On certain representations of semi-simple algebraic groups. *Several Complex Variables, II* (*Proc. Internat. Conf., Univ. Maryland, College Park, Md.*, 1970), *pp.* 76–86. *Lecture Notes in Math., Vol.* 185, *Springer, Berlin*, 1971. (S. J. Harris) **48** #11344 20G05

On certain representations of semi-simple algebraic groups and the arithmetic of the corresponding invariants. I. *Invent. Math.* **12** (1971), 62–94. (T. Ono) **45** #6823 20G05

★Theta functions. Die Grundlehren der mathematischen Wissenschaften, Band 194. *Springer-Verlag, New York-Heidelberg*, 1972. x + 232 *pp.* (H. Klingen) **48** #3972 14K25 (32N05)

On the arithmetic of Pfaffians. *Nagoya Math. J.* **47** (1972), 169–198. (Lawrence Verner) **51** #12798 12A85 (10C05)

Geometry of absolutely admissible representations. *Number theory, algebraic geometry and commutative algebra, in honor of Yasuo Akizuki, pp.* 373–452. *Kinokuniya, Tokyo*, 1973. (F. D. Veldkamp) **51** #3319 20G05

Complex powers and asymptotic expansions. I. Functions of certain types. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, II. *J. Reine Angew. Math.* **268/269** (1974), 110–130. (Stephen Haris) **50** #254 10H25 (12B40)

On a certain Poisson formula. *Nagoya Math. J.* **53** (1974), 211–233. (Stephen Haris) **50** #275 12A70 (10H25, 12A85)

Complex powers and asymptotic expansions. II. Asymptotic expansions. *J. Reine Angew. Math.* **278/279** (1975), 307–321. (Stephen Haris) **53** #8018 12A85 (14G25)

A Poisson formula and exponential sums. *J. Fac. Sci. Univ. Tokyo Sect. IAMath.* **23** (1976), *no.* 1, 223–244. (Lawrence Verner) **54** #5119 10C15 (12A85, 10D15)

Criteria for the validity of a certain Poisson formula. *Algebraic number theory* (*Kyoto Internat. Sympos., Res. Inst. Math. Sci., Univ. Kyoto, Kyoto*, 1976), *pp.* 43–65. *Japan Soc. Promotion Sci., Tokyo*, 1977. (Stephen Hardis) **57** #281 12A85 (22D20, 14G25)

On the first terms of certain asymptotic expansions. *Complex analysis and algebraic geometry, pp.* 357–368. *Iwanami Shoten, Tokyo*, 1977. (Stephen Haris) **58** #5680 14G20 (10H25, 12B30)

Some observations on higher degree characters. *Amer. J. Math.* **99** (1977), *no.* 2, 393–417. (Stephen Haris) **56** #324 12B40 (14G20)

Exponential sums associated with a Freudenthal quartic. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, 231–245. (V. L. Popov) **56** #5455 10G05 (10C15, 20G30, 14M20)

See also **Algebraic geometry**, **56** #8558

Iha, Franklin T. A unified approach to boundary value problems on compact intervals. *Pacific J. Math.* **54** (1974), 145–156. (S. C. Tefteller) **51** #8518 34B05 (47E05)

On boundary functionals and operators with finite-dimensional null spaces. *Pacific J. Math.* **56** (1975), *no.* 2, 517–524. (C. R. Putnam) **52** #1350 47A05 (34B25)

Ihara, Shin-ichiro (*with* Kuga, Michio) Family of families of abelian varieties. *Algebraic number theory* (*Kyoto Internat. Sympos., Res. Inst. Math. Sci., Univ. Kyoto, Kyoto*, 1976), *pp.* 129–142. *Japan Soc. Promotion Sci., Tokyo*, 1977. (T. Ono) **57** #16319 14K15 (14K10)

See also **Satake, Ichirô**, **53** #5616

Ihara, Shunsuke Optimal coding in white Gaussian channel with feedback. *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 120–123. *Lecture Notes in Math., Vol.* 330, *Springer, Berlin*, 1973. (From the author's introduction) **56** #11532 94A15

A note on mutual information in a white Gaussian channel with linear feedback. *Information and Control* **26** (1974), 296–299. (Suguru Arimoto) **50** #16108 94A15

Coding theory in white Gaussian channel with feedback. *J. Multivariate Anal.* **4** (1974), 74–87. (M. Zakai) **50** #16085 94A10

(*with* Hitsuda, Masuyuki) Gaussian channels and the optimal coding. *J. Multivariate Anal.* 5 (1975), 106–118. (Robert Gray) **51** #7721 94A15

Coding theory in Gaussian channel with feedback. II. Evaluation of the filtering error. *Nagoya Math. J.* **58** (1975), 127–147. (From the introduction) **58** #4638 94A15

On a property of mutual information. *Mem. Ehime Univ. Natur. Sci. Ser. A* **8** (1976/77), *no.* 2, 5–8. (Author's summary) **58** #33486 94A05

On the capacity of channels with additive non-Gaussian noise. *Information and Control* **37** (1978), *no.* 1, 34–39. (Ram Autar) **58** #20809 94A15

Ihara, Yasutaka Non-Abelian class fields over function fields in special cases. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 381–389. *Gauthier-Villars, Paris*, 1971. (Larry J. Goldstein) **54** #10210 12A90 (12A65)

Non-abelian invariant differentials and Schwarzian equations in the *p*-adic theory of automorphic functions. *Seminar on Modern Methods in Number Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No.* 17, 15 *pp. Inst. Statist. Math., Tokyo*, 1971. (Editors) **58** #27772 10D05 (14G20, 14K10)

On $(\infty \times p)$-adic coverings of curves (the simplest example). (Russian summary) Proceedings of the International Conference on Number Theory (Moscow, 1971). *Trudy Mat. Inst. Steklov.* **132** (1973), 118–131, 265. (O. M. Formenko) **49** #10663 12A65 (12A90, 14H30)

Schwarzian equations. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 97–118. (Audun Holme) **52** #8128 14H15

On the differentials associated to congruence relations and the Schwarzian equations defining uniformizations. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 309–332. (Author's review (Zbl **296** #14006)) **58** #22073 14G15

On modular curves over finite fields. *Discrete subgroups of Lie groups and applications to moduli* (*Internat. Colloq., Bombay*, 1973), *pp.* 161–202. *Oxford Univ. Press, Bombay*, 1975. (Loren D. Olson) **53** #2956 14G15 (10D05)

(*with* Miki, Hiroo) Criteria related to potential unramifiedness and reduction of unramified coverings of curves. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **22** (1975), *no.* 2, 237–254. (M. Fried) **52** #13853 14H25 (14H30)

Some fundamental groups in the arithmetic of algebraic curves over finite fields. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), *no.* 9, 3281–3284. (Kuang-yen Shih) **52** #5683 14H25 (12A65)

On the Frobenius correspondences of algebraic curves. *Algebraic number theory* (*Kyoto Internat. Sympos., Res. Inst.Math. Sci., Univ. Kyoto, Kyoto*, 1976), *pp.* 67–98. *Japan Soc. Promotion Sci., Tokyo*, 1977. (M. Fried) **56** #11905 10D10 (14H25)

(*with* Hattori, Akio; Itô, Seizô; Iwahori, Nagayoshi; Shioda, Tetsuji; Tamura, I.) Mathematical contributions of Professor Yukiyosi Kawada. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, i–vi. (Editors) **55** #7693 01A70

See also **Proceedings: International Conference on Number Theory**, **51** #5463

Ihle, E. (*with* Locke, M.) Über einige Grundlagen für eine allgemeine Theorie deterministischer Systeme. *Z. Elek. Informations- und Energietech.* **8** (1978), *no.* 1, 51–60. (Michel Fliess) **58** #20648 93A10 (94A30)

Ihm, P. (*with* Trautner, Rolf; Wolf, Henry) Linear algebraische Methoden in der numerischen Taxonomie. (English summary) *Biometrische Z.* **13** (1971), 161–202. (K. Dietz) **51** #2167 62H30

Ihrig, E. (*with* Sen, D. K.) A class of singular space-times. *General Relativity and Gravitation* **5** (1974), *no.* 5, 593–597. (Authors' summary) **56** #17677 83.53

Ihrig, Edwin (*with* Sen, D. K.) An exact solution of a scalar-tensor theory of gravitation. *J. Mathematical Phys.* **14** (1973), 1933–1934. (Authors' summary) **48** #13122 83.35

(*with* Sen, D. K.) Uniqueness of timelike Killing vector fields. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **23** (1975), *no.* 3, 297–301. (Carl Brans) **52** #9962 83.53

(*with* Sen, D. K.) Analytic singularities and geodesic completeness. I, II. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **23** (1975), *no.* 4, 349–356; *ibid.* (*N.S.*) **23** (1975), *no.* 4, 357–364. (H. Rund) **52** #7448 83.53

Mach's principle in cosmology. *Internat. J. Theoret. Phys.* **12** (1975), *no.* 6, 401–405. (Author's summary) **57** #4966 83.53

The uniqueness of g_{ij} in terms of R^l_{ijk}. *Internat. J. Theoret. Phys.* **14** (1975), *no.* 1, 23–35. (Nicholas M. J. Woodhouse) **52** #16504 83.53

An exact determination of the gravitational potentials g_{ij} in terms of the gravitational fields R^l_{ijk}. *J. Mathematical Phys.* **16** (1975), 54–55. (C. Di Comite) **50** #6416 (EA **52**) 83.53

The regularization of nonlinear electrical circuits. *Proc. Amer. Math. Soc.* **47** (1975), 179–183. (Clark Robinson) **50** #6654 94A20 (58F05)

(*with* Rosensteel, G.; Trainor, L. E. H.) Group theory and many body diagrams. I. Classification and structure of diagrams. *Proc. Roy. Soc. London Ser. A* **344** (1975), *no.* 1638, 387–401. (Philip H. Butler) **52** #7340 81.20

The holonomy group in general relativity and the determination of g_{ij} from T'_j. *General Relativity and Gravitation* **7** (1976), *no.* 3, 313–323. (H. Rund) **57** #1375 53C50 (83.53)

(*with* Dunn, Ken) Generalized geometries and scalar tensor theories. *General Relativity and Gravitation* **7** (1976), *no.* 6, 517–525. (Edward N. Glass) **57** #18722 83.53 (53C05)

(*with* Rosensteel, G.; Chow, H.; Trainor, L. E. H.) Group theory and many body diagrams. II. Enumeration methods and number approximations. *Proc. Roy. Soc. London Ser. A* **348** (1976), *no.* 1654, 339–357. (N. Mukunda) **53** #9897 81.20

Lie algebra as a unifying concept in modern physics. *Canad. Math. Bull.* **20** (1977), *no.* 4, 429–441. (A. J. Coleman) **57** #9911 22E70 (83.22)

bhaskara II *See* **Bhaskara II**

Ii, Kiyotaka Minimal submanifolds and convex functions. *Tôhoku Math. J.* (2) **24** (1972), 571–579. (K. Nomizu) **48** #7176 53C45

Curvature and spectrum of Riemannian manifold. *Tôhoku Math. J.* (2) **25** (1973), 557–567. (J. S. Joel) **50** #5864 58G99 (53C20)

On the isometric structure of Riemannian manifolds of non-negative Ricci curvature containing a compact hypersurface without focal point. *Tôhoku Math. J.* (2) **29** (1977), *no.* 1, 1–8. (R. S. Millman) **55** #8993 53C20

Iida, Kōji A note on the optimal distribution of searching effort for a moving target. (Japanese) *Keiei-Kagaku* **16** (1972), 204–215. (Author's summary) **47** #6297 90B40

Iida, Shigeaki (*with* Hirose, Ken) A proof of negative answer to Hilbert's 10th problem. *Proc. Japan Acad.* **49** (1973), 10–12. (Ju. V. Matijasevič) **49** #2325 02F50 (10N05)

(*with* Hirose, Ken) A meta-axiom on categories. *Comment. Math. Univ. St. Paul* **24** (1975/76), *no.* 1, 61–67. (S. Feferman) **53** #2678 02K05 (18A15)

Iijima, Taizo (*with* Igarashi, Akira; Ogawa, Hidemitsu) Functional analytic foundations of the theory of linear spatial networks. *Systems-Computers-Controls* **1** (1970), *no.* 3, 69–78 (1971). (Siegmar Gerber) **46** #6930 94A15 (46N05, 68A50, 68A55)

Basic theory on normalization of figures. *Electron. Commun. Japan* **54** (1971), *no.* 12, 106–112. (Author's summary) **46** #10255 68A45

Basic theory on the construction of figure space. *Systems-Computers-Controls* **2** (1971), *no.* 5, 51–57. (M. Arató) **51** #4751 68A45

A suppression kernel of a figure and its mathematical characteristics. *Systems-Computers-Controls* **2** (1971), *no.* 6, 16–23. (F. W. Stallman) **53** #2064 68A45

A system of fundamental functions in an abstract figure space. *Systems-Computers-Controls.* **2** (1971), *no.* 6, 96–103. (F. W. Stallman) **53** #2065 68A45

Basic theory on the structural recognition of figures. *Systems-Computers-Controls* **3** (1972), *no.* 4, 30–36 (1973). (Author's summary) **55** #9621 68A45

Theoretical studies on the figure identification by pattern matching. *Systems-Computers-Controls* **3** (1972), *no.* 4, 37–44 (1973). **55** #9622 68A45

(*with* Ogawa, Hidemitsu) A theory of pseudoorthogonal bases. *Systems-Computers-Controls* **6** (1975), *no.* 3, 32–40. (Authors' summary) **56** #18154 94A20

Iimori, Sueo (*with* Huzino, Seiiti) List processing for finding Wirth-Weber type precedence relations between symbols. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 152–166. (P. Deussen) **46** #10247 68A30

On the automatic construction of precedence matrices in syntactic analysis. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 253–259. (Max I. Kanovič) **49** #6689 68A30

Iimura, Kiyoaki A criterion for the class number of a pure quintic field to be divisible by 5. *J. Reine Angew. Math.* **292** (1977), 201–210. (Charles J. Parry) **55** #12688 12A50 (12A35)

Iino, Riichi (*with* Matahashi, Tomomi; Tsutsumi, Masayoshi) Some perturbation problem of modified Navier-Stokes equations. I. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* (1975), 63–73. (D. E. Edmunds) **55** #8586 35Q10

(*with* Machino, Yoshinari; Ishii, Hitoshi) On the solutions of the Navier-Stok equations of slightly compressible fluids. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. N* 69 (1975), 74–79. (Theodore E. Dushane) **53** #1056 35Q10

(*with* Matahashi, Tomomi; Tsutsumi, Masayoshi) Errata: "Some perturbation problem of modified Navier-Stokes equations. I" (Bull. Sci. Engrg. Res. Lab. Wase Univ. No. 69 (1975), 63–73). *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 70 (197 94. (Editors) **58** #6747 35Q10

Iitaka, Shigeru On algebraic varieties whose universal covering manifolds are compl affine 3-spaces. *Bull. Amer. Math. Soc.* **78** (1972), 737–740. (D. Gallarati) **46** #1792 14J99 (14E20)

On some new birational invariants of algebraic varieties and their application rationality of certain algebraic varieties of dimension 3. *J. Math. Soc. Japan* **24** (197 384–396. (Y. Nakai) **47** #225 14M20 (32J25)

Genus and classification of algebraic varieties. I. (Japanese) *Sûgaku* **24** (1972), *n* 1, 14–27. (Editors) **58** #27976 14D20

On algebraic varieties whose universal covering manifolds are complex affi 3-spaces. I. *Number theory, algebraic geometry and commutative algebra, in honor Yasuo Akizuki, pp.* 147–167. *Kinokuniya, Tokyo*, 1973. (S. Ramanan) **53** #13226 14E20 (14E35, 32J25)

Projective manifolds whose universal covering manifolds are C^3. *Manifolds—Toky 1973* (*Proc. Internat. Conf., Tokyo*, 1973), *pp.* 353–356. *Univ. Tokyo Press, Tokyo*, 197 (Gerhard Pfister) **51** #3502 32C10 (14C30)

Exceptional sets of algebraic varieties of hyperbolic type. A Symposium on Complex Manifolds (Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 240 (1975 234–240. (S. Ramanan) **54** #7462 14D20

Logarithmic forms of algebraic varieties. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* 2 (1976), *no.* 3, 525–544. (Miles Reid) **55** #2893 14C30 (14E05, 32J25)

On logarithmic Kodaira dimension of algebraic varieties. *Complex analysis an algebraic geometry, pp.* 175–189. *Iwanami Shoten, Tokyo*, 1977. (Author's review (Zbl 35 #14016)) **58** #27975 14D20

(*with* Fujita, Takao) Cancellation theorem for algebraic varieties. *J. Fac. Sci. Un Tokyo Sect. IA Math.* **24** (1977), *no.* 1, 123–127. (Robert Speiser) **56** #8574 14E9 (32J25)

Finiteness property of weakly proper birational maps. *J. Fac. Sci. Univ. Tokyo Sect IA Math.* **24** (1977), *no.* 2, 491–501. (T. Oda) **58** #16660 14E05 (32H20)

Classification of algebraic varieties. *Proc. Japan Acad.* **53** (1977), *no.* 3, 103–105. (C A. M. Peters) **56** #3014 14D20

On the Diophantine equation $\varphi(X, Y)=\varphi(x, y)$. *J. Reine Angew. Math.* **298** (1978) 43–52. (M. Fried) **58** #10912 14G25 (10B15)

Structure of logarithmic K3 surfaces. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978) *no.* 2, 49–51. (Editors) **58** #694 14J25

Symmetric forms and Weierstrass cycles. *Proc. Japan Acad. Ser. A Math. Sci.* 5 (1978), *no.* 4, 101–103. (Toshiyuki Maebashi) **58** #10893 14C20

Iizuka, Kenzo (*with* Sasaki, Siro) A note on the representations of finite groups. (Japanese) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 3 (1968), *part* 1 1–6. (H. Kimura **55** #5728 20C15

(*with* Ito, Yoshihiko; Sasaki, Siro) A note on the representations of finite groups II. (Japanese. English summary) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 4 (1969), *part* 1 39–44. (H. Kimura) **55** #5729 20C15

A note on blocks of characters of a finite group. *J. Algebra* **20** (1972), 196–201 (Masaru Osima) **47** #5088 20C20

(*with* Ito, Yoshihiko) A note on blocks and defect groups of a finite group. *Kumamoto J. Sci.* (*Math.*) **9** (1972), 25–32. (I. M. Isaacs) **46** #238 20C15

(*with* Watanabe, Atumi) On the number of blocks of irreducible characters of a finite group with a given defect group. *Kumamoto J. Sci.* (*Math.*) **9** (1972/73), 55–61. (I. Reiner) **48** #407 20C20

(*with* Ito, Yoshihiko) A note on the representations of finite groups. III. (Japanese. English summary) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 7 (1972), *part* 1, 1–6. (H. Kimura) **55** #5730 20C15

(*with* Ito, Yoshihiko; Watanabe, Atumi) A note on the representations of finite groups. IV. (Japanese. English summary) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci.* **8** (1973), *part* 1, 1–5. (H. Kimura) **55** #5731 20C15

Iizuka, Masaaki (*with* Kobayashi, Tatsuhiko; Tanaka, Kaoru; Ōtake, Shigeo; Ōyama Makoto; Hamada, Toshio; Tanaka, Mitsuru; Michiwaki, Yoshimasa) *Sansho (Book of Mathematics)* dated 1749. (Japanese) *Sûgakushi Kenkyû No.* 75 (1977), 9–20. **58** #26738 01A25

Ijaola, O. (*with* Ha, T. T.) Algebraic description of J-contractive real matrices. *Electron Lett.* **12** (1976), *no.* 16, 411–412. (A. Jaeger) **57** #5451 94A20

Ijiri, Yuji (*with* Simon, Herbert A.) Some distributions associated with Bose-Einstein statistics. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), 1654–1657. (Bruce M. Hill) **52** #6958 62E15 (82.62)

Ikai, Takeo (*with* Kosako, Hideo; Kojima, Yoshiaki) Subsequences in linear recurring sequences. *Electron. Commun. Japan* **53** (1970), *no.* 12, 159–166. (G. U. Brauer) **46** #9011 12C05 (94A10)

(*with* Kosako, Hideo; Kojima, Yoshiaki) Nonperiod-length subsequences including a cyclic subspace—subsequences in linear recurring sequences. *Systems-Computers-Controls* **2** (1971), *no.* 4, 34–41. (E. L. Cohen) **49** #2194 94A1

(*with* Kosako, Hideo; Kojima, Yoshiaki) Two-dimensional cyclic codes. *Electron Comm. Japan* **57** (1974/75), *no.* 4, 27–35. (Authors' summary) **56** #15140 94A10

Ikaunieks, E. Information properties of cellular structures. (Russian) *Problemy Peredač Informacii* **6** (1970), *no.* 4, 49–55. (W. Wechler) **48** #10708 94A30

An example of cellular structures in which all configurations are selfreproducing (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*) *pp.* 73–78. *Izdat.* "*Zinatne*", *Riga*, 1971. (R. Shirtladze) **47** #8217 94A30

A certain stochastic model for information storage. (Russian) *Problemy Peredač Informacii* **8** (1972), *no.* 3, 80–88. (I. Kramosil) **47** #4739 94A30

(*with* Freĭvalds, R.) Some advantages of nondeterministic machines over probabilistic ones. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 2(177)

118–123. (Rolf Lindner) **58** #33612 94A35 (02F15)

See also **Theory of algorithms and programs**, **53** #7093

a, Mitsuru Mixed problem for a hyperbolic system of the first order. *Publ. Res. Inst. Math. Sci.* **7** (1971/72), 427–454. (J. Smoller) **48** #9122 35L40

Remarques sur les problèmes mixtes pour l'équation des ondes. *Colloque International CNRS sur les Équations aux Dérivées Partielles Linéaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp.* 217–221. *Astérisque*, 2 *et* 3. *Soc. Math. France, Paris*, 1973. (John M. Chadam) **56** #6124 35L05

Sur les problèmes mixtes pour l'équation des ondes. *Publ. Res. Inst. Math. Sci.* **10** (1974/75), *no.* 3, 669–690. (J. Smoller) **52** #6193 35L05

Problèmes mixtes pas nécessairement L^2-bien posés pour les équations strictement hyperboliques. *Osaka J. Math.* **12** (1975), 69–115. (A. Pelczar) **52** #6196 35L35 (35R25)

On the mixed problem for the wave equation. (Japanese) *Sugaku* **27** (1975), *no.* 4, 302–315. (Editors) **58** #29305 35L20

Problèmes mixtes pour l'équation des ondes. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 1, 55–122. (M. H. Protter) **56** #3471 35L20

Problèmes mixtes pour l'équation des ondes. II. *Publ. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 1, 61–106. (M. H. Protter) **58** #17539a 35L05

On the mixed problems for the wave equation in an interior domain. *Comm. Partial Differential Equations* **3** (1978), *no.* 3, 249–295. (J. R. Cannon) **58** #1671 35L05

Mixed problems for the wave equation. III. Exponential decay of solutions. *Publ. Res. Inst. Math. Sci.* **14** (1978), *no.* 1, 71–110. (M. H. Protter) **58** #17539b 35L05

va, Toshihiko (*with* Yamaguchi, Seiichi) Remarks on a totally real submanifold. *Proc. Japan Acad.* **51** (1975), 5–6. (K. Yano) **51** #6669 53C40

(*with* Yamaguchi, Seiichi) On compact minimal *C*-totally real submanifolds. *Tensor* (*N.S.*) **29** (1975), *no.* 1, 30–34. (David Blair) **51** #11372 53C40

Sasakian immersions with vanishing *C*-Bochner curvature tensors. *TRU Math.* **11** (1975), 31–34. (Bang-yen Chen) **53** #11525 53B35

(*with* Yamaguchi, Seiichi; Kon, Masahiro) *C*-totally real submanifolds. *J. Differential Geometry* **11** (1976), *no.* 1, 59–64. (Bang-yen Chen) **53** #9088 53C40

(*with* Kon, Masahiro) Sasakian manifolds with vanishing contact Bochner curvature tensor and constant scalar curvature. *Colloq. Math.* **37** (1977), *no.* 1, 113–122. (Bang-yen Chen) **57** #4029 53B25

be, Nobunori (*with* Harada, Yukio) On the existence of Lipschitz continuous weak solutions of the Dirichlet problem for some quasi-linear degenerate elliptic equations. *Kumamoto J. Sci.* (*Math.*) **12** (1976/77), *no.* 1, 1–13. (Ju. V. Kostarčuk) **56** #6080 35D05 (35J25)

be, Teruo (*with* Saitō, Yoshimi) Limiting absorption method and absolute continuity for the Schrödinger operator. *J. Math. Kyoto Univ.* **12** (1972), 513–542. (Stanly L. Steinberg) **47** #628 35J10 (47F05)

A spectral theory for the reduced wave equation with a complex refractive index. *Publ. Res. Inst. Math. Sci.* **8** (1972/73), 579–606. (Manfred W. Kracht) **48** #4530 35P05

The continuous spectrum of the Schrödinger operators—the case of a long-range potential. (Japanese) *Sûgaku* **26** (1974), *no.* 4, 308–318. (Editors) **58** #30370 47A40

A look at the development of spectral and scattering theory in Japan. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 458–466. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (Editors) **58** #30371 47A40 (35P25)

Spectral representation for Schrödinger operators with long-range potentials. *J. Functional Analysis* **20** (1975), *no.* 2, 158–177. (C. A. Swanson) **52** #3751 35P05

Spectral representation for Schrödinger operators with long-range potentials. II. Perturbation by short-range potentials. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 2, 551–558. (C. A. Swanson) **55** #13092 35P05

See also **von Wahl, Wolf**, **56** #12572

ebe, Yasuhiko The Galerkin method for the numerical solution of Fredholm integral equations of the second kind. *SIAM Rev.* **14** (1972), 465–491. (G. T. Symm) **46** #6635 65R05

Hermite-Birkhoff interpolation problems in Haar subspaces. Collection of articles dedicated to Isaac Jacob Schoenberg on his 70th birthday, II. *J. Approximation Theory* **8** (1973), 142–149. (H. Werner) **49** #7647 41A05

The zeros of regular Coulomb wave functions and of their derivatives. *Math. Comp.* **29** (1975), 878–887. (Author's summary) **51** #14529 65D20

(*with* Smith, B. T.; Boyle, J. M.; Dongarra, J. J.; Garbow, B. S.; Klema, V. C.; Moler, Cleve B.) ★Matrix eigensystem routines—EISPACK guide. Second edition. Lecture Notes in Computer Science, Vol. 6. *Springer-Verlag, Berlin-New York*, 1976. ix + 551 *pp.* *ISBN* 3-540-07546-1 (Editors) **58** #13662a 65F15 (65–04)

(*with* Li, Tien Yien; Stenger, Frank) The numerical solution of the Hilbert problem. *Theory of approximation, with applications* (*Proc. Conf., Univ. Calgary, Calgary, Alta.*, 1975; *dedicated to the memory of Eckard Schmidt*), *pp.* 338–358. *Academic Press, New York*, 1976. (Jacob Steinberg) **55** #13840 65R05

eda, Akira Formally self adjointness for the Dirac operator on homogeneous spaces. *Osaka J. Math.* **12** (1975), 173–185. (T. J. Willmore) **51** #13137 22E45 (58G05)

eda, Hideto (*with* Yamamoto, Sumiyasu; Shige-eda, Shinsei; Ushio, Kazuhiko; Hamada, Noboru) On claw-decomposition of complete graphs and complete bigraphs. *Hiroshima Math. J.* **5** (1975), 33–42. (Michael S. Martin) **52** #205 05C99

(*with* Yamamoto, Sumiyasu; Shige-eda, Shinsei; Ushio, Kazuhiko; Hamada, Noboru) Design of a new balanced file organization scheme with the least redundancy. *Information and Control* **28** (1975), 156–175. (K. H. V. Booth) **51** #7402 68A50

(*with* Yamamoto, Sumiyasu; Ushio, Kazuhiko; Tazawa, Shinsei; Tamari, Fumikazu; Hamada, Noboru) Partition of a query set into minimal number of subsets having consecutive retrieval property. *J. Stat. Plann. Inference* **1** (1977), *no.* 1, 41–51. (K. H. V. Booth) **58** #8586 68A50

Combinatorial file organization schemes and their experimental evaluation. *Hiroshima Math. J.* **8** (1978), *no.* 3, 515–544. (K. H. V. Booth) **58** #25179 68A50

keda, Hiroshi Acyclic fake surfaces. *Topology* **10** (1971), 9–36. (J. Kister) **48** #5078 57A05 (55A40)

Acyclic fake surfaces which are spines of 3-manifolds. *Osaka J. Math.* **9** (1972), 391–408. (Wilbur Whitten) **50** #5800 57A10

Non-contractible acyclic normal spines. *Osaka J. Math.* **10** (1973), 511–520. (L. Neuwirth) **48** #12533 57A05

Singular block bundles. *Yokohama Math. J.* **22** (1974), 79–100. (K. Horvatić) **51** #6834 57C50 (57A10)

Orientable 3-manifolds as singular block bundles. *Yokohama Math. J.* **22** (1974), 141–149. (K. Horvatić) **51** #6835 57C50 (57A10)

Fake surfaces which are spines of 3-manifolds. *Yokohama Math. J.* **23** (1975), *no.* 1-2, 55–61. (L. Neuwirth) **51** #14061 57A10

(*with* Yamashita, Masakatsu) 4-manifolds of covering number 2. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 105–111. (H. J. Charlton) **55** #1364 57C99

Ikeda, Kazuyosi Some remarks on the statistical mechanics of condensing systems. I, II. *Tech. Rep. Osaka Univ.* **20** (1970), 345–368; *ibid.* **20** (1970), 369–378. (R. K. Pathria) **48** #10415 82.62

Distribution of zeros and the equation of state. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 520–523. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (RŽMat **1976** #2 B446) **58** #32234 73.35

Generalized theory of condensing systems. VI. Examples of systems satisfying the *G*-condition. *Progr. Theoret. Phys.* **55** (1976), *no.* 4, 1082–1092. (Author's summary) **53** #10052 82.30

Distribution of zeros and the equation of state. I. Fundamental relations and a theorem on a Cauchy-type integral. *Progr. Theoret. Phys.* **58** (1977), *no.* 2, 496–505. (Jean-Paul Marchand) **56** #10685 82.60

Ikeda, Kenji (*with* Morita, Katuhiko) Differential geometric proof of the theorem on the construction of nomograms in $\mathbf{R}^3$. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **18(22)** (1972), *no.* 3-4, *part I.* 157–161. (H. Brauner) **48** #7640 65S05 (53C70)

Ikeda, Makoto (*with* Takahashi, Shin-ichi) Generalization of exponential and Laguerre-Lee functions. *Electron. Commun. Japan* **56** (1973), *no.* 10, 34–41. (V. L. Deshpande) **50** #5042 33A10

(*with* Takahashi, Shin-ichi) Generalization of Routh's algorithm and stability criterion for non-integer integral system. *Electron. Commun. Japan* **60** (1977), *no.* 2, 41–50. (L. D. Berkovitz) **58** #15544 93D99

Ikeda, Masao (*with* Maeda, Hajime; Kodama, Shinzo) Stability criteria of a feedback system with backlash—an extension of frequency-domain conditions by the multiplier method. *Systems-Computers-Controls* **1** (1970), *no.* 2, 45–52 (1971). (Authors' summary) **53** #15495 93D15

(*with* Maeda, Hajime; Kodama, Shinzo) Stabilization of linear systems. *SIAM J. Control* **10** (1972), 716–729. (W. M. Wonham) **48** #13333 93B05

(*with* Maeda, Hajime; Kodama, Shinzo) On the stabilization of uniformly completely controllable systems by means of state-variable feedback. *Systems-Computers-Controls* **3** (1972), *no.* 4, 9–14 (1973). (Leonard Weiss) **50** #12390 93D15

(*with* Sasano, Yoshiro) Low-dimensional estimator for a finite-dimensional linear time-varying system. *Systems-Computers-Controls* **3** (1972), *no.* 5, 16–22 (1973). (T. Kaczorek) **51** #7667 93C50

(*with* Kodama, Shinzo) Large-scale dynamical systems: state equations, Lipschitz conditions, and linearization. Large-scale networks. *IEEE Trans. Circuit Theory* **CT-20** (1973), 193–202. (T. Kaczorek) **51** #5078 93A15

(*with* Maeda, Hajime; Kodama, Shinzo) Design of multivariable feedback control systems and nonlinear systems. (Japanese) *Systems and Control* **17** (1973), 662–671. (Kunihiko Ichikawa) **52** #2683 93D15

(*with* Nagata, Akira; Nishimura, Takuya) Linear function observer for linear discrete-time systems. *IEEE Trans. Automatic Control* **AC-20** (1975), 401–407. (M. Aoki) **56** #2502 93B05

(*with* Maeda, Hajime; Kodama, Shinzo) Estimation and feedback in linear time-varying systems: a deterministic theory. *SIAM J. Control* **13** (1975), 304–326. (Edward J. Davison) **55** #2209 93B05 (93C50)

(*with* Umefuji, Osamu; Kodama, Shinzo) Stabilization of large-scale linear systems. *Systems-Computers-Controls* **7** (1976), *no.* 3, 34–41 (1977). (Peter J. Moylan) **56** #14993 93D15 (93A15)

(*with* Kagawa, Masayuki; Maeda, Hajime; Kodama, Shinzo) A system-theoretic consideration for block diagram manipulation rules. *Systems-Computers-Controls* **7** (1976), *no.* 4, 86–94 (1977). (James A. Heinen) **58** #9511 93B30 (93B05)

Ikeda, Masatoshi (*with* Koç, Cemal) On generalized Clifford algebras. *J. Algebra* **23** (1972), 133–136. (A. O. Morris) **49** #5052 15A66

A generalization of the Hasse-Arf theorem. *J. Reine Angew. Math.* **252** (1972), 183–186. (J. Knopfmacher) **45** #236 12A40

Chain condition of Witt rings and orderings of fields. (Turkish summary) *METU J. Pure Appl. Sci.* **5** (1972), *no.* 3, 361–364. (A. Rosenberg) **52** #8168 15A63 (12D15)

(*with* Koç, Cemal) On the commutator ideal of certain rings. *Arch. Math.* (*Basel*) **25** (1974), 348–353. (A. Yaqub) **50** #9965 16A48

On the group automorphisms of the absolute Galois group of the rational number field. *Arch. Math.* (*Basel*) **26** (1975), 250–252. (Jack Sonn) **52** #13737 12A55

Completeness of the absolute Galois group of the rational number field. *Arch. Math.* (*Basel*) **26** (1975), *no.* 6, 602–605. (Helmut Koch) **53** #352 12A55

Nilpotency index of prime C^*-algebras. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **40** (1975), 167–169 (1978). (Author's summary) **58** #12401 46L05

Completeness of the absolute Galois group of the rational number field. *J. Reine Angew. Math.* **291** (1977), 1–22. (William C. Waterhouse) **56** #310 12A55 (12B15)

Ikeda, Mineo (*with* Maekawa, Takayoshi) On finite transformations generated by the Runge-Lenz vector in the *n*-dimensional Kepler problem. *Math. Japon.* **15** (1970), 57–67. (C. J. Eliezer) **45** #2957 70.53

(*with* Miyachi, Yoshihiko) On the mathematical structure of the symmetry of some simple dynamical systems. *Math. Japon.* **15** (1970), 127–142. (R. L. Ingraham) **45** #3005 81.22

(*with* Fujitani, Tamehiro) On linear first integrals of natural systems in classical mechanics. *Math. Japon.* **15** (1970), 143–153. (D. Lovelock) **46** #6210 53B20 (70.53)

(*with* Tsukabe, Tadashi) On the separability of the four-dimensional Laplace equation, with reference to the unitary group of degree two. *Math. Japon.* **16** (1971), 127–136. (S. Datta Majumdar) **46** #5805 35A22 (35J05)

(*with* Kimura, Morishige) On quadratic first integrals of natural systems in classical mechanics. *Math. Japon.* **16** (1971), 159–171. (D. Lovelock) **46** #8094 53B20

(*with* Maekawa, Takayoshi) On invariants of $O(n)$ and $O(p,q)$ and the symmetry of multidimensional hydrogen atom. *Math. Japon.* **16** (1971), 173–184. (N. E. Hurt) **45** #6291 81.22

(*with* Nishino, Yoshio) On quadratic first integrals of a particular natural system in classical mechanics. *Hokkaido Math. J.* **1** (1972), 154–163. (N. D. Sengupta) **47** #6165 70.35

(*with* Nishino, Yoshio) On classical dynamical systems admitting the maximum number of linearly independent quadratic first integrals. *Math. Japon.* **17** (1972), 69–78. (K. R. Meyer) **53** #6630 58F05 (70.34)

(*with* Kimura, Morishige) On quadratic first integrals in the general-relativistic Kepler problem. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 395–404. (M. Carmeli) **48** #13123 83.35

(*with* Nishino, Yoshio) On groups of scalar-preserving isometries in Riemannian spaces, with application to dynamical systems. *Tensor* (*N.S.*) **27** (1973), 295–305. (R. Roşca) **49** #6065 53B20

(*with* Iwai, Toshihiro) On inhomogeneous linear automorphisms of simple Hamiltonian systems. *Ann. Mat. Pura Appl.* (4) **107** (1975), 263–278 (1976). (K. R. Meyer) **53** #6631 58F05 (70.34)

(*with* Miyachi, Yoshihiko) On the symmetry of Hamiltonian systems and the unified treatment of special functions. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 73–85. (Mayer Humi) **52** #16212 70.47 (33A75)

(*with* Sakamoto, Kentaro) On the concept of symmetry in Pontryagin's maximum principle. *SIAM J. Control* **13** (1975), 389–399. (Djordje Djukic) **52** #4061 49A10

(*with* Nishino, Yoshio) Lie groups and their applications. I. (Japanese) *Systems and Control* **20** (1976), *no.* 4, 186–194. (Takayuki Nôno) **55** #5793a 22Exx (58Fxx)

(*with* Nishino, Yoshio) Lie groups and their applications. II. (Japanese) *Systems and Control* **20** (1976), *no.* 5, 244–251. (Takayuki Nôno) **55** #5793b 22Exx (58Fxx)

(*with* Nishino, Yoshio) Lie groups and their applications. III. (Japanese) *Systems and Control* **20** (1976), *no.* 6, 306–312. (Takayuki Nôno) **55** #5793c 22Exx (58Fxx)

(*with* Nishino, Yoshio) Lie groups and their applications. IV. (Japanese) *Systems and Control* **20** (1976), *no.* 7, 356–363. (Takayuki Nôno) **55** #5793d 22Exx (58Fxx)

(*with* Nishino, Yoshio) Lie groups and their applications. V. (Japanese) *Systems and Control* **20** (1976), *no.* 8, 419–424. (Takayuki Nôno) **58** #982a 22–02

(*with* Nishino, Yoshio) Lie groups and their applications. VI. (Japanese) *Systems and Control* **20** (1976), *no.* 9, 480–489. (Takayuki Nôno) **58** #982b 22–02

Ikeda, Minoru (*with* Kawai, Toshiharu; Yoshida, Hideo) Magnetic monopole, vector potential and gauge transformation. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 7, 227–231. (A. Rouet) **57** #18622 81.47 (78.35)
(1976), *no.* 4, 86–94 (1977). (James A. Heinen) **58** #9511 93B30 (93B05)

Ikeda, Mitsuaki (*with* Maeda, Hajime; Kodama, Shinzo) Extended stability conditions for a feedback system with backlash. *Internat. J. Control* (1) **13** (1971), 881–895. (Jan C. Willems) **46** #10466 93D10

Ikeda, Nobuyuki (*with* Watanabe, Shinzo) The local structure of a class of diffusions and related problems. *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 124–169. *Lecture Notes in Math.*, *Vol.* 330, *Springer*, *Berlin*, 1973. (Constantin Tudor) **56** #9711 60J60

(*with* Watanabe, Shinzo) A comparison theorem for solutions of stochastic differential equations and its applications. *Osaka J. Math.* **14** (1977), *no.* 3, 619–633. (Toshio Yamada) **57** #10822 60H10 (93E20)

(*with* Nakao, Shintaro; Yamato, Yuiti) A class of approximations of Brownian motion. *Publ. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 1, 285–300. (Mark Pinsky) **56** #16787 60H05

Ikeda, Saburo (*with* Katayama, Tohru) Optimal controls for first-order stochastic systems. (Japanese. English summary) *Systems and Control* **17** (1973), 241–248. (Authors' summary) **47** #3085 93E20

(*with* Shima, Masasuke; Okamoto, Masaaki) Optimal control of a bilinear distributed parameter system—on the pattern of the optimal flow-rate control. (Japanese. English summary) *Systems and Control* **17** (1973), 689–697. (Authors' summary) **58** #33321 93C20

(*with* Shima, Masasuke; Okamoto, Masaaki) A sufficient condition for the optimality of a singular control in hyperbolic distributed parameter systems. (Japanese. English summary) *Systems and Control* **18** (1974), *no.* 11, 641–648. (Takashi Yahagi) **53** #2465 93C20

(*with* Nakamori, Yoshiteru; Sawaragi, Yoshikazu) A measure of obtaining representative pointwise source and its availability for air pollution control. *Internat. J. Systems Sci.* **8** (1977), *no.* 12, 1429–1440. (S. G. Tzafestas) **57** #9144 92A99

(*with* Miyamoto, Sadaaki; Sawaragi, Yoshikazu) Identification of distributed systems and the theory of the regularization. *J. Math. Anal. Appl.* **63** (1978), *no.* 1, 77–95. (Kimio Kanai) **57** #15694 93E10 (65K05)

Ikeda, Sadao A note on uniform asymptotic independence of elementary coverages. *J. Japan Statist. Soc.* **2** (1971/72), *no.* 1, 35. (S. Kullback) **46** #2779 62E20

(*with* Matsunawa, Tadashi) On the uniform asymptotic joint normality of sample quantiles. *Ann. Inst. Statist. Math.* **24** (1972), 33–52. (J. V. Deshpande) **49** #10044 62G30 (62E20)

(*with* Chakravarti, Indra-Mohan) Construction of association schemes and designs from finite groups. *J. Combinatorial Theory Ser. A* **13** (1972), 207–219. (R. G. Stanton) **46** #1613 05B05

(*with* Ogawa, Junjiro) On the randomization of block designs. *A survey of combinatorial theory* (*Proc. Internat. Sympos.*, *Colorado State Univ.*, *Fort Collins*, *Colo.*, 1971), *pp.* 335–347. *North-Holland*, *Amsterdam*, 1973. (Frank K. Hwang) **51** #14453 62K10

(*with* Ogawa, Junjiro) The asymptotic non-null distribution of the F-statistic for testing a partial null-hypothesis in a randomized PBIB design with m associate classes under the Neyman model. *Ann. Inst. Statist. Math.* **25** (1973), 239–259. (R. M. Cormack) **49** #4136 62E20 (62K10)

(*with* Ogawa, Junjiro) On the asymptotic null distribution of the F-statistic f testing a partial null hypothesis in a randomized PBIB design with m associate class under the Neyman model. (French summary) *Canad. J. Statist.* **1** (1973), *no.* 1, 1– (A. N. Philippou) **53** #9459 62E20 (62K10)

Some criteria for uniform asymptotic equivalence of real probability distribution *Ann. Inst. Statist. Math.* **27** (1975), *no.* 3, 421–428. (Dominik Szynal) **53** #11704 60F05

Ikeda, Satoshi A geometrical construction of the physical interaction field and its application to the rheological deformation field. Commemoration volumes for Prof. D Akitsugu Kawaguchi's seventieth birthday, Vol. I. *Tensor* (*N.S.*) **24** (1972), 60–68. (P. S. Verma) **48** #7741 73.46

Some remarks on the concept of metric in the physical interaction field. *Tens* (*N.S.*) **27** (1973), 183–188. (P. D. S. Verma) **48** #12976 73.53

A physico-geometrical consideration on the theory of directors in the continuu mechanics of oriented media. *Tensor* (*N.S.*) **27** (1973), 361–368. (P. D. S. Verm **48** #12977 73.53

On Weyl's gauge field in a non-local field. *Internat. J. Theoret. Phys.* **11** (197 205–212. (Author's summary) **54** #9484 81.53

A physico-geometrical note on Weyl's gauge invariance in a unified field. *Le Nuovo Cimento* (2) **10** (1974), 341–344. **56** #4662 83.53

A structurological consideration on a unified field. *Lett. Nuovo Cimento* (2) 1 (1975), *no.* 13, 497–500. **56** #4663 83.53

Some structurological remarks on a nonlocal field. *Internat. J. Theoret. Phys.* 1 (1976), *no.* 5, 377–387. (Marcos Rosenbaum) **55** #11867 81.53 (83.53)

Some physico-geometrical remarks on spinors in general relativity. *Lett. Nuov Cimento* (2) **15** (1976), *no.* 8, 265–268. **56** #4664 83.53

On a "nonlocalization" of a unified field. *Lett. Nuovo Cimento* (2) **15** (1976), *no.* 1 547–550. **54** #2014 81.53

Some Finslerian features underlying the theory of physical fields. *Lett. Nuov Cimento* (2) **15** (1976), *no.* 17, 623–626. (S. Deser) **53** #7304 81.53

Some physico-geometrical remarks on the conformal transformation in genera relativity. *Lett. Nuovo Cimento* (2) **17** (1976), *no.* 16, 545–548. (From the author' introduction) **56** #4665 83.53

A geometrical consideration of the concept of "unified" gauge field. *Lett. Nuov Cimento* (2) **20** (1977), *no.* 11, 405–408. **56** #14358 81.53

Some field theoretical aspects underlying the theory of higher-order spaces. *Lett Nuovo Cimento* (2) **20** (1977), *no.* 15, 559–562. (John Madore) **57** #18632 81.5 (53B40)

Ikeda, Yasuhiko (*with* Nobusawa, Nobuo) On symmetric sets of unimodular symmetri matrices. *Osaka J. Math.* **14** (1977), *no.* 3, 471–480. (Benjamin Fine) **57** #9869 20H05

Ikeda, Yoshiaki Regularity of solutions for quasi-linear parabolic equations. *Nagoya Math J.* **60** (1976), 151–172. (Zbl **324** #35049) **58** #23078 35K55 (35D10)

Ikeda, Yoshito Mapping and μ-, η-, ψ-compact spaces. *Bull. Tokyo Gakugei Univ.* (4) **2** (1975), 1–4. (R. Grant Woods) **52** #9157 54C10

Mappings and c-realcompact spaces. *Bull. Tokyo Gakugei Univ.* (4) **28** (1976) 12–16. (R. Grant Woods) **56** #6608 54D60

(*with* Kitano, Masaki) Notes on RC-preserving mappings. *Bull. Tokyo Gakugei Univ.* (4) **29** (1977), 53–60. (Edwin Duda) **56** #13144 54C10

Ikegami, Gikō Correction to: "Flow equivalence of diffeomorphisms. I, II". *Osaka J. Math.* **9** (1972), 335–336. (K. R. Meyer) **47** #5905 58F99

On weak concepts of stability. *Nagoya Math. J.* **55** (1974), 161–179. (Clark Robinson) **52** #1783 58F10

On structural stability and weak stability of dynamical systems. *Manifolds—Tokyo 1973* (*Proc. Internat. Conf. Tokyo*, 1973), *pp.* 211–217. *Univ. Tokyo Press*, *Tokyo*, 1975. (Clark Robinson) **51** #4317 58F10

Existence of regular coverings associated with leaves of codimension one foliations. *Nagoya Math. J.* **67** (1977), 15–34. (D. B. Fuks) **58** #24290 57D30

Topologically unequivalent diffeomorphisms whose suspensions are C^∞ equivalent. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 1, 11–12. (Zbigniew Nitecki) **58** #2900 58F99

Weak stability implies structural stability under Axiom A. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 2, 61–63. (Leo Jonker) **58** #2885 58F10

Ikegami, Teruo Dirichlet problem on Green lines related to the compactifications of Green spaces. *Osaka J. Math.* **8** (1971), 347–375. (M. Brelot) **46** #7524 30A88 (31A05)

On a generalization of the theorem of Reisz-Frostman-Nevanlinna. *Osaka J. Math.* **9** (1972), 519–533. (M. Brelot) **47** #8890 31C05

Theorems of Riesz type on the boundary behaviour of harmonic maps. *Osaka J. Math.* **10** (1973), 247–264. (R. M. Hervé) **49** #9242 31D05

On the boundary behaviour of harmonic maps. *Osaka J. Math.* **10** (1973), 641–653. (R. Hornblower) **48** #8826 31D05 (30A72)

On the characterization of harmonic map of type Bl at the Martin boundary points of a harmonic space. *Osaka J. Math.* **13** (1976), *no.* 1, 67–82. (Klaus Janssen) **53** #13615 31D05

On the regularity of boundary points in a resolutive compactification of a harmonic space. *Osaka J. Math.* **14** (1977), *no.* 2, 271–289. (D. H. Armitage) **56** #3332 31D05

Ikegami, Tetsuo On a theorem of B. J. Pettis. (Japanese) *Sûgaku* **30** (1978), *no.* 1, 70–71. (K. Yosida) **58** #17032 28A45

Ikehata, Shûichi On Morita equivalence in ring extensions. *Math. J. Okayama Univ.* **18** (1975/76), *no.* 1, 73–79. (Manuel Ojanguren) **53** #534 16A56

(*with* Tominaga, Hisao) Rings with some two-variable constraints. *Math. Japon.* **22** (1977), *no.* 3, 287–288. (Howard E. Bell) **57** #6084 16A30

On a paper of J.-S. Shiue and W.-M. Chao: "On the Boolean rings" (Yokohama Math. J. **24** (1976), no. 1-2, 93–96). *Yokohama Math. J.* **25** (1977), *no.* 2, 119. (Editors) **57** #5852 06A40

Ikeno, Nobuichi (*with* Nakamura, Gisaku) Constant-weight codes. *Electron. Commun. Japan* **54** (1971), *no.* 8, 35–42. (R. Alter) **47** #8194 94A10

(*with* Nakamura, Gisaku; Naemura, Kenji) Optimality of constant-weight codes. *Electron. Commun. Japan* **55** (1972), *no.* 7, 32–37. (G. Solomon) **49** #7018 94A15

chi, Satoru (*with* Nakamura, Takashi) Nonlinear modulation of density wave in self-gravitating systems—gas dynamical description. *Progr. Theoret. Phys.* **55** (1976), *no.* 5, 1419–1431. (Authors' summary) **54** #2121 85.41

va, N. V. (*with* Dubov, Ju. A.; Imel′baev, Š. S.; Kabakov, A. B.; Koval′čuk, S. G.; Kopeĭkin, A. B.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul′jan, B. L.) Mathematical simulation of the development of urban systems. *Avtomat. i Telemeh.* **1975**, *no.* 11, 93–127 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 2, 1831–1862 (1976). (Kenneth F. Wieand) **55** #7306 90A15 (92A15, 93C10)

(*with* Dubov, Ju. A.; Imel′baev, Š. S.; Koval′čuk, S. G.; Kopeĭkin, A. B.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul′jan, B. L.) Optimal planning and control problems in the development of conurbations (survey and research problems). *Avtomat. i Telemeh.* **1976**, *no.* 6, 78–116 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 6, *part* 2, 879–912. (Andrew P. Sage) **55** #14069 90–02 (93–02)

na, Kazuo On a theorem of Koebe for quasiconformal mappings. *Proc. Japan Acad.* **46** (1970), *no.* 7, *supplement*, 763–765. (J. A. Kelingos) **46** #2044 30A60

Some concrete examples about the compactness and the reflection principle. (Japanese summary) *Bull. Yamagata Univ. Natur. Sci.* **7** (1971), *no.* 4, 379–384. (J. A. Kelingos) **46** #2045 30A60

Extremal property of Mori rings in 3-space. *Bull. Yamagata Univ. Natur. Sci.* **8** (1973), *no.* 2, 141–144. (G. D. Anderson) **48** #6407 30A60

Distortion theorems in a certain family of quasiconformal mappings of a ball in n-space. Collection of articles dedicated to Isuke Satō. *Bull. Yamagata Univ. Natur. Sci.* **9** (1976/77), *no.* 1, 19–32. (M. K. Vamanamurthy) **56** #605 30A60

Point symmetrization of rings in n-space. *Bull. Yamagata Univ. Natur. Sci.* **9** (1976/77), *no.* 2, 191–195. (W. R. Derrick) **58** #22616 31B15

A distortion theorem in K-quasiconformal mappings of the n-ball. *Tôhoku Math. J.* (2) **28** (1976), *no.* 4, 553–561. (Uri Srebro) **55** #3244 30A60

m, Mohd. (*with* Maggu, Parkash Lal; Alam, Mohd. Shamim) On certain type of sequencing problem with n jobs and m machines. *Pure Appl. Math. Sci.* **1** (1974/75), *no.* 2, 55–59. (Editors) **57** #5060a 90B35

(*with* Maggu, Parkash Lal; Alam, Mohd. Shamim) On certain theorems in sequencing theory. *Pure Appl. Math. Sci.* **1** (1974/75), *no.* 2, 60–62. (Editors) **57** #5060b 90B35

On certain new terms in sequencing theory and on alternative optimal sequences. *Pure Appl. Math. Sci.* **2** (1975), *no.* 1, 45–50. (Author's summary) **55** #9929 90B35

mov, H. D. The eigenvalues of the principal submatrices of a normal matrix. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1553–1557. (A. Lee) **45** #5149 15A42 (65F15)

The eigenvalues of a pseudoinverse matrix. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 3, 5–8. (Ion Enescu) **50** #2195 15A09

★Задачник по линейной алгебре. (Russian) [A problem book on linear algebra] Edited by V. V. Voevodin. *Izdat. "Nauka", Moscow*, 1975. 319 *pp.* (Editors) **53** #465 15–02

See also **Tewarson, Reginald P.**, **56** #17019

nishi, Akio (*with* Nakagami, Yoshiomi) On invariants $G(\sigma)$ and $G(\sigma)$ for an automorphism group of a von Neumann algebra. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 1, 1–30. (Authors' summary) **56** #9280 46L10

shima, Akira (*with* Mimura, Fumitake) Structure of contracted Lie algebras. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 25 (1978), 1–7. (M. K. F. Wong) **58** #11049 17B65 (22E70, 81.17)

ta, Kazunari (*with* Yamanaka, Kaoru) MHD instability of plasma column with an embedded ion beam. *J. Phys. Soc. Japan* **43** (1977), *no.* 1, 301–304. (Authors' summary) **56** #10643 82.35

nanov, A. I. The characteristics of a certain differential equation. (Russian) Collection of articles dedicated to the memory of Mazit Ifatovič Al′muhamedov. *Volž. Mat. Sb. No.* 16 (1973), 148–161. (Z. Nehari) **50** #7665 34C05

ned, Y. (*with* Green, H. S.; Hurst, C. A.) The state labeling problems for SO(N) in U(N) and U(M) in Sp(2M). *J. Mathematical Phys.* **17** (1976), *no.* 8, 1376–1382. (M. K. F. Wong) **54** #1921 81.22 (22E70)

ned, Yehiel (*with* Boers, A. H.) On the maximal ideal in the nucleus of a nonassociative ring. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 393–395. (D. Rodabaugh) **47** #1890 17A30

(*with* Boers, A. H.) On nonassociative rings of (n,h)-PA type. *Nederl. Akad. Wetensch. Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 222–227. (D. Rodabaugh) **48** #6191 17A99

Generalized Cayley-Hamilton identities for matrices with entries in a non-associative ring. *Proc. Cambridge Philos. Soc.* **73** (1973), 21–23. (L. M. Chawla) **49** #5112 17E05

(*with* Boers, A. H.) Chains of subrings and ideals in non-associative rings. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 4, 289–295. (T. S. Ravisankar) **55** #8122 17A99

A characterization of the standard polynomial of even degree. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 623–626. *Academic Press, New York*, 1977. (W. Ledermann) **58** #615 12E05

A generalization of the "associative" property of the Killing form. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 627–630. *Academic Press, New York*, 1977. (W. Ledermann) **58** #730 15A24

nkov, N. M. Some erroneous integral transform formulas. (Russian) *Differencial′nye Uravnenija* **4** (1968), 2275–2277. (L. B. Rall) **46** #9656 44A10

enfritz, E. M. (*with* Kripfganz, J.; Möhring, H. J.) Hadronische Kaskadenprozesse. *Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **26** (1977), *no.* 2, 205–218. (Editors) **58** #32535 81.35

hamov, Z. Reducible partial differential equations with the operator L_ψ in rings of Study and Boole complexes. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1970**, *no.* 3, 3–5. (D. P. Rašković) **58** #29058 35A99 (30A97)

Integration of reducible systems of partial differential equations in a ring of complexes with Boolean composition law. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1970**, *no.* 8, 9–11. (D. P. Rašković) **58** #29059 35A99 (30A97)

Analytic functions of complexes of a structural law of composition. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 27 (1974), 33–40, 232. (Author's summary) **58** #11452 30A97

Representation of analytic functions of complexes by contour integrals of Cauchy type in rings of complexes with structural composition laws. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 4, 11–12. (I. I. Bavrin) **52** #5990 30A97 (32A25)

Integration of reducible systems of partial differential equations in a ring of complexes with a lattice composition law. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 2, 8–11. (D. P. Rašković) **53** #3479 35C99

Iliadis, S. *See* **Parovičenko, I. I.**, **45** #2668

Iliadis, Stavros An investigation of plane continua by means of Carathéodory prime ends. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 1305–1308. (J. J. Charatonik) **48** #1186 54F20 (30A72)

The classification of hereditarily decomposable continua. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 6, 60–65. (J. J. Charatonik) **51** #4186 54F20 (54F55)

Nonexpansive mappings of compacta. (Russian. English summary) *Fund. Math.* **90** (1975/76), *no.* 2, 125–129. (L. Janos) **54** #6125 55C20 (54H25)

Some properties of nonexpansive mappings of compacta. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 8, 821–825. (V. A. Kalinin) **57** #1478 55C20

Ilić-Dajović, Milica Sur les déformations infiniment petites des certaines classes des surfaces paraboliques ouvertes. *Math. Balkanica* **1** (1971), 105–118. (C.-C. Hsiung) **45** #5927 53C45

Sur les déformations infiniment petites de certaines classes des surfaces paraboliques fermées. *Math. Balkanica* **1** (1971), 119–125. (C.-C. Hsiung) **45** #5928 53C45

Il′ičev, V. S. The choice of optimal controls of processes under conditions of indeterminacy. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 1: *Optimal and adaptive systems* (*Russian*), *pp.* 87–93, 306. *Izdat. "Nauka", Moscow*, 1972. (N. N. Petrov) **50** #12300 90D25

Invariance of certain properties of the Bellman function, and the structure of optimal strategies in antagonistic games. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp.* 209–211. *Izdat. "Mintis", Vilnius*, 1973. (Author's summary) **50** #6532 90D25

Il′ičeva, G. M. *See* **Schmutzer, E.**, **58** #32189

Ilie, D. An application of strategic games to a decision-making problem. (French and Russian summaries) *Econom. Comp. Econom. Cybernet. Stud. Res.* **1971**, *no.* 2, 77–95. (A. C. Williams) **45** #6390 90A05

Ilie, P. (*with* Muja, Aneta; Arsin, A.) A probabilistic study of chain reactions with branching. (Romanian. Russian and German summaries) *An. Univ. Bucureşti Mat.-Mec.* **22** (1973), *no.* 1, 75–82. (M. Iosifescu) **50** #3846 82.60

Iliescu, Dan V. (*with* Craiu, Virgil; Vodă, Viorel Gh.) Some aspects of the problem of defective in a batch. *An. Univ. Bucureşti Mat.-Mec.* **19** (1970), *no.* 2, 21–32. (A. K. Gayen) **47** #1231 62N10

(*with* Vodă, Viorel Gh.) Proportion-p estimators for certain distributions. (Italian and French summaries) *Statistica* (*Bologna*) **33** (1973), 309–321. (M. A. Hamdan) **49** #6472 62F10

(*with* Vodă, Viorel Gh.) The study of the inverse of a random variable of Rayleigh type. (Romanian. English summary) *Stud. Cerc. Mat.* **25** (1973), 1507–1521. (N. L. Johnson) **50** #11604 62F10

(*with* Vodă, Viorel Gh.) On a certain distribution used in reliability theory. (Romanian. English summary) *Stud. Cerc. Mat.* **26** (1974), 15–34. (M. Stoica) **51** #7213 62N05

(*with* Vodă, Viorel Gh.) On a random variable distributed according to the Maxwell law. (Romanian. English summary) *Stud. Cerc. Mat.* **26** (1974), 169–178. (M. Stoica) **51** #9320 62F10

(*with* Vodă, Viorel Gh.) On the estimation of standard deviation for a normal population. *Trabajos Estadíst. Investigación Oper.* **25** (1974), *no.* 1-2, 71–98. (G. S. Lingappaiah) **56** #9783 62F10 (62G30)

(*with* Vodă, Viorel Gh.) Some inferences on alpha distribution. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 10, 1433–1439. (A. C. Cohen) **58** #3266 62N05

Iliev, G. L. Approximation of functions with respect to a certain new metric. (Russian) *C. R. Acad. Bulgare Sci.* **28** (1975), *no.* 3, 299–310. (Luciana Lupaş) **53** #11276 41A50

(*with* Popov, V. A.) An analogue of Jackson theorem of g-distance in the space of continuous functions. *C. R. Acad. Bulgare Sci.* **28** (1975), *no.* 9, 1159–1162. (Wilhelm Sippel) **54** #831 42A08

Estimation of Hausdorff approximation by Müntz polynomials. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 9, 1253–1256. (Myron S. Henry) **55** #3625 41A30

(*with* Andreev, Andreĭ S.) A numerical method of finding the polynomial of best approximation with respect to a certain new metric in the space of continuous functions. (Russian) *Serdica* **2** (1976), *no.* 4, 360–364. (Luciana Lupaş) **56** #13528 65D15 (41A50)

Exact estimations under partially monotone approximation and interpolation. *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 4, 491–494. (See Zbl **356** #41006) 41A05

Estimation of the parametric approximation of analytic functions in an open interval. *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 5, 653–655. (A. Meir) **58** #17107 30A82

(*with* Popov, V. A.) Parametric approximation of piecewise analytic functions. *PLISKA Studia Math. Bulgar.* **1** (1977), 72–78. (J. Gregor) **57** #10329 41A50

An improvement of Sendov's estimation for parametric approximation of partially analytic functions. *PLISKA Studia Math. Bulgar.* **1** (1977), 93–99. (J. Szabados) **57** #3708 41A45

Iliev, I. D. Mixed problem for a class of parabolic equations with a multidimensional time variable. *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 11, 1525–1527. (Antonino Maugeri) **58** #17532 35K99 (35S15)

Iliev, Il. Linear integrals of a holonomic mechanical system. *Prikl. Mat. Meh.* **34** (1970), 751–755 (*Russian*); *translated as J. Appl. Math. Mech.* **34** (1970), 718–722 (1971). (J. Hoschek) **45** #6229 70.35

Equations in the virtual vectors having the form of the equations of P. Voronec and

P. Appell. (Bulgarian. Russian and French summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **8** (1970), *no.* 1, 33–40. (B. Vujanovic) **48** #1560 70.35

Another form of equations with admissible vectors. (Bulgarian. Russian and French summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **8** (1970), *no.* 2, 23–27. (B. Vujanovic) **45** #9566 70.35

A certain application of equations with admissible vectors. (Bulgarian. Russian and French summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **8** (1970), *no.* 3, 47–52. (B. Vujanovic) **45** #9567 70.35

Canonic equations with admissible vectors of a nonholonomic scleronomous system. (Bulgarian. Russian and French summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **8** (1970), *no.* 3, 53–55. (B. Vujanovic) **45** #9568 70.35

Classification of linear integrals of a holonomic mechanical system with two degrees of freedom. *Prikl. Mat. Meh.* **35** (1971), 420–422 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 381–383 (1972). (Author's summary) **48** #12949 70.53

A certain classification of nonholonomic scleronomous systems. (Bulgarian. Russian and French summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **9** (1971), *no.* 2, 29–35. (E. Siwek) **46** #2938 70.34

A certain form of quadratic integrals of a mechanical system. (Bulgarian. Russian and French summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **9** (1971), *no.* 3, 33–37. (Author's summary) **45** #8076 70.34

(*with* Semerdžiev, Hr.) Holonomic mechanical systems with two degrees of freedom that admit quadratic integrals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 2(117), 51–53. (J. F. Heyda) **45** #8902 34A05 (70.34)

Classification of linear integrals of a holonomic mechanical system with *n* degrees of freedom. *Prikl. Mat. Meh.* **36** (1972), 125–129 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 112–116. (Kishin Mariwalla) **48** #12943 70.35

(*with* Semerdžiev, Hr.) Relations between the first integrals of a nonholonomic mechanical system and of the corresponding system freed of constraints. *Prikl. Mat. Meh.* **36** (1972), 405–412 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 381–388. (Djordje Djukic) **48** #7706 70.34

Certain sufficient conditions for the applicability of the Hamilton-Jacobi theorem to a nonholonomic scleronomic system. (Bulgarian. Russian and English summaries) *Teoret. i Prilož. Meh.* **4** (1973), *no.* 4, 73–77, 6, 7–8. (B. Vujanovic) **50** #9093 70.34

On first integrals of a nonholonomic mechanical system. *Prikl. Mat. Meh.* **39** (1975), *no.* 1, 160–162 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 1, 147–150. (Mineo Ikeda) **52** #9744 70.53

Equivalent nonholonomic systems and some of their properties. (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 1, 359–368 (1977). (Author's summary) **58** #24350 58F05 (34C35, 70.58)

Other properties of equivalent mechanical systems. (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 1, 369–382 (1977). (Author's summary) **58** #24351 58F05 (34C35, 70.58)

Iliev, Ljubomir G. Certain classes of entire functions and the polynomials derived from them. (Bulgarian. Russian and English summaries) *B"lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **10** (1969), 273–281. (*loose errata*) (I. P. Ramadanov) **45** #5360 30A66

Academician Nikola Obreškov (on the occasion of his seventy-fifth birthday). (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **14(47)** (1971), 32–33. (Editors) **53** #52 01A70

Über die Laguerre'schen ganzen Funktionen. *Constructive theory of functions* (*Proc. Internat. Conf., Varna,* 1970) (*Russian*), *pp.* 193–200. *Izdat. Bolgar. Akad. Nauk, Sofia,* 1972. (R. A. Askey) **51** #10718 33A45 (26A78)

Mathematics as the science of models. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 2(164), 203–211. (Editors) **52** #5239 00A05

Grigore Constantin Moisil (1906–1973). (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **17(50)** (1974), 62–64. (Not reviewed) 01A70

Thirty years of development on the mathematical front in the Combined Center for Research and Training in Mathematics and Mechanics. (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **17(50)** (1974), *no.* 4, 249–262. (Editors) **56** #15308 01A65

★On the development of mathematics in the People's Republic of Bulgaria. *Publishing House of the Bulgarian Academy of Sciences, Sofia,* 1975. 72 *pp.* (1 *foldout*) (Editors) **52** #13171 01A60

Reimann'sche ganze Funktionen. *Serdica* **1** (1975), *no.* 1, 42–50. (M. Mikolás) **52** #11041 30A66 (10H05, 26A78)

Inequalities of Laguerre, Turán and Hamburger. (Bulgarian) *Mathematics and mathematical education* (*Proc. Third Spring Conf. Bulgar. Math. Soc., Burgas,* 1974) (*Bulgarian*), *pp.* 27–35, *B"lgar. Akad. Nauk, Sofia,* 1976. (See RŽMat **1977** #10 B128) 30A08

See also **Papers: Balkan Mathematical Congress, 51** #2824 *and* **Sendov, Blagovest H., 53** #59

Iliev, M. D. Finiteness conditions for algebraic stacks. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (1975), *no.* 4, 17–25 (1977). (Author's summary) **58** #5661 14A20

Separability conditions for algebraic stacks. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (1975), *no.* 4, 27–34 (1977). (Author's summary) **58** #5662 14A20

Ilieva, K. D. (*with* Stepanov, A. V.) The passage of thermal neutrons through a medium with localized inhomogeneities. (Russian. English summary) *Bulgar. J. Phys.* **2** (1975), *no.* 4, 312–322. (Authors' summary) **54** #9532a (E **54** #9532b) 82.47

(*with* Stepanov, A. V.) Errata: "The passage of thermal neutrons through a medium with localized inhomogeneities" (Bulgar. J. Phys. **2** (1974), no. 4, 312–322). *Bulgar. J. Phys.* **2** (1975), *no.* 5, 533. (Authors' summary) **54** #9532b 82.47

Ilieva, N. M. Approximate computation of the index of a function that is defined on the real axis. (Bulgarian) *Naučn. Trud. Visš. Inst. Mašinostroen. Meh. Elektrifikac. Selsk. Stopanstv.—Ruse. Ser.* 8 *Obščoteoret. Prilož. Nauki* (*Mat. Meh. Mašinoznan. Teor. Eksperiment.*) **17** (1975), 62–66. (See RŽMat **1977** #7 B205) 65E05

Il'in, A. A. The limit cycles of a certain autonomous system of differential equations. (Russian) *Čuvaš. Gos. Ped. Inst. Učen. Zap. No.* 27 (1966), 45–48. (A. A. Reinfelds) **52** #14459 34C05

Il'in, A. M. The behavior of the solution of a certain boundary value problem as $t\to\infty$. (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 529–553. (K.-H. Hauer) **46** #553 35Q (76.35)

(*with* Gor'kov, Ju. P.; Lelikova, E. F.) The method of matching asymptotic expansions. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 1033–1036. (J. R. Schulenberger) **51** #8600 35C10 (35B25)

(*with* Emel'janov, K. V.; Kaljakin, Léonid A.; Titov, V. A.; Šiškin, G. I.) Soluti of differential equations with small parameters multiplying the highest derivativ (Russian) *Proceedings of the Fifth All-Union Seminar on Numerical Methods in t Mechanics of a Viscous Fluid* (*Kaciveli,* 1974), *Part I* (*Russian*), 37–47. *Vyčisl. Cen Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk,* 1975. (Editors) **58** #29073 35B (65N99)

(*with* Lelikova, E. F.) The method of matching asymptotic expansions for t equation $\varepsilon\Delta u - a(x,y)u_y = f(x,y)$ in a rectangle. (Russian) *Mat. Sb.* (*N.S.*) **96(13** (1975), *no.* 4, 568–583, 645. (J. R. Schulenberger) **52** #3706 35C10 (35B25)

(*with* Gor'kov, Ju. P.; Lelikova, E. F.) Asymptotic behavior of the solution of elliptic equation with a small parameter multiplying the highest derivatives in t neighborhood of a singular characteristic of the limit equation. (Russian) *Trudy Se Petrovsk. Vyp.* 1 (1975), 75–133. (J. R. Schulenberger) **55** #13056 35B40 (35B25)

The method of matched asymptotic expansions, and its application to certa boundary value problems. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. In Mat. VGU Vyp.* 17 *Teor. Operator. Uravnenii* (1975), 87–89. (Alexander Alenicy **57** #10194 35C99 (34E99)

A boundary value problem for an elliptic equation of second order in a domain wi a narrow slit. I. The two-dimensional case. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (197 *no.* 4, 514–537. (Jan Bochenek) **53** #11214 35J25

The difference method for the solution of the Dirichlet problem for Laplace equation in the case of discontinuous boundary conditions. (Russian) *Trudy Inst. Mat. Meh. Ural. Naučn. Centr Akad. Nauk SSSR Vyp.* 21 *Raznost. Metody Rešenija Krae Zadač s Malym Parametrom i Razryv. Kraev. Uslovijami* (1976), 44–51, 60. (J. Mikliče **57** #14496 65N10

A boundary value problem for an elliptic equation of second order in a domain wit a narrow slit. II. Domain with a small opening. (Russian) *Mat. Sb.* (*N.S.*) **103(14** (1977), *no.* 2, 265–284. (Jan Bochenek) **56** #842 35J25

A boundary value problem with a small parameter. (Russian) *Uspehi Mat. Nauk* 3 (1977), *no.* 3 (195), 161–162. (Ju. V. Kostarčuk) **57** #862 35J25 (35C10, 35B40)

Il'in, A. S. A test for the solvability of problems on construction of compass and rule (Russian) *Questions of differential and non-Euclidean geometry* (*Russian*), *pp.* 193–20 *Moskov. Gos. Ped. Inst., Moscow,* 1972 (1973). (H. Schwerdtfeger) **56** #11950 12–

Il'in, B. V. *See* **Theory and methods of construction of multivariable control system 50** #6585

Il'in, E. M. Singularities of the weak solutions of elliptic boundary value problems wi discontinuous higher coefficients. (Russian) Boundary value problems of mathematic physics and related questions in the theory of functions, 7. *Zap. Naučn. Sem. Leningra Otdel. Mat. Inst. Steklov.* (*LOMI*) **38** (1973), 33–45. (Todor G. Genčev) **52** #14619 35J25 (35D99)

Singularities of the weak solutions of elliptic equations with discontinuous high coefficients. II. Corner points of the lines of discontinuity. (Russian. English summary Investigations on linear operators and the theory of functions, V. *Zap. Naučn. Sem Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **47** (1974), 166–169, 189, 194. (Todor Genčev) **52** #14620 35J25 (35D99)

Il'in, È. N. *See* **Theory of languages and methods of construction of programming system 48** #7682

Il'in, G. M. *See* **Mathematical linguistics, 48** #3312

Il'in, G. Z. (*with* Moločnik, V. I.) Pecularities of computer solution of the identificatio problem. *Avtomatika* **1976**, *no.* 2, 18–21 (*Ukrainian. English summary*); *translated a Soviet Automat. Control* **9** (1976), *no.* 2, 13–16. (Andrew P. Sage) **56** #15036 93E

Il'in, I. A. (*with* Il'in, O. A.; Luk'janov, A. T.) A method for the solution of fourth orde equations of parabolic type. (Russian) *Collection of questions of mathematics an mechanics, No.* 7 (*Russian*), *pp.* 32–38, 322. *Kazah. Gos. Univ., Alma-Ata,* 1975. (Editors **58** #29255 35K35

(*with* Luk'janov, A. T.; Podkopaev, Ju. L.) Raising the accuracy of the numerica solution of hyperbolic equations. (Russian) *Collection of questions of mathematics an mechanics, No.* 7 (*Russian*), 38–41, 322. *Kazah. Gos. Univ., Alma-Ata,* 1975. (Editors **58** #29312 35L25

(*with* Luk'janov, A. T.) A method for the solution of boundary value problems for fourth order nonlinear equation. (Russian) *Collection of questions of mathematics an mechanics, No.* 7 (*Russian*), *pp.* 50–55, 323. *Kazah. Gos. Univ., Alma-Ata,* 1975. (Editors **58** #28784 34B15 (65L10)

Spline-difference schemes for nonlinear equations of parabolic type. (Russian) *Vyčisl. Sistemy No.* 72 (1977), 131–135, 140. (Author's summary) **58** #31913 65N3 (65D05)

Il'in, I. P. (*with* Geraščenko, E. I.; Erman, V. L.; Kozlov, Ju. M.; Korotaeva, I. P. Makar'ev, B. M.; Pal'tov, I. P.; Popov, E. P.; Samoĭlov, V. E.; Sidorov, I. M.; Favorskiĭ-Pavlovskiĭ, S. S.; Fedorov, S. M.; Hlypalo, E. I.; Ščerbakov, V. A.) ★Методы синтеза нелинейных систем автоматического управления. (Russian) [Methods for the synthesis of nonlinear authomatic control systems.] Edited by S. M Fedorov. Nonlinear Automatic Control Systems, Vol. 3. *Izdat. "Mašinostroenie", Moscow,* 1970. 416 *pp.* (Stanislav K. Myškov) **52** #7629 93C10

Two classes of motions of a relay control system with lag. (Russian) *Izv. Akad Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 2, 179–186, 223. (Mark A. Aĭzerman) **55** #1221 93C15

Il'in, I. V. (*with* Zaharov, E. V.) Integral representations of electromagnetic fields i stratified media. *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1970**, 62–71 (*Russian*) *translated as Izv. Acad. Sci. USSR Phys. Solid Earth* **1970**, 495–499 (1971). (Y. M Chen) **46** #2997 78.35

(*with* Dmitriev, V. I.; Zaharov, E. V.) A method for the solution of the fundamental problem of the theory of induction well-logging. (Russian) *Numerica methods and programming, XVI* (*Russian*), *pp.* 72–82. *Izdat. Moskov. Univ., Moscow* 1971. (A. Nikodémusz) **52** #4821 78.35

(*with* Zaharov, E. V.) A method of calculating electromagnetic fields in a plane-parallel layered medium with local inhomogeneities. (Russian) *Numerical methods and programming, XVI (Russian), pp.* 83–108. *Izdat. Moskov. Univ., Moscow,* 1971. (A. Nikodémusz) **52** #4822 78.35

Ju. P. The interaction between a shock wave and a semi-infinite porous medium. (Russian) *Applied mathematics, No.* 2 *(Russian), pp.* 33–40, 156. *Tul'sk. Politehn. Inst., Tula,* 1975. (Author's summary) **58** #32334 76.35

O. A. (*with* Il'in, I. A.; Luk'janov, A. T.) A method for the solution of fourth order equations of parabolic type. (Russian) *Collection of questions of mathematics and mechanics, No.* 7 *(Russian), pp.* 32–38, 322. *Kazah. Gos. Univ., Alma-Ata,* 1975. (Editors) **58** #29255 35K35

V. A. (*with* Šišmarev, I. A.) Fourier series in fundamental systems of functions of the polyharmonic operator. (Russian) *Dokl. Akad. Nauk SSSR* **189** (1969), 707–709. (Editors) **54** #3283 42A60

(*with* Aleksandrjan, R. A.; Berezans'kiĭ, Ju. M.; Kostjučenko, A. G.) Certain questions of the spectral theory for partial differential equations. (Russian) *Partial differential equations (Proc. Sympos. dedicated to the 60th birthday of S. L. Sobolev) (Russian), pp.* 3–35. *Izdat. "Nauka", Moscow,* 1970. (R. C. Gilbert) **47** #3852 35P05

Exact conditions for the localization and convergence of Fourier series in fundamental function systems of the Beltrami operator. *Dokl. Akad. Nauk SSSR* **191** (1970), 20–21. (T. Šalát) **55** #8580 35P10

(*with* Poznjak, È. G.) ★Основы математического анализа. Часть 1. (Russian) [Foundations of mathematical analysis. Part 1] A course in higher mathematics and mathematical physics, No. 1. Third, revised and supplemented edition. *Izdat. "Nauka", Moscow,* 1971. 599 *pp.* (Editors) **50** #2404 26–01

Développements en fonctions propres des extensions arbitraires autoadjointes non-négatives de quelques opérateurs elliptiques. *Actes du Congrès International des Mathématiciens (Nice,* 1970), *Tome* 2, *pp.* 745–753. *Gauthier-Villars, Paris,* 1971. (Editors) **58** #23158 35P10

(*with* Moiseev, E. I.) The spectral expansions that correspond to an arbitrary second order nonnegative selfadjoint elliptic operator. (Russian) *Dokl. Akad. Nauk SSSR* **197** (1971), 770–772. (Editors) **55** #8581 35P10 (35J25)

(*with* Alimov, Š. A.) Letter to the editors. (Russian) *Differencial'nye Uravnenija* **8** (1972), 190. (P. Szeptycki) **45** #9199 47F05

(*with* Alimov, Š. A.) The divergence on a set of positive measure of the Riesz means of kernels of fractional order. (Russian) *Differencial'nye Uravnenija* **8** (1972), 372–373. (P. Szeptycki) **45** #9200 47F05

(*with* Alimov, Š. A.) The divergence in L_p of the Riesz means of spectral expansions. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1092–1094. (P. Szeptycki) **45** #7522 47F05 (35P05)

Negative solution for $p \neq 2$ of the problem of the convergence of the spectral decomposition in the L_p^∞ metric for a compactly supported function of the class L_p^∞. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 1286–1288. (G. Wildenhain) **47** #2201 (EA **48**) 35P10 (47F05)

Certain questions in the spectral theory of elliptic operators. (Russian) *Mat. Zametki* **12** (1972), 489–499. (Boris Pavlov) **47** #5660 47F05 (35P99)

The Riesz equisummability of expansions in eigenfunctions and in the *n*-dimensional Fourier integral. (Russian) Collection of articles dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, II. *Trudy Mat. Inst. Steklov.* **128** (1972), 151–162, 260. (H. Triebel) **48** #11806 35P10

Conditions for the convergence of spectral decompositions that correspond to selfadjoint extensions of elliptic operators. IV. Theorems of negative type for an arbitrary extension of a general second order selfadjoint elliptic operator. (Russian) All-Union Symposium on Selected Questions of Partial Differential Equations (Prièlbrus, 1972). *Differencial'nye Uravnenija* **9** (1973), 49–73, 194. (Ja. A. Roĭtberg) **48** #2584 35P10 (47F05)

(*with* Poznjak, È. G.) ★Линейная алгебра. (Russian) [Linear algebra] A course in higher mathematics and mathematical physics, No. 6. *Izdat. "Nauka", Moscow,* 1974. 296 *pp.* (Editors) **50** #9893 15–02

(*with* Alimov, Š. A.) Conditions for the convergence of spectral decompositions that correspond to self-adjoint extensions of elliptic operators. V. A theorem on the uniform convergence of the spectral decomposition for a general second order elliptic operator. (Russian) *Differencial'nye Uravnenija* **10** (1974), 481–506, 572. (P. Szeptycki) **51** #6176 35P10 (47F05)

(*with* Krukovskiĭ, N. M.) A theorem on the coincidence of the classical solution of the Dirichlet problem for a nonselfadjoint elliptic equation with the generalized solution of this problem. (Russian) *Differencial'nye Uravnenija* **10** (1974), 699–711, 766. (V.-V. Olariu) **49** #9393 35D10

Certain properties of a regular solution of the Helmholtz equation in a region of the plane. (Russian) *Mat. Zametki* **15** (1974), 885–890. (Author's summary) **55** #843 35J05

A theorem on the uniqueness and membership in the class W_2^1 of the classical solution of a mixed problem for a nonselfadjoint hyperbolic equation in an arbitrary cylinder. (Russian) *Differencial'nye Uravnenija* **11** (1975), 60–65, 202. (V. Djurikovič) **51** #6159 35L20

The uniform equiconvergence of expansions in the eigen- and associated functions of a nonselfadjoint ordinary differential operator and in a trigonometric Fourier series. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 3, 548–551. (Boris Pavlov) **52** #4031 47E05 (34B25)

The equiconvergence of expansions in a trigonometric Fourier series and in the eigenfunctions of M. V. Keldyš's pencil of nonselfadjoint ordinary differential operators. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 3, 497–499. (H. Triebel) **52** #15105 47E05 (34B25, 42A64)

Uniqueness and membership in W_2^1 of the classical solution of a mixed problem for a selfadjoint hyperbolic equation. (Russian) *Mat. Zametki* **17** (1975), 91–101. (V. Djurikovič) **51** #6158 35L20

(*with* Bol'šev, L. N.; Krasovskiĭ, N. N.; Prohorov, Ju. V.; Sotskov, B. S.; Tihonov, A. N.) Petr Ivanovič Kuznecov (on the fortieth anniversary of his scientific activity). (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 3, 567–570. (Editors) **53** #2588 01A70

(*with* Erugin, N. P.; Tihonov, A. N.) Andreĭ Vasil'evič Bicadze (on the occasion of his sixtieth birthday). (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 5, 947–954. (Editors) **53** #12840 01A70 (35–03)

(*with* Bicadze, A. V.; Samarskiĭ, A. A.; Svešnikov, A. G.) Andreĭ Nikolaevič Tihonov (on the occasion of his seventieth birthday). (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 10, 1731–1735. (Editors) **54** #9929 01A70

Necessary and sufficient conditions for a subsystem of the eigen- and associated functions of an M. V. Keldyš pencil of ordinary differential operators to be a basis. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 4, 796–799. (H. Triebel) **54** #3504 47E05 (34B25)

The properties of a reduced subsystem of eigen- and associated functions of an M. V. Keldyš pencil of ordinary differential operators. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 1, 30–33. (R. C. Gilbert) **55** #3404 34B25 (47E05)

Existence of a reduced system of eigen- and associated functions for a nonselfadjoint ordinary differential operator. (Russian) Number theory, mathematical analysis and their applications. *Trudy Mat. Inst. Steklov.* **142** (1976), 148–155, 269. (Author's summary) **58** #28806 34B25 (47E05)

(*with* Bicadze, A. V.; Samarskiĭ, A. A.; Svešnikov, A. G.) Andreĭ Nikolaevič Tihonov (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 6(192), 3–12. (1 *plate*) (Editors) **57** #9429 01A70

(*with* Alimov, Š. A.; Nikišin, E. M.) Questions on the convergence of multiple trigonometric series and spectral expansions. I. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 6 (192) 28–83. (Pawel Szeptycki) **57** #1016a 42A92 (35P10)

(*with* Moiseev, E. I.) A generalization of the mean value formula for the regular solution of the Schrödinger equation. (Russian) *Problems in mathematical physics and numerical mathematics (Russian), pp.* 157–166, 325. *Nauka, Moscow,* 1977. (Authors' summary) **58** #29105 35C15 (35J10, 81.35)

The convergence of eigenfunction expansions at points of discontinuity of the coefficients of a differential operator. (Russian) *Mat. Zametki* **22** (1977), *no.* 5, 679–698. (Author's summary) **58** #17588 35P10

(*with* Alimov, Š. A.; Nikišin, E. M.) Questions on the convergence of multiple trigonometric series and spectral expansions. II. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1 (193), 107–130, 271. (Pawel Szeptycki) **57** #1016b 42A92 (35P10)

(*with* Slavnov, D. A.) Algebras of observables in the *S*-matrix approach. (Russian. English summary) *Teoret. Mat. Fiz.* **36** (1978), *no.* 1, 32–41. (Authors' summary) **58** #19982 81.46

See also **Collection: Vinogradov, I. M., 49** #7050 *and* **Bicadze, A. V.; et al., 58** #16013

Il'in, V. I. (*with* Gorelov, V. P.; Juferev, V. I) Solution of certain problems of neutron transport theory by the method of generalized eigenfunctions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1245–1264, 1365. (Alexej Sitenko) **47** #8055 82.45

(*with* Gorelov, V. P.; Juferev, V. I) A synthetic model for moderation and for the approximation of cross sections. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 418–435, 533. (Alexej Sitenko) **49** #12012 82.45

(*with* Gorelov, V. P.) A correct asymptotic multigroup approximation in the problem of finding the critical radius of a sphere. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 2, 420–427, 547. (Authors' summary) **58** #25718 82.65

(*with* Lisnjanskiĭ, I. M.) Solution of algebraic equations with band Toeplitz matrices. (Russian) *Sibirsk. Mat. Ž.,* **19** (1978), *no.* 1, 44–48, 237. (J. L. Brenner) **57** #1842 65F05

Il'in, V. M. *See* **Automation and computer science. 56** #11469

Il'in, V. N. (*with* Raik, A. E.) A reconstruction of the solution of certain problems from the *Âpastamba Ŝulba Sûtra* of Âpastamba. (Russian) *Studies in the history of mathematics, No.* 19 *(Russian), pp.* 220–222, 302. *Izdat. "Nauka", Moscow,* 1974. (A. I. Volodarskiĭ) **58** #36 01A25

Il'in, V. P. Decomposition of the anisotropic space $W_p^{(l_1, \cdots, l_n)}(\Omega)$ by means of a special projection operator. (Russian) *Sibirsk. Mat. Ž.* **10** (1969), 212–216. (Zbl **187**, 60) **58** #30135 46E35

(*with* Besov, O. V.) The natural extension of the class of domains in imbedding theorems. (Russian) *Imbedding theorems and their applications (Proc. Sympos., Baku,* 1966) *(Russian), pp.* 21–23, 243. *Izdat. "Nauka", Moscow,* 1970. (Editors) **46** #9712 46E35

(*with* Džabrailov, A. D.) Certain inequalities between the norms of the partial derivatives of functions of several variables. (Russian) *Imbedding theorems and their applications (Proc. Sympos., Baku,* 1966) *(Russian), pp.* 73–75, 244. *Izdat. "Nauka", Moscow,* 1970. (J. Musielak) **47** #3975 46E35

Conditions for the validity of inequalities between the L_p-norms of the partial derivatives of functions of several variables. (Russian) *Imbedding theorems and their applications (Proc. Sympos., Baku,* 1966) *(Russian), pp.* 95–98, 245. *Izdat. "Nauka", Moscow,* 1970. (J. Musielak) **47** #3976 46E35

(*with* Besov, O. V.; Kudrjavcev, L. D.; Lizorkin, P. I.; Nikol'skiĭ, S. M.) The theory of the imbeddings of classes of differentiable functions of several variables. (Russian) *Partial differential equations (Proc. Sympos. dedicated to the 60th birthday of S. L. Sokolev) (Russian), pp.* 38–63. *Izdat. "Nauka", Moscow,* 1970. (H. Triebel) **47** #2339 46E35

Certain numerical experiments in iteration methods for the solution of Laplace difference equations. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **1** (1970), *no.* 5, 31–51. (J. Mikláček) **48** #5396 65N10

★Разностные методы решения эллиптических уравнений. (Russian) [Difference methods for the solution of elliptic equations] *Novosibirsk. Gos. Univ., Novosibirsk,* 1970. 263 *pp.* (G. I. Sulhanišvili) **58** #13757 65N20 (65N05, 65N10)

Integral representations of functions of the classes $L_p^1(G)$ and imbedding theorems. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)* **19** (1970), 95–155. (L. Cattabriga) **45** #5740 46E35

(*with* Svešnikov, V. M.) Difference methods on a sequence of networks. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **2** (1971), *no.* 1, 43–54. (C. Ilioi) **48** #7625 65N10

Certain properties of functions of the spaces $W_{p,a,\kappa}^l(G)$. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)* **23** (1971), 33–40. (J. Friberg) **46** #6012 46E35

(*with* Kuznecov, Ju. I.) Certain properties of Jacobi matrices, and their applications. (Russian) *Čisl. Metody Meh. Splošnoi Sredy* **3** (1972), *no.* 5, 40–51. (F. Szidarovszky) **50** #4627 15A42

The function spaces $L_{r,}^{\lambda,a,b}{}_{p,\theta}(G)$. (Russian) Investigations on linear operators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **30** (1972), 51–75. (H. Triebel) **49** #5810 46E35

A certain integral representation of functions. (Russian. English summary) Investigations on linear operators and the theory of functions, V. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **47** (1974), 67–72, 185, 191. (H. Triebel) **51** #5865 26A54 (46E30)

(*with* Besov, O. V.; Nikol′skiĭ, S. M.) ★Интегральные представления функций и теоремы вложения. (Russian) [Integral representations of functions, and embedding theorems] *Izdat. "Nauka", Moscow*, 1975. 480 *pp*. (P. Szeptycki) **55** #3776 46E35

(*with* Arekškin, G. Ja.; Hvedelidze, B. V.; Čogošvili, G. S.) David Fomič Harazov. Obituary. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 6(186), 153–157 (1 *plate*). (Editors) **52** #13181 01A70

(*with* Elepov, B. S.) Combining difference algorithms with the Monte Carlo method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 2, 384–390, 540. (G. I. Sulhanišvili) **52** #7147 65N05 (65C05)

Certain estimates for conjugate gradient methods. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 4, 847–855, 1083. (G. C. Barozzi) **54** #14331 65F10

Some imbedding theorems for the spaces $\mathfrak{L}_{r,p,\theta}^{\lambda,\varphi,b,}(G)$. (Russian) Numerical methods and questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **70** (1977), 49–75, 290. (Author's summary) **58** #17816 46E35

(*with* Golubcov, B. I.) A difference approximation of the Poisson equation on nonuniform rectangular nets. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 3, 564–570, 717. (J. Miklíček) **58** #19191 65N10

See also **Investigations in linear operators and function theory**, **46** #7927; **Automatic programming and numerical methods of analysis**, **46** #8464; **Boundary value problems of mathematical physics and related aspects of function theory**, **46** #9498; **Numerical methods and functional analysis**, **49** #6540; **Numerical methods and automatic programming**, **50** #11706 *and* **Investigations on linear operators and the theory of functions**, **52** #14241 (EA 53)

Il′in, Yu. M. *See* **Ill′in, Ju.**

Il′ina, A. V. *See* **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region**, **46** #1532

Il′ina, L. P. Estimates for the coefficients of univalent functions in dependence on the second coefficient. (Russian) *Mat. Zametki* **13** (1973), 351–357. (K. Szilárd) **47** #7019 30A34

(*with* Kolomoĭceva, Z. D.) The estimation of $|c_4|$ as a function of $|c_2|$ in the class S. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1 (1974), 27–30, 164. (D. A. Brannan) **49** #9185 30A34

Il′ina, L. S. (*with* Kagan, A. E.) Theory of surfaces of Lovačevskiĭ space in the Cayley-Klein model, and infinitesimal bendings. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1972), 21–28, 145. (K. Svoboda) **49** #9784 53C45

Il′ine, V. A. *See* **Il′in, V. A.**

Il′inkovskaja, R. M. *See* **Logic**, **55** #7717

Il′inskiĭ, A. I. The indecomposable components of certain infinitely divisible laws. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 529–531. (E. Lukacs) **49** #6307 60E05

The argument of a characteristic function. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 22 (1975), 51–56, 161. (S. A. Book) **52** #15601 60E05 (42A72)

The zeros and the argument of a characterisitic function. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no.* 2, 421–427. (R. Cuppens) **51** #14197 60E05

The arithmetic of the generalized characteristic functions of B. M. Levitan. (Russian. English summary) Continuity and stability in problems of probability theory and mathematical statistics. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **61** (1976), 56–58, 136. (R. Cuppens) **55** #6519 60E05

The arithmetic of Pólya characteristic functions. (Russian) *Mat. Zametki* **21** (1977), *no.* 5, 717–725. (S. A. Čobanjan) **56** #9628 60E05

Indecomposable components of some infinitely divisible laws. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 27 (1977), 61–71, 2. (S. G. Maloševskiĭ) **55** #13530 60E05

Il′inskiĭ, A. S. (*with* Dmitriev, V. I.; Svešnikov, A. G.) Development of methods of solution of the boundary value problems of electrodynamics at the computing center of the university. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **25** (1970), *no.* 4, 71–90. (J. R. Schulenberger) **45** #6272 78.35 (78.65)

(*with* Svešnikov, A. G.) The direct method for problems of diffraction on a local nonhomogeneous body. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 960–968. (Authors' summary) **46** #3001 78.65

A direct method of calculating periodic lattices. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 119–126, 268. (S. Kaliski) **47** #4543 78.49

A method for the study of problems of the diffraction of waves by a periodic lattice. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1063–1067, 1080. (J. E. Rosenthal) **50** #15600 78.35

(*with* Tihonov, A. N.; Samarskiĭ, A. A.) Alekseĭ Georgievič Svešnikov (on the occasion of his fiftieth birthday). (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 5, 942–945. (Editors) **51** #12469 01A70

A plane problem of excitation of a transparent periodic structure by a point source. (Russian) *Vyčisl. Metody i Programmirovanie Vyp.* 24 (1975), 220–235. (V. P. Milant′ev) **58** #8818 78.44

(*with* Gališnikova, T. N.) Numerical solution of the problem of the diffraction of an arbitrary field by a grid of cylinders of arbitrary cross-section. (Russian) *Vyčisl. Metody i Programmirovanie Vyp.* 24 (1975), 235–249. (M. Martinis) **57** #14542 65R05 (65D99)

(*with* Dmitriev, V. I.; Svešnikov, A. G.) Development of mathematical methods for the study of direct and inverse problems of electrodynamics. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 6(192), 123–141. (Authors' summary) **58** #19855 78.65

See also **Numerical methods and programming**, **50** #9467

Il′inskiĭ, L. Ja. (*with* Ivanov, V. A.; Maksimov, I. B.) An application of elements of the theory of Markov chains to the solution of some guidance problems. (Russian *Modelling of nonstationary processes* (*Russian*), *pp.* 116–123. *Izdanie Inst. Mat. Aka Nauk Ukrain. SSR, Kiev*, 1977. (Editors) **58** #19849 78.60

Il′inskiĭ, N. B. (*with* Fomin, V. M.; Šešukov, E. G.) An application of the Bergman-Nazarov method to the solution of the equations of nonlinear filtration theor (Russian. German summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 17 (1972), 3–18. (Szafirski) **47** #1371 76.35

(*with* Salimov, R. B.) The inverse problem of blast theory. (Russian) *Izv. Vy Učebn. Zaved. Matematika* **1974**, *no.* 2 (141), 51–57. (L. Dragoş) **52** #2371 76.30

(*with* Salimov, R. B.) On the solution of a certain boundary value problem of bla theory. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 6 (157), 44–50. (S. Aslanov) **55** #7073 76.30 (73.30)

(*with* Salimov, N. B.; Fatkullin, R. G.; Jakimov, N. D.) The problem of filtratio in an earth dam on a permeable foundation that has a different coefficient of filtratio (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 13 (1976), 93–111. (From the tex **58** #25360 76.41

(*with* Labutkin, A. G.; Salimov, R. B.) A case of detonation of a symmetric surfac charge of variable thickness. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1976**, *no.* 3, 154–161 **56** #17396 76.30

Il′inskiĭ, V. M. *See* **Control in space**, **48** #13320

Il′inyh, A. P. Finite unsolvable groups that are not generated by nonsubnormal 4-maxim subgroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1971), *no.* 1, 50–58. (J. Wiegold **46** #249 20D10

Finite groups with 6-maximal subgroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* (1972), *no.* 3, 43–48, 140 (1973). (B. Hartley) **48** #8627 20D35

A characterization of the Hall-Janko finite simple group. (Russian) *Mat. Zametk* **14** (1973), 535–542. (M. Herzog) **48** #4102 20D05

A characterization of the groups $L_3(2^n)$. (Russian) *Mat. Zametki* **18** (1975), *no.* 6 861–868. (Sergei A. Syskin) **53** #597 20D05

Ilioi, C. The conjugate directions and conjugate gradients methods for linear equation with self-adjoint operators. (Italian summary) *Boll. Un. Mat. Ital.* (4) **9** (1974), 16–2 (P. P. Zabreĭko) **50** #14295 47A50 (65J05)

A finite method for ordinary and least squares solution of symmetric matri equations. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **18(66)** (1974), *no.* 1-2 143–150 (1975). (Iain S. Duff) **54** #14330 65F05

Schauder decompositions and iterative methods for solutions of linear operato equations. *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **23** (1977), *no.* 103–112. (P. M. Anselone) **57** #10459 47A50 (65J05)

Iliopoulos, J. (*with* Itzykson, Claude; Martin, André) Functional methods and perturbation theory. *Rev. Modern Phys.* **47** (1975), 165–192. (R. Høegh-Krohn) **58** #14610 81.46

Ilitch, M. Risto J. Complément de la méthode générale de N. Saltykow de recherche d types d'équations aux dérivées partielles du premier ordre intégrables par séparation de variables. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 1523–1528. (E. Pinney) **46** #5806 35A25

Ilitch-Daïovitch, M. *See* **Ilić-Dajović, Milica**

magaril-Il′jaev, G. G. *See* **Magaril-Il′jaev, G. G.**

Il′jaguev, P. M. *See* **Mathematical methods for the solution of economic problems**, **48** #7910 (EA 51)

Il′jašenko, Ju. S. Algebraic unsolvability ànd almost algebraic solvability of the problem for the center-focus. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 3, 30–37. (L. Reiziņš) **47** #3749 34C05

Collapse of cycles in foliations by analytic curves. (Russian) *Mat. Sb.* (*N.S.* **87(129)** (1972), 58–66. (C. Bănică) **46** #6371 57D30 (32C25)

Foliations by analytic curves. (Russian) *Mat. Sb.* (*N.S.*) **88(130)** (1972), 558–577. (C. Bănică) **47** #503 32C25

Nondegenerate B-groups. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1020–1022. (W. Abikoff) **49** #3119 30A46

The "rectification" and "circle formation" problems. (Russian) *Mat. Sb.* (*N.S.*) **90(132)** (1973), 184–195, 325. (A. Morimoto) **48** #12607 58F99

Nondegenerate B-groups and simultaneous uniformization. (Russian) *Some problems in modern function theory* (*Proc. Conf. Modern Problems of Geometric Theory of Functions, Inst. Math., Acad. Sci. USSR, Novosibirsk*, 1976) (*Russian*), *pp.* 67–74. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1976. (Editors) **58** #22672 32G15

Analytic unsolvability of the stability problem and of the problem of the topological classification of singular points of analytic systems of differential equations. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 2, 162–175, 295. (L. Reiziņš) **53** #9302 58F99 (34D20)

Remarks on the topology of the singular points of analytic differential equations in a complex domain, and Ladis' theorem. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 2, 28–38, 95. (A. A. Reinfelds) **56** #755 34C20 (58F99)

The zeros of special abelian integrals in the real domain. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 4, 78–79. (A. H. Wallace) **58** #10921 14H99 (58F10)

The multiplicity of limit cycles that arise in the perturbation of a Hamiltonian equation of the class $\omega' = P_2/Q_1$ in a real and complex domain. (Russian) *Trudy Sem. Petrovsk. No.* 3 (1978), 49–60. (Ju. E. Gliklih) **58** #13180 58F10 (34C05)

See also **Integral currents and minimal surfaces**, **48** #12194 *and* **Poincaré, Henri**, **52** #2804

Il′jašenko, V. Ja. An integral-free representation of certain classes of complexes in hyperbolic space. (Russian) *Ukrain. Geometr. Sb. Vyp.* 12 (1972), 65–77, 168. (D. I. Papuc) **53** #9053 53A35

Complexes in hyperbolic space for which the centers of the ray coincide with multiple inflection centers. (Russian) *Ukrain. Geometr. Sb. No.* 13 (1973), 75–88, 3. (A. Švec) **49** #6052 53A35

(*with* Kovancov, M. Ī.) Two classes of complexes in hyperbolic space. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 15 (1973), 13–23, 142. (K. Svoboda) **50** #3126 53A35

(*with* Kovancov, M. Ī.) Inflexional-parabolic line complexes in hyperbolic space. (Russian) *Ukrain. Geometr. Sb. Vyp.* 20 (1977), 57–69, 3. (M. A. Akivis) **58** #24056 53A20

sov, B. G. (*with* Petrov, B. N.; Gusev, Ju. M.; Kolpakova, N. P.; Kuznecov, V. I.) A criterion for estimating the stability of multiply connected automatic guidance systems in the space of variable parameters. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1977**, *no.* 5, 558–564, 611. (Authors' summary) **58** #15513 93D05

sov, I. I. Ω-estimates for the remainders of sums of multiplicative functions. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 1, 31–37. (M. I. Tuljaganova) **45** #1858 10H25

The unboundedness of the remainders of sums of multiplicative functions from the class M_1. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 1, 49–53, 93–94. (H.-E. Richert) **51** #12745 (E **54** #258) 10H25

Letter to the editors: "The unboundedness of the remainders of sums of multiplicative functions from the class M_1" (Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat. **1975**, no. 1, 49–53). (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1976**, *no.* 1, 90. (Editors) **54** #258 10H25

sov, N. A. (*with* Guseĭnov, E. G.) Differentiability and smoothness properties of continuous functions. (Russian) *Mat. Zametki* **22** (1977), *no.* 6, 785–794. (A. Precupanu) **57** #16484 26A15

sov, Š. I. Certain questions of systems of orthogonal polynomials that relate to a two-dimensional domain. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1969), *no.* 3, 120–124. (*loose errata*) (L. Gogoladze) **46** #4097 42A52

Certain properties of a system of orthogonal functions of two variables on a contour T. (Russian) Differential equations. *Trudy Rjazan. Radiotehn. Inst. No.* 20 (1969), 74–83. (See RŽMat **1970** #12 B83; MR **52** #13071) 42A52

Approximation of a continuous function of two variables by the partial sums of the Fourier-Laguerre series. (Russian) *Functional analysis and the theory of functions*, *No.* 8 (*Russian*), *pp.* 58–77. *Izdat. Kazan. Univ., Kazan*, 1971. (F. Schipp) **51** #14523 65D15 (42A08)

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

in, A. A. (*with* Koval'ov, O. M.) Normal oscillations of a rigid body around a stable equilibrium position. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 65–71, 138. (From the authors' text) **57** #11232 70.34

in, A. G. (*with* Feščenko, S. F.; Gavrilova, E. S.) A certain method of solving the eigenvalue problem for matrices. (Russian. German summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 11 (1970), 16–25. (F. Szidarovszky) **45** #6176 65F15

(*with* Kovalenko, V. P.) ★Численные методы обработки информации при исследовании динамических систем. (Russian) [Numerical methods of information processing in the study of dynamical systems] *Izdat. "Naukova Dumka", Kiev*, 1971. 176 *pp.* (From the publisher's description) **54** #4359 78.65

Solution of a boundary value problem for a certain system of integro-differential equations. (Russian) *Mathematical physics*, *No.* 10 (*Russian*), *pp.* 11–19. *Naukova Dumka, Kiev*, 1971. (Nicolae Luca) **46** #4131 45J05

(*with* Bycan', E. N.) ★Вопросы динамики системы материальных точек, движущихся в центральном гравитационном поле. (Russian) [Questions on points that move in a central gravitational field] Preprint IM-76-28. *Akad. Nauk Ukrain. SSR Inst. Mat., Kiev*, 1976. 40 *pp.* (Authors' summary) **56** #17277 70.34

See also **Mathematical physics, 48** #5768

in, P. A. *See* **Proceedings: All-Union Conference on Automatic Control—Engineering Cybernetics, 48** #8022

in, S. V. *See* **Systems analysis and algorithmization of production processes, 49** #7064

in, V. P. Criteria for the singular recognition of random processes. (Russian) *Mat. Sb.* (*Tomsk*) *Vyp.* 1 (1975), 92–104. (From the author's introduction) **56** #16965 (EA **57**) 62M99 (93A05, 62H30)

čenkova, A. A. (*with* Emel'janova, Z. M.; Kokošinskaja, N. S.; Pavlov, B. M.; Paskonov, V. M.; Petrova, L. I.; Poljanskiĭ, V. A.) A numerical investigation of the flows of a real gas around bodies of finite dimension and in their wake. (Russian) *Vyčisl. Metody i Programmirovanie No.* 23 (1974), 3–41. (From the text) **58** #25379 76.65

šenko, V. P. Boundary checking of constituent logical elements and schemes. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, *no.* 5, 38–43. (I. M. Havel) **48** #1810 94A20

šin, A. A. (*with* Pobedrja, B. E.) ★Основы математической теории термовязко-упругости. (Russian) [Foundations of the mathematical theory of thermal viscoelasticity] *Izdat. "Nauka", Moscow*, 1970. 280 *pp.* (*errata insert*) (Editors) **54** #9232 73.00 (80.35)

A computer method in the theory of plasticity. (Russian) *Problems in applied mathematics and mechanics* (*dedicated to A. A. Dorodnicyn on his sixtieth birthday*) (*Russian*), *pp.* 166–178, 282. *Izdat. "Nauka", Moscow*, 1971. (Editors) **58** #19658 73.65

(*with* Movljankulov, H.; Sunčaliev, R. M.; Filatov, A. N.) Certain methods of investigation of nonlinear problems of the theory of visco-elasticity. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 59–61. (J. Bejda) **47** #9936 73.45

(*with* Lenskiĭ, V. S.) Relations and methods of the modern theory of plasticity. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1974**, *no.* 4, 3–12, 136. (N. Cristescu) **55** #4840 73.00

See also **Elasticity and inelasticity, 48** #5459 *and* **Elasticity and inelasticity, 56** #7399

šina, G. A. The generalized localization principle for spectral expansions connected with the Beltrami operator. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1845–1853. (P. Szeptycki) **46** #728 47F05

The generalized principle of localizing spectral decompositions that are connected with the Beltrami operator given in an arbitrary n-dimensional domain. (Russian) *Differencial'nye Uravnenija* **7** (1971), 2058–2065. (P. Szeptycki) **46** #729 47F05

Some consequences of the macroscopic determinacy postulate in continuum mechanics. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1978**, *no.* 1, 84–88. (Ll. G. Chambers) **57** #14734 73.35

kin, V. A. Ambiguity of the grammatical analysis of context-free languages. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 277–278. (Branislav Rovan) **47** #7961 68A30

The nonuniqueness of the grammatical analysis of linear context-free languages. (Russian) *Dokl. Akad. Nauk SSSR* **201** (1971), 782–783. (E. A. Ashcroft) **45** #3147 68A30

The complexity of the grammatical description of context-free languages. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 1244–1245. (Ivan Havel) **47** #7962 68A30

The grammatical analysis of linear context-free languages. (Russian) Studies in differential equations and their applications. *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 201 (1974), 55–57. (RŽMat **1975** #1 B1149) **57** #18249 68A30

Iljutovič, A. E. (*with* Djukalov, A. N.) Main-line properties of optimal trajectories of a dynamic model of interindustry balance in continuous time. *Avtomat. i Telemeh.* **1974**, *no.* 12, 111–119 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no.* 12, *part* 2, 1973–1981 (1975). (Su-shing Chen) **57** #11673 90A15

Iterative optimization method for linear-programming problems in functional space. *Avtomat. i Telemeh.* **1976**, *no.* 4, 109–118 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 4, *part* 2, 573–583. (Jochem Zowe) **55** #2126 90C05

(*with* Djukalov, A. N.) Indicator of optimality in nonlinear control problems with mixed constraints. I. *Avtomat. i Telemeh.* **1977**, *no.* 3, 96–106 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 3, *part* 2, 381–389. (Authors' summary) **57** #18956 93C10 (49A20)

(*with* Djukalov, A. N.) Features of optimality in nonlinear problems of optimal control with mixed constraints. II. *Avtomat. i Telemeh.* **1977**, *no.* 5, 11–19 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 5, *part* 1, 620–628. (Authors' summary) **58** #20686 93C10 (90C30)

Ilkka, S. On betweenness-relations and conics in affine planes over fields. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 261–265. (F. Bachmann) **53** #3860 50D05

Illarionov, A. I. (*with* Leĭfer, L. A.) Use of an indirect method to determine reliability characteristics. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 6, 74–79 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 6, 948–953. (R. Subramanian) **51** #4969 90B25

Illarionov, V. F. (*with* Pašincev, V. T.) Properties of the extremal field in an optimal control problem. *Dokl. Akad. Nauk SSSR* **200** (1971), 1291–1293 (*Russian*); *translated as Soviet Physics Dokl.* **16** (1971/71), 820–822. (N. Harris McClamroch) **52** #12911 93C99

Illies, Norbert A counterexample to the generalized Aanderaa-Rosenberg conjecture. *Information Processing Lett.* **7** (1978), *no.* 3, 154–155. (Jean Vuillemin) **58** #3678 68A20 (05C35)

Illig, K. (*with* Stumpf, Harald; Engeser, W.) Functional quantum theory of scattering processes. III. *Z. Naturforsch.* **26a** (1971), 1723–1729. (R. C. Gilbert) **46** #6762 81.47

Lowest approximation of relativistic nucleon-nucleon scattering in functional quantum theory. *Z. Naturforsch.* **29a** (1974), 1–16. (Kishin Mariwalla) **53** #12352 81.47

Ill'in, Ju. Criteria for symmetry-breaking terms with derivatives. *Jadernaja Fiz.* **22** (1975), *no.* 4, 842–844 (*Russian*); *translated as Soviet J. Nuclear Phys.* **22** (1975), *no.* 4, 435–436. (J. Denmead Smith) **54** #9485 81.53

Illing, Bernd (*with* Walther, Hansjoachim) On the "shortness exponent" of polyhedral graphs. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 295–301. *Academia, Prague*, 1975. (R. A. Melter) **58** #27625 05C35

Illingworth, C. R. *See* **Computational methods and problems in aeronautical fluid dynamics, 54** #4327

Illman, Sören Equivariant singular homology and cohomology for actions of compact Lie groups. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts, Amherst, Mass.*, 1971), *Part I*, *pp.* 403–415. *Lecture Notes in Math., Vol.* 298, *Springer, Berlin*, 1972. (Edgar H. Brown, Jr.) **51** #14027 55B25

Equivariant algebraic topology. (French summary) Colloque International sur l'Analyse et la Topologie Différentielle (Colloques Internationaux CNRS, Strasbourg, 1972). *Ann. Inst. Fourier* (*Grenoble*) **23** (1973), *no.* 2, 87–91. (Editors) **50** #11220 55B35

Equivariant singular homology and cohomology. *Bull. Amer. Math. Soc.* **79** (1973), 188–192. (Ph. Tondeur) **46** #6340 55B10

Whitehead torsion and group actions. *Ann. Acad. Sci. Fenn. Ser. A I Math. No.* 588 (1974), 45 *pp.* (Czes Kosniowski) **51** #14075 57C10

Equivariant singular homology and cohomology. I. *Mem. Amer. Math. Soc.* **1** (1975), *issue* 2, *no.* 156, ii+74 *pp.* (G. E. Bredon) **51** #11482 55B25

Topology—a brief description and history. (Swedish. English summary) *Arkhimedes* **28** (1976), *no.* 1, 5–9. (Editors) **58** #24235 55–01 (00A05, 55–03)

Approximation of simplicial G-maps by equivariantly non degenerate maps. *Transformation groups* (*Proc. Conf., Univ. Newcastle upon Tyne, Newcastle upon Tyne*, 1976), *pp.* 279–283. *London Math. Soc. Lecture Note Series*, *No.* 26, *Cambridge Univ. Press, Cambridge*, 1977. (W. Metzler) **57** #13968 57C55 (57E25)

Smooth equivariant triangulations of G-manifolds for G a finite group. *Math. Ann.* **233** (1978), *no.* 3, 199–220. (G. E. Bredon) **58** #18474 57D05 (57E15)

Illner, Reinhard A class of L^p-bounded pseudo-differential operators. *Proc. Amer. Math. Soc.* **51** (1975), 347–355. (F. Cardoso) **52** #4034 47G05 (35S05)

★Über Banachalgebren beschränkter Pseudodifferentialoperatoren und Fredholmkriterien in $L^p(\mathbf{R}^n)$. Inauguraldissertation zur Erlangung des Doktorgrades der Hohen Mathem.-Naturw. Fakultät der Rheinischen Friedrich-Wilhelms-Universität, Bonn. Bonner Mathematische Schriften, No. 86. *Mathematische Institut der Universität Bonn, Bonn*, 1976. 60 *pp.* (H. O. Cordes) **56** #1137a 47G05 (35S05)

On algebras of pseudo differential operators in $L^p(\mathbf{R}^n)$. *Comm. Partial Differential Equations* **2** (1977), *no.* 4, 359–393. (H. O. Cordes) **56** #1137b 47G05 (35S05)

Ills, Dž *See* **Eells, James, Jr.**

Illusie, Luc ★Complexe cotangent et déformations. I. Lecture Notes in Mathematics, Vol. 239. *Springer-Verlag, Berlin-New York*, 1971. xv+355 *pp.* (Larry Breen) **58** #10886a 14B10 (14D15, 14F20, 55D20)

★Complexe cotangent et déformations. II. Lecture Notes in Mathematics, Vol. 283. *Springer-Verlag, Berlin-New York*, 1972. vii+304 *pp.* (Larry Breen) **58** #10886b 14B10 (14D15, 14F20, 55D20)

Cotangent complex and deformations of torsors and group schemes. *Toposes, algebraic geometry and logic* (*Conf., Dalhousie Univ., Halifax, N.S.*, 1971), *pp.* 159–189. *Lecture Notes in Math., Vol.* 274, *Springer, Berlin*, 1972. (Larry Breen) **58** #10887 14B10 (14D15, 14F20)

Travaux de Quillen sur la cohomologie des groupes. *Séminaire Bourbaki, 24e année* (1971/1972), *Exp. No.* 405, *pp.* 89–105. *Lecture Notes in Math., Vol.* 317, *Springer, Berlin*, 1973. (Editors) **58** #7627b 55F40 (18H10)

Report on crystalline cohomology. *Algebraic geometry* (*Proc. Sympos. Pure Math., Vol.* 29, *Humboldt State Univ., Arcata, Calif.*, 1974), *pp.* 459–478. *Amer. Math. Soc., Providence, R.I.*, 1975. (J. S. Joel) **52** #13845 14F30

Cohomologie cristalline (d'après P. Berthelot). *Séminaire Bourbaki* (1974/1975: *Exposés Nos.* 453-470), *Exp. No.* 456, *pp.* 53–60. *Lecture Notes in Math., Vol.* 514, *Springer, Berlin*, 1976. (J. S. Joel) **56** #3018 14F30

See also **Théorie des intersections et théorème de Riemann-Roch**, **50** #7133; **Deligne, Pierre**, **57** #3132 *and* **Cohomologie *l*-adique et fonctions *L***, **58** #10907

Il′muškin, G. M. Generalized resolvents of symmetric operators. (Russian) *Volž. Mat. Sb. No.* 13 (1972), 16–27. (R. C. Gilbert) **49** #5909 47B25

The spectral functions of a certain symmetric difference operator. (Russian) *Volž. Mat. Sb. No.* 13 (1972), 28–32. (R. C. Gilbert) **49** #5910 47B25

(*with* Aleksandrov, E. L.) The spectral functions of a certain class of isometric operators. (Russian) *Functional analysis, No.* 1 (*Russian*), *pp.* 3–14. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk*, 1973. (Editors) **58** #2389 47A65

A truncated operator power problem of moments. (Russian) *Functional analysis, No.* 1 (*Russian*), *pp.* 51–62. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk*, 1973. (Editors) **58** #2453 47B99 (44A50)

A certain difference operator with operator coefficients on the semi-axis. (Russian) *Functional analysis, No.* 3 (*Russian*), *pp.* 74–76. *Ul′janovsk. Gos. Univ., Ulyanovsk*, 1974. (R. C. Gilbert) **56** #9316 47B45

(*with* Aleksandrov, E. L.) The spectral functions of the distribution of regular isometric operators. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 972–984, 1180. (H. Langer) **51** #8878 47B15

The truncated operator power moment problem of Hamburger. (Russian) *Functional analysis, No.* 7 (*Russian*), *pp.* 70–77. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk*, 1976. (Editors) **58** #29884 44A50

(*with* Aleksandrov, E. L.) Generalized resolvents of isometric operators with arbitrary defect numbers. (Russian) *Differencial′nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 2, 85–91, 169. (Authors' summary) **58** #12436 47A10 (47B25)

(*with* Aleksandrov, E. L.) Generalized resolvents of symmetric operators with arbitrary defect numbers. (Russian) *Mat. Zametki* **19** (1976), *no.* 5, 783–794. (F.-H. Vasilescu) **54** #11094 47B25

(*with* Aleksandrov, E. L.) Generalized resolvents of isometric and symmetric operators. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 1(176), 14–23. (T. Andô) **58** #7178 47B25 (47A10)

Il′nickiĭ, L. Ja. ★Применение дробно-рациональных приближений в теории функциональных преобразователей. (Russian) [Application of fractional rational approximations in the theory of functional transformers] "*Naukova Dumka*", *Kiev*, 1971. 244 *pp.* (E. Maliszewski) **50** #3679 68A55 (65D15)

Ilolov, M. (*with* Sabirov, T. S.) On the problem of the branching of periodic solutions in certain classes of differential-difference systems of neutral type. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **18** (1975), *no.* 12, 3–6. (Zbl **324** #34073) **58** #1482 34K15

On the existence of small nonzero periodic solutions of certain classes of differential difference equations of neutral type. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 16 *Sb. Stateĭ po Nelineĭnym Operator. Uravn. i Priložen.* (1975), 66–69. (RŽMat **1976** #7 B246) **58** #1483 34K15 (39A10)

(*with* Sabirov, T. S.) Continuability with respect to the parameter of the periodic solutions of differential equations of neutral type in a Hilbert space. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 3, 3–6. (From the text) **58** #6609 34K15 (34G05)

(*with* Sabirov, T. S.) Conditions for the continuability with respect to the parameter of the periodic solutions of certain classes of equations of neutral type. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 7, 7–10. (R. R. Ahmerov) **58** #1469 34K05

Ilori, Samuel A. Canonical systems on flag manifolds. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 1-2, 10–17 (1975). (A. L. Oniščik) **53** #9241 57D20 (14M15)

(*with* Ingleton, A. W.; Lascu, Alexandru) On a formula of D. B. Scott. *J. London Math. Soc.* (2) **8** (1974), 539–544. (Audun Holme) **51** #8112 14F25 (14F05, 14N10)

On the generalised Todd genus of flag bundles. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 35–38. (W. D. Neumann) **50** #5000 32C10 (14F05, 57D20)

Spaces of real Grassmannians. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no.* 4, 414–421. (From the author's introduction) **57** #9709 14M15

Nonimmersions of flag manifolds. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 141–144 (1977). (Konrad Drechsler) **54** #12798 14M15 (57D40)

Flag bundles, Chern classes and natural lifts. *Ann. Mat. Pura Appl.* (4) **115** (1977), 155–167 (1978). (Knud Lønsted) **58** #672 14F05

On the geometry of flag manifolds and flag bundles. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **62** (1977), *no.* 2, 180–183. (P. E. Newstead) **57** #16325 14M15 (55F40)

Ilovaĭskiĭ, I. V. Algorithmic synthesis of structures of multiprocess or digital computers and systems. (Russian) *Optimizacija No.* 6(23) (1972), 16–33, 134. (W. Kwasowiec) **48** #12882 68A05

An algorithm for the ranking of a graph in a memory with sequential access. (Russian) *Optimizacija* **15(32)** (1974), 178–183, 186. (From the author's summary) **56** #2675 94A20 (90B10)

(*with* Sidristyĭ, B. A.) ★Основы теории проектирования цифровых машин и систем. (Russian) [Foundations of the theory of design of digital machines and systems] *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1976. 128 *pp.* (*errata insert*) (Siegmar Gerber) **55** #7627 94A25 (94A20, 94A30, 68A25)

Iltis, Carolyn Leibniz and the vis viva controversy. *Isis* **62** (1971), *no.* 211, 21–35. (Editors) **58** #10047 01A45

The Leibnizian-Newtonian debates: natural philosophy and social psychology. *British J. Hist. Sci.* **6** (1973), 343–377. (F. C. Kreiling) **58** #21173 01A50

The decline of Cartesianism in mechanics: the Leibnizian-Cartesian debates. *Isis* (1973), *no.* 223, 356–373. (From the text) **58** #26894 01A45

Madame du Châtelet's metaphysics and mechanics. *Studies in Hist. and Philos. S* **8** (1977), *no.* 1, 29–48. (M. Kline) **56** #11700 01A50

Ilyševa, N. P. (*with* Židkov, N. P.; Timofeev, D. V.) Certain numerical methods for calculation of electrical networks. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (197 1317–1323, 1366. (Jan Zítko) **50** #15301 65F05 (94A20)

Ilyutovich, A. E. *See* **Iljutovič, A. E.**

Il′ze, H. (*with* Dmitriev, V. I.) Computation of the mean time characteristics of a multiserver closed queueing system with priorities. (Russian) *Trudy Moskov. Ord Lenin. Ènerget. Inst. Vyp.* 214 (1974), 85–94. **54** #11558 60K25

Ilzinja, I. G. Finding the cliques of a graph. (Russian) *Avtomat. i Vyčisl. Tehn.* **1967**, *no.* 7–11. (Author's summary) **45** #6519 94A20

(*with* Tolmačeva, A. Ju.; Fricnovič, G. F.) Finding the maximal cliques of a gra (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 3, 93–96. (B. Zelinka) **45** #1791 05C (94A20)

(*with* Fricnovič, G. F.) Coding of the internal states of an asynchronous fin automaton by a *P*-code. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 6, 5–11. Shirtladze) **46** #1453 94A10

(*with* Fricnovič, G. F.) A certain approach to the solution of the problem of shortest covering. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no.* 1, 18–19. (A. Ro **46** #5157 05C15

Im, Chang Ku Inf-preserving functors from *A* to Ens. *J. Korean Math. Soc.* **8** (1971), 5- (R. H. Street) **46** #5414 18A35

On projective limits in primitive categories. (Korean summary) *J. Korean Ma Soc.* **10** (1973), 35–39, iii. (R. H. Street) **50** #13192 18D10

Imada, Naotaka On a numerical calculation of the finite Fourier integrals with the hi frequency. *Information Processing in Japan* **11** (1971), 50–55. (H. Brunner) **47** #9805 65D30

An asymptotic solution of a second-order linear differential equation. *J. Ma Anal. Appl.* **52** (1975), *no.* 2, 322–343. (T. Čanturija) **52** #11225 34E05 (34B05)

Imada, Toshiaki (*with* Sone, Satoru; Utsunomiya, Toshio) An associative memory wi convergent recollection. *Systems-Comput.-Controls* **8** (1977), *no.* 2, 25–34 (1978). (K. Günther) **58** #25164 68A45

Imaeda, K. A new formulation of classical electrodynamics. (Italian and Russian summaries) *Nuovo Cimento B* (11) **32** (1976), *no.* 1, 138–162. (From the autho summary) **53** #12221 78.30

Imaev, D. H. (*with* Pošehonov, L. B.) Some algorithms for the realization of line continuous models on digital computers. (Russian) *Voprosy Teor. Sistem Avtom Upravlenija Vyp.* 3 (1977), 52–56, 115. (T. Tobias) **58** #9500 93B10

Imai, Akira On embedding dimensions of quotient singularities. *Sci. Rep. Kanazawa Un* **20** (1975), *no.* 1, 1–6. (Henry C. Pinkham) **51** #13283 32C40

A remark on the Weierstrass theorem for convergent power series on a norm space. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 2, 275–285. (Autho introduction) **55** #3293 32A05

Imai, Haruo Separation of control from state estimation. (Japanese. English summar *Proc. Inst. Statist. Math.* **19** (1971/72), 101–108. (M. Aoki) **47** #4671 93A99

Convergence of functional iterates for branching processes. *Ann. Inst. Statist. Ma* **24** (1972), 575–587. (D. J. Daley) **48** #5196 60J80

Remarks to a local limit theorem for Galton-Watson processes. *Ann. Inst. Stati Math.* **25** (1973), 453–455. (K. Dietz) **48** #9869 60J80

Imai, Hideki (*with* Miyakawa, Hiroshi; Nakajima, Ichiro) Modified Preparata codes—optimum systematic nonlinear double-error-correcting codes. *Electron. Commun. Japan* **53** (1970), *no.* 10, 25–32. (N. J. A. Sloane) **49** #12163 94A10

(*with* Nomura, Tamiya; Miyakawa, Hiroshi; Fukuda, Hiroshi) A method of construction and some properties of planes having maximum area matrix. *Electro Commun. Japan* **54** (1971), *no.* 5, 18–25. (S. Guiaşu) **48** #3603 94A10

(*with* Nomura, Tamiya; Miyakawa, Hiroshi; Fukuda, Hiroshi) Some properties the $\gamma\beta$-plane and its extension to three-dimensional space. *Electron. Commun. Japan* (1971), *no.* 8, 27–34. (S. Guiaşu) **48** #3604 (EA **48**) 94A10

(*with* Kataoka, Shizuo; Miyakawa, Hiroshi) Theory of multistep coding and application to multiphase-modulation communication systems. *Electron. Commun. Japan* **54** (1971), *no.* 11, 19–26. (From the authors' introduction) **47** #4708 94A

Two-dimensional burst-correcting codes. *Electron. Commun. Japan* **55** (1972), *no.* 9–16. (I. M. Chakravarti) **48** #13458 94A10

(*with* Nomura, Tamiya; Miyakawa, Hiroshi; Fukuda, Hiroshi) A theory of two-dimensional linear recurring arrays. *IEEE Trans. Information Theory* **IT-18** (1972 775–785. (S. Guiaşu) **52** #2725 94A10

Two-dimensional fire codes. *IEEE Trans. Information Theory* **IT-19** (1973), 796–806. (Author's summary) **55** #2342 94A10

A construction method for path-invariant comma-free codes. *IEEE Trans. Information Theory* **IT-20** (1974), 555–559. (I. M. Chakravarti) **52** #2717 94A10

A theory of two-dimensional cyclic codes. *Information and Control* **34** (1977), *no.* 1–21. (Ian Blake) **55** #12294 94A10

Imai, Hideo Sario potentials on Riemannian spaces. *Pacific J. Math.* **38** (1971), 441–45 (Author's summary) **54** #5485 31C15

The value distribution of harmonic mappings between Riemannian *N*-spaces *Nagoya Math. J.* **59** (1975), 45–58. (Y. Kusunoki) **52** #14339 31C05 (32H25)

A remark on the rational points of abelian varieties with values in cycloton Z_p-extensions. *Proc. Japan Acad.* **51** (1975), 12–16. (M. Bašmakov) **51** #8119 14K15 (12A65, 14G05)

On the Hodge groups of some Abelian varieties. *Kōdai Math. Sem. Rep.* **27** (1976 *no.* 3, 367–372. (M. Bašmakov) **54** #5247 14K15

Imai, Hiroyuki (*with* Akashi, Hajime) The optimal identifier in adaptive control system (Japanese. English summary) *Systems and Control* **15** (1971), 610–618. (M. Aok **46** #3153 93C40

(*with* Sawaragi, Yoshikazu; Akashi, Hajime; Yoshikawa, Tsueneo; Fujishige, Satoru) On optimal observation strategy in adaptive control process. (Japanese. Englis summary) *Systems and Control* **17** (1973), 387–396. (Authors' summary) **47** #8161 93C40 (*with* Akashi, Hajime; Temmoku, Kenji) A suboptimal control strategy in linear ontrol systems that have an imperfect memory of a certain kind. (Japanese. English ummary) *Systems and Control* **18** (1974), *no.* 12, 693–702. (Katsutoshi Tamura) **3** #15482 93C55

(*with* Akashi, Hajime) A certain low-sensitivity control strategy that uses the rate of hange of the sensitivity coefficient. (Japanese. English summary) *Systems and Control* **9** (1975), *no.* 2, 91–98. (Tohru Katayama) **52** #16768 93C55 (93C15)

(*with* Akashi, Hajime) An observer that is insensitive to unreliable parameters. Japanese. English summary) *Systems and Control* **20** (1976), *no.* 11, 631–639. (Kunihiko chikawa) **56** #14870 93B05

(*with* Akashi, Hajime) Insensitive control strategy for discrete time linear system. Japanese. English summary) *Systems and Control* **21** (1977), *no.* 4, 240–247. (Authors' ummary) **58** #33330 93C55

(*with* Akashi, Hajime) On observers for discrete time linear systems. (Japanese. nglish summary) *Systems and Control* **21** (1977), *no.* 11, 636–644. (Authors' summary) **8** #15365 93B05

(*with* Akashi, Hajime) Linear function observer for discrete time linear systems. Japanese. English summary) *Systems and Control* **22** (1978), *no.* 2, 104–110. (Authors' ummary) **57** #5222 93B05

Kazuo (*with* Nishida, Takaaki) Global solutions to the initial value problem for the onlinear Boltzmann equation. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 1, 229–239. Nina B. Maslova) **55** #5096 82.45

Masaharu (*with* Yoshida, Yuuji; Fukumura, Teruo) Algorithms for formula anipulation based upon hashing technique and their applications to pseudo-Boolean rogramming. *Information Processing in Japan* **17** (1977), 154–158. (F. Lapscher) **8** #8479 68A15 (94A20)

Mitsuru (*with* Kasai, Tamotsu; Shintani, Hiroshi) Number of Hamiltonian circuits n basic series of incomplete graphs. *Bull. Univ. Osaka Prefecture Ser. A* **20** (1971), *no.* , 245–260. (R. C. Read) **46** #8908 05C99

Shin A study of the origins of the art of arcs and chords. (Japanese) *Sûgakushi enkyû No.* 52 (1972), 1–7. (S. Hitotumatu) **58** #21014 01A25

Toshio (*with* Shimura, Masamichi) Nonsupervised classification using the principal omponent. *Pattern Recognition* **5** (1973), 353–363. (S. Csibi) **52** #4530 62H30 68A45)

Tyuiti Hypersurfaces of a Riemannian manifold with semi-symmetric metric onnection. *Tensor* (*N.S.*) **23** (1972), 300–306. (Y. Mutô) **49** #1371 53B25

(*with* Takano, Kazuo) On some types of affine motions in bi-recurrent spaces. II. *ensor* (*N.S.*) **23** (1972), 309–313. (Yung-Chow Wong) **48** #12346 53B05

(*with* Takano, Kazuo) On some types of affine motions in bi-recurrent spaces. ommemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. . *Tensor* (*N.S.*) **24** (1972), 93–100. (Yung-Chow Wong) **48** #12345 53B05

Notes on semi-symmetric metric connections. Commemoration volumes for Prof. r. Akitsugu Kawaguchi's seventieth birthday, Vol. I. *Tensor* (*N.S.*) **24** (1972), 293–296. K. Yano) **51** #11317 53B20

Notes on semi-symmetric metric connections. II. *Tensor* (*N.S.*) **27** (1973), 56–58. K. Yano) **52** #15285 53B15

The second fundamental tensor of a conformally flat hypersurface. *Tensor* (*N.S.*) **7** (1973), 306–308. (M. Okumura) **49** #3728 53B25

(*with* Yano, Kentaro) On semi-symmetric metric *F*-connection. *Tensor* (*N.S.*) **29** 1975), *no.* 2, 134–138. (P. Stavre) **51** #13906 53B35

(*with* Yano, Kentaro) On semi-symmetric metric φ-connections in a Sasakian anifold. *Kōdai Math. Sem. Rep.* **28** (1976/77), *no.* 2-3, 150–158. (R. J. Crittenden) **7** #7456 53C25

iya, Atsumi (*with* Noguchi, Shoichi; Oizumi, Juro) On properties of threshold etworks. *Electron. Comm. Japan* **55** (1972), *no.* 11, 103–111. (Not reviewed) 94A20

(*with* Noguchi, Shoichi; Oizumi, Juro) Ternary threshold logic networks realizing hree-valued multithreshold functions. *Systems-Computers-Controls* **4** (1973), *no.* 3, 7–43. (J. C. Muzio) **51** #5190 94A20 (02C05)

(*with* Noguchi, Shoichi; Oizumi, Juro) On multi-threshold function and ulti-threshold element networks. *Proceedings of the Seventh Hawaii International onference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), *pp.* 171–173. *Western Periodicals, North Hollywood, Calif.*, 1974. (C. Moraga) **56** #15182 94A20

(*with* Nozaki, Akihiro) Generating and sorting permutations using estricted-deques. *Information Processing in Japan* **17** (1977), 80–86. (Frank K. Hwang) **8** #3653 68A10

ov, A. Some extremal properties of splines of several variables. (Russian) *Vyčisl. Sistemy Vyp.* 65 *Metody Splaĭn-Funkciĭ* (1975), 68–73, 162–163. (Gheorghe Micula) **7** #967 41A15

An approximate solution of the problem of smoothing. (Russian) *Vyčisl. Sistemy yp.* 65 *Metody Splaĭn-Funkciĭ* (1975), 74–82, 163. (Jozef Mikloško) **58** #8150 5D10

The method of splines for the solution of operator equations in a Hilbert space. Russian) *Vyčisl. Sistemy Vyp.* 65 *Metody Splaĭn-Funkciĭ* (1975), 89–95, 163. (Jozef Mikloško) **58** #3394 65H10 (41A15, 47H15)

Convergence of an interpolation process in a Hilbert space and its application. Russian) *Čisl. Metody Meh. Splošn. Sredy* **8** (1977), *no.* 1 *Mat. Modelirovanie*, 49–58. (J. W. Schmidt) **58** #3301 65D05 (65J05)

ura, Hideki (*with* Uosaki, Katsuji) Some estimation procedures of proportional arameters based upon the Bush-Mosteller type learning model. *Tech. Rep. Osaka niv.* **21** (1971), 351–360. (K. D. Günther) **49** #8185 62F10 (68A35, 92A25, 93C40)

ura, Kyoki (*with* Oono, Yoshiro) A theorem on the open-circuit and the short-circuit riving-point impedance matrices of a passive multiport. *Electron. Commun. Japan* **57** 1974), *no.* 2, 54–62. (W.-K. Chen) **53** #15571 94A20

ura, M. (*with* Sunahara, Yoshifumi; Ohsumi, Akira) A method of parameter dentification for linear distributed parameter systems. *Automatica—J. IFAC* **12** (1976), *o.* 3, 245–256. (C. J. Harris) **53** #15521 93E10

ura, Tsutomu (*with* Tanaka, Shūhei) The Wiener-Hermite expansion with ime-dependent ideal random function. II. The three-mode model. *Progr. Theoret. Phys.* **5** (1971), 1098–1105. (J. Bass) **46** #1200 76.60

, Ronald L. Use of a *t*-statistic as an approximation to the exact distribution of the Wilcoxon signed ranks test statistic. *Comm. Statist.* **3** (1974), 795–806. (Author's summary) **50** #8787 62E15 (62G10)

(*with* Quade, Dana; Alexander, Douglas A.) Exact probability levels for the Kruskal-Wallis test. *Selected tables in mathematical statistics, Vol. III, pp.* 329–384. *Amer. Math. Soc., Providence, R. I.*, 1975. (Authors' summary) **53** #11939 62Q05

Imanaliev, M. I. (*with* Sulaĭmanov, K.) Asymptotic behavior of the solutions of singularly perturbed boundary value problems for systems of nonlinear integro-differential equations with corner points. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970), 69–71. (See RŽMat **1970** #12 B431) 45J05

(*with* Tazabekov, R.) Averaging in systems of nonlinear integro-differential equations of Fredholm type. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970), 72–77. (See RŽMat **1970** #12 B432) 45J05

(*with* Kakišov, K. B.) Asymptotic estimates of the solutions of nonlinear boundary value problems for systems of nonlinear integro-differential equations with a small parameter multiplying the highest derivative. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 8 (*Russian*), *pp.* 59–79, 332. *Izdat. "Ilim", Frunze*, 1971. (Authors' summary) **58** #17743 45J05 (45M05)

(*with* Seĭtkazieva, A.) Asymptotic behavior of the solutions of a boundary value problem for nonlinear second order integro-differential equations with a small parameter multiplying the highest derivative. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 8 (*Russian*), *pp.* 80–98, 332. *Izdat. "Ilim", Frunze*, 1971. (Authors' summary) **58** #17742 45J05

(*with* Sulaĭmanov, K.) Asymptotic behavior of the solution of a boundary value problem when a boundary layer appears at both ends of the interval. (Russian) *Studies in integrodifferential equations in Kirgizia, No.* 8 (*Russian*), *pp.* 3–58, 332. *Izdat. "Ilim", Frunze*, 1971. (Authors' summary) **57** #13431 45M05 (34K25, 45J05)

★Асимптотические методы в теории сингулярно-возмущенных интегро-дифференциальных систем. (Russian) [Asymptotic methods in the theory of singularly perturbed integro-differential equations] *Izdat. "Ilim", Frunze*, 1972. 356 *pp.* (*errata insert*) (E. Riekstiņš) **51** #13606 45J05

(*with* Alymkulov, K. A.) Asymptotic methods in the theory of branching of periodic solutions of singularly perturbed integro-differential equations. (Russian) *Izv. Akad. Nauk Kirgiz. SSR* **1972**, *no.* 3, 13–23. (E. Leimanis) **46** #9671 45J05

(*with* Ved′, Ju. A.) Integral perturbations in the theory of the stability of systems of differential equations. (Russian) *Izv. Akad. Nauk Kirgiz. SSR* **1972**, *no.* 5, 23–30. (*errata insert*) (M. Ráb) **48** #9001 34D10 (45J05)

(*with* Ved′, Ju. A.) Integral perturbations in the theory of the stability of systems of ordinary differential equations. (Russian. Polish and English summaries) *Nonlinear vibration problems, No.* 14 (*Proc. Sixth Internat. Conf. Nonlinear Oscillations, Poznań*, 1972, *Part I*), *pp.* 99–109. *PWN–Polish Sci. Publ., Warsaw*, 1973. (Authors' summary) **56** #9005 34D20

(*with* Ved′, Ju. A.) Integral perturbations in the theory of the stability of systems of differential equations. (Russian) *Studies in integro-differential equations in Kirghizia, No.* 9 (*Russian*), *pp.* 3–67, 243. *Izdat. "Ilim", Frunze*, 1973. (Authors' summary) **57** #3528 34D10

(*with* Alymkulov, K. A.) Asymptotic methods in the theory of the branching of periodic solutions of singularly perturbed systems of differential equations. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 9 (*Russian*), *pp.* 138–137, 245–246. *Izdat. "Ilim", Frunze*, 1973. (Authors' summary) **57** #13038 34E15

(*with* Donskaja, N. V.; Norkin, S. B.) The structure of the solutions of a certain class of differential equations with retarded argument and with a singularity. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 9 (*Russian*), *pp.* 227–240, 250. *Izdat. "Ilim", Frunze*, 1973. (Authors' summary) **57** #13087 34K15

(*with* Ved′, Ju. A.) The influence of integral perturbations on the stability of systems of differential equations. (Russian) *Izv. Akad. Nauk Kirgiz. SSR* **1973**, *no.* 1, 4–11. (M. Ráb) **48** #9000 34D10 (45J05)

Asymptotic methods in the theory of singularly perturbed nonlinear integral equations of Volterra type. (Russian) Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Georghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Intergral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 145–149. (J. Kolomý) **51** #3837 45M05

(*with* Nazarkulova, B.) Asymptotic estimates for the solutions of nonlinear integro-partial differential equations with a small parameter multiplying the highest derivative. (Russian) Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 150–157. (Stefan Balint) **50** #14131 45K05

★Колебания и устойчивость решений сингулярно-возмущенных интегро-дифференциальных систем. (Russian) [Oscillations and stability of the solutions of singularly perturbed integrodifferential systems] *Izdat. "Ilim", Frunze*, 1974. 352 *pp.* (*errata insert*) (D. D. Baĭnov (Zbl **323** #45027)) **57** #10399 45M10

A general asymptotic theory of systems of nonlinear integro-differential equations of Volterra type with a small parameter multiplying the highest derivative and with integral initial data. (Russian) *Proceedings of the Symposium on Continuum Mechanics and Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 2 (*Russian*), *pp.* 119–138. *Izdat. "Mecniereba", Tbilisi*, 1974. (Editors) **56** #12801 45M05

(*with* Džuraev, M.; Pankov, P. S.) A certain inverse initial value problem for integro-partial differential equations. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 10 (*Russian*), *pp.* 3–15, 287. *Izdat. "Ilim", Frunze*, 1974. (Authors' summary) **57** #13428 45K05 (35R30)

(*with* Džuraev, M.; Pankov, P. S.) Uniqueness of the solution of the inverse initial value problem for a linear differential equation with deviating argument. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 10 (*Russian*), *pp.* 172–183, 293. *Izdat. "Ilim", Frunze*, 1974. (Authors' summary) **57** #13070 34K05

(*with* Donskaja, N. V.) The existence and structure of the solutions of a certain class of systems of linear differential equations with retarded argument. (Russian)

Studies in integro-differential equations in Kirgizia, No. 10 (*Russian*), *pp.* 184–191, 293–294. *Izdat.* "*Ilim*", *Frunze*, 1974. (Authors' summary) **57** #13071 34K05

(*with* Kakišov, K. B.) Linear boundary value problems for a system of nonlinear integrodifferential equations with a small parameter multiplying the highest derivative. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 9 (1974), 79–86. (See RŽMat **1974** #9 B493) 45J05

(*with* Gabitov, I. R.) A certain method for the determination of the form of the earth mantle. (Russian. Loose Russian summary) *Izv. Akad. Nauk Kirgiz. SSR* **1976**, *no.* 5, 3–8. (*loose erratum*) (S. V. Temko) **55** #2051 86.45

★Методы решения нелинейных обратных задач и их приложение. (Russian) [Methods for the solution of nonlinear inverse problems and their application] *Izdat.* "*Ilim*", *Frunze*, 1977. 347 *pp.* (M. M. Konstantinov) **58** #23395 45A05 (45J05)

(*with* Asanov, A.) Asymptotic theory of systems of nonlinear singularly perturbed integral equations with several variables. (Russian) *Studies in integro-differential equations in Kirgizia* (*Russian*), *pp.* 3–20, 430. *Izdat.* "*Ilim*", *Frunze*, 1977. (Authors' introduction) **58** #23456 45M05

(*with* Karimov, S.) Asymptotic theory of a system of differential equations with a small parameter multiplying the derivatives. (Russian) *Studies in integro-differential equations in Kirgizia* (*Russian*), *pp.* 96–116, 431. *Izdat.* "*Ilim*", *Frunze*, 1977. (Editors) **58** #22864 34E15

(*with* Botašev, A. I.) Branching of periodic solutions of singularly perturbed systems. (Russian) *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 347–350. *Abh. Akad. Wissensch. DDR*, *Abt. Math.-Naturwissensch.-Techn.*, *No.* 3N, *Akademie-Verlag*, *Berlin*, 1977. (Frederick A. Howes) **58** #22804 34C25 (34E15)

(*with* Karimov, S.) Asymptotic theory of a certain system of differential equations with a small parameter multiplying the derivatives. (Russian) *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 351–357. *Abh. Akad. Wissensch. DDR*, *Abt. Math.-Naturwissensch.-Techn.*, *No.* 3N, *Akademie-Verlag*, *Berlin*, 1977. (Frederick A. Howes) **58** #22848 34D15 (34E15)

(*with* Džuraev, M.) Branching theory for a periodic solution of a certain nonlinear differential equation of neutral type, and its applications. (Russian) *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 359–363. *Abh. Akad. Wissensch. DDR*, *Abt. Math-Naturwissensch.-Techn.*, *No.* 3N, *Akademie-Verlag*, *Berlin*, 1977. (Erwin Kozakiewicz) **58** #22924 34K15

(*with* Karimov, S.) Optimal determination of the parameter of regularization for nonlinear integral equations of the first kind. (Russian) *Izv. Akad. Nauk Kirgiz. SSR* **1977**, *no.* 6, 8–16. (Stefan Balint) **57** #3762 45B05

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8968 *and* **Studies in integro-differential equations in Kirgizia**, **57** #7060

Imanishi, Hideki Sur l'existence des feuilletages S^1-invariants. *J. Math. Kyoto Univ.* **12** (1972), 297–305. (F. Laudenbach) **46** #10004 57D30

On the theorem of Denjoy-Sacksteder for codimension one foliations without holonomy. *J. Math. Kyoto Univ.* **14** (1974), 607–634. (John W. Wood) **51** #4270 57D30

Structure of codimension one foliations which are almost without holonomy. *J. Math. Kyoto Univ.* **16** (1976), *no.* 1, 93–99. (Robert Roussarie) **54** #3717 57D30

(*with* Yagi, Kuniko) On Reeb components. *J. Math. Kyoto Univ.* **16** (1976), *no.* 2, 313–324. (Enrique Vidal) **54** #8668 57D30

See also **Sugawara, Masahiro**, **57** #11981

Imaoka, Mitsunori (*with* Sugawara, Masahiro) On the K-ring of the orbit manifold $(S^{2m+1}\times S^l)/D_n$ by the dihedral group D_n. *Hiroshima Math. J.* **4** (1974), 53–70. (R. De Sapio) **50** #5831 57E25 (57F15)

Imaoka, Teruo (*with* Okamoto, Nobuyuki; Miwa, Takuo; Yamada, Miyuki) Some remarks on regular extensions of Cliffordian semigroups. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 7 (1974), 19–28. (T. E. Hall) **50** #4790 20M10

Free products with amalgamation of commutative inverse semigroups. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 2, 246–251. (Howard B. Hamilton) **55** #12838 20M10

Free products of orthodox semigroups. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 10 (1976), 1–6. (P. G. Trotter) **54** #10451 20M10

Free products with amalgamation of bands. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 10, (1976), 7–17. (T. E. Hall) **55** #3118 20M10

Free products with amalgamation of orthodox semigroups. II. *Proceedings of the First Symposium on Semigroups* (*Shimane Univ.*, *Matsue*, 1977), *pp.* 65–71. *Shimane University*, *Matsue*, 1977. (K. S. S. Nambooripad) **57** #12734 20M10

Free products with amalgamation of orthodox semigroups. Seminar on semigroup theory (Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kyôkyûroku No.* 292 (1977), 40–55. (K. S. S. Nambooripad) **57** #12733 20M10 (08A25)

Imayoshi, Yôichi A theorem on uniformity of prime surfaces of an entire function of two complex variables. *Tôhoku Math. J.* (2) **27** (1975), *no.* 2, 285–290. (J. Kajiwara) **52** #3575 32A15

Imaz, Carlos (*with* Vorel, Zdeněk) Ordinary differential equations in a Banach space and retarded functional differential equations. *Bol. Soc. Mat. Mexicana* (2) **16** (1971), 32–37. (David L. Lovelady) **49** #776 34K05 (34G05)

(*with* González, Javier; Vorel, Zdeněk) Functional and ordinary differential equations. *Bol. Soc. Mat. Mexicana* (2) **18** (1973), 64–69. (David L. Lovelady) **50** #13795 34K05

(*with* Flores, Rubén) Fixed points and uniqueness. *International Conference on Differential Equations* (*Proc.*, *Univ. Southern California*, *Los Angeles*, *Calif.*, 1974), *pp.* 309–311. *Academic Press*, *New York*, 1975. (R. Kannan) **54** #6112 54H25 (34A10)

Relations between functional and ordinary differential equations. *Dynamical systems* (*Proc. Internat. Sympos.*, *Brown Univ.*, *Providence*, *R.I.*, 1974), *Vol. II*, *pp.* 123–125. *Academic Press*, *New York*, 1976. (Editors) **58** #28984 34K05

Imbert, C. Sur la méthode en histoire de la logique. ⊧*ISILC Logic Conference* (*Proc. Internat. Summer Inst. and Logic Colloq.*, *Kiel*, 1974), *pp.* 363–383. *Lecture Notes in Math.*, *Vol.* 499, *Springer*, *Berlin*, 1975. (John Bacon) **57** #5657 02–03

Imbert, N. (*with* Clique, M.; Fossard, André) Un critère de gouvernabilité des systèmes bilinéaires. *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Jaune* **9** (1975), *no. J*-3, 55–64. (Claude E. Lobry) **54** #9766 93C10

Imbrechts, C. *See* **Operations research and reliability**, **49** #10337

Imdadi, S. M. Shamim (*with* Rama Mohana Rao, M.) A note on topological dynamics limiting equations. *Proc. Amer. Math. Soc.* **40** (1973), 154–158. (J. Auslander) **48** # 34C35 (54H20)

(*with* Rama Mohana Rao, M.) Prolongations and prolongational limit sets non-autonomous differential equations. *Funkcial. Ekvac.* **18** (1975), *no.* 2, 99–106. R. Sell) **53** #6026 34C35 (34D20)

(*with* Rama Mohana Rao, M.) Topological dynamics and the extension of Lyapunov's method. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 1, 1–6. (G. R. S **55** #4118 54H20 (34C35)

Imecs, Maria (*with* Alb, Th.) Survey of the methods of descriptive geometry in Newton perspective. (Romanian. French summary) *Bul. Şti. Inst. Politehn. Cluj Ser. Mec.* (1970), 145–151. (M. Şt. Botez) **54** #8436 50D15

(*with* Alb, Th.; Mureşan, Elena) Interpretation of iterated hyperbolism in descriptive geometry. (Romanian. French summaries) *Bul. Şti. Inst. Politehn. Cluj Mec.* **14** (1971), 141–147. (M. Şt. Botez) **54** #8437 50D15

(*with* Iancău, V.) On the representation in oblique projection of ruled helicoi surfaces. (Romanian. French summary) *Bul. Ştiinţ Inst. Politehn. Cluj-Napoca* (1973), 29–30 (1976). (Authors' summary) **58** #30723 50D15

Imel′baev, Š. S. (*with* Dubov, Ju. A.; Ikoeva, N. V.; Kabakov, A. B.; Koval′čuk, S. Kopeĭkin, A. B.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul′jan, B. L.) Mathemati simulation of the development of urban systems. *Avtomat. i Telemeh.* **1975**, *no.* 93–127 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), 11, *part* 2, 1831–1862 (1976). (Kenneth F. Wieand) **55** #7306 90A15 (92A15, 93C10)

(*with* Dubov, Ju. A.; Ikoeva, N. V.; Koval′čuk, S. G.; Kopeĭkin, A. B.; Popk Ju. S.; Rjazancev, A. N.; Šmul′jan, B. L.) Optimal planning and control problems the development of conurbations (survey and research problems). *Avtomat. i Telem* **1976**, *no.* 6, 78–116 (*Russian. English summary*); *translated as Automat. Remote Cont* **37** (1976), *no.* 6, *part* 2, 879–912. (Andrew P. Sage) **55** #14069 90–02 (93–02)

(*with* Šmul′jan, B. L.) Stochastic communication systems analyzed by thermodynamic methods. *Avtomat. i Telemeh.* **1977**, *no.* 5, 77–87 (*Russian. Engl summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 5, *part* 1, 677–6 (Authors' summary) **56** #11483 94A05

frei-Imfeld, Günther *See* **Frei-Imfeld, Günther**

Im Hof, Hans-Christoph Über die Isometriegruppe bei kompakten Mannigfaltigkei negativer Krümmung. *Comment. Math. Helv.* **48** (1973), 14–30. (T. J. Willmo **48** #7161 (E **48** #12401) 53C20

Corrigendum: "Über die Isometriegruppe bei kompakten Mannigfaltigkeiten negativer Krümmung" (Comment. Math. Helv. **48** (1973), 14–30). *Comment. M Helv.* **48** (1973), 194. (Editors) **48** #12401 53C20

(*with* Ruh, Ernst A.) Actions isométriques sur des variétés riemanniennes pince (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 13, Aiii, A901–A9 (Midori Goto) **51** #6652 53C20

(*with* Ruh, Ernst A.) An equivariant pinching theorem. *Comment. Math. Helv.* (1975), *no.* 3, 389–401. (Midori Goto) **52** #6610 53C20

The existence of elliptic coordinates in Riemannian manifolds. *Arch. Math.* (*Bas* **30** (1978), *no.* 5, 532–536. (R. S. Millman) **58** #12831 53C20

(*with* Ehrlich, Paul Ewing) Sur la géométrie des domaines de Dirichlet. (Engl summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 10, A457–A458. (Autho summary) **58** #18265 53C20 (57D70)

(*with* Ehrlich, Paul Ewing) Metric circles and bisectors. *Math. Z.* **159** (1978), *no* 101–105. (Troels Jørgensen) **57** #13787 53C25

Imhof, J. P. Géneralisation du principe d'équivalence d'Andersen. *Publ. Inst. Stat Univ. Paris* **17** (1968), *no.* 2, 19–24. (J. Gianini) **47** #4306 60E05

Runs of a discrete time regenerative phenomenon. *J. Appl. Probability* **11** (197 588–593. (N. Veraverbeke) **50** #11505 60K05

Oscillations of continuous symmetric random walk. *Ann. Probability* **4** (1976), *no* 662–666. (Terence P. Speed) **53** #14676 60J15

Oscillations in the finite random sequence. *J. Roy. Statist. Soc. Ser. B* **38** (1976), 3, 275–278. (Author's summary) **55** #1562 62E15 (62M10)

Oscillations of monotone amplitude and application. *Transactions of the Sever Prague Conference on Information Theory*, *Statistical Decision Functions*, *Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prag Prague*, 1974), *Vol. A*, *pp.* 277–282. *Reidel*, *Dordrecht*, 1977. (Noël Veraverbeke) **58** #13365 60J15

One-sided excursions of Brownian motion, and an application. *J. Appl. Probab.* (1978), *no.* 3, 635–638. (Douglas P. Kennedy) **57** #17854 60J65 (60K30)

Imlahi, Layachi On the maximum probability criterion of utility. (Spanish) *Traba Estadíst. Investigación Oper.* **25** (1974), *no.* 3, 33–55. (Author's summary) **56** #14570 90A10

Immédiato, Henri Localisation à la manière de Goldie et applications. *Publ. Dép. Ma* (*Lyon*) 7 (1970), *no.* 3, 1–54. (R. S. Cunningham) **48** #6152 16A08

(*with* Ravatin, Jacques) Polynômes d'algèbres de Jordan et propriétés d'algèbres Jordan spéciales. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 87–99. (E. J. Taft) **47** #2 17C10

Immink, K. A. (*with* Nagel, Alexander) Controller design based on a limit criterion *Automatica–J. IFAC* **12** (1976), *no.* 6, 623–627. (Agostina Villa) **55** #7500 93C05

Immirzi, G. (*with* Boiti, M.; Maiella, G.; Pempinelli, F.) Sum rules for Khuri amplitud and light-cone Wilson expansion. (Italian and Russian summaries) *Nuovo Cimento* (11) **16** (1973), 345–375. (J. -P. Antoine) **52** #12599 81.46

Imnadze, M. P. A study of the restricted three-body problem by means of qualitati methods on the basis of quasi-integrals in spherical coordinates. (Russian) *Sakhar SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **17** (1977), *no.* 1, *Vyčisl. Mat. i Programmirovanie*, 74–113. (R. Kodnár) **58** #14052 70.34

Imomnazarov, B. (*with* Sabirov, T. S.) A certain boundary value problem for systems differential equations that contain a small parameter. (Russian. Tajiki summary) *Dok Akad. Nauk Tadžik. SSR* **13** (1970), *no.* 8, 9–12. (P. C. Das) **45** #5485 34C15

(*with* Alsynbaev, K.; Rubinšteĭn, G. Š.) The mass transfer problem on a compactum with a nonsymmetric metric. (Russian) *Optimizacija Vyp.* 17(34) (1975), 94–107, 167. (H. Weber) **56** #3226 28A10

On the problem of maximal flow and minimal cut. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **19** (1976), *no.* 9, 11–14. (Knut Richter) **55** #7346 90B10 (90B15)

The closure of the solution of a certain extremal problem. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 2 (64), 9–16. (J. Abrham) **58** #9307 90C99 (65K05)

(*with* Lavrent′ev, M. M.) Strongly positive operators. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 1, 23–25. (A. V. Džiškariani) **58** #2379 47A50 (65J05)

Iterative methods for the solution of conditionally well-posed problems. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 6, 1285–1288. (C. Ilioi) **58** #8233 65J05 (47A50)

A complete metric space. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **21** (1978), *no.* 2, 13–15. (J. G. Ceder) **58** #18364 54E35 (54E50)

Relaxation method for the solution of a nonlinear ill-posed problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 1, 3–9, 267. (S. Burýšek) **58** #3409 65J05 (47H15)

Imoru, Christopher Olutunde Series inequalities involving convex functions. *Trans. Amer. Math. Soc.* **199** (1974), 241–252. (A. E. Danese) **50** #2425 26A86

The Jensen-Steffensen inequality. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 461-497 (1974), 91–105. (D. Boyd) **52** #5910 26A86

On some inequalities for convex functions. *Mat. Vesnik* **12(27)** (1975), *no.* 3, 265–269. (S. Dubuc) **53** #3227 26A51

(*with* Boas, Ralph P., Jr.) Elementary convolution inequalities. *SIAM J. Math. Anal.* **6** (1975), 457–471. (F. Maisano) **52** #8359 26A86 (28A70)

On some integral inequalites related to Hardy's. *Canad. Math. Bull.* **20** (1977), *no.* 3, 307–312. (L. Losonczi) **57** #562 26A86

Imoto, Michiko Reggeized short-range potential using the Veneziano representation. *Progr. Theoret. Phys.* **46** (1971), 1469–1477. (S. Aramaki) **47** #6220 81.41

Impellizzeri, G. Sulla distribuzione di probabilità delle funzioni di trasferimento dei sistemi lineari. *Alta Frequenza* **37** (1968), 549–555. (Author's summary) **50** #4067 93E10

Impens, C. On the continuity of the Cartesian multiplication. *Simon Stevin* **51** (1977/78), *no.* 2, 71–78. (Anne K. Steiner) **57** #7507 54C05

Imreh, B. On α_1-products of automata. *Acta Cybernet.* **3** (1976/77), *no.* 4, 301–307. (Jerzy W. Grzymala-Busse) **57** #15787 94A30

Imrényi, Béla Canonical correlation theory. (Hungarian. English and Russian summaries) *Szigma—Mat.-Közgazdasági Folyóirat.* **5** (1972), 273–290. (Author's summary) **48** #7475 (E **50** #15164) 62H20

See also **Sarkadi, Károlyi**, **50** #15164

Imrich, Wilfried (*with* Dörfler, Willibald) Über die *X*-Summe von Mengensystemen. *Combinatorial theory and its applications, I* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 297–309. *North-Holland, Amsterdam*, 1970. (R. L. Hemminger) **45** #6692 05C25

Zehnpunktige kubische Graphen. *Aequationes Math.* **6** (1971), 6–10. (J. Sedláček) **45** #1792 05C99

(*with* Gaszt, Günter) Über das lexikographische und das kostarke Produkt von Mengensystemen. *Aequationes Math.* **7** (1971), 82–93. (J. Sedláček) **46** #1646 05C99

(*with* Stockiĭ, E. D.) Optimal embeddings of metrics into graphs. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 279–281. (H. Fleischner) **45** #106 05C10

(*with* Dörfler, Willibald) Eine Klasse rekonstruierbarer Graphen. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1972), 159–165. (R. L. Hemminger) **47** #6555 05C99

On products of graphs and regular groups. *Israel J. Math.* **11** (1972), 258–264. (I. Z. Bouwer) **47** #3234 05C25

(*with* Dörfler, Willibald) Das lexikographische Produkt gerichteter Graphen. *Monatsh. Math.* **76** (1972), 21–30. (L. W. Beineke) **46** #8891 05C20

Assoziative Produkte von Graphen. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **180** (1972), 203–239. (W. Dörfler) **47** #4863 05C99

(*with* Stockiĭ, E. D.) The optimal embeddings of metrics into graphs. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 558–565. (H. Fleischner) **45** #6675 05C10

(*with* Babai, László) On groups of polyhedral graphs. *Discrete Math.* **5** (1973), 101–103. (H. Hähl) **47** #3232 05C25

(*with* Babai, László; Lovász, László) Finite homeomorphism groups of the 2-sphere. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 61–75. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (H. Salzmann) **50** #8480 54H15

(*with* Watkins, Mark E.) On graphical regular representations of cyclic extensions of groups. *Pacific J. Math.* **55** (1974), 461–477. (Chong-Keang Lim) **52** #174 05C25

On graphical regular representations of groups. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his* 60*th birthday*), *Vol. II*, *pp.* 905–925. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (M. E. Watkins) **51** #12594 05C25 (20B25)

On Whitney's theorem on the unique embeddability of 3-connected planar graphs. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 303–306. (*loose errata*) *Academia, Prague* 1975. (Author's summary) **52** #5462 05C10

(*with* Schnitzer, Franz) Eine Charakterisierung konvexer Mengen. *Arch. Math.* (*Basel*) **26** (1975), 322–326. (Bernd Kind) **51** #8957 52A10

On graphs with regular groups. *J. Combinatorial Theory Ser. B* **19** (1975), *no.* 2, 174–180. (Author's summary) **52** #13477 05C25

(*with* Babai, László) Sense preserving groups of polyhedral graphs. *Monatsh. Math.* **79** (1975), 1–2. (Hermann Hähl) **50** #12794 05C25

(*with* Izbicki, Herbert) Associative products of graphs. *Monatsh. Math.* **80** (1975), *no.* 4, 277–281. (László Lovász) **53** #7864 05C99

(*with* Watkins, Mark E.) On automorphism groups of Cayley graphs. *Period. Math. Hungar.* **7** (1976), *no.* 3-4, 243–258. (Norman Biggs) **56** #15483 05C25

Subgroup theorems and graphs. *Combinatorial mathematics, V* (*Proc. Fifth Austral. Conf., Roy. Melbourne Inst. Tech., Melbourne*, 1976), *pp.* 1–27. *Lecture Notes in Math., Vol.* 622, *Springer, Berlin*, 1977. (C. R. J. Clapham) **57** #2980 05C25 (20F30)

On finitely generated subgroups of free groups. *Arch. Math.* (*Basel*) **28** (1977), *no.* 1, 21–24. (Robert G. Burns) **55** #12822 20F05

Imura, Hidefumi (*with* Okano, Koji) A generalized Fokker-Planck equation and its applications to Brownian motion theory. *J. Fac. Engrg. Univ. Tokyo Ser. B* **31** (1971/72), 199–216. (P. Caldirola) **50** #12108 82.60

Inaba, Hiroshi (*with* Tapley, Byron D.) Generalized random processes: a theory and the white Gaussian process. *SIAM J. Control* **13** (1975), 719–735. (R. Jajte) **51** #11646 60G20

The linear filtering from viewpoint of generalized random processes. (Japanese summary) *Res. Rep. Tokyo Electrical Engrg. College No.* 24 (1976), 1–12. (R. Š. Lipcer) **56** #6839 60G35

Inaba, Takashi On stability of proper leaves of codimension one foliations. *J. Math. Soc. Japan* **29** (1977), *no.* 4, 771–778. (Bruce L. Reinhart) **58** #24291 57D30

Inada, Hitoshi Diffracted field computations by a series expansion. *Radio Sci.* **10** (1975), 205–220. (R. F. Millar) **51** #4853 78.30

Inada, Ken-ichi Majority rule and rationality. *J. Econom. Theory* **2** (1970), 27–40. (J. H. Blau) **54** #9612 (E **58** #9118) 90A05

The production coefficient matrix and the Stolper-Samuelson condition. *Econometrica* **39** (1971), 219–239. (Author's summary) **56** #10816 90A15

Social welfare function and social indifference surfaces. *Econometrica* **39** (1971), 599–623. (A. Rapoport) **52** #12719 90A05 (92A20)

See also **Salles, Maurice**, **58** #9118

Inada, Kōichi (*with* Tanaka, Kensuke) Some extension of the two-armed bandit problem with finite memory. *Sci. Rep. Niigata Univ. Ser. A No.* 10 (1973), 5–14. (K. S. Fu) **52** #2626 90D35 (62L15)

(*with* Tanaka, Kensuke) Some statistical method with finite memory. *Sci. Rep. Niigata Univ. Ser. A No.* 10 (1973), 27–38. **55** #10171 94A30 (62L10)

(*with* Tanaka, Kensuke; Iwase, Seiichi) Some extensions of the two-armed bandit problem with finite memory. II. *Tamkang J. Math.* **5** (1974), *no.* 1, 85–101. (K. S. Fu) **52** #2627 90D35 (62L15)

Extension of the problem of estimation of binomial mean with finite memory due to T. J. Wagner. *Mem. Fac. Sci. Kyushu Univ. Ser. A.* **29** (1975), *no.* 1 43–50. (Terry J. Wagner) **52** #9530 62L05

(*with* Tsukamoto, K.; Yamauchi, K.) A bivariate analogue of the two-sided t test. *Tamkang J. Math.* **8** (1977), *no.* 1, 111–121. (Hisao Nagao) **58** #3194 62H10

Inagaki, Eiichi (*with* Hisamura, Tomiji) Multi-input optimal PWM control of distributed parameter systems. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 59 (1973), 41–47. (W. D. Collins) **48** #12210 49B25

(*with* Tomishima, Hakaru; Hisamura, Tomiji) Optimal pulse-type control of distributed parameter systems. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 69 (1975), 80–91. (J. E. Rubio) **53** #12690 93C20

Inagaki, Kosaku (*with* Yajima, Shuzo) Power minimization problems of logic networks. *Systems-Computers-Controls* **4** (1973), *no.* 1, 69–75. (B. Hazeltine) **50** #16146 94A20

(*with* Yajima, Shuzo) Power minimized logic circuits using NAND elements. *Systems-Computers-Controls* **4** (1973), *no.* 4, 46–53. (G. Berman) **51** #7737 94A20

(*with* Yajima, Shuzo) Power minimization problems of logic networks. *IEEE Trans. Computers* **C-23** (1974), 152–165. (B. Hazeltine) **51** #2807 94A20

Inagaki, Nobuo Asymptotic relations between the likelihood estimating function and the maximum liklihood estimator. *Ann. Inst. Statist. Math.* **25** (1973), 1–26. (E. J. Williams) **49** #4147 62F10

The asymptotic representation of the Hodges-Lehmann estimator based on Wilcoxon two-sample statistic. *Ann. Inst. Statist. Math.* **25** (1973), 457–466. (Adhir K. Basu) **49** #8193 62G05 (62E20)

On subgroups of finite solvable groups. *J. Saitama Univ. Fac. Ed. Math. Natur. Sci.* **23** (1974), 1–2. (A. Mann) **55** #3068 20D10

(*with* Ogata, Yoshihiko) The weak convergence of likelihood ratio random fields and its applications. *Ann. Inst. Statist. Math.* **27** (1975), *no.* 3, 391–419. (Jacques A. Chevalier) **53** #9481 62F10 (62E20)

Two errors in statistical model fitting. *Ann. Inst. Statist. Math.* **29** (1977), *no.* 2, 131–152. (Colin L. Mallows) **57** #1718 62B10 (62J05)

(*with* Ogata, Yoshihiko) The weak convergence of the likelihood ratio random fields for Markov observations. *Ann. Inst. Statist. Math.* **29** (1977), *no.* 2, 165–187. (B. L. S. Prakasa Rao) **56** #16960 62M05

Inagaki, Shogo (*with* Kitamura, Shinzo; Nishimura, Masataro) Ljapunov functional and circle criterion for a class of distributed parameter systems. (Japanese. English summary) *Systems and Control* **15** (1971), 507–514. (Y. Hayashi) **45** #7237 35B35 (93C20)

Inagaki, Yasuyoshi (*with* Matsuura, Hiroyuki; Fukumura, Teruo) Linear space automata. *Electron. Commun. Japan* **52** (1969), *no.* 5, 133–141. (Authors' summary) **57** #19181 94A30 (94A35)

(*with* Sugino, Kazue; Fukumura, Teruo) Algebraic properties of quasi-regular expressions and linear space automata. *Systems-Computers-Controls* **1** (1970), *no.* 3, 17–26 (1971). (I. Peák) **46** #6972 94A30

(*with* Hayashi, Terumine; Fukumura, Teruo) Some notes on stability problems of probabilistic automata. *J. Cybernet.* **1** (1971), *no.* 2, 94–114. (A. Paz) **46** #3248 94A35

(*with* Ito, Makoto; Fukumura, Teruo) Realization of sequential machine using multi-stage shift registers. *Systems-Computers-Controls* **2** (1971), *no.* 2, 10–18 (1972). (J. Hartmanis) **47** #1556 94A25

(*with* Ito, Hidenori; Fukumura, Teruo) Recognition time of languages generated by context-free grammars with control set. *Electron. Commun. Japan* **55** (1972), *no.* 6, 142–149. (Authors' summary) **56** #13807 68A30 (68A20)

(*with* Fukumura, Teruo; Matuura, Hiroyuki) Some aspects of linear space automata. *Information and Control* **20** (1972), 439–479. (H. D. Block) **48** #10729 94A35

(*with* Ito, Hidenori; Fukumura, Teruo) String controlled grammars. *Systems-Computers-Controls* **3** (1972), *no.* 4, 45–53 (1973). (S. Ginsburg) **49** #4318 68A30

(*with* Ito, Hidenori; Fukumura, Teruo) One-sided context-sensitive grammars.

Systems-Computers-Controls **3** (1972), *no.* 5, 31–38 (1973). (W. Wechler) **49** #8432 68A30

(*with* Ito, Hidenori; Fukumura, Teruo) Characterization of the derivation trees of context-sensitive grammars—scattered context-sensitive tree generating systems. *Systems-Computers-Controls* **4** (1973), *no.* 2, 24–32. (Horst Reichel) **49** #1833 68A30

(*with* Ito, Hidenori; Fukumura, Teruo) Scattered tree automata and scattered context-sensitive tree-generating systems. *Systems-Computers-Controls* **4** (1973), *no.* 4, 22–28. (Dominique Perrin) **51** #2358 68A30 (68A25)

(*with* Ito, Hidenori; Fukumura, Teruo) Hierarchy of the families of dendrolanguages. *Systems-Computers-Controls* **4** (1973), *no.* 5, 48–56. (E. Stockiĭ) **51** #2359 68A30

(*with* Ito, Hidenori; Fukumura, Teruo) Dendrolanguage generating systems on control state sets–a hierarchy between context-free and context-sensitive dendrolanguages. *Systems-Computers-Controls* **5** (1974), *no.* 4, 1–8 (1975). (Leon Levy) **56** #1819 68A30

(*with* Fukumura, Teruo) On the description of fuzzy meaning of context-free language. *Fuzzy sets and their applications to cognitive and decision processes* (*Proc. U.S.-Japan Sem., Univ. Calif., Berkeley, Calif.*, 1974), *pp.* 301–328. *Academic Press, New York*, 1975. (Abraham Kandel) **56** #17222 68A30

(*with* Yanase, Tatsuro; Fukumura, Teruo) Recursive structure of configuration transition relation of asynchronous cellular automaton and its Garden of Eden problem. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 119–125. *IEEE Computer Soc., New York*, 1975. (François Robert) **58** #15749 94A30

(*with* Sakabe, Toshiki; Fukumura, Teruo) Addressable approximations to nonaddressable data graphs. 2*nd USA-Japan Computer Conference Proceedings* (*Tokyo*, 1975), *pp.* 343–346. *AFIPS Press, Montvale, N.J.*, 1975. (Bernard H. Rosman) **57** #4708 68A50

(*with* Sugino, Kazue; Fukumura, Teruo) A note on the linear space automata stability problem. *IEEE Trans. Computers* **C-25** (1976), *no.* 7, 678–683. (A. Paz) **55** #5327 94A30

(*with* Sakabe, Toshiki; Fukumura, Teruo) A characterization of data graphs by right congruence relations over the set of link symbol sequences. *Systems-Computers-Controls* **7** (1976), *no.* 2, 79–87 (1977). (A. L. Rosenberg) **58** #8458 68A05

(*with* Sakabe, Toshiki; Fukumura, Teruo) Addressable approximations to nonaddressable data graphs. *Systems-Computers-Controls* **7** (1976), *no.* 6, 76–84 (1977). (Fabrizio Luccio) **58** #19317a 68A05

(*with* Sakabe, Toshiki; Fukumura, Teruo) Infinite hierarchy of algebraic and graphical uniformities of data graphs. *Systems-Comput.-Controls* **8** (1977), *no.* 1, 69–75 (1978). (Bernard H. Rosman) **58** #3639 68A05

(*with* Sakabe, Toshiki; Fukumura, Teruo) Addressable approximations to nonaddressable data graphs. *J. Comput. System Sci.* **17** (1978), *no.* 1, 1–34. (Fabrizio Luccio) **58** #19317b 68A05

Inaita, Shiro On disjointness in fuzzy relations. (Japanese) *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ. No.* 22 (1977), 19–26. (Tadashi Ohkuma) **57** #3325 26A06

Inamov, I. (*with* Èĭdel′nant, M. I.) A certain application of the method of unbiased estimates to statistical acceptance control. (Russian) *Taškent. Inst. Narod. Hoz. Naučn. Zap. No.* 34 *Mat. v Priložen.* (1970), 14–18. (B. Dimitrov) **52** #4562 62N10

Unbiased nonparametric estimates of the a priori distributions of the probabilities of defective products under alternative statistical acceptance control. (Russian) *Taškent. Gos. Ped. Inst. Učen. Zap.* **100** *Voprosy Teor. Verojatnost.* (1972), 40–49, 136. (Editors) **57** #4460 62N10

(*with* Abdurahmanov, T.) Unbiased estimates of discrete probability distributions of rejects according to results of statistical plans of single sampling type with a doubled control level. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972) 3–11, 375. (B. Dimitrov) **51** #2233 62N10

Inan, Esin (*with* Jeffrey, Alan) The propagation of second-order Lipschitz discontinuities in quasi-linear hyperbolic systems with discontinuous coefficients. *Proc. Roy. Soc. Edinburgh Sect. A* **74** (1974/75), 205–224 (1976). (S. Cinquini) **56** #6129 35L55

Inasaridze, H. N. Exact homology and linking for Steenrod duality. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 21–24. (Joel M. Cohen) **48** #5056 55B35

Exact homology. (Russian. Georgian and French summaries) Collection of articles on homology theory. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **41** (1972), 128–142, 165 (1973). (Csaba Hatvany) **50** #8503 (EA **51**) 55B30 (55B35)

The exact homology and Tate cohomology for locally compact zero-dimensional groups. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **74** (1974), 29–32. (J. Browkin) **49** #7336 18H10

Homotopy of pseudosimplicial groups and nonabelian derived functors. (Russian. Georgian and English summary) *Sakharth. SSR Mecn. Akad. Moambe* **76** (1974), 533–536. (J. S. Joel) **57** #9801 18G10 (18F25)

★Некоторые вопросы гомологической и гомотопической алгебры и их применения. (Russian) [Certain questions of homological and homotopical algebra and their applications] With Georgian and French summaries. Sakharth. SSR Mecn. Akad. Math. Inst. Šrom. **48** (1975). *Izdat. "Mecniereba", Tbilisi*, 1975. 141 *pp.* (A. A. Ranicki) **54** #7588 18H40 (18F25)

Homotopy of pseudosimplicial groups, nonabelian derived functors, and algebraic *K*-theory. (Russian) *Mat. Sb.* (*N.S.*) **98(140)** (1975), *no.* 3(11), 339–362, 495. (J. S. Joel) **57** #9803 18F25 (18G10)

Algebraic *K*-functors. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), 17–20. (J. S. Joel) **57** #9802 18F25

A generalization of the Milnor sequence for inverse limits. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 1, 17–20. (N. Popescu) **53** #8199 18G40

The stabilization of the Karoubi-Villamayor algebraic *K*-functors. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 1, 29–32. (A. A. Ranicki) **56** #8625 16A54 (18F25)

Inassaridzé, H. *See* **Proceedings: International Symposium on Topology and its Applications**, **48** #7188

Inatomi, Akira A note on Galois extension of separable algebras. *Kōdai Math. Sem.* **23** (1971), 198–203. (H. F. Kreimer) **45** #1974 16A16

On Galois theory of central separable algebras over Artinian rings. *Kōdai M Sem. Rep.* **25** (1973), 34–36. (A. Rosenberg) **47** #3458 16A74 (16A16)

Inawashiro, Sakari (*with* Katsura, Shigetoshi) Asymptotic form of the lattice Gre function of the square lattice. *Ann. Physics* **77** (1973), 206–215. (L. Finkelst **48** #10398 82.34

(*with* Katsura, Shigetoshi; Abe, Yoshihiko) Lattice Green's function for the sim cubic lattice in terms of a Mellin-Barnes type integral. II. *J. Mathematical Phys* (1973), 560–562. (L. Finkelstein) **48** #10354 81.35

Inbar, Michael (*with* Meditch, James S.) Synthesis of linear sequential machines. *Inter J. Systems Sci.* **9** (1978), *no.* 6, 709–720. (W. Wechler) **58** #4712 94A25

Incertis Carro, F. (*with* Martínez Torres, J. M.) An extension on a reformulation of algebraic Riccati equation problem. *IEEE Trans. Automatic Control* **AC-22** (1977), 1, 128–129. (Authors' summary) **56** #2531 93B99

Inckirveli, C. N. (*with* Gjuntner, A. F.) Some boundary value problems for a helicoidal shell. (Russian. Georgian summary) *Studies in the theory of plates and sh* (*Russian*), *pp.* 37–55. *Izdat. Tbilis. Univ., Tbilisi*, 1977. (From the introduction) **58** #14136 73.35

Indermark, Klaus (*with* Brauer, Wilfried) ★Algorithmen rekursive Funktionen und formale Sprachen. B. I. Hochschulskripten, 817*. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1968. v + 115 *pp.* (G. E. Minc) **49** #4769 02F43 (68– 94A30)

(*with* von Henke, Friedrich Wilhelm; Weihrauch, Klaus) Hierarchies of primi recursive wordfunctions and transductions defined by automata. *Automata, langua and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 549–561. *North-Holla Amsterdam*, 1973. (George Tourlakis) **55** #1840 68A30

On Ianov schemas with one memory location. *Erste Fachtagung der Gesellschaft Informatik über Automatentheorie und Formale Sprachen* (*Bonn*, 1973), *pp.* 284–2 *Lecture Notes in Computer Science, Vol.* 2, *Springer, Berlin*, 1973. (Karel Čulik) **56** #4219 68A05

★Gleichungsdefinierbarkeit in Relationalstrukturen. Gesellschaft für Mathema und Datenverarbeitung, Bonn, Ber. No. 98. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1975. 49 *pp.* (E. G. Wagner) **53** #7745 (EA **54**) 02F (68A25)

Control structures and monadic languages. *Automata theory and formal languag* (*Second GI Conf., Kaiserslautern*, 1975), *pp.* 289–292. *Lecture Notes in Comput. Sci., V* 33, *Springer, Berlin*, 1975. (V. A. Val′kovskiĭ) **53** #7101 68A05

The continuous algebra of monadic languages. *Mathematical foundations of computer science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp.* 266–270. *Lectu Notes in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (Steven S. Muchnick) **54** #656 68A30

(*with* von Henke, Friedrich Wilhelm; Rose, Gene F.; Weihrauch, Klaus) On primitive recursive wordfunctions. (German summary) *Computing* **15** (1975), *no.* 217–234. (Paul Axt) **54** #2434 02F20 (02F15, 68A15)

On a class of schematic languages. *Formal languages and programming* (*Proc. Se UAM-IBM Sci. Center, Univ. Autónoma Madrid, Madrid*, 1975), *pp.* 1–13. *North-Holland, Amsterdam*, 1976. (Karel Čulík) **56** #10166 68A30 (68A05)

(*with* Reisig, W.) On recursively definable relations. *Lattice theory* (*Proc. Collo Szeged*, 1974), *pp.* 149–169. *Colloq. Math. Soc. János Bolyai, Vol.* 14, *North-Hollan Amsterdam*, 1976. (Robert M. Baer) **55** #10260 02F27

See also **Fachtagung: Gesellschaft für Informatik, Automatentheorie und Forma Sprachen**, **48** #3285

Indičenko, L. M. *See* **Cybernetics and computer technology**, **47** #4546 *and* **Cyberneti and computer technology**, **48** #7523

Indihar, Stane ★Izotopij v evklidskem prostoru. (Slovenian) [Isotopy in Euclidean space Master's thesis. *Prirodoslovno-Matematična Fakulteta, Sveučilište u Zagrebu, Zagre* 1971. iii + 125 *pp.* (J. Chrastina) **52** #15472 57A15 (57A45)

Indionkov, A. V. The boundary value problem for a certain class of quasilinear parabol systems on the plane. (Russian) *Trudy Moskov. Orden. Lenin. Energet. Inst. No.* 1 *Vysš. Mat.* (1972), 45–54. (V. Đurikovič) **49** #3334 35K60

A priori estimates of the solutions and their derivatives for certain classes nonlinear parabolic equations and systems. (Russian) Studies in differential equatio and their applications. *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 201 (1974 57–65. (Editors) **58** #1656 35K55

Some classes of second order quasilinear parabolic systems on the plane. (Russian *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 260 (1975), 39–51. (From the introduction) **58** #1657 35K55

Some quasilinear parabolic systems. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 260 (1975), 52–58. (Editors) **58** #1658 35K55

Stability of the solutions of certain quasilinear parabolic equations. (Russian *Differencial′nye Uravnenija* **13** (1977), *no.* 10, 1836–1844, 1908. (From the author's tex **57** #6774 35B35 (35K55)

Indjoudjian, M. D. Notes sur les propriétés des fonctions de répartition empiriques. *Re Statist. Appl.* **18** (1970), *no.* 2, 5–29. (Lionel Weiss) **48** #5227 62E15 (62G10)

Indlekofer, Karl-Heinz Summierbarkeitsverhalten äquivalenter Potenzreihen. I. *Arch. Math.* (*Basel*) **22** (1971), 385–393. (W. Schwarz) **45** #4009 40C15

Summierbarkeitsverhalten äquivalenter Potenzreihen. II. *Math. Nachr.* **50** (1971 307–319. (W. Schwarz) **47** #5486 40F05 (30A12)

Bemerkung zur Divergenz von Fourierreihen. *Ann. Univ. Sci. Budapest. Eötv Sect. Math.* **15** (1972), 53–59 (1973). (Yung-ming Chen) **48** #2640 42A20

(*with* Schwarz, Wolfgang) Über *B*-Zwillinge. *Arch. Math.* (*Basel*) **23** (1972), 251–256. (G. J. Rieger) **47** #6635 10J05

Eine asymptotische Formel in der Zahlentheorie. *Arch. Math.* (*Basel*) **23** (1972 619–624. (Henri Joris) **47** #6629 10H25

Multiplikative Funktionen mehrerer Variablen. *J. Reine Angew. Math.* **256** (1972 180–184. (D. Rearick) **47** #3296 10A20

Bemerkungen über äquivalente Potenzreihen von Funktionen mit einem gewisse Stetigkeitsmodul. *Monatsh. Math.* **76** (1972), 124–129. (J. Clunie) **46** #9306 30A

A remark on solvable groups. *Arch. Math.* (*Basel*) **24** (1973), 57–58. (Mor

Newman) **49** #2923 20D10

Summierbarkeitsverhalten äquivalenter Potenzreihen. III. *Math. Nachr.* **55** (1973), 265–286. (W. Schwarz) **47** #9116 40C15 (30A12)

Über die Invarianz der absoluten Konvergenz bei konformer Abbildung. *Math. Z.* **134** (1973), 171–177. (G. Piranian) **48** #11451 30A10

Scharfe untere Abschätzung für die Anzahlfunktion der *B*-Zwillinge. *Acta Arith.* **26** (1974/75), 207–212. (J. W. Porter) **50** #7064 10H30 (10H25)

(*with* Warlimont, Richard) Über die starke Cesàro Summierbarkeit von Potenzreihen auf dem Rande des Konvergenzkreises. *Math. Nachr.* **63** (1974), 393–399. (G. Piranian) **50** #13468 30A10 (40G05)

Automorphismen gewisser Funktionenalgebren. *Mitt. Math. Sem. Giessen No.* 111 (1974), 68–79. (F. T. Birtel) **52** #1319 46J10 (30A98)

On the distribution of values of additive arithmetical functions. *Topics in number theory* (*Proc. Colloq., Debrecen*, 1974), *pp.* 111–128. *Colloq. Math. Soc. János Bolyai, Vol.* 13, *North-Holland, Amsterdam*, 1976. (Gutti J. Babu) **55** #7974 10K20

Automorphismen gewisser Funktionenalgebren. II. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 305–313. (Editors) **58** #17852 46J10 (30A98)

Das Verhalten multiplikativer Funktionen auf gewissen Zahlenfolgen. *J. Reine Angew. Math.* **283/284** (1976), 147–153. (D. Rearick) **54** #2570 10A20

Grenzverteilung additiver Funktionen. (Lithuanian and Russian summaries) *Litovsk. Mat. Sb.* **16** (1976), *no.* 2, 81–91, 241. (J. Kubilius) **55** #299 10K20

On sets characterizing additive arithmetical functions. *Math. Z.* **146** (1976), *no.* 3, 285–290. (B. Garrison) **52** #10567 10A20

(*with* Gottschalk, Manfred) Über binäre additive Probleme. *J. Reine Angew. Math.* **297** (1978), 65–79. (H.-E. Richert) **58** #5560 10H30 (10J05)

ndoleanu, I. (*with* Coţiu, A.; Truţa, G.) A quadrature formula of degree of exactness $p+3$ ($p \geqslant 2$), for two nodes. (Romanian. French summary) *Bul. Şti. Inst. Politehn. Cluj* **12** (1969), 31–35. (A. Lupaş) **45** #4632 65D30

The approximate integration of higher order linear differential equations using "spline" functions. (Romanian. French summary) *Bul. Şti. Inst. Politehn. Cluj* **13** (1970), 29–31. (L. Berkovič (RŽMat **1972** #2 B833)) **51** #7300 65L10

ndovina, Grazia Sur un théorème de dépendance algébrique pour les fonctions méromorphes. (English summary) *Rend. Circ. Mat. Palermo* (2) **22** (1973), 102–112. (W. Thimm) **52** #11126 32J10

ndrei, V. Integration of a functional equation whose solution satisfies an algebraic addition theorem. (Romanian. French summary) *Bul. Şti. Inst. Politehn. Cluj* **12** (1969), 43–50. (M. Kuczma) **45** #3994 39A30

The integration in the complex domain of a certain quadratic functional equation. (Romanian. German summary) *Bul. Şti. Inst. Politehn. Cluj* **13** (1970), 33–36. (J. Täuber) **47** #9111 39A30

ndukaev, K. V. (*with* Širokov, Ju. M.) Covariantization of the Boulware-Deser representation for the equal-time commutator of the energy-momentum tensor. (Russian. English summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 2, 178–184. (Authors' summary) **58** #14719 81.53

ndusi, Joseph P. A computer algorithm for constrained minimization. *Minimization algorithms, mathematical theories and computer results* (*Proc. Sem., Math. Inst., Univ. Cagliari, Cagliari*, 1971), *pp.* 290–312. *Academic Press, New York*, 1972. (P. J. Laurent) **52** #9603 65K05

neichen, Robert ★Einführung in die elementare Statistik und Wahrscheinlichkeitsrechnung. Dritte vollständig neubearbeitete Auflage. Einzelschriften zur Gestaltung des mathematisch-physikalischen Unterrichtes, Heft 2. *Raeber-Verlag, Lucerne-Stuttgart*, 1971. 114 *pp.* (Editors) **50** #5990 62–01

(*with* Batschelet, E.) Genetic selection and de Finetti diagrams. *J. Math. Biol.* **2** (1975), *no.* 1, 33–39. (Stanley Sawyer) **53** #7532 92A10

Über die geometrische Darstellung von Selektionsprozessen. *Elem. Math.* **31** (1976), *no.* 2, 25–35. (I. M. H. Etherington) **54** #4710 92A10

★Einführung in die elementare Statistik und Wahrscheinlichkeitsrechnung. Fünfte vollständig neubearbeitete Auflage. Einzelschriften zur Gestaltung des Mathematisch-Physikalischen Unterrichtes, Heft 2. *Raeber-Verlag, Lucerne-Stuttgart*, 1977. 149 *pp.* (Editors) **56** #3987 62–01

nerbaev, M. S. Certain applications of difference schemes to the construction of a numerical solution of the Tricomi problem. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 1, 67–70, 92. (J. Mikliček) **56** #13694 65N20

nfante, E. F. (*with* Slemrod, Marshall) An invariance principle for dynamical systems on Banach space: application to the general problem of thermoelastic stability. *Instability of continuous systems* (*IUTAM Sympos., Herrenalb*, 1969), *pp.* 215–221. *Springer, Berlin*, 1971. (Editors) **58** #32292 73.58

Some results and applications of generalized dynamical systems. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 91–105. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (Prem Bajaj) **52** #14490 34C35

(*with* Slemrod, Marshall) Asymptotic stability criteria for linear systems of difference-differential equations of neutral type and their discrete analogues. *J. Math. Anal. Appl.* **38** (1972), 399–415. (F. Hoppensteadt) **46** #5800 34K25 (34K20)

(*with* Chafee, Nathaniel) A bifurcation problem for a nonlinear partial differential equation of parabolic type. *Applicable Anal.* **4** (1974/75), 17–37. (Authors' summary) **55** #13084 35K60 (35B99)

(*with* Chafee, Nathaniel) Bifurcation and stability for a nonlinear parabolic partial differential equation. *Bull. Amer. Math. Soc.* **80** (1974), 49–52. (D. H. Sattinger) **48** #6701 35K55

(*with* Walker, J. A.) Some results on the precompactness of orbits of dynamical systems. *J. Math. Anal. Appl.* **51** (1975), 56–67. (R. Kannan) **52** #14493 34C35 (34G05)

(*with* Walker, J. A.) On the stability properties of an equation arising in reactor dynamics. *J. Math. Anal. Appl.* **55** (1976), *no.* 1, 112–124. (I. Fenyő) **53** #12415 82.45 (70.45)

(*with* Artstein, Zvi) On the asymptotic stability of oscillators with unbounded damping. *Quart. Appl. Math.* **34** (1976/77), *no.* 2, 195–199. (T. A. Burton) **57** #6665 34D05

(*with* Walker, J. A.) On the stability of an operator equation modeling nuclear reactors with delayed neutrons. *Quart. Appl. Math.* **34** (1976/77), *no.* 4, 421–427. (R. K. Miller) **56** #4590 82.45

(*with* Walker, J. A.) On the behavior of linear undamped elastic systems perturbed by follower forces. *Dynamical systems* (*Proc. Internat. Sympos., Univ. Florida, Gainesville, Fla.*, 1976), *pp.* 101–112. *Academic Press, New York*, 1977. (M. M. Skriganov) **56** #12552 35G05 (73.35)

(*with* Walker, J. A.) A Liapunov functional for a scalar differential difference equation. *Proc. Roy. Soc. Edinburgh Sect. A* **79** (1977/78), *no.* 3-4, 307–316. (T. Yoshizawa) **58** #1484 34K15

(*with* Castelan, W. B.) On a functional equation arising in the stability theory of difference-differential equations. *Quart. Appl. Math.* **35** (1977/78), *no.* 3, 311–319. (R. F. Datko) **58** #11772 34K05

(*with* Walker, J. A.) A perturbation approach to the stability of undamped linear elastic systems subjected to follower forces. *J. Math. Anal. Appl.* **63** (1978), *no.* 3, 654–677. (Marshall Slemrod) **57** #18404 73.46

See also **Proceedings: International Conference on Nonlinear Oscillations, 47** #10124

Infante Macías, R. Note on stochastic linear programming: evolution and present status. I. (Spanish) *Trabajos Estadíst.* **23** (1971), *no.* 1-2, 9–49. (Editors) **48** #1698 90C15

Infantino, Roberto Osservazioni sulle approssimazioni successive per problemi quasi lineari negli spazi di Banach. (English summary) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **35** (1968), 47–56. (J. Prouse) **46** #2175 34G05

Sulle singolarità eliminabili per le soluzioni deboli delle equazioni lineari ellittiche di ordine $2m$. (English summary) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **36** (1969), 250–259. (E. Baiada) **45** #7243 35D99

Un teorema di regolarizzazione in spazi di Sobolev con peso per le soluzioni deboli delle equazioni lineari ellittiche. *Ricerche Mat.* **20** (1971), 232–240. (David Kinderlehrer) **48** #6667 35J30

Un teorema di singolarità eliminabili per le soluzioni deboli delle equazioni lineari ellittiche. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **52** (1972), 319–326. (Z. C. Motteler) **51** #13441 35J30

Una estensione di un teorema di E. M. Stein relativo agli integrali singolari. Applicazione alle equazioni ellittiche. I. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **53** (1972), 29–34 (1973). (Hans-Jürgen Glaeske) **55** #13180 44A25

Una estensione di un teorema di E. M. Stein relativo agli integrali singolari. Applicazione alle equazioni ellittiche. II. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **53** (1972), 234–240 (1973). (Editors) **58** #12523 47G05

Maggiorazioni in L^p dei potenziali relativi ad una classe di equazioni quasi-ellittiche. *Matematiche* (*Catania*) **29** (1974), *no.* 2, 338–372 (1975). (Carlo Pagani) **53** #13822 35J30

Infantozzi, Carlos Alberto Sur la mort d'Évariste Galois. *Rev. Histoire Sci. Appl.* **21** (1968), *no.* 2, 157–160. (Editors) **58** #27110 01A70

Espaces $T_{1\frac{1}{2}}$. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 116–122. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (C. R. Borges) **48** #9655 54D10

Infeld, Eryk Leopold Infeld Bibliography. *General Relativity and Gravitation* **1** (1970), 191–208. (Editors) **52** #5307 01A70 (83.00)

On the stability of solutions of a second-order differential equation. *Quart. Appl. Math.* **32** (1974/75), 465–467. (H. Hochstadt) **56** #3416 34D05

Stability criteria for generalized Mathieu equations. *Quart. Appl. Math.* **34** (1976/77), *no.* 3, 301–304. (H. Hochstadt) **56** #3417 34D05

Infeld, Leopold *See* **Robinson, Gilbert de B., 46** #8801 *and* **Infeld, Eryk, 52** #5307

Ingalls, Dan *See* **Design and optimization of compilers, 55** #1770

Ingarden, Roman S. An information-theoretical approach to the theory of lasers. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 77–82. (P. Caldirola) **45** #9627 81.60

(*with* Kossakowski, Andrzej) The Poisson probability distribution and information thermodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 83–85. (M. Behara) **46** #3203 94A15

Generalized irreversible thermodynamics and its application to lasers. I. General theory. *Acta Phys. Polon. A* **43** (1973), 3–14. (Author's summary) **52** #16409 81.60

Generalized irreversible thermodynamics and its application to lasers. II. Thermodynamics of a laser. *Acta Phys. Polon. A* **43** (1973), 15–35. (Author's summary) **52** #16410 81.60

On the Heisenberg uncertainty relations in the non-Hamiltonian quantum statistical mechanics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 579–580. (T. Izuyama) **50** #9244 81.47

Nicholas Copernicus and his traditions in Toruń and in Poland. *Rep. Mathematical Phys.* **5** (1974), *no.* 1, 1–5. (Editors) **49** #7068 01A40

(*with* Kossakowski, Andrzej) On the connection of nonequilibrium information theormodynamics with non-Hamiltonian quantum mechanics of open systems. *Ann. Physics* **89** (1975), 451–485. (I. K. Marek) **56** #4527 81.47 (82.60)

Quantum information theory. *Rep. Mathematical Phys.* **10** (1976), *no.* 1, 43–72. (Carl W. Helstrom) **55** #2357 94A15 (81.46)

Comments on the Kolmogorov-Sinai-Sąsiada entropy and the quantum information theory. *Rep. Mathematical Phys.* **10** (1976), *no.* 1, 131–135. (Zbl **366** #94033) **58** #32490 81.60

Differential geometry and physics. *Tensor* (*N.S.*) **30** (1976), *no.* 2, 201–209. (H. Rund) **54** #11177 53–02 (69.00)

See also **Collection: Ingarden, Roman Stanisław, 51** #12451

Ingargiola, Giorgio P. (*with* Korsh, James F.) Finding optimal demand paging algorithms. *J. Assoc. Comput. Mach.* **21** (1974), 40–53. (Authors' summary) **49** #8415 68A05

(*with* Korsh, James F.) An algorithm for the solution of $0-1$ loading problems. *Operations Res.* **23** (1975), *no.* 6, 1110–1119. (Csaba Fabian) **56** #2368 90C10

(*with* Korsh, James F.) A general algorithm for one-dimensional knapsack problems. *Operations Res.* **25** (1977), *no.* 5, 752–759. (Authors' summary) **58** #15140 90C10

Ingemarsson, Ingemar Commutative group codes for the Gaussian channel. *IEEE Trans.*

Information Theory **IT-19** (1973), *no.* 2, 215–219. (N. J. A. Sloane) **55** #14402 94A10

Toward a theory of unknown functions. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 2, 238–240. (Harry H. Tan) **58** #20810 94A15

Inger, G. R. On the curvature of compressible boundary layer flows near separation. (German summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 6, 1027–1035. (W. Lai) **58** #14274 76.35

Ingham, A. E. *See* **Collected papers: Hardy, Godfrey Harold, 58** #16072 *and* **Collected papers: Hardy, Godfrey Harold, 58** #16073

Ingham, D. B. Flow past an impulsively started semi-infinite flat plate in the presence of a magnetic field. *J. Inst. Math. Appl.* **20** (1977), *no.* 4, 459–469. (C. Rogers) **56** #17416 76.35

(*with* Bloor, M. I. G.) On the use of a Pohlhausen method in three dimensional boundary layers. (German summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 2, 289–299. (William H. H. Banks) **57** #11325 76.41

Ingleby, M. Some criticisms of quantum logic. *Helv. Phys. Acta* **44** (1971), 299–307. (M. J. Mączynski) **48** #10330 81.06

Ingleton, A. W. Conditions for representability and transversality of matroids. *Théorie des matroïdes* (*Rencontre Franco-Britannique*, *Brest*, 1970), *pp.* 62–66. *Lecture Notes in Math., Vol.* 211, *Springer*, *Berlin*, 1971. (Ann Miller) **49** #2433 05B35

★Notes on integration. Revised edition. *Mathematical Institute*, *Oxford University*, *Oxford*, 1972. i+90 *pp.* (Z. Lipecki) **54** #10532 28–01

(*with* Dunstan, F. D. J.; Welsh, D. J. A.) Supermatroids. *Combinatorics* (*Proc. Conf. Combinatorial Math., Math. Inst., Oxford*, 1972), *pp.* 72–122. *Inst. Math. Appl., Southend-on-Sea*, 1972. (W. T. Tutte) **49** #4813 05B35

(*with* Piff, M. J.) Gammoids and transversal matroids. *J. Combinatorial Theory Ser. B* **15** (1973), 51–68. (D. J. A. Welsh) **48** #8276 05B35

(*with* Ilori, Samuel A.; Lascu, Alexandru) On a formula of D. B. Scott. *J. London Math. Soc.* (2) **8** (1974), 539–544. (Audun Holme) **51** #8112 14F25 (14F05, 14N10)

(*with* Main, R. A.) Non-algebraic matroids exist. *Bull. London Math. Soc.* **7** (1975), 144–146. (W. Dörfler) **51** #5346 05B35

Non-base-orderable matroids. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen*, *Aberdeen*, 1975), *pp.* 355–359. *Congressus Numerantium, No. XV*, *Utilitas Math.*, *Winnipeg*, *Man.*, 1976. (Daniel I. A. Cohen) **52** #13442 05B35

(*with* Bondy, John Adrian) Pancyclic graphs. II. *J. Combinatorial Theory Ser. B* **20** (1976), *no.* 1, 41–46. (L. V. Quintas) **53** #5366 05C35

Inglis, Ian R. (*with* Gaudry, Garth I.) Approximation of multipliers. *Proc. Amer. Math. Soc.* **44** (1974), 381–384. (D. E. Ramirez) **49** #5720 43A22

(*with* Soardi, Paolo Maurizio) Radial functions on certain discrete groups. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **15** (1978), *no.* 1, 77–86. (Pierre Eymard) **58** #29848 43A35

Multipliers on compact groups. *Proc. Amer. Math. Soc.* **70** (1978), *no.* 2, 151–155. (Aline Bonami) **57** #17124 43A22 (42A18)

Inglot, T. On a certain variant of the invariance principle. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 955–958. (Andrew D. Barbour) **52** #15589 60B10

(*with* Weron, Aleksander) On Gaussian random elements in some non-Banach spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1039 1043. (V. S. Mandreker) **52** #6812 60B10 (60G15)

Ingraham, D. V. *See* **Applied statistics, 52** #1944

Ingraham, E. C. On the existence and conjugacy of inertial subalgebras. *J. Algebra* **31** (1974), 547–556. (J. A. Wehlen) **50** #2245 16A48

Ingraham, Mark H. ★Charles Sumner Slichter. The golden vector. *University of Wisconsin Press*, *Madison*, *Wis.-London*, 1972. xii+316 *pp. ISBN* 0-299-06060-8 (Editors) **58** #27111 01A70

Ingraham, R. L. On extracting the infinite-dimensional unitary representations of $SU_{2,2}$ in a free-particle basis. I. *Nuovo Cimento A* (11) **43** (1966), *no.* 2, 368–381. (Editors) **58** #32506a 81.22 (22E70)

On extracting the infinite-dimensional unitary representations of $SU_{2,2}$ in a free-particle basis. II. *Nuovo Cimento A* (11) **43** (1966), *no.* 2, 483–498. (Editors) **58** #32506b 81.22 (22E70)

The theory of the electromagnetic self-force according to conformal symmetry. (Italian and Russian summaries) *Nuovo Cimento B* (11) **27** (1975), 293–304. (J. F. Plebański) **52** #4925 83.53 (83.34)

Application of nonperturbative quantum field theoretic methods to hadron-nucleus collisions: background theory. *Ann. Physics* **99** (1976), *no.* 2, 231–252. (Author's summary) **57** #11432 81.31

The theory of the electromagnetic self-force according to conformal symmetry. II. Initial data and stability problems. (Italian and Russian summaries) *Nuovo Cimento B* (11) **34** (1976), *no.* 1, 189–206. (Author's summary) **58** #32733a (E **58** #32733b) 83.35

Errata: "The theory of the electromagnetic self-force according to conformal symmetry. II. Initial data and stability problems" (Nuovo Cimento B (11) **34** (1976), no. 1, 189–206). *Nuovo Cimento B* (11) **39** (1977), *no.* 1, 331. (Editors) **58** #32733b 83.35

Ingram, C. R. (*with* Scheaffer, Richard L.) On consistent estimation of age replacement intervals. *Technometrics* **18** (1976), *no.* 2, 213–219. (A. K. Gayen) **55** #4578 62N05

Ingram, J. D. (*with* Forristall, G. Z.) Evaluation of distributions useful in Kontorovich-Lebedev transform theory. *SIAM J. Math. Anal.* **3** (1972), 561–566. (D. Myers) **47** #2359 46F10 (44A20)

Ingram, Steven K. (*with* Bebernes, J. W.) Existence and non-existence of maximal solutions for $y''=f(x,y,y')$. *Ann. Polon. Math.* **25** (1971/72), 125–138. (L. D. Fountain) **46** #3870 34A10

Continuous dependence on parameters and boundary data for nonlinear two-point boundary value problems. *Pacific J. Math.* **41** (1972), 395–408. (H. Hochstadt) **46** #3873 34A10

Ingram, W. H. On incidence matrices implied in Maxwell's network theory. *Quart. Appl. Math.* **31** (1973/74), 137–141. (B. R. Myers) **55** #5314 94A20

Ingram, W. T. An atriodic tree-like continuum with positive span. *Fund. Math.* **77** (1972), *no.* 2, 99–107. (C. E. Burgess) **51** #1768 54F20

An uncountable collection of mutually exclusive planar atriodic tree-like conti with positive span. *Fund. Math.* **85** (1974), *no.* 1, 73–78. (Eldon J. Vought) **50** #847 54F20 (54F50)

Ingrao, Bruno Quelques propriétés de la catégorie des anneaux absolument plats rédu Formule des annulateurs. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1597–A16 (G. Renault) **46** #202 16A30

Quelques propriétés de la catégorie des anneaux absolument plats réduits. Surjectivité des épimorphismes. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1753–A1756. (G. Renault) **46** #203 16A30

Ingwell, Charles D. (*with* Borwanker, J. D.; David, H. T.) Binomial sequential design experiments. *Statistical papers in honor of George W. Snedecor*, *pp.* 45–57. *Iowa S Univ. Press*, *Ames*, *Iowa*, 1972. (Editors) **58** #24777 62L05

Inin, O. T. Generalized resolvents of an isometric operator at boundary points. (Russia *Volž. Mat. Sb. No.* 10 (1969), 26–39. (S. Suljagić) **45** #9172 47A10 (47B99)

The connection between formulas for the resolvents of isometric operators. (Russian) *Volž. Mat. Sb. No.* 13 (1972), 33–39. (E. Durszt) **48** #6970 47A10

Inkarov, B. G. *See* **Proceedings: Seminar of the Departments of Theoretical Mechanics Higher Mathematics, 48** #3668

Inkeri, K. On the diophantine equation $a(x^n-1)/(x-1)=y^m$. *Acta Arith.* **21** (19 299–311. (W. H. Mills) **46** #1703 10B15

A note on Fermat's conjecture. *Acta Arith.* **29** (1976), *no.* 3, 251–256. (R. Tijdem **53** #5466 10B15

On the irrationality of certain values of elementary transcendental functions. *Nie Arch. Wisk.* (3) **24** (1976), *no.* 3, 226–230. (W. W. Adams) **54** #10166 10F35

Innes, Donald R. On the relationship of sector references, sector placement and pag performance. *GI—6. Jahrestagung* (*Stuttgart*, 1976), *pp.* 360–372. *Informatik-Fachberichte*, *Band* 5, *Springer*, *Berlin*, 1976. (I. Kaufmann) **57** #18294 68A50

Innes, Joan E. (*with* Jackson, Lloyd K.) Nagumo conditions for ordinary different equations. *International Conference on Differential Equations* (*Univ. Southern Californ Los Angeles*, *Calif.*, 1974), *pp.* 385–398. *Academic Press*, *New York*, 1975. (F. A. How **53** #13686 34A15 (34B10)

Innis, George S. *See* **Mathematical problems in biology, 49** #10392; **New directions in analysis of ecological systems, 56** #11077a *and* **New directions in the analysis of ecological systems, 56** #11077b

Ino, Yoshiyuki (*with* Takeuchi, Ikuo) Numerical calculation of infinite series. *Mem. Defense Acad.* **12** (1972), 221–230. (W. Niethammer) **48** #7528 65B10

Inojatova, K. G. (*with* Sobirov, A. Š.) On the elementary proof of the asymptotic law of distribution of prime numbers. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Na* **16** (1972), *no.* 2, 79–81. (R. A. Rankin) **47** #3331 10H15

(*with* Sobirov, A. Š.) On the question of providing an elementary proof of asymptotic law of the distribution of primes. I, II. (Russian. Uzbek summary) *Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **16** (1972), *no.* 5, 13–19, 67; *ibid.* **17** (1973), 2, 10–16, 69. (A. I. Vinogradov) **47** #8458 10H15

Approximation of arithmetic sums by means of linear operators. (Russian) *M Zametki* **14** (1973), 925–936. (J. Galambos) **48** #11016 10H25

Inokuti, Mitio (*with* Tani, Smio) Modification of the variation-of-parameters method a integration of the Schrödinger equation. *J. Computational Phys.* **11** (1973), 409–422. (Nakanishi) **48** #5544 81.34

Inomata, Akira (*with* Singh, Vijay A.) Path integrals with a periodic constraint: entangl strings. *J. Math. Phys.* **19** (1978), *no.* 11, 2318–2323. (Authors' summary) **58** #25640 81.60

(*with* Trinkala, Michael) Charge quantization in curved space-time. *Phys. Rev.* (3) **18** (1978), *no.* 6, 1861–1867. (J. Rosen) **58** #25527 81.35

İnönü, Erdal A criterion for multiplicity free groups. (Turkish summary) *METU J. Pu Appl. Sci.* **3** (1970), 5–9. (Philip H. Butler) **46** #7398 20G05 (81.22)

A theorem on anisotropic scattering. *Transport Theory Statist. Phys.* **3** (197 137–146. (Author's summary) **51** #2554 82.45

Scaling and time inversion for the linear mono-energetic Boltzmann equation. *Phy Fluids* **19** (1976), *no.* 9, 1332–1335. (Author's summary) **54** #9520 82.45

See also **Group theoretical methods in physics, 55** #4964

Inooka, Hikaru State space analysis of the feedback system with a compensating element *Sci. Rep. Res. Inst. Tôhoku Univ. Ser. B* **22** (1970), 181–209. (Edward J. Daviso **46** #1390 93B25

(*with* Hatanaka, H.) Equivalent cost functions in optimal control for linear system *Rep. Inst. High Speed Mech. Tôhoku Univ.* **23** (1971), 157–176. (N. Harris McClamroc **53** #12677 93C05

Moments of an output feedback system. *Electron. Lett.* **12** (1976), *no.* 22, 588–58 (Kimio Kanai) **55** #2222 93B25

(*with* Obinata, Goro) A method for reducing the order of multivariable stochasti systems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 4, 676–677. (Author summary) **56** #15096 93E20

Inose, Hiroshi (*with* Yasuda, Hiroshi) Generalized method for constructing multilev balanced codes by means of loop-sum-zero transition diagram. *Electron. Commu Japan* **54** (1971), *no.* 10, 24–32. (E. R. Berlekamp) **46** #6928 94A10

(*with* Sakauchi, Masao) Synthesis of fault diagnosable logic circuits by functio conversion method. *Systems-Computers-Controls* **4** (1973), *no.* 1, 32–39. (Author summary) **56** #11622 94A20

On certain Kummer surfaces which can be realized as non-singular quartic surface in P^3. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **23** (1976), *no.* 3, 545–560. (C. A. M Peters) **55** #2924 14J25

(*with* Shioda, Tetsuji) On singular $K3$ surfaces. *Complex analysis and algebrai geometry*, *pp.* 119–136. *Iwanami Shoten*, *Tokyo*, 1977. (J. S. Milne) **56** #371 14J2 (14G13, 10D20)

Inose, Takehisa (*with* Masunaga, Yoshifumi; Noguchi, Shoichi; Oizumi, Juro) Extensio of a semigroup-theoretic consideration on the structure of automata specified b endomorphism grouping. *Systems-Computers-Controls* **2** (1971), *no.* 5, 10–19. (Eckehar Hotzel) **55** #547 20M35 (94A30)

ramires Inostrosa, R. O. *See* **Ramires Inostrosa, R. O.**

Inoue, Akira Observers for linear multivariable control systems. (Japanese) *Systems an*

Control **16** (1972), 585–590. **47** #1504 93C05

(*with* Muroi, Shinichi) Observers for linear discrete-time control systems. (Japanese. English summary) *Systems and Control* **18** (1974), 309–313. (Tohru Katayama) **50** #4032 93C05

oue, Atsushi Locally C^*-algebra. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 197–235. (J. D. Stein, Jr.) **46** #4219 46L05

Sur $\Box u+u^3=f$ dans un domaine non cylindrique. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A659–A662. (Homer F. Walker) **46** #5834 35L05 (47F05)

L'opérateur d'onde et de diffusion pour un système évolutif $(d/dt)+i\,A(t)$. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1323–A1325. (T. Ushijima) **46** #9794 47D05 (34G05, 35J10, 35L05)

L^1-space associated with a weight. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 291–308. (François Combes) **52** #6448 46L10

Conditional expectations in von Neumann algebras with respect to weights. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 309–321. (François Combes) **52** #6449 46L10

An example of temporally inhomogeneous scattering. *Proc. Japan Acad.* **49** (1973), 407–410. (T. Kato) **49** #7623 35P25

On a mixed problem for $\Box$ with discontinuous boundary condition. I. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 85–92. (C. Bardos) **51** #3702 35L05

Sur $\Box u+u^3=f$ dans un domaine noncylindrique. *J. Math. Anal. Appl.* **46** (1974), 777–819. (A. Elcrat) **49** #11054 35L05

Wave and scattering operators for an evolving system $d/dt-iA(t)$. *J. Math. Soc. Japan* **26** (1974), 608–624. (Boris Pavlov) **50** #10571 35P25 (47A40)

Unbounded Hilbert algebras as locally convex $*$-algebras. *Math. Rep. Kyushu Univ.* **10** (1975/76), *no.* 2, 113–129. (Author's summary) **57** #17297 46K15

On a mixed problem for d'Alembertian with a mixed boundary condition. An example of moving boundary. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 2, 339–401. (V. V. Kovrižkin) **56** #867 35L05

Sur le problème mixte pour $\Box$ avec une condition discontinue sur la frontière: un exemple de frontière dépendant du temps. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 15, Ai, A1017–A1020. (Genowefa Majcher) **55** #6025 35L20

On a class of unbounded operator algebras. *Pacific J. Math.* **65** (1976), *no.* 1, 77–95. (G. R. Allan) **58** #23641a 46L99 (46K15)

On a class of unbounded operator algebras. II. *Pacific J. Math.* **66** (1976), *no.* 2, 411–431. (G. R. Allan) **58** #23641b 46L99 (46K15)

(*with* Miyakawa, Tetsuro; Yoshida, Kiyoshi) Some properties of solutions for semilinear heat equations with time lag. *J. Differential Equations* **24** (1977), *no.* 3, 383–396. (D. T. Haimo) **56** #855 35K05 (35R10)

(*with* Wakimoto, Minoru) On existence of solutions of the Navier-Stokes equation in a time dependent domain. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 303–319. (A. Elcrat) **58** #1750 35Q10

Unbounded representations of symmetric $*$-algebras. *J. Math. Soc. Japan* **29** (1977), *no.* 2, 219–232. (Peter Dixon) **55** #11055 46K10

(*with* Kuriyama, Ken) Weakly unbounded operator algebras. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 2, 267–284. (Shinzō Kawamura) **58** #30322 46L15

On a class of unbounded operator algebras. III. *Pacific J. Math.* **69** (1977), *no.* 1, 105–115. (G. R. Allan) **58** #23641c 46L99 (46K15)

A commutant of an unbounded operator algebra. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 1, 97–102. (G. Lassner) **57** #13522 46L15

Unbounded generalizations of standard von Neumann algebras. *Rep. Mathematical Phys.* **13** (1978), *no.* 1, 25–35. (Peter Dixon) **58** #2346 46L99

oue, Hikaru (*with* Miyatake, Osamu; Yoshizawa, Yasukazu) Generation of physical random numbers. *Math. Japon.* **20** (1975), *no.* 3, 207–217. (R. S. Guter) **53** #9580 65C10

oue, Hiroshi On valuations of polynomial rings of many variables. II. *J. Fac. Sci. Hokkaido Univ. Ser. I* **21** (1970/71), 248–297. (M. Griffin) **46** #1770 13A15

On valuations of polynomial rings of many variables. III. *Hokkaido Math. J.* **3** (1974), 35–64. (J. T. Arnold) **49** #4987 13A15

(*with* Kawata, Tutomu) Eigen value problem with nonvanishing potentials. *J. Phys. Soc. Japan* **43** (1977), *no.* 1, 361–362. (Authors' summary) **56** #9102 35P25 (81.35)

(*with* Kawata, Tutomu) Inverse scattering method for the nonlinear evolution equations under nonvanishing conditions. *J. Phys. Soc. Japan* **44** (1978), *no.* 5, 1722–1729. (Authors' summary) **58** #17600 35Q99 (35C99, 81.35)

oue, Jun On bifurcations. (Japanese) Research on global analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1976). *Sûrikaisekikenkyûsho Kôkyûroku No.* 291 (1977), 73–77. (Shigehiro Ushiki) **58** #25026 65P05 (58E05)

oue, Jyunji Some closed subalgebras of measure algebras and a generalization of P. J. Cohen's theorem. II. *J. Math. Soc. Japan* **25** (1973), 169–187. (R. Rigelhof) **49** #3451 43A10

On the range of a homomorphism of a group algebra into a measure algebra. *Proc. Amer. Math. Soc.* **43** (1974), 94–98. (Stephen H. Friedberg) **48** #9263 43A22

Representation of measure algebras. (Japanese) Function algebras and their applications. *Sûgaku* **28** (1976), *no.* 1, 77–87, 87–95. (Satoru Igari) **58** #29831 43A10

On homomorphisms of a group algebra into a convolution measure algebra. *Hokkaido Math. J.* **7** (1978), *no.* 1, 78–96. (G. V. Wood) **58** #17685 43A22 (43A10)

oue, K. Equivalence of measures for some class of Gaussian random fields. *J. Multivariate Anal.* **6** (1976), *no.* 2, 295–308. (M. I. Jadrenko) **54** #14079 60G30 (35J35)

oue, Katsushi (*with* Nakamura, Akira) Some notes on n-dimensional on-line tessellation acceptors. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 103–112. *IEEE Computer Soc., New York*, 1975. (Editors) **58** #9902 94A30

(*with* Nakamura, Akira) On the expressive powers of logical metalanguages I^n and I_+. *Mem. Fac. Engrg. Hiroshima Univ.* **6**, *no.* 1, 1–8 (1975). (Manfred Armbrust) **53** #2041 68A30

(*with* Nakamura, Akira) An n-dimensional on-line tessellation acceptor. *Systems-Computers-Controls* **7** (1976), *no.* 2, 44–51 (1977). (E. Ikaunieks) **56** #15233 94A30

(*with* Nakamura, Akira) On the relation between two-dimensional on-line tessellation acceptors and one-dimensional bounded cellular acceptors. *Systems-Computers-Controls* **7** (1976) *no.* 5, 10–18 (1977). (Roland Vollmar) **57** #19173 94A30

(*with* Nakamura, Akira) Some topological properties of Σ-structure automata. *Systems-Computers-Controls* **7** (1976), *no.* 5, 19–27 (1977). (Kenneth B. Salomon) **57** #11966 94A30

(*with* Nakamura, Akira) Some properties of two-dimensional on-line tessellation acceptors. *Systems-Computers-Controls* **7** (1976), *no.* 5, 64–72 (1977). (E. Ikaunieks) **58** #33596 94A30 (68A25)

(*with* Takanami, Itsuo; Nakamura, Akira) A note on two-dimensional finite automata. *Information Processing Lett.* **7** (1978), *no.* 1, 49–52. (Rani Siromoney) **57** #9357 94A30

(*with* Nakamura, Akira) Some decision problems for two-dimensional on-line tessellation acceptors and their variants. *Mem. Fac. Engrg. Hiroshima Univ.* **6**, *no.* 3, 1–8 (1978). (Tadao Takaoka) **57** #15788 94A30 (68A25, 68A30)

Inoue, Kenzo Right precedence grammars. *Information Processing in Japan* **11** (1971), 24–29. (W. Wechler) **48** #7668 68A30

Right precedence grammars and their inclusion relations to other grammars. *Information Processing in Japan* **13** (1973), 49–53. (Author's summary) **56** #17223 68A30

Inoue, Kiyoshi (*with* Nishida, Takaaki) On the Broadwell model of the Boltzmann equation for a simple discrete velocity gas. *Appl. Math. Optim.* **3** (1976), *no.* 1, 27–49. (J. Glimm) **55** #14027 82.35

Inoue, Koichi (*with* Sawaragi, Yoshikazu; Asai, Koh) Synthesis of open-loop optimal control with zero sensitive terminal constraints. (French, German and Russian summaries) *Automatica—J. IFAC* **5** (1969), 389–394. (Authors' summary) **48** #8039 93B35

(*with* Akashi, Hajime; Ogino, Katsuya; Sawaragi, Yoshikazu) Sensitivity approaches to optimization of linear systems with time delay. (French, German and Russian summaries) *Automatica—J. IFAC* **7** (1971), 671–679. (S.-C. Huang) **47** #9402 49E30

(*with* Kumamoto, Hiromitsu; Tanaka, Kazuo) Efficient evaluation of system reliability by Monte Carlo method. *IEEE Trans. Reliab.* **R-26** (1977), *no.* 5, 311–315. (Authors' summary) **56** #13486 62N05 (94A20, 65C05)

See also **System sensitivity analysis**, **52** #12863

Inoue, Masahisa On surfaces of class VII$_0$. *Proc. Japan Acad.* **48** (1972), 445–446. (L. Lininger) **48** #574 32J15 (14J15)

On surfaces of Class VII$_0$. *Invent. Math.* **24** (1974), 269–310. (Tatsuo Suwa) **49** #7479 32J15 (14J25)

On surfaces of class VII$_0$. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf., Tokyo*, 1973), *pp.* 389–392. *Univ. Tokyo Press, Tokyo*, 1975. (Editors) **51** #8479 32J15 (14J25)

New surfaces with no meromorphic functions. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *Vol.* 1, *pp.* 423–426. *Canad. Math. Congress, Montreal, Que.*, 1975. (C. A. M. Peters) **56** #682 32J15

An example of an analytic surface. (Japanese) *Sugaku* **27** (1975), *no.* 4, 358–364. (Editors) **58** #28696 32J15

An example of surfaces with $b_1=1$. A Symposium on Complex Manifolds (Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 240 (1975), 7–17. (Miles Reid) **54** #5244 14J15 (32J15)

New surfaces with no meromorphic functions. II. *Complex analysis and algebraic geometry*, *pp.* 91–106. *Iwanami Shoten, Tokyo*, 1977. (C. A. M. Peters) **56** #683 32J15

Inoue, Michiko Lattice Green's function for the face centered cubic lattice. *J. Mathematical Phys.* **15** (1974), 704–707. (L. Finkelstein) **49** #12006 82.33

Lattice Green's function for B-site lattice in spinel. *J. Mathematical Phys.* **16** (1975), 111–115. (L. Finkelstein) **50** #15783 82.45

Lattice Green's function for the body-centered cubic lattice. *J. Mathematical Phys.* **16** (1975), 809–812. (Author's summary) **53** #15221 82.33

Inoue, Tetsuo (*with* Kubo, Tadao) Extremal ring domain bounded by quasiconformal curves. *Tech. Rep. Osaka Univ.* **25** (1975), *no.* 1254–1275, 267–275. (Donald K. Blevins) **56** #5875 30A60

(*with* Kubo, Tadao) Extremal ring domain bounded by quasiconformal curves. II. *Tech. Rep. Osaka Univ.* **27** (1977), *no.* 1364–1393, 291–297. (Donald K. Blevins) **57** #6387 30A24

Inoue, Toru (*with* Okamoto, Kiyosato; Tanaka, Makoto) An integral representation of an eigenfunction of invariant differential operators on a symmetric space. *Hiroshima Math. J.* **4** (1974), 413–419. (Kenneth Johnson) **51** #804 22E30 (43A85)

Inoue, Yoshihiro Brown functors on the category of based CW-pairs. *Bull. Fac. Textile Sci.* **8** (1978), *no.* 3, 135–144. (Richard R. Patterson) **57** #13916 55B20

Inoue, Yoshinori Nonlinear interaction of dispersive waves with equal group velocity. *J. Phys. Soc. Japan* **43** (1977), *no.* 1, 243–249. (Author's summary) **56** #10441 78.35

Inoue, Yūjirō (*with* Yasuda, Yutaka) On the realization of impulse-response matrices. *Electron. Commun. Japan* **54** (1971), *no.* 1, 122–130. (P. J. Nicholson) **47** #1512 93C50

Controllable realization, bounded realization and stable realization of impulse response matrices. *Electron. Commun. Japan* **54** (1971), *no.* 12, 97–105. (J. Casti) **46** #8703 93B15

Inouye, Hiroshi An analysis of highway on-ramp merging by queuing theory. *Mem. School Engrg. Okayama Univ.* **11** (1976), *no.* 1, 31–43. (E. C. Posner) **54** #4614 90B20

Inouye, Yujiro On the observability of autonomous nonlinear systems. *J. Math. Anal. Appl.* **60** (1977), *no.* 1, 236–247. (Jerzy Klamka) **56** #2499 93B05

Inozemceva, I. N. (*with* Komlenko, Ju. V.; Pak, S. A.) Construction of the Green's function for a differential equation with deviating argument. (Russian) *Mat. Zametki* **17** (1975), 443–448. (R. R. Ahmerov) **52** #14530 34K10

Inozemceva, N. G. (*with* Vlasov, A. A.) A new type of elastic waves that transmit acoustic spin in crystals. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 2, 276–279. (J.

Bejda) **53** #4687 73.35

(*with* Sadovnikov, B. I.) The study of the Boltzmann-Enskog equation in acoustic approximation. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 1, 61–63. (Authors' summary) **56** #17639 82.45

(*with* Sadovnikov, B. N.) The Boltzmann-Enskog equation and the asymptotics of time autocorrelation functions. (Russian. English summary) *Teoret. Mat. Fiz.* **31** (1977), *no.* 2, 260–272. (G. A. Skorobogatov) **58** #32698 82.60

Insel, Arnold J. Maximal ideals in the group algebra of an extension, with applications. *Trans. Amer. Math. Soc.* **172** (1972), 195–206. (G. P. Johnson) **47** #716 43A20 (43A35)

Nilpotent transformations and the decomposition of a vector space. *Amer. Math. Monthly* **81** (1974), 160–162. (R. Merris) **48** #11136 15A03

Inverse limits of topological group cohomologies. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 175–180. (W. T. van Est) **54** #2876 22D99 (18H10)

Inselberg, Alfred (*with* Dimsdale, Bernard) Integrals of $(\Pi_{i=1}^{n} X_i)$ exp $(\Pi_{i=1}^{n} X_i)$ and the gamma function. *J. Math. Anal. Appl.* **37** (1972), 640–649. (Y. L. Luke) **46** #5703 33A70 (65A05)

Superpositions for nonlinear operators. I. Strong superpositions and linearizability. *J. Math. Anal. Appl.* **40** (1972), 494–508. (J. B. McLeod) **48** #4869 47H99

Superpositions for nonlinear operators. II. Generalized affine operators. *J. Math. Anal. Appl.* **41** (1973), 260–269. (J. B. McLeod) **48** #4870 47H99

(*with* Dula, Giora) The geometry of Liapunov functions. *Amer. Math. Monthly* **81** (1974), 1102–1104. (A. M. Krall) **50** #10459 34D20

Cubic splines with infinite derivatives at some knots. *IBM J. Res. Develop.* **20** (1976), *no.* 5, 430–436. (Claude Carasso) **54** #9039 65D05

(*with* Chadwick, Richard S.) Mathematical model of the cochlea. I. Formulation and solution. *SIAM J. Appl. Math.* **30** (1976), *no.* 1, 149–163. (J. D. Cowan) **52** #16693 92A05

(*with* Chadwick, Richard S.; Johnson, K.) Mathematical model of the cochlea. II. Results and conclusions. *SIAM J. Appl. Math.* **30** (1976), *no.* 1, 164–179. (J. D. Cowan) **52** #16694 92A05

On determinants of Toeplitz-Hessenberg matrices arising in power series. *J. Math. Anal. Appl.* **63** (1978), *no.* 2, 347–353. (L. Carlitz) **58** #718 15A15 (10A40, 30A08)

Cochlear dynamics: the evolution of a mathematical model. *SIAM Rev.* **20** (1978), *no.* 2, 301–351. (J. N. Kapur) **57** #11819 92A05 (76.35)

Inselmann, E. H. (*with* Kurkjian, B. M.) Availability, re-visited. *Transactions of the Eighteenth Conference of Army Mathematicians* (*Feltman Res. Lab. Picatinny Arsenal, Dover, N.J.*, 1972), *pp.* 611–622. *U.S. Army Res. Office* (*Durham, N.C.*), *Report No.* 73-1, *U.S. Army Res. Office-Durham, Durham, N.C.*, 1973. (C. Mohan) **50** #15885 90B25

moreno-Insertis, F. *See* **Moreno-Insertis, F.**

Installé, M. J. (*with* Aidarous, S. E.; Gevers, Michel R.) Optimal sensors' allocation strategies for a class of stochastic distributed systems. *Internat. J. Control* **22** (1975), *no.* 2, 197–213. (Anders Lindquist) **52** #7663 93E10

(*with* Defalque, B.; Gevers, Michel R.) Combined identification of the input-output and noise dynamics of a closed-loop controlled linear system. *Internat. J. Control* **24** (1976), *no.* 3, 345–360. (Seihaku Higuchi) **54** #7069 93E10

Intrau, O. Bemerkungen zur Berechnung der Kompositionstafeln quaternärer quadratischer Formen. *Math. Nachr.* **69** (1975), 221–226. (E. Hornix) **53** #2830 10C05

Intriligator, Michael D. ★Mathematical optimization and economic theory. *Prentice-Hall, Inc., Englewood Cliffs, N.J.*, 1971. xix + 508 *pp.* (G. Tintner) **50** #6427 90Axx

(*with* Kalman, Peter J.) Generalized comparative statics with applications to consumer theory and producer theory. *Internat. Econom. Rev.* **14** (1973), *no.* 2, 473–486. (Kailash C. Kapur) **53** #10183 90A10 (90C50)

Applications of optimal control theory in economics. Mathematical methods of the social sciences. *Synthese* **31** (1975), *no.* 2, 271–288. (From the text) **58** #25885 90A15

Economic systems. *Control and dynamic systems, advances in theory and applications, Vol.* 13, *pp.* 135–160. *Academic Press, New York*, 1977. (Theodore Guinn) **57** #18768 90A15 (93Bxx)

(*with* Brito, Dagobert L.; Buoncristiani, A. M.) A new approach to the Nash bargaining problem. *Econometrica* **45** (1977), *no.* 5, 1163–1172. (G. Owen) **57** #9103 90D99

See also **Conference: Optimization Techniques**, **48** #5759; **Frontiers of quantitative economics**, 53 #12520; **Frontiers of quantitative economics**, **54** #6896 *and* **Frontiers of quantitative economics**, **56** #2194

Inui, Yukio On wΔ-spaces and open mappings. *Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **22** (1973), 147–150. (R. Hodel) **49** #11485 54E99

Inukai, Thomas (*with* Weinberg, Louis) Planar, coplanar, and totally planar *n*-port networks. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 3, 136–141. (G. Berman) **53** #12765 94A20 (05C10)

Inuzuka, Tadataka (*with* Horie, Masayuki; Tanaka, Hiroshi) Homogenization of certain one-dimensional discontinuous Markov processes. *Hiroshima Math. J.* **7** (1977), *no.* 2, 629–641. (A. D. Wentzell (Ventcel')) **58** #7884 60J75

Invernizzi, S. (*with* Chersi, Franco) A continuous parameter ergodic theorem. (Italian summary) *Boll. Un. Mat. Ital.* (4) **9** (1974), 441–449. (R. L. Adler) **49** #9155 28A65

A continuous parameter version of Chacon's "universal" ergodic theorem. (Italian summary) *Rend. Ist. Mat. Univ. Trieste* **6** (1974), 198–204. (R. Š. Adler) **51** #8371 28A65

(*with* Chersi, Franco) Some complements to ergodic theorems for vector-valued functions. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **13** (1976), *no.* 3, 677–686. (Authors' summary) **58** #23669 47A35

d'Inverno, R. A. The Cauchy problem in general relativity. I. Metrics containing arbitrary functions. *J. Mathematical Phys.* **16** (1975), 670–673. (M. Sachs) **52** #4926 83.53

The Cauchy problem in general relativity. II. Main and constraint equations in the characteristic initial-value problem. *J. Mathematical Phys.* **16** (1975), 674–678. (M. Sachs) **52** #4927 83.53

(*with* Smallwood, J.) A note on a family of type {3, 1} vacuum solutions with twist. *General Relativity and Gravitation* **9** (1978), *no.* 3, 215–225. (Kenneth Dunn) **58** #14930 83.53

van Inwagen, Peter Ontological arguments. *Noûs* **11** (1977), *no.* 4, 375–395. (Edi **58** #4992 02A05 (02C10)

(*with* McKay, Thomas J.) Counterfactuals with disjunctive antecedents. *Ph Stud.* **31** (1977), *no.* 5, 353–356. (From the text) **58** #27245 02A05 (02C10)

Inževitov, P. G. An estimate of the remainder term of the asymptotic expansion in the limit theorem for densities. (Russian. Lithuanian and English summaries) *Litovsk. Sb.* **17** (1977), *no.* 4, 111–120, 222. (J. R. Leslie) **58** #13280 60F05

Asymptotic expansions for the derivatives of the distribution function of a su independent random variables. (Russian. English summary) *Teor. Verojatnost. i Statist. No.* 18 (1978), 56–64, 180. (Friedrich Liese) **58** #7793 60F05

Asymptotic expansions in limit theorems for sums of independent random varia (Russian. English summary) *Vestnik Leningrad. Univ.* **1978**, *no.* 7 *Mat. Meh. Astro vyp.* 2, 35–37, 161–162. (Jean Memin) **58** #7794 60F05

Ioakimidis, Nikolaos I. ★*Γενικαι μεθοδοι επιλυσεωσ προβληματων ρωγμων εισ την θεω τησ επιπεδου ελαστικοτητοσ*. (Greek) [General methods for the solution of crack problems in the theory of plane elasticity]. With an English summary. *Leousēs Mastrogiannēs, Athens*, 1976. xlvii + 406 *pp.* (From the summary) **58** #25233 73

(*with* Theocaris, Pericles S.) Array of periodic curvilinear cracks in an inf isotropic medium. (German summary) *Acta Mech.* **28** (1977), *no.* 1–4, 239–254. (Richardson) **57** #4746 73.30

(*with* Theocaris, Pericles S.) The Gauss-Hermite numerical integration method the solution of the plane elastic problem of semi-infinite periodic cracks. *Interna Engrg. Sci.* **15** (1977), *no.* 4, 271–280. (S. P. Gavelja) **58** #14230 73.65

(*with* Theocaris, Pericles S.) The problem of the simple smooth crack in an infi anisotropic elastic medium. *Internat. J. Solids and Structures* **13** (1977), *no.* 4, 269– (A. Corduneanu) **55** #9666 73.45

(*with* Theocaris, Pericles S.) On the numerical solution of a class of singular inte- equations. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 3, 219–235. (Frank Hagin) **58** #3582 65R05

(*with* Theocaris, Pericles S.) Numerical integration methods for the solution singular integral equations. *Quart. Appl. Math.* **35** (1977/78), *no.* 1, 173–187. (S McKee) **56** #4206 65R05

(*with* Theocaris, Pericles S.) The inclusion problem in plane elasticity. *Quart Mech. Appl. Math.* **30** (1977), *no.* 4, 437–448. (Authors' summary) **56** #13890 7

(*with* Theocaris, Pericles S.) On the numerical evaluation of Cauchy principal v integrals. *Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* **22** (1977), *no.* 6, 803–818. Brunner) **58** #3334 65D30

(*with* Theocaris, Pericles S.) Numerical solution of Cauchy type singular inte equations. (Greek summary) *Trans. Acad. Athens* **40** (1977), *no.* 1, 7–39. (Zbl #65060) **58** #31969 65R05

(*with* Theocaris, Pericles S.) On the numerical solution of Cauchy type sing integral equations and the determination of stress intensity factors in case of com singularities. (French summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 6, 1085–1098. C. MacCamy) **57** #4550 65R05

Ĭoakimov, S. H. Solution of a certain *n*th order ordinary differential equation. (Bulgar Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **5** (1968/ *no.* 2, 119–126 (1971). (Author's summary) **46** #5710 34A20

Sequential analysis with three possible hypotheses in statistical control problem II. (Russian. Bulgarian and German summaries) *Godišnik Visš. Tehn. Učebn. Za Mat.* 7 (1971), *no.* 1, 71–77; *ibid.* 7 (1971), *no.* 2, 7–16. (N. L. Johnson) **48** #749 62L10

Ioan, Petru The paradoxis of implication. *An. Univ. Bucureşti Acta Logica* **14** (19 81–89. (J. A. Trentman (Zbl **275** #02011)) **51** #12482 02C10

Ioana, Lilana Elena A simple proof of a theorem of Steinitz. (Romanian. French summa *Stud. Cerc. Mat.* **24** (1972), 123–126. (J. S. Joel) **48** #2122 10F05 (18A30)

Ioannesian, A. B. (*with* Batkov, A. M.; Borodin, Ju. I.; Gol'dfarb, L. S.; Krineckiĭ, I. Letov, A. M.; Petrov, V. V.; Popov, E. P.; Semenov, V. V.; Solodovnikov, V. Topčeev, Ju. I.; Ulanov, G. M.; Šatalov, A. S.) ★**Техническая кибернетика.** Теор автоматического регулирования. Книга 3: Теория нестационарных, нелинейны само-настраивающихся систем автоматического регулирования. Часть 1. (Russi [Engineering cybernetics. Theory of automatic control. Vol. 3: Theory of nonstationa nonlinear and selfadjusting systems of automatic control. Part I] Edited by V. Solodovnikov. *Izdat. "Mašinostroenie", Moscow*, 1969. 607 *pp.* (Editors) **45** #972 93-02

Ioannides, Yannis M. Market allocation through search: equilibrium adjustment and pr dispersion. *J. Econom. Theory* **11** (1975), *no.* 2, 247–262. (Author's summary) **55** #9 90A15

Iochum, Bruno (*with* Béllissard, Jean; Lima, Ricardo) Cônes autopolaires homogènes facialement homogènes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (19 *no.* 23, Aii, A1363–A1365. (Authors' summary) **55** #1047 46C99 (15A21)

(*with* Béllissard, Jean; Lima, Ricardo) Homogeneous and facially homogene self-dual cones. *Linear Algebra and Appl.* **19** (1978), *no.* 1, 1–16. (E. Vinberg) **58** #28109 17C35 (32M10)

Iofa, M. Z. (*with* Faĭnberg, V. Ja.) Wightman formulation for nonlocalizable field theor II. The theory of asymptotic fields and particles. (Russian. English summary) *Teo Mat. Fiz.* **1** (1969), *no.* 2, 187–199. (Authors' summary) **57** #8560 81.22

(*with* Tjutin, I. V.) Gauge invariance of spontaneously broken nonabelian theor in the Bogoljubov-Parasjuk-Hepp-Zimmermann method. (Russian. English summar *Teoret. Mat. Fiz.* **27** (1976), *no.* 1, 38–47. (Authors' summary) **56** #7597 81.46

james iI of England *See* **James II of England**

Ioffe, A. D. Monotone superpositions in Orlicz spaces. (Russian) *Dokl. Akad. Nauk SS* **201** (1971), 784–786. (J. Musielak) **47** #7529 47H05 (46E30)

Banach spaces generated by convex integrals. (Russian) Collection of artic dedicated to L. V. Kantorovič on the occasion of his sixtieth birthday. *Optimizacija* 3(20) (1971), 47–86. (L. C. Young) **50** #10794 46E30

Duality of convex variational problems. (Russian) Collection of articles dedicat to L. V. Kantorovič on the occasion of his sixtieth birthday. *Optimizacija No.* 3((1971), 87–102. (L. C. Young) **50** #10795 46E30 (49B30)

An existence theorem for problems of the calculus of variations. (Russian) *Do Akad. Nauk SSSR* **205** (1972), 277–280. (M. M. Cvetanov) **46** #2518 49A05

Convex functions that are connected with variational problems, and the problem of the absolute minimum. (Russian) *Mat. Sb.* (*N.S.*) **88(130)** (1972), 194–210. (L. C. Young) **46** #4314 49B05 (46N05)

(*with* Levin, V. L.) Subdifferentials of convex functions. (Russian) *Trudy Moskov. Mat. Obšč.* **26** (1972), 3–73. (Alexander M. Rubinov) **51** #8817 46G05 (46A99)

(*with* Tihomirov, V. M.) ★Теория экстремальных задач. (Russian) [Theory of extremal problems] Серия "Нелинейный Анализ и его Приложения". [Series in Nonlinear Analysis and its Applications] *Izdat. "Nauka", Moscow*, 1974. 479 *pp.* (Claudia Simionescu) **53** #14251 49–02

An existence theorem for a general Bolza problem. *SIAM J. Control Optimization* **14** (1976), *no.* 3, 458–466. (Ivar Ekeland) **53** #8990 49A10

Sur la semi-continuité des fonctionnelles intégrales. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 14, A807–A809. (Author's summary) **55** #3910 49A50

On lower semicontinuity of integral functionals. I. *SIAM J. Control Optimization* **15** (1977), *no.* 4, 521–538. (L. D. Berkovitz) **58** #30610a 49A50

On lower semicontinuity of integral functionals. II. *SIAM J. Control Optimization* **15** (1977), *no.* 6, 991–1000. (L. D. Berkovitz) **58** #30610b 49A50

Representation theorems for multifunctions and analytic sets. *Bull. Amer. Math. Soc.* **84** (1978), *no.* 1, 142–144. (Michel Valadier) **57** #6351 28A20 (49A50)

Survey of measurable selection theorems: Russian literature supplement. *SIAM J. Control Optim.* **16** (1978), *no.* 5, 728–732. (Editors) **58** #17020 28A05 (49A50)

See also **Transactions of the Moscow Mathematical Society, 50** #9477

fe, A. F. ★Избранные труды в двух томах. Том И. (Russian) [Selected works in two volumes. Vol. I] Механические и электрические свойства кристаллов. [Mechanical and electrical properties of crystals] Edited by S. N. Žurkov. With a biography by Ja. I. Frenkel′ and V. Ja. Frenkel′. Translations by A. P. Buhvostov, I. L. Gandel′sman, E. M. Šifrina, and S. P. Nikanorov. *Izdat. "Nauka" Leningrad. Otdel., Leningrad*, 1974. 326 *pp.* (Editors) **54** #2402 01A75 (82.01)

★Избранные труды в двух томах. Том II. (Russian) [Selected works in two volumes. Vol. II] Излучение. Электроны. Полупроводники. [Radiation. Electrons. Semiconductors] Edited by S. N. Žurkov and V. Ja. Frenkel′. With commentaries by V. P. Žuze, A. R. R′ and L. S. Stil′bans. Translations by I. L. Gandel′sman, T. A. Kontorova and Ju. Z. Sanfirov. *Izdat. "Nauka" Leningrad. Otdel., Leningrad*, 1975. 470 *pp.* (1 *plate*) (Editors) **54** #2403 01A75 (82.01)

See also **Ehrenfest, P., 52** #7834

fe, B. L. *See* **Treĭman, S.; et al., 56** #10479

fe, I. V. (*with* Leonov, G. A.) The instability in the large of nonlinear stationary systems. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 213–220, 240. (P. Fischer) **50** #10464 34D35

(*with* Leonov, G. A.) A generalization of the Brockett-Lee theorem. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 11, 2095–2096, 2112. (P. Brunovský) **56** #766 34D05

fe, L. Š. A generalization of Σ-divisibility in abelian categories. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy No.* 413 (1972), 76–88, 167. (Gerhard Pfister) **50** #10013 18E10

(*with* Kleĭner, G. B.; Sadovskiĭ, L. E.) The study of large-scale systems by means of the apparatus of general algebra. (Russian) Applied mathematics and transportation problems. *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp.* 473 (1974), 79–87. (From the author's text) **56** #14855 93A10

(*with* Kleĭner, G. B.) Algebraic aspects of the theory of hierarchical systems. (Russian) Applied mathematics and transportation problems. *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp.* 473 (1974), 88–98. (From the authors' introduction) **56** #14856 93A10

(*with* Kleĭner, G. B.; Sadovskiĭ, L. E.) ★Алгебраические методы в теории больших систем (информационных, транспортных, управляющих). (Russian) [Algebraic methods in the theory of large-scale systems (information systems, transport systems, control systems)] *Moskov. Inst. Inž. Železnodorož. Transporta, Moscow*, 1976. 180 *pp.* (Jerzy Jarón) **58** #20639 93–01

(*with* Sadovskiĭ, L. E.; Kleĭner, G. B.) Questions regarding simulation of hierarchical systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 2, 14–22, 219 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 2, 12–19 (1978). (Authors' summary) **58** #20652 93A15 (90B10)

fe, M. S. Conformal and quasi-conformal imbeddings of a certain finite Riemann surface in another. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 270–272. (P. Caraman) **45** #3694 30A48

A certain problem of the calculus of variations in the large for conformal and quasiconformal embeddings of one finite Riemann surface into another. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 1284–1286. (P. M. Tamrazov) **51** #3424 30A46 (32G10)

Extremal quasiconformal imbeddings of a family of finite Riemann surfaces in a finite Riemann surface. (Russian) *Metric questions of the theory of functions and mappings, No. V* (*Russian*), *pp.* 47–53. *Izdat. "Naukova Dumka", Kiev*, 1974. (I. A. Volynec) **52** #14273 30A46 (30A60)

Extremal quasiconformal imbeddings of Riemann surfaces. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 3, 520–537, 644. (Author's summary) **57** #9959 30A46 (30A52, 30A60)

The compactness of variational sets in Teichmüller spaces. (Russian) *Some problems in modern function theory* (*Proc. Conf. Modern Problems of Geometric Theory of Functions, Inst. Math., Acad. Sci. USSR, Novosibirsk*, 1976) (*Russian*), *pp.* 75–79. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1976. (Editors) **58** #22673 32G15

ffe, M. V. (*with* Novožilov, Ju. V.; Prohvatilov, E. V.) Description of the resonances in dual models. (Russian) *Problems of theoretical physics, II, Theory of the atom, Functional methods in quantum field theory and statistical physics, Mathematical physics, pp.* 88–96, 182. *Izdat. Leningrad. Univ., Leningrad*, 1975. (G. Lassner) **58** #14617 81.46

(*with* Borisov, N. V.; Ėĭdes, M. I.) Second quantization of field systems on the Grassmann algebra (dual string with internal spin). (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no.* 1, 25–41. (Authors' summary) **57** #15010 81.34 (17B65)

finova, M. E. Polynilpotent groups with one defining relation. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 3, 9–12. (M. Greendlinger) **50** #13291 20F10

Iogansen, L. V. (*with* Globenko, Ju. V.) The theory of resonant layer-inhomogeneous electromagnetic systems with total internal reflection. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no.* 2, 256–262. (Authors' summary) **57** #8465 78.35

Iohvidov, E. I. (*with* Azizov, T. Ja.) Invariant subspaces of maximal *J*-dissipative operators. (Russian) *Mat. Zametki* **12** (1972), 747–754. (J. Bognár) **47** #5649 47B50

(*with* Senderov, V. A.) Fractional linear operator transformations and some of their applications. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 5 *Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 52–58. (J. Bognár) **56** #16443 47B50

(*with* Iohvidov, I. S.) The global inversion of a certain linear-fractional operator-valued transformation. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 11 *Sb. Stateĭ Funkcional. Anal. i Priložen.* (1973), 64–70. (Ju. Šmul′jan (RŽMat **1974** #8 B627)) **57** #13571 47B50

Extensions of isometric operators in a Hilbert space with indefinite metric. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 14 *Sb. Statei Teor. Operator. Uravneniĭ* (1974), 21–31. (Editors) **57** #7244 47B50

The properties of a certain linear-fractional operator transformation. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 4(184), 243–244. (J. Bognár) **53** #14209 47B50

J-unitary extensions of *J*-isometric operators with equal and finite defect numbers. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 17 *Teor. Operator. Uravneniĭ* (1975), 34–41. (Edward Azoff) **57** #7245 47B50

Description of *J*-unitary extensions of *J*-isometric operators with equal and finite defect numbers. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 4, 783–786. (Björn Textorius) **54** #3486 47B50

The properties of a certain linear-fractional operator transformation. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 3(189), 215–216. (Editors) **54** #3487 47B50

Iohvidov, I. S. A certain class of linear-fractional operator transformations. (Russian) *A collection of articles on function spaces and operator equations* (*Proc. Sem. Functional Anal., Math. Fac., Voronezh State Univ., Voronezh*, 1970) (*Russian*), *pp.* 18–44. *Voronež. Gos. Univ., Voronezh*, 1970. (Editors) **55** #13283 47B50

(*with* Birman, M. Š.; Vilenkin, N. Ja.; Gorin, E. A.; Zabreĭko, P. P.; Kadec′, M. Ĭ.; Kostjučenko, A. G.; Krasnosel′skiĭ, M. A.; Kreĭn, S. G.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Semenov, E. M.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, Ė. S.) ★Функциональный анализ. (Russian) [Functional analysis] Edited by S. G. Kreĭn. Second edition, revised and augmented. Mathematical Reference Library. *Izdat. "Nauka", Moscow*, 1972. 544 *pp.* (Editors) **50** #5406 46–02 (47–02)

On the structure of the spectrum of *G*-selfadjoint and *G*-unitary operators in Hilbert space. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf., Tihany*, 1970), *pp.* 289–293. *Colloq. Math. Soc. János Bolyai, 5, North-Holland, Amsterdam*, 1972. (J. Bognár) **51** #6485 47B50

(*with* Azizov, T. Ja.; Štraus, V. A.) The normally solvable extensions of a closed symmetric operator. (Russian) *Mat. Issled.* 7 (1972), *no.* 1(23), 16–26. (G. Biriuk) **46** #7954 47B25 (47B30)

The Fischer-Frobenius transformation. (Russian) *Teor. Funciĭ Funcional. Anal. i Priložen. No.* 15 (1972), 203–212. (S. Kurepa) **47** #5030 15A63

(*with* Iohvidov, E. I.) The global inversion of a certain linear-fractional operator-valued transformation. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 11 *Sb. Stateĭ Funkcional. Anal. i Priložen.* (1973), 64–70. (Ju. Šmul′jan (RŽMat **1974** #8 B627)) **57** #13571 47B50

★Ганкелевы и теплицевы матрицы и формы: алгебраическая теория. (Russian) [Hankel and Toeplitz matrices and forms: algebraic theory] *Izdat. "Nauka", Moscow*, 1974. 263 *pp.* (A. Devinatz) **51** #11172 47B35 (15A60)

(*with* Efimov, N. V.; Kantorovič, L. V.; Kreĭn, S. G.; Krasnosel′skiĭ, M. A.; Ljusternik, L. A.) Vladimir Ivanovič Sobolev (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 1(175), 247–250. (1 *plate*) (Editors) **52** #7798 01A70

On the general theory of Hankel and Toeplitz matrices. (Russian) *Proceedings of the Sixth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1973), *Functional analysis and its applications* (*Russian*), *pp.* 170–178. *Akad. Nauk SSSR Central. Ėkonom.-Mat. Inst., Moscow*, 1975. (Editors) **58** #7185 47B35 (15A57)

Remarks about generalized Vandermonde determinants. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 17 *Teor. Operator. Uravneniĭ* (1975), 28 -34. (R. C. Thompson) **57** #6050 15A15

Spaces of sequences that have finitely many non-zero terms and a nondegenerate Hermitian form. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 20 (1975), 30–38. (Alexander Alenicyn) **57** #10477 47B15

(*with* Adamjan, V. M.; Berezans′kiĭ, Ju. M.; Bogoljubov, N. N.; Kolmogorov, A. N.; Lavrent′ev, M. A.; Mītropol′s′kiĭ, Ju. O.) Mark Grigor′evič Kreĭn (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **33** (1978), *no.* 3(201), 197–203. (Editors) **58** #10148 01A70

Iohvidovič, N. Ju. Uniqueness classes for the solution of the Cauchy problem. (Russian) *Teor. Funkciĭ Funcional. Anal. i Priložen. No.* 14 (1971), 40–58. (J. Chrastina) **45** #3919 35R99

Unique solution classes of the Cauchy problem for the difference analogue of equations of Sobolev-Gal′pern type. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 16 (1972), 44–55, 217. (Author's summary) **58** #23219 39A12 (35Q99)

Uniqueness classes for the solution of the Cauchy problem for a general system of partial differential equations. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 25 (1976), 66–76, iii. (J. Chrastina) **55** #3513 35G10

(*with* Borok, V. M.) The Cauchy problem for general linear systems. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 27 (1977), 26–33, 1. (J. Vencko) **56** #12553 35G10

Uniqueness of the solution of the Cauchy problem for general systems of linear equations in the case of degeneracy. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 28 (1977), 18–25, i. (A. Haimovici) **56** #16127 35G10

Ĭokk, H. *See* **Jokk, H.**

Iomdin, I. N. *See* **Yomdin, Y.**

Iommi Amunátegui, G. A note on the $\mathrm{SU}_n \rightarrow \mathrm{Sp}_n$ reduction. *Proc. Roy. Irish Acad. Sect. A* **78** (1978), *no.* 8, 55–61. (Philip Huddleston) **58** #22418 22E70

Iomudskiĭ, K. N. (*with* Berdyev, A. A.; Bereda, L. I.) Scientists of Turkmenistan in the years of World War Two. (Russian) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1975**, *no.* 1, 3–8. (J. S. Joel) **53** #2584 01A60

Ion, D. B. (*with* Gheorghe, A.; Mihul, El.) On relativistic multiparticle kinematics in invariant variables. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **22** (1975), *no.* 2, 131–142. (K. J. Le Couteur) **51** #14816 81.53

Ion, Ion D. Neat homomorphisms with respect to a torsion theory. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **16(64)** (1972), *no.* 4, 437–445 (1974). (L. A. Koifman) **50** #13146 16A50

(*with* Radu, Nocolae) ★Algebra. (Romanian) [Algebra] Second edition, revised and augmented. *Editura Didactică şi Pedagogică, Bucharest*, 1975. 423 *pp.* (I. Gy. Maurer) **52** #13043 00A05

Morphismes copurs. *Ann. Fac. Sci. Univ. Nat. Zaïre* (*Kinshasa*) *Sect. Math. Phys.* **1** (1975), *no.* 1, 95–104. (E. Enochs) **53** #8146 (EA **54**) 16A62

(*with* Năstăsescu, Constantin) Anneaux gradués semi-simples. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 16, Ai, A1077–A1080. (Authors' summary) **55** #406 16A40

(*with* Năstăsescu, Constantin) Anneaux gradués semi-simples. *Rev. Roumaine Math. Pures Appl.* **23** (1978), *no.* 4, 573–588. (Maria Grazia Marinari) **58** #5784 16A62 (15A78)

See also **Séminaire: Algèbre Non Commutative, 48** #5785

Ion, Patrick D. F. (*with* Araki, Huzihiro) On the equivalence of *KMS* and Gibbs conditions for states of quantum lattice systems. *Comm. Math. Phys.* **35** (1974), 1–12. (I. R. Juhnovs'kiĭ) **51** #12235 82.46

(*with* Kawai, Takahiro) Theory of vector-valued hyperfunctions. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 1, 1–19. (Dieter Lutz) **52** #11586 46F15 (32A10, 32C35)

Ionaşcu, N. On the matrices Γ_r. (Romanian. German summary) *Bul. Univ. Braşov Ser. C Mat. Fiz. Chim. Şti. Natur.* **16** (1974), 151–160. (Author's summary) **55** #13979 81.22

Ionescu, Bucur B. Extension of modified Newton's method to nonlinear functions with values in a cone. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **17(65)** (1973), 199–216 (1975). (L. B. Rall) **50** #15329 65J05

Liviu Todor. (Romanian) *Gaz. Mat. Ser. A* **79** (1974), 219–221. (Editors) **57** #5630 01A70

Ionescu, Constantin (*with* Todor, Liviu) The "cascade" method or the method of "fractional distillation". (German summary) *Proceedings of the Fourth Conference on Probability Theory* (*Braşov*, 1971), *pp.* 533–540. *Editura Acad. R.S.R., Bucharest*, 1973. (Jeremy F. Shapiro) **52** #16608 90C10

Ionescu, D. (*with* Tănăsuică, I.) Mathematical models of the diagrams that are imposed on the traffic distances of a single track section as a function of the critical distance *k*. (Romanian. Russian, English, French and German summaries) *Bul. Inst. Politehn. Bucureşti* **34** (1972), *no.* 3, 101–130. (Authors' summary) **55** #9915 90B25

Ionescu, D. V. (*with* Pavel, Paraschiva) Extension de la formule de quadrature de Newton. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **21** (1976), 61–65. (Christopher T. H. Baker) **53** #11971 65D30

Ionescu, Dan Gh. Circle and cylinder theorems for slow viscous flow. (French summary) *J. Mécanique* **10** (1971), 345–355. (D. R. Breach) **51** #9643 76.35

The method of power series for plane slow viscous flow. L. M. Milne-Thomson anniversary issue, III. *J. Mathematical and Physical Sci.* **8** (1974), 147–181. (T. W. Kao) **50** #11966 76.30

Ionescu, Dan Raul Researches on antic magic squares and cubes. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **16(64)** (1972), *no.* 2, 173–190 (1973). (E. B. Allen) **49** #12 01A55 (05B15)

Ionescu, Dumitru V. ★Ecuaţii diferenţiale şi integrale. (Romanian) [Differential and integral equations] Second edition. *Editura Didactică şi Pedagogică, Bucharest*, 1972. 415 *pp.* (Editors) **50** #13680 34–02 (35–01, 45–01)

La différence divisée d'ordre *n* d'une fonction de *p* variables et sa représentation par une intégrale multiple. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **18** (1972), 87–92. (B. Rodríguez-Salinas) **47** #415 26A54 (39A05, 41A15)

Sur une formule de quadrature de type Gauss. Collection of articles dedicated to G. Călugăreanu on his seventieth birthday. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1357–1372. (Rolf Jeltsch) **48** #7551 65D30

The connections of Dimitrie Pompeiu with the University of Cluj. (Romanian) "*Gheorghe Ţiţeica and Dimitrie Pompeiu*" *Symposium on Geometry and Global Analysis* (*Bucharest*, 1973)(*Romanian*), *pp.* 91–92. *Editura Acad. R.S.R., Bucharest*, 1973. (Editors) **58** #10181 01A70

La formule de quadrature généralisée de Newton. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Seçt. I a Mat.* (*N.S.*) **20** (1974), 151–159. (Walter Gautschi) **49** #10127 65D30

(*with* Coţiu, A.) Une nouvelle extension de la formule de quadrature de Lacroix. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **20** (1974), 161–165. (Walter Gautschi) **49** #10128 65D30

Sur une classe de formules de cubature pour les intégrales triples. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 439–442. (D. F. Mayers) **50** #8921 65D30

The divided difference of a function of three variables on a mesh with nodes $M_{i,j,k}(x_i, y_j, z_k)$, $i, j, k, = 0, 1, \ldots n$, and its representation by means of a triple integral. (Romanian) "*Gheorghe Ţiţeica and Dimitrie Pompeiu*" *Symposium on Geometry and Global Analysis* (*Bucharest*, 1973) (*Romanian*), *pp.* 255–261. *Editura Acad. R.S.R., Bucharest*, 1976. (See Zbl **369** #35040; MR **55** #2428) 41A55

Ionescu, Gh. D. On some equations in five variables representable by nomograms with superimposed planes. (Romanian. French summary) *Bul. Şti. Inst. Politehn. Cluj* **12** (1969), 51–55. (L. Bal) **45** #1423 65S05

On certain equations in four, five and six variables that are representable by nomograms with transparent *T*-square. (Romanian. French summary) *Bul. Şti. Inst. Politehn. Cluj* **13** (1970), 37–41. (L. Bitay) **47** #9871 65S05

On some classes of equations which can be represented by simple nomograms three degrees of freedom between the planes. *Mathematica* (*Cluj*) **12(35)** (1970), 69 (E. Otto) **47** #4474 65S05

On the generalization of the theorem of W. Margoulis on the representatio systems of equations by nomograms with guided transparent. (Romanian. Fre summary) *Scientific Conference of the Teaching Staffs* (1971), *pp.* 125–129. *Cluj Poli Inst., Cluj*, 1973. (L. Bal) **51** #4702 65S05

Über einige Systeme von Funktionalgleichungen, die verschiedene Typen von Nomogrammen mit durchsichtiger Ebene kennzeichnen. *Mathematica* (*Cluj*) **15** (1973), 43–51. (E. Morgantini) **53** #1993 65S05

Sur les méthodes nomographiques qui caractérisent quelques types de systèmes équations. *Mathematica* (*Cluj*) **18(41)** (1976), *no.* 1, 79–83. (M. Şt. Botez) **58** #319 65S05

Ionescu, H. (*with* Dinescu, C.; Săvulescu, B.) ★Probleme ale cercetării operaţior (Romanian) [Problems in operations research] *Editura Didactică şi Pedagogică, Bucharest*, 1972. 319 *pp.* (Editors) **50** #9330 90Bxx (90C05)

Ionescu, Paltin A note on Bertini's theorems on hyperplane sections. (Romanian. Eng summary) *Stud. Cerc. Mat.* **29** (1977), *no.* 4, 381–383. (José M. Aroca) **57** #32 14C99

Ionescu, Tiberiu ★Grafuri. Aplicaţii. Vol. I. (Romanian) [Graphs. Applications. Vol *Editura Didactică şi Pedagogică, Bucharest*, 1973. 272 *pp.* (H. Kramer) **51** #7913 05Cxx (94A20)

★Grafuri. Aplicaţii. Vol. II. (Romanian) [Graphs. Applications. Vol. II] *Edi Didactică şi Pedagogică, Bucharest*, 1974. 271 *pp.* (H. Kramer) **51** #7913b 05 (94A20)

Ionescu, Tudor V. (*with* Monopoli, Richard) Discrete model reference adaptive con with an augmented error signal. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 50.5, 9 *pp. IFAC, Düsseldorf*, 19 (Authors' summary) **58** #33327 93C40

(*with* Monopoli, Richard) On the stabilization of bilinear systems via hyperstabil *IEEE Trans. Automatic Control* **AC-20** (1975), 280–284. (V. M. Popov) **56** #256 93D99

On the generators of semisimple Lie algebras. *Linear Algebra and Appl.* **15** (19 *no.* 3, 271–292. (Author's summary) **56** #12081 17B20

Model reference adaptive control for a class of bilinear plants. *Proceedings of 1977 IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, 1062–1066. *Inst. Electrical Electron. Engrs., New York*, 1977. (Author's summa **58** #20702 93C40

Ionescu, Vasile (*with* Cozma, Ciprian) The generalized Riemann problem in the class analytic functions. (Romanian. French summary) *Stud. Cerc. Mat.* **21** (1969), 1369–1391. (S. Gogonea) **48** #4330 30A88

(*with* Cozma, Ciprian) The generalized Riemann problem in the class of generali analytic functions. (Romanian. French summary) *Stud. Cerc. Mat.* **21** (1969), 1485–1510. (P. Caraman) **46** #5640 30A88

Ionescu, Vlad On the algebraic concept of the control law. *Rev. Roumaine Sci. Tech. S Électrotech. Énergét.* **17** (1972), 655–665. (E. Fagiuoli) **49** #2144 93B25

The concept of finiteness in the realization theory of time invariant systems. *R Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **18** (1973), 99–113. (V. M. Pop **49** #4615 93C45

On the algebraic model of the time invariant finite dimensional linear and smo systems. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **18** (1973), 293–3 (Bostwick F. Wyman) **49** #2145 93B25

On the method of particular solutions for solving the optimal control proble (French summary insert) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **19** (197 119–135. (C. R. Hadlock) **50** #5578 49B10

Canonical forms for multiple-input time-variable systems. *Rev. Roumaine Sci. Te Sér. Électrotech. Énergét.* **19** (1974), 461–474. (Yuzo Yamane) **50** #12345 93B10

★Introducere în teoria structurală a sistemelor liniare. (Romanian) [Introduction the structural theory of linear systems] With an English summary and table of conten *Editura Academiei Republicii Socialiste România, Bucharest*, 1975. 236 *pp.* (V. M. Popo **56** #11136 93Bxx

On the design of low-order observers. (French and German summary inserts) *Re Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **20** (1975), *no.* 3, 425–429. (Jerzy Klamk **53** #5077 93B05

Control law design for arbitrary pole allocation. *Rev. Roumaine Sci. Tech. S Électrotech. Énerget.* **21** (1976), *no.* 1, 61–65. (S. P. Bhattacharyya) **53** #10393 93C05

On the controllability and observability of discrete systems. *Rev. Roumaine S Tech. Sér. Électrotech. Énergét.* **21** (1976), *no.* 2, 265–269. (S. E. Dreyfus) **54** #4742 93B05

An efficient algorithm for computing the invariant factors. (Loose French a German summaries) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **21** (1976), *n* 3, 419–423. (Author's summary) **56** #11165 93B25

(*with* Popeea, Corneliu Alexandru) On the invertibility of linear systems. (Fren summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **22** (1977), *no.* 2, 249–25 v. (Bradley W. Dickinson) **56** #11189 93B99 (93B20)

Ionescu-Bujor, Constantin Sur les translations centrées planes. (English, Russian and German summaries) *Bul. Inst. Politehn. Bucureşti* **32** (1970), *no.* 5, 17–27. (O. Bottem **47** #2475 50A15

Ionescu-Pallas, Nicholas (*with* Sofonea, Liviu) Compatibility of the relativistic representations of the electromagnetic field. (Romanian. English summary) *Stud. Ce Fiz.* **24** (1972), 1043–1059. (Authors' summary) **48** #7794 80.53 (83.26)

Čebyšev formulas for Lorentz and Gauss convolutions. (Romanian. English summary) *Stud. Cerc. Mat.* **24** (1972), 1413–1420. (D. D. Stancu) **51** #2254 65D

(*with* Sofonea, Liviu) The genesis of the mathematical entities. A historico-modelling example. (French summary) *Noesis* (*Colloq. Philos. Hist. Sc Bucharest*, 1973), *III*, *pp.* 275–289. *Editura Acad. R.S.R., Bucharest*, 1975. (R. C. Gup **58** #15817 01A25

(*with* Papp, E.) Relativistic time-operator conjugated to the Hamilton operato *Rev. Roumaine Phys.* **20** (1975), *no.* 3, 299–301. (Kishin Mariwalla) **52** #4843 81.

(*with* Mociuţchi, Cleopatra) Vectorial-tensorial conservative theory of gravitation. French summary) *Rev. Roumaine Phys.* **20** (1975), *no.* 9, 967–974. (P. Rastall) **3** #2282 83.53

The gravitational theory of Edward Milne–successes and limitations. (Romanian. English summary) *Stud. Cerc. Fiz.* **27** (1975), *no.* 10, 999–1019. (Ion D. Teodorescu) **5** #2021 83.01

Evolutive mechanics. (French summary) *Rev. Roumaine Phys.* **21** (1976), *no.* 10, 065–1086. (George Leibbrandt) **57** #15272 85.58 (83.00)

Analogy between electrodynamics and gravitation. *Rev. Roumanine Phys.* **21** (1976), *o.* 3, 281–287. (Ilija Lukačević) **54** #4536 83.53

(*with* Sofonea, Liviu) Géométrisation des théories physiques. Le formalisme omplex-vectoriel. (English summary) *Papers from the National Colloquium on Geometry nd Topology* (*Univ. Timişoara, Timişoara*, 1977), *pp.* 135–148. *Soc. Şti. Mat., Univ. Timişoara, Timişoara*, 1977. (H. Treder) **58** #32777 83.53

Invariantive approach to analytical mechanics of point-like bodies. (French ummary) *Rev. Roumaine Phys.* **23** (1978), *no.* 9, 955–977. (Author's summary) **8** #19500 70.49 (49C05)

See also **Papers: National Colloquium on Geometry and Topology**, **58** #24023

cu Tulcea, A. *See* **Bellow, Alexandra**

cu Tulcea, Cassius (*with* Fairchild, William W.) ★Sets. *W. B. Saunders Co., Philadelphia, Pa.-London-Toronto, Ont.*, 1970. viii + 121 *pp.* (See Zbl **198** #22) 04–01

(*with* Maher, Richard J.) A note on almost strong liftings. (French summary) *Ann. nst. Fourier* (*Grenoble*) **21** (1971), *no.* 2, 35–41. (Tim Traynor) **48** #9393 46G15

Liftings commuting with translations. *Prodeedings of the Sixth Berkeley Symposium n Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 970/1971), *Vol. II: Probability theory*, *pp.* 97–100. *Univ. California Press, Berkeley, Calif.*, 1972. (A. B. Simon) **53** #14015 43A20 (46G15)

, G. L. *See* **Jonins, G.**

, L. L. (*with* Jonins, G.) Determination of the variance of an estimate of the robability of a state with respect to time for an infinite complex. (Russian) *Problems n the distribution of information* (*Russian*), *pp.* 172–177, 197. *Izdat. "Nauka", Moscow*, 973. (Authors' summary) **51** #15190 94A15

, V. K. Isoperimetric inequalities in simply connected Riemannian spaces of onpositive curvature. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 282–284. (A. Jrban) **46** #834 53C45 (52A40)

Isoperimetric inequalities for surfaces of negative curvature. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 933–938. (K. Radziszewski) **46** #8139 53C45 (52A40)

Characteristic properties of Lorentz transformations. (Russian) *Sibirsk. Mat. Ž.* **18** 1977), *no.* 5, 1026–1031, 1206. (R. F. Biljalov) **57** #15179 83.22

Axioms for space-time. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 3, 22–525. (A. K. Guc) **58** #14898 83.50

ă, N. Contributions to the study of the optimization of mechanisms. I. The dynamical ynthesis of plane mechanisms from the condition of minimizing the accelerations of rbitrary order of the controlled element. (Romanian) *Stud. Cerc. Mec. Apl.* **32** (1973), 79–990. (V. M. Popov) **49** #10405 93A99

(*with* Chiriacescu, Sergiu T.; Krivošeĭn, L. E.; Mangeron, Dumitru Ion) Nonlinear erminal control problems in the presence of hereditary and functional operators. Romanian. English summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **22(26)** (1976), *no.* 1-2, *ecţ. I*, 7–11. (Constantin Vârsan) **58** #23874 49A30

n, N. I. (*with* Mokin, Ju. I.) The parabolicity of difference schemes. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 402–417, 533. (T. Styś) **49** #8383 65M10

The solution of a certain boundary value problem of the theory of heat conduction vith a nonclassical boundary condition. (Russian) *Differencial'nye Uravnenija* **13** 1977), *no.* 2, 294–304, 381. (I. Łojczyk-Królikiewicz) **58** #29240a 35K05

Letter to the editors: "The solution of a certain boundary value problem of the heory of heat conduction with a nonclassical boundary condition" (Differencial'nye Jravnenija 13 (1977), no. 2, 294–304). (Russian) *Differencial'nye Uravnenija* **13** (1977), *o.* 10, 1903. (I. Łojczyk-Królikiewicz) **58** #29240b 35K05

n, P. A. (*with* Mironov, V. G.) Some singularities of topological matrices and of the omogeneous equations of electrical circuits. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 348 *Teor. Grafov* (1977), 5–12. **58** #33548 94A20

, S. P. (*with* Dautov, L. M.; Kadykenov, M. M.; Kaipov, D. K.) ★Таблицы томных волновых функций. (Russian) [Tables of atomic wave functions] Edited by S. E. Ermatov. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1974. 196 *pp.* (Editors) **50** #9214 81.33 (65A05)

(*with* Manakova, L. A.; Makarov, E. F.) The electronic spectra and lectromagnetic properties of charge-ordered systems. (Russian summary) *Phys. Status. Solidi* (*B*) **84** (1977), *no.* 1, 55–67. (Authors' summary) **56** #14130 78.22

, V. N. (*with* Mal'cev, L. E.) Partially orthogonal correcting stress tensors. (Russian) *zv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 4(131), 21–26. (M. Mişicu) **50** #6287 3.65

auskas, A. *See* **Jonušauskas, A.**

, Gérard Théorie non-linéaire de la stabilité des écoulements visqueux ncompressibles. (English summary) *Recherche Aérospat. No.* 134 (1970), 7–14. (S. A. Berger) **45** #1467 76.35

★Théorie non linéaire de la stabilité des écoulements laminaires. With English, German and Russian summaries. Publication No. 136 (1971). *Office National d'Études et le Recherches Aérospatiales, Chatillon*, 1971. i + 118 *pp.* (Author's summary) **58** #25331 76.35

Nonlinear stability theory of laminar flows in the case of "exchange of stabilities". *Fluid dynamics transactions, Vol. 6, Part II* (*Proc. 10th Sympos. Advanced Problems and Methods in Fluid Mechanics, Rynia*, 1971), *pp.* 307–316. *Państw. Wydawn. Nauk., Warsaw*, 1971. (J. S. Joel) **58** #2499 47H15 (76.47)

Bifurcation des solutions périodiques de certains problèmes d'évolution. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A624–A627. (R. Temam) **45** #962a 47D05 35B10)

Sur la stabilité de la solution périodique secondaire intervenant dans certains roblèmes d'évolution. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A912–A915. (R. Temam) **45** #962b 47D05 (35B10)

Existence et stabilité de la solution périodique secondaire intervenant dans les problèmes d'evolution du type Navier-Stokes. *Arch. Rational Mech. Anal.* **47** (1972), 301–329. (D. H. Sattinger) **49** #11075 35R20 (34G05)

Stabilité de la solution périodique secondaire intervenant dans certains problèmes d'évolution. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A108–A111. (R. Temam) **45** #5833 47H15

Bifurcation d'une solution T-périodique vers une solution nT-périodique, pour certains problèmes d'évolution du type Navier-Stokes. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A935–A938. (J. W. Thomas) **47** #2206 35Q10 (47H15)

★Bifurcation et stabilité. Année Universitaire 1972–1973. Publications Mathématiques d'Orsay, No. 31. *U.E.R. Mathématique, Université de Paris XI, Orsay*, 1973. i + 159 *pp.* (*not consecutively paged*) (J. S. Joel) **58** #7253 47H15 (58E05)

(*with* Tronel, Gérard) Exemples de bifurcation. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1353–A1356. (H. Amann) **47** #7535 47H15

Bifurcation of a T-periodic flow towards an nT-periodic flow and their non-linear stabilities. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **26** (1974), 795–804. (D. E. Edmunds) **52** #11374 35Q10

Bifurcation of a periodic solution of the Navier-Stokes equations into an invariant torus. *Arch. Rational Mech. Anal.* **58** (1975), *no.* 1, 35–56. (E. Kreyszig) **52** #14692 35Q10 (35B10)

Secondary bifurcation of a steady solution into an invariant torus for evolution problems of Navier-Stokes' type. *Applications of methods of functional analysis to problems in mechanics* (*Joint Sympos., IUTAM/IMU, Marseille*, 1975), *pp.* 354–365. *Lecture Notes in Math.*, 503. *Springer, Berlin*, 1976. (A. Vanderbauwhede (Zbl **366** #76025)) **58** #29433 35Q10 (35B10)

Secondary or direct bifurcation of a steady solution of the Navier-Stokes equations into an invariant torus. *New developments in differential equations* (*Proc. 2nd Scheveningen Conf., Scheveningen*, 1975), *pp.* 99–110. *North-Holland Math. Studies, Vol.* 21, *North-Holland, Amsterdam*, 1976. (Howard Swann) **58** #1751 35Q10 (35B99, 76.35)

Direct bifurcation of a steady solution of the Navier-Stokes equations into an invariant torus. *Turbulence and Navier-Stokes equations* (*Proc. Conf., Univ. Paris-Sud, Orsay*, 1975), *pp.* 69–84. *Lecture Notes in Math., Vol.* 565, *Springer, Berlin*, 1976. (Marjorie McCracken) **58** #1752 35Q10

Sur la deuxième bifurcation d'une solution stationnaire de systèmes du type Navier-Stokes. *Arch. Rational Mech. Anal.* **64** (1977), *no.* 4, 339–369. (Editors) **58** #31244 58F10 (34G05, 35Q10)

(*with* Joseph, Daniel D.) Bifurcation and stability of nT-periodic solutions branching from T-periodic solutions at points of resonance. *Arch. Rational. Mech. Anal.* **66** (1977), *no.* 2, 135–172. (B. V. Loginov) **58** #18582 58F10 (34C25)

(*with* Chenciner, Alain) Bifurcation d'un tore T^2 en un tore T^3. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 19, A1207–A1210. (Authors' summary) **55** #11308 58F10

(*with* Lozi, René) Convection entre deux plaques planes en rotation, et effet dynamo résultant d'une bifuraction secondaire. (English summary) *J. Mécanique* **16** (1977), *no.* 5, 675–703. (E. G. Broadbent) **57** #2151 76.58

Iordache, Mihai A proof of the second theorem of similitude. (Romanian. English summary) *Bul. Inst. Politehn. Bucureşti* **38** (1976), *no.* 1, iv, 83–90. (F.-H. Vasilescu) **56** #7489 78.00 (94A20)

(*with* Socaciu, Vl.) A demonstration of the second theorem of similitude. (Loose French and German summaries) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **21** (1976), *no.* 3, 409–417. (Hannah Chen) **56** #13509 65C99

(*with* Socaciu, Vl.) A generalization of the method of small parameter on the transient analysis of linear or nonlinear networks. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **22** (1977), *no.* 1, 33–42. (H. Hochstadt) **56** #721 34A25

Iordan, M. Das Birckhoff-Theorem und die Brans-Dicke-Theorie. (Romanian summary) *An. Ştiinţ. Univ. "Al. I. Cuza" Iaşi Secţ. I b Fiz.* (*N.S.*) **23** (1977), 22–24. (Author's summary) **58** #32778 83.53 (53A35)

Iordănescu, Radu L'étude de la réductibilité des opérateurs infinitésimaux associés aux algèbres de Jordan simples. *An. Univ. Bucureşti Mat.-Mec.* **19** (1970), *no.* 2, 83–90. (H. A. Eliopoulos) **45** #2603 53A40 (17C10)

(*with* Popovici, Iulian; Turtoi, Adriana) Some maximal graduation classes and their Riemannian properties. *Arch. Math.* (*Brno*) **7** (1971), 31–46. (Agneta Vescan) **46** #7319 16A68 (15A66, 17B60, 17C50)

Sur les graduations spéciales réelles simples. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 691–700. (T. S. Ravisankar) **45** #5184 17A99

Sulle strutture quaternionali grassmanniane. (English summary) *Boll. Un. Mat. Ital.* (4) **10** (1974), 406–411. (R. De Sapio) **52** #4309 57D20

On a space-time with spherical symmetry. *Simon Stevin* **48** (1974/75), *no. III-IV*, 97–106. (A. Crumeyrolle) **52** #4928 83.53

Iordanidis, Kosmas The Robbins problem for elliptic equations in space. *Bull. Soc. Math. Grèce* (*N.S.*) **12** (1971), *no.* 1, 96–111. (R. S. Varga) **45** #9512 65N05

Numerical solution of the second boundary value problem in space. *Bull. Soc. Math. Grèce* (*N.S.*) **13** (1972), *no.* 1-2, 33–45. (A. R. Mitchell) **51** #2305 65N05

Solving the second boundary value problem in four space variables. *Bull. Soc. Math. Grèce* (*N.S.*) **14** (1973), 33–44. (Alfred R. Mitchell) **50** #9009 65N20

Numerical solution of the Robin problem by extrapolated A. D. I. methods. *J. Inst. Math. Appl.* **12** (1973), 91–96. (G. T. Symm) **49** #4273 65N20

On solving the third boundary value problem for Laplace's equation in time-space. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 242–252. *Greek Math. Soc., Athens*, 1974. (Author's summary) **58** #3563 65P05 (83.65)

(*with* Hadjidimos, Apostolos) Solving Laplace's equation in a rectangle by alternating direction implicit methods. *J. Math. Anal. Appl.* **48** (1974), 353–367. (J. R. Kuttler) **50** #9008 65N20

Using crude eigenvalue bounds in the numerical solution of the third boundary value problem in 2- and 3-dimensional space. *J. Inst. Math. Appl.* **15** (1975), 249–256. (G. T. Symm) **51** #11996 65N25

Optimum *E.A.D.I.* parameters for the Neumann problem in four dimensional space. *J. Math. Anal. Appl.* **50** (1975), 151–163. (A. O. Garder, Jr.) **51** #14613 65N15

Iordanišvili, È. A. (*with* Devdariani, R. G.) On the question of the computation of oscillatory functions. (Russian. Georgian summary) *Thbilis. Saḫelmç. Univ. Gamoqeneb. Math. Inst. Šrom.* **3** (1972), 257–265. (From the authors' text) **56** #10068 65N35

(*with* Gabrašvili, A. I.; Džgarkava, N. N.; Nikolaĭšvili, Š. S.) The method of moments as applied to the single velocity problem of the distribution of neutrons in an infinite homogeneous medium. (Russian. Georgian summary) *Thbilis. Saḫelmç. Univ. Gamoqeneb. Math. Inst. Šrom.* **4** (1975), 291–302. (Hans Kaper) **54** #6836 82.65

Iordanov, Iordan V. Regularity of the solution of a certain elliptic variational inequality with two constraints. (Bulgarian. French summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **67** (1972/73), 169–190 (1976). (J. Kačur) **55** #8539 35J20 (35D10)

Régularité de la solution d'une inéquation variationnelle elliptique à deux contraintes. *C. R. Acad. Bulgare Sci.* **26** (1973), 1587–1589. (David Kinderlehrer) **49** #11040 35J35

Inéquation variationnelle associée à un opérateur elliptique dégénéré. *C. R. Acad. Bulgare Sci.* **27** (1974), 1473–1476. (Z. C. Motteler) **56** #6096 35J20

Problème non-coercif pour une inéquation variationnelle elliptique à deux contraintes. *Serdica* **1** (1975), *no.* 3, 261–268. (Gianfranco Bottaro) **53** #11449 49A20 (35J20)

Ĭordanova, M. (*with* Atanasov, Ž.) Sufficient conditions for stability of a mechanical system with variable parameters. (Bulgarian. Russian and English summaries) Mechanics (Third Congress, Varna, 1977). *Godišnik Visš. Učebn. Zaved. Tehn. Meh.* **12** (1977), *no.* 1, 93–100. (Authors' summary) **58** #28891 34D05 (70.34)

Iordanskiĭ, M. A. Minimal numerations of the vertices of trees. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 272–275. (H. Fleischner) **50** #9649 05C05

Minimal numerations of the vertices of trees. (Russian) *Problemy Kibernet. No.* 31 (1976), 109–132, 237. (Anton Kotzig) **55** #7838 05C30

Ĭorgens, K. *See* **Jörgens, Konrad**

Iorio, Rafael Jose, Jr. (*with* O'Carroll, Michael) Asymptotic completeness for multi-particle Schroedinger Hamiltonians with weak potentials. *Comm. Math. Phys.* **27** (1972), 137–145. (W. Faris) **47** #2944 81.47

Ioselevič, B. N. *See* **Applied multidimensional geometry**, **48** #12228

manu-Iosifescu, Adela *See* **Manu-Iosifescu, Adela**

Iosifescu, Irina Contextual semantic distances. (Romanian. French summary) *Stud. Cerc. Mat.* **27** (1975), *no.* 5, 545–557. (Author's summary) **58** #13971 68A30

A contextual semantic distance in locally finite languages. (Romanian. French summary) *Stud. Cerc. Mat.* **28** (1976), *no.* 5, 541–549. (Author's summary) **57** #8181 68A30

Iosifescu, Marius (*with* Theodorescu, Radu) ★Random processes and learning. Die Grundlehren der mathematischen Wissenschaften, Band 150. *Springer-Verlag, New York*, 1969. x + 304 *pp.* (P. Suppes) **45** #2781 60G05 (92A25)

On two recent papers on ergodicity in nonhomogeneous Markov chains. *Ann. Math. Statist.* **43** (1972), 1732–1736. (Dean Isaacson) **51** #4398 60J10

An extension of the renewal equation. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 148–152. (Author's summary) **47** #5979 60K05

On Strassen's version of the loglog law for some classes of dependent random variables. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 155–158. (J. R. Blum) **49** #1564 60F15

On finite tail σ-algebras. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 159–166. (Harry I. Cohn) **48** #7388 60J20 (60F20)

(*with* Tăutu, Petre) ★Stochastic processes and applications in biology and medicine. I: Theory. Biomathematics, Vol. 3. *Editura Academiei RSR, Bucharest; Springer-Verlag, Berlin-New York*, 1973. 331 *pp.* (Editors) **50** #3347 60Jxx (92–XX)

(*with* Tăutu, Petre) ★Stochastic processes and applications in biology and medicine. II: Models. Biomathematics, Vol. 4. *Editura Academiei, Bucharest; Springer-Verlag, Berlin-New York*, 1973. 337 *pp.* (Editors) **50** #3348 60Jxx (92–XX)

On multiple Markovian dependence. (Romanian summary) *Proceedings of the Fourth Conference on Probability Theory* (*Braşov*, 1971), *pp.* 65–71. *Editura Acad. R. S. R., Bucharest*, 1973. (R. L. Tweedie) **53** #11749 60J05

(*with* Spătaru, Aurel) On denumerable chains of infinite order. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **27** (1973), 195–214. (O. P. Stackelberg) **51** #6997 60J10 (10K10)

On the application of random systems with complete connections to the theory of *f*-expansions. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *pp.* 335–363. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (F. Schweiger) **51** #8063 10K10 (60G99)

(*with* Onicescu, Octav; Mihăileanu, N. N.) On the occasion of the 70th birthday of Academician Professor Gh. Mihoc. (Romanian) *Gaz. Mat. Publ. Lunară Pentru Tineret* **81** (1976), *no.* 7, 241–246. (Editors) **55** #56 01A70

On two remarkable examples of random systems with complete connections whose mappings are not distance diminishing. *Rev. Roumaine Math. Pures Appl.* **21** (1976), *no.* 6, 707–713. (J. Galambos) **54** #5163 10K99 (60J99)

Limit theorems for ϕ-mixing sequences. A survey. (Romanian summary) *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 51–57. *Editura Acad. R.S.R., Bucharest*, 1977. (H. Bergström) **57** #1609 60F05

A Poisson law for ψ-mixing sequences establishing the truth of a Doeblin's statement. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 10, 1441–1447. (J. Galambos) **57** #5936 10K10 (60F05)

See also **Proceedings: Conference on Probability Theory**, **52** #9308 *and* **Proceedings: Conference on Probability Theory**, **56** #3911

Iosif'jan, A. A. The solvability of mixed problems for partial differential equations with initial and boundary conditions on the characteristics. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **61** (1975), *no.* 4, 198–204. (J. Chrastina) **53** #6079 35G15

Characteristic problems with a principal part that contains mixed derivatives. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 2, 309–324, 380. (Author's summary) **57** #10202 35G05 (35A30)

Iosif'jan, G. A. (*with* Oleĭnik, O. A.) An analogue of Saint-Venant's principle and the uniqueness of solutions of boundary value problems for parabolic equations in unbounded domains. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 6 (192), 142–166 (*Russian*); *translated as Russian Math. Surveys* **31** (1976), *no.* 6, 153–178. (Cornelius O. Horgan) **58** #1528 35B45 (35K20)

(*with* Oleĭnik, O. A.) An analogue of the Saint-Venant principle for a secon elliptic equation, and the uniqueness of the solutions of boundary value probl unbounded domains. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 4 (190), 26 (Cornelius O. Horgan) **58** #1530 35B45 (35B40, 35J25)

(*with* Oleĭnik, O. A.) The uniqueness of the solution of a mixed problem equations of elasticity theory in an unbounded domain. (Russian) *Uspehi Mat. N* (1976), *no.* 5 (191); 247–248. (Cornelius O. Horgan) **58** #1532 35B45 (35Q99.

A necessary condition for the analyticity of all solutions of systems of differential equations. (Russian. English summary) *Vestnik Moskov. Univ. Ser. Meh.* **31** (1976), *no.* 2, 74–77. (A. Haimovici) **54** #699 35E05

(*with* Oleĭnik, O. A.) Boundary value problems for second order elliptic equat unbounded domains and Saint-Venant's principle. *Ann. Scuola Norm. Sup. Pisa* (4) **4** (1977), *no.* 2, 269–290. (Cornelius O. Horgan) **58** #1529 35B45 (35B40,

(*with* Oleĭnik, O. A.) On singularities at the boundary points and unic theorems for solutions of the first boundary value problem of elasticity. *Comm. Differential Equations* **2** (1977), *no.* 9, 937–969. (Cornelius O. Horgan) **58** # 35B45 (35J55, 73.35)

(*with* Oleĭnik, O. A.) Energy estimates of the generalized solutions of bo value problems for second order elliptic equations, and their applications. (Ru *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 6, 1257–1260. (Ja. A. Roĭtberg) **55** #1 35J25

(*with* Oleĭnik, O. A.) The Saint-Venant principle for a mixed problem of el theory, and its applications. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), 824–827. (J. J. Golecki (Zbl **378** #73016)) **58** #32242 73.35

(*with* Oleĭnik, O. A.) Removable boundary singularities and uniqueness of so of boundary value problems for second order elliptic and parabolic equations. (Ru *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 3, 54–67, 96. (Ja. A. Roĭtberg) **57** # 35J25 (35K20)

(*with* Oleĭnik, O. A.) A priori estimates of the solutions of the first boundary problem for the system of equations of elasticity theory, and their applications. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 5(197), 193–194. (G. Jaiani (Z #73012)) **58** #6640 35B45 (73.35)

(*with* Oleĭnik, O. A.) Some properties of the solutions of the equations of hydrodynamics in domains with a movable boundary. (Russian. English sum *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 5, 5–11. (Authors' sum **57** #3667 35Q10

(*with* Oleĭnik, O. A.) The Saint-Venant principle in plane elasticity theory. (R *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 3, 530–533. (Cornelius O. Horgan) **58** # 73.35 (35J55)

Iosilevskii, Y. A. Quantum equilibrium distributions of displacements and mome particles in molecules and solids. (German summary) *Ann. Physik* (7) **34** (1977), 421–434. (Author's summary) **57** #8784 82.47

Ĭosipčuk, M. D. (*with* Sjavavko, M. S.) On the question of linear equations, with c coefficients, in a function space. (Ukrainian. Russian summary) *Vīsnik L'vīv. P Īnst. No.* 87 *Mat. ī Meh.* (1974), 22–25, 152. (B. Szafirski) **53** #11248 (46G05)

A certain class of linear equations with functional derivatives. (Ukrainian. R summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 26–29, 1 Szafirski) **53** #11249 35R15 (46G05)

(*with* Sjavavko, M. S.) Approximate solution of a certain class of first differential equations that contain ordinary and functional derivatives. (Ukr Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 29–3 (E. Gerlach) **53** #11250 35R15 (46G05)

(*with* Sjavavko, M. S.) Solution of a homogeneous first-order linear equatio functional derivatives by the method of series expansion in a neighborhood particular point. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. N* (1975), 132–136, 206. (Authors' summary) **58** #23189 35R15 (58C99)

Systems with infinitely many degrees of freedom that admit separation of var (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī* 44–47, 186. (Author's summary) **58** #25213 70.35

Ĭosipčuk, N. D. (*with* Sjavavko, M. S.) A certain class of equations in functional derivatives. (Russian) *Mathematical physics, No.* 15 (*Russian*), *pp.* 55–59, 179. "*Naukova Dumka*", *Kiev*, 1974. (Ju. L. Daleckiĭ) **49** #5607 35R15 (35C10, 4

Ioslovič, I. V. *See* **Poincaré, Henri**, **52** #5336

Iossel', Ju. Ja. (*with* Klenov, G. È.; Pavlovskiĭ, R. A.) An approximate method of s stationary heat conduction problems with mixed boundary conditions of the third *Inž.-Fiz. Ž.* **27** (1974), *no.* 3, 507–512 (*Russian*); *translated as J. Engrg. Phys.* **27** (*no.* 3, 1133–1137 (1976). (C. R. Illingworth) **53** #2156 80.65

Iosupovicz, Alexander (*with* Hu, Ming Kuei) Analysis of the terminal behavior of classes of iterative arrays of linear machines. *IEEE Trans. Computers* **C-21** (1394–1399. (J. C. Muzio) **50** #4148 94A25

Optimal detection of bridge faults and stuck-at faults in two-level logic. *Trans. Computers* **C-27** (1978), *no.* 5, 452–455. (Jan Grabowski) **58** #9845 94

Iovănescu, Radu States of stress for channel-type closed shallow shells of arbitrary cross-section. *Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* **16** (1971), 517–547. Knops) **52** #2367 73.65

Ĭovanovič, Boško A certain iteration method for solving elliptic difference equ (Russian) *Mat. Vesnik* **12 (27)** (1975), *no.* 4, 347–356. (Murli M. Gupta) **53** #7 65N15

An additive difference scheme for a fourth order nonstationary equation arbitrary domain. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 2, 377–383 (Author's summary) **58** #19204 65N20

Iovanovič, Boško *See* **Jovanović, Boško**

Ĭovkova, S. (*with* Ivanov, D.; Šiškov, I.; Petrov, V.) Optimal planning in an ind system. (Bulgarian. Russian and English summaries) *Avtomat. i Izčisl. Tehn.* **6** (*no.* 3, 5–9, 1, 2, 3. (Authors' summary) **47** #8092 90B30

Iovnovič, Ja. L. (*with* Amerbaev, V. M.) A type of boundary value problems that are on a graph. (Russian. Kazakh summary) *Vestnik Akad. Nauk Kazah. SSR* **1977**, 47–52. (From the introduction) **58** #13797 65N99

Iozapavičjus, A. È. (*with* Mihalev, A. V.) Modules with quadratic and bilinear ussian) *Modules, III* (*Russian*), *pp*. 9–13. *Inst. Mat. Sibirsk. Otdel. Akad. Nauk SSR*, *Novosibirsk*, 1973. (J. S. Joel) **56** #5427 10C05 (12D15)

vičus, A. È. Invariant submodules of a Hermitian module. (Russian) *Uspehi Mat. auk* **30** (1975), *no*. 6(186), 171–172. (P. M. Cohn) **53** #8120 16A28 (15A63)

hi, A. (*with* Oster, George F.; Rocklin, S.) Phenotypic structure and bifurcation havior of population models. *Theoret. Population Biology* **10** (1976), *no*. 3, 365–382. uthors' summary) **58** #20613 92A15

(*with* Guckenheimer, John; Oster, George F.) The dynamics of density dependent pulation models. *J. Math. Biol.* **4** (1977), *no*. 2, 101–147. (K. Gopalsamy) **55** #14264 92A15

D. M. (*with* Čoban, M. M.) The topology of uniform convergence on spaces of appings. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1977**, *no*. 3, 20–25, 93. (Stojan edev) **58** #7549 54C60 (54C35)

Nets on topological spaces. (Russian) Topological structures and algebraic systems. *at. Issled. Vyp.* **44** (1977), 58–74, 179. (Stojan Nedev) **57** #13829 54C10

Some problems that are connected with topologies on spaces of mappings. (Russian) *l. Akad. Štiince RSS Moldoven.* **1978**, *no*. 1, 13–21, 94. (S. A. Peregudov) **58** #24178 54C60

, A. F. The motions of S. V. Kovalevskaja's gyroscope on the boundary of the main of ultra-ellipticity. (Russian) *Petrozavodsk. Gos. Univ. Učen. Zap.* **18** (1970), *no. Voprosy Mat. Meh.*, 6–93 (*loose errata*) (1971). (See RŽMeh **1972** #9 A78) 70.35

, A. S. *See* **Mathematical methods for the solution of economic problems**, **48** #7910 A 51)

, S. I. Evolution of a flat ring of gravitating material points. (Russian. English mmary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 2 (1978), 60 *pp*. (Author's mmary) **58** #20264 85.35

o, Pauline M. Maximum principles and classical solutions for degenerate parabolic uations. *J. Math. Anal. Appl.* **64** (1978), *no*. 3, 530–561. (Todor G. Genčev) #11915 35K10

James R. (*with* Brill, Dieter R.; Chrzanowski, Paul L.; Pereira, C. Martin; ckerell, Edward D.) Solution of the scalar wave equation in a Kerr background by paration of variables. *Phys. Rev. D* (3) **5** (1972), 1913–1915. (Authors' summary) #7441 83.53

(*with* Detweiler, Steven L.) A variational principle and a stability criterion for the nradial modes of pulsation of stellar models in general relativity. *Astrophys. J.* **185** 973), 685–707. (W. Israel) **52** #2504 83.35

(*with* Butterworth, E. Manning) On the structure and stability of rapidly rotating id bodies in general relativity. I. The numerical method for computing structure and application to uniformly rotating homogeneous bodies. *Astrophys. J.* **204** (1976), *no. part* 1, 200–223. (Authors' summary) **57** #11652a 85.65

The distribution of stars around a massive central black hole in a spherical stellar stem. I. Results for test stars with a unique mass and radius. *Astrophys. J.* **222** (1978), . 3, *part* 1, 976–990. (Author's summary) **58** #14885 83.35

See also **General relativity and cosmology**, **49** #8567

nnisa Note on first isomorphism theorem in lattices. *Acta Math. Acad. Sci. Hungar.* (1971/72), 147–150. (R. P. Morash) **45** #1809 06A30

On lattices whose lattices of congruences are Stone lattices. *Fund. Math.* **70** (1971), . 3, 315–318. (G. Bruns) **47** #8371 06A23

staud, M. (*with* Houard, J. C.) Generalized Coulomb gauges for the free photon ld. *Rep. Mathematical Phys.* **10** (1976), *no*. 3, 349–362. (Adriaan Tip) **57** #8558 .22

Krzysztof Solution of a three-dimensional bottleneck problem by means of urwicz's saddle-point conditions. (Polish and Russian summaries) *Control Cybernet.* **3** 974), *no*. 1-2, 37–48. (Kailash C. Kapur) **53** #10323 90C50

K. B. (*with* Wallace, Victor L.) On network linguistics and the conversational design queueing networks. *J. Assoc. Comput. Mach.* **18** (1971), 616–629. (Authors' summary) #4882 68A50

Aznar, Maria Jesús Fitting classes of finite groups. (Spanish) *Proceedings of the eventh Annual Conference of Spanish Mathematicians* (*Murcia*, 1970) (*Spanish*), *pp*. 1–233. *Univ. Complutense de Madrid*, *Madrid*, 1973. (G. Zappa) **50** #7326 20D10

★Operaciones entre formaciones de grupos finitos y caracterización de envolturas. panish) [Operations between formations of finite groups and characterization of ojectors] Doctoral dissertation. *Departamento de Algebra y Fundamentos*, *Facultad de encias*, *Universidad de Zaragoza*, *Zaragoza*, 1974. iv + 73 *pp*. (J. Wiegold) **57** #3242 D10

d, B. (*with* Marshall, J. E.; Garland, B.) Comments on: "An extension of predictor ntrol for systems with control time-delays" (Internat. J. Control (1) **18** (1973), 51–1168) by D. H. Mee. *Internat. J. Control* **26** (1977), *no*. 6, 981–982. (Editors) #9206 93C30

d, Kenneth (*with* Rosen, Michael I.) ★Elements of number theory. Including an troduction to equations over finite fields. *Bogden & Quigley, Inc., Publishers, arrytown-on-Hudson, N.Y.*, 1972. vi + 169 *pp*. (D. Suryanarayana (Zbl **248**, 10002)) #27701 10–01 (10A99, 10B99)

v, Ju. Some boundary value problems for third order equations with multiple aracteristics. (Russian) *Boundary value problems for differential equations and their plications* (*Russian*), *pp*. 17–27, 156. *Fan*, *Uzbek. SSR*, *Tashkent*, 1976. (Author's mmary) **58** #28787 35G15

(*with* Džuraev, T. D.) The Cattabriga boundary value problem for third order nlinear equations with multiple characteristics. (Russian) *Boundary value problems for fferential equations and their applications* (*Russian*), *pp*. 141–155, 159. *Fan*, *Uzbek. SSR*, *shkent*, 1976. (Authors' summary) **58** #28786 35B15 (35G30)

(*with* Džuraev, T. D.) Boundary value problems for third order equations in bounded domains. (Russian) *Partial differential equations and their applications ussian*), *pp*. 14–27, 181. *Izdat. "Fan" Uzbek. SSR*, *Tashkent*, 1977. (Authors' summary) #23184 35Q99

(*with* Džuraev, T. D.) The Gevrey problem for mixed third order equations with ultiple characteristics. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. z.-Mat. Nauk* **1977**, *no*. 5, 16–21, 102. (N. N. Janenko) **58** #1705 35M05

asao On an extension of the maximum-flow minimum-cut theorem to ulticommodity flows. *J. Operations Res. Soc. Japan* **13** (1970/71), 129–135. (I. T. isch) **45** #1573 90B10

Combinatorial canonical form of a matrix with applications to the principal partition of a graph. *Electron. Commun. Japan* **54** (1971), *no*. 1, 30–37. (Frank W. Owens) **47** #245 15A21 (05C99)

(*with* Numata, Jun) Mixed-type topological formulas for general electrical networks. *Electron. Commun. Japan* **55** (1972), *no*. 7, 22–31. (Petre Preoteasa) **50** #12482 94A30

(*with* Nakamori, Mario) Path-sets, operator semigroups and shortest-path algorithms on a network. (Japanese summary) *RAAG Res. Notes* (3) *No*. 185 (1972), ii + 82 *pp*. (*loose errata*) (G. Berman) **48** #13493 94A20

(*with* Tomizawa, Nobuaki) An algorithm for determining the rank of a triple matrix product *AXB* with application to the problem of discerning the existence of the unique solution in a network. *Electron. Commun. Japan* **57** (1974), *no*. 11, 50–57. (Authors' summary) **56** #10880 90B10 (65F30)

(*with* Tomizawa, Nobuaki) A unifying approach to fundamental problems in network theory by means of matroids. *Electron. Commun. Japan* **58** (1975), *no*. 1, 28–35. (András Recski) **56** #5069 94A20

(*with* Date, Tsutomu) Canonical forms of real homogeneous quadratic transformations. *J. Math. Anal. Appl.* **56** (1976), *no*. 3, 650–682. (From the authors' introduction) **57** #7669 58F05 (15A21)

(*with* Tomizawa, Nobuaki) An algorithm for finding an optimal "independent assignment". *J. Operations Res. Soc. Japan* **19** (1976), *no*. 1, 32–57. (Robert E. Bixby) **54** #4641 90C10

(*with* Aoshima, K.) Comments on F. Hadlock's paper: "Finding a maximum cut of a planar graph in polynomial time" (SIAM J. Comput. **4** (1975), no. 3, 221–225). *SIAM J. Comput.* **6** (1977), *no*. 1, 86–87. (A. K. Dewdney) **55** #13865 68A10

Irigoyen, Jeanne Maÿlis Solutions voisines des solutions de choc triple dans le problème rectiligne des trois corps. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no*. 8, Bii, B245–B248. (D. Schmidt) **55** #7025 70.34

Irikov, V. A. On the problem of scheduling mining operations. (Russian) *Optimization, Operations research, Bionics* (*Russian*), *pp*. 102–109, 269. *Izdat. "Nauka", Moscow*, 1973. (Author's summary) **48** #5634 90B35

(*with* Kurilov, A. E.) Estimation of the complexity of realization of dialogue procedures for determination of priorities. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no*. 1, 12–21, 234 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 8–17. (P. Pratali) **52** #12762 90B99

(*with* Pospelov, G. S.) ★Программно-целевое планирование и управление. (Russian) [Program oriented planning and control] Введение. [An introduction] "*Sovet. Radio*", *Moscow*, 1976. 440 *pp*. (Not reviewed) 90-02 (93-02)

Irimescu, Ion *See* **Vrănceanu, Gheorghe**, **51** #39

Irisov, A. *See* **Collection: Anniversary of the birth of al-Bīrūnī**, **58** #4821

Irlbeck, B. William Finitely generated projective ideals in commutative rings. *J. Reine Angew. Math.* **298** (1978), 98–100. (Johnny A. Johnson) **58** #5631 13C10

Irle, Albrecht Decision theory for continuous observations: minimax solutions. *Metrika* **24** (1977), *no*. 3, 163–168. (J. Kiefer) **56** #16854 62C05

On the measurability of conditional expectations. *Pacific J. Math.* **70** (1977), *no*. 1, 177–178. (René Carmona) **58** #7809 60G05

Irmay, S. (*with* Stiassnie, Michael) Viscous parallel flow along cylindrical surfaces described by algebraic polynomials. *Israel J. Tech.* **8** (1970), 289–297. (W. O. Criminale, Jr.) **54** #1844 76.35

(*with* Zuzovsky, M.) Exact solutions of the Navier-Stokes equations in two-way flows. *Israel J. Tech.* **8** (1970), 307–315. (Jacques Mauss) **51** #9644 76.35

Irminger, H. Zu einem Satz über räumliche Fünfecke. *Elem. Math.* **25** (1970), 135–136. (Editors) **48** #12235b 50B10

Irons, B. M. *See* **Numerical methods for nonlinear algebraic equations**, **48** #10091

Irons, Bruce M. (*with* Razzaque, Abdur) Experience with the patch test for convergence of finite elements. *The mathematical foundations of the finite element method with applications to partial differential equations* (*Proc. Sympos., Univ. Maryland, Baltimore, Md.*, 1972), *pp*. 557–587. *Academic Press, New York*, 1972. (A. D. Ljaško) **54** #11813 65N30

(*with* Elsawaf, Abdel-Fattah) The conjugate Newton algorithm for solving finite element equations. *Formulations and computational algorithms in finite element analysis* (*U.S.-Germany Sympos., Mass. Inst. Tech., Cambridge, Mass.*, 1976), *pp*. 655–672. *M.I.T. Press, Cambridge, Mass.*, 1977. (Ian Gladwell) **57** #14511 65N30 (65H10)

See also **Computing methods in applied sciences and engineering**, **49** #4197

Irtegov, V. D. The Routh-Ljapunov theorem. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 149 (1972), 28–34, 47. (H. I. Freedman) **48** #9006 34D20

(*with* Anapol'skiĭ, L. Ju.; Matrosov, V. M.) Ways of constructing Ljapunov functions. (Russian) *General mechanics, Vol.* 2 (*Russian*), *pp*. 53–112, 115. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (Wolfgang Hahn) **56** #12451 34D20

Singularities of the manifold of stationary motions. (Russian) *Problems in analytical mechanics, stability and control theories* (*Second Četaev Conf., Kazan*, 1973) (*Russian*), *pp*. 154–160, 339. *Izdat. "Nauka", Moscow*, 1975. (V. Komkov) **57** #2032 70.58

Irugov, B. S. *See* **Optimization, Operations research, Bionics**, **48** #1846

Irving, E. Identification des systèmes. I. Contrôlabilité, observabilité, irréductibilité des systèmes d'équations différentielles linéaires. (English summary) *Bull. Direction Études Recherches Sér. C Math. Informat.* **1969**, *no*. 1, 53–72. (P. Fischer) **53** #15454a 93B30

Identification des systèmes. II. Algorithmes de détermination des systèmes d'équations différentielles linéaires à partir des données d'entrée et de sortie. (English summary) *Bull. Direction Études Recherches Sér. C Math. Informat.* **1969**, *no*. 2, 5–27. (P. Fischer) **53** #15454b 93B30

Identification des systèmes. III. Algorithme de B. L. Ho pour les systèmes à temps discret. Transformation des systèmes à temps discret en systèmes à temps continu. (English summary) *Bull. Direction Études Recherches Sér. C Math. Informat.* **1971**, *no*. 1, 91–119. (P. Fischer) **53** #15454c 93B30

(*with* Barret, J. P.; Charcossey, C.; Monville, J. P.) Une nouvelle méthode de commande adaptative multivariable. Application à la régulation des groupes turbo-alternateurs. (English summary) *Bull. Direction Études Recherches Sér. C Math. Informat.* **1977**, *no*. 1, 4, 79–101. (P. C. Parks) **57** #9207 93C40 (93D10)

Irving, Robert W. An extension of Schur's theorem on sum-free partitions. *Acta Arith.* **25** (1973/74), 55–64. (S. Znám) **49** #2418 05A17

On a bound of Graham and Spencer for a graph-coloring constant. *J. Combinatorial Theory Ser. B* **15** (1973), 200–203. (J. Spencer) **48** #145 05C15

Generalised Ramsey numbers for small graphs. *Discrete Math.* **9** (1974), 251–264. (P. Erdős) **51** #12591 05C15

Irving, Ronald S. Some primitive differential operator rings. *Math. Z.* **160** (1978), *no.* 3, 241–247. (Anthony Joseph) **58** #16804 17B35

Irving, T. A. (*with* Nagle, H. T.) An approach to multi-valued sequential logic. *Conference Record of the International Symposium on Multiple-Valued Logic* (*Univ. Toronto, Toronto, Ont.*, 1973), *pp.* 89–105. *Office of Naval Res., Arlington, Va.*, 1973. (David C. Rine) **52** #5220 94A20

Irwin, G. W. (*with* Roberts, A. P.) The Luenberger canonical form in the state/parameter estimation of linear systems. *Internat. J. Control* **23** (1976), *no.* 6, 851–864. (Jerry M. Mendel) **55** #2300 93E10

Irwin, J. M. *See* **Irwin, John M.**

Irwin, J. O. The generalized Waring distribution. I. *J. Roy. Statist. Soc. Ser. A* **138** (1975), 18–31. (Author's summary) **56** #4012 62E15

The generalized Waring distribution. II. *J. Roy. Statist. Soc. Ser. A* **138** (1975), *no.* 2, 204–227. (Editors) **56** #4013 62E15

The generalized Waring distribution. III. *J. Roy. Statist. Soc. Ser. A* **138** (1975), *no.* 3, 374–384. (Author's summary) **56** #4014 62E15

Some aspects of the history of biometric method in the twentieth century with a special reference to Prof. Linder's work. *Contributions to applied statistics*, *pp.* 11–20. *Experientia Supplementum*, *Vol.* 22, *Birkhäuser*, *Basel*, 1976. (Editors) **57** #15912 01A65 (62–03)

Irwin, James M. (*with* Kent, Darrell C.) Sequential Cauchy spaces. *Proceedings of the Conference on Convergence Spaces* (*Univ. Nevada, Reno, Nev.*, 1976), *pp.* 60–82. *Dept. Math., Univ. Nevada, Reno, Nev.*, 1976. (Roman Frič) **55** #13387 54E15

Irwin, John M. (*with* Benabdallah, Khalid) N-high subgroups and p-adic topology. *Comment. Math. Univ. St. Paul.* **21** (1972/73), *no.* 2, 43–45. (K. Honda) **47** #8720 20K10

(*with* Benabdallah, Khalid; Rafiq, M.) A core class of abelian p-groups. *Symposia Mathematica, Vol. XIII* (*Convegno di Gruppi Abeliani, INDAM, Rome*, 1972), *pp.* 195–206. *Academic Press, London*, 1974. (R. J. Ensey) **50** #10114 20K10

(*with* Benabdallah, Khalid; Rafiq, M.) N-high subgroups of abelian p-groups. *Arch. Math.* (*Basel*) **25** (1974), 29–34. (E. A. Walker) **49** #5209 20K99

(*with* Benabdallah, Khalid) Pure N-high subgroups, p-adic topology and direct sums of cyclic groups. *Canad. J. Math.* **26** (1974), 322–327. (J. Rotman) **48** #11354 20K25

(*with* Benabdallah, Khalid) An application of B-high subgroups of abelian p-groups. *J. Algebra* **34** (1975), 213–216. (E. A. Walker) **51** #749 20K25

(*with* Fuchs, László) On $p^{\omega+1}$-projective p-groups. *Proc. London Math. Soc.* (3) **30** (1975), *part* 4, 459–470. (K. Honda) **51** #10488 20K25

(*with* Benabdallah, Khalid; Lazaruk, J.) On $p^{\omega+n}$-projective abelian p-groups. *Comment. Math. Univ. St. Paul.* **25** (1976/77), *no.* 2. 101–105. (I. D. Macdonald) **57** #9872 20K40

(*with* Benabdallah, Khalid) On minimal pure subgroups. *Publ. Math. Debrecen* **23** (1976), *no.* 1-2, 111–114. (L. Procházka) **58** #11169 20K10

Irwin, M. C. Stable linear maps. *Mathematika* **18** (1971), 276–282. (B. R. Gelbaum) **45** #9162 47A99 (58F99)

On the smoothness of the composition map. *Quart. J. Math. Oxford Ser.* (2) **23** (1972), 113–133. (J. Bochnak) **46** #4564 58B10 (46G05)

Transformation groups with a common orbit. *Bull. London Math. Soc.* **5** (1973), 164–168. (H.-T. Ku) **48** #5038 54H15 (57E99)

Hyperbolic time-dependent processes. *Bull. London Math. Soc.* **5** (1973), 209–217. (J. W. Robbin) **52** #1784 58F10

A stability characterization of Anosov diffeomorphisms. *Proc. London Math. Soc.* (3) **34** (1977), *no.* 3, 479–504. (J. W. Robbin) **56** #6743 58F10 (34D30)

Irzinski, E. P. The input admittance of aTEM exçited annular slot antenna. *IEEE Trans. Antennas and Propagation* **AP-23** (1975), *no.* 6, 829–834. (Y. Hayashi) **53** #7235 78.45

Isaac, Richard Limit theorems for Markov transition functions. *Ann. Math. Statist.* **43** (1972), 621–626. (N. H. Bingham) **45** #9384 60J35

Theorems for conditional expectations, with applications to Markov processes. *Israel J. Math.* **16** (1973), 362–374. (R. V. Chacon) **49** #5299 28A65 (60J05)

The tail σ-fields of recurrent Markov processes. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 6, 397–408. (R. L. Tweedie) **57** #14142 60J05

Generalized Hewitt-Savage theorems for strictly stationary processes. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 2, 313–316. (H. Teicher) **58** #18695 60G10 (60F20)

(*with* Chosid, Leo) On the range of recurrent Markov chains. *Ann. Probab.* **6** (1978), *no.* 4, 680–687. (Ian B. MacNeill) **57** #14146 60J10

Isaacs, C. D. (*with* Lieberstein, H. Melvin) Hybrid optimization of accelerated successive replacements for linear and nonlinear systems. *Comput. Math. Appl.* **1** (1975), *no.* 1, 27–40. (Francesco G. Lerda) **52** #7114 65H10 (65N20)

Isaacs, Gerald L. (*with* Christ, David E.; Novick, Melvin R.; Jackson, Paul H.) ★Tables for Bayesian statisticians. *The University of Iowa, Iowa City, Iowa*, 1974. iii+377 *pp.* (*errata insert*) (Editors) **53** #11940 62Q05

Isaacs, Godfrey L. A class of regular matrices. *Proc. Amer. Math. Soc.* **60** (1976), 211–214 (1977). (Gokulananda Das) **55** #3594 40C05

Isaacs, I. Martin Symplectic action and the Schur index. *Representation theory of finite groups and related topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 73–75. *Amer. Math. Soc., Providence, R.I.*, 1971. (B. Fein) **47** #6831 20C15

The p-parts of character degrees in p-solvable groups. *Pacific J. Math.* **36** (1971), 677–691. (N. Ito) **47** #1927 20C15

The number of generators of a linear p-group. *Canad. J. Math.* **24** (1972), 851–858. (Gary M. Seitz) **46** #9156 20D15

(*with* Scott, Leonard L.) Blocks and subgroups. *J. Algebra* **20** (1972), 630–636. (S. B. Conlon) **45** #6944 20C20

Characters of solvable and symplectic groups. *Amer. J. Math.* **95** (1973), 594 (B. Fein) **48** #11270 20C15

Complex p-solvable linear groups. *J. Algebra* **24** (1973), 513–530. (J. D. **46** #7370 20D10

Equally partitioned groups. *Pacific J. Math.* **49** (1973), 109–116. (M. E. H **49** #417 20D99

(*with* Bergman, George M.) Rings with fixed-point-free group actions. *Proc. London Math. Soc.* (3) **27** (1973), 69–87. (S. A. Amitsur) **49** #10743 16A72

(*with* Broline, Duane M.; Crowe, Donald W.) The geometry of frieze patt *Geometriae Dedicata* 3 (1974), 171–176. (G. L. Alexanderson) **51** #210 05B30 (52A45)

Lifting Brauer characters of p-solvable groups. *Pacific J. Math.* **53** (1974), 171 (Larry C. Grove) **50** #13236 20C20

Character degrees and derived length of a solvable group. *Canad. J. Ma* (1975), 146–151. (T. R. Berger) **50** #10039 20C15

(*with* Goldschmidt, David M.) Schur indices in finite groups. *J. Algebra* **33** (191–199. (B. Fein) **50** #10038 20C15

★Character theory of finite groups. Pure and Applied Mathematics, N *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1976. xii+303 *pp.* (Stephen D. Smith) **57** #417 20–02

(*with* Smith, Stephen D.) A note on groups of p-length 1. *J. Algebra* **38** (197 2, 531–535. (Leo J. Alex) **52** #14025 20C15

(*with* Evans, Ronald J.) Generalized Vandermonde determinants and roots of of prime order. *Proc. Amer. Math. Soc.* **58** (1976), 51–54. (W. Ledermann) **54** # 15A15

Linear groups as stabilizers of sets. *Proc. Amer. Math. Soc.* **62** (1976), *no.* 1, (1977). (J. F. Humphreys) **55** #521 20G15

Commutators and the commutator subgroup. *Amer. Math. Monthly* **84** (1977), 720–722. (I. D. Macdonald) **57** #3262 20F35

Real representations of groups with a single involution. *Pacific J. Math.* **71** (*no.* 2, 463–464. (Henry S. Leonard, Jr.) **56** #3106 20C15

(*with* Benkart, Georgia) On the existence of ad-nilpotent elements. *Proc. Math. Soc.* **63** (1977), *no.* 1, 39–40. (Helmut Strade) **55** #5705 17B05

(*with* Evans, Ronald J.) Fields generated by linear combinations of roots of u *Trans. Amer. Math. Soc.* **229** (1977), 249–258. (John D. Leadley) **55** #10434

Lifting Brauer characters of p-solvable groups. II. *J. Algebra* **51** (1978), 476–490. (Larry C. Grove) **57** #12667 20C20

Isaacs, L. T. (*with* Apelt, Colin James) On the estimation of the optimum accelerat SOR applied to finite element methods. *Comput. Methods Appl. Mech. Engrg.* **12** (*no.* 3, 383–391. (Authors' summary) **56** #13698 65N30

Isaacs, Rufus Some fundamentals of differential games. *Topics in differential game* 1–42. *North-Holland, Amsterdam*, 1973. (Gordon Mon) **50** #12301 90D25

The past and some bits of the future. *The theory and application of differential* (*Proc. NATO Advanced Study Inst., Univ. Warwick, Coventry*, 1974), *pp.* 1–11. *Adv. Study Inst. Ser., Ser. C: Math. and Phys. Sci.*, 13, *Reidel, Dordrecht*, 1975. (Ed **58** #26071 90D25

Infinite families of nontrivial trivalent graphs which are not Tait colorable. *Math. Monthly* **82** (1975), 221–239. (G. Chartrand) **52** #2940 05C15

See also **Differential games and control theory, 50** #9361

Isaacson, David Singular perturbations and asymptotic eigenvalue degeneracy. *Pure Appl. Math.* **29** (1976), *no.* 5, 531–551. (D. A. Dubin) **54** #10778 34E15 (8

The critical behavior of ϕ_1^4. *Comm. Math. Phys.* **53** (1977), *no.* 3, 257–275. (Dubin) **55** #11858 81.47

Isaacson, Dean Continuous martingales with discontinuous marginal distributions. *Math. Statist.* **42** (1971), 2139–2142. (P. W. Millar) **46** #2733 60G45

On a subclass of square integrable martingales. *Proc. Amer. Math. Soc.* **34** (521–526. (S. R. S. Varadhan) **45** #4498 60J65

A decomposition of square integrable martingales. *Z. Wahrscheinlichkeitsth und Verw. Gebiete* **23** (1972), 327–330. (F. B. Knight) **47** #7805 (E **50** #3336 60G45

(*with* Madsen, Richard W.) Strongly ergodic behavior for non-stationary Ma processes. *Ann. Probability* **1** (1973), 329–335. (Authors' summary) **50** #3350 6

(*with* Madsen, Richard W.) L_1 ergodic behavior of non-negative kernels. *Isra Math.* **17** (1974), 350–363. (A. Paz) **49** #11635 60J10 (28A65)

(*with* Madsen, Richard W.) Positive columns for stochastic matrices. *J. Probability* **11** (1974), 829–835. (A. Paz) **53** #13279 15A51 (60J10)

Erratum: "A decomposition of square integrable martingales" (Z. Wahrscheinlichkeitstheorie und Verw. Gebiete **23** (1972), 327–330). *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **30** (1974), 359. (F. B. Knight) **50** #33 60G45

(*with* Madsen, Richard W.) ★Markov chains. Theory and Applications. Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney*, 1976. viii+256 *pp.* (M. Iosifescu) **53** #11758 60J10

(*with* Huang, Cheng Chi) Ergodicity using mean visit times. *J. London Math.* (2) **14** (1976), *no.* 3, 570–576. (Martin Jacobsen) **55** #6574 60J10

(*with* Arnold, Barry C.) On solutions to $\min(X, Y) \overset{d}{=} aX$ and $\min(X, Y) \overset{d}{=} aX \overset{d}{=} bY$. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** (1976), *no.* 2, 115–119. (Ramesh C. Gupta) **54** #3904 62E10 (60E05)

(*with* Huang, Cheng Chi; Vinograde, Bernard) The rate of convergence of ce nonhomogeneous Markov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiet* (1976), *no.* 2, 141–146. (Serban Grigorescu) **53** #11757 60J10

(*with* Meeden, Glen) Approximate behavior of the posterior distribution for a l observation. *Ann. Statist.* **5** (1977), *no.* 5, 899–908. (A. P. Dawid) **56** #6988 62

(*with* Bowerman, Bruce; David, H. T.) The convergence of Cesaro averages certain nonstationary Markov chains. *Stochastic Processes Appl.* **5** (1977), *no.* 3, 221–230. (M. Iosifescu) **56** #16792 60J05

(*with* Tweedie, Richard L.) Criteria for strong ergodicity of Markov chains. *J. Probability* **15** (1978), *no.* 1, 87–95. (Esa Nummelin) **57** #4334 60J10

(*with* Arnold, Barry C.) On normal characterizations by the distribution of li forms, assuming finite variance. *Stochastic Process. Appl.* **7** (1978), *no.* 2, 227–

Ramesh C. Gupta) **58** #7962 62E10

(*with* Luecke, Glenn R.) Strongly ergodic Markov chains and rates of convergence sing spectral conditions. *Stochastic Processes Appl.* **7** (1978), *no.* 1, 113–121. (Richard ladsen) **58** #3051 60J10

See also **Friedrichs, Kurt O.**, (Not reviewed)

on, Eugene (*with* Keller, Herbert Bishop) ★Analyse numerischer Verfahren. bersetzung aus dem Englischen und wissenschaftliche Redaktion: Viktor Ziegler. *erlag Harri Deutsch, Zurich-Frankfurt am Main*, 1973. xii + 560 *pp.* (Editors) 9 #11757 65–02

on, Joel D. (*with* Matula, David W.; Marble, George) Graph coloring algorithms. *raph theory and computing*, *pp.* 109–122. *Academic Press, New York*, 1972. (Herbert S. Vilf) **50** #4368 05C15

S. A special solution of the field equations in the case of the characteristic [(11) 1)]. *Tensor* (*N.S.*) **22** (1971), 355–359. (R. Behari) **45** #4796 83.53

A sufficient condition for further reduction of unknowns in the Einstein-Maxwell eld equations in the case of the characteristic [(11)11]. *Indiana Univ. Math. J.* **22** 972/73), 287–292. (C. Gilbert) **46** #6778 83.53

(*with* Manougian, Manoug N.) ★Basic concepts of linear algebra. *W. W. Norton Co., Inc., New York*, 1976. x + 391 *pp.* (Editors) **52** #5694 15–00

kian, Naïra (*with* Metellus, Anne-Marie) Énergie de déformation d'un matériau astique possédant des modules différents en traction et en compression, en théorie des etites perturbations. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* A233–A236. (Authors' summary) **57** #14735 73.35

(*with* Metellus, Anne-Marie) Sur le comportement d'un matériau élastique nisotrope possédant des modules différents en traction et en compression, en théorie es petites perturbations. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** 978), *no.* 10, A491–A494. (Authors' summary) **58** #19637 73.53

kov, M. B. A basic fundamental geometric object and a canonical frame of the anifold $E_n^n(0, n+1)$ in A_{n+2}. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 970), 195–201. (See RŽMat **1970** #12 A567) 53A15

The manifold $E_n^n(0, n+1)$ in A_{n+2}. (Russian) Geometry collection, No. 8. *Trudy omsk. Gos. Univ.* **205** (1972), 79–88. (B. Rozenfel'd) **49** #1350 53A40

George The (M)-(L) type duality for locally convex lattices. *Rev. Roumaine Math. ures Appl.* **16** (1971), 217–223. (D. Strauss) **46** #4158 46A40

(*with* Ichim, Ion) Quelques critères de normalité pour des cônes dans les espaces calement convexes. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1633–1637. (J. oustaunau) **52** #1246 46A40

Sur les lattices vectorielles pseudotopologiques. *Rev. Roumaine Math. Pures Appl.* 9 (1974), 885–893. (J. Benkö) **50** #14160 46A40

Sur l'uniforme convexité des espaces de Banach ultramétriques. *Ann. Fac. Sci. niv. Nat. Zaire* (*Kinshasa*) *Sect. Math. Phys.* **1** (1975), *no.* 1, 112–117. (N. De rande-De Kimpe) **52** #14943 46B99

Cônes complètement réguliers et l'approximation des solutions des certaines quations non-linéaires. *Ann. Fac. Sci. Univ. Nat. Zaïre* (*Kinshasa*) *Sect. Math. Phys.* **1** 975), *no.* 2, 282–294. (K. Goebel) **54** #8369 47H15

Sur les cônes convexes engendrés par des ensembles bornés et cônes complètèment guliers. *Ann. Fac. Sci. Univ. Nat. Zaïre* (*Kinshasa*) *Sect. Math. Phys.* **1** (1975), *no.* 2, 95–308. (B. Rodríguez-Salinas) **54** #8223 46A40 (47H99)

(*with* Marinescu, Gheorghe) ★Analiza pe corpuri ultrametrice. (Romanian) nalysis on ultrametric fields] With a French summary. *Editura Academiei Republicii ocialiste România, Bucharest*, 1976. 192 *pp.* (Alain Escassut) **56** #11970 12B40 6N05)

Structures variationnelles sur les espaces de Dirichlet. *Ann. Fac. Sci. Univ. Nat. aïre* (*Kinshasa*) *Sect. Math. Phys.* **2** (1976), *no.* 1, 58–70. (M. Fukushima) **54** #13103 C25 (46E35)

Un théorème Krein-Milman pour des cônes convexes. *Ann. Fac. Sci. Univ. Nat. aïre* (*Kinshasa*) *Sect. Math.-Phys.* **3** (1977), *no.* 1, 19–25. (J. Benkö) **57** #10408 A99

Sur les points support côniques dans des espaces localement convexes. *Ann. Fac. ci. Univ. Nat. Zaïre* (*Kinshasa*) *Sect. Math.-Phys.* **3** (1977), *no.* 2, 281–291 (1978). (Ky an) **58** #12286 46A99 (58C99)

See also **Actes: Colloque d'Analyse Fonctionnelle de Bordeaux**, **49** #11181

ko, A. N. (*with* Kovalev, M. M.) The constraint polytopes for a linear programming oblem. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 3, 4–207, 283. (Authors' summary) **58** #25967 90C05

(*with* Kovalev, M. M.; Milanov, P. B.) Linear programming problems with a aximal number of bases. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. z.-Mat. Navuk* **1978**, *no.* 3, 19–24, 137. (Z. Waksman) **58** #20407 90C05 (52A40)

ko, E. V. (*with* Danilov, L. V.; Maĭer, I. I.) Estimates of the accuracy of implicit rmulas for the numerical integration of equations of nonlinear electrical circuits. ussian) *Mathematical simulation and the theory of electrical circuits, No.* 15 (*Russian*), . 3–6, 98. *Izdat.* "*Naukova Dumka*", *Kiev*, 1977. (Jiří Šústal) **58** #3463 65L05

o, O. K. (*with* Urbah, V. Ju.) Separation of mixtures of probability distributions into eir components. (Russian) *Probability theory. Mathematical statistics. Theoretical bernetics, Vol.* 13 (*Russian*), *pp.* 37–58, 299. (*loose erratum*) *Itogi Nauki i Tehniki, kad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1976. (László yörfi) **55** #4313 60–02

B. L. *See* **Anwendung der Mathematik bei ökonomischen Untersuchungen**, 3 #10434

G. A. Linear factorization of polynomial operator pencils. (Russian) *Mat. Zametki* 5 (1973), 551–559. (H. Langer) **49** #7821 47A65

The completeness of a certain part of the eigen- and associated vectors of lynomial operator pencils. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 1(169), 1–242. (E. Durszt) **52** #15065 47A65

On the theory of selfadjoint holomorphic operator-valued functions. (Russian) *spehi Mat. Nauk* **29** (1974), *no.* 3(177), 201–202. (E. Durszt) **53** #1301 47A10 7B15)

The numerical range of operator pencils and multiple completeness in the sense of . V. Keldyš. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 1, 31–34. (H. Langer) 2 #6474 47A65

On multiparameter spectral theory. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 2, 284–287. (Patrick J. Browne) **54** #13608 47A65

Separation of the numerical range of multiparameter spectral problems. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 5, 9–13. (Author's summary) **58** #7125 47A10

Numerical range and spectrum of joint holomorphic operator-valued functions of several complex variables. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 6(198), 253–254. (P. A. Kučment) **57** #7223 47A55 (32A10)

Isaev, G. N. Investigation of a generalized homogeneous system of differential equations of the class of a matrix of nondiagonal form. (Russian) *Theory of functions. Differential equations and their applications, No.* 1 (*Russian*), *pp.* 45–56, 215–216. *Kalmyck. Gos. Univ., Elista*, 1976. (Author's summary) **58** #28829 34C05

A system of differential equations with generalized homogeneous right-hand sides of a "purely imaginary" class. (Russian) *Theory of functions. Differential equations and their applications, No.* 1 (*Russian*), *pp.* 156–164, 219. *Kalmyck. Gos. Univ., Elista*, 1976. (Author's summary) **58** #28828 34C05 (34D05)

Isaev, G. V. An analogue of Birkhoff's theorem for nonlinear electrodynamics. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **18** (1977), *no.* 6, 108–110. (Jarolim Bureš) **58** #4170 83.53 (81.58)

Īsaēv, Ju. Ī. (*with* Zorīĭ, L. M.) Two-sided estimates of the critical parameters of elastic systems under flutter. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 529–531, 574. (B. A. Bondarenko) **48** #3352 73.65

(*with* Zorīĭ, L. M.) Two-sided estimates of critical flutter parameters in certain singular cases. (Russian) *Mathematical methods, and physical and mechanical fields, No.* 1 (*Russian*), *pp.* 199–201, 221. "*Naukova Dumka*", *Kiev*, 1975. (B. A. Bondarenko) **54** #1757 70.34

Isaev, L. E. The invariant subspaces of dissipative Volterra operators. (Russian) *Mat. Issled.* **8** (1973), *no.* 1(27), 220–224, 243. (S. Suljagić) **47** #7469 47A15

On the question of the decomposition of dissipative Volterra operators into unicellular operators. (Russian) *Funkcional. Anal. i Priložen.* **8** (1974), *no.* 2, 79–80. (G. K. Kalisch) **50** #2988 47B44

Invariant subspaces of contractions with a slowly growing resolvent. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 3(178), 24–31. (From the text) **58** #30366 47A20

Operators of class C_0. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 7(182), 54–56. (N. K. Nikol'skiĭ) **57** #10470 47A65

Isaev, R. G. Filtration in deeply embedded anisotropic fissured plates with the same kind of nonlinear heredity. (Russian) *Prikl. Meh.* **13** (1977), *no.* 11, 53–60, 141. **57** #2108 76.35

Isaeva, L. V. Certain properties of the Kontorovič-Lebedev integral transform. *Tul. Gos. Ped. Inst. Učen. Zap. Mat. Kaf. No.* 3 (1970), 82–86. (L. Berg) **49** #9552 44A15

The Cauchy problem for the equation $a(y)u_{xx} - u_{yy} + b(y)u_y + c(y)u = 0$. (Russian) *Tul. Gos. Ped. Inst. Učen. Zap. Mat. Kaf. No.* 3 (1970), 87–97. (V.-V. Olariu) **50** #773 35L15

The existence of a solution of the Cauchy problem for a certain partial differential equation. (Russian) *Applied questions in mathematical analysis* (*Russian*), *pp.* 61–68. *Tul'sk. Gos. Ped. Inst., Tula*, 1972. (V. Durikovič) **51** #6156 35L15

Isaeva, M. N. The largest possible number of basis solutions in the transport problem. (Russian) *Taškent. Inst. Narod. Hoz. Naučn. Zap. Vyp.* 34 *Mat. v Priložen.* (1970), 3–13. **55** #9944 90C05

Isahanov, R. S. A boundary value problem of linear conjugacy for a finite number of domains. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **68** (1972), 541–544. (V. Mićić) **49** #3159 30A88

A linear boundary value problem for two holomorphic functions. (Russian. Georgian and English summaries) *Sakharth. SSR. Mecn. Akad. Moambe* **72** (1973), 533–536. (S. G. Samko) **58** #1175 30A88

A linear conjugacy boundary value problem for a finite number of domains. (Russian. Georgian summary) A collection of articles on the equations of mathematical physics, 4. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **44** (1974), 79–99. (V. B. Dybin) **54** #2981 30A88

A generalized Carleman boundary value problem. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **74** (1974), 37–40. (S. G. Samko) **49** #7459 30A88

Certain boundary value problems for holomorphic functions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 2, 305–308. (G.S. Litvinčuk) **52** #11066 30A88

Some boundary value problems of analytic function theory. (Russian. Georgian summary) Collection of articles on the equations of mathematical physics, 6. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **52** (1976), 62–80. (P. Jù. Alekna) **55** #677 30A88

A boundary value problem for functions holomorphic in a multiply connected region. (Russian. Georgian and Russian summaries) *Sakharth. SSR Mecn. Akad. Moambe* **83** (1976), *no.* 1, 45–48. (P. Ju. Alekna) **55** #676 30A88

A boundary value problem for several functions that are holomorphic in different domains. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 2, 313–316. (V. G. Kravčenko) **58** #1176 30A88

Isakov, A. I. Dual relations in identification and observation problems. *Avtomat. i Telemeh.* **1975**, *no.* 8, 167–170 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 8, *part* 2, 1357–1361 (1976). (T. Kaczorek) **52** #12884 93B30 (93C15)

Isakov, N. M. The method of successive approximations for a class of transformations of the plane. (Russian) *Qualitative and approximate methods for the investigation of operator equations, No.* 1 (*Russian*), *pp.* 66–74. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the introduction) **58** #29513 39A10 (26A18, 34D99)

Isakov, R. A. Quasivarieties of 2-nilpotent groups. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 3, 23–27, 89. (G. P. Kukin) **57** #16409 20E10

Isakov, S. N. (*with* Balahov, N. F.) Summation of topologically equivalent graphs for the Ising model. (Russian. English summary) *Teoret. Mat. Fiz.* **21** (1974), *no.* 2, 266–278. (Authors' summary) **57** #14963 81.05

Isakov, V. M. The uniqueness of the solution of the contact inverse problem of potential theory. (Russian) *Differencial'nye Uravnenija* **8** (1972), 30–40. (S. V. Temko) **46** #3817 31A25

An inverse problem of potential theory for the string equation. (Russian) All-Union Symposium on Selected Questions of Partial Differential Equations (Prièlbrus, 1972). *Differencial'nye Uravnenija* **9** (1973), 74–83, 194. (A. Borzymowski) **48** #4520 35L05 (31A25)

The sölvability of the inverse problem of potential theory. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 286–288. (S. V. Temko) **50** #4983 31A25

The solvability of the inverse problem of potential theory. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 987–1005, 1157. (S. V. Temko) **50** #4984 31A25

The uniqueness of the solution of certain inverse hyperbolic problems. (Russian) *Differencial'nye Uravnenija* **10** (1974), 165–167, 183. (S. V. Temko) **54** #5652 35R30 (35L05)

The uniqueness of the reconstruction of a domain and the density from the exterior potential. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 683–686, 704. (A. Borzymowski) **50** #4985 31A25

Inverse theorems on the smoothness of potentials. (Russian) *Differencial'nye Uravnenija* **11** (1975), 66–74, 202. (S. V. Temko) **50** #13930 35R30 (31B20)

Analyticity of the solutions of nonlinear transmission problems. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 1, 59–68, 187. (È. M. Saak) **56** #3468 35J99

The reconstruction of a domain from scattering data. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 3, 520–522. (S. V. Temko) **54** #8058 35R30

Uniqueness theorems for inverse problems of thermal potentials. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 2, 259–272, 477. (Gottfried Anger) **54** #10904 35R30 (31B20, 35K20)

The inverse problem of potential theory for hyperbolic equations. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 2, 305–313, 381–382. (J. Veselý) **58** #1775 35R30 (35L99)

On the inverse problem of potential for hyperbolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 2, 257–259. (S. V. Temko) **57** #3650 35L20 (86.35)

Uniqueness theorems for the inverse problem of potential theory. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 3, 526–529. (M. A. Atahodžaev) **58** #17165 31C15

The existence of solutions of inverse problems of potential theory. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 4, 771–773. (S. V. Temko) **58** #20268 86.31 (31B20)

Isakova, E. K. The stabilization of a certain boundary value problem. (Russian) *Application of functional methods to the boundary value problems of mathematical physics* (*Proc. Third Soviet-Czechoslovak Conf., Novosibirsk*, 1971) (*Russian*), *pp.* 90–95. *Inst. Mat. Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1972. (J. Muszyński) **51** #13418 35B40

The asymptotic behavior of the solution of a certain Cauchy problem. (Russian) *Differencial'nye Uravnenija* **10** (1974), 2208–2222, 2310. (J. Chrastina) **50** #10508 35B40

The asymptotic behavior of the solution of a certain boundary value problem for harmonic functions that depend on a parameter. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 1, 30–33. (M. A. Atahodžaev) **52** #14573 (**EA 53**) 35B40 (31B20)

The method of stationary phase. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 1, 28–31. (E. Riekstiņš) **57** #982 41A60

Isakova, I. K. The behavior as $t\to\infty$ of the solution of the linearized time-dependent Cauchy-Poisson problem. (Russian) *Dinamika Splošn. Sredy No.* 23 *Nekotorye Probl. Gaz. Dinamiki* (1975), 103–110, 228. (See RŽMat **1976** #9 B356) 35B40

See also **Problems in gas dynamics**, **56** #14027

Isambert, Emmanuel (*with* Artigue, Michèle; Perrin, Marie-Jeanne; Zalc, Anne) A notion of extension for models of full second order arithmetic. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 1087–1091. (Nigel J. Cutland) **50** #1880 02K15 (02H05, 02H20)

Théories syntaxiquement non-standard. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1469–1471. (P. Štěpánek) **50** #103 02K15 (02H20)

Extensions élémentaires non-standard de modèles de théorie des ensembles. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 83–86. (M. Boffa) **51** #5306 02K15 (02B20, 02H05)

(*with* Artigue, Michèle) Quelques résultats de bicommutabilité en arithmétique du troisième ordre. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 22, A1425–A1428. (Authors' summary) **55** #12521 02K15

Isamuhamedov, S. S. The properties of the Green's functions of the Tricomi problem for a mixed type equation of the second kind. (Russian) *Boundary value problems for differential equations*, 1 (*Russian*), *pp.* 68–73. *Izdat. "Fan" Uzbek SSR, Tashkent*, 1971. (Editors) **46** #7725 35M05

A boundary value problem of the type of problem E for second order equation of mixed type. (Russian) *Boundary value problems for differential equations, No.* 2 (*Russian*), *pp.* 97–103, 186–187. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1972. (Author's summary) **56** #12636 35M05

The modified Tricomi problem for a second order equation of mixed type. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 4, 9–15, 80. (Megumi Saigo) **52** #6202 35M05

A boundary value problem of Tricomi type for a second order mixed type equation. (Russian) *Boundary value problems for differential equations*, 5 (*Russian*), *pp.* 28–37, 183–184. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1975. (Author's summary) **58** #17567 35M05

Gellerstedt boundary value problems for a certain second order equation of mixed type. (Russian) *Partial differential equations and their applications* (*Russian*), *pp.* 33–40, 181–182. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1977. (Author's summary) **58** #23129 35M05

(*with* Salahitdinov, M. S.) Boundary value problems for an equation of mixed type of the second kind. (Russian) *Serdica* **3** (1977), *no.* 3, 181–188. (B. Nicolaenko) **58** #23143 35M05

Isanov, T. G. The continuation of infinitesimal bendings. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 6, 1257–1260. (V. T. Fomenko) **57** #4056 53C45

Isard, Stephen A finitely axiomatizable undecidable extension of K. *Theoria* **43** (197 3, 195–202. (From the introduction) **58** #27335 02C10

Isard, Walter *See* **Howard, Nigel**, **55** #14070

Isbell, John R. Notes on ordered rings. *Algebra Universalis* **1** (1971/72), 393–399. (Melter) **45** #5055 06A70

A corrected correction. *Fund. Math.* **71** (1971), *no.* 2, 185. (From the introdu **45** #1104 54C40 (46J10)

Perfect monoids. *Semigroup Forum* **2** (1971), *no.* 2, 95–118. (H. Inassa **45** #5247 20M10

General functorial semantics. I. *Amer. J. Math.* **94** (1972), 535–596. (A. **53** #580 18C10

Beatific semigroups. *J. Algebra* **23** (1972), 228–238. (E. H. Feller) **46** #5 20M10

Seven cofinal types. *J. London Math. Soc.* (2) **4** (1972), 651–654. (R. P. Dilw **45** #3258 06A10 (04A15)

Atomless parts of spaces. *Math. Scand.* **31** (1972), 5–32. (Terence P. S **50** #11184 54E99 (06A23, 54B30)

Epimorphisms and dominions, V. *Algebra Universalis* **3** (1973), 318–320. (V. Căzănescu) **50** #2029 08A15

(*with* Mitchell, Barry) Exact colimits. *Bull. Amer. Math. Soc.* **79** (1973), 994 (M. Barr) **47** #6802 18A30

Functorial implicit operations. *Israel J. Math.* **15** (1973), 185–188. (John T. Baldwin) **48** #2027 08A10 (02H05)

Exact colimits. I. *Ann. of Math.* (2) **100** (1974), 633–637. (M. Barr) **50** #46 18A30

Parametrizable algebras. *J. London Math. Soc.* (2) **8** (1974), 750–752. (G. Grä **50** #12859 08A15

On dilution and Cesàro summation. *Proc. Amer. Math. Soc.* **45** (1974), 397–40 Németh) **50** #2743 40G05

Notes on semigroup dominions. Collection of articles dedicated to Alfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander Doni Wallace on the occasion of his 68th birthday. *Semigroup Forum* **7** (1974), *no.* 364–368. (H.-J. Hoehnke) **53** #677 20M20

Function spaces and adjoints. *Math. Scand.* **36** (1975), *no.* 2, 317–339. (M. H **53** #9134 54C35 (06A20)

Compatibility and extensions of algebraic theories. *Algebra Universalis* **6** (1976) 1, 37–51. (Wilfred G. Malcolm) **54** #212 08A25

(*with* Schanuel, Stephen H.) On the fractional parts of n/j, $j=o(n)$. *Proc. A Math. Soc.* **60** (1976), 65–67 (1977). (J. H. B. Kemperman) **55** #2806 10H20 (10K99)

Perfect categories. *Proc. Edinburgh Math. Soc.* (2) **20** (1976), *no.* 2, 95–97. (Hoehnke) **54** #10449 20M10 (18F20)

(*with* Mitchell, Barry) Exact colimits and fixed points. *Trans. Amer. Math. Soc* (1976), 289–298. (M. Barr) **53** #8179 18A30

(*with* Klun, Miroslav I.; Schanuel, Stephen H.) Affine parts of algebraic theorie *J. Algebra* **44** (1977), *no.* 1, 1–8. (Hugo Volger) **55** #2555 02H10 (18C10)

(*with* Klun, Miroslav I.; Schanuel, Stephen H.) Affine parts of algebraic theo II. *Canad. J. Math.* **30** (1978), *no.* 2, 231–237. (Hugo Volger) **57** #12640 18C1

Iščenko, E. I. Quasispecial complexes with a quadruple stratification. (Russian) *Scien reports: a collection of papers by graduate students at Dnepropetrovsk State Unive (mechanics and mathematics)* (*Russian*), *pp.* 107–115. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1970. (C. Simionescu) **50** #1139 53A25

Iščenko, E. N. (*with* Kovancov, M. Ī.) A pair of quasispecial complexes of the second k (Russian) *Ukrain. Geometr. Sb. No.* 7 (1969), 65–67, 184 (1970). (H. W. Guggenhei **47** #9447 53A25

Pairs of quasispecial complexes with double fibering. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 134–139. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (Boček) **54** #1101 53A25

(*with* Kovancov, M. Ī.) Quasispecial complexes in the three-dimensional Euclid space E_3. (Russian) *Ukrain. Geometr. Sb. No.* 13 (1973), 88–95, 3. (L. Tamá **49** #6049 53A25

Iščenko, V. S. (*with* Blank, Ja. P.; Zagaĭnyĭ, N. A.) Translation surfaces in isotropic sp (Russian) *Ukrain. Geometr. Sb. No.* 14 (1973), 11–21, 113. (E. Vamanu) **49** #1140 53A35

Ischebeck, Friedrich Gewisse additive Funktionen auf Modulkategorien. *Arch. M (Basel)* **22** (1971), 252–259. (R. E. MacRae) **46** #164 13E05

(*with* Scharlau, Winfried) Hermitesche und orthogonale Operatoren über kommutativen Ringen. *Math. Ann.* **200** (1973), 327–334. (B. Stenström) **48** #1109 13C10 (15A63)

Zur Picard-Gruppe eines Produktes. *Math. Z.* **139** (1974), 141–157. (Gerh Pfister) **53** #5585 14C20

Über die algebraische Äquivalenz von Divisoren auf unirationalen Varietät *Comm. Algebra* **4** (1976), *no.* 8, 695–703. (Toshiyuki Maebashi) **53** #13218 14C

Zwei Bemerkungen über seminormale Ringe. *Math. Z.* **152** (1977), *no.* 2, 101– (K. Kiyek) **55** #5625 14C20 (13B20)

Iscoe, Ian (*with* Grmela, Miroslav) Reductions in a class of dissipative dynamical syst of macroscopic physics. (French summary) *Ann. Inst. H. Poincaré Sect. A (N.S.)* (1978), *no.* 2, 111–136. (Authors' summary) **57** #18512 80.46

Iscovici, S. (*with* Pnueli, D.) Sufficient conditions for stability of completely confi fluids. *Israel J. Tech.* **8** (1970), 209–215. (Wei Lai) **51** #12121 76.35

Iscovici, Samy Field analysis: a mathematical method of analysis for information hand processes. *Internat. J. Comput. Information Sci.* **6** (1977), *no.* 2, 165–178. (Han Chen) **55** #11754 68A50

Iščuk, V. A. (*with* Lomakovič, A. M.) The approximate solution of a certain nonlin Volterra type integral equation by a bilateral method of Runge-Kutta-Fehlberg fo (Russian. French summary) *Vyčisl. Prikl. Mat. (Kiev) No.* 23 (1974), 29–40, 172– (G. F. Miller) **50** #9020 65R05

Two-sided methods of Runge-Kutta form for a nonlinear Volterra integral equati

Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **975**, 14–17, 91. (J. Kofroň) **52** #16074 65R05

, V. I. A certain algorithm for computing estimates. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1610–1615, 1632. (M. Arató) **53** #2066 68A45

The search for optimal weighted coefficients for a class of algorithms for the omputation of estimates. (Russian) *A collection of papers on mathematical cybernetics, No.* 1 (*Russian*), *pp.* 186–194. *Vyčisl. Centr, Akad. Nauk SSSR, Moscow*, 1976. (Editors) **8** #32135 68A45

The spectral approach to the computation of measures of informativeness in lgorithms for pattern recognition. (Russian. English summary) *Vyčisl. Prikl. Mat. Kiev) Vyp.* 30 (1976), 26–31, 155. (RŽMat **1977** #1 V927) **58** #19420 68A45

Spectral characteristics of the description matrices of certain recognition algorithms. Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 1, 199–208, 278. (Josef Kittler) **4** #1738 68A45

The minimization of the generalized error functional in recognition algorithms. Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 3, 795–799, 816. (Editors) **8** #19421 68A45

, V. V. (*with* Jacjuk, V. T.) An investigation by asymptotic methods of an equation of Mathieu type with quasiperiodic coefficients. (Russian) *Asymptotic and qualitative nethods in the theory of nonlinear oscillations* (*Russian*), *pp.* 59–77. *Izdanie Inst. Mat. kad. Nauk Ukrain. SSR, Kiev*, 1971. (I. Kiguradze) **50** #13740 34C99 (34E99)

(*with* Dzyra, B. I.) A study of the influence of a parametric load of pulse form on he behavior of an oscillatory system. (Russian) *Approximate methods for the study of onlinear systems* (*Russian*), *pp.* 46–55. *Izdanie Inst. Mat. Akad. Nauk SSR, Kiev*, 1976. G. Bojadžiev) **57** #18339 70.41 (34C15)

(*with* Dzyra, B. I.) The influence of a parametric load of impulsive form on a onlinear oscillatory system. (Russian) *Analytic and qualitative methods for the study of ifferential and differential-difference equations* (*Russian*), *pp.* 39–59. *Izdanie Inst. Mat. kad. Nauk Ukrain. SSR, Kiev*, 1977. (Editors) **58** #22766 34C10

A study of some systems with parametric excitation. (Russian) *Analytic and ualitative methods for the study of differential and differential-difference equations Russian*), *pp.* 81–94. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (H. I. reedman) **58** #11724 34E10

Mikio On compactifications of certain Reinhardt domains. *Sci. Papers College Gen. Ed. Univ. Tokyo* **23** (1973), 11–17. (S. Hitotumatu) **47** #7067 32J05 (32A07)

On Thullen domains and Hirzebruch manifolds. I. *J. Math. Soc. Japan* **26** (1974), 08–522. (Daniel M. Burns, Jr.) **53** #13662 32M05 (32H10)

Bounded symmetric domains of exceptional type. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **23** (1976), *no.* 1, 75–105. (S. Kaneyuki) **54** #7878 32M15

A complex analogue of the generalized Minkowski problem. *Proc. Japan Acad. Ser. Math. Sci.* **53** (1977), *no.* 4, 129–133. (Ju. Burago) **57** #13802 53C45 (32F99, 8G99)

seghem, François *See* **Van Iseghem, François**

, Kanesiroo (*with* Maeda, Michie) On a generalization of Denjoy integration. *Natur. Sci. Rep. Ochanomizu Univ.* **22** (1971), 101–110. (A. M. Bruckner) **47** #2015 26A39

, Kiyoshi (*with* Ôhashi, Sakiko) Axiom systems of distributive lattice. *Proc. Japan cad.* **46** (1970), 409–410. (L. Beran) **51** #3016 06A35

On semifield valued functions. *Proc. Japan Acad.* **46** (1970), 926–928. (M. V. ubbarao) **48** #9346 46A99

On axioms of Boolean algebra. *Proc. Japan Acad.* **48** (1972), 101–102. (F. M. Yaqub) **47** #4884 06A40

A common fixed point theorem of contraction mappings. *Studies in mathematics* (*in onor of A. Almeida Costa*) (*Portuguese*), *pp.* 95–98. *Instituto de Alta Cultura, Lisbon,* 974. (I. A. Rus) **52** #6694 54H25

On common fixed points of mappings. *Bull. Austral. Math. Soc.* **10** (1974), 365–370. S. K. Kaul) **50** #8487 54H25

A new class of mapping: Stolz mappings. *Math. Japon.* **19** (1974), *no.* 3, 275–278. D. R. Arterburn) **52** #15072 47B10

A common fixed point theorem. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper o.* 10, 2 *pp.* (Editors) **54** #1192 54H25

Fixed point theorem in Banach spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* , *paper no.* 3, 4 *pp.* (K. Goebel) **54** #13642 47H10

A fixed point theorem in strictly convex Banach spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper no.* 6, 4 *pp.* (Kok-Keong Tan) **54** #13643 47H10

Common fixed point theorem of contraction mappings. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper no.* 2, 4 *pp.* (Kok-Keong Tan) **55** #1337 54H25

Generalizations of Kannan fixed point theorems. *Math. Sem. Notes Kobe Univ.* **2** 1974), *no.* 1, *paper no.* 5, 5 *pp.* (J. L. Solomon) **54** #11304 54H25

Multi-valued contraction mappings in complete metric spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper no.* 9, 6 *pp.* (Editors) **54** #1191 54H25

Fixed point theorems for densifying mappings. *Math. Sem. Notes Kobe Univ.* **2** 1974), *no.* 1, *paper no. XIII*, 6 *pp.* (Simeon Reich) **54** #6114 54H25

A new class of mapping: Stolz mappings. *Math. Sem. Notes Kobe Univ.* **2** (1974), o. 1, *paper no.* 7, 7 *pp.* (Editors) **54** #987 47B10

On common fixed points of mappings. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper no.* 4, 7 *pp.* (Editors) **54** #1190 54H25

Fixed point theorems in generalized complete metric spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper no.* 12, 10 *pp.* (Editors) **54** #1193 54H25

A generalization of Petryshyn-Riggio-Singh's theorem. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no. XXIV*, 3 *pp.* (S. P. Singh) **53** #6370 47H10

On common fixed point theorems of mappings. *Math. Sem. Notes Kobe Univ.* **2** 1974), *no.* 2, *paper no.* XVI, 3 *pp.* (S. Swaminathan) **53** #6524 54H25

A fixed point theorem. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no.* XXI, *pp.* (Ronald Knill) **53** #14458a 54H25

A generalization of M. Edelstein's fixed point theorem. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no.* XXII, 4 *pp.* (Ronald Knill) **53** #14458b 54H25

Fixed point theorems in metric spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no.* XXIII, 4 *pp.* (Ronald Knill) **53** #14459 54H25

A generalization of Sehgal-Khazanchi's fixed point theorems. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no. XV*, 9 *pp.* (From the author's introduction) **55** #9058 54H25

On some nonlinear equation. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *Paper No.* XXV, 2 *pp.* (Kok-Keong Tan) **53** #9186 54H25

Fixed point theorems in complete metric spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *Paper No.* XXIX, 6 *pp.* (Kok-Keong Tan) **53** #9187 54H25

Remark on axioms of magnitudes. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *Paper No. XXXIII*, 7 *pp.* (R. J. Bumcrot) **53** #5386 06A05 (02G10)

Common fixed point theorems for mappings. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *paper no. XXXII*, 7 *pp.* (Haskell Cohen) **54** #6115 54H25

Some properties of BCK-algebras. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *paper no.* XXXV, 10 *pp.* (Bruno Poizat) **54** #7248a 02J05

On common fixed point theorems of mappings. *Proc. Japan Acad.* **50** (1974), 468–469. (J. Reinermann) **55** #13399 54H25

Fixed point theorems in generalized complete metric spaces. *Tamkang J. Math.* **5** (1974), 213–219. (C. J. Himmelberg) **51** #1794 54H25

Fixed point theorem in Banach spaces. *Math. Balkanica* **5** (1975), 143–144. (Editors) **58** #23803 47H10

Some fixed point theorems in metric spaces. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 101–110. (T. Zamfirescu) **54** #11305 54H25

A property of orbitally continuous mapping on 2-metric spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* XVIII, 2 *pp.* (Mo Tak Kiang) **53** #9188 54H25

On bounded BCK-algebras. II. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* IV, 2 *pp.* (Bruno Poizat) **54** #7248d 02J05

Fixed point theorem in 2-metric spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* XIX, 4 *pp.* (Mo Tak Kiang) **53** #9189 54H25

On a common fixed point theorem. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no. VII*, 4 *pp.* (I. A. Rus) **54** #1194 54H25

On nonexpansive mappings in strictly convex linear 2-normed space. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no. XVII*, 5 *pp.* (Mo Tak Kiang) **53** #8975 47H10 (54H25)

On some ideals in BCK-algebras. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* IX, 6 *pp.* (Bruno Poizat) **54** #7248h 02J05

On bounded BCK-algebras. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* III, 10 *pp.* (Bruno Poizat) **54** #7248c 02J05

Remarks on BCK-algebras. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* VI, 10 *pp.* (Bruno Poizat) **54** #7248f 02J05

On ideals in BCK-algebras. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* I, 12 *pp.* (Bruno Poizat) **54** #7248b 02J05

A theorem on periodic points on *d*-convergent *L*-space. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXXVI*, 2 *pp.* **54** #6116 54H25

Epimorphisms of categories of various topological spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no.* XXIX, 3 *pp.* (Neal R. Wagner) **53** #14389 54C10

(*with* Jaiswal, Anuradha; Singh, Bijendra) Non-Archimedean Banach space valued almost periodic functions. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXXIV*, 10 *pp.* (A. C. M. van Rooij) **53** #14026 43A60

An approach to fixed point theorems. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXX*, 11 *pp.* (S. K. Kaul) **54** #3679 54H25

A common fixed point theorem. *Rend. Sem. Mat. Univ. Padova* **53** (1975), 13–14. (Harold Bell) **53** #11595 54H25

Multi-valued contraction mappings in complete metric spaces. *Rend. Sem. Mat. Univ. Padova* **53** (1975), 15–19. (Simeon Reich) **53** #14461 54H25

Common fixed points of mappings. *Tamkang J. Math.* **6** (1975), *no.* 2, 157–159. (J. L. Solomon) **55** #4122 54H25

(*with* Sharma, P. L.; Sharma, B. K.) Contraction type mapping on 2-metric space. *Math. Japon.* **21** (1976), *no.* 1, 67–70. (S. P. Singh) **54** #11303 54H25

On a new class of operators. *Math. Japon.* **21** (1976), *no.* 3, 249–257. (D. R. Arterburn) **55** #3864 47B37

(*with* Tanaka, Shôtarô) Ideal theory of BCK-algebras. *Math. Japon.* **21** (1976), *no.* 4, 351–366. (S. P. Bandyopadhyay) **56** #210 06A70

On implicative BCK-algebras. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 9–10. (Bruno Poizat) **55** #2561 02J05

On Hacque *T*-mappings. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 33–38. (R. F. Dickman, Jr.) **55** #4101 54E05 (54A15)

BCK-algebras. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 77–86. (Terence P. Speed) **54** #10092 06A35

(*with* Kasahara, Shouro) On pairwise contractivities of mappings. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 91–100. (R. F. Dickman, Jr.) **58** #2773 54H25

Mathematics on 2-normed spaces. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 161–174. (L. M. Kelly) **56** #1024 46A99

Some applications of Banach type contraction principles. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 211–214. (I. A. Rus) **55** #6399 54H25

Application of Zamfirescu's fixed point theorem. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 215–216. (T. Zamfirescu) **55** #1338 54H25

On a quasi-uniformity of *BCK*-algebras. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 225–226. (Annalisa Marcja) **55** #12515 02J05

Introduction of a quasi-uniformity on *BCK*-algebras. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 229–230. (Annalisa Marcja) **55** #12516 02J05

(*with* Tanaka, Shôtarô) An ideal characterization of a positive implicative algebra. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 231–232. (Annalisa Marcja) **55** #12517 02J05

On topogenous structures on *BCK*-algebras. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 237–240. (Annalisa Marcja) **55** #12518 02J05

Fixed point theorems for densifying mappings. *Nanta Math.* **9** (1976), *no.* 1, 50–53. (R. Kannan) **55** #11229 54H25

A generalization of Sehgal-Khasanchi's fixed point theorems. *Nanta Math.* **9** (1976), *no.* 1, 54–58. (S. Swaminathan) **55** #9059 54H25

Topics of BCK-algebras. *Proceedings of the First Symposium on Semigroups* (*Shimane Univ., Matsue*, 1977), *pp.* 44–56. *Shimane University, Matsue*, 1977. (Leo Esakia) **58** #224 02J99

Remarks on Griss algebras. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 1, 75–80. (W. Nemitz) **56** #190 06A20

A simple application of Reich's fixed point theorem. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 135–136. (L. F. Guseman, Jr.) **56** #16603 54H25

BCK-algebras and its homomorphisms. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 185–188. (Bruno Poizat) **56** #15417c 02J05 (06A20)

A special class of BCK-algebras. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 191–198. (Bruno Poizat) **56** #15417d 02J05 (06A20)

On Griss algebras. II. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 201–206. (Anna Romanowska) **58** #409 06A20

On BCK-algebras with condition (S). *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 215–222. (Bruno Poizat) **58** #219a 02J05 (06A35)

On a positive implicative algebra with the condition (S). *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 227–232. (Bruno Poizat) **58** #219b 02J05 (06A35)

On bounded positive implicative algebras with the condition (S). *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 239–244. (Terence P. Speed) **58** #16275 02J05 (06A35)

On implicative BCK-algebras with the condition (S). *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 249–253. (Terence P. Speed) **58** #16276 02J05 (06A35)

On special Griss algebras. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 273–278. (W. Nemitz) **56** #15511 06A20

On congruence relations on BCK-algebras. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 3, 327–346. (Editors) **58** #21592a 02J05 (06A35)

Some topics from the category of BCK-algebras. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 3, 465–468. (Editors) **58** #21592b 02J05 (06A35)

On some classes of BCK-algebras. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 3, 481–484. (Editors) **58** #21592c 02J05 (06A35)

(*with* Kondô, Motokiti) ★Modern mathematics—history and problems. (Japanese) *Nihon Hyōronsha, Tokyo*, 1977. viii + 361 *pp.* (S. Hitotumatu) **58** #4899 01A60

(*with* Tanaka, Shôtarô) Some topics from Griss type algebras. *Math. Japon.* **23** (1978), *no.* 1, 105–108. (Joel Berman) **58** #452 08A20

On the class of BCK-algebras. *Math. Sem. Notes Kobe Univ.* **6** (1978), *no.* 1, 157–160. (G. Georgescu) **58** #10435 02J05

On algebras of Griss type. *Math. Sem. Notes Kobe Univ.* **6** (1978), *no.* 1, 177–184. (Franco Montagna) **58** #459 08A25 (06A20)

(*with* Tanaka, Shôtarô) BCK-algebras. *Rev. Roumaine Math. Pures Appl.* **23** (1978), *no.* 1, 61–66. (Joel Berman) **58** #453 08A20

Iseki, S. A brief personal history of Professor Takeshi Dan-i. *Mem. Defense Acad.* **16** (1976), *no.* 3, 67–69. (Editors) **54** #12453 01A70

Iselin, Ch. ★An approach to fast Fourier transform. CERN 71-19, Laboratory I, Synchrotron Injector Division. *CERN European Organization for Nuclear Research, Geneva*, 1971. iii + 33 *pp.* **55** #6901 65T05

Iseminger, Gary The connection argument. *Mind* **81** (1972), *no.* 324, 562–566. (Editors) **58** #21389 02A05

Isenbart, Fritz Bemerkungen zur Stochastik der Gemischten Versicherung. (English summary) *Bl. Dtsch. Ges. Versicherungsmath.* **12** (1975/76), *no.* 2, 135–142. (Hans U. Gerber) **52** #12279 62P05

Isenberg, C. A conjecture on the convergence of numerical estimates for multidimensional integrals with singular integrands. *J. Computational Phys.* **12** (1973), *no.* 3, 417–421. (Ian Gladwell) **54** #6465 65D30

Isenberg, Eric M. (*with* Fáry, István) On a converse of the Jordan curve theorem. *Amer. Math. Monthly* **81** (1974), 636–639. (F. Burton Jones) **49** #6184 54F15 (57A05)

Isenberg, J. (*with* Pnueli, D.) The reduction of one-dimensional eigenvalue problems to the solution of simultaneous algebraic equations with one nonlinearity. *J. Engrg. Math.* **8** (1974), 297–302. (Ian Gladwell) **50** #15365 65L15

Isenberg, James A. (*with* Ó Murchadha, Niall; York, James W., Jr.) Initial-value problem of general relativity. III. Coupled fields and the scalar-tensor theory. *Phys. Rev. D* (3) **13** (1976), *no.* 6, 1532–1537. (Authors' summary) **58** #14886 83.35

(*with* Nester, James M.) Extension of the York field decomposition to general gravitationally coupled fields. *Ann. Physics* **108** (1977), *no.* 2, 368–386. (Brian O. J. Tupper) **56** #17672 83.35

(*with* Nester, James M.) Torsion singularities. *Phys. Rev. D* (3) **15** (1977), *no.* 8, 2078–2087. (Not reviewed) 83.53

(*with* Budic, Robert; Lindblom, Lee; Yasskin, Philip B.) On determination of Cauchy surfaces from intrinsic properties. *Comm. Math. Phys.* **61** (1978), *no.* 1, 87–95. (C. J. S. Clarke) **58** #9089 83.57 (58D10)

Iserles, Arieh Functional fitting–new family of schemes for integration of stiff O.D.E. *Math. Comp.* **31** (1977), *no.* 137, 112–123. (W. H. Enright) **55** #4683 65L05

On the *A*-stability of implicit Runge-Kutta processes. *BIT* **18** (1978), *no.* 2, 157–169. (J. C. Butcher) **58** #19150 65L05

A-acceptable exponentially fitted combinations of three Padé approximations. *J. Comput. Appl. Math.* **4** (1978), *no.* 2, 143–146. (W. H. Enright) **58** #13745 65L15

A-stability and dominating pairs. *Math. Comp.* **32** (1978), *no.* 141, 19–33. (Syvert P. Nørsett) **57** #4522 65L05

Isermann, H. Proper efficiency and the linear vector maximum problem. *Operations Res.* **22** (1974), *no.* 1, 189–191. (R. N. Kaul) **53** #12569 90C05

On some relations between a dual pair of multiple objective linear programs. (German summary) *Z. Operations Res. Ser. A-B* **22** (1978), *no.* 1, A33–A41. (F. Giannessi) **57** #18807 90C05

See also **Role and effectiveness of theories of decision in practice**, **56** #10776

Isermann, R. Identifikation des statischen Verhaltens stark gestörter dynamischer Prozesse. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **21** (1973), *no.* 4, 118–125. (R. Leonard Brown) **53** #10428 93E10

(*with* Kneppo, P.) Rechnergestützter Entwurf von Regelalgorithmen für Prozessrechner. (English summary) *Regelungstech.* **24** (1976), *no.* 6, 189–196. (Authors' summary) **58** #9518 93B35 (65K05)

noyola-Isgleas, Arturo *See* **Noyola-Isgleas, Arturo**

Isham, C. J. (*with* Salam, Abdus; Strathdee, J.) Spontaneous breakdown of conformal symmetry. *Phys. Lett.* **31B** (1970), 300–302. (A. Corciovei) **48** #7857 81.53

(*with* Salam, Abdus; Strathdee, J.) *f*-dominance of gravity. *Phys. Rev. D* (3) **3** (1971), 867–873. (R. L. Ingraham) **48** #5587 83.35

(*with* Salam, Abdus; Strathdee, J.) Infinity suppression in gravity-modified quantum electrodynamics. *Phys. Rev. D.* (3) **3** (1971), 1805–1817. (M. Carmeli) **49** #4488 81.53

(*with* Salam, Abdus; Strathdee, J.) $SL_{6,C}$ gauge invariance of Einstein-like Lagrangians. *Lett. Nuovo Cimento* (2) **5** (1972), 969–972. (Authors' introdu **57** #18739 83.53

(*with* Salam, Abdus; Strathdee, J.) Is quantum gravity ambiguity-free? *Phys* **46B** (1973), 407–411. (Authors' summary) **50** #12083 81.53

(*with* Tucker, M. C.) U(3) version of the *f-g* theory. *Phys. Rev. D* (3) **10** 3219–3225. (Authors' summary) **53** #9911 81.22

(*with* Nelson, J. E.) Quantization of a coupled Fermi field and Robertson- metric. *Phys. Rev. D* (3) **10** (1974), 3226–3234. (Authors' summary) **53** #1 81.53

(*with* Blyth, W. F.) Quantization of a Friedmann universe filled with a scalar *Phys. Rev. D* (3) **11** (1975), 768–778. (Authors' summary) **53** #12462 83.53

(*with* Duff, M. J.) Soliton and vortex type solutions in non-linear chiral the *Nuclear Phys. B* **108** (1976), *no.* 1, 130–140. (Jorge André Swieca) **56** #10529

(*with* Deser, S.; Duff, M. J.) Non-local conformal anomalies. *Nuclear Phys.* (1976), *no.* 1, 45–55. (R. Delbourgo) **54** #4391 81.30

(*with* Deser, S.; Duff, M. J.) Finite-energy static solutions to chiral models in space dimensions. *Nuclear Phys. B* **114** (1976), *no.* 1, 29–44. (John McEwan) **54** #12024 81.35

(*with* Deser, Stanley) Canonical vierbein form of general relativity. *Phys.* (3) **14** (1976), *no.* 10, 2505–2510. (Authors' summary) **57** #8878 83.53

Some quantum field theory aspects of the superspace quantization of g relativity. *Proc. Roy. Soc. London Ser. A* **351** (1976), *no.* 1665, 209–232. (Au summary) **54** #14705 83.35

Topological currents for arbitrary chiral groups in three space dimensions. *J. A* **10** (1977), *no.* 8, 1397–1407. (Mi-Soo Smith) **57** #2341 81.55

Twisted quantum fields in a curved space-time. *Proc. Roy. Soc. London Ser.* (1978), *no.* 1710, 383–404. (Editors) **58** #20257 83.55

See also **Nonpolynomial Lagrangians, renormalisation and gravity**, **52** #98 **Quantum gravity (Oxford Sympos., Chilton, 1974)**, **56** #17537

Isham, Valerie The effect of intermittent exposure to risk on failure time distributio *Appl. Probability* **11** (1974), 310–319. (Z. Khalil) **51** #7040 60K10 (90B25)

On a point process with independent locations. *J. Appl. Probability* **12** (1975), 435–446. (David Oakes) **52** #15665 60G55 (60K05)

(*with* Shanbhag, D. N.; Westcott, Mark) A characterization of the Poisson p using forward recurrence times. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), 513–516. (Alan G. Hawkes) **52** #12113 60K05

A Markov construction for a multidimensional point process. *J. Appl. Prob* **14** (1977), *no.* 3, 507–515. (D. J. Daley) **56** #16782 60G55

(*with* Cox, D. R.) A bivariate point process connected with electronic cou *Proc. Roy. Soc. London Ser. A* **356** (1977), *no.* 1685, 149–160. (S. K. Srini **56** #14171 78.60 (60G55)

Constructions for planar point processes using concentric circles. *Stochastic Processes Appl.* **5** (1977), *no.* 2, 131–141. (D. J. Daley) **56** #6853 60G55

(*with* Cox, D. R.) Series expansions for the properties of a birth proc controlled variability. *J. Appl. Probab.* **15** (1978), *no.* 3, 610–616. (D. J. **57** #17856 60J80 (60G55)

Išhanov, V. V. An imbedding problem with bounded ramification. (Russian) *Izv. Nauk SSSR Ser. Mat.* **36** (1972), 742–748. (H. Koch (Zbl **246** #12009)) **56** # 12A55

The imbedding problem with prescribed localizations. (Russian) *Izv. Akad. SSSR Ser. Mat.* **39** (1975), *no.* 3, 512–522, 703. (J. Browkin) **52** #8101 (12A55)

The semidirect imbedding problem with a nilpotent kernel. (Russian) *Izv. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 1, 3–25, 221. (Helmut Koch) **54** #2620

Ishaq, Mohammad Sur une congruence et l'homomorphisme faible des algèbres universelles. *Séminaire P. Dubreil, M.-L. Dubreil-Jacotin, L. Lesieur et C. Pisot* (1968/69), *Algèbre et Théorie des Nombres, Fasc.* 2, *Exp.* 21, 11 *pp. Secrétariat mathématique, Paris*, 1970. (Zbl **226** #08007) **58** #10669 08A25

(*with* Thompson, Robert C.) The convex hull of signed rearrangements with prescribed sign parity. *Linear and Multilinear Algebra* **5** (1977/78), *no.* 3, 235–2 G. Horne) **57** #4004 52A20

Isherwood, D. A. (*with* Ogden, R. W.) Towards the solution of finite plane-strain pro for compressible elastic solids. *Internat. J. Solids and Structures* **13** (1977), 105–123. (Peter J. Chen) **55** #1909 73.35

(*with* Ogden, R. W.) Solution of some finite plane-strain problems for compre elastic solids. *Quart. J. Mech. Appl. Math.* **31** (1978), *no.* 2, 219–249. (Fror summary) **58** #8661 73.35

Ishibashi, Hiroyuki On some system of generators of the orthogonal groups. *Sci Tokyo Kyoiku Daigaku Sect. A* **11**, 96–105 (1972). (D. G. James) **46** #9187

The decomposition of isometries into symmetries in an orthogonal group local principal ideal domain. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 49–58 ((James C. Pomfret) **48** #11347 10C30 (20G25)

The decomposition of isometries into involutions. *Sci. Rep. Tokyo Kyoiku Da Sect. A* **12**, 159–164 (1974). (H. Gross) **51** #357 10C30 (15A63)

Ishibashi, Yasunori On the bialgebras of group schemes. *Osaka J. Math.* **9** (1972), 261–272. (F. Oort) **47** #8555 14L15 (17B50)

A characterization of one dimensional regular local rings in terms of high derivations. *Bull. Fukuoka Univ. Ed. III* **24** (1974), 11–18. (L. J. Ratliff, Jr.) **50** # 13B10 (13H05)

Some remarks on high order derivations. *Pacific J. Math.* **52** (1974), 419–42 Yuan) **51** #3141 13B10

On the coefficient ring in a formal power series ring. *Bull. Fukuoka Univ. Ed.* (1976), 13–19. (J. T. Arnold) **55** #8028 13J05

On isomorphic power series rings. *Osaka J. Math.* **13** (1976), *no.* 2, 419–430. Arnold) **54** #2648 13J05

A note on a lemma of Zariski. *Bull. Fukuoka Univ. Ed. III* **27** (1977), 1–

Nakai) 58 #16629 13B10 (14B05)

da, Hisashi Conformal sewings of slit regions. *Proc. Japan Acad.* **50** (1974), 616–618. (H. M. Farkas) **52** #3510 30A48

Riemann surfaces obtained by conformal sewings. *J. Math. Kyoto Univ.* **15** (1975), *no.* 2, 467–477. (Y. Kusunoki) **55** #657 30A48

Deformations and types of some Riemann surfaces of infinite genus. *J. Math. Kyoto Univ.* **18** (1978), *no.* 2, 409–419. (M. Nakai) **58** #11375 30A48

da, Jun (*with* Hosoya, Akio) Non-Abelian magnetic charges. *Progr. Theoret. Phys.* **57** (1977), *no.* 2, 608–619. (Jacques P. Leveille) **55** #13996 81.35

See also **Zav'jalov, O. I.**, **58** #25456

da, Kenro Some remarks on the recurrent sets for transient random walk. *Comment. Math. Univ. St. Paul.* **21** (1972/73), *no.* 2, 83–88. (H. Kesten) **47** #9723 60J15

da, Makoto Fundamental units of certain algebraic number fields. *Abh. Math. Sem. Univ. Hamburg* **39** (1973), 245–250. (Paul Hartung) **49** #250 12A45 (12A30)

Class numbers of algebraic number fields of Eisenstein type. II. *J. Number Theory* **6** (1974), 99–104. (W.-D. Geyer) **51** #5553 12A50

Some unramified abelian extensions of algebraic number fields. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, II. *J. Reine Angew. Math.* **268/269** (1974), 165–173. (G. Thomas Frey) **50** #2126 12A65

On the genus field of an algebraic number field of odd prime degree. *J. Math. Soc. Japan* **27** (1975), 289–293. (Jacques Martinet) **53** #5530 12A40

On 2-rank of the ideal class groups of algebraic number fields. *J. Reine Angew. Math.* **273** (1975), 165–169. (T. Lepistö) **51** #3118 12A50

★The genus fields of algebraic number fields. Lecture Notes in Mathematics, Vol. 555. *Springer-Verlag, Berlin-New York*, 1976. vi + 116 *pp.* (Yoshiomi Furuta) **55** #7990 12A35 (12A65)

On the genus field of an algebraic number field of odd prime degree. II. (Japanese) *Sûgaku* **28** (1976), *no.* 2, 151–153. (Jacques Martinet) **54** #272 12A40

An algorithm for constructing the genus field of an algebraic number field of odd prime degree. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, 61–75. (Jacques Martinet) **56** #313 12A65 (12A35)

ida, Masa-Nori Graded factorial rings of dimension 3 of a restricted type. *J. Math. Kyoto Univ.* **17** (1977), *no.* 3, 441–456. (Gerhard Pfister) **57** #6019 14C20

ida, Tetsuya Outline of the wasan of Niigata Prefecture. (Japanese) *Sûgakushi Kenkyû No.* 67 (1975), 1–13. (K. Inoue) **56** #15275 01A25

higuro, Kazuo Über die Verträglichkeit der Kreisverfahren der Limitierungstheorie bei komplexen Ordnungen. *Kōdai Math. Sem. Rep.* **24** (1972), 91–105. (W. Beekmann) **45** #9026 40G05

(*with* Meyer-König, Werner) Über das Verträglichkeitsproblem bei den Kreisverfahren der Limitierungstheorie. *Linear operators and approximation, II* (*Proc. Conf., Oberwölfach Math. Res. Inst., Oberwolfach*, 1974), *pp.* 547–558. *Internat. Ser. Numer. Math., Vol.* 25, *Birkhäuser, Basel*, 1974. (W. Beekmann) **52** #6244b 40G10

(*with* Meyer-König, Werner) Über das Verträglichkeitsproblem bei den singulären Taylorschen Limitierungsverfahren. *Kōdai Math. Sem. Rep.* **26** (1975), *no.* 4, 467–477. (W. Beekmann) **52** #6244a 40G10

(*with* Zeller, Karl) Matrixtransformationen dualer Folgenräume. *Math. Z.* **145** (1975), *no.* 2, 195–200. (J. Diestel) **52** #6238 40C05

shihara, Ikuo Some almost Tachibana manifold of constant totally real bisectional curvature. *TRU Math.* **11** (1975), 27–29. (Bill Watson) **53** #11526 53B35

(*with* Kon, Masahiro) Contact totally umbilical submanifolds of a Sasakian space form. *Ann. Mat. Pura Appl.* (4) **114** (1977), 351–364. (R. Behari) **58** #18288 53C40 (53C25)

Kähler submanifolds satisfying a certain condition on normal connection. *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **62** (1977), *no.* 1, 30–35. (Koichi Ogiue) **57** #17568 53C40

shihara, Kazuo Energy estimates for the solution of hyperbolic equations by a finite element mass scheme. *Mem. Numer. Math. No.* 4 (1977), 1–23. (Rémi Vaillancourt) **56** #1744 65N30

Convergence of the finite element method applied to the eigenvalue problem $\Delta u+\lambda u=0$. *Publ. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 1, 47–60. (Gilbert Strang) **56** #13713 65N30

The buckling of plates by the mixed finite element method. *Mem. Numer. Math. No.* 5 (1978), 73–82. (Georges A. Lebaud) **58** #3538 65N30 (73.65)

shihara, Shigeru (*with* Yano, Kentaro) Submanifolds with parallel mean curvature vector. *J. Differential Geometry* **6** (1971/72), 95–118. (K. Nomizu) **45** #7650 53C40

Vector fields in fibred spaces with invariant Riemannian metric. *Differential geometry* (*in honor of Kentaro Yano*), *pp.* 163–177. *Kinokuniya, Tokyo*, 1972. (A. Verona) **48** #7162 53C20

(*with* Konishi, Mariko) Fibred Riemannian spaces with Sasakian 3-structure. *Differential geometry* (*in honor of Kentaro Yano*), *pp.* 179–194. *Kinokuniya, Tokyo*, 1972. (A. Verona) **48** #4964 53C25

(*with* Konishi, Mariko) On *f*-three-structures. *Hokkaido Math. J.* **1** (1972), 127–135. (C.-C. Hsiung) **48** #7155 53C10

(*with* Yano, Kentaro) Submanifolds of codimension 2 or 3 with parallel second fundamental tensor. *J. Korean Math. Soc.* **9** (1972), 1–11. (Y. Katsurada) **46** #2591 53B25

(*with* Houh, Ćhorng Shi) Tensor fields and connections on a cross-section in the tangent bundle of order *r*. *Kōdai Math. Sem. Rep.* **24** (1972), 234–250. (R. Walden (Zbl **245** #53016)) **50** #14563 53C05

(*with* Yano, Kentaro) Notes on hypersurfaces of an odd-dimensional sphere. *Kōdai Math. Sem. Rep.* **24** (1972), 422–429. (G. D. Ludden) **47** #7668 53C40

(*with* Yano, Kentaro) On local fibering and transversal hypersurfaces of contact metric manifolds. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 197–205. (G. D. Ludden) **48** #12394 53C15

(*with* Yano, Kentaro) ★Tangent and cotangent bundles: differential geometry. Pure and Applied Mathematics, No. 16. *Marcel Dekker, Inc., New York*, 1973. ix + 423 *pp.* (T. J. Willmore) **50** #3142 53C10

(*with* Konishi, Mariko) ★Differential geometry of fibred spaces. Publications of the Study Group of Geometry, Vol. 8. *Kyoto University, Kyoto*, 1973. v + 200 *pp.* (Raymond Couty) **53** #9069 53C05

(*with* Ki, U Hang) Complete Riemannian manifolds with (f,g,u,v,λ)-structure. *J. Differential Geometry* **8** (1973), 541–554. (J. R. Vanstone) **51** #13912 53C15

(*with* Konishi, Mariko) Fibred Riemannian space with triple of Killing vectors. *Kōdai Math. Sem. Rep.* **25** (1973), 175–189. (J. R. Vanstone) **47** #5783 53C25

Quaternion Kählerian manifolds and fibred Riemannian spaces with Sasakian 3-structure. *Kōdai Math. Sem. Rep.* **25** (1973), 321–329. (Y. Mutô) **48** #2943 53C25

(*with* Yano, Kentaro; Konishi, Mariko) Normality of almost contact 3-structure. Collection of articles dedicated to Shigeo Sasaki on his sixtieth birthday. *Tôhoku Math. J.* (2) **25** (1973), 167–175. (G. D. Ludden) **49** #1417 53C15

(*with* Yano, Kentaro) Kaehlerian manifolds with constant scalar curvature whose Bochner curvature tensor vanishes. *Hokkaido Math. J.* **3** (1974), 297–304. (H. D. Pande) **50** #14612 53C55

Quaternion Kählerian manifolds. *J. Differential Geometry* **9** (1974), 483–500. (A. Gray) **50** #1184 53C55

(*with* Ishikawa, Susumu) Notes on relatively harmonic immersions. *Hokkaido Math. J.* **4** (1975), *no.* 2, 234–246. (K. Yano) **52** #4189 53C40 (58G99)

(*with* Yano, Kentaro) Harmonic and relatively affine mappings. *J. Differential Geometry* **10** (1975), *no.* 4, 501–509. (Liane Bouche) **52** #11792 53C20

Integral formulas and their applications in quaternionic Kählerian manifolds. *Kōdai Math. Sem. Rep.* **28** (1976/77), *no.* 1, 63–71. (A. Gray) **55** #4067 53C55

Ishihara, Tadashige (*with* Morisue, Kiyofusa) On a coding problem with tolerance region. II. Graph theoretical approach. *Math. Japon.* **15** (1970), 51–55. (Authors' introduction) **47** #6399 94A20

(*with* Takahashi, Hiromitsu) Some mathematical models of the conditioned reflex. *Math. Japon.* **17** (1972), 195–201. (H. D. Block) **49** #10396 92A05

(*with* Izumi, Masako) Variation and stability of reverberations in threshold systems. *Math. Japon.* **19** (1974), *no.* 3, 357–369. (Alwyn C. Scott) **53** #2533 94A20 (92A05)

(*with* Izumi, Masako) Graph theoretical approach to threshold systems. *Math. Japon.* **19** (1974), *no.* 3, 371–380. (Alwyn C. Scott) **53** #2534 94A20 (92A05)

Ishihara, Takaomi Potential scattering in one dimension. *Progr. Theoret. Phys.* **54** (1975), *no.* 4, 1106–1114. (W. O. Amrein) **54** #1944 81.34

Ishihara, Tôru On tensor-product structures and Grassmannian structures. *J. Math. Tokushima Univ.* **4** (1970), 1–17. (R. H. Bowman) **45** #1064 53C10

A remark on harmonic quasiconformal mappings. *J. Math. Tokushima Univ.* **5** (1971), 17–23. (J. Eells) **46** #829 53C20 (30A60)

(*with* Goldberg, Samuel Irving) Harmonic quasiconformal mappings of Riemannian manifolds. *Bull. Amer. Math. Soc.* **80** (1974), 562–566. (H. Wu) **49** #6086 53C20 (30A60, 32H20)

(*with* Goldberg, Samuel Irving; Petridis, Nicholas C.) Mappings of bounded dilatation. *J. Math. Tokushima Univ.* **8** (1974), 1–7. (J. Lelong-Ferrand) **50** #14578 53C20

(*with* Goldberg, Samuel Irving; Petridis, Nicholas C.) Mappings of bounded dilatation of Riemannian manifolds. *J. Differential Geometry* **10** (1975), *no.* 4, 619–630. (Liane Bouche) **52** #11787 53C20 (32H25)

(*with* Goldberg, Samuel Irving) Harmonic quasiconformal mappings of Riemannian manifolds. *Amer. J. Math.* **98** (1976), *no.* 1, 225–240. (Liane Bouche) **53** #8498 32H20

The index of a holomorphic mapping and the index theorem. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 1, 169–174. (Samuel I. Goldberg) **58** #13155 58E15 (53C20)

See also **Differential geometry**, **51** #6864

Ishii, Goro Optimality of unbiased predictors. *Math. Student* **42** (1974), 305–315 (1975). (Margaret P. Gessaman) **53** #6862 62F99

(*with* Kageyama, Sanpei) A note on BIB designs. *Austral. J. Statist.* **17** (1975), *no.* 1, 49–50. (Damaraju Raghavarao) **52** #9522 62K10 (05B05)

Test of hypotheses for distributions with monotone likelihood ratio: case of vector valued parameter. *Proceedings of the Third Japan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 223–231. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (Willem Schaafsma) **56** #16882 62F05 (62H15)

On the attainment of Bhattacharyya bound. *Chinese J. Math.* **4** (1976), *no.* 1, 37–45. (L. B. Klebanov) **54** #8961 62F10 (62E10)

Essentially complete class of experimental designs. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 1, 135–143. (J. Kiefer) **57** #10941 62K99

(*with* Kageyama, Sanpei) A note on (r, λ)-systems. *Utilitas Math.* **11** (1977), 113–122. (Bhagwandas) **56** #5316 05B05

Ishii, Hiroaki (*with* Ibaraki, Toshihide; Mine, Hisashi) A certain traveling salesman problem that has an objective function of minimax type. (Japanese) *Keiei-Kagaku* **19** (1975), *no.* 3-4, 112–122. (M. Yamasaki) **53** #15356 90C10

(*with* Ibaraki, Toshihide; Mine, Hisashi) Traveling salesman problems with a capacity constraint of the delivery truck. *Mem. Fac. Engrg. Kyoto Univ.* **37** (1975), *no.* 4, 252–263. (Kailash C. Kapur) **53** #10232 90B10 (90C50)

(*with* Ibaraki, Toshihide; Mine, Hisashi) An assignment problem on a network. *J. Operations Res. Soc. Japan* **19** (1976), *no.* 1, 70–90. (Zbl **342** #90026) **58** #4283 90B35

(*with* Ibaraki, Toshihide; Iwase, Jiro; Hasegawa, Toshiharu; Mine, Hisashi) Algorithms for quadratic fractional programming problems. *J. Operations Res. Soc. Japan* **19** (1976), *no.* 2, 174–191. (Authors' summary) **55** #9984 90C20

(*with* Ibaraki, Toshihide; Mine, Hisashi) A primal cutting plane algorithm for integer fractional programming problems. *J. Operations Res. Soc. Japan* **19** (1976), *no.* 3, 228–244. (Ferenc Forgó) **54** #4642 90C10

(*with* Ibaraki, Toshihide; Mine, Hisashi) Fractional knapsack problems. *Math. Programming* **13** (1977), *no.* 3, 255–271. (P. L. Hammer) **57** #2555 90C10

(*with* Nishida, Toshio; Nanbu, Yasunori) A generalized chance constraint programming problem. (Japanese summary) *J. Operations Res. Soc. Japan* **21** (1978), *no.* 1, 124–168. (Csaba Fabian) **58** #4323 90C15

Ishii, Hitoshi Estimates from $W_{p,\alpha}$ to $W_{q,\beta}$ for the solutions of the Petrovskiĭ well posed Cauchy problems. *Proc. Japan Acad.* **49** (1973), 705–710. (Philip Brenner) **49** #1231 47G05 (35S10)

On some Fourier multipliers and partial differential equations. *Math. Japon.* **19** (1974), *no.* 3, 139–163. (From the author's introduction) **57** #13148 35G10 (*with* Machino, Yoshinari; Iino, Riichi) On the solutions of the Navier-Stokes equations of slightly compressible fluids. *Bull. Sci. Engrg. Res. Lab. Waseda Univ. No.* 69 (1975), 74–79. (Theodore E. Dushane) **53** #1056 35Q10

On some perturbation of the Navier-Stokes equations in L^p spaces. *Funkcial. Ekvac.* **18** (1975), *no.* 1, 73–83. (From the author's introduction) **55** #6037 35Q10

(*with* Sagisaka, Yoshinori; Tsutsumi, Masayoshi) Some uniqueness theorems for first order hyperbolic systems. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 2, 403–415. (Maria Cinquini-Cibrario) **57** #6860 35L50

Asymptotic stability and blowing up of solutions of some nonlinear equations. *J. Differential Equations* **26** (1977), *no.* 2, 291–319. (C. Bardos) **57** #3642 35K55

Ishii, Ippei On a non-homogeneous flow on the 3-dimensional torus. *Funkcial. Ekvac.* **17** (1974), 231–248. (Roger C. McCann) **50** #14717 54H20

On a mapping of an annulus–with applications to the stability problem of an elliptic fixed point. *Keio Math. Sem. Rep. No.* 2 (1977), 17–26. (Carl P. Simon) **56** #1367 58F10

On a minimal flow. Local dynamical systems: integral and differential equations (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 303 (1977), 25–30. (N. G. Markley) **58** #24391 58F99

Ishii, Kazushige (*with* Matsuda, Hirotsugu) Localization of normal modes and energy transport in the disordered harmonic chain. *Progr. Theoret. Phys. Suppl. No.* 45 (1970), 56–86. (R. Kubo) **53** #7332 82.60

Ishii, Naohiro On transformation between state transition diagrams realizable by the network of threshold elements. *Systems-Computers-Controls* **1** (1970), *no.* 5, 53–59 (1971). (Author's summary) **46** #3214 94A20

(*with* Miyazaki, Kiyonori) Generation of a set of periodic sequences realizable by the network of threshold elements. *Systems-Computers-Controls* **3** (1972), *no.* 4, 23–29 (1973). (W.-K. Chen) **48** #13494 94A20

(*with* Suzumura, Nobuo) On the estimation of the order of a Markov process from the random data of the time series. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **27** (1975), 445–453. (Shunsuke Ihara) **57** #7910 62M10

(*with* Tsukada, M.; Sato, Risaburo) Stochastic automaton models for the temporal pattern discrimination of nerve impulse sequences. *Biol. Cybernet.* **21** (1976), *no.* 3, 121–130. (Authors' summary) **58** #4430 92A05 (94A35)

(*with* Nakahama, H.; Yamamoto, M.; Fujii, H.; Aya, K.) Dependency as a measure to estimate the order and the values of Markov processes. *Biol. Cybernet.* **25** (1976/77), *no.* 4, 209–226. (S. M. Rudolfer) **58** #24788 62M05

(*with* Iwata, Akira; Suzumura, Nobuo) Identification by autoregressive model using maximum likelihood method. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **29** (1977), 421–428. (From the summary) **58** #26437 93E10 (62M10)

(*with* Suzumura, Nobuo) Estimation of the order of autoregressive process. *Internat. J. Systems Sci.* **8** (1977), *no.* 8, 905–913. (Roch Roy) **58** #3252 62M10

(*with* Suzumura, Nobuo; Nishino, Shinichi) Invariants of the Markov process by the transformation of variables. *Internat. J. Systems Sci.* **8** (1977), *no.* 12, 1327–1336. (Zbigniew Nahorski) **57** #2727 93E99

Ishii, Noburo Fricke formula for quaternion groups. *Proc. Japan Acad.* **50** (1974), 677–682. (R. Busam) **52** #13647 10D20 (12A50)

An application of the Fricke formula for quaternion groups. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 171–177. (Henri Cohen) **58** #5519 10D05 (10D15)

Ishii, Rokuya (*with* Kishi, Genya) Irreducibility of topological formulas in LCR networks. *Electron. Commun. Japan* **54** (1971), *no.* 10, 9–16. (B. R. Myers) **46** #8774 94A20

Ishii, Ryuji Transonic nozzle flows of real gases with nonuniform gas properties. *Phys. Fluids* **21** (1978), *no.* 4, 540–548. (Silvio Nocilla) **58** #14275 76.35

Ishii, Shihoko Some projective contraction theorems. *Manuscripta Math.* **22** (1977), *no.* 4, 343–358. (L. Bădescu) **57** #12500 14B05 (14G05)

Ishii, Tadamasa (*with* Harada, Manabu) On endomorphism rings of noetherian quasi-injective modules. *Osaka J. Math.* **9** (1972), 217–223. (Bruce Myers) **47** #6676 13C10

On locally direct summands of modules. *Osaka J. Math.* **12** (1975), *no.* 2, 473–482. (R. B. Warfield, Jr.) **51** #12947 16A64

(*with* Harada, Manabu) On perfect rings and the exchange property. *Osaka J. Math.* **12** (1975), *no.* 2, 483–491. (R. B. Warfield, Jr.) **51** #12948 16A64

Ishii, Tadashi (*with* Kimura, Shigeru) On the regularity of measures. *Bull. Fac. Ed. Utsunomiya Univ. No.* 19 (1969), *section* 2, 4–9. (J. C. Oxtoby) **51** #13172 28A10

(*with* Shiraki, Takanori) Some properties of wM-spaces. *Proc. Japan Acad.* **47** (1971), 167–172. (*loose addendum*) (D. R. Traylor) **45** #2658 54E35

Paracompactness of topological completions. *Proc. Japan Acad.* **50** (1974), 33–38. (C. E. Aull) **52** #1624 54D20

On the completions of maps. *Proc. Japan Acad.* **50** (1974), 39–43. (C. E. Aull) **52** #1625 54D20 (54C10)

Paracompactness of topological completions. *Fund. Math.* **92** (1976), *no.* 1, 65–77. (C. E. Aull) **54** #6083 54D20

Open-closed maps and pseudo-paracompactness. *General Topology and Appl.* **8** (1978), *no.* 1, 1–8. (E. Michael) **57** #4109 54E15

Ishii, Takeo (*with* Haneda, Hiromasa; Maruhashi, Toru) Analysis of piecewise-linear DC equations. *Electron. Commun. Japan* **57** (1974), *no.* 2, 63–71. (W. Börsch-Supan) **54** #1585 65H10

Ishikawa, Akihiko On tandem queueing system having a general service times. *TRU Math.* **9** (1973), 85–89. (M. L. Chaudhry) **50** #5978 60K25

Ishikawa, Hirofumi On the trace formula for Hecke operators. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 217–238. (Jürgen Elstrodt) **48** #3888 10D15

On trace of Hecke operators for discontinuous groups operating on the product of the upper half planes. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 357–376. (J. Spilker) **51** #360 10D15

Ishikawa, Hirohisa Properties of causally continuous closed universes. *J. Mathematical Phys.* **18** (1977), *no.* 12, 2375–2376. (Author's summary) **57** #8894 83.53

Towards the electromagnetic generalization of Robinson's identity. *Phys. Rev. D* (3) **17** (1978), *no.* 12, 3147–3149. (Ilija Lukačević) **58** #14931 83.53

Ishikawa, Hiromasa A theoretical method for solving an elasto-plastic bending problem. *Bull. JSME* **15** (1972), 928–940. (L. H. Donnell) **48** #3336 73.35

Ishikawa, Kenzo (*with* Midorikawa, Shoichi; Moriya, Takeshi; Yoshimura, Motohiko) Generalized mixing and CP violation in $SU(3)\times U(1)$ models. *Progr. Theoret. Ph* (1977), *no.* 6, 1869–1889. (Authors' summary) **58** #14504 81.22

Ishikawa, Nobuhiro On commutativity and associativity of multiplications in η-coeff cohomology theories. *Math. Rep. College General Ed. Kyushu Univ.* **8** (1971/72), 2 (J. Siegel) **48** #1216 55B45

Existence of the admissible multiplication in η^2-coefficient cohomology thec *Math. Rep. College General Ed. Kyushu Univ.* **8** (1971/72), *no.* 1, 1–9. (J. F. Ac **56** #6643 55B20

(*with* Fujino, Tsutomu; Kamata, Masayoshi) On the complex K-group of c manifold. *Math. Rep. College General Ed. Kyushu Univ.* **9** (1973/74), 1–6. (D. Burghelea) **49** #6219 55B15

(*with* Yasuo, Minato) KC-cohomologies of projective spaces. *Math. Rep. C General Ed. Kyushu Univ.* **10** (1975), *no.* 1, 77–84. (D. W. Anderson) **51** #140 55B15

(*with* Kachi, Hideyuki) On the admissible multiplication in α-coefficient cohomology theories. *J. Fac. Sci. Shinshu Univ.* **11** (1976), *no.* 1, 1–17. (Donal Kahn) **55** #11252 55E45

(*with* Yasuo, Minato) KC- and KO-cohomologies of the lens space $L^n(p)$ for prime p. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 95–102. (B. C **54** #1201 55B15 (57E15)

(*with* Kachi, Hideyuki) On the admissible multiplication in α-coefficient cohomology theories. II. *J. Fac. Sci. Shinshu Univ.* **12** (1977), *no.* 2, 81–101. (Donal Kahn) **57** #13917 55B20

Ishikawa, Saneaki On approximate solutions of Hammerstein type integral equation finite Chebyshev series. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 236– (Hansgeorg Jeggle) **46** #8456 65R05

(*with* Sakai, Manabu) On approximate solutions of nonlinear integral equation Chebyshev series. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 244–252. (G Miller) **46** #8459 65R05

Ishikawa, Shiro (*with* Fujita, Hiroichi) Some variants of a strict-set-contraction. *Yokohama Math. J.* **21** (1973), 83–87. (Bruce Calvert) **48** #4850 47H10

On the restriction of distributions. *Keio Engrg. Rep.* **27** (1974), 83–91. (S. Łojasiewicz) **51** #6409 46F10

Fixed points by a new iteration method. *Proc. Amer. Math. Soc.* **44** (1 147–150. (G. G. Johnson) **49** #1243 47H10

Fixed points and iteration of a nonexpansive mapping in a Banach space. *Amer. Math. Soc.* **59** (1976), *no.* 1, 65–71. (T. C. Lim) **54** #1030 47H10

Fixed points and iteration of a Kannan's mapping in a Banach space. *Keio En Rep.* **30** (1977), *no.* 4, 29–34. (Kok-Keong Tan) **58** #7233 47H10

The weak law of large numbers by counting probability. *Keio Math. Sem. Rep.* 2 (1977), 27–29. (Priscilla Greenwood) **56** #16741 60F05 (02H25)

(*with* Anzai, Kazuo) On common fixed points for several continuous affine mappings. *Pacific J. Math.* **72** (1977), *no.* 1, 1–4. (Authors' summary) **56** #93 47H10

Ishikawa, Susumu The infinitesimal automorphisms on the tangent bundles of order *Rend. Accad. Naz. XL* (4) **24/25** (1973/74), 265–274 (1975). (J. R. Vanstone) **54** #11222 53C05

(*with* Ishihara, Shigeru) Notes on relatively harmonic immersions. *Hokkaido M J.* **4** (1975), *no.* 2, 234–246. (K. Yano) **52** #4189 53C40 (58G99)

On the relatively projective immersions. *Rep. Fac. Sci. Engrg. Saga Univ. Math.* 3, (1975), 1–8. (G. Tsagas) **51** #8996 53C40

Notes on relatively projective immersions. *Tensor (N.S.)* **29** (1975), *no.* 2, 114–1 (K. Yano) **51** #8997 53C40

Ishikawa, T. (*with* Hosaka, H.) On Eakin-Nagata's theorem. *J. Math. Kyoto Univ.* (1973), 413–416. (E.-A. Behrens) **48** #11202 16A46

Ishikawa, Yuichiro Spin Hamiltonian for a system of exchange-coupled ions. *Annual Fac. Ed. Univ. Iwate* **31** (1971), *no.* 3, 1–8. (David Pearson) **52** #16379 81.47

Ishiketa, Tadashi Sensitivity of method for testing randomness utilizing random w process. *Information Processing in Japan* **9** (1969), 1–8. **45** #7912 65C10

Ishimaru, Akira (*with* Sreenivasiah, I.; Hong, Shin Tsy) Two-frequency mutual coheren function and pulse propagation in a random medium: an analytic solution to the pla wave case. *Radio Sci.* **11** (1976), *no.* 10, 775–778. (Werner Kohler) **54** #4357 78

Ishimoto, Arata A propositional fragment of Leśniewski's ontology. On Leśniewsk systems (Proc. XXII Conf. Hist. Logic, Kraków, 1976). *Studia Logica* **36** (1977/78), 4, 285–299. (Mieczysław Omyła) **58** #16123 02B10

Ishimoto, Hiroyasu Representing handlebodies by plumbing and surgery. *Publ. Res. In Math. Sci.* **7** (1971/72), 483–510. (P. J. Kahn) **47** #7760 57D65

On the classification of $(n-2)$-connected $2n$-manifolds with torsion free homolo groups. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 211–260. (S. S. Cairns) **49** #3988 57D65

On the classification of some $(n-3)$-connected $(2n-1)$-manifolds. *Publ. Res. In Math. Sci.* **11** (1975/76), *no.* 3, 723–747. (Alan H. Durfee) **54** #1258 57D65

Ishimura, Norikazu (*with* Shiba, Hiroyuki) Effect of the magnetic field on the des Cloizeaux-Person spin-wave spectrum. *Progr. Theoret. Phys.* **57** (1977), *no.* 6, 1862–1873. (Authors' summary) **56** #14430 82.41

Ishimura, Sadao (*with* Arima, Satoshi; Hidaka, Fumio) An example of simple vec bundles on projective plane which are not stable. *Bull. Sci. Engrg. Res. Lab. Wase Univ. No.* 79 (1977), 68–70. (Masaki Maruyama) **58** #16664 14F05

Ishimura, Sonoko On Gaussian sums associated with a character of order 5 and a ratio prime number $p\equiv 1 \pmod 5$. *J. Tsuda College No.* 8 (1976), 27–35. (E. Grosswal **57** #3086 10G05

Ishisaki, Kiichi Jackson-type estimates for monotone approximation. *Proc. Japan Ac Ser. A Math. Sci.* **53** (1977), *no.* 5, 171–173. (Anthony Holland) **57** #961 41A (41A25)

Ishitani, Hiroshi The central limit theorem for piecewise linear transformations. *Publ. R Inst. Math. Sci.* **11** (1975/76), *no.* 2, 281–296. (L. A. Bunimovič) **56** #9642 60F (28A65, 60G10)

A central limit theorem for the subadditive process and its application to produ of random matrices. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 3, 565–575. (Kesten) **55** #11386 60G99 (60B15, 28A65)

toya, Kiminao (*with* Kono, Akira; Toda, Hirosi) Hopf algebra structure of mod 2 cohomology of simple Lie groups. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 1, 141–167. (J. F. Adams) **54** #3731 57F10

(*with* Toda, Hirosi) On the cohomology of irreducible symmetric spaces of exceptional type. *J. Math. Kyoto Univ.* **17** (1977), *no.* 2, 225–243. (J. F. Adams) **56** #1333 57F15

Integral cohomology ring of the symmetric space *EII*. *J. Math. Kyoto Univ.* **17** (1977), *no.* 2, 375–397. (J. F. Adams) **56** #1334 57F15

Cohomology of the symmetric space *EI*. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 2, 56–60. (J. F. Adams) **58** #7668 57F15

izima, Shintaro (*with* Mori, Kinji; Shimemura, Etsujiro) A certain method for designing systems with hierarchical input-output structures. (Japanese. English summary) *Systems and Control* **18** (1974), *no.* 10, 596–603. (Masao Ikeda) **54** #4750 93B25

izuka, Okihiko A procedure for realization of arbitrary functions using cascaded threshold elements. (Japanese. English summary) *Bull. Fac. Engrg. Miyazaki Univ. No.* 19 (1973), 41–46. (Kenji Onaga) **48** #13495 94A20

Multi-threshold networks with sets of parallel single-threshold elements. *Systems-Computers-Controls* **7** (1976), *no.* 3, 67–77 (1977). (Tsunehiro Aibara) **57** #5456 94A20

On multivalued multithreshold networks composed of conventional threshold elements. *IEEE Trans. Computers* **C-26** (1977), *no.* 12, 1251–1257. (H. R. Hwa) **58** #4669 94A20

Synthesis of multithreshold tree networks. *IEEE Trans. Computers* **C-26** (1977), *no.* 12, 1294–1297. (Author's summary) **58** #33549 94A20

h-Shalom, Ariel On 2-Sylow intersections. *Israel J. Math.* **18** (1974), 235–242. (H. Nagao) **51** #13029 20D20

On Sylow intersections. *Bull. Austral. Math. Soc.* **16** (1977), *no.* 2, 237–246. (Gernot Stroth) **56** #475 20D20

On central 2-Sylow intersections. *Israel J. Math.* **27** (1977), *no.* 3-4, 339–347. (Fletcher Gross) **58** #16869 20D05

A note on Sylow intersections. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 227–230. (Thomas Laffey) **57** #453 20D20

idori, Alberto (*with* Bruni, Carlo; Ruberti, Antonio) The order of linear continuous systems described by the impulse response matrix. *Alta Frequenza* **38** (1969), 108–116. (D. Obradović) **46** #6865 93B05

(*with* d'Alessandro, Paolo; Ruberti, Antonio) Equivalence transformations in linear dynamical systems. *Internat. J. Systems Sci.* **2** (1971/72), 177–188. (O. Hájek) **47** #9581 54H15

(*with* Ruberti, Antonio; d'Alessandro, Paolo) ★Theory of bilinear dynamical systems. Course held at the Department for Automation and Information, July 1972. International Centre for Mechanical Sciences, Udine. Courses and Lectures, No. 158. *Springer-Verlag, Vienna-New York*, 1972. 69 *pp.* (Editors) **50** #15985 93–02 (93B10, 93B20, 93C10)

(*with* d'Alessandro, Paolo; Ruberti, Antonio) Structure analysis of linear and bilinear dynamical systems. *Theory and applications of variable structure systems* (*Proc. Sem., Sorrento*, 1972), *pp.* 25–35. *Academic Press, New York*, 1972. (Vladimir Kučera) **53** #5073 93B05

(*with* d'Alessandro, Paolo; Ruberti, Antonio) Characteristic numbers of continuous matrices. *J. Franklin Inst.* **294** (1972), 43–48. (R. Liu) **46** #9080 15A60 (93B99)

Direct construction of minimal bilinear realizations from nonlinear input-output maps. *IEEE Trans. Automatic Control* **AC-18** (1973), 626–631. (T. Kaczorek) **54** #4747 93B20

(*with* d'Alessandro, Paolo; Ruberti, Antonio) On the properties of the realizations of linear dynamical systems. *Math. Systems Theory* **7** (1973), 176–184. (A. F. Izé) **47** #7143 34C35

(*with* D'Alessandro, P.; Ruberti, Antonio) A new approach to the theory of canonical decomposition of linear dynamical systems. *SIAM J. Control* **11** (1973), 148–158. (T. Kaczorek) **52** #5105 93B10

(*with* d'Alessandro, Paolo; Ruberti, Antonio) Realization and structure theory of bilinear dynamical systems. *SIAM J. Control* **12** (1974), 517–535. (P. A. Cook) **54** #12271 93B20

(*with* Ruberti, Antonio) Time-varying bilinear systems. *Variable structure systems with application to economics and biology* (*Proc. Second U.S.-Italy Sem.*, 1974), *pp.* 44–53. *Lecture Notes in Econom. and Math. Systems, Vol.* 111, *Springer, Berlin*, 1975. (From the introduction) **57** #18929 93B15

(*with* Ruberti, Antonio) State-space representation and realization of time-varying linear input-output functions. *J. Franklin Inst.* **301** (1976), *no.* 6, 573–592. (Bostwick F. Wyman) **55** #2214 93B15

(*with* Di Benedetto, M. D.) Triangular canonical forms for bilinear systems. *IEEE Trans. Automat. Control* **23** (1978), *no.* 5, 877–880. (Authors' summary) **58** #26255 93B10

Isidro, José M. Topologies in fields. (Spanish) *Rev. Mat. Hisp.-Amer.* (4) **37** (1977), *no.* 1-2, 19–24. (M. E. Shanks) **58** #624 12J99

Isihara, A. ★Statistical physics. *Academic Press, New York-London*, 1971. xv+438 *pp.* (Editors) **56** #4571 82.00

Information loss and entropy increase. *J. Math. Anal. Appl.* **39** (1972), 314–317. (L. L. Campbell) **47** #6383 94A15

(*with* Okubo, Susumu) Inequalities for quantum-statistical response functions. *Physica* **57** (1972), 421–431. (Ian Lerche) **53** #2249 82.49

(*with* Okubo, Susumu) Inequality for convex functions in quantum-statistical mechanics. *Physica* **59** (1972), 228–240. (K. Kumar) **50** #6376 81.47

★Статистическая физика. (Russian) [Statistical physics] Translation from the English and edited by D. N. Zubarev and A. G. Baškirov. *Izdat. "Mir", Moscow*, 1973. 471 *pp.* (Editors) **56** #4572 82.00

Isii, K. (*with* Taga, Yasushi) Bound on the classification error for discriminating between multivariate populations with specified means and covariance matrices. *Ann. Statist.* **6** (1978), *no.* 1, 132–141. (Minoru Siotani) **57** #7875 62H30

Isiwata, Takesi Inverse images of developable spaces. *Bull. Tokyo Gakugei Univ.* (4) **23** (1971), 11–21. (Anne K. Steiner) **46** #6291 54D40

Topological completions and realcompactifications. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 941–946. (W. W. Comfort) **47** #7697 54D60

Some properties of the remainder of Stone-Čech compactifications. *Fund. Math.* **83** (1974), *no.* 2, 129–142. (Donald Plank) **50** #11155 54D35

On closed countably-compactifications. *General Topology and Appl.* **4** (1974), 143–167. (J. E. Vaughan) **49** #9811 54D35

On closed countably-compactifications and quasi-perfect mappings. *Proc. Japan Acad.* **51** (1975), *suppl.*, 779–784. (Frank Siwiec) **53** #4006 54D35 (54C10)

On extensions of open *WZ*-mappings. *Bull. Tokyo Gakugei Univ.* (4) **28** (1976), 1–11. (Author's summary) **55** #9013 54C10

d-, *d**-maps and *cb**-spaces. *Bull. Tokyo Gakugei Univ.* (4) **29** (1977), 19–52. (Edwin Duda) **56** #13145 54C10

Iskander, Awad A. Subalgebra systems of powers of partial universal algebras. *Pacific J. Math.* **38** (1971), 457–463. (O. Frink) **46** #5212 08A25

Algebraic functions on *p*-rings. *Colloq. Math.* **25** (1972), 37–41. (G. Grätzer) **46** #3414 08A25 (16A48)

On Boolean extensions of primal algebras. *Math. Z.* **124** (1972), 203–207. (Alden Pixley) **45** #5062 08A25

On subalgebra lattices of universal algebras. *Proc. Amer. Math. Soc.* **32** (1972), 32–36. (G. Grätzer) **45** #1816 08A25

On subalgebras of partial universal algebras. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 531–538. *Dept. Math., Univ. Houston, Houston, Tex.*, 1973. (James B. Nation) **53** #241 08A25

Product of ring varieties and attainability. *Trans. Amer. Math. Soc.* **193** (1974), 231–238. (F. M. Yaqub) **50** #2246 16A48

Locally finite ring varieties. *Proc. Amer. Math. Soc.* **50** (1975), 28–32. (A. Yaqub) **51** #5661 16A48

Coverings in the lattice of varieties. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp.* 189–203. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam*, 1977. (K. A. Baker) **58** #16462 08A15

The radical in ring varieties. *Acta Sci. Math.* (*Szeged*) **39** (1977), *no.* 3-4, 291–301. (N. G. Sahova) **58** #16744 16A21 (08A15)

Definability in the lattice of ring varieties. *Pacific J. Math.* **76** (1978), *no.* 1, 61–67. (P. M. Cohn) **58** #448 08A15

Iskander, Wafik (*with* Panwalkar, S. S.) A survey of scheduling rules. *Operations Res.* **25** (1977), *no.* 1, 45–61. (Authors' summary) **56** #2330 90B35

Iskanderov, R. I. *See* **Questions on differential equations, number theory, algebra and geometry**, 52 #7763 *and* **Proceedings: Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute**, 52 #13079

Iskander-Zade, Z. A. (*with* Geozalov, Ja. I.) A necessary and sufficient condition for the neutrality of a second order system. (Russian) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1975**, *no.* 6, 3–6. (Editors) **57** #6657 34C35

(*with* Utepbergenov, M.) The stability of cubic approximation in the presence of resonance. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **32** (1976), *no.* 7, 7–9. (E. L. Albasiny) **54** #14389 65L99

(*with* Geozalov, Ja. I.) The stability of third order systems. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 6, 18–22. (F. Brauer) **56** #765 34D05

(*with* Sultanova, È. S.) Solutions of a system of differential equations with a right hand part in the form of a second order homogeneous polynomial. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no.* 6, 9–14. (Authors' summary) **58** #11630 34C05

Iskaraeva, R. T. (*with* Zapletin, P. P.; Mironov, V. G.) Optimization of one-parameter linear programming problems when the parameter varies nonlinearly. (Russian) *Trudy Sem. Kaf. Teoret. Meh. i Vysš. Mat. Vyp.* 6 (1974), 76–92. **56** #7961 90C05

See also **Proceedings: Seminar of the Departments of Theoretical Mechanics and Higher Mathematics**, 48 #3668

Iskenderov, A. D. The first boundary value problem for a charged system of quasi-linear parabolic equations. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1911–1913. (J. Chabrowski) **45** #729 35K35

Inverse boundary value problems for the determination of the parameters of filtration media. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 2, 30–34. (Şt. I. Gheorghiţă) **46** #6701 76.35

A mixed problem for loaded quasi-linear equations of hyperbolic type. *Dokl. Akad. Nauk SSSR* **199** (1971), 1237–1239 (*Russian*); *translated as Soviet Math. Dokl.* **12** (1971), 1264–1267. (D. Ramakrishna Rao) **46** #5842 35L60

A certain class of nonlinear loaded integral equations. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no.* 5, 7–11. (Ulrich Kosel) **48** #817 45G99

A certain boundary value problem for quasilinear parabolic equations. (Russian) *Studies of special questions in the theory of differential equations* (*Russian*), *pp.* 65–82. *Izdat. "Èlm", Baku*, 1974. (V. Durikovič) **55** #863 35K20

A certain inverse problem for quasilinear parabolic equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 890–898, 956–957. (V. M. Isakov) **49** #9424 35K60

Multidimensional inverse problems for linear and quasilinear parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 5, 1005–1008. (A. Borzymowski) **53** #1069 35R30 (35K10)

Estimates by means of the parameter of the Green's function of a difference boundary value problem. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **32** (1976), *no.* 4, 8–13. (E. G. D'jakonov) **54** #11808 65N15

Some inverse problems on determining the right-hand sides of differential equations. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 2, 58–63. (V. M. Isakov) **58** #12044 35R30

(*with* Ahundov, A. Ja.) An application of self-similar solutions for the determination of the thermophysical characteristics of media. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 5, 82–86. (Authors' introduction) **58** #32443 80.35

An inverse problem for parabolic equations in a multidimensional domain.

(Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1977**, *no.* 1, 81–89. (Author's summary) **56** #16180 35R30 (35K10)

Iskenderov, B. A. Behavior of the solution of the Cauchy problem as $t \to +\infty$ for a Petrovskiĭ well-posed equation in a higher-dimensional space. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1973**, *no.* 2, 30–36. (V.-V. Olariu) **52** #11286 35B40

Behavior of the solution of the Cauchy problem as $t \to +\infty$ for the Sobolev-Gal′perin equation. (Russian) *Studies of special questions in the theory of differential equations* (*Russian*), *pp.* 83–94. *Izdat. "Èlm", Baku*, 1974. (V. M. Babič) **55** #824 35B40

(*with* Gasymov, M. G.) The limit amplitude principle for a hyperbolic equation with constant coefficients. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 5, 41–48. (J. Kopáček) **56** #6128 35L35

(*with* Gasymov, M. G.) The limiting amplitude principle for a hyperbolic equation with constant coefficients. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 1012–1014. (M. S. Agranovič) **51** #13464 35L35

(*with* Akimov, A. B.) The limit absorption principle, the limit amplitude principle and partial radiation conditions for a boundary value problem in an n-dimensional layer for the Helmholtz equation. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 8, 1503–1505, 1542. (Authors' summary) **56** #16133 35J05

Iskenderov, B. B. An approach to the solution of singular integral equations with a Carleman shift. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 3, 28–33. (From the text) **58** #23404 45E05 (45L10)

Iskenderov, I. D. An approach to the numerical solution of certain boundary value problems of thermophysics. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no.* 6, 31–36. **58** #14422 80.35

Iskender-Zade, Z. A. *See* **Iskander-Zade, Z. A.**

Iskovskih, V. A. (*with* Manin, Ju. I.) Three-dimensional quartics and counterexamples to the Lüroth problem. (Russian) *Mat. Sb.* (*N.S.*) **86(128)** (1971), 140–166. (Peter Brückmann) **45** #266 14J15

Birational properties of a surface of degree 4 in P_k^4. (Russian) *Mat. Sb.* (*N.S.*) **88(130)** (1971), 31–37. (M. L. Laplaza) **45** #8654 14J25

Verification of the Riemann hypothesis for certain local zeta-functions. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 3(171), 181–182. (M. Bašmakov) **54** #319 14G13

(*with* Dolgačev, I. V.) Geometry of algebraic varieties. (Russian) *Algebra. Topology. Geometry, Vol.* 12 (*Russian*), *pp.* 77–170. (*errata insert*) *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1974. (Miles Reid) **54** #305 14–02

Birational automorphisms of three-dimensional algebraic varieties. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 4, 743–745. (P. E. Newstead) **56** #15657 14J99 (14E05, 14M20)

Birational automorphisms of the Fano 3-fold V_6^3. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 3, 509–511. (Miles Reid) **57** #3144 14M20 (14J99, 14N05)

Fano varieties of the first kind. (Russian) *Uspehi Mat. Nauk* **33** (1978), *no.* 3(201), 171–172. (R. R. Simha) **58** #16688 14J10 (14J25, 14M99)

Iskra, K. K. Abel's equation. (Russian) *Collection of scientific articles in the physical and mathematical sciences* (*Publ. Grodno State Ped. Inst.*) (*Russian*), *pp.* 30–38, ii–iii. *Izdat. "Vyšèĭšaja Škola", Minsk*, 1974. (Editors) **57** #12952 34A05

Islam, Jamal N. A class of approximate stationary solutions of the Einstein-Maxwell equations. *General Relativity and Gravitation* **7** (1976), *no.* 8, 669–680. (Steve Kloster) **57** #4956 83.35

On the existence of a general rotating solution of Einstein's equations. *General Relativity and Gravitation* **7** (1976), *no.* 10, 809–815. (Shin-ichi Kitamura) **57** #8853 83.35

A class of approximate exterior rotating solutions of Einstein's equations. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 1, 161–166. (Kenneth Dunn) **52** #16477 83.35

A class of exact interior solutions of the Einstein-Maxwell equations. *Proc. Roy. Soc. London Ser. A* **353** (1977), *no.* 1675, 523–531. (Colin B. G. McIntosh) **57** #2432 83.53

On the stationary axisymmetric Einstein-Maxwell equations. *Gen. Relativity Gravitation* **9** (1978), *no.* 8, 687–690. (Garry Ludwig) **58** #20170 83.35

On rotating charged dust in general relativity. *Proc. Roy. Soc. London Ser. A* **362** (1978), *no.* 1710, 329–340. (Ilija Lukačević) **58** #20214 83.53

Islam, M. M. Impact parameter representation from the Watson-Sommerfeld transform. *Nuclear Phys. B* **104** (1976), *no.* 3, 511–532. (M. A. Rashid) **53** #4792 81.42

Islam, Sirajul (*with* Goel, Narendra S.) Error catastrophe in and the evolution of the protein synthesizing machinery. *J. Theoret. Biol.* **68** (1977), *no.* 2, 167–182. (Y. Cherruault) **58** #33114 92A10

Islamov, A. I. (*with* Kurtjakov, S. U.) Analytic solutions of a differential equation in the neighborhood of a singular point. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 1, 61–63. (A. A. Reinfelds) **49** #5464 34C05

Islamov, A. N. (*with* Mironov, A. V.) The finite-dimensionality of topological lattice-ordered groups. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1972**, *no.* 8, 3–5. (Klauss Keimel) **47** #5165 22A05 (06A55)

Finite dimensionality of locally bicompact lattice-ordered groups. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1973**, *no.* 5, 3–4. (Klaus Keimel) **48** #5948 06A55

(*with* Sarymsakov, T. A.) The existence of an outer measure on Boolean algebras, and certain questions of convergence in topological semifields. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1974**, *no.* 4, 3–5. (L. Ja. Savel′ev) **53** #760 28A60

The structure of commutative compactly generated lattice-ordered topological groups. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no.* 10, 3–4. (L. Skula) **53** #7895 06A60 (22A05)

Structure of bicompactly generated commutative topological lattice-ordered groups, and self-generating topological lattice-ordered groups. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 20 (1975), 71–73. (J. Jakubík) **57** #9630 06A55

Self-generating topological lattice-ordered groups. (Russian. Uzbek summary *Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 4, 19–22, 86. (Klaus K **55** #7880 06A55 (22A05)

Group analogues of the function spaces l_1, m and c. (Russian) *Dokl. Akad. UzSSR* **1977**, *no.* 7, 3–4. (Helmut Boseck) **57** #16461 22A99

Structure of commutative topological lattice-ordered compactly generated g (Russian) *Mat. Zametki* **21** (1977), *no.* 6, 855–860. (K. A. Ross) **57** #3297 (06A55)

Group analogues of the function spaces l_1, m and c. (Russian) *Taškent. Gos. Naučn. Trudy No.* 548 *Voprosy Mat.* (1977), 47–53, 141–142. (Author's sum **58** #30045 46A99 (22A99)

Islamov, G. G. On the question of an integral equation with deviating argument. (Rus *Differencial′nye Uravnenija* **10** (1974), 521–530, 573. (C. Corduneanu) **50** #1 47G05 (34K05, 45A05)

(*with* Azbelev, N. V.) A certain class of functional-differential equations. (Rus *Differencial′nye Uravnenija* **12** (1976), *no.* 3, 417–427, 571. (A. Halanay) **54** # 34K10

On the question of the representation of the solutions of linear functional-differential equations. (Russian) *Differencial′nye Uravnenija* **12** (1976), 1194–1203, 1340. (G. B. Gustafson) **55** #10801 34K05

See also **Proceedings: Interuniversity Scientific Conference of the Mathem Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

Islamov, K. A. (*with* Kurbatkin, G. P.; Karimov, A. U.) Solution of equations of baroclinic atmosphere dynamics by means of spherical functions. (Russian) *Metody Meh. Splošn. Sredy* **6** (1975), *no.* 2, 80–106. (RŽMat **1976** #3 B1034) **58** #32837 86.35 (35C99)

Islamov, R. R. (*with* Alekseēv, V. M.) An investigation of the stability of a phy pendulum with randomly oscillating point of suspension. (Russian) *Prikladna. M* (1971), *no.* 10, 81–84. (J. Carkovs) **46** #462 34D10 (70.34)

An investigation of parametric resonance in a gyroscopic system with allowanc dissipative forces. (Russian) *Analytic and qualitative methods of the theory of differe equations* (*Russian*), *pp.* 98–111. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, (Djordje Djukić) **50** #15498 70.34

A study of the stability of gyroscopic systems under parametric perturbat (Russian) *Prikl. Meh.* **8** (1972), *no.* 9, 72–76, 142. (J. A. Morrison) **50** #6249

belle Isle, A. P. *See* **Belle Isle, A. P.**

Isler, Romano (*with* Tironi, Gino) On some problems of local approximability in com spaces. *General topology and its relations to modern analysis and algebra, III* (*Proc.* *Prague Topological Sympos.*, 1971), *pp.* 443–446. *Academia, Prague*, 1972. (M. Rajagopalan) **50** #14672 54D55 (54A25)

Sugli spazi di convergenza deducibili da una famiglia di successioni. (En summary) *Rend. Ist. Mat. Univ. Trieste* **5** (1973), 15–20. (M. Dutta) **53** #64 54A20 (40J05)

(*with* Tironi, Gino) Su alcune invarianti cardinali in spazi topologici. (En summary) *Rend. Ist. Mat. Univ. Trieste* **7** (1975), *no.* 2, 149–155. (O. T. Alas) **54** #. 54A25

Isles, David Natural well-orderings. *J. Symbolic Logic* **36** (1971), 288–300. (S. Feferr **45** #8522 02K20

The accessibility of ε_0. *Rep. Math. Logic No.* 5 (1975), 37–42. (From the introduction) **58** #5091 02D05 (04A10)

Išlinskiĭ, A. Ju. (*with* Bogoljubov, N. N.; Gnedenko, B. V.; Drinfel′d, G. I.) Iosif Benediktovič Pogrebysskiĭ (obituary). (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 1(227–235 (1 *plate*). (Editors) **52** #5292 01A70

(*with* Oleĭnik, O. A.; Sobolev, S. L.) Ivan Georgievič Petrovskiĭ. (Russian) *Problems in mechanics and mathematical physics* (*Russian*), *pp.* 1–6. *Izdat.* "*Nau Moscow*, 1976. (Editors) **57** #12120 01A70

See also **Birthday: Išlinskiĭ, A. Ju., 48** #1867; **Theoretical and applied mecha 50** #11915; **Mechanics in the USSR in the past 50 years in four volumes, 54** #9 **Grigor′jan, A. T.; et al., 56** #5174; **History of mechanics from the end of the eighte century to the middle of the twentieth century, 58** #21246 *and* **Grigor′jan, A. T.; et 58** #32204

Islomov, H. (*with* Latipov, H. R.) Some theorems on the behavior of the characteristic systems of ordinary differential equations in 4-dimensional space. (Russian) *Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Tei pp.* 23–26. *Abh. Akad. Wissensch. DDR Abt. Math.-Naturwissensch.-Techn., No. Akademie Verlag, Berlin*, 1977. (Wolfdietrich Müller) **58** #28845 34C10 (34D20)

Ismagilov, R. S. (*with* Naĭmark, M. A.) Representations of groups and algebras in spa with indefinite metric. (Russian) *Mathematical analysis*, 1968 (*Russian*), *pp.* 73– (*errata insert*). *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Mosc* 1969. (J. M. G. Fell) **54** #3424 46K10 (22D10, 46L99, 47B50)

(*with* Šebeko, S. A.) On the question of obtaining realizable transfer functions optimal systems. (Russian) *Moskov. Inst. Èlektron. Mašinostronenija—Trudy MI No.* 15 *Funkcional. Anal. i Priložen.* (1971), 129–136. (See RŽMat **1971** #7 B988 93C99

The unitary representations of the group of diffeomorphisms of a compact manif (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 1, 79–80. (W. Wojtyński) **46** # 57E99 (22A25, 58B10)

The unitary representations of the diffeomorphism group of a compact manif (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 180–208. (W. Wojtyńs **46** #909 57E99 (22A25, 58B10)

Representations of SL(2, P), where P is not locally compact. (Russian) *Funkcio Anal. i Priložen.* **7** (1973), *no.* 4, 85–86. (A. J. Coleman) **48** #8694 22E50

The remainder algebra of random sequences. (Russian. English summary) *T Verojatnost. i Primenen.* **18** (1973), 186–193. (J. Štěpán) **47** #1094 60B15

Diameters of sets in normed linear spaces, and the approximation of functions trigonometric polynomials. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 3(177), 161– (Ivan Singer) **53** #11284 41A65

Unitary representations of the group of diffeomorphisms of the space R^n, n (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 2, 71–72. (M. Craioveanu) **51** #14143 58D05 (22E65)

The unitary representations of the group of diffeomorphisms of the space R^n, $n \geqslant 2$. (Russian) *Mat. Sb.* (*N.S.*) **98(104)** (1975), *no.* 1(9), 55–71, 157–158. (H. Moscovici) **54** #2887 22E45 (22E65, 58D05, 46L10)

Unitary representations of the group $C_0^\infty(X, G)$, $G = \mathrm{SU}_2$. (Russian) *Mat. Sb.* (*N.S.*) **100(142)** (1976), *no.* 1, 117–131, 166. (Alain Guichardet) **54** #475 22E65 (58D05)

The widths of compacta in normed linear spaces. (Russian) *Geometry of linear spaces and operator theory* (*Russian*), *pp.* 75–113. *Jaroslav. Gos. Univ., Yaroslavl*, 1977. (G. Godini) **58** #12126 41A45

Measure preserving unitary representations of diffeomorphism groups. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 3, 80–81. (Alain Guichardet) **56** #15843 22E65 (58D05)

(*with* Nasyrova, H.) Diameters of a class of smooth functions in the space L_2. (Russian) *Mat. Zametki* **22** (1977), *no.* 5, 671–678. (T. Bojanov) **57** #13318 41A45

ail, Abu Zafar Mohammad Direct recurrence formulae for some quantum mechanical eigenfunctions. (Arabic summary) *Libyan J. Sci.* **3** (1973), 75–80. (P. Achuthan) **49** #6816 81.34

A generator for the linear harmonic oscillator eigenfunctions. *Libyan J. Sci.* **4B** (1975), 45–53. (I. Kyriakopoulos) **56** #2013 81.34

ail, Mohammad On the π-weight of spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 5, 465–469. (Ivan L. Reilly) **56** #13139 54A25 (54G20)

ail, Mourad El-Houssieny (*with* Fields, Jerry L.) On some conjectures of Askey concerning completely monotonic functions. *Spline functions and approximation theory* (*Proc. Sympos., Univ. Alberta, Edmonton, Alta.*, 1972), *pp.* 101–111. *Internat. Ser. Numer. Math., Vol.* 21, *Birkhäuser, Basel*, 1973. (G. Gasper) **51** #10707 33A30 (41A15)

Orthogonal polynomials in a certain class of polynomials. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **20(24)** (1974), *no.* 1-2, *secţ. I*, 45–50. (V..L. Deshpande) **50** #658 33A65

On a generalization of Szász operators. *Mathematica* (*Cluj*) **16(39)** (1974), *no.* 2, 259–267 (1977). (A. Lupaş) **58** #29601 41A10

On obtaining generating functions of Boas and Buck type for orthogonal polynomials. *SIAM J. Math. Anal.* **5** (1974), 202–208. (R. P. Boas, Jr.) **49** #3248 33A65

(*with* Askey, Richard A.; Gasper, George) A positive sum from summability theory. Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, IV. *J. Approximation Theory* **13** (1975), 413–420. (H. P. Dikshit) **51** #6207 40Cxx (33A30)

(*with* Al-Salam, Waleed A.) Some operational formulas. *J. Math. Anal. Appl.* **51** (1975), 208–218. (R. K. Saxena) **52** #8821 44A45

(*with* Fields, Jerry L.) Polynomial expansions. *Math. Comp.* **29** (1975), 894–902. (C. M. Joshi) **51** #8680 41A10 (33A65)

Dual and triple sequence equations involving orthogonal polynomials. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), 164–169. (J. L. Fields) **52** #3901 45F10

A sequence-to-function analogue of the Hausdorff means for double sequences: the $[J, f(x,y)]$ means. *Proc. Amer. Math. Soc.* **48** (1975), 403–408. (F. P. Cass) **51** #1196 40G05

(*with* Fields, Jerry L.) On the positivity of some ${}_1F_2$'s. *SIAM J. Math. Anal.* **6** (1975), 551–559. (R. S. Dahiya) **50** #13635 33A30

(*with* Askey, Richard A.) Permutation problems and special functions. *Canad. J Math.* **28** (1976), *no.* 4,.853–874. (D. P. Roselle) **53** #10594 05A15 (33A65)

(*with* Al-Salam, Waleed A.) Polynomials orthogonal with respect to discrete convolution. *J. Math. Anal. Appl.* **55** (1976), *no.* 1, 125–139. (A. G. Law) **53** #13986 42A52

(*with* Kelker, Douglas H.) The Bessel polynomials and the Student t distribution. *SIAM J. Math. Anal.* **7** (1976), *no.* 1, 82–91. (F. W. J. Olver) **52** #12164 62E15 (33A40)

Bessel functions and the infinite divisibility of the Student t-distribution. *Ann. Probability* **5** (1977), *no.* 4, 582–585. (F. W. Steutel) **56** #6786 60E05

Integral representations and complete monotonicity of various quotients of Bessel functions. *Canad. J. Math.* **29** (1977), *no.* 6, 1198–1207. (F. W. J. Olver) **57** #3474 33A40 (44A20)

Connection relations and bilinear formulas for the classical orthogonal polynomials. *J. Math. Anal. Appl.* **57** (1977), *no.* 3, 487–496. (T. S. Chihara) **55** #3366 33A65

(*with* Rashed, Thanaa M. T.) Polynomial expansions and generating functions. *J. Math. Anal. Appl.* **57** (1977), *no.* 3, 724–731. (H. L. Manocha) **55** #8440 33A70

(*with* Al-Salam, Waleed A.) A family of operational calculi. *Math. Japon.* **22** (1977/78), *no.* 5, 571–583. (L. Berg) **58** #2061 44A40

A simple proof of Ramanujan's ${}_1\psi_1$ sum. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 1, 185–186. (G. E. Andrews (Zbl **351** #33002)) **58** #22695 33A30 (10A45)

(*with* Al-Salam, Waleed A.) Reproducing kernels for q-Jacobi polynomials. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 105–110. (Mizan Rahman) **56** #12355 33A65

On solving certain differential equations with variable coefficients. *Aequationes Math.* **17** (1978), *no.* 2-3, 148–153. (D. P. Gupta) **58** #17253 33A65

On solving differential and difference equations with variable coefficients. *J. Math. Anal. Appl.* **62** (1978), *no.* 1, 81–89. (J. B. McLeod) **58** #1321 34A05 (39A10)

(*with* Muldoon, Martin E.) Monotonicity of the zeros of a cross-product of Bessel functions. *SIAM J. Math. Anal.* **9** (1978), *no.* 4, 759–767. (L. Lorch) **58** #6388 33A40 (34B25)

Ismailov, A. I. The distribution of the busy period in a certain queueing model. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1970**, *no.* 5, 3–4. (A. Obretenov) **52** #6911 60K25

(*with* Viskov, O. V.) A queueing system with a bounded queue. (Russian) Studies in mathematical statistics, and related questions. *Taškent. Gos. Univ. Naučn. Trudy No.* 402 (1972), 17–29. (Z. Khalil) **50** #3399 60K25

An ergodic theorem for a certain queueing model. (Russian) *Random processes and statistical inference, No.* 5 (*Russian*), *pp.* 55–57, 202. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1975. (M. A. Faĭnberg) **53** #4286 60K25

Ismailov, A. Ja. (*with* Tagieva, M. A.) Interpolation by pseudopolynomials in the complex domain. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1971**, *no.* 1, 66–73. (Boris Pavlov) **45** #5374 30A80

(*with* Mansurov, M.; Salaev, V. V.) A singular integral of the theory of analytic functions in the sense of Vekua. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 1041–1044. (N. K. Karapetjanc) **50** #3010 47G05

The limit values of a Cauchy type integral of the theory of analytic functions in the sense of Vekua in domains with a nonsmooth boundary. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 1306–1309. (D. A. Brannan) **52** #11062 30A86

A uniqueness theorem for a generalization of analytic functions. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1975**, *no.* 5, 74–78 (1976). (A. Džuraev) **56** #637 30A93

(*with* Tagieva, M. A.) Uniqueness theorems for entire generalized analytic functions. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1976**, *no.* 3, 27–32. (I. N. Baker) **56** #8865 30A92

(*with* Tagieva, M. A.) The problem of "two points" in a class of entire generalized analytic functions. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1976**, *no.* 4, 27–30. **57** #16623 30A92

Uniform approximations of generalized analytic functions in a closed domain. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 3, 69–73. (RŽMat **1978** #8 B60) **58** #17137 30A92 (30A82)

Ismailov, A. P. (*with* Abbasov, A. A.; Babatov, D. A.) Determination of the temperature field in an oil layer when hot water is injected, with allowance made for an inhomogeneity in its thermophysical properties. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 3, 74–79. **50** #1647 80.35

Ismailov, D. A. (*with* Ibragimov, Š. I.) An analogue of the method of straight lines for a first order nonlinear differential equation in a Banach space. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1970**, *no.* 1, 57–69. (L. Janos) **45** #7323 35R20 (47H15)

The convergence of a two-layer scheme for a first order differential equation in Hilbert space. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1973**, *no.* 2, 26–31. (A. Szép) **51** #1052 34G05

Approximate methods for the solution of abstract differential equations in a Hilbert space. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1975**, *no.* 4, 34–43. (A. Szép) **56** #9019 34G05

(*with* Mamedov, Ja. D.) Approximate methods for the solution of abstract differential equations in a Banach space. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 5, 921–923, 950. (K. Goebel) **52** #3684 34G05

Ismailov, M. A. On the solution of the fundamental mixed boundary value problem of the static theory of shallow spherical shells. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1971**, *no.* 4(42), 9–16 (1972). (C. I. Borş) **46** #8512 73.35

On the solution of the fundamental boundary value problems for a closed semi-infinite cylindrical shell. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no.* 2, 6–9. (S. Drobot) **48** #9133 35Q99

A new form of integral equations for a boundary value problem in the theory of shallow spherical shells in the case of a freely supported edge. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no.* 3, 9–13. (S. Drobot) **48** #10260 73.35

(*with* Stepanova, N. N.) On the solution of fundamental boundary value problems of the elastic equilibrium of a shallow spherical shell. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **18** (1975), *no.* 6, 11–14. (S. Drobot) **54** #1790 73.35

The general mixed boundary value problem for the differential equation of the elastic equilibrium of a shallow spherical shell. I. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 2(64), 3–8. (Author's summary) **56** #13919 73.35

The general mixed boundary value problem for the differential equation of the elastic equilibrium of a shallow spherical shell. II. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 4(66), 3–10. (Author's summary) **58** #14142 73.35

Ismailov, Š. M. The connection of the radius of a digraph with the number of its arcs. (Russian) *Upravljaemye Sistemy No.* 4-5 (1970), 35–38. (Not reviewed) 05C20

A lower bound for the number of arcs of a digraph with a given radius and number of bicomponents. (Russian) *Upravljaemye Sistemy No.* 6 (1970), 71–75. (Not reviewed) 05C99

The number of arcs of a digraph of a given radius with a given number of vertices and strong components. (Russian. Azerbaijani summary) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **27** (1971), *no.* 2, 8–12. (L. S. Mel′nikov) **45** #3250 05C20

Ismailov, Z. I. (*with* Rahimov, G. R.) The stability of trivial solutions. (Russian. English summary) *Teoret. Èlektrotehn. No.* 16 (1974), 93–97, 163. (Authors' summary) **58** #17353 34D10

Ismailova, U. L. (*with* Jakubov, S. Ja.) "Global" solvability of a mixed problem for a quasilinear equation of Schrödinger type. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 6, 67–71. (P. P. Zabreĭko) **51** #13794 47H15 (35J10)

(*with* Ahundov, D. A.) Global solvability of a mixed problem for a second order quasilinear hyperbolic equation. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1975**, *no.* 2, 10–16. (P. P. Zabreĭko) **53** #11440 47H15 (35L20)

Ismatov, M. Sufficient conditions for the absolute convergence of the Fourier series with respect to eigenfunctions of the operator of the theory of elasticity. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **13** (1970), *no.* 5, 7–9. (A. Peyerimhoff) **46** #601 35P10 (42A60)

Expansion in eigenfunctions of the operator of elasticity theory. (Russian) *Differencial'nye Uravnenija* **8** (1972), 659–670. (E. Sánchez Palencia) **46** #5853 35P10 (73.42)

Eigenfunction expansions for the operator of elasticity theory in an unbounded domain, and a justification of the Fourier method for a system of equations of elasticity theory. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **15** (1972), *no.* 3, 7–10. (H. Triebel) **46** #4018 35P10 (73.42)

Conditions for the absolute and uniform convergence of expansions in the eigenfunctions of an operator of elasticity theory, and the basis for Fourier's method. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no.* 7, 3–5. (Ju. M. Berezanskiĭ) **50** #10563 35P10

The convergence of series and generalized Fourier integrals in eigenfunctions of the operator of elasticity theory. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1974**, *no.* 4 (54), 15–28, 120. (D. M. Eidus) **54** #13334 35P10

Expansion in the eigenfunctions of the second boundary value problem of elasticity theory, and the substantiation of Fourier's method. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 12, 2220–2230, 2301 (M. M. Skriganov) **52** #14685 35P10

The absolute and uniform convergence of generalized Fourier integrals, and the basis for Fourier's method. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik SSR* **18** (1975), *no.* 10, 3–6. (V. M. Babič) **53** #6070 35C15 (73.35)

The absolute and uniform convergence of Fourier series in the eigenfunctions of the operator of elasticity theory in an entire closed domain, and a substantiation of Fourier's method. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 10, 1824–1831, 1918. (M. M. Skriganov) **56** #6078 35C99 (35P10, 73.35)

The solvability of the first mixed problem of the dynamics of a three-dimensional elastic body. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 12, 2223–2232, 2300. (From the author's text) **56** #7413 73.35

Solvability of mixed problems of elasticity theory. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 3, 7–10. (Editors) **57** #4758 73.35

Ismatullaev, G. P. (*with* Mahmudov, A. A.) *D*-optimal designs on an *n*-dimensional ball. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 43 (1976), 19–27, 147. (RŽMat **1977** #6 V183) **58** #31628 62K05

Some cubature formulas for a domain and weight that are symmetric with respect to coordinate planes. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 45 (1977), 12–16, 189. (RŽMat **1977** #10 B1134) **58** #31748 65D30

Ismatullaev, H. N. Equations for the identification of objects in a closed system by means of additional perturbations. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 93 (1977), 18–23, 94. **57** #5251 93B30

Ismatullaev, Šo. A. (*with* Zuparov, T. M.) On additive problems with an increasing number of terms. (Russian) *Random processes and statistical inference, No.* 3 (*Russian*), *pp.* 73–77. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1973. (B. Volkmann) **51** #12698 10B30 (10J99)

Uniform limit theorems and their application to additive problems with an increasing number of terms. (Russian) *Random processes and statistical inference, No.* 4 (*Russian*), *pp.* 58–63, 210. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1974. (J. Kubilius) **52** #3050 10B25 (10J99, 60F10)

An additive problem with a rapidly increasing function. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 3, 29–34, 102. (J. Galambos) **50** #7024 10B35 (10J20, 10K20)

A multidimensional additive problem with an increasing number of summands. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 4, 16–20, 80. (W. H. Simons) **52** #13631 10B30 (10J99)

(*with* Zuparov, T. M.) An additive problem with an increasing number of prime summands. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 4, 79–87, 235. (A. I. Vinogradov) **53** #5517 10J20 (10B35)

A remark on a theorem of A. G. Postnikov (Izv. Akad. Nauk SSSR Ser. Mat. **20** (1956), 661–666). (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 2, 74–75. (R. A. Rankin) **53** #2860 10G05 (10H35, 10K05)

A two-dimensional additive problem with an increasing number of summands. (Russian) *Mat. Zametki* **18** (1975), *no.* 1, 19–26. (W. Schwarz) **52** #3051 10B25 (10J99, 10K99)

Ismoilov, D. The summation of arithmetic functions. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **14** (1971), *no.* 11, 7–11. (J. Galambos) **45** #202 10K20

Distribution of integral points on an elliptic cone of order two. (Russian) *Tadžik. Gos. Univ. Trudy Meh.-Mat. Fak. Vyp.* 2 (1972), 102–122. (M. Bašmakov) **54** #5152 10J25

Lattice points in three-dimensional domains, and their applications to cones. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no.* 8, 6–9. (B. Novák) **50** #2103 10J25

Išmuhamedov, M. *See* **al-Fārābi, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **56** #5132

Išmuhametov, T. H. *See* **Studies in the theory of plates and shells**, **48** #3343

Isnard, C. A. S. The topological degree on Banach manifolds. *Global analysis and its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., Trieste*, 1972), *Vol. II*, *pp.* 291–313. *Internat. Atomic Energy Agency, Vienna*, 1974. (Christian Fenske) **55** #9141 58B15 (58E99)

Iso, Chikashi (*with* Fukuda, Hiroshi) Deep-inelastic lepton nucleon scattering by new type of quark cascade model. I. Structure functions of charged lepton nucleon scattering. *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1472–1485. **56** #10578 81.47

Iso, Yasuyuki (*with* Yanaru, Torao) Some properties of the point processes generated by integral density modulation of renewal processes. *Kybernetik* (*Berlin*) **16** (1974), 9–25. (K. B. Erickson) **50** #3369 60K99

Isobe, Kiro (*with* Higashiyama, Teiko) A certain expansion of positive cone of partially ordered linear spaces. *Mem. Kitami Inst. Tech.* **3**, 509–511 (1972). (A. Revuz) **47** #104 06A65

A note about positive cones in vector spaces. (Japanese. English summary) *Mem. Kitami Inst. Tech.* **4**, 155–158 (1972). (T. Andô) **48** #2022 06A65

A note on the definition of Boolean rings. (Japanese. English summary) *Mem. Kitami Inst. Tech.* **4**, 321–325 (1973). (T. Andô) **48** #2016 06A40

Some notes on semi-ordered sets which form positive cones of semi-ordered vector spaces. (Japanese. English summary) *Mem. Kitami Inst. Tech.* **5**, 103–107 (1973). (I. Namioka) **48** #6881 46A40

Note on convex subgroups of partially ordered abelian groups. *Mem. Kitami Inst. Tech.* 7 (1975/76), *no.* 1, 197–199. (R. Madell) **53** #7896 06A60

On derivatives and mean values: a note on the differentiability of real functions. (Japanese. English summary) *Mem. Kitami Inst. Tech.* **8** (1976/77), *no.* 1, 133–139. (Chr. Y. Pauc) **55** #586 26A24

Isobe, Masahiko (*with* Nishimura, Hitoshi; Horikawa, Kiyoshi) Higher order soluti of the Stokes and the cnoidal waves. *J. Fac. Engrg. Univ. Tokyo Ser. B* **34** (1977), 267–293. (C. Rogers) **57** #14887 76.41

Isogai, Eiichi (*with* Tanaka, Kensuke; Iwase, Seiichi) On a sequential procedure with memory for testing statistical hypotheses. *Sci. Rep. Niigata Univ. Ser. A No.* 11 (31–39. (Mayer Alvo) **49** #8243 62L10

(*with* Tanaka; Kensuke; Iwase, Seiichi) A sequential procedure with finite me for some statistical problem. *Sci. Rep. Niigata Univ. Ser. A No.* 11 (1974), (Mayer Alvo) **49** #8244 62L10

(*with* Tanaka, Kensuke) A sequential procedure with finite memory for selecti population with the largest mean from *m* normal populations. *Tamkang J. M* (1974), *no.* 1, 53–73. (A. F. Ifram) **50** #15203 62L10 (62F07)

On strong consistency of a sequential estimator of probability density. *Sci Niigata Univ. Ser. A No.* 15 (1978), 25–33. (M. Iosifescu) **57** #17930 62G05

Isogai, Takafumi (*with* Fujikoshi, Yasunori) Lower bounds for the distributions of c multivariate test statistics. *J. Multivariate Anal.* **6** (1976), *no.* 2, 250–255. (N. **55** #1615 62H10

Asymptotic expansions for the distributions of latent roots of $S_hS_e^{-1}$ and of c test statistics in MANOVA. *Ann. Inst. Statist. Math.* **29** (1977), *no.* 2, 23 (Author's summary) **58** #31581 62H10

Isomichi, Yoshinori New concepts in the theory of topological space—supercondense subcondensed set, and condensed set. *Pacific J. Math.* **38** (1971), 657–668. (Tim Cramer) **46** #9919 54B05

Stochastic learning for pattern recognition. *Systems-Computers-Controls* **2** (*no.* 1, 28–36 (1972). (S. Huzino) **46** #6652 68A25 (68A45)

Theory of probabilistic learning machines. *Systems-Computers-Controls* **2** (*no.* 4, 63–69. (From the author's introduction) **54** #14894 94A35

Floating disk method—a model of self-learning. *Electron. Commun. Japa* (1972), *no.* 7, 124–130. (R. Jakubowski) **58** #14003 68A45

Non-parametric learning of distribution functions using stochastic approximati *Systems-Computers-Controls* 4 (1973), *no.* 3, 17–22. (Eugene S. Santos) **49** #11879 **50**) 68A45

Self-learning of finite-mixture distributions by stochastic approximation met *Systems-Computers-Controls* **4** (1973), *no.* 6, 63–67. (Author's summary) **57** #4 68A45

Learning of predicting function and mechanism of improving recognition rate context. *Systems-Computers-Controls* **4** (1973), *no.* 6, 68–72. (Jana Zvárová) **52** # 68A45

Isomoto, Yukuo Numerical integration by bicubic spline function. *Information Proce in Japan* **15** (1975), 16–20. (Henning Esser) **54** #1553 65D30

Isonaga, Susumu Une remarque sur le prolongement analytique d'une fonction méromorphe. *Publ. Res. Inst. Math. Sci.* **10** (1974/75), *no.* 1, 235–241. (W. B **52** #3595 32D15

Ispas, C. I. On the equivalence of Bianchi and Veblen identities in Finsler-Cartan-Kawaguchi spaces. Commemoration volumes for Prof. Dr. Aki Kawaguchi's seventieth birthday, Vol. III. *Tensor* (*N.S.*) **26** (1972), 468–476. (Beem) **54** #1115 53B40

On the equivalence of Bianchi and Veblen identities in Finsler-Cartan-Kawa spaces. II. *Proceedings of the Institute of Mathematics Iaşi* (1974), *pp.* 51–55. *Ea Acad. R. S. R., Bucharest*, 1976. (J. K. Beem) **56** #3762 53B40

Isphording, Ute Ein Matrizenalgorithmus zur Minimierung der Schalteranzahl in Schalternetzwerken. (English summary) *Arch. Elek. Übertr.* **24** (1970), 132–138. Doetsch) **46** #6947 94A20

Zur Theorie der Blocksynchronisation von Zeitmultiplexsystemen. *Siemens Forsch.-und Entwicklungsber.* 3 (1974), 13–18. (Ian Blake) **50** #12438 94A10

höfle-Isphording, Ute *See* **Höfle-Isphording, Ute**

ben-Israel, Adi *See* **Ben-Israel, Adi**

Israel, Giorgio (*with* Girardi, Mario) Una caratterizzazione degli ampliamenti galois (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1 *no.* 4, 494–498. (Gerald S. Garfinkel) **54** #5200 12F10

(*with* Mendolia, Antonia) Sull'ordine di un modulo finitamente generato e grad su un anello di polinomi. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Mat. Natur.* (8) **62** (1977), *no.* 1, 1–8. (Authors' summary) **58** #22048 13F20 (13H99, 14C20, 14M10)

ben-Israel, I. *See* **Ben-Israel, I.**

Israel, Robert B. Perturbations of Fredholm opreators. *Studia Math.* **52** (1974), 1–8 Goldberg) **50** #5521 47B30 (47A55)

Existence of phase transitions for long-range interactions. *Comm. Math. Phys* (1975), 59–68. (G. Lassner) **56** #17650 82.47

High-temperature analyticity in classical lattice systems. *Comm. Math. Phys.* (1976), *no.* 3, 245–257. (K. S. Viswanathan) **56** #4578 82.06

Israel, Werner Source of the Kerr metric. *Phys. Rev. D* (3) **2** (1970), 641–646. (S. De **53** #7355 83.53

Event horizons and gravitational collapse. *General Relativity and Gravitatio* (1971), 53–59. (A. K. Guc) **53** #2265 83.35

The relativistic Boltzmann equation. *General relativity* (*papers in honour of J Synge*), *pp.* 201–241. *Clarendon Press, Oxford*, 1972. (From the introduction) **58** #2 83.45 (85.45)

Foundations of a relativistic kinetic theory of spinning particles. (French summa *Théories cinétiques classiques et relativistes* (*Colloq. Internat. Centre Nat. Recherche No.* 236, *Paris*, 1974), *pp.* 169–182. *Centre Nat. Recherche Sci., Paris*, 1975. (Auth summary) **58** #32735 83.35

(*with* Bailey, Ian) Lagrangian dynamics of spinning particles and polarized medi general relativity. *Comm. Math. Phys.* **42** (1975), 65–82. (A. H. Taub) **55** #514 83.53

Nonstationary irreversible thermodynamics: a causal relativistic theory. *Ann. Physics* **100** (1976), *no.* 1-2, 310–331. (Antonio Romano) **54** #11995 80.53 (83.5

Thermo-field dynamics of black holes. *Phys. Lett. A* **57** (1976), *no.* 2, 107–109. V. Mickevič) **55** #5156 83.53

Relativistic effects in dielectrics: an experimental decision between Abraham

Minkowski? *Phys. Lett. B* **67** (1977), *no.* 1, 125–127. (From the author's text) **55** #7130 78.53 (83.53)

The dynamics of polarization. *General Relativity and Gravitation* **9** (1978), *no.* 5, 51–468. (P. A. Goodinson) **57** #11613 83.53

li, M. A fast implicit numerical method for time dependent viscous flows. *Studies in Appl. Math.* **49** (1970), 327–349. (M. G. Hall) **47** #4536 76.65

lit, Mark Equations of motion in Rosen's bimetric theory of gravitation. *General Relativity and Gravitation* **7** (1976), *no.* 8, 623–641. (Kenneth Dunn) **57** #8854 83.35

The two-body problem in Rosen's bimetric theory of gravitation. *General Relativity and Gravitation* **7** (1976), *no.* 11, 857–868. (Kenneth Dunn) **58** #4155 83.35

sraeljan, L. A. *See* **Ter-Israeljan, L. A.**

ilov, R. H. An estimate of the oscillating solutions of a linear homogeneous system of differential equations with retarded argument. (Russian) *Differencial'nye Uravnenija* **10** 1974), 1242–1247, 1340. (K. Smítalová) **50** #13811 34K15

Sufficient conditions for the asymptotic stability of a second order differential equation with retarded argument. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 9 (172), 70–75. (R. F. Datko) **56** #9041 34K20

lov, I. Existence and uniqueness of the solutions of a certain class of differential-extremal equations with retarded argument. (Russian) *Voprosy Kibernet. Vyčisl. Mat. No.* 23 (1968), 64–73. (L. J. Grimm) **49** #5510 34K05

(*with* Ruzikulov, Dž.) Solution of nonlinear integro-differential equations with deviating argument with initial and boundary conditions. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 235 *Voprosy Algebry, Teorii Čisel, Differencial. i Integral. Uravnenii* (1973), 76–83. (Z. Caljuk (RŽMat **1974** #4 B375)) **58** #23437 45J05

Existence and stability of the solution of a certain class of functional equations of dynamic programming. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 3, 16–20, 95. (Irinel Dragan) **52** #9045 49C99 (39A30)

A functional equation. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 296 (1976), 35–40, 174. (Author's summary) **58** #23224 39A15

See also **Abstracts: Conference of the Faculties on Advances in Research**, **48** #3665 *and* **Questions on differential equations, number theory, algebra and geometry**, **52** #7763

ilov, M. I. The restoration of functions, given by their moments, by means of Bernoulli polynomials. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1967**, *no.* 10, 7–10. (M. Nevel'son (RŽMat **1968** #9 B4)) **46** #5923 42A56

An asymptotic formula for the number of solutions of a certain Diophantine equation. (Russian) *Mat. Sb.* (*N.S.*) **82(124)** (1970), 360–370. (F. Schweiger) **48** #2070 10B99

The number of solutions of a certain inhomogeneous Diophantine equation. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1972**, *no.* 11, 12–14. (J. B. Roberts) **47** #4965 10L05 (10A40, 10B35)

An asymptotic formula for a certain sum that is connected with the solution of Diophantine equations. (Russian) *Random processes and statistical inference, No.* 3 (*Russian*), *pp.* 85–100. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1973. (W. Schwarz) **51** #8030 10B25 (10K20, 42A44)

The generalized Waring problem with an increasing number of polynomial terms. (Russian) *Random processes and statistical inference, No.* 4 (*Russian*), *pp.* 64–72, 210. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1974. (Karl-Heinz Indlekofer) **51** #12755 10J05 (10B15)

(*with* Maksudov, T. S.) Cubature formulae for singular integrals with Hilbert kernel on the class of functions E_n^α. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1974**, *no.* 8, 10–12. (Walter Gautschi) **52** #2153 65D30

Certain uniform local theorems. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 5, 25–31, 65–66. (F. Schweiger) **51** #413 10K20 (60B15)

(*with* Maksudov, T. S.) Quadrature and cubature formulas for singular integrals with a Hilbert kernel on the function class E_n^α. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 28 (1974), 31–45, 179. (Authors' summary) **58** #13638 65D30

(*with* Èndibaev, K. M.) Fourier series of the Epstein zeta-function. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 34 (1975), 15–27, 197. (I. Kátai) **57** #3089 10H10

The number of solutions of a Diophantine equation with polynomial terms. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 2, 19–25, 86. (Ekkehard Krätzel) **53** #10710 10B30 (10H25)

(*with* Maksudov, T. S.) Approximate solution of singular integral equations by the iteration method. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 1, 9–10. (T. G. Gegelia) **58** #2105 45L05 (45E99)

(*with* Džurakulov, R.) An application of Hermitian splines to the computation of Cauchy type integrals and singular integrals. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 9, 9–11. (Gheorghe Micula) **58** #1907 41A55 (41A15, 65D30)

Additive problems with an increasing number of polynomial terms. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 3, 9–14, 85. (W. Schwarz) **56** #8492 10B30 (10J99, 60F99, 60E05)

(*with* Džurakulov, R.) The construction of weighted quadrature formulas for integrals of Cauchy type and singular integrals by means of Hermitian splines. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 47 (1977), 3–15, 160. **58** #19049 65D30

railov, M. Š. Certain problems of diffraction by deformable obstacles. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 2, 113–116. (Simona Popp) **53** #9849 78.35

Some exact solutions of problems on the diffraction of elastic waves by a segment. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 5, 1074–1076. (V. M. Babic) **55** #9667 73.45

railov, S. V. (*with* Ahmedov, K. T.) The Cauchy-Nicoletti multipoint boundary value problem for systems of differential equations with deviating argument, and certain questions on the oscillation of the solutions. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **29** (1973), *no.* 9, 12–15. (Á. Elbert) **51** #6084 34K10

(*with* Tankiev, I. A.) Application of the transformation of functions of a complex variable for representations of functions of a real argument and solution of difference-differential equations. (Russian) *Methods of the theory of analytic functions* (*Russian*), *pp.* 33–35, *Severo-Oset. Gos. Univ., Ordzhonikidze*, 1974. (See RŽMat **1975** #7 B119) 34K05

(*with* Ahmedov, K. T.) On the theory of the initial singular problem for systems of ordinary differential equations with retarded argument. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **30** (1974), *no.* 1, 12–15. (K. Smítalová) **50** #2641 34K05

(*with* Ahmedov, K. T.) Solution of a certain class of linear integrodifferential equations with retarded argument. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **30** (1974), *no.* 5, 12–15. (S. D. Miluševa) **51** #3827 45J05 (34K05)

A multipoint Cauchy-Nicoletti boundary value problem for systems of differential equations with retarded argument, and some questions on the oscillation of the solutions. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1974**, *no.* 4, 72–76, 138. (István Győri) **56** #12495 34K10

(*with* Tankiev, I. A.) Construction of complete continuous operators for systems of loaded integral equations with fixed singularities by the mapping method. (Russian) *Mapping methods* (*Russian*), *pp.* 81–87. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (N. K. Karapetjanc) **58** #12242 45E10

(*with* Tankiev, I. A.) Ordinary differential equations with a multipoint singularity. (Russian) *Mapping methods* (*Russian*), *pp.* 107–112. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (E. S. Čičkin) **58** #6445 34B10

(*with* Tankiev, I. A.) An integral equation and the solvability of some multipoint boundary value problems. (Russian) *Mapping methods* (*Russian*), *pp.* 112–120. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (Š. Schwabik) **58** #1343 34B10 (44A05)

(*with* Tankiev, I. A.) Theorems on the existence of solutions of the singular Cauchy-Nicoletti problem for a countable system of ordinary differential equations. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1976**, *no.* 4, 69–73. **58** #1514 35A99 (34G05)

Israpilov, R. B. A certain generalization of Borel's exponential method of summation. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **24** (1969), *no.* 2, 9–14. (Editors) **54** #3217 40G10

Issa, R. B. The fundamental lemma of I. P. Privalov on integrals ofCauchy type. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1975**, *no.* 5, 27–39 (1976). (L. G. Mihaĭlov) **54** #2979 30A86

(*with* Salaev, V. V.) A class of spaces of continuous functions that are connected with a singular Cauchy integral along a closed curve. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 1 *Fiz. i Mat.*, 66–73. (Ju. I. Karlovič and G. S. Litvinčuk) **58** #12320 46E15 (30A86)

A class of functions that is invariant with respect to a Cauchy singular integral. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 2, 82–92. (B. S. Rubin) **58** #23381 44A25

Issel, Walter Über einige Probleme der Umformung der Syntax von ALGOL 60 in eine Operator-Präferenz-Grammatik und der syntaktischen Analyse von ALGOL 60 mit dieser Grammatik. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 211–223. (P. Deussen) **49** #10174 68A05 (68A30)

A model for PL/1 list-processing using the method of semantic bricks. (German and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **12** (1976), *no.* 11-12, 567–587. (K. H. V. Booth) **56** #7297 68A05

Issman, Samuel *See* **Apostel, Léo**, **58** #21288

Istamov, A. Concerning some Diophantine equations. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 235 *Voprosy Algebry, Teorii Čisel, Differencial. i Integral. Uravnenii* (1973), 52–56. (From the text) **57** #16189 10B30 (10H25)

The number of different solutions of a certain Diophantine equation. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 235 *Voprosy Algebry, Teorii Čisel, Differencial. i Integral. Uravnenii* (1973), 56–61. (From the text) **57** #16188 10B25 (10H25)

See also **Questions on differential equations**, **52** #7762

Ištirjakov, M. S. *See* **Collection: Al'muhamedov, M. I.**, **50** #1795

Istomin, L. A. The solution of certain inverse problems of mathematical programming. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 1013–1015. (S. Zlobec) **50** #15907 90C05

Solution of a certain inverse problem of mathematical programming by the convolution method. (Russian) *Proceedings of the Sixth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1973) (*Russian*), *pp.* 60–63. *Central. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow*, 1975. (Editors) **56** #14753 90C99

A finite algorithm for the minimization of a concave function on a polyhedron. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR Vyp.* 18 *Metody Feĭer. Tipa v Vypukl. Programmirovanii* (1975), 71–81, 100. (G. D. Maĭstrovskiĭ) **58** #19130 65K05

A modification of the method of Hoàng Tuy for the minimization of a concave function on a polyhedron. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1592–1597, 1630. (Jürgen Guddat) **57** #4515 65K05 (90C50)

Istomin, N. V. The time derivative of a bivector function and that of a biaffinor function. (Russian) *Jaroslav. Tehn. Inst. Fiz.-Mat. Nauk. Sb. Naučn. Trudov* **32** (1972), 51–61. (*errata insert*) (M. Mişicu) **55** #7059 73.53 (53A45)

A connection between the affinors of the moments of systems of external forces, internal forces and inertial forces. (Russian) *Jaroslav. Tehn. Inst. Fiz.-Mat. Nauk. Sb. Naučn. Trudov* **32** (1972), 62–81. (M. Mişicu) **55** #7060 73.53

Istomin, V. V. The geometry of cones in quasinormed abelian groups. (Russian) *Functional analysis, No.* 6: *Theory of operators in linear spaces* (*Russian*), *pp.* 65–75. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk*, 1976. (Editors) **58** #23495 46A99 (46B99)

Istomina, L. I. The inversive plane of order 5. (Russian) *Kombinatornyĭ Anal. Vyp.* 2 (1972), 73–85. (J. Cofman) **58** #21702 05B25

Uniqueness of the circle plane of order 11. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 156 *Kibernet.-Mat. Metody Issled. Processov i Struktur* (1976), 81–83. (Armin Herzer) **57** #10589 50D45 (05B25)

Istrail, Sorin On the weak equivalence problem of extended SICK OL-systems with some generative devices. *An. Ştiinţ. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **23** (1977), *no.* 2, 419–422. (Not reviewed) 68A30

On irreducible languages and nonrational numbers. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **21(69)** (1977), *no.* 3-4, 301–308. (Jiri Adámek) **58** #25142 68A30

On formal construction of algebraic numbers of degree two. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 9, 1235–1239. (K. Lakkis) **56** #15602 12A10 (68A30)

On some symmetric operators defined on finitely generated free semigroups. (Romanian. English summary) *Stud. Cerc. Mat.* **29** (1977), *no.* 4, 385–393. (André Lentin) **57** #6267 20M35 (68A30)

Tag systems generating Thue irreductible sequences. *Information Processing Lett.* **7** (1978), *no.* 3, 129–131. (From the introduction) **58** #5110 02F05

A problem regarding contextual grammars with choice. (Romanian. English summary) *Stud. Cerc. Mat.* **30** (1978), *no.* 2, 135–139. (Gheorghe Păun) **58** #19385 68A30

Istrăţescu, Ana I. (*with* Istrăţescu, Vasile I.) On the theory of fixed points for some classes of mappings. III. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **49** (1970), 43–46 (1971). (S. Swaminathan) **50** #10921c 47H10 (54H25)

(*with* Istrăţescu, Vasile I.) On the theory of fixed points for some classes of mappings. I. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **14(62)** (1970), *no.* 4, 419–426 (1972). (S. Swaminathan) **50** #10921a 47H10 (54H25)

(*with* Istrăţescu, Vasile I.) On the theory of fixed points for some classes of mappings. V. (Italian summary) *Atti. Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **51** (1971), 162–167. (S. Swaminathan) **50** #10921e 47H10 (54H25)

(*with* Istrăţescu, Vasile I.) On the theory of fixed points for some classes of mappings. IV. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 1, 33–45 (1972). (S. Swaminathan) **50** #10921d 47H10 (54H25)

On a generalization of probabilistic metric spaces. I. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 3, 341–350 (1973). (B. Schweizer) **47** #9556 54E35 (60B05)

(*with* Istrăţescu, Vasile I.) On the theory of fixed points for some classes of mappings. II. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 1073–1076. (S. Swaminathan) **50** #10921b 47H10 (54H25)

(*with* Istrăţescu, Vasile I.) On the theory of fixed points for some classes of mappings. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **52** (1972), 871–874 (1973). (Teck-Cheong Lim) **48** #12174 47H10

(*with* Istrăţescu, Vasile I.) A generalization of collectively compact sets of operators. I. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 33–37. (T. W. Palmer) **46** #6092 47B99 (47H99)

(*with* Istrăţescu, Vasile I.) On the theory of fixed points for some classes of mappings. VI. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1639–1642. (S. Swaminathan) **50** #10921f 47H10 (54H25)

(*with* Istrăţescu, Vasile I.) Some remarks on a class of semi-groups of operators. II. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), 52–54. (S. Kantorovitz) **51** #11189 47D05

(*with* Istrăţescu, Vasile I.) On some results on locally power α-set contractions. III. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), 197–200. (S. Rolewicz) **55** #11093 47B30

(*with* Istrăţescu, Vasile I.) On the existence of a solution of $f(x)=kx$ for a continuous not necessarily linear operator. *Proc. Amer. Math. Soc.* **48** (1975), 197–198. (T. C. Lim) **50** #10934 47H15

(*with* Istrăţescu, Vasile I.) Some results on local power α-set contractions. I. *Proceedings of the Conference on Differential Equations and their Applications* (*Univ. Iaşi, Iaşi*, 1973), *pp.* 9–12. *Editura Acad. R.S.R., Bucharest*, 1977. (K. Goebel) **57** #17400 47H10

On a generalization of probabilistic metric spaces. II. *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 205–207. *Editura Acad. R.S.R., Bucharest*, 1977. (B. Schweizer) **56** #13138 54A05

Istrăţescu, I. Vasile *See* **Istrăţescu, Vasile I.**

Istrăţescu, Ioana I. On unimodular contractions on Banach spaces and Hilbert spaces. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **50** (1971), 444–447. (B. Russo) **46** #7959 47B99

On some classes of contractions. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **50** (1971), 679–681. (S. K. Berberian) **46** #2463 47A65

Unimodular numerical contractions in Hilbert space. *Proc. Japan Acad.* **47** (1971), *suppl. I*, 824–826. (F. Gilfeather) **49** #1184 47A65

Unimodular numerical contractions in Hilbert space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **53** (1972), 380–383 (1973). **52** #1381 47A65

Remarks concerning uniformly bounded operators on Hilbert space. *Canad. Math. Bull.* **15** (1972), 215–217. (C. R. Putnam) **46** #2464 47A65

Perturbations of the monotone shift. *Yokohama Math. J.* **20** (1972), 107–113. (J. S. Howland) **46** #7938 47A55

On some classes of operators on Hilbert spaces. *Bull. Soc. Math. Grèce* (*N.S.*) **14** (1973), 15–18. (Thomas Hoover) **50** #8145 47B20

(*with* Palea, G.) On nonarchimedean probabilistic metric spaces. (Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **12** (1974), *no.* 2, 115–118 (1977). (From the authors' summary) **57** #1441 54E99

Some spectral properties for the *I*-contraction operators. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 267–269. (Henry R. Dowson) **51** #8870 47A65

(*with* Istrăţescu, Vasile I.; Constantin, Gheorghe) On Weyl spectrum of an operator. II. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 277–281. (C. R. Putnam) **51** #6439 46L10 (47A10)

On some fixed point theorems with applications to the nonarchimedean Menger spaces. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 3, 374–379. (G. L. Cain, Jr.) **55** #6400 54H25

(*with* Rovenţa, Eugen) On fixed point theorems for mappings on probabilistic metric spaces. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no.* 1-2, 67–69 (1976). (H. Sherwood) **54** #13884 54H25 (54E99)

Some remarks on Hermitian operators. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no.* 3-4, 319–322 (1977). (P. A. Fillmore) **56** #3667 47B15

On a measure of non-Rieszness of operators. (Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **14** (1976), *no.* 1, 21–26 (1977). (Helmut Kroh) **58** #7171 47B05 (46L10)

On some fixed point theorems in generalized Menger spaces. (Italian summa *Boll. Un. Mat. Ital.* (5) **13A** (1976), *no.* 1, 95–100. (W. A. J. Luxemburg) **54** #367 54H25

Some remarks on nonarchimedean probabilistic metric spaces. (Serbo-Croa summary) *Glasnik Mat. Ser. III* **11(31)** (1976), *no.* 1, 155–161. (H. Sherwood) **54** #11293 54E99

(*with* Istrăţescu, Vasile I.) Some remarks on a class of semi-groups of operators. *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 221– *Editura Acad. R.S.R., Bucharest*, 1977. (S. Kantorovitz) **56** #12981 47D05

Fixed point theorems for some classes of contraction mappings on nonarchimed probabilistic metric space. *Publ. Math. Debrecen* **25** (1978), *no.* 1-2, 29–34. (H. Sherwood) **58** #12980 54H25 (54E99)

Istrăţescu, Vasile I. (*with* Istrăţescu, Ana I.) On the theory of fixed points for some clas of mappings. III. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. M Natur.* (8) **49** (1970), 43–46 (1971). (S. Swaminathan) **50** #10921c 47H10 (54H2

(*with* Istrăţescu, Ana I.) On the theory of fixed points for some classes of mappin I. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **14(62)** (1970), *no.* 4, 419– (1972). (S. Swaminathan) **50** #10921a 47H10 (54H25)

(*with* Istrăţescu, Ana I.) On the theory of fixed points for some classes of mappi V. (Italian summary) *Atti. Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) (1971), 162–167. (S. Swaminathan) **50** #10921e 47H10 (54H25)

(*with* Istrăţescu, Ana I.) On the theory of fixed points for some classes of mappir IV. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 1, 33- (1972). (S. Swaminathan) **50** #10921d 47H10 (54H25)

(*with* Istrăţescu, Ana I.) On the theory of fixed points for some classes of mappir II. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 1073–1076. (S. Swaminathan) **50** #10921b 47H10 (54H25)

On some classes of operators. I. (Italian summary) *Atti Accad. Naz. Lincei Re Cl. Sci. Fis. Mat. Natur.* (8) **52** (1972), 868–870 (1973). (A. Lambert) **48** #478 47A45

(*with* Istrăţescu, Ana I.) On the theory of fixed points for some classes of mappin (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **52** (197 871–874 (1973). (Teck-Cheong Lim) **48** #12174 47H10

On the theory of classes of special elements in Banach algebras. *Bull. Math. S Sci. Math. R.S. Roumaine* (*N.S.*) **16(64)** (1972), *no.* 2, 191–193 (1973). (A. M. Sincla **49** #5881 46H10 (46H05)

On a measure of noncompactness. *Bull. Math. Soc. Sci. Math. R.S. Rouma* (*N.S.*) **16(64)** (1972), *no.* 2, 195–197 (1973). (B. Rodríguez-Salinas) **49** #6180 54E

Introduction to nonarchimedian analysis. (Romanian) *Gaz. Mat. Ser. A* **77** (197 172–180. (C. F. Moppert) **46** #3728 26A97

Introduction to nonarchimedean analysis. II, III, IV. (Romanian) *Gaz. Mat. Ser.* **77** (1972), 223–228; *ibid.* **77** (1972), 255–258; *ibid*; **77** (1972), 305–310. **52** #134 46N05 (26A97)

Chapters in nonlinear analysis. I, II. (Romanian) *Gaz. Mat. Ser. A* **77** (197 328–337; *ibid.* **77** (1972), 372–377. (R. G. Bartle) **54** #3520 47H10 (54H25)

Introduction to nonlinear analysis. III, IV. (Romanian) *Gaz. Mat. Ser. A* **77** (197 408–413; *ibid.* **78** (1973), 1–10. (R. G. Bartle) **54** #3521 47H10

On some classes of operators. I. *Math. Balkanica* **2** (1972), 49–57. (N. Suzu **48** #12111 47A65

On a class of normaloid operators. *Math. Z.* **124** (1972), 199–202. (S. K. Berberia **45** #944 47B20

(*with* Istrăţescu, Ana I.) A generalization of collectively compact sets of operato I. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 33–37. (T. W. Palmer) **46** #6092 47B99 (47H99)

On Weyl's spectrum of an operator. I. *Rev. Roumaine Math. Pures Appl.* **17** (1972 1049–1059. (C. R. Putnam) **48** #897 47A10

(*with* Istrăţescu, Ana I.) On the theory of fixed points for some classes of mapping VI. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1639–1642. (S. Swaminathan) **50** #10921f 47H10 (54H25)

Symmetrizable operators and generalizations of them. I. (Romanian. English summary) *Stud. Cerc. Mat.* **24** (1972), 1537–1560. (E. Gerlach) **58** #23713 47B1

★Introducere în teoria punctelor fixe. (Romanian) [Introduction to the theory fixed points] With an English summary and table of contents. *Editura Academi Republicii Socialiste România, Bucharest*, 1973. 426 *pp.* (J. Daneš) **58** #17991 47H1 (54H25, 55C20, 55C25)

An observation concerning fields with archimedean valuation. (Romanian) *Ga Mat. Ser. A* **78** (1973), 384–385. (Editors) **57** #290 12D15

(*with* Săcuiu, Ion) Fixed point theorems for contraction mappings on probabilist metric spaces. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 1375–1380. (H. Sherwoo **48** #9690 54H25

Some remarks on a class of semi-groups of operators. I. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 241–243. (S. Kantorovitz) **48** #12146 47D05

On some commutativity theorems. I. (Romanian summary) *An. Şti. Univ. "Al. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **20** (1974), *no.* 2, 309–310. (C. M. Schneeberge **56** #9267 46J05

(*with* Istrăţescu, Ana I.) Some remarks on a class of semi-groups of operators. I (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974 52–54. (S. Kantorovitz) **51** #11189 47D05

(*with* Istrăţescu, Ana I.) On some results on locally power α-set contractions. II (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974 197–200. (S. Rolewicz) **55** #11093 47B30

Some remarkable applications of fixed point theory. (Romanian) *Gaz. Mat. Ser.* **79** (1974), 52–58. (Editors) **57** #1212 47H10 (47A15)

On functions with bounded variations and an application to kernels of Fredhol equations. I. Papers presented at the Fifth Balkan Mathematical Congress (Belgrad 1974). *Math. Balkanica* **4** (1974), 271–275. (W. P. Ziemer) **52** #1200 45B05

(*with* Istrăţescu, Ioana I.; Constantin, Gheorghe) On Weyl spectrum of an operator. II. Papers presented at the Fifth Balkan Mathematical Congress (Belgrad 1974). *Math. Balkanica* **4** (1974), 277–281. (C. R. Putnam) **51** #6439 46L10 (47A1

On a class of operators. VI. Hommage au Professeur Miron Nicolescu pour son 70 ème anniversaire, II. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 17–19. (C. R. Putnam) **55** #11090 47B20

On a class of operators and ergodic theory. I. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 411–420. (Michael Lin) **49** #9665 47A65

Analytic and quasi-analytic vectors for a certain class of operators. (Romanian. English summary) *Stud. Cerc. Mat.* **26** (1974), 961–978. (F. H. Szafraniec) **51** #1457 47A65

On some classes of operators. VII. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 636–640. (C. R. Putnam) **55** #11091 47B20

(*with* Istrăţescu, Ana I.) On the existence of a solution of $f(x)=kx$ for a continuous not necessarily linear operator. *Proc. Amer. Math. Soc.* **48** (1975), 197–198. (T. C. Lim) **50** #10934 47H15

(*with* Onicescu, Octav) Approximation theorems for random functions. (Italian summary) Collection of articles dedicated to Mauro Picone on the occasion of his ninetieth birthday. *Rend. Mat.* (6) **8** (1975), 65–81. (Ju. I. Petunin) **52** #1879 60G99 (41A10)

On some subspaces for operators of class (N, k). II. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no.* 6, 763–766. (R. G. Bartle) **58** #12442 47A15 (47B20)

On some classes of operators. IX. Well-bounded operators of order p. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **61** (1976), *no.* 1-2, 37–44 (1977). (Author's summary) **58** #23728 47B37

On a functional equation. *J. Math. Anal. Appl.* **56** (1976), *no.* 1, 133–136. (Hiroshi Haruki) **54** #3203 39A25

(*with* Istrăţescu, Ana I.) Some results on local power α-set contractions. I. *Proceedings of the Conference on Differential Equations and their Applications* (*Univ. Iaşi, Iaşi*, 1973), *pp.* 9–12. *Editura Acad. R.S.R., Bucharest*, 1977. (K. Goebel) **57** #17400 47H10

On a class of operators and ergodic theory. II. *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 209–219. *Editura Acad. R.S.R., Bucharest*, 1977. (Michael Lin) **57** #7211 47A35

(*with* Istrăţescu, Ioana I.) Some remarks on a class of semi-groups of operators. III. *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 221–225. *Editura Acad. R.S.R., Bucharest*, 1977. (S. Kantorovitz) **56** #12981 47D05

A Weierstrass theorem for real Banach spaces. *J. Approximation Theory* **19** (1977), *no.* 2, 118–122. (Howard Anton) **56** #6238 41A65 (46E15)

Local properties of bounded linear operators on Hilbert and Banach spaces. (Italian summary) *Rend. Mat.* (6) **10** (1977), *no.* 4, 617-630. (Patrick J. Browne) **58** #12467 47A99 (47B15)

Some remarks on Hermitian operators. *Math. Sem. Notes Kobe Univ.* **6** (1978), *no.* 1, 47–50. (T. A. Gillespie) **58** #17933 47B15 (46H05)

Some results on M-hyponormal operators. *Math. Sem. Notes Kobe Univ.* **6** (1978), *no.* 1, 77–86. (K. Gustafson) **58** #12480 47B20

, Minoru A conformal transformation and a special concircular scalar field in a Riemannian manifold. *Hokkaido Math. J.* **3** (1974), 243–249. (K. Yano) **50** #5660 53B20

(*with* Katô, Shigeo) Notes on a conformal transformation and a special concircular scalar field in a Riemannian manifold. *Mem. Kitami Inst. Tech.* **6**, 55–58 (1974). (M. D. Upadhyay) **51** #6629 53B20

k, V. V. *See* **Iščuk, V. V.**

bashi, Kiyomi Conformal transformations and two-dimensional field theory. *Progr. Theoret. Phys.* **55** (1976), *no.* 6, 1981–1997. (G. R. Allcock) **55** #11868 81.53

A pathology of the Landau gauge in Euclidean Yang-Mills theories. *Phys. Lett. B* **78** (1978), *no.* 1, 125–128. (Author's summary) **58** #19931 81.22

gaki, Yoshio Remark on the essential spectrum of symmetrizable operators. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 1015–1018. (H. A. Gindler) **47** #877 47B99 (47A10, 47A20)

The eigenfunction expansion of the symmetric operators associated with Gelfand triplet. *Tôhoku Math. J.* (2) **23** (1971), 259–271. (From the introduction) **58** #17929 47A70

i, Alon (*with* Even, Shimon) Queues, stacks, and graphs. *Theory of machines and computations* (*Proc. Internat. Sympos., Technion, Haifa*, 1971), *pp.* 71–86. *Academic Press, New York*, 1971. (C. Tartia) **54** #12380 94A20

(*with* Even, Shimon; Shamir, Adi) On the complexity of timetable and multi-commodity flow problems. 16*th Annual Symposium on Foundations of Computer Science* (*Berkeley, Calif.*, 1975), *pp.* 184–193. *IEEE Computer Society, Long Beach, Calif.*, 1975. (A. T. Amin) **55** #2107 90B35

Optimal alphabetic trees. *SIAM J. Comput.* **5** (1976), *no.* 1, 9–18. (Michael R. Garey) **53** #4662 68A50

(*with* Even, Shimon; Shamir, Adi) On the complexity of timetable and multicommodity flow problems. *SIAM J. Comput.* **5** (1976), *no.* 4, 691–703. (G. Berman) **57** #11691 90B10

(*with* Rodeh, Michael) Some matching problems. *Automata, languages and programming* (*Fourth Colloq., Univ. Turku, Turku*, 1977), *pp.* 258–268. *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin*, 1977. (E. M. Reingold) **58** #3654 68A10 (68A20)

(*with* Rodeh, Michael) Finding a minimum circuit in a graph. *Conference Record of the Ninth Annual ACM Symposium on Theory of Computing* (*Boulder, Colo.*, 1977), *pp.* 1–10. *Assoc. Comput. Mach., New York*, 1977. (D. Ja. Kesel'man) **57** #8136 68A10 (05C35)

(*with* Perl, Yehoshua; Avni, Haim) Interpolation search—a log log N search. *Comm. ACM* **21** (1978), *no.* 7, 550–553. (Amitava Bagchi) **58** #8582 68A50

akura, Hidekiyo (*with* Nishikawa, Yoshikazu; Sannomiya, Nobuo) A method of suboptimal design of nonlinear feedback systems. (French, German and Russian summaries) *Automatica—J. IFAC* **7** (1971), 703–712. (Stanislav K. Myškov) **48** #2860 49B10

(*with* Nishikawa, Yoshikazu) On relaxation of infeasibility of linear programming constraints. *Mem. Fac. Engrg. Kyoto Univ.* **37** (1975), *no.* 4, 264–270. (Not reviewed) 90C05

(*with* Nishikawa, Yoshikazu; Sannomiya, Nobuo) Suboptimal feedback control of linear periodic systems. *J. Optimization Theory Appl.* **18** (1976), *no.* 2, 271–284. (Thomas S. Angell) **53** #15463 93C05

(*with* Nishikawa, Yoshikazu; Sannomiya, Nobuo) Power-series approximations for the optimal feedback control of noisy nonlinear systems. *J. Optimization Theory Appl.* **19** (1976), *no.* 4, 633–644. (H. J. Kushner) **54** #12333 93E20

(*with* Nishikawa, Yoshikazu) A two-phase decomposition algorithm for linear programs with angular structure. *Mem. Fac. Engrg. Kyoto Univ.* **38** (1976), *no.* 1, 1–10. (Authors' summary) **53** #10275 90C05

(*with* Uno, Kohichi; Sannomiya, Nobuo; Nishikawa, Yoshikazu) Learning controls that use a fuzzy controller. (Japanese) *Systems and Control* **20** (1976), *no.* 5, 262–268. (Kiyoji Asai) **56** #1839 68A35 (92A25)

See also **System sensitivity analysis**, **52** #12863

Itami, Hiroyuki Expected objective value of a stochastic linear program and the degree of uncertainty of parameters. *Management Sci.* **21** (1974/75), *no.* 3, 291–301. (Author's summary) **55** #12079 90C15

Analysis of implied risk-taking behavior under a goal-based incentive scheme. *Management Sci.* **23** (1976/77), *no.* 2, 183–197. (Author's summary) **55** #11937 90A05

Itano, Mitsuyuki (*with* Yoshida, Kiyoshi) Energy inequalities and Cauchy problems for a system of linear partial differential equations. *Hiroshima Math. J.* **1** (1971), 75–108. (Howard A. Levine) **46** #4005 35L45

Note on the canonical extensions and the boundary values for distributions in the space H^μ. *Hiroshima Math. J.* **1** (1971), 405–425. (J. L. Griffith) **47** #5587 46F10

(*with* Yoshida, Kiyoshi) A study of $\mathcal{D}'_{L^2}$-valued distributions on a semi-axis in connection with the Cauchy problem for a pseudo-differential system. *Hiroshima Math. J.* **2** (1972), 369–396. (Bent E. Petersen) **48** #2603 35S10 (46F05)

(*with* Yoshida, Kiyoshi) Energy inequalities and the Cauchy problem for a pseudo-differential system. *Hiroshima Math. J.* **2** (1972), 397–444. (Bent E. Petersen) **48** #2604 35S10

Some remarks on the Cauchy problem for p-parabolic equations. *Hiroshima Math. J.* **4** (1974), 211–228. (W. Watzlawek) **51** #1125 35K30

Remarks on the multiplicative products of distributions. *Hiroshima Math. J.* **6** (1976), *no.* 2, 365–375. (Edgar Berz) **57** #13473 46F10

Itard, Jean À propos d'un livre sur Pierre Fermat (*The mathematical career of Pierre de Fermat (1601–1665)*, Princeton Univ. Press, Princeton, N.J., 1973) by Michael Sean Mahoney. (English summary) *Rev. Hist. Sci.* **27** (1974), 335–346. (Editors) **58** #26895 01A45

La lettre de Torricelli à Roberval d'octobre 1643. (English summary) *Rev. Histoire Sci. Appl.* **28** (1975), *no.* 2, 113–124. (Author's summary) **58** #21131 01A45 (70.01)

Itaya, Nobutoshi The existence and uniqueness of the solution of the equations describing compressible viscous fluid flow. *Proc. Japan Acad.* **46** (1970), 379–382. (Joseph J. Roseman) **51** #1168 35Q99

On the temporally global problem of the generalized Burger's equation. *J. Math. Kyoto Univ.* **14** (1974), 129–177. (Clarence M. Ablow) **49** #899 35Q99 (76.35)

A survey on the generalized Burgers' equation with a pressure model term. *J. Math. Kyoto Univ.* **16** (1976), *no.* 1, 223–240. (J. Smoller) **53** #6124 35Q99

On the initial value problem of the motion of compressible viscous fluid, especially on the problem of uniqueness. *J. Math. Kyoto Univ.* **16** (1976), *no.* 2, 413–427. (W. Langlois) **54** #9310 76.35

On the fundamental system of equations of a compressible viscous fluid. (Japanese) *Sûgaku* **28** (1976), *no.* 2, 121–136. (Editors) **58** #17599 35Q99 (35L65)

Itenberg, I. Ja. On the history of the origin of elasticity theory in special relativity theory. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 281 (1976), 106–108. (Editors) **54** #6846 83.00

See also **Einstein collection**, **51** #4923; **Poincaré, Henri**, **52** #2804 *and* **Ehrenfest, P.**, **52** #7834

Itenberg, V. S. The middle-dimensional homology of a submanifold of codimension two. (Russian) *Funkcional. Anal. i Priložen.* **8** (1974), *no.* 2, 39–44. (A. H. Wallace) **50** #1273 57D95

The middle-dimensional homology of a submanifold of codimension two. II. (Russian. English summary) Investigations on linear operators and theory of functions, VI. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **56** (1976), 182–185, 199–200. (Author's summary) **58** #13090 57D99

zahar-Itkin, M. H. *See* **Zahar-Itkin, M. H.**

Itkin, V. È. (*with* Zwinogrodski, Z.) On program schemata equivalence. *J. Comput. System Sci.* **6** (1972), 88–101. (V. A. Val'kovskiĭ) **53** #4597 68A05

Term-logical equivalence of schemes of programs. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 1, 5–27. (Andrzej Blikle) **52** #7186 68A05

A criterion for the realizability of operator schemes over a distributed memory. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 2, 143–145. (From the author's introduction) **55** #12355 94A30

Logical-termal equivalence of program schemata. *International Symposium on Theoretical Programming* (*Novosibirsk*, 1972), *pp.* 127–143. *Lecture Notes in Comput. Sci., Vol.5, Springer, Berlin*, 1974. (A. J. Kfoury) **54** #11855 68A25

(*with* Eršov, A. P.) Correctness of mixed computation in Algol-like programs. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnica*, 1977), *pp.* 59–77. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (Immo O. Kerner) **57** #11151 68A05

(*with* Sin Men Dë) Combinatorial equivalence of Janov schemes. (Russian) *Programmirovanie* **1978**, *no.* 1, 12–21, 95. (A. V. Anīsīmov) **58** #3620 68A05

Itkis, Ju. F. Stability of certain systems with variable structure. *Avtomat. i Telemeh.* **1971**, *no.* 6, 158–163 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 6, *part* 2, 994–999. (J. Casti) **48** #3563 93D05

(*with* Gorbunov, V. M.; Leĭbovič, A. V.; Loženkov, V. L.) Stability of sampled-data systems having a variable structure. *Avtomat. i Telemeh.* **1972**, *no.* 4, 190–194 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 4, *part* 2, 694–698. (Authors' summary) **56** #11295 93D05

Itō, Akira (*with* Kanoh, Hikeaki; Takashima, Satoshi) Recent trends in the study of distributed parameter systems. II. Process dynamics of a distributed system, and its control. (Japanese) *Systems and Control* **18** (1974), *no.* 11, 605–612. (K. Kanai) **52** #16739 93–02 (93C99)

(*with* Tomita, Hiroyuki; Kidachi, Hideyuki) Eigenvalue problem of metastability in macrosystem. *Prog. Theoret. Phys.* **56** (1976), *no.* 3, 786–800. (M. Drăganu) **54** #12080 82.35

(*with* Tomita, Kazuhisa; Ohta, Takao) Simplified model for Belousov-Zhabotinsky reaction. *J. Theoret. Biol.* **68** (1977), *no.* 4, 459–481. (Authors' summary) **58** #8850 80.65

Ito, Chiaki Equivalent transformation of linear network by linear operator. *Electron. Commun. Japan* **54** (1971), *no.* 2, 53–55. (B. R. Myers) **47** #3117 94A20

Ito, Hideji Rational points of abelian varieties in Γ-extension. *Hokkaido Math. J.* **2** (1973), 271–275. (J. S. Joel) **50** #4589 14G05 (14K15)

A note on the law of decomposition of primes in certain Galois extension. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 4, 115–118. (M. A. Kenku) **56** #11959 12A65 (14G25, 10D05)

Ito, Hidemi Probabilistic construction of the Lagrangian of a diffusion process and its application. *Progr. Theoret. Phys.* **59** (1978), *no.* 3, 725–741. (Koichiro Matsuno) **58** #4134 82.60

Ito, Hidenori (*with* Inagaki, Yasuyoshi; Fukumura, Teruo) Recognition time of languages generated by context-free grammars with control set. *Electron. Commun. Japan* **55** (1972), *no.* 6, 142–149. (Authors' summary) **56** #13807 68A30 (68A20)

(*with* Inagaki, Yasuyoshi; Fukumura, Teruo) String controlled grammars. *Systems-Computers-Controls* **3** (1972), *no.* 4, 45–53 (1973). (S. Ginsburg) **49** #4318 68A30

(*with* Inagaki, Yasuyoshi; Fukumura, Teruo) One-sided context-sensitive grammars. *Systems-Computers-Controls* **3** (1972), *no.* 5, 31–38 (1973). (W. Wechler) **49** #8432 68A30

(*with* Inagaki, Yasuyoshi; Fukumura, Teruo) Characterization of the derivation trees of context-sensitive grammars—scattered context-sensitive tree generating systems. *Systems-Computers-Controls* **4** (1973), *no.* 2, 24–32. (Horst Reichel) **49** #1833 68A30

(*with* Inagaki, Yasuyoshi; Fukumura, Teruo) Scattered tree automata and scattered context-sensitive tree-generating systems. *Systems-Computers-Controls* **4** (1973), *no.* 4, 22–28. (Dominique Perrin) **51** #2358 68A30 (68A25)

(*with* Inagaki, Yasuyoshi; Fukumura, Teruo) Hierarchy of the families of dendrolanguages. *Systems-Computers-Controls* **4** (1973), *no.* 5, 48–56. (E. Stockiĭ) **51** #2359 68A30

(*with* Inagaki, Yasuyoshi; Fukumura, Teruo) Dendrolanguage generating systems on control state sets–a hierarchy between context-free and context-sensitive dendrolanguages. *Systems-Computers-Controls* **5** (1974), *no.* 4, 1–8 (1975). (Leon Levy) **56** #1819 68A30

(*with* Fukumura, Teruo) Dendrolanguage generating systems on sets of control strings. *Systems-Computers-Controls* **5** (1974), *no.* 4, 9–17 (1975). (Leon Levy) **56** #1820 68A30

Ito, Hitoshi Zero-energy bound states of two Dirac particles. On the properties of eigenvalue spectra of the $O(4)$ families. *Progr. Theoret. Phys.* **43** (1970), 1035–1049. (A. Kurbatov) **54** #6768 81.47 (81.22)

Ito, Keiichi R. Remarks on the relation between the Lee-Yang circle theorem and the correlation inequalities. *Comm. Math. Phys.* **47** (1976), *no.* 2, 143–153. (B. Souillard) **54** #2039 82.32

Two-dimensional quantum electrodynamics as a model in the constructive quantum field theory. *Phys. Lett. B* **65** (1976), *no.* 5, 450–454. (Author's summary) **56** #10530 81.35

Remarks on the relation between the Lee-Yang circle theorem and the correlation inequalities. Various problems in algebraic analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 266 (1976), 1–19. (P. Caldirola) **58** #4141 82.62

Canonical linear transformation on Fock space with an indefinite metric. *Lett. Math. Phys.* **2** (1977/78), *no.* 5, 349–355. (C. S. Sharma) **58** #25564 81.46

The Thirring model revised. Renormalization and sine-Gordonization. *Lett. Nuovo Cimento* (2) **21** (1978), *no.* 9, 315 322. (Daniel A. Akyeampong) **58** #14663 81.47

Itô, Kiyosi Poisson point processes attached to Markov processes. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. III*: *Probability theory*, *pp.* 225–239. *Univ. California Press, Berkeley, Calif.*, 1972. (A. A. Juškevič) **53** #6763 60J55 (60G55)

Stochastic differentials of continuous local quasi-martingales. *Stability of stochastic dynamical systems* (*Proc. Internat. Sympos., Univ. Warwick, Coventry*, 1972), *pp.* 1–7. *Lecture Notes in Math.*, *Vol.* 294, *Springer, Berlin*, 1972. (M. P. Eršov) **53** #9376 60H05 (60G45)

Stochastic integration. *Vector and operator valued measures and applications* (*Proc. Sympos., Alta, Utah*, 1972), *pp.* 141–148. *Academic Press, New York*, 1973. (Hui-Hsiung Kuo) **49** #4091 60H05

(*with* McKean, Henry P., Jr.) ★Diffusion processes and their sample paths. Second printing, corrected. Die Grundlehren der mathematischen Wissenschaften, Band 125. *Springer-Verlag, Berlin-New York*, 1974. xv + 321 *pp.* (Editors) **49** #9963 60J60 (60G17, 60J70)

Stochastic differentials. *Appl. Math. Optim.* **1** (1974/75), *no.* 4, 374–381. (D. W. Stroock) **52** #9374 60H05

Stochastic calculus. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 218–223. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (Editors) **58** #31392 60H05 (58G99)

Stochastic parallel displacement. *Probabilistic methods in differential equations* (*Proc. Conf., Univ. Victoria, Victoria, B.C.*, 1974), *pp.* 1–7. *Lecture Notes in Math.*, *Vol.* 451, *Springer, Berlin*, 1975. (H. P. McKean, Jr.) **52** #15704 60J60

Brownian motion on a Riemannian space and harmonic tensor fields. (Japanese) *Sûgaku* **28** (1976), *no.* 2, 137–146. (T. Hida) **55** #13588 60J65 (58G99)

See also **Meyer, Paul-André**, **52** #9388

Ito, Koichi Optimal control of diffusion processes with movable control points by dynamic programming. *Tech. Rep. Osaka Univ.* **24** (1974), 709–725. (P. K. C. Wang) **53** #2463 93C20

Ito, Mabo R. (*with* Appelbe, William F.) Scheduling heuristics in a multiprogrammi environment. *IEEE Trans. Comput.* **27** (1978), *no.* 7, 628–637. (N. N. Mirenko **58** #13834 68A05

Ito, Makoto (*with* Inagaki, Yasuyoshi; Fukumura, Teruo) Realization of sequential machine using multi-stage shift registers. *Systems-Computers-Controls* **2** (1971), *no.* 10–18 (1972). (J. Hartmanis) **47** #1556 94A25

Ito, Masami (*with* Yonemura, Yukichi) Controllability of composite systems of tande connection. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 5, 722–724. (Autho summary) **55** #14290 93B05

Sur l'extension et la restriction d'un langage associé à l'espace contextuel. *Pro Japan Acad.* **48** (1972), 94–97. (S. Marcus) **47** #2865 68A30

Sur la restriction maximale d'un langage. *Proc. Japan Acad.* **48** (1972), 98–100. (Marcus) **47** #2866 68A30

Sur une classification des langages d'états finis. *Proc. Japan Acad.* **48** (197 669–672. (S. Marcus) **49** #6690 68A30

On the elementary partitions of the state set in a multiple-input semiautomaton *Proc. Japan Acad.* **49** (1973), 714–717. (From the introduction) **58** #9903 94A30

On the automorphism groups of one-symbol automata. *Systems-Computers-Contr* **5** (1974), *no.* 5, 67–74 (1975). (Ju. G. Karpov) **55** #12356 94A30

A representation of strongly connected automata. *Systems-Computers-Controls* (1976), *no.* 1, 29–35 (1977). (Arthur T. Poe) **58** #26608 94A30

A representation of strongly connected automata and its applications. *J. Compu System Sci.* **17** (1978), *no.* 1, 65–80. (Jiří Adámek) **58** #4728 94A30

Itô, Masayuki Remarque sur la somme des résolvantes. *Proc. Japan Acad.* **46** (1970 243–245. (M. Hasumi) **45** #5666 43A35 (31C99)

Remarque sur les espaces fonctionnels de type L^2. *Proc. Japan Acad.* **46** (1970 358–361. (F. Cunningham, Jr.) **50** #14193 46E30

Remarque sur la somme d'un noyau de Dirichlet et du noyau newtonien. *Pro Japan Acad.* **46** (1970), 362 363. (From the introduction) **58** #22626 31C25

Sur les noyaux d'ordre fractionnaire associés au noyau de Dirichlet. *Hiroshim Math. J.* **1** (1971), 123–143. (From the author's introduction) **53** #13612 31C25

Sur le balayage relatif aux noyaux composés. *Hiroshima Math. J.* **1** (1971), 339–34 (A. Borzymowski) **47** #820 46F10 (31C15)

Noyaux de convolution réguliers et noyaux de convolution singuliers. *Nagoy Math. J.* **44** (1971), 61–77. (R. M. Hervé) **45** #5398 31C99

Sur les principes divers du maximum et le type positif. *Nagoya Math. J.* **44** (1971 133–164. (R. M. Hervé) **46** #5657 31D05

Remarque sur les noyaux de convolution associé à résolvante. *Proc. Japan Acad.* **4** (1971), 296–300. (M. Brelot) **46** #3823 31D05

Une caractérisation du principe du balayage pour un espace fonctionnel régulier *Proc. Japan Acad.* **47** (1971), *suppl. I*, 840–843. (H. L. Jackson) **47** #2086 31D05

Remarque sur les espaces fonctionnels au noyau besselien. *Proc. Japan Acad.* **4** (1971), *suppl. I*, 880 884. (H. L. Jackson) **47** #3700 31B15

Sur les noyaux de Dirichlet continus. *Nagoya Math. J.* **47** (1972), 59–75. (H. L Jackson) **47** #8892 31C25

Sur l'existence et la non-existence des algèbres de Dirichlet. *Nagoya Math. J.* **4** (1972), 77–90. (H. L. Jackson) **47** #8893 31C25

Noyaux réguliers et noyaux singuliers. *Nagoya Math. J.* **50** (1973), 117–148. (H. L Jackson) **49** #3178 31C25

Sur le principe de domination pour les noyaux de convolution. *Nagoya Math. J.* **5** (1973), 149–173. (F. Hirsch) **49** #615 31C99

(*with* Higuti, Isao) Characterization of relative domination principle. *Nagoya Mat J.* **50** (1973), 175–184. (F. Hirsch) **49** #614 31C99

Sur une famille sous-ordonnée au noyau de convolution de Hunt donné. *Nagoy Math. J.* **51** (1973), 45–56. (Francis Hirsch) **48** #4336 31C15

Une caractérisation sur le principe relatif de domination pour les noyaux d Riesz-Frostman. *Osaka J. Math.* **10** (1973), 265–270. (Gottfried Anger) **48** #4337 31C15

Sur la famille sous-ordonnée au noyau de convolution de Hunt. II. *Nagoya Math. J* **53** (1974), 115–126. (Francis Hirsch) **50** #2535 31C99

(*with* Higuti, Isao) On the theorem of Kishi for a continuous function-kernel. *Nagoya Math. J.* **53** (1974), 127–135. (M. Brelot) **50** #2537 31D05

Sur les cônes convexes de Riesz et les noyaux de convolution complètemen sous-harmoniques. *Nagoya Math. J.* **55** (1974), 111–114. (Francis Hirsch) **50** #5358 43A05 (31D05)

Sur le cône convexe maximum formé par des diviseurs d'un noyau de convolution e son application. (English summary) Collection of articles dedicated to Marcel Brelot o the occasion of his 70th birthday. *Ann. Inst. Fourier* (*Grenoble*) **25** (1975), *no.* 3-4, xxii 289–308. (Christian Berg) **53** #13613 31C99

Sur le principe relatif de domination pour les noyaux de convolution. *Hiroshim Math. J.* **5** (1975), *no.* 2, 293–350. (Christian Berg) **52** #8469 31C99

Une caractérisation du principe de domination pour les noyaux de convolution. *Japan J. Math.* (*N.S.*) **1** (1975/76), *no.* 1, 5–35. (H. L. Jackson) **53** #3336 31C25

Démonstration simple de la représentation intégrale du noyau complètement sous-harmonique et invariant par rotations. *Nagoya Math. J.* **57** (1975), 121–125. (M Brelot) **51** #8440 31B10

Sur l'unicité du cône convexe divisible constitué par de noyaux de convolution d Dirichlet. *Nagoya Math. J.* **57** (1975), 127–152. (Christian Berg) **52** #781 31C99

Caractérisation du principe de domination pour les noyaux de convolution non-bornés. *Nagoya Math. J.* **57** (1975), 167–197. (Christian Berg) **52** #3569 31C9

Le principe relatif de domination et le principe transitif de domination pour le noyau-fonctions boréliennes. *Hiroshima Math. J.* **6** (1976), *no.* 1, 207–219. (B. Walsh) **55** #3285 31C05 (60J45)

Sur les noyaux de Frostman-Kunugui et les noyaux de Dirichlet. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **27** (1977), *no.* 3, ix, 45–95. (Gottfried Anger) **57** #6476 31C25

Sur l'unicité du cône convexe divisible relatif au noyau de convolution de Hunt défini par l'opérateur différentiel. *Nagoya Math. J.* **65** (1977), 157–182. (Gunnar Forst) **55** #3286 31C05

Sur les noyaux de convolution conditionnellement sous-medians. *Nagoya Math. J.*

66 (1977), 53–76. (U. Kuran) **55** #8390 31C15 (43A05)

Sur l'équation $N^n = N$ pour un noyau de convolution N. *Séminaire Choquet, 16e année* (1976/77), *Initiation à l'analyse, Comm. No.* 1, 2 *pp. Secrétariat Math., Paris*, 1978. (Christian Berg) **58** #11470 31C99

On the Green type kernels on the half space in R^n. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **28** (1978), *no.* 2, vi, 85–105. (S. Dümmel) **58** #6296 31B10

, Noboru On factorizable groups. *Representation theory of finite groups and related topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 77–83. *Amer. Math. Soc. Providence, R.I.*, 1971. (D. J. S. Robinson) **47** #5095 20D05 (20D10)

A theorem on factorizable groups. *Acta Sci. Math.* (*Szeged*) **33** (1972), 49–52. (J. L. Alperin) **46** #3615 20D40

Normal subgroups of quadruply transitive permutation groups. *Hokkaido Math. J.* **1** (1972), 1–6. (J. D. Dixon) **50** #7306 20B20

(*with* Wada, Tomoyuki) A note on transitive permutation groups of degree $2p$. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. III. *Tensor* (*N.S.*) **26** (1972), 105–106. (J. S. Frame) **48** #8608 20B05

Simple groups of conjugate type rank +5. *Finite groups '72* (*Proc. Gainesville Conf., Univ. Florida, Gainesville, Fla.*, 1972), *pp.* 84–97. *North-Holland Math. Studies, Vol.* 7, *North-Holland, Amsterdam*, 1973. (Ulrich Dempwolff) **50** #7322 20D05

Simple groups of conjugate type rank 5. *J. Math. Kyoto Univ.* **13** (1973), 171–190. (R. W. Carter) **47** #5096 20D05

On factorizable groups. *Symposia Mathematica, Vol. XIII* (*Convegno di Gruppi e loro Rappresentazioni, INDAM, Rome*, 1972), *pp.* 357–366. *Academic Press, London*, 1974. (J. S. Frame) **50** #10074 20D40

On Wielandt number of transitive permutation groups of prime degree. *Acta Math. Acad. Sci. Hungar.* **26** (1975), *no.* 3-4, 267–274. (Peter J. Cameron) **52** #5776 20B20

On tight 4-designs. *Osaka J. Math.* **12** (1975), *no.* 2, 493–522. (W. M. Kantor) **51** #12557 (EA **52**) 05B05

o, Ryuichi Note on splitting length of abelian groups. *Proc. Japan Acad.* **47** (1971), 527–528. (P. Gräbe) **45** #6920 20K40

On type sets of torsion-free abelian groups of rank 2. *Proc. Amer. Math. Soc.* **48** (1975), 39–42. (William J. Wickless) **50** #7377 20K15

ô, Seizô Ideal boundaries of Neumann type associated with elliptic differential operators of second order. II. Imbedding of the smooth boundary into the ideal boundary. *J. Fac. Sci. Univ. Tokyo Sect. I A Math.* **17** (1970), 519–528. (M. M. Schiffer) **45** #3933 35J25

On definitions of superharmonic functions. (French summary) Collection of articles dedicated to Marcel Brelot on the occasion of his 70th birthday. *Ann. Inst. Fourier* (*Grenoble*) **25** (1975), *no.* 3-4, xvi, 309–316. (Denis Feyel) **54** #5484 31C05

(*with* Hattori, Akio; Ihara, Yasutaka; Iwahori, Nagayoshi; Shioda, Tetsuji; Tamura, I.) Mathematical contributions of Professor Yukiyosi Kawada. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, i–vi. (Editors) **55** #7693 01A70

o, Shunji (*with* Muratâ, Harvo; Totoki, Haruo) Remarks on the isomorphism theorems for weak Bernoulli transformations in general case. *Publ. Res. Inst. Math. Sci.* **7** (1971/72), 541–580. (R. L. Adler) **46** #9297 28A65

(*with* Takahashi, Yōichirō) Markov subshifts and realization of β-expansions. *J. Math. Soc. Japan* **26** (1974), 33–55. (W. Parry) **49** #10860 28A65 (10K10, 60J05)

(*with* Shiokawa, Iekata) A construction of β-normal sequences. *J. Math. Soc. Japan* **27** (1975), 20–23. (M. S. Waterman) **50** #9829 10K25 (28A65)

(*with* Nakada, Hitoshi; Tanaka, Shigeru) On the invariant measure for the transformations associated with some real continued-fractions. *Keio Engrg. Rep.* **30** (1977), *no.* 13, 159–175. (Gérard Rauzy) **58** #16574 10K10 (28A65)

(*with* Mori, Makoto) Isomorphism of a piecewise linear transformation to a Markov automorphism. *Publ. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 1, 1–16. (B. Weiss) **57** #6366 28A65 (10K10, 60K35)

o, Tadaya (*with* Takagi, Shoji; Suematsu, Yoshikazu; Honda, Akihiro) A study on the vortex oscillator. I. On a mathematical model of a confined vortex oscillator. *Bull. JSME* **20** (1977), *no.* 147, 1153–1160. (Authors' summary) **56** #14037 76.34

tô, Takashi (*with* Schreiber, Bertram M.) A space of sequences given by pairs of unitary operators. *Proc. Japan Acad.* **46** (1970), 637–641. (R. Larsen) **45** #2409 43A25 (47B15)

(*with* Wong, Tin Kin) Subnormality and quasinormality of Toeplitz operators. *Proc. Amer. Math. Soc.* **34** (1972), 157–164. (L. A. Coburn) **46** #2472 47B35

(*with* Wong, Tin Kin) A continuous lower estimate for the distance between an operator and compact perturbations of normal operators. *Illinois J. Math.* **17** (1973), 337–345. (R. G. Douglas) **47** #2400 47A55

(*with* Brown, Léon) Some non-quasireflexive spaces having unique isomorphic preduals. *Israel J. Math.* **20** (1975), *no.* 3-4, 321–325. (A. S. Gleit) **51** #13646 46B05

(*with* Amemiya, Ichiro; Wong, Tin Kin) On quasinormal Toeplitz operators. *Proc. Amer. Math. Soc.* **50** (1975), 254–258. (Kevin Clancey) **53** #14200 47B35

(*with* Brown, Léon) Uniqueness of preduals of certain Banach spaces. *Israel J. Math.* **24** (1976), *no.* 3-4, 234–243. (R. C. James) **54** #11037 46B10

On Banach spaces with unique isometric preduals. *Michigan Math. J.* **24** (1977), *no.* 3, 321–324. (T. Ando) **58** #2175 46B10 (46L10)

to, Takatoshi A note on the positivity constraint in Olech's theorem. *J. Econom. Theory* **17** (1978), *no.* 2, 312–318. (Larry Blume) **58** #4232 90A15 (34D05)

to, Takayasu On a class of kernel expansions and their properties. *Systems-Computers-Controls* **2** (1971), *no.* 5, 37–44. (From the author's introduction) **50** #9078 68A45 (41A63)

Some metamathematical considerations on system theory. (Japanese) *Systems and Control* **16** (1972), 600–605. **47** #3044 93A05

On approximate error bounds in pattern recognition. *Systems-Computers-Controls* **4** (1973), *no.* 1, 48–55. (W. Greblicki) **50** #3671 68A45

(*with* Ando, Shigeru) A complete axiom system of super-regular expressions. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974), *pp.* 661–665. *North-Holland, Amsterdam*, 1974. (B. Zelinka) **55** #12357 94A30 (68A25, 68A30)

A formal approximation theory of semantic data types. *International Symposium on Theoretical Programming* (*Novosibirsk*, 1972), *pp.* 384–393. *Lecture Notes in Comput. Sci., Vol.* 5, *Springer, Berlin*, 1974. (Cristian Calude) **56** #10108 68A05 (02C20)

(*with* Ando, Shigeru) On applying Scott's logic to termination problems. Proceedings of the Third Symposium on Basic Theory of Programs (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1973) and of the Workshop for Proof Theory about Algorithms (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 236 (1975), 1–7. (From the text) **58** #8427 68A05 (02C20)

Recursive program schemata and formal languages. Proceedings of the Third Symposium on Basic Theory of Programs (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1973) and of the Workshop for Proof Theory about Algorithms (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 236 (1975), 15–20. (Editors) **58** #8443 68A05

Itô, Takehiro *See* **Itoh, Takehiro**

Ito, Tatsuaki (*with* Mizumoto, Hisao; Watanabe, Masamichi) A note on the numerical treatment of Navier-Stokes equations. II. *J. Phys. Soc. Japan* **37** (1974), 1452–1456. (Authors' summary) **52** #16285 76.65

Ito, Tatsuro (*with* Bannaï, Eiichi) On finite Moore graphs. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 191–208. (A. Mowshowitz) **48** #1971 05C25

Primitive rank 5 permutation groups with two doubly transitive constituents of different sizes. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 271–277. (R. Noda) **51** #662 20B20

Ito, Tei-ichi (*with* Sadanaga, Ryoichi) On the crystallographic space groupoid. *Proc. Japan Acad.* **52** (1976), *no.* 3, 119–121. (J. J. Burckhardt) **53** #3068 18H15

Ito, Teisuke (*with* Ahlberg, J. H.) A collocation method for two-point boundary value problems. *Math. Comp.* **29** (1975), 761–776. (F. Perrin) **51** #11975 65L10

Ito, Tetsuro (*with* Kizawa, Makoto) Semantic structure of natural language. *Systems-Computers-Controls* **7** (1976), *no.* 2, 1–10 (1977). (From the introduction) **58** #13887 68A10 (68A30, 68A50)

Ito, Yasuhiko (*with* Furuno, Kiyokazu; Mitra, Sanjit K.; Hirano, Katuomi) Design of digital sinusoidal oscillators with absolute periodicity. *IEEE Trans. Aerospace and Electron. Systems* **AES-11** (1975), *no.* 6, 1286–1299. (Ezio M. Biglieri) **52** #12993 94A20

(*with* Urano, Yoshiyori; Muratani, Takuro; Yamaguchi, Masahisa) Analysis of a switch matrix for an SS/TDMA system. *Proc. IEEE* **65** (1977), *no.* 3, 411–419. (Václav E. Beneš) **55** #7562 94A05

Ito, Yoshifumi (*with* Nagamachi, Shigeaki) On the theory of vector valued Fourier hyperfunctions. *J. Math. Tokushima Univ.* **9** (1975), 1–33. (See Zbl **315** #46039) 46F15

(*with* Nagamachi, Shigeaki) Theory of H-valued Fourier hyperfunctions. *Proc. Japan Acad.* **51** (1975), *no.* 7, 558–561. (P. Schapira) **52** #3955 46F15 (46G10)

A note on one-parameter semi-groups of $*$-endomorphisms of C^*-algebras. *J. Math. Tokushima Univ.* **11** (1977), 1–10. (Zbl **368** #47028) **58** #30292 46L05 (47D05)

Ito, Yoshifusa Sur la transformation homogène du noyau de Dirichlet. *Proc. Japan Acad.* **47** (1971), 301–304. (J. L. Griffith) **45** #7090 31C15

Sur le semi-groupe de l'opérateur inverse de Δ. *Nagoya Math. J.* **63** (1976), 123–137. (Francis Hirsch) **54** #7813 31B20

Superposition of distinguishable point processes. *J. Appl. Probability* **14** (1977), *no.* 1, 200–204. (David Oakes) **55** #1453 60G55

Superposition and decomposition of stationary point processes. *J. Appl. Probab.* **15** (1978), *no.* 3, 481–493. (Alan G. Hawkes) **57** #17816 60G55

Ito, Yoshihiko (*with* Iizuka, Kenzo; Sasaki, Siro) A note on the representations of finite groups. II. (Japanese. English summary) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 4 (1969), *part* 1 39–44. (H. Kimura) **55** #5729 20C15

(*with* Iizuka, Kenzo) A note on blocks and defect groups of a finite group. *Kumamoto J. Sci.* (*Math.*) 9 (1972), 25–32. (I. M. Isaacs) **46** #238 20C15

(*with* Iizuka, Kenzo) A note on the representations of finite groups. III. (Japanese. English summary) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 7 (1972), *part* 1, 1–6. (H. Kimura) **55** #5730 20C15

(*with* Iizuka, Kenzo; Watanabe, Atumi) A note on the representations of finite groups. IV. (Japanese. English summary) *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci.* **8** (1973), *part* 1, 1–5. (H. Kimura) **55** #5731 20C15

Ito, Yûji On invariant measures. (Japanese) *Sûgaku* **22** (1970), *no.* 4, 276–291. (Motosige Osikawa) **58** #6178 28A70

(*with* Hajian, Arshag; Kakutani, Shizuo) Invariant measures and orbits of dissipative transformations. *Advances in Math.* **9**, 52–65 (1972). (R. V. Chacon) **46** #2003 28A65

(*with* Aoki, Nobuo) Ergodic properties of affine transformations. *J. Math. Anal. Appl.* **38** (1972), 447–453. (A. S. Gleit) **46** #2002 28A65 (43A05)

(*with* Hajian, Arshag; Kakutani, Shizuo) Orbits, sections, and induced transformations. *Israel J. Math.* **18** (1974), 97–115. (R. V. Chacon) **51** #5890 28A65

(*with* Hajian, Arshag; Kakutani, Shizuo) Full groups and a theorem of Dye. *Advances in Math.* **17** (1975), *no.* 1, 48–59. (François Aribaud) **51** #10584 28A65

(*with* Hajian, Arshag) Transformations that do not accept a finite invariant measure. *Bull. Amer. Math. Soc.* **84** (1978), *no.* 3, 417–427. (Motosige Osikawa) **57** #6365 28A65

Itoga, Stephen Y. Comparing language operations. *Math. Systems Theory* **10** (1976/77), *no.* 4, 305–321. (Ronald E. Prather) **58** #3728 68A30

Itoh, Hiroshi (*with* Murotsu, Yoshisada; Ohba, Fuminori) On a solution of stochastic nonlinear programming problems. *Bull. Univ. Osaka Prefecture Ser. A* **20** (1971), *no.* 1, 97–108. (M. Stoica and I. M. Stancu-Minasian) **47** #10061 90C15

Itoh, Kumiko A gradient method utilizing a priori stochastic information about the location of the minimum. *Bull. Math. Statist.* **15** (1972/73), *no.* 3-4, 101–111. (J. E. Dennis, Jr.) **49** #8349 65K05

On the numerical solution of optimal control problems in Chebyshev series by the use of a continuation method. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 1, 149–172. (Claude Carasso) **51** #11963 65K05

On the numerical solvability of two point boundary value problems in a finite Chebyshev series for piecewise smooth differential systems. *Mem. Numer. Math. No.* 2 (1975), 45–67. (Richard C. Allen, Jr.) **51** #9495 65L10

An a posteriori error estimation of approximate solutions of two point boundary value problems for piecewise smooth systems. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 75–94. (Jochen Werner) **53** #4551 65L10

Computation of optimal controls in a finite Chebyshev series for the integral quadratic cost with cubic control restraint. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 2, 133–163. (K. Najzar) **58** #13739 65L10 (49D30)

Itoh, Makoto Functionally complete finite Kronecker δ-lattice. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress (Lakehead Univ., Thunder Bay, Ont.,* 1971), *pp.* 441–456. *Lakehead Univ., Thunder Bay, Ont.,* 1971. (Heinrich Werner) **49** #188 08A25

Itoh, Mitsuhiro On Kaehler metrics on a compact homogeneous complex manifold. *Tôhoku Math. J.* (2) **28** (1976), *no.* 1, 1–5. (Bang-yen Chen) **53** #1493 53C55 (32M10)

A fixed point theorem for Kähler manifolds with positive holomorphic sectional curvature. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **13**, *no.* 366-382, 313–317 (1977). (A. Švec) **56** #1239 53C55

A characterization of complex projective spaces by linear subspace sections. *Tsukuba J. Math.* **1** (1977), 157–162. (A. L. Vitter, III) **58** #12866 53C55 (32C10)

On curvature properties of Kähler *C*-spaces. *J. Math. Soc. Japan* **30** (1978), *no.* 1, 39–71. (S. Murakami) **57** #10648 53C35 (32M15)

Itoh, Shigeru (*with* Körezlioğlu, Hauri; Takahashi, Wataru) Ergodic theorems and averaging operators on measurable functions. *Sci. Rep. Yokohama Nat. Univ. Sect. I No.* 20 (1973), 5–10. (François Aribaud) **51** #13191 28A65 (47A35)

Multivalued generalized contractions and fixed point theorems. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 2, 247–258. (S. Swaminathan) **56** #9514 54H25

(*with* Takahashi, Wataru) Single-valued mappings, multivalued mappings and fixed-point theorems. *J. Math. Anal. Appl.* **59** (1977), *no.* 3, 514–521. (E. Lami Dozo) **56** #13000 47H10

A random fixed point theorem for a multivalued contraction mapping. *Pacific J. Math.* **68** (1977), *no.* 1, 85–90. (V. Istrăţescu) **56** #9515 54H25

(*with* Takahashi, Wataru; Yanagi, Kenjiro) Variational inequalities and complementarity problems. *J. Math. Soc. Japan* **30** (1978), *no.* 1, 23–28. (Norihiko Adachi) **58** #2510 47H99

Nonlinear random equations with monotone operators in Banach spaces. *Math. Ann.* **236** (1978), *no.* 2, 133–146. (A. T. Bharucha-Reid) **58** #18005 47H15 (60H20)

Itoh, Shiroh Divisorial objects in abelian categories. *Hiroshima Math. J.* **6** (1976), *no.* 3, 539–554. (Zbl **358** #18009) **58** #28134 18E10

(*with* Fujita, Kazunori) Some remarks on the global transforms of Noetherian rings. *Hiroshima Math. J.* **7** (1977), *no.* 1, 303–308. (J. L. Dawson) **55** #2874 13E05

Axiomatic characterizations of grade for commutative rings. *Hiroshima Math. J.* **8** (1978), *no.* 1, 91–100. (Melvin Hochster) **58** #22044 13D99

Itoh, Takashi Static model calculation of pion-nucleon scattering. *Natur. Sci. Rep. Ochanomizu Univ.* **26** (1975), *no.* 2, 63–72. (Ian P. Grant) **54** #6749 81.45

Itoh, Takehiro (*with* Mittra, Raj) A method for solving boundary value problems associated with a class of doubly modified Wiener-Hopf structures. *Proc. IEEE* **57** (1969), 2170–2171. (Authors' summary) **46** #2998 78.45

A note on minimal submanifolds with *M*-index 2. *Kōdai Math. Sem. Rep.* **23** (1971), 204–207. (M. Okumura) **45** #4328 53A10 (53C40)

Complete surfaces in 3-dimensional space forms. *Hokkaido Math. J.* **1** (1972), 275–279. (Samuel I. Goldberg) **51** #13941 53C40

Minimal surfaces with *M*-index 2, T_1-index 2 and T_2-index 2. *Kōdai Math. Sem. Rep.* **24** (1972), 1–16. (Bang-yen Chen) **45** #9253 53A10

Minimal surfaces in 4-dimensional Riemannian manifolds of constant curvature. *Kōdai Math. Sem. Rep.* **24** (1972), 451–458. (M. do Carmo) **47** #5795 53C45 (53A10)

(*with* Ogiue, Kōichi) Isotropic immersions. *J. Differential Geometry* **8** (1973), 305–316. (Raymond Couty) **52** #1579 53C40

Minimal surfaces in a Riemannian manifold of constant curvature. *Kōdai Math. Sem. Rep.* **25** (1973), 202–214. (M. do Carmo) **47** #5787 53C40 (53A10)

(*with* Nakagawa, Hisao) On certain hypersurfaces in a real space form. *Tôhoku Math. J.* (2) **25** (1973), 445–450. (Bang-yen Chen) **49** #1436 53C40

On minimal surfaces in a Riemannian manifold of constant curvature. *Math. J. Okayama Univ.* **17** (1974), 19–38. (Bang-yen Chen) **51** #1677 53C40

Hypersurfaces with type number two in real space forms. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 222–229 (1974). (Bang-yen Chen) **50** #14596 53C40

On special *W*-surfaces in a 3-dimensional Riemannian manifold of constant curvature. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12** 230–232 (1974). (Bang-yen Chen) **50** #14597 53C40

(*with* Nakagawa, Hisao; Takagi, Ryoichi) On a certain isometric imbedding. (Japanese) *Sûgaku* **26** (1974), *no.* 2, 156–157. (Y. Katsurada) **54** #6036 53C40

On Veronese manifolds. *J. Math. Soc. Japan* **27** (1975), *no.* 3, 497–506. (M. do Carmo) **52** #4190 (E **58** #24135) 53C40

(*with* Ogiue, Kōichi) Isotropic immersions and Veronese manifolds. *Trans. Amer. Math. Soc.* **209** (1975), 109–117. (M. do Carmo) **51** #11368 53C40

Addendum to: "On Veronese manifolds" (J. Math. Soc. Japan **27** (1975), no. 3, 497–506). *J. Math. Soc. Japan* **30** (1978), *no.* 1, 73–74. (M. do Carmo) **58** #24135 53C40

Itoh, Yoshiaki Boltzmann equation on some algebraic structure concerning struggle for existence. *Proc. Japan Acad.* **47** (1971), *suppl. I*, 854–858. (George Weiss) **47** #1479 92A15

On a ruin problem with interaction. *Ann. Inst. Statist. Math.* **25** (1973), 635–641. (D. S. Tracy) **49** #11671 60K35 (92A10)

An *H*-theorem for a system of competing species. *Proc. Japan Acad.* **51** (1975), *no.* 6, 374–379. (J. M. Cushing) **52** #10095 92A15

Itoi, Takashi (*with* Kodama, Masanori) The effect of switch-over device on availability of a 2-dissimilar-unit redundant system with a warm standby. *Bull. Math. Statist.* **17** (1976/77), *no.* 3-4, 39–47. (S. K. Srinivasan) **58** #3087 60K10

(*with* Murakami, Tatsuo; Kodama, Masanori; Nishida, Toshio) Reliability analysis of a parallel redundant system with two dissimilar correlated units. *Tech. Rep. Osaka Univ.* **26** (1976), *no.* 1308–1336, 403 409. (Authors' summary) **58** #8109 62N05

Itou, S. Axisymmetric slipless indentation of an infinite elastic hollow cylinder. *B* *Calcutta Math. Soc.* **68** (1976), *no.* 3, 157–165. (Author's summary) **58** #3225 73.35

Īts, A. R. (*with* Matveev, V. B.) Hill operators with a finite number of lacunae. (Russia *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 1, 69–70. (R. C. Gilbert) **52** #1118 34B25

(*with* Matveev, V. B.) Schrödinger operators with the finite-band spectrum and *N*-soliton solutions of the Korteweg-de Vries equation. (Russian. English summa *Teoret. Mat. Fiz.* **23** (1975), *no.* 1, 51–68. (Authors' summary) **57** #18570 81 (35Q99)

(*with* Matveev, V. B.) Coordinatewise asymptotic behavior for Schrödinger's equation with a rapidly oscillating potential. (Russian) Mathematical questions in theory of wave propagation, 7. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Stek* (*LOMI*) **51** (1975), 119–122, 218. (A. A. Arsen′ev) **53** #8573 (EA **53**) 34D05

(*with* Matveev, V. B.) A class of solutions of the Korteweg-de Vries equati (Russian) *Problems in mathematical physics, No.* 8 (*Russian*), *pp.* 70–92, 173. *Izd Leningrad. Univ., Leningrad,* 1976. (Authors' summary) **58** #24352 58F05 (14H 35Q99)

(*with* Kotljarov, V. P.) Explicit formulas for solutions of a nonlinear Schrödin equation. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, 11, 965–968, 1051. (Authors' summary) **57** #16960 35J10 (35C05)

Inversion of hyperelliptic integrals, and integration of nonlinear differential equations. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 7 *Mat. M Astronom. vyp.* 2, 39–46, 162. (V. L. Makarov) **58** #29453 35Q99 (14K25, 58F05

Itskovich, É. L. *See* **Ickovič, È. L.**

Itsuji, Hideo (*with* Nishida, Toshio; Hiramatsu, Toshiaki) Commutative tandem qu with Markovian input and services. *Math. Japon.* **21** (1976), *no.* 4, 401–409. (Mic Yadin) **56** #1499 60K25

Itsuki, Yoshiro A remark on polynomial rings in infinitely many variables over a fie (Japanese) *Sûgaku* **28** (1976), *no.* 3, 259–260. (Chin-Pi Lu) **58** #22049 13F20

Iturrioz, Luisa ★Algèbres de Heyting trivalentes involutives. Notas de Lógica Matemática, No. 31. Thèse présentée à l'Université Nationale du Sud, Bahía Blan 1971. *Instituto de Matemática, Universidad Nacional del Sur, Bahía Blanca,* 1974. v+1 *pp.* (Marcel Guillaume) **52** #87 02J05

Les algèbres de Heyting-Brouwer: point de rencontre de plusieurs structures. *P Dép. Math.* (*Lyon*) **12** (1975), *no.* 3, 91–113. (G. Georgescu) **54** #10011 02 (02E15)

Sur les algèbres de Heyting-Brouwer. (Russian summary) *Bull. Acad. Polon. S Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 8, 551–558. (Stephen L. Bloom) **54** #5078 06A75 (02J05)

Les algèbres de Heyting-Brouwer et de Łukasiewicz trivalentes. *Notre Dame Formal Logic* **17** (1976), *no.* 1, 119–126. (R. Cignoli) **55** #2562 02J05 (02C05)

Algèbres de Lukasiewicz symétriques. *Publ. Dép. Math.* (*Lyon*) **13** (1976), *no.* 73–96. (Stephen L. Bloom) **55** #80 02C05 (02J05)

(*with* Rueda, Olga) Algèbres implicatives trivalentes de Łukasiewicz libres. *Discr Math.* **18** (1977), *no.* 1, 35–44. (A. Rose) **57** #63 02C05

An axiom system for three-valued Łukasiewicz propositional calculus. *Notre Da J. Formal Logic* **18** (1977), *no.* 4, 616–620. (János Bagyinszki) **58** #5028 02C05

Two characteristic properties of monadic three-valued Łukasiewicz algebras. *R Math. Logic No.* 8 (1977), 63–69. (G. Georgescu) **58** #10436 02J05

Łukasiewicz and symmetrical Heyting algebras. *Z. Math. Logik Grundlagen Ma* **23** (1977), *no.* 2, 131–136. (From the introduction) **58** #10437 02J05 (06A20, 08A25)

bar-Itzhack, Itzhack Y. *See* **Bar-Itzhack, Itzhack Y.**

Itzinger, Oskar ★Methoden der maschinellen Intelligenz. Eine Einführung. Comput Monographen, Band 10. *Carl Hanser Verlag, Munich-Vienna,* 1976. 173 *pp.* *ISBN* 3-446-12110-2 (G. E. Minc) **57** #4692 68A45

The South American game. *Math. Mag.* **50** (1977), *no.* 1, 17–21. (Aviezri Fraenkel) **55** #12129 90D05

See also **Compstat**, **49** #9990 *and* **Künstliche Intelligenz und heuristisches Programmieren**, **56** #17251

Itzkan, Irving (*with* Berenson, Rhoda; Birman, Joseph L.) Clebsch-Gordan coefficients $^*X\otimes{}^*X$ in diamond O_h^7-$Fd3m$ and rocksalt O_h^5-$Fm3m$. *J. Mathematical Phys.* (1975), 236–242. (Daniel B. Litvin) **54** #12882 20C35 (82.20)

Itzkowitz, Gary S. Inner invariant subspaces. *Pacific J. Math.* **68** (1977), *no.* 2, 455–4 (P. Rosenthal) **58** #17892 47A15

Itzkowitz, Gerald L. Measurability and continuity for a functional equation on a topological group. *Aequationes Math.* **7** (1971), 194–198. (J. H. B. Kemperman) **47** #5477 39A40

On the density character of compact topological groups. *Fund. Math.* **75** (1972), 3, 201–203. (K. H. Hofmann) **46** #3684 22C05

A characterization of a class of uniform spaces that admit an invariant integra *Pacific J. Math.* **41** (1972), 123–141. (Edwin Hewitt) **47** #7001 28A70

Continuous measures, Baire category, and uniform continuity in topological group *Pacific J. Math.* **54** (1974), *no.* 2, 115–125. (M. Rajagopalan) **51** #8331 22D05

Uniform structure in topological groups. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 363–366. (K. A. Ross) **53** #8320 22D05

(*with* Comfort, W. W.) Density character in topological groups. *Math. Ann.* (1977), *no.* 3, 223–227. (Hans-Christian Reichel) **56** #5767 22A05 (54A25)

Itzykson, Claude Toeplitz determinants as group averages. *Analytic methods in mathematical physics (Sympos., Indiana Univ., Bloomington, Ind.,* 1968), *pp.* 469–4 *Gordon and Breach, New York,* 1970. (H. Widom) **49** #3460 43A75 (47B35)

(*with* Martin, André) Phase-shift ambiguities for analytic amplitudes. (Italian a Russian summaries) *Nuovo Cimento* (11) **17** (1973), 245–287. (F. C. Auluck) **51** #121 81.30

(*with* Iliopoulos, J.; Martin, André) Functional methods and perturbation theor *Rev. Modern Phys.* **47** (1975), 165–192. (R. Høegh-Krohn) **58** #14610 81.46

(*with* Brézin, Edouard; Parisi, G.; Zuber, J. B.) Planar diagrams. *Comm. Mat Phys.* **59** (1978), *no.* 1, 35–51. (C. S. Sharma) **57** #11401 81.05

(*with* Drouffe, J. M.) Lattice gauge fields. *Phys. Rep.* **38C** (1978), *no.* 3, 133–17

(Jacques P. Leveille) **58** #4013 81.22 (81.05)

See also **Abarbanel, Henry D. I., 56** #7611

aev, G. S. *See* **Judaev, G. S.**

ovich, V. I. *See* **Judovič, V. I.**

a, Masashi (*with* Hirashima, Masaharu) On the derivation of fundamental equations of curved and twisted thin-walled open section members. *Bull. Sci. Engr. Res. Lab. Waseda Univ. No.* 79 (1977), 37–49. (René Hayart) **58** #8652 73.35

čev, A. I. A comparison principle with a vector-valued Ljapunov vector function, and the stability of the solutions of countable systems of differential equations with time lags. (Russian) Approximate solution of boundary value problems and of functional equations. *Perm. Politehn. Inst. Sb. Naučn. Trudov No.* 152 (1974), 98–105. (Wolfgang Hahn) **53** #11195a 34K20

The stability of the solutions of countable systems of differential equations with time lag, with respect to a part of the variables. (Russian) Approximate solution of boundary value problems and of functional equations. *Perm. Politehn. Inst. Sb. Naučn. Trudov No.* 152 (1974), 106–112. (Wolfgang Hahn) **53** #11195b 34K20

Instability of the solutions of countable systems of differential equations. (Russian) *Perm. Politehn. Inst. Sb. Naučn. Trudov* **170** (1975), 128–135. (M. Bertolino) **56** #16079 34D99

Countable systems of differential equations with time lags. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 12(187), 19–22. (V. M. Popov) **58** #17414 34K05

hnenko, A. G. *See* **Īvahnenko, O. G.**

hnenko, L. N. *See* **Cybernetics and computer technology**, **48** #1735

hnenko, M. M. Estimation of identification error of nonstationary objects. (Russian) *Adapt. Sistemy Avtomat. Upravlenija Vyp.* 2 (1974), 13–17, 148. (Author's summary) **55** #2227 93B30

hnenko, O. G. (*with* Lapa, V. G.) ★Предсказание случайных процессов. (Russian) [Prediction of random processes] *Izdat. "Naukova Dumka", Kiev*, 1971. 416 *pp.* (Editors) **48** #3207 62M20 (93E10)

Polynomial theory of complex systems. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-1** (1971), 364–378. (B. Pondělíček) **46** #8692 93A15

(*with* Spinu, Ē. Ī.; Dimitrov, V. D.; Patereu, S. G.; Patratiĭ, Ī. Z.) Multilayer statistical decision theory. *Avtomatika* **1971**, *no.* 1, 51–64 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **4** (1971), *no.* 1, 37–47. (D. V. Lindley) **49** #1636 62C99

(*with* Koval'cuk, P. I.) Unique construction of regression curve using a small number of points. *Avtomatika* **1972**, *no.* 5, 34–41, 93 (*Ukrainian*); *translated as Soviet Automat. Control* **5** (1972), *no.* 5, 26–32. (Authors' summary) **56** #14857 93A10

(*with* Toloknjanenko, V. O.) Control with prediction optimization in simple continuous plant models. *Avtomatika* **1973**, *no.* 2, 64–72 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **6** (1973), *no.* 2, 48–55. (Authors' summary) **51** #12378 93C50

(*with* Čukīn, Ju. V.) Regularization of GMDH algorithms using algebraic regression equations. *Avtomatika* **1973**, *no.* 4, 61–74 (*Ukrainian*); *translated as Soviet Automat. Control* **6** (1973), *no.* 4, 55–59. (François Brodeau) **51** #5122 93E10

(*with* Toloknjanenko, V. O.; Jaremenko, O. G.) Control with prediction optimization using discrete linear prediction models of the plant. *Avtomatika* **1974**, *no.* 1, 28–38 (*Ukrainian*); *translated as Soviet Automat. Control* 7 (1974), *no.* 1, 22–31. (Bojan Popović) **51** #12379 (E **51** #12380) 93C50

(*with* Koppa, Ju. V.) Selection of feature ensemble and synthesis of multilayer perceptron using self-organization. *Avtomatika* **1974**, *no.* 2, 41–53 (*Ukrainian*); *translated as Soviet Automat. Control* 7 (1974), *no.* 2, 33–43. (Allen Klinger) **50** #15467 68A45

(*with* Toloknjanenko, V. O.; Jaremenko, O. G.) Answer to: "On the stability of discrete control systems with prediction optimization" (Soviet Automat. Control 7 (1974), no. 3, 71–73). *Avtomatika* **1974**, *no.* 3, 90 (*Ukrainian*); *translated as Soviet Automat. Control* 7 (1974), *no.* 3, 74. (Editors) **51** #12381 93C50

(*with* Vasil'ev, V. Ī.; Agababjan, K. G.; Zaĭčenko, Ju. P.; Reznik, A. M.; Kvitašvili, A. A.; Dajan, S. V.; Rastrigin, L. A.; Glaz, A. B.; Othmezuri, G. L.) ★Перцептрон–система распознавания образов. (Russian) [The perceptron–a system of pattern recognition] Теория, моделирование, возможные улучшения и применения перцептронов. [Theory, simulation, possible improvements and applications of perceptrons] Edited by A. G. Ivahnenko. *Izdat. "Naukova Dumka", Kiev*, 1975. 431 *pp.* (V. A. Kovalevskiĭ) **54** #9189 68A45 (92A99)

(*with* Visoc'kiĭ, V. M.; Fedorov, V. D.; Maksimov, V. M.; Sokolova, S. O.) Simulation of the dynamics of the environment-plankton ecological system of the White Sea and analysis of its stability. *Avtomatika* **1975**, *no.* 3, 9–18 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 3, 6–13. (J. M. Skowroński) **56** #8097 92A99

Present state of the theory of computer-aided self-organization of mathematical models (survey). *Avtomatika* **1975**, *no.* 5, 23–33 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 5, 18–26. **58** #26196 93–02

(*with* Sīrbīladze, D. D.; Karpuhina, A. M.) Optimization of nonlinear transformation of continuous features into discrete (binary) code by sifting according to analytic formulas. *Avtomatika* **1976**, *no.* 5, 3–13 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **9** (1976), *no.* 5, 1–10. (Hidemitsu Ogawa) **56** #10195 68A45

See also **Cybernetics and computer technology**, **48** #1735 *and* **Mathematical models for prediction and for water quality control**, **56** #14848

an, C. On a model of fatigue. (Romanian. English summary) *Stud. Cerc. Mat.* **24** (1972), 127–132. (Author's summary) **48** #3210 62N05

A multidimensional nonlinear growth, birth and death, emigration and immigration process. *Proceedings of the Fourth Conference on Probability Theory* (*Braşov*, 1971), *pp.* 421–427. *Editura Acad. R. S. R., Bucharest*, 1973. (W. A. O'N. Waugh) **53** #14704 60J85 (92A10)

an, Constantin On spreads of curves. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **55** (1973), 46–49 (1974). (T. Zamfirescu) **52** #1521 52A10

Ivan, Floarea Sum-functions with values in a locally convex space. (Romanian. French summary) *Stud. Cerc. Mat.* **23** (1971), 1361–1367. (R. Cristescu) **49** #10852 28A45

Sum-functions defined on a Boolean σ-algebra. (Romanian. English summary) *Stud. Cerc. Mat.* **28** (1976), *no.* 2, 181–188. (O. Costinescu) **55** #8308 28A60

Ivanauskas, Feliksas An investigation of the difference Green's function for a wave system with three space variables. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 4 (1973), 9–30, 89. (N. Cristescu) **51** #2304 65M15

An investigation of the difference Green's function for a wave system. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 635–646, 812. (Author's summary) **58** #32335 76.35

An investigation of the difference Green's function for a wave system with three space variables. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 495–499, 535. (T. Styś) **49** #10163 65M10

Integral formulas for the representation of the solution of a wave system. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1589–1593, 1631. (Genowefa Majcher) **51** #8601 35C15

(*with* Bartkevičius, Arvydas) The solution of the Cauchy problem for systems of first order ordinary differential equations. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 14 (1976), 9–19, 107. (Authors' summary) **57** #18121 65L99

Difference schemes for a system of nonlinear equations of parabolic type. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 4, 105–109, 222. (Ju. K. Dem'janovič) **57** #8059 65N10

Ivančenko, V. Ju. Representation of the tensor form of the equations of motion of rheonomic systems in nonholonomic rheonomic coordinates. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 6(169), 36–44. (W. Waliszewski) **58** #7437 53A45

Ivančev, Miroslav D. (*with* Janev, Nikolaĭ I.; Mitev, Ĭordan G.) An easily computerized algorithm for solving mixed integer programming problems. (Bulgarian. Russian and English summaries) *Mathematics and mathematical education* (*Proc. Third Spring Conf. Bulgar. Math. Soc., Burgas*, 1974) (*Bulgarian*), *pp.* 314–322, *B"lgar. Akad. Nauk, Sofia*, 1976. (See Zbl **365** #90095) 90C10

(*with* Mitev, Ĭordan G.; Janev, Nikolaĭ I.) A realization of the branch and bound method for the solution of the general mixed integer programming problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 3, 788–792, 823. (Authors' summary) **54** #4643 90C10

A class of quadratic assignment problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 5, 1348–1353, 1375. (V. I. Rublineckiĭ) **56** #17765 90B10

(*with* Sumarokov, V. M.; Janev, Nikolaĭ I.) Increasing single-link search trees. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 2, 296–299. (See RŽMat **1977** #5 V614) 68A50

(*with* Sumarokov, V. M.; Janev, Nikolaĭ I.) Combinatorial analysis of balanced test trees with a variable branching factor. (Russian) *Programmirovanie* **1977**, *no.* 4, 75–82, 96. (Witold Lipski) **58** #19442 68A50

Ivančik, I. I. Iteration-free enumeration of connected marked graphs. (Russian) *Kombinatornyĭ Anal. Vyp.* 4 (1976), 78–87. (RŽMat **1976** #11 V473) **58** #357 05C30

Īvančov, M. Ī. The solvability of the Dirichlet problem for quasilinear elliptic equations in classes of functions that have a given behavior at infinity. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 11(114), 72–77. (A. Haimovici) **45** #3914 35B40

The Dirichlet problem in infinite domains. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Univ. Ser. Meh.-Mat.* **1971**, *no.* 6, 80–82, 138. (Ja. A. Roĭtberg) **46** #7696 35J25

(*with* Makarenko, L. M.) The fundamental solution of a certain equation of elliptic type. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1974**, *no.* 9, 37–40, 133. (Ja. A. Roĭtberg) **56** #6101 35J25

Ivancova, S. P. (*with* Danilov, L. V.) The dissipativity of electrical circuits that contain nonlinear resistors. (Russian. English summary) *Proceedings of the Fifth International Conference on Nonlinear Oscillations* (*Kiev*, 1969), *Vol.* 4: *Application of the theory of nonlinear oscillations in electrical engineering and electronics* (*Russian*), *pp.* 170–178. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1970. (J. Kuntzmann) **49** #12174 94A20

Ivandaev, A. I. (*with* Gubaĭdullin, A. A.; Nigmatulin, R. I.) A modified "large particle" method for the calculation of nonstationary wave processes in multiphase dispersed media. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1531–1544, 1628. (Authors' summary) **57** #2162 76.65

Ivánek, Jiří The non-axiomatizability of the observational predicate calculus (generalized Trachtenbrot's theorems). *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 1, 41–57. (Author's summary) **57** #16038 02G10 (02B10)

Īvanel, V. K. Operations on Thiele's continued fractions, and some generalizations of them. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 17–21, 152. (S. V. Kotov) **52** #11171 34A45 (10A30)

Obreškov's formula for functions of two variables with the remainder term in Lagrange form. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 106 (1975), 53–55, 200. (From the summary) **58** #23264 41A20

(*with* Bodnarčuk, P. Ī.; Dzjubka, V. E.; Pustomel'nikov, Ī. P.; Slon'ovs'kiĭ, R. V.) Computational stability of ordinary continued and branching continued fractions. (Russian) *Continued fractions and their applications* (*Russian*), *pp.* 12–14, 103. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Authors' summary) **58** #29547 40A15 (10A30)

(*with* Kisīl', R. I.; Maksimīv, Ē. M.) A generalized Maclaurin formula and its application. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 42–44, 185. (Authors' summary) **58** #28334 26A06

Ivanenko, D. D. (*with* Krečet, V. G.; Lapčinskiĭ, V. G.) Dynamics of charged dust in general relativity theory. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1973**, *no.* 12, 63–67. (Authors' summary) **58** #32736 83.35

(*with* Gololobova, A. S.; Krečet, V. G.; Lapčinskiĭ, V. G.) Cosmological solutions for a spinor field in general relativity theory. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1973**, *no.* 12, 68–71. (Authors' summary) **58** #25748 83.35

The cosmological term, compensation, and singularities. (Russian) *Izv. Vysš. Učebn. Zaved. Fiz.* **1974**, *no.* 12, 35–42. (Author's summary) **58** #25784 83.53

The major periods of gravity research. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1974**, *no.* 2-3(47-48), 51–59, 221. (Editors) **58** #15989 01A60 (83.01)

The timeliness of Einstein's works. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1975**, *no.* 3(52), 13–16, 101 (1976). (Editors) **58** #16003 01A65

See also **Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday**, **48** #15; **Poincaré, Henri**, **52** #2804; **Quantum gravitation and topology**, **52** #16462 *and* **Current problems in theoretical physics**, **57** #8836

Ivanenko, I. S. Optimal averaging of control in systems with random lag in the control. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 135 (1971), 26–33. (A. Filatov) **48** #13421 93E20

Ivanenko, O. D. (*with* Guljaev, A. I.) Analysis of queueing systems with a multidimensional flow of arrivals and with an unreliable server. (Russian) *Materialy Sem. Kibernet. Vyp.* 41-42 (1972), 40–50, 53–54. (Authors' summary) **54** #11557 60K25

Ivanenko, V. A. (*with* Gabelaja, A. G.; Odarič, O. M.) Synthesis of the asymptotic stability of linear systems in the case of *k* zero roots. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 2, 50–56. (Ljubomir Lilov) **55** #2278 93D15

Ivanenko, V. G. (*with* Alekperov, V. P.; Andrievskiĭ, V. R.; Bahanov, L. E.; Bykov, V. P.; Zubkov, M. Ja.; Modjaev, A. D.; Potemkin, V. G.; Tepljakov, È. P.; Topčeev, Ju. I.; Fedorov, S. M.; Hlypalo, E. I.; Černikov, S. A.; Čudov, M. A.; Šipilov, A. I.; Šumilov, B. F.; Ščerbakov, V. A.) ★Нелинейные корректирующие устройства в системах автоматического управления. (Russian) [Nonlinear correcting devices in automatic control systems] Edited by Ju. I. Topčeev. Nonlinear Automatic Control Systems, Vol. 2. *Izdat.* "*Mašinostroenie*", *Moscow*, 1971. 466 *pp.* (Bojan Popović) **50** #4005 93–06

Īvanenko, V. Ī. A method of transformation of the space of observations in the statistical synthesis of nonlinear closed automatic systems. I, II. (Russian. English summary inserts) *Kibernetika* (*Kiev*) **1967**, *no.* 6, 14–18; *ibid.* **1968**, *no.* 2, 31–35. (Author's summary) **45** #8320a 93E10

A letter to the editors. (Russian) *Kibernetika* (*Kiev*) **1968**, *no.* 3, 100–101. (Author's summary) **45** #8320b 93E10

On the synthesis of closed adaptive systems of the control of stationary objects. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 4, 21–24. (R. Lipcer (RŽMat **1969** #2 V149)) **45** #8373 93E20

(*with* Hohel', O. A.; Šor, O. Ī.) A synthesis of an optimal adaptive control system of the generator of a Gaussian random process. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 6, 38–42. (V. Kolemaev (RŽMat **1970** #1 V219)) **45** #8374 93E20

(*with* Šor, O. Ī.) A certain sufficient criterion for the existence of a regular control of a stationary random object. (Russian) *Adaptive systems of automatic control* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 48–60. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. ((RŽKibernet **1970** #7 G122)) **46** #1438 93E20

Certain problems on the synthesis of closed adaptive systems of control of stationary objects. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 1: *Optimal and adaptive systems* (*Russian*), *pp.* 279–286, 311. *Izdat.* "*Nauka*", *Moscow*, 1972. (Editors) **48** #8068 93E20

(*with* Gabelaja, A. G.; Odarič, O. M.) Necessary and sufficient conditions for the stabilization of linear systems. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 4, 329–332, 381. (Ljubomir Lilov) **51** #11255 49E20 (93D05)

(*with* Gabelaja, A. G.; Odarič, O. M.) Stabilizability of linear autonomous control systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 3, 69–72. (P. Fischer) **55** #14348 93D99

(*with* Lopīn, V. M.) Performance analysis of controllable function generators using a single threshold element. *Avtomatika* **1975**, *no.* 4, 73–79 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 4, 61–67. (J. C. Muzio) **56** #15183 94A20

(*with* Lopīn, V. M.) Structural synthesis of controllable function generators using threshold elements. *Avtomatika* **1975**, *no.* 5, 66–72 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 5, 53–58. (Authors' summary) **55** #10149 94A20

(*with* Gabelaja, A. G.; Odarič, O. M.) Stabilizability of autonomous linear systems with a delay. *Avtomat. i Telemeh.* **1976**, *no.* 8, 12–16 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 8, *part* 1, 1145–1150. (Marshall Slemrod) **58** #9627 93D10

(*with* Labkovs'kiĭ, V. A.) A condition for the reducibility of a control object. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 2, 82–85. (Authors' summary) **58** #9712 93E20

(*with* Labkovs'kiĭ, V. A.) On the question of the accumulation of information in adaptive control systems. II. (Russian) *Adaptive control systems* (*Russian*), *pp.* 3–13. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (From the preface) **58** #33324 93C30

(*with* Labkovs'kiĭ, V. A.) The neutrality of a control object. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 4, 46–48. (A. A. Pervozvanskiĭ) **58** #15571 93E10

(*with* Andrēēv, M. V.; Šor, O. Ī.) A class of strategies in controllable Markov models. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1978**, *no.* 2, 96–99. (A. A. Pervozvanskiĭ) **58** #15259 90D35 (90C40)

See also **Adaptive control systems**, **57** #15582 *and* **Adaptive automatic control systems**, **58** #33440a

Ivănescu, Mircea On the elimination of the simulation errors in the introduction of boundary conditions in certain boundary value problems. (Romanian. French summary) *An. Univ. Craiova Ser. a IV-a* **1** (1970), 203–208. (F. M. Pascal) **49** #1808 65N99 (02E99)

(*with* Belea, C.; Marin, Constantin) Stability criteria for systems with spatial distribution. (Romanian. French summary) *An. Univ. Craiova Ser. a V-a No.* 2, 361–369 (1974). (Authors' summary) **57** #15676 93D99

(*with* Marin, Constantin) The optimal synthesis of higher order systems by l order models. (Romanian. French summary) *An. Univ. Craiova Ser. a V-a No* 461–470 (1974). (Authors' summary) **57** #15652 93C99

Īvanicja, V. V. On the question of difference inequalities for a nonlinear boundary v problem. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 809–816, 863. (R. Kodnár) **50** #1 39A10

An application of the method of upper and lower network functions to the solu- of a difference boundary value problem. (Russian. English summary) *Vyčisl. Prikl.* (*Kiev*) *No.* 23 (1974), 79–90, 174. (J. Mikliček) **50** #1519 65L10

Ivanickaja, O. S. Natural quantities in the Schwarzschild gravitation field under cer- calibrations of the tetrads. (Russian) *Gravitation and the theory of relativity, No.* (*Russian*), *pp.* 139–150. *Izdat. Kazan. Univ., Kazan*, 1968. (G. Zadonskiĭ (RŽFiz 1 #8 B144)) **45** #1552 83.53

Generally covariant gauge conditions of accompaniment for tetrad gravita- potentials. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no* 58–63, 140. (R. I. Pimenov) **46** #10363 83.53

Three generally covariant sources of relativistic corrections of general relati theory, and the theory of the Shapiro experiment in an isotropic frame. (Russian) *V Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 2, 73–78, 137. (V. G. Pisare **49** #2017 83.34

Invariants of a local Lorentz subgroup in Einstein's gravitation theory. (Russi- *Dokl. Akad. Nauk SSSR* **218** (1974), 540–542. (D. I. Papuc) **50** #9291 83.53

(*with* Sjaglo, I. S.) Three-dimensional Lorentz-covariant equations of the Einst- theory of gravitation, and their chronometrically and kinemetrically covariant representations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, 68– 142. (B. Mielnik) **52** #7465 83.53

Ivanickiĭ, A. M. On the theory of equivalent *n*-port networks. (Russian. English summa *Teoret. Èlektrotehn. No.* 15 (1973), 64–71, 177. (Author's introduction) **50** #665 94A20

Ivanickiĭ, I. I. (*with* Maĭorov, I. V.) Certain problems for equations of mixed ty (Russian) *Volž. Mat. Sb. No.* 8 (1971), 104–113. (S. A. Tersenov) **46** #2251 35M

A certain boundary value problem for a nonlinear elliptic equation with degener on the boundary of the domain. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **19** *no.* 12 (163), 20–29 (1976). (Ja. A. Roĭtberg) **55** #3532 35J65

A boundary value problem with displacement for the equation $u_{xx}+\operatorname{sign}(xy)u_{yy}=f(x,y,u)$. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *No.* (1977), 68–78. (Editors) **58** #11976 35M05

Ivanickiĭ, V. D. *See* **Theory of optimal processes**, **48** #3535

Īvanic'kiĭ, V. G. An approximate solution of an equation of Barbašin type by means of method of averaging functional corrections. (Russian) *Approximate and qualitat methods of the theory of differential and integral equations* (*Russian*), *pp.* 183–194. *Izda Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (G. F. Miller) **51** #9550 65R05

Numerical realization of the method of averaging functional corrections for Barbašin type equations. (Russian) *Methods of approximate solution of differential a integral equations* (*Russian*), *pp.* 76–88. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SS Kiev*, 1973. (Editors) **58** #2108 45L10 (45J05, 65R05)

On the question of the solvability of singular integral equations with logarithm composite kernel. (Russian) *Methods of approximate solution of differential and integ equations* (*Russian*), *pp.* 89–96. *Izdanie`Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 197 (Editors) **58** #2080 45E05

(*with* Malanjuk, L. B.) Certain algorithms for the approximate solution of line equations of the first kind. (Russian) *Methods of approximate solution of differential a integral equations* (*Russian*), *pp.* 183–186. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SS Kiev*, 1973. (Editors) **58** #19117 65J05 (47A50)

The approximate solution of nonlinear singular integral equations by the Newton-Kantorovič method. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1486–1490, 1541. (Ulrich Kosel) **50** #15401 65R05 (45L05)

Estimation of the error of the method of averaging functional corrections for line equations. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 8, 1512–1515, 1527. (V. Džiškariani) **55** #13771 65J05 (65N25, 65R05)

Ivanilov, Ju. P. Two algorithms for the solution of a concave programming problem (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1968), *No.* 4 (*Russian*), *p* 13–21. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (J. Abrham) **45** #4834 90C25

(*with* Zimin, I. N.) A macroeconomic model of a war of attrition. (Russian) *Theor of optimal solutions* (*Proc. Sem., Kiev*, 1968), *No.* 4 (*Russian*), *pp.* 27–41. *Akad. Nau Ukrain. SSR, Kiev*, 1969. (V. Spiridonov) **45** #9717 90D40

(*with* Petrov, A. A.) A model for the planned development of labor resource (Russian) *Operations research* (*models, systems, solutions*), *No.* 1 (*Russian*), *pp.* 5– *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1970. (Authors' summary) **47** #4603 90A15

(*with* Moiseev, N. N.; Petrov, A. A.) Certain mathematical questions on the programmed control of an economic system. (Russian) *Cybernetics—in the service Communism, Vol.* 6 (*Russian*), *pp.* 9–22. "*Ènergija*", *Moscow*, 1971. (From the author introduction) **50** #9316 90A15

(*with* Petrov, A. A.) A dynamic model of expansion and reorganization of production (π-model). (Russian) *Cybernetics—in the service of Communism, Vol.* (*Russian*), *pp.* 23–50. "*Ènergija*", *Moscow*, 1971. (V. D. Dimitrov) **50** #12208 90B3

(*with* Petrov, A. A.) Certain methods of solving optimal planning problems fo dynamic production models. (Russian) *Cybernetics—in the service of Communism, Vo* 6 (*Russian*), *pp.* 51–64. "*Ènergija*", *Moscow*, 1971. (V. D. Dimitrov) **50** #12210 90B30

(*with* Petrov, A. A.) Calculation of the optimal plan for industrial developmen according to the dynamic π-model. (Russian) *Cybernetics—in the service of Communism, Vol.* 6 (*Russian*), *pp.* 65–82. "*Ènergija*", *Moscow*, 1971. (V. D. Dimitrov **50** #12209 90B30

Conjugate (dual) multistep games. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no* 2, 3–9 (*Russian*): *translated as Engrg. Cybernetics* **9** (1971), *no.* 2, 211–216. (Constanti Vîrsan) **45** #9703 90C99

Dual semigames. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 4, 3–9 (*Russian*) *ranslated as Engrg. Cybernetics* **10** (1972), *no.* 4, 565–570. (V. F. Dem′janov) **52** #10078 90D45

(*with* Antimonov, S. G.) Problems of cooperation for multisector production nodels. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 5, 3–12 (*Russian*); *translated is Engrg. Cybernetics* **10** (1972), *no.* 5, 753–760. (Louis J. Billera) **48** #10438 90A15 90D40)

(*with* Malašenko, Ju. E.) A certain approach to the solution of dynamic convex programming problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* , 73–80. (H. Weber) **49** #6929 90C25

(*with* Propoĭ, A. I.) Problems of dynamic convex programming. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 571–581. (S. Zlobec) **46** #10412 90C25

(*with* Propoĭ, A. I.) Duality relations in linear dynamic programming. *Avtomat. i Telemeh.* **1973**, *no.* 12, 100–108 (*Russian*); *translated as Automat. Remote Control* **34** 1973), *no.* 12, *part* 2, 1945–1952 (1974). (Authors' summary) **58** #2557 49C99 90C05)

(*with* Malašenko, Ju. E.) A method for the solution of a linear dynamical problem. Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 5, 42–49. (S. Cruceanu) **19** #5995 49C15

(*with* Čuĭko, A. S.) A method of solving the general problem of linear dynamic programming. (Russian) *Optimization methods and operations research, applied nathematics* (*Russian*), *pp.* 45–55, 187. *Akad. Nauk SSSR Sibirsk. Otdel. Sibirsk. Ènerget. Inst., Irkutsk*, 1976. (Authors' summary) **58** #4349 90C40

(*with* Stoljarova, E. M.) Some sociodemographic models. (Russian) *Optimization nethods and operations research, applied mathematics* (*Russian*), *pp.* 149–156, 190. *Akad. Nauk SSSR Sibirsk. Otdel. Sibirsk. Ènerget. Inst., Irkutsk*, 1976. (V. D. Dimitrov) **58** #4451 92A15

(*with* Muhamediev, B. M.) Some properties of linear multistage games. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1976**, *no.* 1, 11–20 (*Russian*); *translated as Engrg. Cybernetics* **14** (1976), *no.* 1, 1–9 (1977). (Authors' summary) **58** #9328 90D20

(*with* Antimonov, S. G.) Solution of an open cooperative game in characteristic function form. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 2, 514–519, 543. (Nigel Howard) **55** #2165 90D12

(*with* Muhamediev, B. M.) Linear multistage games with conflicting interests. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 4, 49–55 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 4, 17–23 (1978). (Authors' summary) **58** #15234 90D12

(*with* Abramov, A. P.) An algorithm for the solution of a linear programming problem by the loaded functional method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 1, 259–263, 288. (Jürgen Guddat) **56** #7944 90C05

(*with* Muhamediev, B. M.) Ways of solving linear two-person games with different interests. (Russian) *Èkonom. i Mat. Metody* **14** (1978), *no.* 3, 552–561. (M. Mañas) **58** #15225 90D05

in, V. M. (*with* Zuev, G. M.; Ivanov, Ju. N.) Game-theoretic approach to the problem of spacecraft descent control in the atmosphere. I. *Avtomat. i Telemeh.* **1971**, *no.* 2, 5–14 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 2, *part* 1, 175–183. (H. T. Banks) **48** #8008 90D45 (93C99)

(*with* Zuev, G. M.; Ivanov, Ju. N.) Game-theoretic approach to the problem of spacecraft descent control in the atmosphere. II. *Avtomat. i Telemeh.* **1971**, *no.* 5, 31–39 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 5, *part* 1, 714–721. (H. T. Banks) **48** #8009 90D45 (93C99)

An asymptotic estimate of the mathematical expectation of the number of elements of the Pareto set. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 1, 97–101. (S. Kotz) **53** #12606 90C40

An estimate of the mathematical expectation of the number of elements of the Pareto set. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 3, 145–146. (From the author's introduction) **56** #2381 90C15

Calculation of the dispersion of the number of elements of the Pareto set for the choice of independent vectors with independent components. (Russian) *Theory of optimal decisions* (*Russian*), *pp.* 90–100. *Akad. Nauk. Ukrain. SSR Inst. Kibernet., Kiev*, 1976. (A. G. Žilinskas) **58** #26105 90D35 (90C99)

(*with* Kuksa, A. I.) Computation of the mathematical expectation of the number of feasible subsets in an acyclic directed graph with random arcs. (Russian) *Theory of optimal solutions* (*Russian*), *pp.* 41–45. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (Editors) **58** #9184 90B15

iščev, V. V. A decomposition method for the solution of the problem of the optimal use of means of transportation on a network. (Russian) *Mathematical methods of solution of economic problems* (*Suppl. to Èkonom. i Mat. Metody*), *No.* 5 (*Russian*), *pp.* 72–79. *Izdat. "Nauka", Moscow*, 1974. (Editors) **51** #14915 90B10

jan, M. I. (*with* Gazazjan, È. D.; Kinber, B. E.) The uniform short-wave asymptotics of the parabolic antenna field. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Fiz.* **13** (1978), *no.* 2, 87–95, 158. (Authors' summary) **58** #25398 78.35 (35C99)

ajuta, Ī. D. Certain groups of exponent four. (Russian) *Groups with restricted subgroups* (*Russian*), *pp.* 130–133. *"Naukova Dumka", Kiev*, 1971. (W. P. Kappe) **45** #2019 20D15

The relatively free groups that are close to nilpotent ones. (Russian) *Mat. Zametki* **11** (1972), 175–182. (I. D. Macdonald) **47** #1951 20E10

The free groups of the variety defined by the identity $[x,y;u,v;z]=1$. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 668–670, 717. (I. D. Macdonald) **49** #2937 20E10

kov, B. F. *See* **Systems analysis and algorithmization of production processes**, **49** #7064

kov, S. A. (*with* Volkonskiĭ, V. A.) Theorems on the convergence of iteration procedures. (Russian) *Mathematical methods for the solution of economic problems* (*Suppl. to Èkonom. i Mat. Metody*), *No.* 3 (*Russian*), *pp.* 37–51. *Izdat. "Nauka", Moscow*, 1972. (Bruce D. Craven) **52** #12819 90D10 (49D10)

(*with* Belen′kiĭ, V. Z.; Volkonskiĭ, V. A.; Pomanskiĭ, A. B.; Šapiro, A. D.) ★**Итеративные методы в теории игр и программировании.** (Russian) [Iterative methods in game theory and programming] *Izdat. "Nauka", Moscow*, 1974. 239 *pp.* (A. Rapoport) **56** #2192 90–01 (90Dxx)

(*with* Belen′kiĭ, V. Z.; Volkonskiĭ, V. A.) A certain general approach to the study of the convergence of iterative processes. (Russian) *Ekonom. i Mat. Metody* **10** (1974), 140–158. (A. B. Pevnyĭ) **51** #14976 90C25

(*with* Belen′kiĭ, V. Z.; Volkonskiĭ, V. A.) On a certain approach to the investigation of the convergence of iterative processes. *Computing equilibria: how and why* (*Proc. Internat. Conf., Comput. Centre, Polish Acad. Sci., Toruń*, 1974), *pp.* 225–247. *North-Holland, Amsterdam*, 1976. (Editors) **57** #15493 90D12

Ivankov, V. F. *See* **Linear boundary value problems of mathematical physics**, **50** #6719

Ivannikov, Ju. G. (*with* Kondrat′ev, V. A.) An estimate of the effectiveness of mass anti-epidemic measures. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 558–561. (K. Dietz) **47** #2740 62F25

Ivannikov, V. A. (*with* Akuliničev, N. M.) The limit distributions of functionals of additive type in a certain queueing problem. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 1, 102–110. (V. V. Anisimov) **49** #9975 60K25

Ivanoff, A. *See* **Automatic control: classical linear theory**, **52** #16755

Ivanov, A. A. (*with* Ivanova, V. M.) Continuous mappings of extensions of a topological space. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 209–214. *Academia, Prague*, 1972. (Richard A. Alò) **51** #6732 54D35

Reductiveness of uniform structures. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 1284–1285. (M. Hušek) **52** #4240 54E15

Reductiveness of uniform structures. (Russian) *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 123–127. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (A. Császár) **48** #12473 54E15

Extension structures. (Russian) Studies in topology. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **36** (1973), 50–125. (Ju. Smirnov (RŽMat **1974** #4 A361)) **53** #11577 54E15

Enrichments. (Russian) Studies in topology. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **36** (1973), 126–133. (Ju. Smirnov (RŽMat **1974** #4 A362)) **53** #14426 54E15

Inequalities and fixed point theorems. (Russian) Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 283–287. (Karol Baron) **51** #11467 54H25

Fixed points of mappings of metric spaces. (Russian. English summary) Studies in topology, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **66** (1976), 5–102, 207. (L. Janos) **57** #7564 54H25

Fixed point theorems for metric space mappings. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 173–177. *Soc. Czechoslovak. Mathematicians and Physicists, Prague*, 1977. (L. F. Guseman, Jr.) **57** #1463 54H25

See also **Boundary value problems of mathematical physics and related questions in the theory of functions**, **47** #595; **Studies in topology**, **48** #9725 *and* **Studies in topology**, **55** #9097

Ivanov, A. B. Isometric immersion of complete two-dimensional locally Euclidean manifolds into Euclidean spaces. (Russian) *Mat. Zametki* **13** (1973), 427–429. (K. Radziszewski) **48** #1113 53C40

Ivanov, A. D. The interpretation of four-dimensional Bol webs in three-dimensional projective space. (Russian) *Geometry of homogeneous spaces* (*Russian*), *pp.* 42–57. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1973. (M. Decuyper) **54** #5994 53A20

Finite equations of four-dimensional Bol three-webs. *Collection of articles on differential geometry* (*Russian*), *pp.* 70–78. *Kalinin. Gos. Univ., Kalinin*, 1974. (V. V. Gol′dberg) **54** #13736 53A05

Four-dimensional Bol webs of elliptic or hyperbolic type. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 9(160), 25–34. (M. A. Akivis) **54** #5995 53A25

Four-dimensional Bol webs of parabolic type. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 1(164), 42–47. (W. Wrona) **55** #8984 53B25

Ivanov, A. E. (*with* Bekišev, G. A.) On van der Waerden's hypothesis on the permanent function of twice stochastic matrices. (Russian) *Upravljaemye Sistemy No.* 3 (1969), 57–59. (See RŽMat **1970** #12 A300) 15A51

Ivanov, A. F. (*with* Alekseev, O. G.) Optimization of technical economic characteristics of complex systems. (Russian) *Èkonom. i Mat. Metody* **6** (1970), 743–748. (N. N. Petrov) **45** #1563 90A15

The arithmetic of *p*-extensions. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 25–27. (Witold Więsław) **46** #7198 12A65

p-adic Dirichlet characters of function fields. (Russian) Studies in number theory, 3. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **50** (1975), 97–129, 195. (Matti Jutila) **53** #8019 12A90 (10G05, 14G15)

Periodic solutions of a class of systems with switching. (Russian) *Analytic methods in the theory of differential equations* (*Russian*), *pp.* 34–44. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (From the text) **58** #22805 34C25

Ivanov, A. G. (*with* Čerenkov, A. P.) Iterative computation method for the mean faultless operation time of a Markov system. *Avtomat. i Telemeh.* **1972**, *no.* 8, 143–151 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 8, *part* 2, 1374–1381 (1973). (Kailash C. Kapur) **52** #16588 90B25

Īvanov, A. Ī. (*with* Makarov, O. F.) The connection between two variational problems. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 407–410, 476. (I. V. Beiko) **46** #4319 49B10

The convergence of the collocation method for second order quasilinear equations of parabolic type. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 236–241. (F. M. Pascal) **45** #6210 65N35

(*with* Ponomarev, O. A.) A study of the Fröhlich model by the method of functional derivatives. (Russian. English summary) *Teoret. Mat. Fiz.* **30** (1977), *no.* 3, 382–394. (R. A. Minlos) **57** #2313 81.47

Ivanov, A. M. On the theory of radicals and purities in the category of all Λ-modules. (Russian) *Mat. Issled.* **9** (1974), *no.* 3(33), 195–200, 217–218. (L. Š. Ioffe) **51** #8176 16A64

On the theory of the radical of abelian groups. (Russian) *Mat. Issled.* **10** (1975), *no.* 1(35), 135–143, 298. (Alexandr Ju. Soifer) **52** #3366 20K99

Ivanov, A. P. (*with* Kondrat′ev, V. V.) Synthesis of optimal discrete regulators with varying intervals of discreteness for multiply connected objects. (Russian) *Optimal control of discrete systems with lag* (*Rep. Sem. Cybernetics, No.* 55) (*Russian*), *pp.* 31–41, 42. *Izdat. "Štiinca", Kishinev*, 1973. (Stanislav K. Myškov) **49** #11353 49C99 (*with* Kirin, N. E.) On methods of observing linear perturbable systems. (Russian) *Differencial'nye Uravnenija* **10** (1974), 788–791, 953. (I. Muntean) **50** #15989 93B05

See also **Methods and models of control, 50** #12520

Ivanov, A. S. al-Fārābī day at the Fifth Conference of Writers of the Lands of Asia and Africa. (Russian) *Vestnik Akad. Nauk Kazah. SSR* **29** (1973), *no.* 10(342), 3–10. (Editors) **56** #15278 01A30

Ivanov, A. V. A boundary value problem for degenerate second order parabolic linear equations. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **14** (1969), 48–88. (V. Djurikovič) **45** #5586 35K20

Local estimates of the maximum modulus of the first derivatives of the solutions of quasilinear nonuniformly elliptic and nonuniformly parabolic equations and of systems of general form. (Russian) *Trudy Mat. Inst. Steklov.* **110** (1970), 45–64. (R. Beals) **45** #2318 35J15 (35K10)

The Dirichlet problem for second order quasilinear nonuniformly elliptic equations. (Russian) Boundary value problems of mathematical physics, 7. *Trudy Mat. Inst. Steklov.* **116** (1971), 34–54, 235. (*errata insert*) (A. Borzymowski) **51** #1103 35J25

The smoothness of the generalized solutions of degenerate second order parabolic equations. (Russian) Boundary value problems of mathematical physics, 7. *Trudy Mat. Inst. Steklov.* **116** (1971), 55–70, 235. (A. Borzymowski) **51** #1088 35D10 (35K20)

Global a priori estimates for generalized solutions of second order degenerate parabolic equations. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 19, 13–22. (A. Kufner) **46** #5813 35B45

The structure of a quasilinear second order elliptic equation. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **21** (1971), 5–33. (Ja. A. Roĭtberg) **45** #2319 35J15

Certain second order elliptic systems. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **21** (1971), 34–41. (Ja. A. Roĭtberg) **45** #2320 35J15

The limit growth of the coefficients of quasilinear elliptic equations. (Russian) Boundary value problems of mathematical physics and related questions in the theory of functions, 6. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **27** (1972), 73–90. (P. C. Fife) **47** #5441 35J60

Local estimates of the first derivatives of the solutions of second order quasilinear elliptic equations, and their application to Liouville type theorems. (Russian) Investigations on linear operators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **30** (1972), 40–50. (H. Triebel) **48** #11754 35J15

Quasilinear elliptic equations of generalized genus *g*. (Russian) Investigations on linear operators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **30** (1972), 161–163. (H. Triebel) **49** #843 35J60

The solvability of the Dirichlet problem for certain classes of second order elliptic systems. (Russian) Boundary value problems of mathematical physics, 8. *Trudy Mat. Inst. Steklov.* **125** (1973), 56–87, 231. (J. Kačur) **50** #7809 35J65

On the question of admissible limit growth of the right-hand side of a quasilinear elliptic equation. (Russian) Boundary value problems of mathematical physics, 8. *Trudy Mat. Inst. Steklov.* **125** (1973), 88–94, 231. (J. Kačur) **50** #7810 35J65

The first boundary value problem for quasilinear second order parabolic equations. (Russian) Boundary value problems of mathematical physics and related questions in the theory of functions, 7. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **38** (1973), 10–32. (G. W. Hedstrom) **51** #10875 35K20

Theorems of Liouville type for the solutions of quasilinear elliptic systems. (Russian) Boundary value provlems of mathematical physics, 9. *Trudy Mat. Inst. Steklov.* **127** (1975), 5–19, 155. (P. Szeptycki) **53** #13825 35J45 (35B45)

(*with* Ivočkina, N. M.; Ladyženskaja, O. A.) A certain improvement of the results on the solvability of theDirichlet problem for uniformly elliptic second order quasilinear equations. (Russian) Collection of articles dedicated to the memory of Academician V. I. Smirnov. *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1 (1975), 61–72, 189–190. (P. Szeptycki) **54** #5617 35J25

A boundary value problem for linear parabolic equations in divergence form with measurable coefficients. (Russian. English summary) Boundary value problems of mathematical physics, and related questions of the theory of functions, 8. *Zap. Naučon. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **52** (1975), 3–34, 218. (P. C. Fife) **53** #8659 35K20

A priori estimates for the solutions of nonlinear elliptic second order equations. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 9. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **59** (1976), 31–59, 255. (V.-V. Olariu) **57** #6826 35J60

Properties of the solutions of nonstrictly and nonuniformly parabolic linear and quasilinear second order equations with measurable coefficients. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 10. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **69** (1977), 45–64, 273–274. (V. Durikovič) **58** #29249 35K20

A priori estimates of second derivatives of the solutions of nonlinear second order equations on the boundary of the domain. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 10. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **69** (1977), 65–76, 274. (Author's summary) **58** #29203 35J65 (35B45)

See also **Investigations in linear operators and function theory, 46** #7927; **Boundary value problems of mathematical physics and related aspects of function theory, 46** #9497; **Boundary value problems of mathematical physics and related aspects of function theory, 46** #9499; **Boundary value problems of mathematical physics and related questions in the theory of functions, 47** #595; **Boundary value problems of mathematical physics, 48** #681; **Boundary value problems of mathematical physics and related aspects of function theory, 49** #4700; **Boundary value problems of mathematical physics, 50** #2656; **Boundary value problems of mathematical physics, 51** #6096; **Boundary value problems of mathematical physics and related questions in the theory of functions, 52** #8620 *and* **Investigations on linear operators and the theory of functions, 52** #14241 (EA 53)

Ivanov, A. V. Mappings of Hausdorff spaces. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 1057–1060. (R. Telgársky) **52** #1609 54C10 (54E05)

The dimension of not perfectly normal spaces. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 4, 21–27. (D. Adnadjevic) **54** #1129 54F45

The hereditary separability and dimension of products of bicompacta. (Russia *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 5, 1037–1040. (E. Halfar) **58** #2677 54 (54F45)

Ivanov, A. V. Classes of periodic abelian groups that are closed with respect to tak epimorphic images and direct limits. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 1321–1332, 1436. (J. Hausen) **58** #16910 20K10

A problem on abelian groups. (Russian) *Mat. Sb.* (*N.S.*) **105(147)** (1978), *no* 525–542, 639. (L. Procházka) **58** #16911 20K25

ω-divisible and *ω*-flat groups. (Russian) *Uspehi Mat. Nauk* **33** (1978), *no.* 1(1 213–214. (R. Mines) **58** #5981 20K40

Ĭvanov, A. V. *See* **Ĭvanov, O. V.**

Ivanov, B. A. Polyhedra with faces that are composed of regular polygons. (Russia *Ukrain. Geometr. Sb. No.* 10 (1971), 20–34. (E. Hertel) **46** #790 52A25

Straight line segments on the boundary of a convex body. (Russian) *Ukra Geometr. Sb. No.* 13 (1973), 69–71, 2. (H. W. Guggenheimer) **51** #13864 52A20

The exceptional directions for a convex body. (Russian) *Mat. Zametki* **20** (19 *no.* 3, 365–371. (E. Hertel) **55** #1221 52A20

Properties of the eigenvalues of positive operators that depend nonlinearly o parameter. (Russian. English summary) Investigations on linear operators and theory functions, VI. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **56** (197 177–181, 199. (Author's summary) **58** #2444 47B55 (47A55)

The approximate computation of a positive eigenvalue of a positive operator wh the parameter occurs nonlinearly. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) (1976), 37–39, 159. (Author's summary) **57** #18076 65J05

Ivanov, B. N. (*with* Gorjačenko, V. D.) A study of the stability of a "predator-prey" syste as an object with lag. (Russian) *Dinamika Sistem Vyp.* 6 (1975), 136–144, 178. (Autho summary) **58** #15303 92A15

Ivanov, Chr. (*with* Ebeling, Werner; Schimansky-Geier, L.) Stochastic theory of nucleation in bistable reaction systems. *Stochastische Theorie der nichtlinearen irreversiblen Prozesse* (*Second Rostock Univ. Conf., Wilhelm-Pieck-Univ., Rostock*, 197 *pp.* 93–103. *Rostocker Phys. Manuskripte*, 2. *Wilhelm-Pieck-Univ., Rostock*, 1977. (Ole Heilmann) **58** #32433 80.34

(*with* Ebeling, Werner) Derivation of generalized diffusion equations. *Acta Ph Polon. A* **52** (1977), *no.* 3, 329–343. (Authors' summary) **56** #14381 81.60

Ivanov, D. (*with* Šiškov, I.; Petrov, V.; Ĭovkova, S.) Optimal planning in an industr system. (Bulgarian. Russian and English summaries) *Avtomat. i Izčisl. Tehn.* **6** (197 *no.* 3, 5–9, 1, 2, 3. (Authors' summary) **47** #8092 90B30

(*with* Todorov, T.) Analytic synthesis of optimal regulators. (Bulgarian. Russi and English summaries) *Avtomat. i Izčisl. Tehn.* 7 (1973), *no.* 1, 5–10, 2, 3. (J. Skowroński) **50** #1759 93C99

Optimal properties of typical industrial systems for the regulation of first ord objects with pure lag. (Russian) *Avtomat. i Izčisl. Tehn.* **9** (1975), *no.* 2, 1, 2, 4, 15– (Author's summary) **56** #18007 93C60

Ivanov, E. A. (*with* Karpuk, A. A.) A diffraction problem for the radiation field of a bias magnetic dipole on two coaxial circular disks. I, II. (Russian) *Differencial'nye Uravnenija* 7 (1971), 892–901; *ibid* 7 (1971), 1031–1035. (A. Nikodémusz) **46** #2994 78.35

The stabilization of the solutions of boundary value problems for domains wi central symmetry. (Russian) *Dinamika Splošn. Sredy Vyp.* 7 (1971), 47–54. **56** #125 35B35

(*with* Bespamjatnyh, N. D.; Bogdanov, Ju. S.; Gusak, A. A.; Halimanovič, M. F The development of mathematics at Belorussian State University. (Russian) *Vestn Beloruss. Gos. Univ. Ser. I* **1971**, *no.* 3, 5–12, 92. (Editors) **51** #30 01A60

(*with* Adamovič, V. I.) Solution of a boundary value problem of the theory of th diffraction of electromagnetic waves by a circular opening in a plane screen betwee two media. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1004–1014. (M. Kopáčkov **46** #1207 78.35

On the solution of the problem of the diffraction of a dipole field by a circula aperture in a plane screen in the presence of a coaxial circular disc. (Russian *Differencial'nye Uravnenija* **8** (1972), 1307–1308. (J. E. Rosenthal) **46** #10304 78.3

(*with* Eraševskaja, S. P.; Pal'cev, A. A.; Sokolova, N. D.) ★Таблицы сфероидальных волновых функций и их первых производных. Том I. (Russia [Tables of spheroidal wave functions and their first derivatives. Vol. I] *Izdat. "Nauka Tehnika", Minsk*, 1973. 443 *pp.* (Editors) **53** #6968 65A05

(*with* Makarova, V. V.) Solution of a certain boundary value problem of the theor of the diffraction of waves for a region that is bounded by a plane and by the surface an elliptic cylinder. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1693–1699, 1741. (E. Rosenthal) **49** #6782 78.35

(*with* Mošinskiĭ, A. V.) The solution of a certain boundary value problem of th theory of a rectangular waveguide that is excited by an active UHF element. (Russian) *Differencial'nye Uravnenija* **11** (1975), 323–331, 397. (J. E. Rosenthal) **52** #9817 78.35

(*with* Ogieveckiĭ, V. I.) Inverse Higgs phenomenon in nonlinear realizations. (Russian. English summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 2, 164–177. (Author summary) **58** #14505 81.22

(*with* Eraševskaja, S. P.; Pal'cev, A. A.; Sokolova, N. D.) ★Таблицы сфероидальных волновых функций их первых производных. Том II. (Russian [Tables of spheroidal wave functions and their first derivatives. Vol. II] Edited by V. Krylov. *Izdat. "Nauka i Tehnika", Minsk*, 1976. 418 *pp.* (Editors) **53** #6969 65A0

(*with* Glušcov, A. I.) A solution of the problem of the excitation of two circula cylinders by an electrical dipole of arbitrary orientation. (Russian) *Differencial'ny Uravnenija* **12** (1976), *no.* 11, 2068–2075, 2110. (Authors' summary) **58** #25400 78.35 (35J05)

S-models of spontaneously broken symmetries. (Russian. English summary) *Teoret Mat. Fiz.* **28** (1976), *no.* 3, 320–330. (Author's summary) **56** #7532 81.22

The problem of the excitation of an arbitrary spheroid by a dipole emitter. (Russian *Differencial'nye Uravnenija* **13** (1977), *no.* 5, 907–919, 966. (From the introduction

57 #18493 78.35

(*with* Marnevskaja, L. A.) Scattering of an acoustic wave by a spherical receiver that moves in a half-space with a speed considerably smaller than the speed of sound. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 6, 56–64, 141. **58** #14276 76.35

(*with* Bondarenko, S. P.) On the solution of the problem of the diffraction of a plane electromagnetic wave by a spheroid. (Russian) *Differencial′nye Uravnenija* **14** (1978), *no.* 4, 661–664, 765. (V. P. Kalašnikov) **58** #19831 78.35

nov, Evg. A. A certain algebraic method of computing the index. (Russian) *Izv. Vysš. Učebn. Zaved. Mat.* **1974**, *no.* 12(151), 15–18. (D. Przeworska-Rolewicz) **51** #8881 47B30

nov, F. A. Elements of prime order p in a one-dimensional group of formally analytic transformations on a field of characteristic p. (Russian) *Metody i Modeli Upravlenija Vyp.* 9 (1975), 108–113, 211–212. (Helmut Koch) **56** #15618 12B20

nov, G. Non-local rings whose ideals are all quasi-injective. *Bull. Austral. Math. Soc.* **6** (1972), 45–52. (V. C. Cateforis) **45** #311 (E **50** #13167) 16A48

Left generalized uniserial rings. *J. Algebra* **31** (1974), 166–181. (E.-A. Behrens) **50** #9961 16A46

Nonsingular rings with essential socles. Collection of articles dedicated to the memory of Hanna Neumann, VII. *J. Austral. Math. Soc.* **17** (1974), 358–375. (E. A. Rutter) **50** #9954 16A36

Addendum: "Non-local rings whose ideals are all quasi-injective" (Bull. Austral. Math. Soc. **6** (1972), 45–52). *Bull. Austral. Math. Soc.* **12** (1975), 159–160. (V. C. Cateforis) **50** #13167 16A66

Decomposition of modules over serial rings. *Comm. Algebra* **3** (1975), *no.* 11, 1031–1036. (R. B. Warfield, Jr.) **52** #506 16A64

nov, G. A. (*with* Danieljan, È. A.) The queue length in priority queueing systems. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 859–861. (Roudolf Iasnogorodski) **49** #11654 60K25

(*with* Danieljan, È. A.) The queue length of single-server queueing systems with priority. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **11** (1976), *no.* 2, 99–112, 184. (R. H. Rodine) **54** #3876 60K25

nov, G. G. Vacuum Einstein spaces of the third type with an abelian group of motions G_2 and with solvable groups G_3. (Russian) *Gravitacija i Teor. Otnositel′nosti No.* 8 (1971), 92–99. (RŽFiz **1972** #6 V116) **58** #32779 83.53

Parallel sorting algorithms. (Russian) *Optimizacija No.* 6(23) (1972), 8–15, 134. (Author's summary) **48** #7655 68A10

An isotropic gravitational field. (Russian. English summary) *Problems in geometry, Vol.* 7 (*Russian*), *pp.* 279–299, 303. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (Kishore Marathe) **58** #9070 83.53

Groups of motions G_7, G_6 in spaces $V_4(R_1)$ and $V_4(R_2)$. (Russian) *Gravitacija i Teor. Otnositel′nosti No.* 10-11 (1975), 85–90. (RŽMat **1977** #10 A523) **58** #32727 83.22 (53C10)

Invariant criterion for radiation fields in general relativity. (Russian) *Gravitacija i Teor. Otnositel′nosti No.* 10-11 (1975), 189–194. (From the text) **58** #32780 83.53 (81.53)

The exact solution of an Einstein equation that describes spherical, gravitational and electromagnetic waves. (Russian) *Gravitacija i Teor. Otnositel′nosti No.* 12 (1977), 69–72. (From the text) **58** #32781 83.53

anov, G. I. (*with* Melihov, A. N.; Berštein, L. S.) Analysis of the structural circuits of asynchronous automata. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, *no.* 6, 14–18. (N. Katerinočkina (RŽMat **1973** #4 V439)) **50** #16182 94A30

Pairs of ruled surfaces and congruences in centroaffine space. (Russian) Geometry collection, No. 10. *Trudy Tomsk. Gos. Univ.* **230** (1972), 103–115 (1973). (Gr. Stanilov) **51** #1630 53A25

Time tranformations of digital automata. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 6, 106–113 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 6, 973–980. (W.-K. Chen) **50** #6670 94A30

(*with* Magazinnikov, L. I.) On the question of the centroaffine stratification of pairs of nonholonomic congruences of a pair of complexes. (Russian) Geometry collection, No. 11. *Trudy Tomsk. Gos. Univ.* **235** (1973), 150–164. (Froim Marcus) **51** #4075 53A25

Congruences of parabolas with indeterminate focal surfaces. (Russian) Geometry collection, No. 14. *Trudy Tomsk. Gos. Univ.* **255** (1974), 203–226. (B. Rozenfel′d) **53** #3915 53A15

(*with* Magazinnikov, L. I.) Pairs of centroaffinely applicable ruled surfaces in a pair of complexes. (Russian) Geometry collection, No. 12. *Trudy Tomsk. Gos. Univ.* **244** (1975), 41–48. (V. V. Gol′dberg) **54** #11194 53A25

anov, G. M. *See* **Mathematical physics**, **48** #5770

anov, G. V. Solution of the plane mixed problem of elasticity theory in the form of series in Legendre polynomials. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1976**, *no.* 6, 126–137, 164. (V. M. Babič) **56** #4348 73.41

Solution in the form of Legendre polynomial series of an axially symmetric problem for a shallow elastic cylinder. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1977**, *no.* 3, 150–156, 192. (Author's summary) **56** #10284 73.35

anov, Igor′ (*with* Stematiu, Florica) Problémes de physique dans des revues roumaines du XIX siècle. (English summary) *Noesis, II* (*Travaux Colloq., Comité Roumain d'Histoire Philos. Sci., Bucharest*, 1973), *pp.* 175–192. *Editura Acad. R.S.R., Bucharest*, 1974. (Phillip S. Jones) **57** #5604 01A55

The history of mechanics in Romania. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1974**, *no.* 1(46), 43–45, 124, 134. (Editors) **58** #26896 01A45 (01A50)

anov, Iv. An algorithm for the polynomial representation of switching functions. (Russian) *Avtomat. i Izčisl. Tehn.* **8** (1974), *no.* 2-4, 52–56. (Author's summary) **56** #2676 94A20

anov, Ivan B. A certain integral invariant on surfaces in hyperbolic biaxial space. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **5** (1968/69), *no.* 1, 11–15 (1971). (J. Chrastina) **46** #8082 53A40

A geometric meaning of the lines of curvature on the surfaces in hyperbolic biaxial space. (Bulgarian. Russian and German summaries) *B″lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **11** (1970), 145–148. (E. M. Bruins) **46** #8081 53A40

Ivanov, Ju. B. (*with* Belinskiĭ, P. P.; Godunov, S. K.; Janenko, I. K.) Application of a certain class of quasi-conformal mappings to the construction of difference grids in domains with curvilinear boundaries. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 6, 1499–1511, 1625. (R. Kühnau) **55** #6878 65N05

Ivanov, Ju. I. (*with* Kaĭsin, V. K.) Certain problems of the dynamics of a point that are integrable according to Stäckel's theorem. (Russian) *Akad. Nauk Kazah. SSR Trudy Astrofiz. Inst.* **19** (1972), 110–114, 134. (Miloš Kojić) **49** #6714 70.35

Ivanov, Ju. N. (*with* Zuev, G. M.; Ivanin, V. M.) Game-theoretic approach to the problem of spacecraft descent control in the atmosphere. I. *Avtomat. i Telemeh.* **1971**, *no.* 2, 5–14 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 2, *part* 1, 175–183. (H. T. Banks) **48** #8008 90D45 (93C99)

(*with* Zuev, G. M.; Ivanin, V. M.) Game-theoretic approach to the problem of spacecraft descent control in the atmosphere. II. *Avtomat. i Telemeh.* **1971**, *no.* 5, 31–39 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 5, *part* 1, 714–721. (H. T. Banks) **48** #8009 90D45 (93C99)

Ivanov, Ju. P. (*with* Zimin, I. N.) Solution of network planning problems by their reduction to optimal control problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 632–641. (S. Cruceanu) **45** #4816 (EA **45**) 90B05

Ivanov, K. I. Integral representations of the Green's function of the Schrödinger equation of certain simple quantum mechanical systems. (Bulgarian. Russian and French summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **10** (1972), *no.* 1, 57–64. (Z. Janković) **47** #6224 81.35

(*with* Velikov, V.) Analytic properties of the regular solutions of the Schrödinger equation with a potential that depends on the definite origin of prolate spheroidal coordinates. (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **11** (1973), *no.* 1, 57–64. (Authors' summary) **57** #8616 81.35

On the use of spheroidal coordinates in the theory of nonrelativistic potential dispersion. (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **11** (1973), *no.* 2, 45–53. (Author's summary) **58** #14577 81.35

On one method for the determination of eigenvalues of S-matrix for scattering in a singular spherical-symmetric potential field. *C. R. Acad. Bulgare Sci.* **28** (1975), *no.* 5, 589–592. (From the author's introduction) **52** #9877 81.35

On a method for determining the eigenvalues of the S-matrix that corresponds to nonrelativistic scattering in a spherically symmetric potential field. (Bulgarian. Russian and English summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 2, 251–259 (1977). (Author's summary) **57** #2314 81.47

(*with* Velikov, V. P.; Rusev, D. G.; Mitreva, N. A.) On the possibility of using the method of formal series in solving variable phase equations. *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 4, 507–510. (From the authors' text) **56** #17571 81.34

Ivanov, K. P. (*with* Ladyženskaja, O. A.; Rivkind, V. Ja) The stability of difference schemes for the Navier-Stokes equations in cylindrical coordinates, and a sweep method for them. (Russian) Boundary value problems of mathematical physics, 7. *Trudy Mat. Inst. Steklov.* **116** (1971), 71–94, 235. (P. C. Fife) **53** #1055 35Q10 (65M10)

(*with* Kapiška, A.) A variational-difference scheme for the Navier-Stokes equations in the stream functions in an arbitrary domain. (Russian) *Metody Vyčisl.* **10** (1976), 138–143, 188. (Authors' summary) **57** #11346 76.65

See also **Boundary value problems of mathematical physics**, **50** #2656

Ivanov, L. A. An operator that realizes the evolution of subspaces. (Russian) *Voronež. Gos. Univ. Trudy Sem. Funkcional. Anal. Vyp.* 10, 44–50 (1968). (Angelo Favini) **54** #1013 47B99 (34G05)

Smooth dependence on a parameter of the solutions of Noether problems. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1271–1273. (S. G. Samko (Zbl **291** #35068)) **58** #30379 47A50 (47B30)

On the solvability of elliptic problems in limit domains. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 99–103, 143. (G. W. Hedstrom) **47** #2186 35J40

The approximation of solutions of problems that lie on the spectrum. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 9 *Sb. Rabot Prikl. Anal.* (1973), 27–33. (S. Rotfel′d (RŽMat **1974** #8 B640)) **57** #10460 47A50

The continuity of a projection operator that is connected with extension operators of Whitney type. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 13 *Sb. Rabot Prikl. Mat. i Meh.* (1974), 10–14. (Editors) **57** #7142 46E35 (47B37)

(*with* Gončarova, O. B.) Behavior of the solutions of elliptic boundary value problems with L_2 right-hand side, under a change in the domain. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 14 *Sb. Statei Teor. Operator. Uravnenii* (1974), 15–20. (RŽMat **1975** #8 B284) **57** #6836 35J99

Diffraction problems with a noncylindrical boundary of discontinuity. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 8, 1485–1494, 1526–1527. (J. Kačur) **56** #12530 35B30 (34G05, 35K99)

The Cauchy-Kovalevskaja theorem for equations with singularities. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 5, 1005–1008. (V. R. Fridlender) **53** #8626 35A10

(*with* Kotko, L. A.; Kreĭn, S. G.) Boundary value problems in variable domains. (Russian. Lithuanian and English summaries) *Differencial′nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 19 (1977), 161 *pp.* (Ja. A. Roĭtberg) **58** #17507 35J65 (35G30, 46E35, 58G99)

Lacunae for operators that decompose into Euler-Poisson-Darboux factors. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 4, 535–538. (M. S. Agranovič) **56** #875 35L30

The Cauchy problem for operators, with singularities, that decompose into factors. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 3, 521–524. (Genowefa Majcher) **56** #874 35L30

Behavior of the solutions of a hyperbolic nonlinear equation under a variation of the domain. (Russian) *Ukrain. Mat. Z.* **29** (1977), *no.* 6, 809–812, 854. (M. Zerner) **57** #6863 35L60 (35B99)

The Cauchy problem for operators that decompose into Euler-Poisson-Darboux factors. (Russian) *Differencial′nye Uravnenija* **14** (1978), *no.* 4, 736–739, 767. (Piero Bassanini) **58** #12010 35Q05 (35C99)

Ivanov, L. D. The approximation of l-smooth functions by rational ones in the integral metric. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 234–239. (H. E. Warren)

45 #4023 (EA **45**) 41A20

★Вариации множеств и функций. (Russian) [Variations of sets and functions] Edited by A. G. Vituškin. *Izdat. "Nauka", Moscow*, 1975. 352 *pp*. (From the preface) **57** #16498 26A45 (28A75, 41A25)

(*with* Bronšteĭn, E. M.) The approximation of convex sets by polyhedra. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no*. 5, 1110–1112, 1132. (W. J. Firey) **53** #3889 52A25

Asymptotic behavior of the Poisson distribution. (Russian) *Application of functional analysis in approximation theory* (*Russian*), *pp*. 40–44, 154. *Kalinin. Gos. Univ., Kalinin*, 1977. **58** #31352 60F05

Ivanov, L. N. (*with* Ivanova, E. P.) A first order function for the semi-relativistic atomic equation. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 282–287. (Authors' summary) **57** #8617 81.35

Īvanov, L. O. Operators of extension from domains that depend smoothly on a parameter. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 117–119, 189. (A. Kufner) **48** #860 46E35

Ivanov, Leonid *See* **Ivanov, L. A.**

Ivanov, M. A. The behavior of the solutions of a second order quasihomogeneous system in the neighborhood of a nonsimple exceptional direction. (Russian. English summary) *Vestnik Leningrad. Univ.* **1977**, *no*. 19 *Mat. Meh. Astronom. vyp*. **4**, 28–33, 147. (A. A. Reinfelds) **57** #13029 34C30

Ivanov, M. I. (*with* Vaklev, Ī. S.; Drenska, S. B.; Nikolov, A. V.) New conservation laws under strong interactions within the framework of $U(6, 6)$ ladder symmetry. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 78–84. (Authors' summary) **57** #8577 81.22

(*with* Vaklev, Ī. S.; Drenska, S. B.; Nikolov, A. V.) A certain class of subinvariant operators in the ladder $U(6,6)$-symmetry. (Russian. English summary) *Bulgar. J. Phys.* **2** (1975), *no*. 4, 336–345. (Authors' summary) **55** #9746a (E **55** #9746b) 81.22

(*with* Vaklev, Ī. S.; Drenska, S. B.; Nikolov, A. V.) Errata: "A certain class of subinvariant operators in the ladder $U(6,6)$-symmetry" (Bulgar. J. Phys. **2** (1975), no. 4, 336–345). *Bulgar. J. Phys.* **2**, (1975), *no*. 5, 533 (1976). (Authors' summary) **55** #9746b 81.22

(*with* Vaklev, Ī. S.; Drenska, S. B.; Zlatev, S. I.; Nikolov, A. V.) Ladder complete sets for U(6, 6). (Russian. English summary) *Teoret. Mat. Fiz.* **24** (1975), *no*. 3, 315–324. (Authors' summary) **58** #8877 81.22

(*with* Vaklev, Ī. S.; Drenska, S. B.; Nikolov, A. V.) Admissible complete families in the ladder U(6, 6)-symmetry. (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no*. 3, 417–422. (Authors' summary) **57** #11417 81.22

Ivanov, M. Ja. (*with* Kraĭko, A. N.; Mihaĭlov, N. V.) The method of continuous computation for two-dimensional and spatial supersonic flows. I. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 441–463. (L. Dragoş) **46** #8542 76.65

(*with* Kraĭko, A. N.) The method of continuous computation for two-dimensional and spatial supersonic flows. II. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 805–813. (L. Dragoş) **46** #8543 76.65

(*with* Kraĭko, A. N.) Numerical solution of a problem concerning the discharge of a supersonic jet of viscous gas into an accompanying supersonic stream. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), *no*. 2, 32–51. (RŽMat **1976** #4 B1044) **58** #32399 76.65 (65N05)

(*with* Godunov, S. K.; Zabrodin, A. V.; Kraĭko, A. N.; Prokopov, G. P.) ★Численное решение многомерных задач газовой динамики. (Russian) [Numerical solution of multidimensional problems of gas dynamics] *Izdat. "Nauka", Moscow*, 1976. 400 *pp*. (Hans Kaper) **57** #8441 76.65

(*with* Kireev, V. I.) On the calculation of highly underexpanded supersonic submerged jets. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no*. 3, 750–757, 821. (Authors' summary) **54** #4329 76.65

Ivanov, M. Ju. A study of two exact self-similar solutions of the equations of general relativity theory. (Russian) *Problemy Teor. Gravitacii i Èlement. Častic Vyp*. 6 (1975), 41–48. (RŽFiz **1975** #11 B123) **57** #8895 83.53

Ivanov, M. S. (*with* Grigor'ev, Ju. N.; Haritonova, N. I.) On the question of the solution of the nonlinear kinetic equations of rarefied gas dynamics by the Monte Carlo method. (Russian) All Union Seminar on Models of Continuum Mechanics (Novosibirsk, 1971). *Čisl. Metody Meh. Splošnoĭ Sredy* **2** (1971), *no*. 4, 101–107. (V. S. Galkin (RŽMeh **1972** #6 B2428)) **50** #9168 76.65

(*with* Grigor'ev, Ju. N.) The Monte-Carlo method and the structure of a shock wave for a binary gas mixture. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **8** (1977), *no*. 6, 30–37. (From the text) **58** #32386 76.60

Ivanov, N. A. Differentiability of functions and of the solutions of differential equations. (Russian) *Jaroslav. Gos. Ped. Inst. Učen. Zap. No*. 82 *Anal. i Algebra* (1971), 36–52. (Not reviewed) 34C99 (26A24)

The almost differentiability with respect to parameters of the solutions of a system of first order ordinary differential equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1882–1885, 1914. (L. C. Young) **47** #7091 34A10

The Cauchy problem for almost linear first order partial differential equations. (Russian) *Jaroslav. Tehn. Inst. Fiz.-Mat. Nauk. Sb. Naučn. Trudov* **32** (1972), 30–42. (See RŽMat **1973** #1 B235) 35F10

Some invariants of reduced algebraic polynomials. (Russian) *Studies in the theory of functions of several real variables* (*Russian*), *pp*. 49–50. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the text) **58** #27925 12E99 (15A72)

See also **Orthogonal polynomial expansion**, **58** #29733

Ivanov, N. N. Reduction of a class of integer linear programming problems to a covering problem. (Russian) *Vesci Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1974**, *no*. 4, 100–101, 142. (C. Bergthaller) **51** #7619 90C10

(*with* Ševčenko, V. N.) The structure of a finitely generated semilattice. (Russian) *Dokl. Akad. Nauk BSSR* **19** (1975), *no*. 9, 773–774, 857. (T. C. Brown) **52** #8075 10L05

A certain method for aggregation of an integer linear programming problem. (Russian) *Vesci Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1975**, *no*. 2, 96–98, 141. (E. G. Gol'šteĭn) **52** #16609 90C10

(*with* Mihaĭlov, G. I.; Rudnev, V. V.; Ṭal', A. A.) Generalized-type languages of equivalence transformations. *Avtomat. i Telemeh.* **1976**, *no*. 5, 140–150 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no*. 5, *part* 2, 767–776. (Authors' summary) **56** #7345 68A30 (68A25)

(*with* Ševčenko, V. N.) The representation of a semigroup by a semigroup gene
by a finite set of vectors. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. N*
1976, *no*. 2, 98–100, 142. (G. Pollák) **53** #13445 20M05

Ivanov, N. R. *See* **Wooster, W. A.**, **58** #32648b

Ivanov, N. V. Groups of diffeomorphisms of Waldhausen manifolds. (Russian. En
summary) Studies in topology, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat.*
Steklov. (*LOMI*) **66** (1976), 172–176, 209. (A. Černavskiĭ) **56** #6677 57D40
(58D10)

Ivanov, O. A. Homotopy classification of certain four-dimensional manifolds. (Rus
English summary) Studies in topology, II. *Zap. Naučn. Sem. Leningrad. Otdel.*
Inst. Steklov. (*LOMI*) **66** (1976), 164–171, 208–209. (Author's summary) **58** #242
57D65

Īvanov, O. V. Asymptotic behavior of least square estimates in the case of nonl
regression. (Russian. English summary) *Teor. Verjatnost. i Mat. Statist. No*. 7 (1
70–74, 164. (H. Bunke) **48** #1403 62M10

Consistency of estimates of nonlinear regression. (Russian. English summary)
Verojatnost. i Mat. Statist. No. 6 (1972), 74–82. (H. Bunke) **47** #9793 62M10

The convergence of the moments of the least squares estimator of a parameter
nonlinear regression function. (Russian) *Questions of statistics and of the contr*
random processes (*Russian*), *pp*. 126–134. *Izdanie Inst. Mat. Akad. Nauk Ukrain.*
Kiev, 1973. (From the author's introduction) **55** #6744 62M10

Least squares estimator when there are restrictions on the regression coeffici
(Russian) *Questions of statistics and of the control of random processes* (*Russian*)
135–152. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (From the aut
introduction) **55** #6745 62M10

Consistency of least squares estimators of the parameters of a nonlinear regres
function. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser.*
Meh. No. 15 (1973), 113–117, 146. (M. Hušková) **50** #8819 62F20 (62J05)

The separation of latent periodicities. (Russian) *Theory of random processes.*
Questions of statistics and control (*Russian*), *pp*. 57–79. *Izdanie Inst. Mat. Akad.*
Ukrain. SSR, Kiev, 1974. (Jiří Anděl) **57** #14303 62M10

On the computation of estimators of a parameter that occurs nonlinearly
regression function. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**,
99–103. (Ju. I. Petunin) **50** #6080 62M10

The asymptotic efficiency of least square estimators in a nonlinear regression m
(Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 11 (1974), 66
179. (Jiří Anděl) **54** #9011 62M10

A remark on the behavior of the empirical regression function. (Ukrainian. En
and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No*. 16 (1974), 136–138,
(Author's summary) **56** #9774 62E20 (62M10)

Least squares estimation of the angular frequency of harmonic oscillation. (Russ
Theory of random processes, No. 3 (*Russian*), *pp*. 37–42, 157. *Izdat. "Naukova Dum*
Kiev, 1975. (Jiří Anděl) **51** #11891 62M10

A remark on the recurrent estimation of the parameter of a nonlinear regres
function. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 12 (1
48–54, 171. (B. Ja. Levit) **53** #4413 62L20

The consistency of the least squares estimator in two nonparametric regres
models. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no*. 1, 104–112.
Tusnády) **56** #9862 62M10

The Berry-Esseen inequality for the distribution of the least squares estima
(Russian) *Mat. Zametki* **20** (1976), *no*. 2, 293–303. (Ju. V. Borovskih) **55** #156
62E20 (62J05)

An estimate for the angular frequency of harmonic oscillation in the presence
stationary noise. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*
(1976), 45–53, 155. (Author's summary) **55** #4563 62M10

Asymptotic expansions for distributions of least squares estimators of paramete
nonlinear regression. (Russian. English summary) *Teor. Verojatnost. i Primenen.*
(1976), *no*. 3, 571–583. (Ju. V. Borovskih) **55** #1568 62E20 (62J05)

Some metric properties of a class of mappings. (Russian) *Metric questions of*
theory of functions and mappings (*Russian*), *pp*. 92–104, 167. *Naukova Dumka, Kiev*, 1
(Author's summary) **58** #28464 30A32

The rate of convergence of the distribution of the least squares estimator to
normal law. (Russian) *Theory of random processes, No*. 5 (*Russian*), *pp*. 39–45,
Izdat. "Naukova Dumka", Kiev, 1977. (Jiří Anděl) **57** #1733 62E20 (62J05)

(*with* Davidovič, S. S.) Estimation of the trend of a stationary process. (Russ
English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no*. 9, 782–785, 863
G. Žurbenko) **57** #10955 62M10

(*with* Davidovič, S. S.) Asymptotic properties of an integral. (Russian. Eng
summary) *Teor. Verojatnost. i Mat. Statist. No*. 18 (1978), 26–37, 180. (I. G. Žurbe
58 #24493 60G10 (60F05, 62M10)

Ivanov, P. M. Synthesis of an automaton in terms of a regular microprogram. (Russi
Automata theory and methods of formalized synthesis for computers and computer sys
(*Proc. Sem., Kiev*, 1968), *No*. 7 (*Russian*), *pp*. 76–95. *Akad. Nauk Ukrain. SSR, K*
1969. ((RŽKibernet **1970** #1 G213)) **45** #9843 68A25

Regular microprograms for automata. (Russian. English summary insert)
Kibernetika (*Kiev*) **1973**, *no*. 1, 21–30. (E. Stotsky) **48** #8136 94A30

An approach to the minimization of Boolean functions. (Russian) *Algebra*
number theory, No. 2 (*Russian*), *pp*. 82–87. *Kabardino-Balkarsk. Gos. Univ., Nalc*
1977. (S. Rudeanu) **58** #33550 94A20

Automaton expressions in a system of algorithmic algebras with a commuta
algebra of the conditions. (Russian. English summary insert) *Kibernetika* (*Kiev*) 1
no. 2, 16–20. (Jerzy W. Grzymała-Busse) **58** #9904 94A30

Ivanov, Petko (*with* Petkančin, B.; Červenakov, A.; Bonev, Nikola) Anton Šourek
(1857–1926). (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **19(52)** (1976), *no*.
240–248. (Editors) **56** #11724 01A70

Ivanov, R. P. A certain iterative method of solution of a time-optimal problem. (Russi
Ž. Vyčisl. Mat. i Mat. Fiz. **11** (1971), 1031–1037. (J. Szelezsán) **45** #1646 93C0

Ivanov, Radostin P. Approximation of convex n-polygons by inscribed $(n-1)$polyg
(Bulgarian. Russian and English summaries) *Mathematics and mathematical educa*

Proc. Second Spring Conf. Bulgarian Math. Soc., Vidin, 1973) (*Bulgarian*), *pp*. 113–122. *zdat. B″lgar. Akad. Nauk., Sofia*, 1974. (H. Weber) **51** #4057 52A40

(*with* Nedeva, Cvetana H.) Convergence in the method of conjugate gradients. Russian) *Serdica* **3** (1977), *no*. 1, 3–10. (B. T. Poljak) **56** #16495 49D10 (65K05)

(*with* Dončev, Asen L.) Estimates for the solution of a conditional extremum roblem by means of its best approximation. (Russian) *Serdica* **3** (1977), *no*. 3, 236–241. Authors' summary) **58** #12631 49D15

(*with* Kjurkčiev, Nikolaĭ V.) Methods for the solution of equations and systems of quations that use quadratic functions. (Russian) *Serdica* **3** (1977), *no*. 3, 253–260. Authors' summary) **58** #19099 65H10

v, S. A. (*with* Pavlov, B. S.) Carleson resonance series in the Regge problem. Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **42** (1978), *no*. 1, 26–55, 214. (J. Milota) **8** #6465 34B25 (47A40, 81.47)

v, S. G. The similarity of Boolean matrices. (Russian) *Matrices and matrix groups Proc. Sem. Algebraic Systems, No.* 1 (*Krasnoyarsk*, 1969–1970)) (*Russian*), *pp*. 55–70. *kad. Nauk SSSR Sibirsk. Otdel. Inst. Fiz., Krasnoyarsk*, 1971. (S. Rudeanu) **53** #7888 06A40

Uniformization of proximity topologies. (Russian) *C. R. Acad. Bulgare Sci.* **28** 1975), 147–149. (M. Hušek) **51** #6740 54E05 (54A25)

The membership problem for a free product of groups with an amalgamated ubgroup. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no*. 6, 1155–1171, 1369. (Charles S. Iolmes) **54** #7639 20F10

Schreier systems in a free product of two groups with an amalgamated subgroup. Russian) *Ural. Gos. Univ. Mat. Zap.* **9** *no*. 3, 14–34, 133 (1975). (Charles S. Holmes) **4** #7638 20F10

v, S. L. (*with* Katkovnik, V. Ja.) Design of experiments in the problem of tracking he drift of an extremum. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 27 (1975), 93–98, 158. Valery Fedorov) **56** #7046 62K05

v, S. S. (*with* Rebenko, A. L.) The convergence of perturbation series in field theory nodels containing fermions. (Russian. English summary) *Teoret. Mat. Fiz.* **11** (1972), *o*. 2, 190--202. (Authors' summary) **57** #15069 81.47

(*with* Petrina, D. Ja.) The existence of thermodynamic limits in certain models of quantum field theory. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 59–61. (W. Faris) **0** #3803 81.35

(*with* Petrina, D. Ja.; Rebenko, A. L.) The equations for the coefficient functions of he *S*-matrix in quantum field theory. (Russian. English summary) *Teoret. Mat. Fiz.* **19** 1974), 37–46. (Authors' summary) **57** #8690 81.47

(*with* Petrina, D. Ja.; Rebenko, A. L.) *S*-matrix in constructive quantum field theory. (Russian. English summary) *Teoret. Mat. Fiz.* **23** (1975), *no*. 2, 160–177. (Authors' summary) **58** #14664 81.47

(*with* Petrina, D. Ja.; Rebenko, A. L.) The *S*-matrix in constructive quantum field theory. (Russian. English summary) *Fiz. Èlementar. Častic. i Atom. Jadra* 7 (1976), *no*. 3, 647–686. (Authors' summary) **56** #17599 81.47

ov, S. V. Solution of the exterior boundary value problem for a second order equation of elliptic type with a discontinuous boundary condition on a sphere. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 53 *Differencial′nye Uravnenija* (1974), 126–138, 189–190. (Author's summary) **58** #29161 35J25

Solution of the interior boundary value problem for a second order equation of elliptic type with a discontinuous boundary condition on a sphere. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 53 *Differencial′nye Uravnenija* (1974), 139–150, 190. (Author's summary) **58** #29162 35J25

Diffraction of radio waves around the earth's surface with allowance for the inhomogeneity of the earth's electrical properties. (Russian) *Differencial′nye Uravnenija* (*Rjazan′*) *Vyp*. 7 (1976), 83–95. (V. M. Babič) **57** #8466 78.35

ov, T. F. Self-similar solutions of problems of the theory of filtration and heat transfer in nonhomogeneous media. *Prikl. Mat. Meh.* **34** (1970), 735–740 (*Russian*); *translated as J. Appl. Math. Mech.* **34** (1970), 702–707 (1971). (F. V. Pohle) **45** #8145 80.35 (35K05)

ov, Ts. P. *See* **Papers: Balkan Mathematical Congress**, **51** #2824

ov, V. A. (*with* Egoršin, A. O.) Regularization in the problem of automatic adjustment of the parameters of a model. (Russian) *Avtometrija* **1974**, *no*. 2, 54–62, 114. (Authors' summary) **55** #12192 93B15

(*with* Azizov, A. M.; Lopuhov, V. I.; Povarenkov, A. S.) A stochastic analysis of first order measuring systems. (Russian) *Avtometrija* **1974**, *no*. 2, 87–89. (From the authors' introduction) **50** #16034 93E10

(*with* Leskin, A. A.) Optimization of the parameters of linear discrete control systems. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromeh.* **1976**, *no*. 6, 668–670, 707. (Authors' summary) **56** #13058 49C15

ov, V. A. The noise immunity of Boolean functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no*. 5, 19–23. (R. N. Goss) **51** #9994 94A35

Certain problems of a simple random walk on the line. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no*. 5, 122–126. (S. Kotz) **52** #12085 60J15

The number of observations that are needed to distinguish hypotheses that are close to one another. (Russian) *Methods of operations research and reliability theory in systems analysis* (*Russian*), *pp*. 3–23. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1976. (Editors) **58** #31529 62F05

(*with* Il′inskiĭ, L. Ja.; Maksimov, I. B.) An application of elements of the theory of Markov chains to the solution of some guidance problems. (Russian) *Modelling of nonstationary processes* (*Russian*), *pp*. 116–123. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (Editors) **58** #19849 78.60

(*with* Novikov, A. E.) The distribution of the time up to the first occurrence of a given number of different sequences with *l* terms. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no*. 3, 546–555. (J. G. Wendel) **56** #9622 60C05

(*with* Ivčenko, G. I.) Some limit functionals for Markov walks. (Russian) *Mat. Zametki* **23** (1978), *no*. 2, 315–326. (D. V. Gusak) **58** #24556 60J10

nov, V. A. Approximation of real numbers according to Dirichlet. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no*. 3, 521–523. (Ekkehard Krätzel) **57** #5912 10F05

Rational approximations of real numbers. (Russian) *Mat. Zametki* **23** (1978), *no*. 1, 3–26. (F. Schweiger) **57** #16214 10F05

nov, V. A. (*with* Čugunov, V. D.) The application of the qualitative theory of functional equations to the study of the properties of inhomogeneous petroleum beds and the determination of oil well pressures and yields. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no*. 1, 52–55. (E. Ungureanu-David) **51** #14744 76.39

Ivanov, V. A. (*with* Egupov, N. D.) Analysis of discrete automatic control systems with variable parameters by the method of orthogonal expansions. I. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 427–437. (V. N. Igolkin) **46** #4999 93C55

(*with* Egupov, N. D.) Statistical analysis of discrete control systems with variable parameters by the method of orthogonal expansions. II. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 438–447. (V. N. Igolkin) **46** #5000 93C55

Ivanov, V. D. Calculation of the field of a vertical dipole in a spherically inhomogeneous medium by the stationary phase method. (Russian) A collection of articles on the qualitative theory of differential equations. *Rjazan. Gos. Ped. Inst. Učen. Zap.* **102** (1971), 26–31. (Editors) **57** #18494 78.35

Ivanov, V. I. Computation of corrections for geometric optics. I. Scalar problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **8** (1968), 1144–1152. (From the author's summary) **54** #4344 78.41

Computation of corrections for geometric optics. II. The electromagnetic problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **10** (1970), 490–498. (Author's summary) **54** #4345 78.41

Behavior of type *G* automata in a matrix game against automata with linear tactics. (Russian) *Studies in the theory of adaptive systems* (*Russian*), *pp*. 66–80. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1971. (A. D. Koršunov) **51** #5212 94A30

The uniform asymptotic behavior of a wave field caused by the reflection of a plane wave by a convex cylinder. I. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 164–175. (Author's summary) **45** #7303 35L05 (78.35)

Behavior of *G*-type automata in a matrix game against automata with linear strategy. *J. Cybernet.* **2** (1972), *no*. 2, 109–119. (Editors) **48** #10709 94A30

(*with* Orešnikov, V. G.) An asymptotic method of investigating steady state and transition processes in linear circuits with slowly changing parameters. (Russian. English summary) *Teoret. Èlektrotehn. No.* 12 (1972), 78–83. (J. Kuntzmann) **47** #5380 34D05 (94A20)

Computation of corrections for geometric optics. III. The dynamic problem of elasticity theory. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 537–544. (Author's summary) **54** #4346 78.41

Local approximation of periodic functions by linear polynomial methods. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no*. 3, 523–524. (O. D. Gabisonija) **52** #11447 42A08

Certain inequalities for trigonometric polynomials and their derivatives in various metrics. (Russian) *Mat. Zametki* **18** (1975), *no*. 4, 489–498. (J. Németh) **54** #829 42A04 (26A82)

Direct and inverse theorems of the theory of approximation in the L_p metric for $0<p<1$*endmt*. (*Russian*) Mat. Zametki **18** (1975), no. 5, 641–658. (*J. Németh*) **54** #832 42*A*08

The short-wave asymptotic behavior of the scattering diagram and full scattering cross-section of a smooth convex cylinder. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), 126–135, 276. (Yu. S. Sayasov) **51** #9665 78.35

One-sided approximations of functions in L_p metrics. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 4, 760–762. (Bl. Sendov) **56** #12705 41A10

Evolution of the theory of classical field electrodynamics and the conservation principle. (Russian) *Latvijas PSR Zinātn. Akad. Vēstis* **1978**, *no*. 1(366), 76–85. (J. S. Joel) **57** #12011 01A05 (78.01)

See also **Cybernetics—in the service of Communism**, **48** #10432

Ivanov, V. K. (*with* Mel′nikova, I. V.) On finding the density of the distribution from a finite number of moments. (Russian) *Ural. Gos. Univ. Mat. Zap.* **7** (1969/70), *no*. 4, 34–37. (R. G. Buschman) **45** #4075 44A50

(*with* Tihonov, A. N.; Lavrent′ev, M. M.) Ill-posed problems. (Russian) *Partial differential equations* (*Proc. Sympos.*) (*Russian*), *pp*. 224–238. *Izdat. "Nauka", Moscow*, 1970. (S. Burýšek) **47** #5679 47H99 (65J05)

The solution of operator equations that are not well-posed. (Russian) Collection of articles dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, I. *Trudy Mat. Inst. Steklov.* **112** (1971), 232–240, 388. (P. Saworotrow) **48** #978 47H15 (65J05)

The problem of quasi-inversion for the heat equation in a uniform metric. (Russian) *Differencial′nye Uravnenija* **8** (1972), 652–658. (A. Borzymowski) **46** #9528 35K05

Hyperdistributions and the multiplication of Schwartz distributions. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 1045–1048. (S. Łojasiewicz) **47** #9276 46F15

The operation of multiplication for distributions of slow growth. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no*. 3(118), 10–19. (W. Słowikowski) **46** #7891 46F10

(*with* Mel′nikova, I. V.) The properties of the product of distributions of slow growth. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no*. 5(120), 58–62. (W. Słowikowski) **46** #7892 46F10

(*with* Mel′nikova, I. V.) The problem of finding the density of mass distributions from a finite number of prescribed moments inside a disc and a ball. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1972), *no*. 2, 35–39, 170. (R. G. Buschman) **48** #809 44A50 (70.41)

The value of the regularization parameter in ill-posed control problems. (Russian) *Differencial′nye Uravnenija* **10** (1974), 2279–2285, 2311–2312. (L. von Wolfersdorf) **51** #8860 47A50 (35R25, 49A25)

The estimation of the stability of quasisolutions on noncompact sets. (Russian) Collection of articles dedicated to Aleksandr Petrovič Norden on the occasion of his seventieth birthday. *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no*. 5(144), 97–103. (V. S. Rabinovič) **50** #14296 47A50

The value of the parameter α in the solution of conditionally well-posed problems by the method of regularization. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr. Akad. Nauk SSSR Vyp.* 17 *Metody Rešenija Uslovno-Korrekt. Zadač*. (1975), 3–13, 140. (Author's summary) **57** #14426 65J05 (47A50)

(*with* Koršunov, V. A.; Rešetova, T. N.; Tanana, V. P.) The possibility of determining the energy spectrum of a Bose system from thermodynamic functions. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 1, 19–22. (M. Martinis) **53** #10095 82.65

(*with* Bušmanova, M. V.) Stability estimates for the solutions of operator equations of the first kind by the method of regularization. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 1(164), 48–54. (Ja. I. Al′ber) **55** #4657 65J05

The algebra of a certain class of generalized functions. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 4, 779–781. (G. Marinescu) **57** #7159 46F10

The algebra generated by the Heaviside function and the delta-functions. (Russian) *Izv. Vysš. Učebn. Zaved Matematika* **1977**, *no.* 10(185), 65–69. (L. Berg) **58** #2253 46F10 (44A40)

See also **Collection: Vinogradov, I. M., 49** #7049

Ivanov, V. N. ★Теория случайных возмущений и почти-периодические процессы. (Russian) [Theory of random perturbations and almost periodic processes] *Privolžsk. Knižn. Izdat., Saratov*, 1973. 112 *pp.* (From the author's introduction) **55** #6571 60H99 (47A55)

Expansions of second order random functions in Banach spaces. (Russian) *Differencial′nye Uravnenija i Vyčisl. Mat. Vyp.* 3 (1973), 110–131, 173. (Editors) **58** #31386 60G99

A certain method of accelerated testing of dynamical systems. (Russian) *Avtometrija* **1974**, *no.* 5, 59–63, 112. (Author's summary) **51** #2726 93E10

Stochastic contractions and unitary processes. (Russian) *Differencial′nye Uravnenija i Vyčisl. Mat. Vyp.* 5 (1975), *part* 1, 47–67, 149. (Author's summary) **57** #17831 60H99 (47D05)

The point spectrum of a random closed operator as a stochastic process. (Russian) *Differencial′nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 1, 23–63, 173. (Author's summary) **58** #24554 60H99 (47A10)

(*with* Kočkin, N. N.) Direct product of matrices and the multiplication of binary numbers. (Russian) *Avtometrija* **1977**, *no.* 5, 100–103, 111. (Authors' summary) **58** #27709 10A05

See also **Theory and methods of construction of multivariable control systems, 50** #6585

Ivanov, V. P. A certain inverse problem of diffraction on a periodic and doubly periodic lattice. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 266–271. (Author's summary) **45** #8139 78.35 (35L35)

(*with* Andrienko, A. Ja.; Petrov, B. N.; Portnov-Sokolov, Ju. P.) Problems in the theory of terminal control systems (survey). *Avtomat. i Telemeh.* **1974**, *no.* 5, 44–60 (*Russian*); *translated as Automat. Remote Control* **1974**, *no.* 5, *part* 1, 732–745. (Guy Jumarie) **54** #7007 93–02

(*with* Andrienko, A. Ja.; Petrov, B. N.; Portnov-Sokolov, Ju. P.) Problems and methods in the theory of spaceborne terminal control systems. *Avtomat. i Telemeh.* **1976**, *no.* 7, 36–51 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 7, *part* 1, 1004–1016. (C. Marchal) **55** #7547 93E20

(*with* Boĭko, A. I.) Cancellation of a field by a system of cylindrical radiators. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 1, 152–161, 277. (V. M. Babič) **54** #4338 78.35

Ivanov, V. T. (*with* Smirnov, G. P.; Lubyšev, F. V.) The direct and inverse boundary value problems for the heat equation. (Russian) *Differencial′nye Uravnenija* **8** (1972), 2023–2028, 2112. (E. Sánchez Palencia) **47** #5446 35K05 (35R30)

(*with* Šafeev, A. I.) The field of disc and spherical electrodes in an electrolyte. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1974**, *no.* 2, 123–129, 224. (J. E. Rosenthal) **51** #7487 78.35

See also **Proceedings: Republican Conference of Belorussian Mathematicians, 48** #3669

Ivanov, V. V. Algorithms of optimal accuracy for the solution of linear algebraic systems on an electronic computer. (Russian) *Numerical methods of linear algebra* (*Proc. Third All-Union Conf., Novosibirsk*, 1973) (*Russian*), *pp.* 63–76. *Vyčisl. Centr Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1973. (Petr Liebl) **56** #1689 65F20

A resolvent sequence in questions on the generation of summable semigroups of operators. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 282–285. (A. B. Buche) **49** #5929 47D05

The *n*-resolvent, and Cesàro classes of semigroups in a locally convex space. (Russian) *Optimizacija Vyp.* 14(31) (1974), 142–164, 185. (A. B. Buche) **54** #11106 47D05

The absolute *n*-resolvent, and the generation of certain classes of nonsummable semigroups. (Russian) *Optimizacija Vyp.* 15(32) (1974), 133–148, 186. (A. B. Buche) **53** #11429 47D05

Conjugate semigroups of operators in a locally convex space. (Russian) *Optimizacija Vyp.* 15(32) (1974), 149–153, 186. (A. B. Buche) **53** #11430 47D05

(*with* Vuvunikjan, Ju. M.) Generation of evolutionary representations, and the method of the resolvent sequence. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1422–1424. (M. M. Day) **50** #14363 47D05 (46F10)

Algorithms optimal with respect to accuracy for the approximate solutions of operator equations of the first kind. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), 3–11, 274. (S. Burýšek) **52** #2194 65J05 (47H15)

Semigroups of linear operators in a locally convex space. (Russian) *Operator theory in function spaces* (*Proc. School, Novosibirsk*, 1975) (*Russian*), *pp.* 121–153, 342. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1977. (A. B. Buche) **58** #30485 47D05 (46A05)

Ivanov, V. V. A stable adaptive algorithm for the identification of an object with parameter drift. (Russian) *Control methods and models, No.* 6 (*Russian*), *pp.* 73–79, 136–137. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1973. (Editors) **50** #4022 93B30

(*with* Brikman, M. S.; Kristinkov, D. S.) Regularization of a multidimensional stochastic approximation procedure. (Russian) *Methods and models of control, No.* 5 (*Russian*), *pp.* 93–108, 143–144. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1973. (V. N. Igolkin) **52** #5143 93E10

(*with* Brikman, M. S.; Kristinkov, D. S.) An adaptive algorithm for the identification of a nonstationary dynamical system. (Russian) *Methods and models of control, No.* 5 (*Russian*), *pp.* 130–136, 145. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1973. (V. N. Igolkin) **52** #5144 93E10

See also **Methods and models of control, 48** #10741

Ivanov, V. V. *See* **Cybernetics—in the service of Communism, 48** #10432

Ivanov, V. V. The three-index assignment problem. (Russian) *Èkonom. i Mat. Metody* (1974), 336–339. (Bruce D. Craven) **52** #2554 90B10 (90B35, 90C10)

Ivanov, V. V. Remarks concerning the linguistic peculiarities of Kirik of Novgor treatise on numbers and calculation (1136). (Russian) *Studies in the history of mathematics, No.* 18 (*Russian*), *pp.* 278–279. *Izdat. "Nauka", Moscow*, 1973. (Auth summary) **58** #26820b 01A35

Ivanov, V. V. The average length of the path of a photon in a scattering medium. (Russi English summary) *Astrofizika* **6** (1970), 643–662. (K. Kumar) **45** #9636 82 (82.45)

Transfer of resonance radiation in purely scattering media. I. Semi-infinite medi (Russian. English summary) *J. Quant. Spectrosc. Radiat. Transfer* **10** (1970), *no.* 665–680. (Ilija Lukačević) **54** #4349 78.45 (85.45)

Transfer of resonance radiation in purely scattering media. II. Optically thick lay (Russian. English summary) *J. Quant. Spectrosc. Radiat. Transfer* **10** (1970), *no.* 681–694. (Ilija Lukačević) **54** #4350 78.45 (85.45)

(*with* Sabašvili, Š. A.) Multiple scattering of light in semiinfinite atmosphe (Russian. English summary) *Astrofizika* **9** (1973), 333–345. (Alexej Sitenko) **49** #4 85.45

(*with* Domke, H.) Asymptotics of Green's functions of the transfer equation polarized radiation. *Astronom. Ž.* **52** (1975), *no.* 5, 624–626 (*Russian*); *translated Soviet Astronom.* **19** (1975), *no.* 5, 1034–1037 (1976). (K. K. Sen) **53** #12508 85.

Radiation transfer in infinite atmospheres. (Russian. English and loose Russi summaries) *Astrofizika* **12** (1976), *no.* 2, 255–271. (D. ter Haar) **54** #6883 85.45

Radiative transfer in a multi-layered optically thick atmosphere. I. (Russian. Engli summary) *Leningrad. Gos. Univ. Učen. Zap. No.* 385 *Ser. Mat. Nauk Vyp.* 52. *Tru Astronom. Obser.* **32** (1976), 3–23, 188. (D. ter Haar) **54** #4558a 85.41

Radiative transfer in a multi-layered optically thick atmosphere. II. (Russia English summary) *Leningrad. Gos. Univ. Učen. Zap. No.* 385 *Ser. Mat. Nauk Vyp.* 5 *Trudy Astronom. Obser.* **32** (1976), 23–39, 188. (D. ter Haar) **54** #4558b 85.41

Ivanov, V. V. ★Теория приближенных методов и ее применение к численному решению сингулярных интегральных уравнений. (Russian) [Theory of approxima methods and its application to the numerical solution of singular integral equation *Izdat. "Naukova Dumka", Kiev*, 1968. 288 *pp.* (L. von Wolfersdorf) **53** #8840 45L05 (45L10, 65R05, 45Exx)

★Теория приближенных методов и ее применение к численному решени сингуларных интегральных уравнений. (Russian) [The theory of approximate metho and its application to the numerical solution of singular integral equations] *Izd "Naukova Dumka", Kiev*, 1968. 287 *pp.* (Editors) **54** #14412 65K05

(*with* Truten′, V. E.) On the method of penalty functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 2, 67–69. (Authors' summary) **45** #83 90C30

(*with* Truten′, V. E.) Analysis of the accuracy of quadratic programs. (Russia English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 4, 94–105. (Authors' summar **46** #1339 90C20

Analysis of the accuracy of an estimate of a correlation function. (Russian. Englis summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 8 (1969), 177–181. (A. Dorogovcev (RŽM **1969** #10 B137)) **45** #4542 62H20

A general scheme for the estimation of the complete error. (Russian) *Accuracy an reliability of cybernetic systems* (*Russian*), *pp.* 12–22. "*Naukova Dumka*", *Kiev*, 197 (Jozef Mikloško) **48** #12810 65G05

Formulation of the problem of the optimization of calculations. (Russian) *Mathematical provisioning of electronic digital computers, No.* 1 (*Russian*), *pp.* 3–15. *Aka Nauk Ukrain. SSR, Kiev*, 1970. (I. Šelihova (RŽMat **1971** #4 B1043)) **46** #1123 68A05

On optimal algorithms of control. *Proceedings of the IFAC Fifth World Congres* (*Paris*, 1972), *Part* 3: *Ecology and systems engineering, Large scale sensitivity optimizatio and adaptation theory, Paper No.* 34.1, 9 *pp. Internat. Fed. Automat. Control, Düsseldor* 1971 [1972]. (S. E. Dreyfus) **50** #15333 65K05

(*with* Hlobistov, V. V.) Methods for computing the probabilistic characteristics o the solutions of systems of ordinary differential equations that contain random parameters. (Russian) *Software of electronic digital computers* (*Proc. Sem. Optimizatio of Computations, Kiev*, 1971) (*Russian*), *pp.* 237–249. *Akad. Nauk Ukrain. SSR Inst Kibernet., Kiev*, 1971. (Valery Fedorov) **52** #6133 34F05 (65L99)

The optimal algorithms for minimization in classes of differentiable functions (Russian) *Dokl. Akad. Nauk SSSR* **201** (1971), 527–530. (Bl. Sendov) **45** #9458 65K05

The accuracy and effectiveness of computing algorithms. (Russian. Georgian an English summary) *Gamoqeneb. Math. Inst. Sem. Mohsen. Anotacie. No.* 4 (1971), 7–9 (Miroslav Fendrych) **45** #9538 68A20

Optimal algorithms for the numerical solution of singular integral equations. (Russian) *Continuum mechanics and related problems of analysis* (*on the occasion of th eightieth birthday of Academician N. I. Mushelišvili*) (*Russian*), *pp.* 209–219. *Izdat "Nauka", Moscow*, 1972. (G. F. Miller) **53** #7083 65R05

On optimal algorithms of minimization in the class of functions with the Lipschit condition. *Information processing* 71 (*Proc. IFIP Congr., Ljubljana*, 1971), *Vol.* 2 *Applications, pp.* 1324–1327. *North-Holland, Amsterdam*, 1972. (Author's summary) **56** #17071 65K05 (68A10, 68A20)

Certain questions on the optimization of computations. (Russian) *Software o electronic digital computers* (*Proc. Second Math. School Optimization Organization Comput., Kaciveli*, 1971) (*Russian*), *pp.* 149–172. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (I. Šelihova (RŽMat **1972** #10 B690)) **54** #4099 65K05

Optimal algorithms for the computation of singular integrals. (Russian) *Dokl. Akad Nauk SSSR* **204** (1972), 21–24. (I. Păvăloiu) **47** #2819 65K05

(*with* Kijaško, G. A.) Optimal algorithms for minimization in a class of unimoda functions. (Ukrainian. English and Russian summaries) *Dopovidī Akad. Nauk Ukraïn RSR Ser. A* **1972**, 313–316, 380. (V. F. Dem′janov) **46** #2520 49B15

Optimal algorithms for the minimization of functions of certain classes. (Russian

English summary) *Kibernetika* (*Kiev*) **1972**, *no.* 4, 81–94. (Author’s introduction) **46** #8417 65K05

(*with* Drjučenko, L. D.; Truten′, V. E.) A reduction of long-term prediction problems to linear integer programming problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 2, 70–73. (I. V. Romanovskiĭ) **52** #7537 90C10

(*with* Garčenjuk, I. F.) On the question of the optimization of numerical methods. (Russian) *Prikl. Mat. i Programmirovanie No.* 9 (1973), 54–65, 145. (A. Buraczewski) **49** #4227 65F10 (68A20)

(*with* Hlobistov, V. V.) A comparison of two estimation methods for estimates of the probabilistic characteristics of the solutions of systems of stochastic differential equations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 19 (1973), 32–43, 157. (G. Niculescu) **48** #1313 60H10

(*with* Kijaško, G. A.) The problem of the minimization of a nonconvex quadratic function in an *n*-dimensional cube, and algorithms for its solution. (Russian) Collection of articles dedicated to Aleksandr Petrovič Norden on the occasion of his seventieth birthday. *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 5(144), 104–108. (Nicolae Luca) **52** #4083 49D40

(*with* Džumaev, K.) The stability and rate of convergence of certain conjugate-direction algorithms for the minimization of functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 4, 78–87. (Ulrich Eckhardt) **53** #9637 65K05 (49D20)

(*with* Berezovs′kiĭ, A. Ī.; Zadiraka, V. K.; Zdorenko, L. D.; Lepeha, N. P.) ★Методы алгоритмизации непрерывных производственных процессов. (Russian) [Methods for the algorithmization of continuous production processes] *Izdat. “Nauka”, Moscow,* 1975. 400 *pp.* (S. Zlobec) **54** #2259 93A10 (90C30)

(*with* Lepeha, M. P.) Optimal approximation algorithms for a class of functions. *Avtomatika* **1975**, *no.* 3, 3–8 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 3, 1–5. (B. D. Donevski) **55** #4604 65D15

★The theory of approximate methods and their application to the numerical solution of singular integral equations. Translated from the Russian by A. Ideh. Edited by R. S. Anderssen and D. Elliott. Monographs and Textbooks on Mechanics of Solids and Fluids, Mechanics: Analysis, No. 2. *Noordhoff International Publishing, Leyden,* 1976. xvii + 330 *pp.* (Editors) **53** #8841 45L10 (65R05, 45Exx)

(*with* Besarab, P. N.; Danil′čenko, L. S.; Dul′skaja, V. A.; Kalenčuk-Porhanova, A. A.) Estimates of round-off errors for ordinary continued and branching continued fractions. (Russian) *Continued fractions and their applications* (*Russian*), *pp.* 20–24, 103 (*errata insert*). *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev,* 1976. (Authors’ summary) **58** #27721 10A30 (65G05)

(*with* Gluškov, V. M.; Mihalēvič, V. S.; Sergiēnko, Ī. V.; Stognīĭ, A. O.) Reserves for computational optimization. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 67 (1977), 53 *pp.* (Publisher’s description) **58** #25110 68A20 (65–02)

(*with* Berezovs′kiĭ, A. Ī.) Uniform spline approximation that is optimal with respect to accuracy. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 10(185), 14–24. (Gheorghe Coman) **57** #10994 65D15

(*with* Ljudvičenko, V. A.) A method for the successive unconditional minimization of the solution of mathematical programming problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 2, 1–8. (I. Maruşciac) **57** #11764 90C30

(*with* Gluškov, V. M.) Simulation of the optimization of the distribution of working places between the production branches of groups A and B. (Russian. English summary) *Kibernetika* (*Kiev*) **1977**, *no.* 6, 117–131, 152. (Authors’ summary) **58** #32902 90B35

See also **Mathematical and informational models of science control, 49** #12117; **Software of electronic digital computers, 50** #15253; **Cybernetics encyclopedia, 54** #9919; **Cybernetics encyclopedia, 54** #9920 *and* **Optimization of computations, 58** #31760

nov, Valeriĭ Vasil′evič *See* **Ivanov, V. V.**

nov, Victor V. *See* **Īvanov, V. V.**

nov, Vladimir V. (*with* Dupač, Václav) Bibliography on stochastic approximation. (Czech summary) *Apl. Mat.* **22** (1977), *no.* 2, 134–146. (Editors) **54** #14269 62L10 (93E10)

nov, Yu. N. *See* **Ivanov, Ju. N.**

nova, E. P. (*with* Ivanov, L. N.) A first order function for the semi-relativistic atomic equation. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 282–287. (Authors’ summary) **57** #8617 81.35

nova, G. The relation between the absolute differential invariants of an elliptic pencil of lines and the numerical invariants of two lines linked with the pencil. (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 1, 289–294 (1977). (Author’s summary) **58** #24073 53A35

nova, G. Ja. Maximal ideals in generalized partially ordered rings of continuous functions with a multiplication unit. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 707–717. (John Ellis) **45** #7439 46A40 (06A65)

Ideals and *z*-filters. (Russian) *Functional analysis, No.* 8: *Operator theory* (*Russian*), *pp.* 60–72. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk,* 1977. (Editors) **58** #30107a 46E25 (46E05)

(*with* Popova, G. I.) Properties of ideals of lattice-ordered algebras and their extensions. (Russian) *Functional analysis, No.* 8: *Operator theory* (*Russian*), *pp.* 73–383. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk,* 1977. (Editors) **58** #30107b 46E25 (46E05)

nova, G. P. Existence theorems in the calculus of variations. (Russian) *Moskov. Inst. Èlektron. Mašinostroenija—Trudy MIÈM* **1968**, *no.* 4, 120–125. (M. M. Cvetanov) **45** #1020 49A05

Singular controls in mathematical problems of physics. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 4, 1036–1040, 1095. (Author’s summary) **56** #13079 49E05

anova, Ĭ. (*with* Babenko, Vladimir I.) Investigation of overcritical deformations of thin anisotropic shells. (Russian. Bulgarian and English summaries) *Teoret. i Prilož. Meh.* **4** (1973), *no.* 4, 95–105, 4, 8. (M. Mişicu) **50** #6280 73.53

anova, I. L. *See* **Selected translations in mathematical statistics and probability, 49** #4730

anova, I. M. (*with* Batalova, Z. S.; Neĭmark, Ju. I.) Classification according to a syndrome. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 423–431. (Jana Zvárová) **46** #2806 62P10

anova, Ĭordanka A. (*with* Babenko, Vladimir I.) Investigation of overcritical deformations of thin anisotropic shells. II. (Russian. Bulgarian and English summaries) *Teoret. i Prilož. Meh.* **6** (1975), *no.* 1, *pp.* 3, 5, 6, 47–52. (M. Mişicu) **53** #12152 73.35

(*with* Babenko, Vladimir I.) Investigation of overcritical deformations of thin anisotropic shells. III. (Russian. Bulgarian and English summaries) *Teoret. i Prilož. Meh.* **6** (1975), *no.* 2, *pp.* 4, 6, 7, 59–66. (M. Mişicu) **53** #12153 73.35

Ivanova, L. I. (*with* Gromyko, G. F.) Efficient difference schemes for the solution of nonlinear nonstationary problems. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 5, 13–17, 139. (Murli M. Gupta) **50** #15380 65N15

(*with* Abrašin, V. N.) Difference schemes for multidimensional quasilinear parabolic equations. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 5, 889–899, 949. (G. I. Sulhanišvili) **52** #7152 65N10

Difference schemes for quasilinear nonstationary problems with mixed derivatives. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 9, 1620–1625, 1716. (Raičo Lazarov) **52** #12353 65N10

Difference schemes for multidimensional quasilinear equations. (Russian. Bulgarian and English summaries) Conference on Differential Equations and Applications (Ruse, 1975). *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (1975), *no.* 2, 81–89 (1977). (Author’s summary) **58** #31883 65N10

Īvanova, L. K. (*with* Putjata, T. V.) The role of native scientists in the establishment of the equations of hydrodynamics. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. Vyp.* 21 (1975), 41–46, 111. (Editors) **58** #27038 01A55 (76.00)

Ivanova, L. P. A uniqueness theorem. (Russian) *Mathematics and mechanics, No.* 1, *Part* 1 (*Russian*), 100–113. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija Kazah. SSR, Alma-Ata,* 1966 (1969). (See RŽMat **1970** #8 B348; MR **48** #595) 35K10

See also **Mathematics and mechanics, 48** #595

Ivanova, L. V. (*with* Šor, N. Z.) A certain iterative method of solution of linear programming problems and matrix games. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev,* 1968), *No.* 3 (*Russian*), *pp.* 22–30. *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (C. Bergthaller) **46** #4930 90C05

Ivanova, O. A. The adjoint *n*-parameter semigroup of operators. (Ukrainian. Russian summary) *Vīsnik L′vīv. Polītehn. Īnst. No.* 44 (1970), 114–118, 214. (A. Alexiewicz) **46** #2482 47D05

Orderability of verbal sums of rings. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 277 (1971), 8–15. (F. Šik) **51** #12656 06A70

Two theorems on orderable universal algebras. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 281 (1971), 27–33. (S. P. Bandyopadhyay) **47** #1718 06A75 (08A25)

Ivanova, Penka P. Riemann manifolds with constant generalized curvature of Ricci. *Serdica* **3** (1977), *no.* 1, 17–19. (John Bolton) **57** #10621 53B20

Ivanova, S. A. (*with* Ļepins, A.; Ļepina, È. I.) An approximate method for finding the largest in modulus of the roots of a polynomial. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 2, 495–496, 541. (Jan Zítko) **54** #6484 65H05

Ivanova, S. P. (*with* Bang, J. M.; Gareev, F. A.) The method of expansion in Sturm-Liouville functions in problems of nuclear physics. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **9** (1978), *no.* 2, 286–326. (Authors’ summary) **58** #14778 82.35

Ivanova, T. M. The optimal control problem for branching processes. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 882–887, 1084. (Marcel Rădulescu) **47** #6374 93E20

Ivanova, T. V. (*with* Ivčenko, G. I.) On a test of sequential type. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 4, 854–857. (R. A. Wijsman) **54** #14259 62L10

Ivanova, Tatjana P. Convergence of difference approximations of variational problems. (Russian) Logic, algebra and numerical analysis, Vol. 2, no. 2. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **125** (1973), 10–28. (Ju. K. Dem′janovič) **56** #17072 65K05 (65N05)

Difference approximations of multidimensional variational problems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 6(145), 35–46. (L. Janos) **50** #8225 49D25

Difference approximations of multidimensional variational problems with constraints on the derivatives. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 8(147), 26–37. (Piero Bassanini) **50** #8226 49D25

(*with* Cvetanov, Mitko M.) The solution of some variational problems with partial derivatives by method of duality. (Russian) *Serdica* **3** (1977), *no.* 1, 30–40. (L. Janos) **56** #13018 49A20

Ivanova, V. A. The stability of Riemann ellipsoids of type *S*. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 3, 93–98. (Mark A. Aĭzerman) **56** #14055 76.35

Ivanova, V. M. (*with* Ivanov, A. A.) Continuous mappings of extensions of a topological space. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.,* 1971), *pp.* 209–214. *Academia, Prague,* 1972. (Richard A. Alò) **51** #6732 54D35

Ivanova, V. N. (*with* Voskresenskiĭ, G. P.) Supersonic nonstationary nonviscous gas flow around the leading edge of the wings when there is a detached shock wave. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 130 (1977), 81 *pp.* (Authors’ summary) **58** #14306 76.35

Ivanova-Karatopraklieva, Ivanka Theorems on the existence of a special three-parameter family of lines in P_4. (Bulgarian. French summary) *Annuaire Univ. Sofia Fac. Math.* **63** (1968/69), 77–86 (1970). (*loose errata*) (K. Svoboda) **45** #7630 53A25

Differential geometry of the submanifolds M_2 of the manifold M_3 of lines in P_4. II. (Bulgarian. French summary) *Annuaire Univ. Sofia Fac. Math.* **64** (1969/70), 187–199 (1971). (Author’s summary) **46** #2569 53A15

A certain geometric interpretation of the second order differential invariants of three-parameter families of lines in P_4. (Bulgarian. Russian and English summaries) *B″lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **10** (1969), 59–68. (*loose errata*) (Gr. Stanilov) **45** #2595 53A25

Differential geometry of submanifolds M_1 of the manifold M_3 of lines in P_4. (Bulgarian. French summary) *Annuaire Univ. Sofia Fac. Math.* **65** (1970/71), 55–67 (1972). (*errata insert*) (Libuše Marková) **48** #4929 53A25

Second order invariants of three-parameter families of lines in P_4. (Bulgarian. Russian and German summaries) *B″lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **11** (1970), 295–305. (A. Urban) **46** #806 53A25

Infinitesimal sliding deformations of certain composite surfaces of revolution.

(Russian) *Mat. Zametki* **10** (1971), 549–554. (K. Radziszewski) **45** #1087 53C45

Infinitesimal bendings of surfaces of revolution under certain boundary conditions. (Russian. German summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **67** (1972/73), 235–247 (1976). (W. J. Firey) **54** #13801 53C45

Infinitesimal bendings of surfaces of revolution with mixed curvature. (Russian) *Serdica* **1** (1975), *no.* 3-4, 346–355. (R. N. Abdulaev) **54** #3633 53C45

Second order infinitesimal bendings. (Russian) *Serdica* **3** (1977), *no.* 1, 41–51. (W. J. Firey) **57** #1372 53C45

Second order nonrigidity of some composite surfaces of revolution. (Russian) *Serdica* **3** (1977), *no.* 2, 159–167. (Leo Boček) **57** #10616 53A05

Ivanović, Branislav Classification and selection of statistical characteristics. (Czech. English summary) Adapted and translated from the Serbian by L. Egermayerová. *Ekonom.-Mat. Obzor* 7 (1971), 180–193. (J. Hájek) **46** #987 62B99

Ivanovski, Novak The operator equations $A^*A^2=A$ and $A^{*2}A^2=A^*A$. (Macedonian summary) *Makedon. Akad. Nauk. Umet. Oddel. Prirod.-Mat. Nauk. Prilozi* **6** (1974), *no.* 2, 5–12. (P. R. Halmos) **55** #1099 47A05 (47A60)

On Berberian's representation. *Mat. Vesnik* **12(27)** (1975), *no.* 4, 357–360. (Mary R. Embry) **53** #3760 47B20

Subnormality of operator valued weighted shifts. (Macedonian summary) *Fak. Mat. Univ. Kiril Metodij Skopje Godišen Zb.* **27** (1976/77), *no.* 1, 33 *pp.* (Author's summary) **58** #30451 47B37

Ivanovskiĭ, L. N. Cohomology of algebras with simple systems of generators. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 1231–1246, 1366. (Ju. A. Drozd) **51** #655 18H15

Ivanovskiĭ, R. I. A transformation in problems of determining the parameters of continuous dynamic systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 1, 180–189 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 1, 153–161. (Luciano Pandolfi) **53** #5087 93B30

Ivanovskiĭ, V. B. Optimal assignment of priorities in queueing systems in the case of nonlinear criteria and in the presence of constraints. (Russian) *Avtomat. Sistemy Upravlen.* (*LGU*) *Vyp.* 3 (1976), 50–53, 98. (Józef Grabowski) **56** #6922 60K25

Ivanovskiy, R. I. *See* **Ivanovskiĭ, R. I.**

Ivanšić, Ivan Disconnected bounded PL manifolds in Euclidean spaces. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **6(26)** (1971), 373–386. (Roger Fenn) **46** #6367 57C35

Disconnected bounded PL manifolds in Euclidean spaces. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 215–216. *Academia, Prague*, 1972. (Masahisa Adachi) **50** #8542 57C35

Improper embeddings and unknottings of PL manifolds. *Michigan Math. J.* **19** (1972), 33–46. (R. C. Kirby) **45** #6012 57C45

(*with* Horvatić, Krešo) On unlinking of polyhedra. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 147–153. (L. S. Husch) **50** #1251 57C45

Embedding compacta up to shape. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 5, 471–475. (Author's summary) **58** #13016 55D99

See also **Proceedings: International Symposium on Topology and its Applications**, **48** #7188

Iványi, Antal On multiplicative functions with congruence property. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **15** (1972), 133–137 (1973). (Chung-ming An) **48** #8364 10A20

(*with* Kátai, Imre) On monotonic additive functions. *Acta Math. Acad. Sci. Hungar.* **24** (1973), 203–208. (E. M. Horadam) **47** #173 10J99

(*with* Kátai, Imre) Estimates for speed of computers with interleaved memory systems. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 159–164 (1977). (A. D. Booth) **58** #25112 68A20 (10K05)

(*with* Kátai, Imre) On the performance of computers with interleaved memory. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* 3 (1977), *no.* 1-2, 1–11. (Authors' summary) **58** #19454 68A99

(*with* Bárdossy, D.) On some features of paging algorithms. (Hungarian and Russian summaries) Theory of operating systems (3rd Visegrád Winter School, Visegrád, 1977). *Tanulmányok-MTA Számitástechn. Automat. Kutató Int. Budapest No.* 69 (1977), 79–94. (W. B. Jones) **58** #3778 68A50

Ivaščenko, E. N. An application of the method of functionally invariant solutions of V. I. Smirnov and S. L. Sobolev to the problem of the collision of two elastic quarter-planes. (Russian) *Dinamika Splošn. Sredy Vyp.* 6 (1970), 40–49. (J. Bejda) **56** #17317 73.31

Ivaşcu, Dumitru ★Introducere în teoria grupurilor Klein. (Romanian) [Introduction to the theory of Kleinian groups] With a French resumé. *Editura Academiei Republicii Socialiste România, Bucureşt*, 1973. 169 *pp.* (A. Duma) **58** #22674 32G15 (30A58)

Euclidean metric spaces. (Romanian. English summary) *Stud. Cerc. Mat.* **26** (1974), *no.* 10, 1347–1360. (H. W. Guggenheimer) **51** #11268 50C25

Remark on the space of Beltrami coefficients. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 4, 487–488. (I. Kra) **56** #602 30A58

Ivasišen, S. D. (*with* Èĭdel'man, S. D.) Investigation of the Green's matrix of a homogeneous parabolic boundary value problem. (Russian) *Trudy Moskov. Mat. Obšč.* **23** (1970), 179–234. (J. Kačur) **51** #3697 35K50 (35J55)

A study of the Green matrix of a general inhomogeneous parabolic boundary value problem. (Russian. English summary) *Methods of functional analysis in problems of mathematical physics* (*Russian*), *pp.* 5–74. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Editors) **58** #29262 35K50

The Green's matrix of a general inhomogeneous parabolic problem with boundary conditions of arbitrary order. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 796–799. (I. Łojczyk-Królikiewicz) **50** #7822 35K50

Integral representations of the solutions of general parabolic boundary value problems, and correct solvability in spaces of increasing functions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 596–599, 668. (O. John) **50** #7773 35C10

★Матрицы Грина полупространственных модельных параболических граничных задач. (Russian) [Green's matrices of "model" parabolic boundary value problems in a half-space] Preprint IM-76-15. *Akad. Nauk Ukrain. SSR Inst. Mat., Kiev* 1976. 50 *pp.* (V. Durikovič) **56** #12608 35K50 (35C15)

The study of the Green's matrix of parabolic boundary value problems with homogeneous boundary conditions of arbitrary order by the regularizer method. (Russian) *Mathematics collection* (*Russian*), *pp.* 202–207. *Izdat. "Naukova Dumka* *Kiev*, 1976. (Editors) **58** #17519 35K35

The correct solvability of general parabolic boundary value problems in negati Hölder spaces. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser.* **1977**, *no.* 5, 396–400, 480. (T. Styś) **58** #1650 35K40

The Green matrices of general elliptic boundary value problems that are generat by parabolic ones. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 4, 519–526, 565. (Ja. Roĭtberg) **58** #1590 35J40

(*with* Lavrenčuk, V. P.) The correct solvability of general boundary value probler for parabolic systems with increasing coefficients. (Russian) *Ukrain. Mat. Ž.* **30** (197 *no.* 1, 100–106, 143. (Ju. V. Egorov) **58** #11924 35K40

See also **Transactions of the Moscow Mathematical Society**, **50** #9474

Ivaškina, G. A. Two problems with displacement for an equation of mixed-composite typ (Russian) *Differencial'nye Uravnenija* (*Ryazan*) *No.* 6 (1975), 83–94. **58** #29371 35M05

A problem with displacement for a third order degenerate hyperbolic equatio (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 8 (1976), 74–87. **56** #12628 35L99 (35M05)

Some problems with displacement for an equation of mixed-composite type. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 8 (1976), 88–102. **56** #12637 35M05

Ivas'kiv, Ju. L. (*with* Pospelov, D. A.; Tošič, Ž.) Representations in many-valued logic (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 2, 35–47. (Editor **46** #1461 94A20

(*with* Byčenok, N. N.) Questions of the synthesis of automata with various structural input and output alphabets. (Russian) *Avtomat. i Vyčisl. Tehn.* **1971**, *no.* 1–5. (F. Gécseg) **46** #1499 94A30

(*with* Aĭzenberg, N. N.; Pospelov, D. A.; Hudjakov, G. F.) Multivalent threshol functions. I. Boolean complex threshold functions and their generalization. (Russia English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 4, 44–51. (A. A. Mullin) **47** #3112 94A20

(*with* Aĭzenberg, N. N.; Pospelov, D. A.) A certain generalization of threshol functions. *Dokl. Akad. Nauk SSSR* **196** (1971),1287–1290 (*Russian*); *translated* *Soviet Physics Dokl.* **16** (1971), 84–86. (E. W. Chapin, Jr.) **47** #3111 94A20

(*with* Aĭzenberg, N. N.) Methods of the theory of group representations in threshol logic and in classification and prediction systems. (Russian) *Complex control systen* (*Russian*), *pp.* 82–91. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (A. A. Mulli **51** #2781 94A20

(*with* Aĭzenberg, N. N.; Pospelov, D. A.; Hudjakov, G. F.) Multivalued threshol functions. II. Synthesis of multivalued threshold elements. (Russian. English summar insert) *Kibernetika* (*Kiev*) **1973**, *no.* 1, 53–66. (A. A. Mullin) **49** #8742 94A20

(*with* Tuzov, V. M.) ★Цифровые устройства обреботки сигналов на многозначных структурах. (Russian) [Digital signal processors on multivariable structures] "*Naukova Dumka*", *Kiev*, 1975. 166 *pp.* (From the publisher's descriptio **55** #2332 94A05

(*with* Aĭzenberg, N. N.) Group properties of tests used in problems of diagnosi reliability and control. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no* 5, 156. (Authors' summary) **57** #9312 94A20

(*with* Aĭzenberg, N. N.) ★Многозначная пороговая логика. (Russian) [Many-valued threshold logic] *Izdat. "Naukova Dumka"*, *Kiev*, 1977. 147 *pp.* (I. E Strazdiņš) **58** #26554 94A20 (02C05, 93C40)

Ivčenko, G. I. Limit theorems in an occupancy problem. (Russian. English summary) *Teo* *Verojatnost. i Primenen.* **16** (1971), 292–305. (V. Fabian) **45** #6060 60F99

The asymptotic behavior of the degrees of vertices in a random graph. (Russian English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 195–203. (W. Hoeffding **46** #8907 05C99 (60C05)

The strength of the connectedness of a random graph. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 417–425. (D. W. Walkup) **52** #5489 05C9 (60C05)

The order statistics for a scheme of summing independent variables. (Russian English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 557–570. (M. Iosifescu **48** #9963 62G30

The limit distributions of the middle order statistics in a scheme of arrays. (Russian English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 278–288. (S. A. Book **50** #6025 62E20 (62G30)

The comparison of the binomial and the Poisson laws. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 612–615. (N. L. Johnson) **50** #3297 60E0

Waiting time and hypothesis testing in a multinomial scheme. (Russian. Englis summary) *Teor Verojatnost. i Primenen.* **19** (1974), 839–844. (M. Iosifescu) **51** #7102 62F05

Certain distributions that are connected with the waiting time in a multinomia scheme. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no.* 3 557–570. (M. Iosifescu) **51** #14211 60F05

(*with* Levin, V. V.) The asymptotic normality of a certain class of statistics in multinomial scheme. (Russian. English summary) *Teor. Verojatnost. i Primenen.* 2 (1976), *no.* 1, 190–195. (W. Hoeffding) **53** #14599 60F05 (62F05)

(*with* Ivanova, T. V.) On a test of sequential type. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 4, 854–857. (R. A. Wijsman) **54** #14259 62L10

(*with* Ivanov, V. A.) Some limit functionals for Markov walks. (Russian) *Ma* *Zametki* **23** (1978), *no.* 2, 315 -326. (D. V. Gusak) **58** #24556 60J10

(*with* Levin, V. V.) Asymptotic normality in the scheme of sampling withou replacement. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 97–108. (Dana Vorlíčková) **57** #14214 62D05 (62E20)

Iversen, Birger ★Linear determinants with applications to the Picard scheme of a famil of algebraic curves. Lecture Notes in Mathematics, Vol. 174. *Springer-Verlag, Berlin-New York*, 1970. vi + 69 *pp.* (A. Mattuck) **45** #1917 14J05

On linear determinants. *Papers from the "Open House for Algebraists"* (*Aarhu* *Univ., Aarhus*, 1970), *pp.* 12–22. *Mat. Inst., Aarhus Univ., Aarhus*, 1970. (P. Corsin

46 #1773 13C10

Numerical invariants and multiple planes. *Amer. J. Math.* **92** (1970), 968–996. (C. M. Williams) **45** #5135 14H99

Critical points of an algebraic function. *Invent. Math.* **12** (1971), 210–224. (R. T. Hoobler) **49** #7258 14B05 (32C40)

A fixed point formula for action of tori on algebraic varieties. *Invent. Math.* **16** (1972), 229–236. (J.-E. Bertin) **45** #8656 14L10

On the existence of abelian varieties with good reduction. *J. Reine Angew. Math.* **255** (1972), 155–164. (Y. Nakai) **46** #184 14K15 (14G20)

On the exceptional tangents to a smooth, plane curve. *Math. Z.* **125** (1972), 359–360. (R. H. Dye) **46** #181 14H45 (14N10)

★Generic local structure of the morphisms in commutative algebra. Lecture Notes in Mathematics, Vol. 310. *Springer-Verlag, Berlin-New York*, 1973. iv+108 *pp.* (I. Vainsencher) **50** #13023 14A15

(*with* Fossum, Robert M.) On Picard groups of algebraic fibre spaces. *J. Pure Appl. Algebra* **3** (1973), 269–280. (J.-E. Bertin) **50** #9864 14C20

(*with* Lê Dũng Tráng) Calcul du nombre de cusps dans la déformation semi-universelle d'une singularité isolée d'hypersurface complexe. *Bull. Soc. Math. France* **102** (1974), 99–107. (Tatsuo Suwa) **50** #2554 32C40

(*with* Nielsen, H. Andreas) Chern numbers and diagonalizable groups. *J. London Math. Soc.* (2) **11** (1975), *part* 2, 223–232. (S. I. Gel'fand) **51** #12854 14F05

The geometry of algebraic groups. *Advances in Math.* **20** (1976), *no.* 1, 57–85. (S. I. Gel'fand) **53** #2965 14L10 (14M15)

Local Chern classes. *Ann. Sci. École Norm. Sup.* (4) **9** (1976), *no.* 1, 155–169. (S. L. Kleiman) **57** #326 14F25 (14C15, 55F40)

Brauer group of a linear algebraic group. *J. Algebra* **42** (1976), *no.* 2, 295–301. (Andy R. Magid) **55** #12736 14L10

Amplitude inequalities for complexes. *Ann. Sci. École Norm. Sup.* (4) **10** (1977), *no.* 4, 547–558. (From the introduction) **58** #27966 14B10 (13D99)

rsen, P. Mean value of compact convex sets, Day's fixed point theorem and invariant subspaces. *J. Math. Anal. Appl.* **57** (1977), *no.* 1, 1–11. (L. N. Argabright) **55** #3746 46A99 (47H10)

rson, Geoffrey J. *See* **Lectures: Coral Gables Conference on Fundamental Interactions at High Energy**, 52 #7334; **Troubles in the external field problem for invariant wave equations**, 52 #7335; **Multiperipheral dynamics**, 52 #7336 *and* **Nonpolynomial Lagrangians, renormalisation and gravity**, 52 #9853

rt, Per-Anders A priori Schranken für die Ableitungen der Lösungen gewisser elliptischer Differentialgleichungssysteme. (English summary) *Manuscripta Math.* **23** (1977/78), *no.* 3, 279–294. (Michael Wiegner) **57** #6827 35J60 (35B45)

s, David C. A modern look at conformal mapping including multiply connected regions. *AIAA J.* **14** (1976), *no.* 8, 1006–1011. (D. A. Nield) **58** #3956 76.60

ć, Aleksandar An asymptotic formula for elements of a semigroup of integers. *Mat. Vesnik* **10(25)** (1973), 225–257. (E. M. Horadam) **49** #2599 10H15 (10H40)

On a certain integral equation. *Mat. Vesnik* **10(25)** (1973), 259–262. (I. Fenyő) **48** #11954 45G99

An application of Dirichlet series to certain arithmetical functions. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth. *Math. Balkanica* **3** (1973), 158–165. (T. M. Apostol) **50** #7061 10H25 (10H15)

Certain arithmetic functions connected with the distribution of prime numbers. (Serbo-Croatian. English summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **4** (1974), 9–17. (W. Narkiewicz) **53** #5448 10A20

On certain functions that generalize von Mangoldt's function $\Lambda(n)$. *Mat. Vesnik* **12(27)** (1975), *no.* 4, 361–366. (T. M. Apostol) **53** #306 10H15

A convolution theorem for arithmetical functions. *Math. Balkanica* **5** (1975), 145–149. (E. Grosswald) **58** #21976 10H25 (10A20)

On an arithmetical semigroup connected with quadratic residues. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 9, 1257–1259. (T. M. Apostol) **55** #2721 10A10

On a class of arithmetical functions connected with multiplicative functions. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **20(34)** (1976), 133–144. (J. Chidambaraswamy) **56** #11935 10H25

On a number-theoretical system of functional equations. (Serbo-Croatian summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **6** (1976), 1–5. (T. M. Apostol) **56** #2903 10A20

On the asymptotic formulae for some functions connected with powers of the zeta function. *Mat. Vesnik* **1(14)(29)** (1977), *no.* 1, 79–90. (T. M. Apostol) **58** #5556 10H25

The distribution of values of some multiplicative functions. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 87–94. (J. Galambos) **57** #16229 10H25

On the asymptotic formulas for a generalization of von Mangoldt's function. (Italian summary) *Rend. Mat.* (6) **10** (1977), *no.* 1, 51–59. (T. M. Apostol) **56** #5471 10H25

A property of Ramanujan's sums concerning totally multiplicative functions. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 577–598 (1977), 74–78. (H. Halberstam) **57** #12357 10A20

Two inequalities for the sum of divisors functions. (Serbo-Croatian summary) *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* **7** (1977), 17–22. (Chung-ming An) **58** #21911 10A20

The distribution of values of the enumerating function on non-isomorphic abelian groups of finite order. *Arch. Math.* (*Basel*) **30** (1978), *no.* 4, 374–379. (W. Narkiewicz) **58** #16562 10H25 (20K99)

A theorem in asymptotic number theory. *Colloq. Math.* **39** (1978), *no.* 1, 177–184. (W. Schwarz) **58** #16563 10H25

On the asymptotic formulas for powerful numbers. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **23(37)** (1978), 85–94. (D. Suryanarayana) **58** #21977 10H25

See also **Biography: Ivić, Aleksandar**, 52 #13248

ie, John A general Q-matrix. *Fibonacci Quart.* **10** (1972), *no.* 3, 255–261. (H. W. Brinkmann) **46** #1815 15A36 (10M20)

in, A. A. Definitions of aletic and deontic modal functors in terms of material implication and constants. (Russian) *Nonclassical logic* (*Russian*), *pp.* 113–123. *Izdat.* "*Nauka*", *Moscow*, 1970. (I. Ruzsa) **47** #6442 02C10

Temporal logic. (Russian) *Nonclassical logic* (*Russian*), *pp.* 124–190. *Izdat.* "*Nauka*", *Moscow*, 1970. (J. van Heijenoort) **48** #3709 02C99

Certain formulations of modal systems. (Russian) *Studies in systems of logic* (*dedicated to the memory of S. A. Janovskaja*) (*Russian*), *pp.* 137–141. *Izdat.* "*Nauka*", *Moscow*, 1970. (I. Ruzsa) **47** #6443 02C10

Connective implication. (Russian) *Studies in systems of logic* (*dedicated to the memory of S. A. Janovskaja*) (*Russian*), *pp.* 142–165. *Izdat.* "*Nauka*", *Moscow*, 1970. (J. van Heijenoort) **48** #3697 02B20

Ivin, V. A. An eigenvalue problem for a Fredholm integral operator of crystal theory in the self-consistent field approximation. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap.* **206** *Razmytye Fazovye Perehody Vyp.* 6 (1974), 175–180, 222. (Editors) **58** #8990 82.45

(*with* Rolov, B. N.) Bifurcation of the self-consistent field equation for crystals with simple lattices. I. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap.* **206** *Razmytye Fazovye Perehody Vyp.* 6 (1974), 181–196, 222. (Editors) **58** #8991a 82.45

(*with* Rolov, B. N.) Bifurcation of a system of equations for the self-consistent field for crystals with complex lattices. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap.* **206** *Razmytye Fazovye Perehody Vyp.* 6 (1974), 197–215, 223. (Editors) **58** #8991b 82.45

(*with* Rolov, B. N.) Bifurcation of the self-consistent field equation for crystals with simple lattices. II. (Russian) *Latviĭsk Gos. Univ. Učen. Zap.* **238** *Razmytye Fazovye Perehody Vyp.* 7 (1975), 168–187, 210. (Editors) **58** #8991c 82.45

(*with* Rolov, B. N.) Bifurcation of a system of equations for the self-consistent field for crystals with complex lattices. II. (Russian) *Latviĭsk Gos. Univ. Učen. Zap.* **238** *Razmytye Fazovye Perehody Vyp.* 7 (1975), 188–197, 210. (Editors) **58** #8991d 82.45

Ivkin, V. G. (*with* Vasil'ev, N. D.; Mozin, I. V.; Šelehov, V. A.) A comparative estimate of the efficiency of some methods of multivariate optimization. (Russian) *Avtometrija* **1977**, *no.* 3, 141–148, 152. (Authors' summary) **58** #15597 93E10

Ivković, Zoran On spectral type of nonanticipative transformation of Wiener process. *Mat. Vesnik* **11(26)** (1974), 121–124. (V. S. Mandrekar) **51** #14245 60G25

Deduction of Wold representation of stationary processes from Cramér representation of second-order processes. *Ann. Probability* **3** (1975), *no.* 3, 546–548. (J. B. Robertson) **51** #9176 60G10

Ivković, Zoran A. ★Uvod u teoriju verovatnoće, slučajne procese i matematičku statistiku. (Serbo-Croatian) [Introduction to probability theory, random processes and mathematical statistics] *Gradevinska Knjiga, Belgrade*, 1970. 116 *pp.* (Editors) **50** #14850 60–01 (62–01)

(*with* Stanojević, Časlav V.) Distributions of coincidence of n random signals and sample range. *Math. Balkanica* **1** (1971), 126–128. **46** #8745 94A05

(*with* Rozanov, Ju. A.) The canonical Hida-Cramér expansion for random processes. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 348–353. (R. G. Laha) **45** #1245 60G99

(*with* Rozanov, Ju. A.) A characterization of Cramér representation of stochastic processes. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **14(28)** (1972), 69–73. (V. S. Mandrekar) **53** #14632 60G25

(*with* Bulatović, Jelena; Vukmirović, J.; Zivanović, S.) ★Application of spectral multiplicity in separable Hilbert space to stochastic processes. Matematički Institut Posebna Izdanja, Knjiga 12. [Special Publications of the Mathematical Institute, Vol. 12] *Matematički Institut u Beogradu, Belgrade*, 1974. 68 *pp.* (V. S. Mandrekar) **56** #6830 60G25

(*with* Vukmirović, J.) Example of continuous second-order stochastic process with prescribed finite multiplicity. *Mat. Vesnik* **13(28)** (1976), *no.* 3, 269–272. (V. S. Mandrekar) **55** #6552 60G25

Ivlev, D. D. (*with* Černyšov, A. D.) Equations of the theory of perfect plasticity in terms of the components of displacement velocities. *Prikl. Mat. Meh.* **35** (1971), 183–185 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 151–154. (C. I. Borş) **45** #8097 73.35

(*with* Berežnoĭ, I. A.) The defining inequalities in the theory of plasticity. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 4, 824–826. (D. P. Rašković) **54** #4244 73.35

See also **Continuum mechanics and related problems of analysis**, 50 #6714

Ivlev, E. T. (*with* Lučinin, A. A.) The polar correspondence with respect to an algebraic hypersurface, and its applications. (Russian) *Trudy Tomsk. Gos. Univ. Ser. Meh.-Mat.* **196** (1968), 23–34. (P. Brückmann) **57** #9710 14N05

Certain geometric forms associated with a family of lines and planes in ${}^1S_n$. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 1(104), 35–44. (M. Decuyper) **45** #2598 53A35

(*with* Kondakova, È. M.) Certain geometric objects of an n-family of nondegenerate null-pairs in P_n. (Russian) Geometry collection, No. 9. *Trudy Tomsk. Gos. Univ.* **212** (1972), 87–95. (Michał Lorens) **48** #4926 53A20

The manifold $E(O,n\text{-}m,m)$ in n-dimensional projective space. (Russian) Geometry collection, No. 10. *Trudy Tomsk. Gos. Univ.* **230** (1972), 3–19 (1973). (M. Decuyper) **51** #4074 53A25

The framing of a multidimensional hyperband in a space with projective connection. (Russian) *Kaliningrad. Gos. Univ. Differencial'naja Geom. Mnogoobraz. Figur Vyp.* 5 (1974), 25–49. (A. Švec) **57** #4030 53B25

A normalization of a multidimensional surface in a space with projective connection. (Russian) *Trudy Kaliningrad. Gos. Univ. Differencial'naja Geometr. Mnogoobraz. Figur Vyp.* 4 (1974), 6–28. (M. A. Akivis) **54** #11208 53B10

(*with* Brazevič, M. V.) Pairs of ruled manifolds in three-dimensional projective space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 7(158), 103–106. (Adrian C. Albu) **54** #8481 53A25

(*with* Tyrtyĭ-ool, N. M.; Brazevič, M. V.) Some geometric images of the manifold of pairs of dual linear subspaces in a multidimensional projective space. (Russian) *Mat. Sb.* (*Tomsk*) *Vyp.* 1 (1975), 68–91. (Authors' summary) **56** #16520 (EA **57**) 53A20

(*with* Kondakova, È. M.; Pustynnikov, G. G.) A projectively invariant class of manifolds of nondegenerate null pairs in multidimensional projective space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 11 (174), 38–47. (M. Decuyper) **57** #17522 53A20

(*with* Podskrebko, È. N.; Suhotin, A. M.) The normalization of a framed multidimensional surface in a space with projective connection. (Russian) *Kaliningrad.*

Gos. Univ. Differencial'naja Geom. Mnogoobraz. Figur Vyp. 7 (1976), 26–32, 150. (A. Goetz) **58** #12770 53B10

See also **Geometry collection, 49** #9747; **Geometry collection, 49** #9748 *and* **Geometry collection, 52** #4143

Ivnickiĭ, V. A. (*with* Kovalenko, Ĭ. M.; Suhanova, N. I.) Certain practical methods for the formation of multidimensional random numbers with uniform distribution inside a polyhedron. (Russian) *Complex systems and simulation* (*Proc. Sem., Kiev*, 1968/1969), *No.* 1 (*Russian*), *pp.* 3–14. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (Authors' introduction) **45** #9443 65C10

Asymptotic investigation of stationary state probability distribution for one class of single-line queueing systems (without memory). *Problemy Peredači Informacii* **5** (1969), *no.* 3, 88–95 (*Russian*); *translated as Problems of Information Transmission* **5** (1969), *no.* 3, 64–71. (G. Tintner) **47** #2689 60K25

A single-server queueing system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 6, 110–120 (*Russian*): *translated as Engrg. Cybernetics* **9** (1971), *no.* 6, 1066–1077 (1972). (P. R. Milch) **50** #3389 60K25

Analysis of nonstationary characteristics of a single server queueing system with parameters that depend on the length of the queue. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 14 (1971), 60–76. (T. Rolski) **46** #6503 60K25

(*with* Kazackiĭ, V. P.) On a two-phase queueing system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 123–131 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1050–1057. (N. U. Prabhu) **51** #14308 60K25

(*with* Kasumov, A. B.) An investigation of the nonstationary characteristics of a doubled system with an unreliable servicing instrument. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1972**, *no.* 1, 81–89. (From the authors' introduction) **54** #8919 60K25 (90B25)

A study of the nonstationary characteristics of a certain class of single-server queueing systems. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 1, 115–128, 233. (František Zítek) **51** #2011 60K25

A study of the nonstationary state of an unreliable single server queueing system with an unusual flow and "warm-up" time. (Russian), *Mathematical models of complex systems* (*Russian*), 59–74. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1973. (See RŽMat **1974** #6 V53; MR **57** #17740) 60K25

(*with* Kasumov, A. B.) Nonstationary characteristics of a stand-by system with an unreliable servicing device. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 4, 119–125 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 4, 639–646. (Authors' summary) **57** #11702 90B25

Investigation of nonstationary characteristics of an unreliable single-line system with parameters dependent on the queue length. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 1, 78–90, 236 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 62–75. (K. B. Athreya) **54** #8920 60K25

Estimation of the accuracy of simulation of complex systems with inexact input information in the case of a scheme with independent trials. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 4, 208–217, 224 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 4, 157–166. (C. L. Liu) **53** #5123 93E10

(*with* Kasumov, A. B.; Ibragimov, M. N.) A study of a certain switching system that allows for the possibility of breakdown and repair of the control units. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 3, 104–113. (Authors' summary) **57** #9323 94A20

A stationary regime of a queueing system with parameters dependent on the queue length and with nonordinary flow. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 2, 111–117 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 2, 85–90. (Author's summary) **56** #1495 60K25

(*with* Kapyrin, V. A.) On the time of first overflow of a queue in an unreliable servicing system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 5, 100–108 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 5, 75–83. (Authors' summary) **57** #1700 60K25

Nonstationary distribution of the probabilities of the states of a many-line queueing system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1976**, *no.* 1, 67–75 (*Russian*); *translated as Engrg. Cybernetics* **14** (1976), *no.* 1, 54–61 (1977). (Author's summary) **58** #18777 60K25

Nonstationary distribution of the waiting time of a multiserver queueing system without information and with unreliable instruments. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 4, 79–84. (Author's summary) **56** #16831 60K25

(*with* Nikolaev, V. A.) On a model of job package processing in a computer working in multiprogramming mode. (Russian) *Programmirovanie* **1976**, *no.* 2, 77–86, 96. (W. Kwasowiec) **55** #6915 68A05

(*with* Garifullin, Z. G.) The stationary distribution of state probabilities of a generalized scheme of birth and death with a symmetric graph of transitions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 4, 92–96. (P. Neumann) **58** #7910 60K25

On the reconstruction of characteristics of a $GI/M/1$ system from observations on the outgoing flow. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 1, 188–191. (R. H. Rodine) **55** #9325 60K25

Ivočkina, N. M. (*with* Oskolkov, A. P.) Nonlocal estimates of the first derivatives of the solutions of the first boundary value problem for certain classes of nonuniformly elliptic and nonuniformly parabolic equations and systems. (Russian) *Trudy Mat. Inst. Steklov.* **110** (1970), 65–101. (P. C. Fife) **45** #5564 35J15 (35K10)

A priori estimates of the solutions of the Dirichlet problem for multidimensional quasilinear equations of elliptic type. (Russian) Boundary value problems of mathematical physics, 8. *Trudy Mat. Inst. Steklov.* **125** (1973), 95–105, 231. (Ja. A. Roĭtberg) **49** #9404 35J25

(*with* Ivanov, A. V.; Ladyženskaja, O. A.) A certain improvement of the results on the solvability of theDirichlet problem for uniformly elliptic second order quasilinear equations. (Russian) Collection of articles dedicated to the memory of Academician V. I. Smirnov. *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1 (1975), 61–72, 189–190. (P. Szeptycki) **54** #5617 35J25

The possibility of integral formulas in R^n. (Russian. English summary) Boundary value problems of mathematical physics, and related questions of the theory of functions, 8. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **52** (1975), 35–51, 218. (A. Haimovici) **53** #13805 35C15

Construction of a priori estimates for convex solutions of the Monge-Am equation by the integral method. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 1, 45–53, (G. W. Hedstrom) **58** #1607 35J60

See also **Boundary value problems of mathematical physics and related aspects function theory, 46** #9498; **Boundary value problems of mathematical physics, 48** #681; **Linear operators and operator equations, 49** #4718 *and* **Boundary value problems of mathematical physics, 51** #6096

Ivol, Bernard (*with* Berruyer, Jacques) Une topologie sur l'espace des mesures de Riesz. *R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1927–A1930. (I. Namioka) **46** #414 46A15 (46E10)

(*with* Berruyer, Jacques) L'espace $M(T)$. *C. R. Acad. Sci. Paris Sér. A-B* (1972), A33–A36. (I. Namioka) **46** #4145 46A15 (46E10)

(*with* Berruyer, Jacques) Espaces de mesures et compactologies. *Publ. Dép. M* (*Lyon*) **9** (1972), *no.* 1, 1–35. (D. H. Fremlin) **48** #12011 46E10 (28A32)

(*with* Berruyer, Jacques) Espaces de mesures et compactologies. Actes du Deuxième Colloque d'Analyse Fonctionnelle de Bordeaux (Univ. Bordeaux, 1973), I, 9–12. *Publ. Dép. Math.* (*Lyon*) **10** (1973), *no.* 2, 9–12. (Richard Haydon) **51** #132 46A09 (46E27)

Ivović, Miodrag Ž. Estimates for trigonometric integrals. (Russian) *Mat. Vesnik* **10** (1973), 271–274. (K. Karták) **49** #3417 42A16

Linear summability methods for Fourier series whose coefficients are products two factors. (Russian) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 95–108. Baron) **58** #1966 42A24

Ivriĭ, V. Ja. Differential equations, with multiple characteristics, that have no solutio (Russian) *Dokl. Akad. Nauk SSSR* **198** (1971), 279–282. (O. Horáček) **45** #723 35A30 (58G99)

The Cauchy problem for not strictly hyperbolic second order equations. (Russia *Dokl. Akad. Nauk SSSR* **201** (1971), 778–781. (M. Haimovici) **45** #2321 35L15

Cauchy problems for non-strictly hyperbolic equations. (Russian) *Application functional methods to the boundary value problems of mathematical physics* (*Proc. Th Soviet-Czechoslovak Conf., Novosibirsk*, 1971) (*Russian*), *pp.* 82–89. *Inst. Mat. Ak Nauk SSSR Sibirsk. Otdel. Novosibirsk*, 1972. (V. Rosa) **51** #10881 35L30

The Cauchy problem for not strictly hyperbolic equations with smooth ro (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 1303–1304. (V. Djurikovič) **46** #2241 35L15

The Cauchy problem for nonstrictly hyperbolic equations. (Russian) *Dokl. Ak Nauk SSSR* **207** (1972), 1032–1034. (V. Durikovič) **48** #715 35L30

A certain class of nonstrictly hyperbolic operators. (Russian) *Differencial' Uravnenija* **9** (1973), 299–306, 395. (A. Pelczar) **48** #2577 35L30

(*with* Petkov, Vesselin M.) Necessary conditions for the correctness of the Cauc problem for non-strictly hyperbolic equations. (Russian) Collection of articles dedica to the memory of Ivan Georgievič Petrovskiĭ (1901–1973), III. *Uspehi Mat. Nauk* (1974), *no.* 5(179), 3–70. (P. Szeptycki) **55** #873 35L30

Conditions for correctness in Gevrey classes of the Cauchy problem for nonstric hyperbolic operators. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 4, 775–777. R. Fridlender) **53** #1039 35L30

Conditions for correctness in Gevrey classes of the Cauchy problem for hyperbo operators with characteristics of variable multiplicity. (Russian) *Dokl. Akad. Na SSSR* **221** (1975), *no.* 6, 1253–1255. (V. R. Fridlender) **53** #1040 35L30

Correctness in projective Gevrey classes of the Cauchy problem fornonstric hyperbolic operators. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 1, 26–28. R. Fridlender) **53** #1041 35L30

Well-posedness in Gevrey classes of the Cauchy problem for non-strict hyperbo operators. (Russian) *Mat. Sb.* (*N.S.*) **96(138)** (1975), 390–413, 503. (Rémi Vaillancou **51** #10887 35L55

Sufficient conditions for regular and completely regular hyperbolicity. (Russian *Trudy Moskov. Mat. Obšč.* **33** (1975), 3–65 (1976). (P. Szeptycki) **58** #11957 35L

Correctness in Gevrey classes of the Cauchy problem for not strictly hyperbo operators. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 5(185), 209–210. (V. R. Fridlender) **53** #8669 35L55

The energy integral for nonstrictly hyperbolic operators. (Russian) *Uspehi M Nauk* **30** (1975), *no.* 6 (186), 169–170. (J. Vencko) **54** #10869 35L25

Wave fronts of the solutions of certain microlocally hyperbolic pseudodifferent equations. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 5, 1009–1011. (M. Agranovič) **54** #3171 35L25 (58G15, 35S05)

Wave fronts of the solutions of certain hyperbolic equations, and conical refracti (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 6, 1257–1259. (Rémi Vaillancou **54** #3172 35L25 (35S05)

Wave fronts of the solutions of certain hyperbolic pseudodifferential equatio (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 2, 280–283. (L. Rodino (Zbl #35083)) **58** #6723 35L25 (35S05)

Wave fronts of the solutions of certain pseudodifferential equations. (Russian *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 2, 71–72. (Toader Jucan) **53** #14225 47G05 (58G15, 35S05)

Conditions for correctness in Gevrey classes of the Cauchy problem for not stric hyperbolic operators. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 3, 547–563, 716. (V. Fridlender) **56** #12618 35L30

Conditions for correctness in Gevrey classes of the Cauchy problem for hyperbo operators with characteristics of variable multiplicity. (Russian) *Sibirsk. Mat. Ž.* (1976), *no.* 6, 1256–1270, 1437. (*loose errata*) (Rémi Vaillancourt) **56** #12619 35L

Wave fronts of the solutions of boundary value problems for symmetric hyperbo systems. (Russian) *Dokl. Akad. Nauk SSR* **235** (1977), *no.* 5, 1013–1016. (Ré Vaillancourt) **56** #12621 35L50

The wave fronts of the solutions of the system that describes crystal opti (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 4, 763–765. (A. I. Atanas **58** #29331 35L55 (35Q99)

Wave fronts of the solutions of symmetric pseudodifferential systems. (Russian *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 6, 1035–1038. (Rémi Vaillancourt) **56** #3486 35S10

Correctness of the Cauchy problem for nonstrictly hyperbolic operators. III. The rgy integral. (Russian) *Trudy Moskov. Mat. Obšč.* **34** (1977), 151–170. (P. Szeptycki) #11958 35L30

Propagation of the singularities of solutions of the wave equation along the ndary of the domain. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 5(197), 185–186. Sadkowski (Zbl **363** #35025)) **58** #23118 35L99

Propagation of the singularities of a solution of the wave equation near the ndary. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 4, 772–774. (N. Cristescu) #11962 35L50

Correctness in Gevrey classes of the Cauchy problem for certain nonstrictly erbolic operators. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no.* 2(189), -35. (V.-V. Olariu) **58** #17559 35L99

, Ju. Complete complexity classes of computable functions. (Russian) *Current stions in mathematical logic and set theory (Russian), pp.* 33–48. *Moskov. Gos. Ped. . im. Lenina, Moscow,* 1975. (Cristian Calude) **56** #8340 02F20 (68A20)

Complexity classes in relation to the number of oscillations in real-time nputations. (Russian) *Current questions in mathematical logic and set theory ssian), pp.* 49–71. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow,* 1975. (M. I. Dehtjar′) #10137 68A20

A tape hierarchy in the class of homogeneous multi-tape autonomous machines with input that operates in real time. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **6**, *no.* 3(166), 18–22. (R. G. Buharaev) **55** #1823 68A25

arden, John *See* **Van Iwaarden, John**

, Yoshihiro *See* **Symposium: Information Theory**, **50** #9416

i, Ryōsuke Introduction to mathematical economics. I. (Japanese) *Systems and ntrol* **16** (1972), 468–475. **55** #2060 90Axx

, Nagayoshi (*with* Curtis, Charles W.; Kilmoyer, Robert) Hecke algebras and racters of parabolic type of finite groups with (B, N)-pairs. *Inst. Hautes Études Sci. bl. Math. No.* 40 (1971), 81–116. (G. I. Lehrer) **50** #494 20G05

(*with* Iwahori, Nobuko) On a set of generating relations of the full transformation nigroups. *J. Combinatorial Theory Ser. A* **16** (1974), 147–158. (F. R. McMorris) #8661 20M05

(*with* Hattori, Akio; Ihara, Yasutaka; Itô, Seizô; Shioda, Tetsuji; Tamura, I.) thematical contributions of Professor Yukiyosi Kawada. *J. Fac. Sci. Univ. Tokyo t. IA Math.* **24** (1977), *no.* 1, i–vi. (Editors) **55** #7693 01A70

(*with* Egawa, Yoshimi) Finite groups which have only one non-linear irreducible racter. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, 247–253. (Larry C. ove) **56** #457 20C15

On a characterization of a class of functions defined on the space of positive definite trices. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 321–325. (T. Ono) #1011 22E30 (43A85)

See also **Seminar: Algebraic Groups**, **48** #11106

i, Nobuko On an equivalence relation among (0, 1)-matrices. *Sci. Papers College n. Ed. Univ. Tokyo* **21** (1971), 1–9. (Frank W. Owens) **47** #247 15A36 (15A21)

(*with* Nagao, Hirosi) On the automorphism group of the full transformation nigroups. *Proc. Japan Acad.* **48** (1972), 639–640. (T. E. Hall) **48** #11377 20M20

(*with* Iwahori, Nagayoshi) On a set of generating relations of the full transformation nigroups. *J. Combinatorial Theory Ser. A* **16** (1974), 147–158. (F. R. McMorris) #8661 20M05

A length formula in a semigroup of mappings. *J. Fac. Sci. Univ. Tokyo Sect. IA th.* **24** (1977), *no.* 2, 255–260. (Bernard L. Madison) **58** #959 20M20 (20M05)

atsuhito Optimal economic growth and stationary ordinal utility–a Fisherian proach. *J. Econom. Theory* **5** (1972), *no.* 1, 121–151. (From the author's introduction) #7840 90A15

ousuke (*with* Katai, Osamu) On the characterization of balancing processes of cial systems and the derivation of the minimal balancing processes. *IEEE Trans. stems Man Cybernet.* **SMC-8** (1978), *no.* 5, 337–348. (Stephen B. Seidman) #18886 92A20 (05C99)

oshihiro (*with* Ikeda, Mineo) On inhomogeneous linear automorphisms of simple miltonian systems. *Ann. Mat. Pura Appl.* (4) **107** (1975), 263–278 (1976). (K. R. eyer) **53** #6631 58F05 (70.34)

On kinematical invariances of the equations of motion. *Internat. J. Theoret. Phys.* (1975), *no.* 6, 383–391. (Manfred Andrié) **57** #8263 70.58

Symmetries in relativistic dynamics of a charged particle. *Ann. Inst. H. Poincaré ct. A (N.S.)* **25** (1976), *no.* 4, 335–343. (D. K. Sen) **55** #7216 81.53

Liftings of infinitesimal transformations of a Riemannian manifold to its tangent ndle, with applications to dynamical systems. *Tensor (N.S.)* **31** (1977), *no.* 1, 98–102. . Roşca) **57** #13777 53C10 (58F99)

On projective symmetries of dynamical systems. *J. Mathematical Phys.* **19** (1978), . 1, 12–18. (Helmuth K. Urbantke) **57** #18699 83.35 (58F05)

(*with* Tokumaru, Hidekatsu) Non-interacting control of non-linear multivariable stems. *Internat. J. Control* (1) **16** (1972), 945–958. (W. M. Wonham) **48** #13371 C10

ky, A. (*with* Ahlbehrendt, N.; Kempe, Volker; Schmelovsky, Karl-Heinz) entifikation und Extrapolation von Zufallsprozessen auf der Grundlage von ektor-Markov-Modellen. *Z. Elek. Informations- und Energietech.* **5** (1975), *no.* 5, 6–388. (A. Ja. Dorogovcev) **53** #7576 93E10

(*with* Ahlbehrendt, N.; Kempe, Volker; Schmelovsky, Karl-Heinz) Identifikation d Extrapolation von Zufallsprozessen auf der Grundlage von ektor-Markow-Modellen. II. Das Identifikationsproblem. *Z. Elek. Informations- und ergietech.* **6** (1976), *no.* 1, 51–64. (A. Ja. Dorogovcev) **57** #19009a 93E10 (60G25, H10)

(*with* Ahlbehrendt, N.) Extrapolation und Indentifikation von Zufallsprozessen auf r Grundlage von Vektor-Markov-Modellen. III. Extrapolation von itkontinuierlichen Zufallsprozessen bei unbekannten Modellparametern. *Z. Elek. formations- und Energietech.* **6** (1976), *no.* 4, 353–371. (A. Ja. Dorogovcev) #19009b 93E10

ru, Yoshiaki (*with* Nagata, Morio; Nakanishi, Masakazu; Nishimura, Toshio) nplementation of Gentzen-type formal system representing properties of functions. *omment. Math. Univ. St. Paul.* **23** (1974/75), *no.* 1, 45–66. (I. Kramosil) **52** #102 K15 (68A40)

Iwamoto, Kanji (*with* Sawano, Akio) Error detection and correction in formal languages. *NEC Res. Development No.* 30 (1973), 64–71. **55** #11727 68A30

(*with* Sawano, Akio) Error correction for regular languages and context-free languages. *Systems-Computers-Controls* **4** (1973), *no.* 6, 41–47. (Richard A. DeMillo) **51** #2360 68A30

Iwamoto, Kazutoshi (*with* Senō, Manabu; Sawada, Kiyoshi) Instability and oscillatory behavior of membrane-chemical reaction systems. *J. Theoret. Biol.* **72** (1978), *no.* 3, 577–588. (Uwe an der Heiden) **58** #9393 92A05

Iwamoto, Seiichi Average reward Markovian decision processes in the completely ergodic case. *Bull. Math. Statist.* **15** (1972/73), *no.* 3-4, 55–68. (A. D. Wentzell) **48** #13276 90C40

(*with* Furukawa, Nagata) Markovian decision processes with recursive reward functions. *Bull. Math. Statist.* **15** (1972/73), 3–4, 79–91; *correction, ibid.* **16** (1974/75), *no.* 1–2, 127. (P. W. Millar) **51** #2653 90C40

Discrete dynamic programming with recursive additive system. *Bull. Math. Statist.* **16** (1974/75), *no.* 1-2, 49–66. (H. Taylor) **50** #15930 90C40

(*with* Kai, Yū) On deterministic stationary strategies for Markov games. *Bull. Math. Statist.* **16** (1974/75), *no.* 1-2, 71–82. (T. Parthasarathy) **52** #5059 90D15 (93E05)

Linear programming on recursive additive dynamic programming. *J. Operations Res. Soc. Japan* **18** (1975), *no.* 3-4, 125–151. (A. G. Azpeitia) **52** #16653 90C40

Finite horizon Markov games with recursive payoff systems. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 1, 123–147. (T. Pathasarathy) **51** #12343 90D15

Minimax inverse theorems in dynamic programming. *Bull. Math. Statist.* **17** (1976), *no.* 1-2, 93–101. (Leon Cooper) **56** #8054 90D40 (90C40)

(*with* Furukawa, Nagata) Dynamic programming on recursive reward systems. *Bull. Math. Statist.* **17** (1976), *no.* 1-2, 103–126. (See Zbl **378** #49021) 90C40

The second principle of optimality. *Bull. Math. Statist.* **17** (1976/77), *no.* 3-4, 101–114. (Santosh Kumar) **57** #15526 90D35 (90C40)

Inverse dynamic programming. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 25–42. (Santosh Kumar) **53** #4999 90C47

Inverse theorem in dynamic programming. I. *J. Math. Anal. Appl.* **58** (1977), *no.* 1, 113–134. (Wai Leung Chan) **56** #1176a 49C99 (90C30)

Inverse theorem in dynamic programming. II. *J. Math. Anal. Appl.* **58** (1977), *no.* 2, 249–279. (Wai Leung Chan) **56** #1176b 49C99 (90C30)

Inverse theorem in dynamic programming. III. *J. Math. Anal. Appl.* **58** (1977), *no.* 3, 439–448. (Wai Leung Chan) **56** #1176c 49C99 (90C30)

Dynamic programming approach to inequalities. *J. Math. Anal. Appl.* **58** (1977), *no.* 3, 687–704. (Santosh Kumar) **56** #1177 49C99 (26A86)

A class of inverse theorems on recursive programming with monotonicity. *J. Operations Res. Soc. Japan* **20** (1977), *no.* 2, 94–112. (Jacques A. Ferland) **56** #4846 90C30

Inverse dynamic programming. II. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 1, 25–44. (Santosh Kumar) **55** #12118 90C40 (49C99)

Recursive programming approach to inequalities. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), *no.* 2, 165–190. (Kailash C. Kapur) **58** #26045 90C99

Reversed dynamic programming on general state spaces. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), *no.* 2, 267–276. (Kailash C. Kapur) **58** #26025 90C40

Iwamoto, Tokuo A characterization of submodules of the quotient field of a domain. *Proc. Japan Acad.* **49** (1973), 140–144. (M. B. Boisen, Jr.) **50** #2155 13F10

Iwamura, Kakuzo On some theorems of Knapsack function. *J. Operations Res. Soc. Japan* **17** (1974), 173–183. (Robert G. Jeroslow) **50** #15910 90C10

Iwamura, Tsurane (*with* Kakehi, Katsuhiko; Sakuma, Koiti; Simauti, Takakazu; Wada, Eiiti; Yoneda, Nobuo) ALGOL *N*. *Comment. Math. Univ. St. Paul.* **21** (1972/73), *no.* 1, 1–72. (A. A. Grau) **47** #9897 68A30

Iwamura, Yoshihiko A method of solution to Muskhelishvili-Omnès equation in final-state interaction model. *Progr. Theoret. Phys.* **56** (1976), *no.* 6, 1812–1825. (Gheorghe Nenciu) **55** #11845 81.45

Iwan, W. D. (*with* Spanos, P-T. D.) On the existence and uniqueness of solutions generated by equivalent linearization. (French and German summaries) *Internat. J. Non-Linear Mech.* **13** (1978), *no.* 2, 71–78. (Joseph Ford) **58** #14086 70.60 (34F05)

Iwan, Wilfred D. (*with* Patula, Edward J.) On the validity of equation difference minimization techniques. (French, German and Russian summaries) *Internat. J. Non-Linear Mech.* **7** (1972), 1–17. (A. C. Garibaldi) **48** #12941 70.34

A generalization of the concept of equivalent linearization. (French, German and Russian summaries) *Internat. J. Non-Linear Mech.* **8** (1973), 279–287. (P. Brock) **49** #1858 70.65

(*with* Furuike, Dennis M.) Properties of the solutions of a class of dynamical hereditary systems. (French and German summaries) *Internat. J. Non-Linear Mech.* **11** (1976), *no.* 2, 113–126. (J. Dunwoody) **56** #4304 73.35

(*with* Miller, Richard K.) The steady-state response of systems with spatially localized non-linearity. (French and German summaries) *Internat. J. Non-Linear Mech.* **12** (1977), *no.* 3, 165–173. (Authors' summary) **56** #11224 93C10

Iwanaga, Yasuo (*with* Tachikawa, Hiroyuki) Morita's F_h-condition and double centralizers. I. *J. Algebra* **26** (1973), 167–171. (L. A. Koifman) **49** #362 16A64

The F_h-condition and double centralizer condition. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 16–24 (1973). (K. R. Fuller) **49** #7303 16A36

On rings whose proper homomorphic images are QF-3 rings. *Proceedings of the International Conference on Representations of Algebras (Carleton Univ., Ottawa, Ont.,* 1974), *Paper No.* 14, 2 *pp. Carleton Math. Lecture Notes, No.* 9, *Carleton Univ., Ottawa, Ont.,* 1974. (Editors) **51** #594 16A36

(*with* Tachikawa, Hiroyuki) Morita's F_h-condition and double centralizers. II. *J. Algebra* **31** (1974), 73–90. (L. A. Koifman) **50** #4658 16A48

Rings whose proper homomorphic images are QF-3 rings. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 111–118 (1974). (A. Zaks) **50** #13128 16A36

On rings with self-injective dimension $\leqslant 1$. *Osaka J. Math.* **15** (1978), *no.* 1, 33–46. (B. J. Müller) **58** #16757 16A36

Iwaniec, G. On representation of stress field in linear elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 2, 135–141. (S. C. Das) **54** #4253 73.35

A Galerkin-type tensor solution for linear elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 7-8, 511–519. (Hilmi Demiray) **54** #11912 73.35

Iwaniec, Henryk On the error term in the linear sieve. *Acta Arith.* **19** (1971), 1–30. (H.-E. Richert) **45** #5104 10H30

Primes of the type $\phi(x,y)+A$ where ϕ is a quadratic form. *Acta Arith.* **21** (1972), 203–234. (H.-E. Richert) **46** #3466 10H30 (10C05)

Primes represented by quadratic polynomials in two variables. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 195–202. (S. L. Segal) **47** #132 10B35

Primes represented by quadratic polynomials in two variables. Collection of articles dedicated to Carl Ludwig Siegel on the occasion of his seventy-fifth birthday, V. *Acta Arith.* **24** (1973/74), 435–459. (András Sárközi) **49** #7210 10B35 (10J10)

On zeros of Dirichlet's L series. *Invent. Math.* **23** (1974), 97–104. (Akio Fujii) **49** #8947 10H10

The generalized Hardy-Littlewood's problem involving a quadratic polynomial with coprime discriminants. Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 421–446. (Jean-Marc Deshouillers) **51** #3093 10J10

(*with* Huxley, Martin) Bombieri's theorem in short intervals. *Mathematika* **22** (1975), *no.* 2, 188–194. (J. W. Porter) **52** #10620 10H15 (10H30)

The half dimensional sieve. *Acta Arith.* **29** (1976), *no.* 1, 69–95. (H.-E. Richert) **54** #261 10H30

On indefinite quadratic forms in four variables. *Acta Arith.* **33** (1977), *no.* 3, 209–229. (Ming-Chit Liu) **57** #230 10B05 (10H30, 10J05)

The sieve of Eratosthenes-Legendre. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **4** (1977), *no.* 2, 257–268. (K. Ramachandra and R. Balasubramanian) **56** #11936 10H30

(*with* Friedlander, John B.) Quadratic polynomials and quadratic forms. *Acta Math.* **141** (1978), *no.* 1-2, 1–15. (W. Schwarz) **57** #16232 10H30 (10B35, 10H15)

Almost-primes represented by quadratic polynomials. *Invent. Math.* **47** (1978), *no.* 2, 171–188. (J. W. Porter) **58** #5553 10H15 (10H30)

Iwaniec, Tadeusz (*with* Bojarski, Bogdan) Quasiconformal mappings and non-linear elliptic equations in two variables. I, II. (Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 473–478; *ibid.* **22** (1974), 479–484. (A. M. White) **51** #1110 35J60 (30A60)

Green's function of multiply connected domain and Dirichlet problem for systems of second order in the plane. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 261–276. *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (M. Hervé) **57** #10221 35J55

Quasiconformal mapping problem for general nonlinear systems of partial differential equations. *Symposia Mathematica, Vol. XVIII* (*Convegno sulle Transformazioni Quasiconformi e Questioni Connesse, INDAM, Rome*, 1974), *pp.* 501–517. *Academic Press, London*, 1976. (A. M. White) **58** #22545 30A60 (30A86, 35J45)

Iwanik, Anzelm Remarks on infinite complete algebras. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 909–910. (T. Katriňák) **48** #2029 08A25

(*with* Głazek, Kazimierz) Quasi-constants in general algebras. *Colloq. Math.* **29** (1974), 45–50, 159. (M. Gould) **48** #10951 08A25

(*with* Głazek, Kazimierz) Independent subalgebras of a general algebra. *Colloq. Math.* **29** (1974), 189–194. (B. Csákány) **49** #4905 08A25

On infinite complete algebras. *Colloq. Math.* **29** (1974), 195–199, 307. (Alden Pixley) **49** #179 08A05

A remark on a paper of H. Höft (Fund. Math. **84** (1974), no. 1, 75–78). *Fund. Math.* **84** (1974), *no.* 1, 79–80. (G. Grätzer) **50** #6989 08A25

(*with* Płonka, Jerzy) Linear independence in commutative semigroups. *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no.* 4, 333–338. (Donald W. Miller) **56** #8725 20M05

Pointwise induced operators on L_p-spaces. *Proc. Amer. Math. Soc.* **58** (1976, 173–178. (G. M. Leibowitz) **54** #1004 47B37 (46E30)

Embedding semigroups in semigroups generated by idempotents. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp.* 205–208. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam*, 1977. (Evelyn Nelson) **57** #12735 20M10

Two-sided nonsingular transformations. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 179–186. *Soc. Czechoslovak Mathematicians and Physicists, Prague*, 1977. (A. Lakshmi) **57** #12817 28A60 (28A05)

Multiplicative operators on symmetric commutative algebras. *Colloq. Math.* **37** (1977), *no.* 1, 75–79. (Alan J. Ellis) **57** #1137 46K99

Pointwise induced semigroups of σ-endomorphisms. *Colloq. Math.* **38** (1977), *no.* 1, 27–35. (J. M. Day) **57** #10689 54H15

An embedding theorem for semigroups. *Algebra Universalis* **8** (1978), *no.* 1, 89–90. (Saraswathi Subbiah) **56** #8726 20M05

Iwano, Masahiro Bounded solutions and stable domains of nonlinear ordinary differential equations. *Analytic theory of differential equations* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1970), *pp.* 59–127. *Lecture Notes in Math., Vol.* 183, *Springer, Berlin*, 1971. (R. E. Gaines) **53** #921 34A25

Analytic expressions of solutions with the order of positive powers of x near an irregular type singularity. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 134–147. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (R. K. Rathy) **53** #11131 34A25

Analytic integration of a system of nonlinear ordinary differential equations with an irregular type singularity. *Ann. Mat. Pura Appl.* (4) **94** (1972), 109–160. (P. F. Hsieh) **51** #3584 34A25

Analytic integration of a system of nonlinear ordinary differential equations with an irregular type singularity. II. *Ann. Mat. Pura Appl.* (4) **99** (1974), 221–246. (P. F. Hsieh) **51** #3585 34A25

The boundary layer equation $f'''+2ff''+2\lambda\ (1-f'^2)=0,\ \lambda\leq 0$. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 329–343. (P. B. **52** #14440 34B15

(*with* Hukuhara, Masuo; Okubo, Kenjiro; Kimura, Tosihusa) Analytic the ordinary differential equations. *Recent Progr. Natur. Sci. Japan* **1** (1976), 1– Gérard) **58** #6408 34–02 (34A20, 58A15)

Applications of Nagumo-Hukuhara theory on the boundary value proble nonlinear ordinary differential equations to Abrikosov problem and Falkne problem. *Ann. Mat. Pura Appl.* (4) **113** (1977), 303–392. (L. Erbe) **58** #1 34B15

Asymptotic solutions of the boundary layer equation. *J. Fac. Sci. Univ. Toky IA Math.* **24** (1977), *no.* 2, 433–457. (Wolfdietrich Müller) **58** #6557 34E05

Iwanowska, W. The consequences of the work of Copernicus. (Esperanto) Translate the Polish by Teresa Nemere. *Sci. Rev.* **24** (1973), 121–124. (J. S. Joel) **55** #1 01A40

evan-Iwanowski, R. M. *See* **Evan-Iwanowski, R. M.**

Iwanowski, Wilhelmina *See* **Anniversaire: Naissance de Nicolas Copernicus, 50** #22

Iwanuś, Bogusław On Leśniewski's elementary ontology. (Polish and Russian summ *Studia Logica* **31** (1973), 73–125. (John T. Canty) **51** #10041 02C99 (02G20)

Proof of decidability of the traditional calculus of names. (Polish and R summaries) *Studia Logica* **32** (1973), 131–147. (W. S. Hatcher) **50** #6819 (02B10)

Concerning the so called system BD of Åqvist. *Studia Logica* **33** (1974), 33 (I. Ruzsa) **51** #62 02C10

Iwasa, Yoh Optimal death strategy of animal populations. *J. Theoret. Biol.* **72** (1978), 611–626. (Author's summary) **58** #15304 92A15

Iwasaki, Chisato Tsutsumi (*with* Kumano-go, Hitoshi) Complex powers of hypo pseudo-differential operators with applications. *Osaka J. Math.* **10** (1973), 14 (Rémi Vaillancourt) **48** #6734 35S05 (47G05)

The fundamental solution for a degenerate parabolic pseudo-differential ope *Proc. Japan Acad.* **50** (1974), 11–15. (William Margulies) **51** #3734 35S10 (4

The fundamental solution for a parabolic pseudo-differential operator and parametrices for degenerate operators. *Proc. Japan Acad.* **51** (1975), 103–108. (Egorov) **52** #1072 35S05 (47G05)

Parametrices for degenerate operators of Grushin's type. Partial differential equations and their applications (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Kyoto, 1976). *Sûrikaisekikenkyûsho Kôkyûroku No.* 279 (1976), 37–53. **58** #23 35H05

The fundamental solution for pseudo-differential operators of parabolic *Osaka J. Math.* **14** (1977), *no.* 3, 569–592. (From the introduction) **58** #17 35S10 (35K30)

Iwasaki, Keiko (*with* Ogitsu, Noriko) On a characterization of the Bochner cur tensor =0. *Natur. Sci. Rep. Ochanomizu Univ.* **25** (1974), *no.* 1, 1–6. (Koichi **54** #13762 53B35

(*with* Ogitsu, Noriko) On the mean curvature for anti-holomorphic *p*-pla Kählerian spaces. *Tôhoku Math. J.* (2) **27** (1975), *no.* 3, 313–317. (Shûkichi T **57** #10625 53B35

Iwasaki, Kohzo (*with* Yoshioka, Nobuo; Matoba, Yuji) Evaluation of hierarchical clustering techniques by the criterion functions for partition. *Systems-Comput.-C* **8** (1977), *no.* 1, 17–25 (1978). (Authors' summary) **58** #18913 62H30 (68A45, 92A05)

Iwasaki, Nobuhisa A sufficient condition for the existence and the uniqueness of s solutions to boundary value problems for elliptic systems. *Publ. Res. Inst. Math.* (1975/76), *no.* 3, 559–634. (V. S. Rabinovič) **55** #10841 35J55

Iwasaki, Shiro A note on primitive extensions of rank 4 of alternating groups. *Proc. Acad.* **48** (1972), 5–8. (J. D. Dixon) **46** #1888 20B15

A characterization of $\mathrm{PSU}(3,3^2)$ as a permutation group of rank 4. *Hokkaido J.* **2** (1973), 231–235. (Henry S. Leonard, Jr.) **48** #8609 20B10

On finite permutation groups of rank 4. *J. Math. Kyoto Univ.* **13** (1973), 1–2 D. Hestenes) **50** #13215 20B20

(*with* Bannaï, Eiichi) A note on the subdegrees of finite permutation gr *Hokkaido Math. J.* **3** (1974), 95–97. (David K. Mason) **48** #8607 20B05

Primitive extensions of rank 3 of $2^n\cdot\mathrm{GL}(n,2)$. *Hokkaido Math. J.* **6** (1977), 39–45. (Kok-wee Phan) **55** #8205 20G40

On a theorem of Manning-Cameron. *Hokkaido Math. J.* **6** (1977), *no.* 2, 183 (Gareth A. Jones) **57** #426 20B15

Iwasawa, Kenkichi On some infinite Abelian extensions of algebraic number fields. *du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 391–394. *Gauthier-Villars, Paris*, 1971. (Lawrence Washington) **54** #10197 12A40 (12A

Skew-symmetric forms for number fields. *Number Theory Institute* (*Proc. Sy Pure Math., Vol. XX, State Univ. New York, Stony Brook, N.Y.*, 1969), *p.* 86. *Math. Soc., Providence, R.I.*, 1971. (E. Hornix) **48** #11050 12A55 (12A35)

★Lectures on p-adic L-functions. Annals of Mathematics Studies, No. 74. *Princeton University Press, Princeton, N.J.*; *University of Tokyo Press, Tokyo,* vii + 106 *pp.* (Yasumasa Akagawa) **50** #12974 12A70 (12B30)

On the μ-invariants of cyclotomic fields. *Acta Arith.* **21** (1972), 99–101. (J. Bro **46** #1750 12A35

On the μ-invariants of Z_1-extensions. *Number theory, algebraic geometry and commutative algebra, in honor of Yasuo Akizuki*, *pp.* 1–11. *Kinokuniya, Tokyo.* (Yasumasa Akagawa) **50** #9839 12A35

On $\mathbf{Z}_l$-extensions of algebraic number fields. *Ann. of Math.* (2) **98** (1973), 246 (John Coates) **50** #2120 12A35 (12A65)

A note on Jacobi sums. *Symposia Mathematica, Vol. XV* (*Convegno di Strutt Corpi Algebrici, INDAM, Rome*, 1973), *pp.* 447–459. *Academic Press, London,* (Yasumasa Akagawa) **52** #5620 12A35

A note on cyclotomic fields. *Invent. Math.* **36** (1976), 115–123. (Lawrence Washington) **55** #5574 12A35 (12A50)

Some remarks on Hecke characters. *Algebraic number theory* (*Kyoto Int Sympos., Res. Inst. Math. Sci., Univ. Kyoto, Kyoto*, 1976), *pp.* 99–108. *Japan Promotion Sci., Tokyo*, 1977. (Lawrence Washington) **57** #5959 12A70 (12A8

Iwase, Jiro (*with* Ibaraki, Toshihide; Ishii, Hiroaki; Hasegawa, Toshiharu; Mine, Hi

rithms for quadratic fractional programming problems. *J. Operations Res. Soc.*
n **19** (1976), *no.* 2, 174–191. (Authors' summary) **55** #9984 90C20

(*with* Ibaraki, Toshihide; Hasegawa, Toshiharu; Teranaka, Katsumi) The
iple-choice knapsack problem. (Japanese summary) *J. Operations Res. Soc. Japan*
978), *no.* 1, 59–95. (Csaba Fabian) **58** #4315 90C10

ōsei On the formula of the variance of a simplified estimator of the
riogramme for a stationary normal process. *Rep. Statist. Appl. Res. Un. Japan. Sci.*
s. **20** (1973), *no.* 4, 1–5. (G. Roussas) **49** #11740 62M10

Estimation for a stationary Gaussian process by the numbers of crossings of levels.
Statist. Appl. Res. Un. Japan. Sci. Engrs. **22** (1975), *no.* 3, 24–36. (A. Ja.
ogovcev) **55** #9463 62M99

On a property of a simplified estimator of correlogram. *Rep. Statist. Appl. Res. Un.*
n. Sci. Engrs. **23** (1976), *no.* 4, 1–9. (P. S. Knopov) **57** #4452 62M10

On the number of random sets generated by a random field. *TRU Math.* **12** (1976),
, 45–50. (Robert J. Adler) **55** #11373 60G15

eiichi (*with* Tanaka, Kensuke; Isogai, Eiichi) On a sequential procedure with
e memory for testing statistical hypotheses. *Sci. Rep. Niigata Univ. Ser. A No.* 11
4), 31–39. (Mayer Alvo) **49** #8243 62L10

(*with* Tanaka, Kensuke; Isogai, Eiichi) A sequential procedure with finite memory
some statistical problem. *Sci. Rep. Niigata Univ. Ser. A No.* 11 (1974), 41–54.
yer Alvo) **49** #8244 62L10

(*with* Tanaka, Kensuke; Inada, Kōichi) Some extensions of the two-armed bandit
lem with finite memory. II. *Tamkang J. Math.* **5** (1974), *no.* 1, 85–101. (K. S. Fu)
#2627 90D35 (62L15)

(*with* Tanaka, Kensuke; Wakuta, Kazuyoshi) On Markov games with the expected
age reward criterion. *Sci. Rep. Niigata Univ. Ser. A No.* 13 (1976), 31–41. (Jaap
sels) **53** #7512 90D15

kira (*with* Ishii, Naohiro; Suzumura, Nobuo) Identification by autoregressive
el using maximum likelihood method. (Japanese. English summary) *Bull. Nagoya*
Tech. **29** (1977), 421–428. (From the summary) **58** #26437 93E10 (62M10)

iiti Schroedinger equations soluble in terms of hypergeometric functions. *Natur.*
Rep. Ochanomizu Univ. **22** (1971), 25–31. (D. L. Colton) **46** #2093 33A30
99, 81.34)

Applications of Mellin transforms to some problems of statistical mechanics. II.
r. Sci. Rep. Ochanomizu Univ. **22** (1971), 33–38. (R. P. Srivastav) **46** #8596
4

A method of quantization and its application to the theory of action at a distance.
r. Sci. Rep. Ochanomizu Univ. **24** (1973), 69–82. (H. Wakita) **49** #4481 81.47

(*with* Wakamura, Yasuyo) Representation-free conservation laws. *Natur. Sci. Rep.*
nomizu Univ. **25** (1974), *no.* 1, 17–25. (J. D. Logan) **57** #8863 83.49

A generalization of the Euler-Maclaurin sum formula. *Natur. Sci. Rep. Ochanomizu*
. **27** (1976), *no.* 1, 27–31. (T. M. Apostol) **54** #14305 65B15 (10A20)

A generalization of Lagrange's theorem on the expansion of inverse functions.
r. Sci. Rep. Ochanomizu Univ. **28** (1977), *no.* 1, 29–33. (Author's summary)
#28365 26A57 (33A30)

(*with* Hirose, Keiko) A remark on the Kerr metric. *Natur. Sci. Rep. Ochanomizu*
. **28** (1977), *no.* 2, 57–58. (C. W. Kilmister) **57** #15226 83.53

(*with* Nagai, Noriko; Ohkawa, Yoko; Shingu, Mayumi; Yagi, Sachiko) An
rovement in the spherical approximation of an Ising spin system. *Natur. Sci. Rep.*
nomizu Univ. **28** (1977), *no.* 2, 59–66. (F. Rocca) **58** #20079 82.41

yoichi Measurement of conjectural variations in oligopoly. *Econometrica* **42**
4), 947–966. (Author's summary) **55** #14130 90A15

iroshi A property of some polynomials. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 3,
24 (1971). (I. Gerst) **45** #6790 12D05

Algebraic number fields embedded in Q_p. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 4,
28 (1972). (T. Kubota) **45** #6786 12A40

On polynomials over an algebraic number field k that map the ring of integers of k
itself. (Japanese) *Sûgaku* **24** (1972), *no.* 3, 217–220. **58** #27892 12A20

Integers of multi-quadratic fields. (Japanese) *Sûgaku* **24** (1972), *no.* 4, 312–314.
tors) **58** #27896 12A35

A certain property of the arithmetic functions $\sigma\varphi$ and $\varphi\sigma$. (Japanese) *Sûgaku* **29**
7), *no.* 1, 65–67. (T. Hayashida) **58** #16483 10A20

The length of regular continued fraction expansions of rational numbers. (Japanese)
aku **29** (1977), *no.* 1, 67–69. (S. Hitotumatu) **58** #10766 10F20 (10A30)

azuo On definite linear dependences and Gram-Taussky inequality. *Mem.*
oran Inst. Tech. **7** (1970/71), 607–612. (R. C. Thompson) **49** #335 15A45

Totally ordered linear space structures and separation theorem. *Hokkaido Math. J.*
972), 211–217. (I. Namioka) **47** #9231 46A40

Totally ordered linear space structures and separation theorem in real linear
logical spaces. *Mem. Muroran Inst. Tech.* **8** (1973/75), *no.* 1, 43–48. (I. Namioka)
#3915a 46A40

Totally ordered linear space structures and Hahn-Banach type extension theorem.
n. Muroran Inst. Tech. **8** (1973/75), *no.* 2, 429–434. (I. Namioka) **52** #3915b
40

Totally ordered linear space structures and extension theorems. *Mem. Muroran*
Tech. **8** (1973/76), *no.* 3, 737–744. (S. Kutateladze) **57** #1072a 46A40

A supplement on the paper: "Totally ordered linear space structures and extension
rems" (Mem. Muroran Inst. Tech. 8(1976), no. 3, 737–744). *Mem. Muroran Inst.*
. **9** (1976), *no.* 1, 335–341. (S. Kutateladze) **57** #1072b 46A40

eiji On the linear characters in the conjugating representation of finite groups.
Rep. Tokyo Kyoiku Daigaku Sect. A **12**, 1–6 (1973). (Larry C. Grove) **49** #397
15

On the conjugating representation of a 2-group. *Sci. Rep. Fac. Ed. Gifu Univ.*
r. Sci. **5**, 185–189 (1974). (William H. Gustafson) **50** #13229 20C15

hikō On Feuerbach's theorem in wasan. (Japanese) *Sûgakushi Kekyû No.* 42
9), 17–33. (Joong Fang) **56** #5128 01A25 (01A55)

The mathematical study of wasan. II. (Japanese) *Sûgakushi Kenkyû No.* 41 (1969),
4. **58** #21016 01A25

Generalizations of Ohara-Iwata's theorem in Wasan to the n-dimensional space.
anese. English summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **4** (1970),
243–250. (S. Watanabe) **48** #12234 50B10

(*with* Naitō, Jun) A generalization of Wilker's calculation to the n-dimensional space. (Japanese summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **4** (1970), 251–255. (S. Watanabe) **49** #3657 50B10

Generalizations of Steiner's contact circle theorem to the n-dimensional space. (Japanese summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **4** (1970/71), 349–354. (E. J. F. Primrose) **46** #4343 50B99

On Naonobu Ajima's *Renjutsu Henkan*. I, II, III. (Japanese) *Sûgakushi Kenkyû No.* 45 (1970), 1–15; *ibid. No.* 46 (1970), 1–11; *ibid. No.* 48 (1971), 43–50. **58** #21017 01A25

On a theorem connected with the contact hyperspheres. (Japanese summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **5**, 5–7 (1972). (G. Tsagas) **48** #1017 50B10

On a problem of closure connected with the n-dimensional torus. (Japanese summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **5**, 8–10 (1972). (S. Watanabe) **49** #7898 50B10 (01A25)

(*with* Naitō, Jun) On the problem of closure in wasan. I, II. (Japanese) *Sûgakushi Kenkyû No.* 54 (1972), 4–23; *ibid. No.* 55 (1972), 1–17. **58** #21015 01A25

(*with* Naitō, Jun) Relations between the radii of successibly tangent hyperspheres touching a hyperellipsoid. (Japanese summary) *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **5**, 121–130 (1973). (K. Strubecker) **48** #12236 50B10

Generalizations of Pappus's tangent circle theorem to the n-dimensional space. *Bull. Gifu College Ed. No.* 1 (1974), 55–58. (S. Watanabe) **51** #6551 50B10

A way to revitalize wasan. (Japanese. English summary) *Sûgakushi Kenkyû No.* 63 (1974), 19–30. **58** #26734 01A25

On the problem of Genkosui (Torus) in Wasan. (Japanese) *Sûgakushi Kenkyû No.* 72 (1977), 1–15. (Joong Fang) **58** #33 01A25

Iwatani, Teruo On a S. S. Chern, M. do Carmo, S. Kobayashi theorem. *Kumamoto J. Sci.* (*Math.*) **9** (1972/73), 117–121. (Bang-yen Chen) **50** #3157 53C40

Kähler submanifolds with vanishing Bochner curvature tensor. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 2, 319–321. (K. Nomizu) **54** #6045 53C55

A note on nearly Kähler manifolds. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 43–48. (A. Gray) **53** #14341a 53B35

A note on nearly Kähler manifolds. II. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 49–53. (A. Gray) **53** #14341b 53B35

On Kähler manifolds with constant scalar curvature. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 2, 313–317. (K. Nomizu) **54** #6044 53C55

Iwazumi, Tetsuo (*with* Koga, Ryuji) Optimal feedback control of a nuclear reactor as a distributed parameter system. *J. Nuclear Sci. and Tech.* **10** (1973), 674–684. (Marshall Slemrod) **51** #14844 82.49

Iwiński, T. (*with* Skwarczyński, Maciej) The convergence of Bergman functions for a decreasing sequence of domains. *Approximation theory* (*Proc. Conf., Inst. Math., Adam Mickiewicz Univ., Poznań*, 1972), *pp.* 117–120. *Reidel, Dordrecht*, 1975. (I. P. Ramadanov) **56** #8828 30A31

Iwiński, T. B. Some remarks on Toeplitz methods and continuity. *Comment. Math. Prace Mat.* **16** (1972), 37–43. (F. P. Cass) **48** #759 40G99

Iwiński, Z. (*with* Białynicki-Birula, Iwo) Canonical formulation of relativistic hydrodynamics. *Rep. Mathematical Phys.* **4** (1973), 139–151. (A. H. Taub) **48** #3430 83.53 (76.53)

Ixaru, L. Gr. A new method for solving inhomogeneous second order differential equations. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 199–203. (H. Shintani) **49** #10150 65L05

(*with* Adam, Gh.) Zeroth order approximation of a step function perturbative numerical method for the solution of the Schrödinger equation. (French summary) *Rev. Roumaine Phys.* **20** (1975), *no.* 1, 17–28. (J. S. Shipman) **54** #6507 65L05

(*with* Adam, Gh.; Corciovei, A.) A first-order perturbative numerical method for the solution of the radial Schrödinger equation. *J. Computational Phys.* **22** (1976), *no.* 1, 1–33. (Authors' summary) **56** #10630 81.65

(*with* Adam, Gh.) An interpolation scheme for the numerical solution of one-dimensional Schrödinger equation. (French summary) *Rev. Roumaine Phys.* **21** (1976), *no.* 2, 187–197. (John P. Coleman) **54** #9499 81.65

Iyahen, S. O. A note on separable locally bounded spaces. *Nigerian J. Sci.* **3** (1969), 95–96. (Bor-Luh Lin) **49** #3488 46A15

Bounded generators in linear topological spaces. *Glasgow Math. J.* **12** (1971), 105–109. (D. R. Henney) **47** #760 46A15

On the closed graph theorem. *Israel J. Math.* **10** (1971), 96–105. (J. W. Baker) **46** #638 46A30

A note on the closed-graph theorem for topological groups. *Nigerian J. Sci.* **5** (1971), *no.* 1, 101–106. (J. W. Baker) **46** #7842 46A30 (22A99)

A note on the filter condition. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 271–274. (T. L. Hicks) **47** #7373 46A15

Corrigendum: "On certain classes of linear topological spaces. II". *J. London Math. Soc.* (2) **5** (1972), 740. (R. A. Raimi) **47** #750 46A05

The domain space in a closed graph theorem. II. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 39–46. (T. L. Hicks) **47** #3938 46A30

(*with* Popoola, J. O.) A generalized inductive limit topology for linear spaces. *Glasgow Math. J.* **14** (1973), 105–110. (D. J. H. Garling) **48** #9329 46A15

Finite-dimensional locally bounded spaces. *J. London Math. Soc.* (2) **6** (1973), 488–490. (W. H. Ruckle) **47** #3936 46A10

Linear topological spaces with fundamental sequences of compact sets. *Math. Ann.* **200** (1973), 179–183. (H. Buchwalter) **48** #11973 46A15

A completeness theorem. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 681–687. (V. K. Balakrishnan) **48** #6866 46A07

Barrelled spaces and the open mapping theorem. *J. London Math. Soc.* (2) **11** (1975), *no.* 4, 421–422. (J. W. Baker) **52** #6367 46A30

A closed graph theorem. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 165–166. (Author's summary) **56** #1012 46A30

Iyanaga, Kenichi Arithmetic of Hermitian forms and related forms. *J. Number Theory* **4** (1972), 573–586. (M. Eichler) **47** #4930 10C05 (12A25)

Cusps of certain symmetric bounded domains. *J. Math. Soc. Japan* **26** (1974), 735–769. (K.-B. Gundlach) **52** #6046 32N15

See also **Theory of numbers, 56** #2953

Iyanaga, Manabu Invariant variation and covariant differentiation. *Math. Rep. Kyushu Univ.* **10** (1975/76), *no.* 2, 131–148. (K. L. Duggal) **57** #17683 58A15

Iyanaga, Shôkichi Taira Honda (1932–1975). *Osaka J. Math.* **12** (1975), *no.* 2, i–iv. (Editors) **52** #22 01A70

See also **Collected papers: Takagi, Teiji, 51** #2850; **Algebraic number theory, 56** #300 *and* **Theory of numbers, 56** #2953

Iyengar, H. R. Krishna Homomorphisms of ω-regular and I-regular semigroups. *Math. Japon.* **17** (1972), 85–103. (D. B. McAlister) **48** #6291 20M10

Semilattice of bisimple inverse semigroups. *Quart. J. Math. Oxford Ser.* (2) **23** (1972), 299–318. (T. Tamura) **47** #6905 20M10

Iyengar, R. Narayana (*with* Athreya, Krishna B.) A diffusion process approach to a random eigenvalue problem. *J. Indian Inst. Sci.* **57** (1975), *no.* 5, 185–191. (Ludwig Arnold) **55** #9265 60H10

Iyengar, Satteluri R. K. (*with* Jain, M. K.) Higher order difference formulae for the numerical solution of the heat conduction equation. *J. Inst. Math. Appl.* **13** (1974), 147–151. (Samuel Levy) **49** #8521 80.65

(*with* Jain, M. K.) The stability of modified predictor-corrector methods. *J. Mathematical and Physical Sci.* **8** (1974), 319–325. (Abbas I. Abdel Karim) **55** #4684 65L05

Stability of generalized predictor corrector methods. *J. Mathematical and Physical Sci.* **9** (1975), 106–110. (J. C. Butcher) **50** #11785 65L05

(*with* Rao, C. Prabhakara) A note on optimal stiffly stable methods for ordinary differential equations. *J. Mathematical and Physical Sci.* **9** (1975), 177–184. (W. H. Enright) **50** #11792 65L99

(*with* Jain, M. K.) Comparative study of two and three level ADI methods for parabolic equations with a mixed derivative. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 6, 1309–1315. (Sean McKee) **56** #7229 65M05

(*with* Jain, M. K.; Lone, A. G.) Higher order difference formulas for a fourth order parabolic partial differential equation. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 6, 1357–1367. (Alfred R. Mitchell) **56** #4189 65N05

(*with* Rao, C. Prabhakara) High order numerical differentiation type formulas with an off-step point for stiff ordinary differential equations. *J. Inst. Math. Appl.* **17** (1976), *no.* 3, 281–293. (A. Coţiu) **58** #8282 65L05

(*with* Rao, C. Prabhakara) Numerical differentiation type formulas of higher order with an arbitrary number of offstep points. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 4, 307–318. (A. Coţiu) **57** #18033 65D25 (65L05)

(*with* Rao, C. Prabhakara) A note on generalized multistep methods for special second order ordinary differential equations. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 5, 457–460. (A. Coţiu) **57** #18108 65L05

(*with* Jain, M. K.; Saldanha, J. S. V.) Numerical solution of a fourth-order ordinary differential equation. *J. Engrg. Math.* **11** (1977), *no.* 4, 373–380. (Authors' summary) **56** #10017 65L05

(*with* Jain, M. K.; Lone, A. G.) Multilevel ADI methods for parabolic partial differential equations. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 5, 471–481. (A. R. Mitchell) **57** #14532 65P05

Iyengar, V. (*with* Mohan, K.) Homogeneous non-static solutions of Einstein-Maxwell field-equations for an isotropic space-time. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **32** (1967), 33–36 (1971). (R. I. Pimenov) **46** #3035 83.35

(*with* Kuppuswamy Rao, K.) Electromagnetic field in decomposable space-time. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **33** (1968), 39–43 (1971). (Cecil B. Mast) **46** #10364 83.53

A generalisation of Einstein connexions. *Proc. Nat. Acad. Sci. India Sect. A* **42** (1972), 241–246. (R. I. Pimenov) **50** #12122 83.53

Iyer, B. R. (*with* Kumar, Arvind) Green's functions for spin half field theory in Rindler space. *Pramāṇa* **9** (1977), *no.* 5, 441–456. (Authors' summary) **57** #4957 83.35

Iyer, Muthulakshmi R. A recurrence relation for $\int_0^1[\log\,(1-x^2)]^{r+1}/(1-x^2)^{1/2}\,dx$. *Math. Student* **41** (1973), 155–156. (V. A. Popov) **48** #8902 33A70

krishna Iyer, P. V. *See* **Krishna Iyer, P. V.**

Iyer, R. R. (*with* Miele, Angelo; Naqvi, S.; Levy, A. V.) Numerical solution of nonlinear equations and nonlinear, two-point boundary-value problems. *Advances in control systems: theory and applications, Vol.* 8, *pp.* 189–215. *Academic Press, New York*, 1971. (See RŽMat **1974** #1 B712; MR **49** #2209) 93A99

(*with* Miele, Angelo; Levy, A. V.; Well, K. H.) Modified quasilinearization method for mathematical programming problems and optimal control problems. *Control and dynamic systems: advances in theory and applications, Vol.* 9, *pp.* 239–308. *Academic Press, New York*, 1973. (W. W. Breckner) **51** #7633 90C30 (65K05)

ganapathy Iyer, V. *See* **Ganapathy Iyer, V.**

Ĭygi, A. *See* **Jõgi, A.**

Izaak, D. F. On the proof of the Pohlke-Schwartz theorem. (Russian) *Orsk. Gos. Ped. Inst. Učen. Zap. Vyp.* 5 *Kaf Mat.* (1963), 55–59. (M. Decuyper) **54** #8424 50B10

Izatullaev, N. Some spectral questions about a linear operator equation with various operators that depend on polynomials with respect to the parameter. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No. No.* 235 *Voprosy Algebry, Teorii Čisel, Differencial. i Integral. Uravnenii̮* (1973), 42–47. (Not reviewed) 47A50 (45E99, 46H99)

A nonlinear abstract singular operator equation in a normed ring with identity. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No. No.* 235 *Voprosy Algebry, Teorii Čisel, Differencial. i Integral. Uravnenii̮* (1973), 47–52. (Not reviewed) 47H15 (46H99, 47A50)

A certain singular operator equation with additive operators and various parameters. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 2, 7–11, 92. (P. P. Zabreĭko) **49** #11288 47A50 (46H05)

Izawa, Kimio (*with* Kasami, Tadao; Fujii, Mamoru; Takeuchi, Hajime) Equivalence problems of serial program schemata. *Systems-Computers-Controls* **1** (1970), *no.* 6, 46–55 (1971). (H. Taylor) **46** #1506 94A30 (68A05)

Determinacy problem of parallel program schemata with memory protection mechanism. *Systems-Computers-Controls* **4** (1973), *no.* 2, 42–51. (A. D. Booth) **49** #1821 68A05

On the undecidability of repetition-free parallel program schemata. *Systems-Computers-Controls* **4** (1973), *no.* 2, 52–60. (A. D. Booth) **49** #1822 68A05

On optimal multiprogramming for computation centers having many users. *Information Processing in Japan* **15** (1975), 11–15. (Menachem Dishon) **53** #153 90B35 (68A99)

An analysis of dynamic relocation. *Information Processing in Japan* **15** (1 147–151. (B. Dimitrov) **55** #7361 90B35 (60K25)

Izawa, Tatsuo A module whose double centralizer is semi-primary QF-3. *Rep. Fac. Shizuoka Univ.* **10** (1975), 3–8. (K. R. Fuller) **54** #10325 16A36

Torsion theories and torsionless generators. *Rep. Fac. Sci. Shizuoka Univ* (1976), 1–8 (1977). (H. L. Hullinger) **58** #28136 18E40 (16A62)

Injectors and projectors relative to torsion theories. *Rep. Fac. Sci. Shizuoka U* **12** (1978), 19–26. (Darrell R. Turnidge) **58** #5851 18E40 (16A50)

Izbicki, Herbert Eine Verallgemeinerung der Färbungszahlen. I. *Monatsh. Math.* **77** (1 105–112. (G. Laman) **49** #4837 05C15

Eine Verallgemeinerung der Färbungszahlen. II. *Monatsh. Math.* **77** (1973), 319–329. (Rudolf Halin) **50** #4367 05C15

Marked graphs with generalized firing rule. *Recent advances in graph theory* (*Second Czechoslovak Sympos., Prague*, 1974), *pp.* 307–310. *Academia, Prague*, 1975. P. Geller) **53** #12766 94A20 (05C20)

(*with* Imrich, Wilfried) Associative products of graphs. *Monatsh. Math.* **80** (1 *no.* 4, 277–281. (László Lovász) **53** #7864 05C99

Izé, A. F. Linear functional differential equations of neutral type asymptotically autonomous. *Ann. Mat. Pura Appl.* (4) **96** (1972), 21–39. (C. H. Anderson) **49** #32 34K20

Asymptotic integration of nonlinear systems of ordinary differential equations. *Soc. Brasil. Mat.* **4** (1973), *no.* 1, 61–80. (R. E. O'Malley, Jr.) **50** #5105 34D05

Erratum: "Linear functional differential equations of neutral type asymptotic autonomous" (Ann. Mat. Pura Appl. (4) **96** (1972), 21–39). *Ann. Mat. Pura Appl.* **101** (1974), 383. (Not reviewed) 34K05

(*with* Carvalho, L. A. V.) Extension of Ważewski's topological method to integro-differential equations. *An. Acad. Brasil. Ci.* **47** (1975), *no.* 2, 177–181. (J. Cushing) **54** #5580 34K15 (45J05)

(*with* de Molfetta, N. A.) Asymptotically autonomous neutral functional differen equations with time-dependent lag. *J. Math. Anal. Appl.* **51** (1975), *no.* 2, 299–325. D. Driver) **53** #6056 34K20

(*with* Freiria, A. A.) Asymptotic behavior and nonoscillation of Volterra inte equations and functional differential equations. *Proc. Amer. Math. Soc.* **52** (19 169–177. (D. Ramakrishna Rao) **51** #13406 34K15 (45M10)

(*with* de Molfetta, N. A.) Asymptotically autonomous neutral functional differen equations with time-dependent lag. *Dynamical systems* (*Proc. Internat. Sympos., Br Univ., Providence, R.I.*, 1974), *Vol. II*, *pp.* 127–132. *Academic Press, New York*, 1 (Editors) **58** #29027 34K25

(*with* Lopes, Orlando) Functional differential equations. *Functional analysis* (*P Brazilian Math. Soc. Sympos., Inst. Mat. Univ. Estad. Campinas, São Paulo*, 1974). 191–214. *Lecture Notes in Pure and Appl. Math.*, 18. *Dekker, New York*, 1976. (Edit **58** #28985 34K05 (92A05)

(*with* Freiria, A. A.) Asymptotic behavior and non oscillation of Volterra inte equations. *An. Acad. Brasil. Ci.* **48** (1976), *no.* 1, 31–32. (G. S. Jordan) **55** #872 45M05

(*with* dos Reis, J. G.) Contributions to stability of neutral functional differen equations. *J. Differential Equations* **29** (1978), *no.* 1, 58–65. (R. E. Fennell) **58** #17 34K20

Ize, Jorge Bifurcation theory for Fredholm operators. *Mem. Amer. Math. Soc.* **7** (19 *no.* 174, viii + 128 *pp.* (Norman Dancer) **54** #13649 47H15 (58E99)

Izenman, Alan Julian Reduced-rank regression for the multivariate linear model. *Multivariate Anal.* **5** (1975), 248–264. (Peter M. Robinson) **51** #9381 62J05 (62H

On the extremal quotient from a gamma sample. *Biometrika* **63** (1976), *no* 185–190. (J. Pickands, III) **53** #9451 62E15

Izjumova, D. V. Oscillatory solutions of second order nonlinear differential inequali (Russian. Georgian summary) *Studies of certain equations of mathematical physics, N* (*Russian*), *pp.* 17–22. *Izdat. Tbilis. Univ., Tbilisi*, 1972. (A. D. Ziebur) **50** #1372 34C10 (34A40)

On the question of the oscillation of the solutions of nonlinear second o differential inequalities and equations. (Russian. Georgian summary) *Studies of s equations of mathematical physics, No.* 3 (*Russian*), *pp.* 63–70. *Izdat. Tbilis. Univ., Tb* 1976. (RŽMat **1977** #8 B183) **58** #28843 34C10

(*with* Mirzov, D. D.) The oscillation and the disconjugacy of the solutions nonlinear differential systems. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no* 1187–1193, 1340. (J. W. Macki) **55** #8471 34C10

Izmaĭlov, A. D. Separability of the Sturm-Liouville operator. (Russian) *Theoretical applied problems in mathematics and mechanics* (*Russian*), *pp.* 153–159, 311. *Na Kazah. SSR, Alma-Ata*, 1977. (Author's summary) **58** #28807 34B25

Izmaĭlov, A. L. (*with* Otelbaev, M. O.) Summability with weight of the solution differential equation in an unbounded domain. (Russian. Kazakh summary) *Izv. A Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 1, 36–40, 90. (Stefan Balint) **56** #600 34B25

The separability of a Sturm-Liouville operator with an operator potential. (Russ Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 5, 40-44. (I. Kiguradze) **58** #22747 34B25 (47E05)

Izmaĭlov, I. I. (*with* Abutaliev, F. B.; Rahimova, M. H.) Numerical solution of a two-dimensional equation of diffusion and mass transfer. (Russian) *Voprosy Vyči Prikl. Mat.* (*Tashkent*) *No.* 47 (1977), 100–106, 164. (Authors' summary) **58** #143 76.65

Izmaĭlov, V. D. Kinematic problems of surface theory. (Russian) *Ukrain. Geometr. Sb.* 7 (1969), 55–61, 184 (1970). (Froim Marcus) **49** #1338 53A15

The affine invariant frame of a space curve. (Russian) *Sverdlovsk. Gos. Ped. Učen. Zap. Sb.* 125 *Mat. No.* 4 (1971), 38–43. (H. W. Guggenheimer) **52** #152 53A15

Izmaĭlova, T. S. Special classes of line congruences in ${}^{l}S_5$. (Russian) *Moskov. Inst. Železnodorož. Transporta Trudy No.* 391 (1971), 158–166. (M. Kucharzewski) **49** #7 53A35

I. S. The asymptotic stability of sets in dispersive dynamical systems. (Russian)
erencial'nye Uravnenija **7** (1971), 615–621. (G. Niculescu) **45** #4387 54H20
35)

, A. A. (*with* Volkov, A. M.; Skrockiĭ, G. V.) The propagation of electromagnetic
es in a Riemannian space. *Ž. Èksper. Teoret. Fiz.* **59** (1970), 1254–1261 (*Russian.*
ish summary); *translated as Soviet Phys. JETP* **32** (1971), 686–689. (Authors'
nary) **51** #14757 78.53

N. A. The highest exponent of a system with perturbations of order higher than
(Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1969**, *no.* 3, 6–9. (H. I. Freedman)
8950 34D10

Cases of sharpening and the attainability of an estimate of the highest exponent in
method of freezing. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1179–1191,
–1340. (I. Kiguradze) **45** #2276 34D05

The canonical form of a linear two-dimensional system with variable coefficients.
sian) *Differencial'nye Uravnenija* **7** (1971), 2136–2142. (B. S. Popov) **45** #625
30

A coefficient criterion for the stability of the Ljapunov exponents of a
dimensional linear system. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 306–315. (M.
lý) **46** #5769 34D20

A generalized Euler method for the integration of a linear system with variable
ficients. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1001–1018, 1162. (C.
mescu) **49** #9303 34A30

Linear systems of ordinary differential equations. (Russian) *Mathematical analysis,*
12 (*Russian*), *pp.* 71–146, 468. (*loose errata*) *Akad. Nauk SSSR Vsesojuz. Inst.*
Čn. i Tehn. Informacii, Moscow, 1974. (P. Talpalaru) **53** #5973 34A30 (34D05)

Half periods of the solutions of two-dimensional linear systems. (Russian)
erencial'nye Uravnenija **11** (1975), *no.* 5, 782–797, 946. (F. Neuman) **52** #850
30

(*with* Erugin, N. P.; Bogdanov, Ju. S.) Boris Pavlovič Demidovič (on the occasion
is seventieth birthday). (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 6,
–1138. (Editors) **54** #9934 01A70

The minimal exponent of a two-dimensional diagonal system. (Russian)
erencial'nye Uravnenija **12** (1976), *no.* 11, 1954–1966, 2107. (Wolfgang Hahn)
8488 34D10

The minimal exponent of a two-dimensional linear differential system. (Russian)
erencial'nye Uravnenija **13** (1977), *no.* 5, 848–858, 964. (I. Kiguradze) **58** #1417
05

The absence of real multipliers for an *n*-dimensional periodic system of order
2. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 9, 1581–1587, 1731–1732.
hor's summary) **57** #10089 34C10 (34D20)

(*with* Erugin, N. P.; Bogdanov, Ju. S.; Makarov, I. P.; Sibirskiĭ, K. S.) Boris
ovič Demidovič. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 12,
–2283. (Editors) **58** #16022 01A70

The extension of the Ljapunov integral criterion to second order two-dimensional
odic systems. (Russian) *Mat. Zametki* **21** (1977), *no.* 6, 817–827. (C. S. Coleman)
10062 34A30 (34C10)

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969
Proceedings: Republican Conference of Belorussian Mathematicians, **48** #3669

V. (*with* Bovbel', E. I.; Daneĭko, I. K.) ★Элементы теории информации.
ssian) [Elements of information theory] *Izdat. Beloruss. Gosudarstv. Univ., Minsk*,
. 112 *pp.* (Editors) **52** #5175 94–01

(*with* Bovbel', E. I.; Šmidov, I. Ju.) The difference between an analytic response of
ordinated filter and Woodward's indeterminacy function. (Russian) *Vestnik*
russ. Gos. Univ. Ser. I **1974**, *no.* 1, 81–85, 90. (Authors' summary) **51** #2749
05

(*with* Sergeev, A. V.) The discretization of wave fields given in a circle. (Russian)
ĭ Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk **1975**, *no.* 2, 77–82, 141. (V. P.
ntiev) **52** #16297 78.65

F. M. (*with* Antipov, M. V.; Čirikov, B. V.) Statistical testing of a pseudo-random
ber generator. (Russian) *Vyčisl. Sistemy No.* 30 (1968), 77–85. (I. Văduva)
4586 65C10

(*with* Čirikov, B. V.) Some numerical experiments with a nonlinear mapping:
hastic component. (French summary) *Transformations ponctuelles et leurs*
ications (*Colloq. Internat. CNRS, No.* 229, *Toulouse*, 1973), *pp.* 409–428. *Éditions*
tre Nat. Recherche Sci., Paris, 1976. (J. S. Joel) **57** #13066 34C35 (58F15)

č, A. Ja. (*with* Borisovič, Ju. G.; Muhamadiev, È. M.) ★Вращение векторных
ей в конечномерных пространствах. (Russian) [Rotation of vector fields in
e-dimensional spaces] *Vorenež. Gosudarstv. Univ., Voronezh*, 1968. 50 *pp.* (L.
inš) **54** #11348 57D25 (55C20)

č, I. A. The index of a linear semifree periodic mapping. (Russian) *Voronež. Gos.*
. Trudy Mat. Fak. Vyp. 6 (1972), 27–32. (A. Miščenko (RŽMat **1973** #4 A705))
13289 58F20 (57D25)

č, Ja. A. (*with* Muhamadiev, È. M.) On the theory of periodic mappings of
eres. (Russian) *Seventh Mathematical Summer School* (*Kaciveli*, 1969), *pp.* 295–305.
nie Mat. Akad. Nauk Ukrain. SSr, Kiev, 1970. (L. Górniewicz) **51** #11484
35

The Lefschetz number of a mapping that commutes with a periodic one. (Russian)
onež. Gos. Univ. Trudy Mat. Fak. Vyp. 4 (1970), 49–54. (A. V. Zarelua) **54** #1205
35

(*with* Obuhovskiĭ, V. V.) Equivariant multivalued mappings. (Russian) *Dokl. Akad.*
k SSSR **205** (1972), 16–18. (L. Górniewicz) **46** #4525 55C35

The index of a semi-free periodic mapping. (Russian) *Mat. Zametki* **13** (1973),
86. (J. W. Jaworowski) **48** #3037 55C35

(*with* Borisovič, Ju. G.) Computation of the degree of equivariant mappings of
eres by the spectral sequence method. (Russian) *Voronež. Gos. Univ. Trudy Mat.*
. Vyp. 10 (1973), 1–12. (Editors) **57** #7581 55C35 (55C25)

(*with* Obuhovskiĭ, V. V.) Certain topological characteristics of equivariant
y-valued mappings. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 10 (1973),
61. (Editors) **57** #7656 58C99

The properties of the index of a periodic mapping. (Russian) *Voronež. Gos. Univ.*
dy Naučn.-Issled. Inst. Mat. VGU Vyp. 7 (1973), 41–44. (E. Skljarenko (RŽMat **1974**
#7 A699)) **57** #7580 55C25

Computation of the degree of an equivariant mapping by the method of spectral sequences. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 12 *Sb. Rabot po Nelineĭnym Operator. Uravn. i Primenen.* (1974), 22–25. (Gencho Skordev) **57** #13928 55C25

(*with* Šolohov, E. I.) A simplex method for minimizing a function of several variables. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 19 (1975), 76–83. (J. Abrham) **57** #5109 90C30

(*with* Borisovič, Ju. G.; Ščelokova, T. N.) On the method of A. Borel's spectral sequence in the theory of equivariant mappings. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1(193), 161–162. (Gencho Skordev) **55** #13409 55C25 (57F99)

Izraĭlevič, V. L. Some questions on the theory of connections in fibered manifolds. (Russian) *Studies in algebra, No.* 3 (*Russian*), *pp.* 20–24, 79. *Izdat. Saratov. Univ., Saratov*, 1973. (D. I. Papuc) **49** #3723 53B15

The geometric theory of second order partial differential equations. (Russian) *Differential geometry, No.* 1 (*Russian*), *pp.* 41–50, 136. *Izdat. Saratov. Univ., Saratov*, 1974. (P. Ver Eecke) **54** #3739 58A20

Connections in doubly fibred manifolds. (Russian) *Differential geometry, No.* 2 (*Russian*), *pp.* 41–59, 117. *Izdat. Saratov. Univ., Saratov*, 1975. (D. I. Papuc) **55** #4025 53C05

Izrailova, M. M. (*with* Subhankulov, M. A.) Tauberian theorems with a remainder term for double Laplace and Laplace-Stieltjes integrals. (Russian) *Dušanbin. Gos. Ped. Inst. Učen. Zap.* **53** (1966), *Ser. Mat. no.* 5, 77–104. (See RŽMat **1968** #2 B15) 40E05

(*with* Subhankulov, M. A.; Ljubimova, L. S.) Approximation by Poisson integrals of the partial sums of multiple conjugate Fourier series of functions whose measure of continuity is prescribed in the mean. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **15** (1972), *no.* 1, 12–16. (R. L. Cooke) **45** #7389 42A92 (42A40)

(*with* Subhankulov, M. A.) One-sided L_1-approximation of functions of several variables by polynomials, and its application in Tauberian theory. (Russian) *Tadžik. Gos. Univ. Trudy Meh.-Mat. Fak. Vyp.* 2 (1972), 50–67. (E. Reimers) **53** #13935 41A10 (40E05)

(*with* Subhankulov, M. A.; Ljubimova, L. S.) Approximation, by Poisson integrals, of the partial sums of multiple conjugate Fourier series of functions whose measure of continuity is given in the mean. (Russian) *Tadžik. Gos. Univ. Trudy Meh.-Mat. Fak. Vyp.* 2 (1972), 68–92. (R. L. Cooke) **53** #11302 42A92

(*with* Subhankulov, M. A.; Ljubimova, L. S.) The rate of convergence of multiple Fourier series and conjugate series of a certain class of functions. (Russian) *Mathematics and the methodology of its teaching, Part II* (*Russian*), 62–90. *Tadžik. Gos. Univ., Dushanbe*, 1974. (From the text) **58** #29823 42A92

(*with* Subhankulov, M. A.) A theorem of Fatou type for multiple power series whose coefficients are given in a certain vector space. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 1, 8–11. (L. Gogoladze) **57** #3740 42A92

(*with* Subhankulov, M. A.) A theorem of Fatou type for multiple power series, and the rate of convergence of multiple conjugate trigonometric series for functions of the class $H^{\alpha\beta}$. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 2, 14–17. (L. Gogoladze) **57** #3741 42A92

Izuchi, K. On a certain *L*-ideal of the measure algebra. *Colloq. Math.* **35** (1976), *no.* 1, 113–118. (D. E. Ramirez) **53** #6235 43A10

Izuchi, Keiji (*with* Jimbo, Toshiya; Tsurumi, Kazuyuki) Continuity of *H*-derivations on commutative Banach algebras. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **11**, 6–9 (1971). (B. E. Johnson) **46** #4203 46J05

On a zero set of Gelfand transforms of *L*-ideals of measure algebras. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **11**, 227–230 (1972). (Colin C. Graham) **46** #9641 43A10

(*with* Shimizu, Tetsuhiro) Topologies on groups and a certain *L*-ideal of measure algebras. *Tôhoku Math. J.* (2) **25** (1973), 53–60. (J. H. Williamson) **52** #6322 43A10

Sidon sets and small M_0-sets. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12** 146–148 (1974). (Ron C. Blei) **51** #8749 43A46

On a problem of J. L. Taylor. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 347–352. (R. A. Hirschfeld) **52** #3880 43A10

A remark on a certain measure in Rad $L^1(G)$. (Japanese summary) *Rep. Fac. Engrg. Kanagawa Univ. No.* 14 (1976), 1–2. (Colin C. Graham) **56** #6281 43A10

The structure of *L*-ideals of measure algebras. *Studia Math.* **59** (1976/77), *no.* 2, 125–131. (*loose erratum*) (Pak S. Chow) **56** #3571 43A10

(*with* Shimizu, Chikahiro) On measures with countable spectra. (Japanese) Approxmation theory in functional analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 265 (1976), 1–9. (Satoru Igari) **58** #2017 43A10

Sidon sets and Fourier-Stieltjes transforms of some prime *L*-ideals. *Math. Scand.* **40** (1977), *no.* 1, 46–50. (Colin C. Graham) **56** #3574 43A46

Group algebras in a measure algebra. (Japanese summary) *Rep. Fac. Engrg. Kanagawa Univ. No.* 15 (1977), 1–3. (J. H. Williamson) **56** #12769 43A10

Cluster points of the characters in the maximal ideal space of the measure algebra. (Japanese summary) *Rep. Fac. Engrg. Kanagawa Univ. No.* 16 (1978), 1–3. (Colin C. Graham) **58** #12190 43A10

Izuchi, Yuko Rational approximation with $C(\partial K)=R(\partial K)$. *Hokkaido Math. J.* **5** (1976), *no.* 1, 71–80. (T. W. Gamelin) **55** #3793 46J15 (30A82)

Izumi, Hideo On **P*-Finsler spaces. I. *Mem. Defense Acad.* **16** (1976), *no.* 4, 133–138. (H. Rund) **58** #2629a 53B40

On **P*-Finsler spaces. II. *Mem. Defense Acad.* **17** (1977), *no.* 1, 1–9. (H. Rund) **58** #2629b 53B40

Conformal transformations of Finsler spaces. I. Concircular transformations of a curve with Finsler metric. *Tensor* (*N.S.*) **31** (1977), *no.* 1, 33–41. (H. Rund) **57** #1330 53B40

Izumi, Hisao On quasi-primality of submodules and of ideals in rings. *Proc. Japan Acad.* **48** (1972), 661–664. (Anthony E. Hoffman) **48** #4046 16A64

Izumi, Masako (*with* Izumi, Shin-ichi) Lipschitz classes and Fourier coefficients. *J. Math. Mech.* **18** (1968/69), 857–870. (K. Oskolkov (RŽMat **1970** #3 B142)) **49** #11128 42A32 (*with* Izumi, Shin-ichi) Absolute Nörlund summability factor of Fourier series. *Indian J. Math.* **12** (1970), 175–188. (B. D. Malviya) **46** #4092 42A28

(*with* Izumi, Shin-ichi) Integrability of trigonometric series. III. *Bull. Austral. Math. Soc.* **5** (1971), 205–219. (G. Sunouchi) **47** #2252 42A16 (42A28)

(*with* Izumi, Shin-ichi) Integrability of trigonometric series. II. *Pacific J. Math.* **42** (1972), 359–367. (G. Sunouchi) **47** #2251 42A16 (42A28)

(*with* Izumi, Shin-ichi) Divergence of Fourier series. *Bull. Austral. Math. Soc.* **8** (1973), 289–304. (Authors' summary) **56** #3545 (E **56** #3546) (E **56** #3547) 42A20

(*with* Izumi, Shin-ichi) Corrigendum: "Divergence of Fourier series" (Bull. Austral. Math. Soc. **8** (1973), 289–304). *Bull. Austral. Math. Soc.* **9** (1973), 319–320. **56** #3546 42A20

(*with* Izumi, Shin-ichi) Uniform convergence and everywhere convergence of Fourier series. I, II. *Bull. Austral. Math. Soc.* **9** (1973), 321–335; *ibid.* **9** (1973), 337–342. (G. Sunouchi) **49** #9520 42A20

(*with* Izumi, Shin-ichi) Formal multiplication of trigonometric series. Collection of articles dedicated to the memory of Hanna Neumann, I. *J. Austral. Math. Soc.* **16** (1973), 70–77. (F. C. Hsiang) **48** #4605 42A16

(*with* Izumi, Shin-ichi) Corrigenda, II: "Divergence of Fourier series" (Bull. Austral. Math. Soc. **8** (1973), 289–304). *Bull. Austral. Math. Soc.* **10** (1974), 152–160. (Authors' summary) **56** #3547 42A20

(*with* Ishihara, Tadashige) Variation and stability of reverberations in threshold systems. *Math. Japon.* **19** (1974), *no.* 3, 357–369. (Alwyn C. Scott) **53** #2533 94A20 (92A05)

(*with* Ishihara, Tadashige) Graph theoretical approach to threshold systems. *Math. Japon.* **19** (1974), *no.* 3, 371–380. (Alwyn C. Scott) **53** #2534 94A20 (92A05)

(*with* Sato, Shunsuke; Kobayashi, Kingo) A self-dual network derived from a single neuronic equation. *Biol. Cybernet.* **18** (1975), *no.* 3-4, 209–215. (K. P. Hadeler) **58** #26145 92A05

(*with* Izumi, Shin-ichi) On the Riemann zeta-function. I. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 2, 161–211. (Ernst Heppner) **55** #2798 10H05

Izumi, Shin-ichi (*with* Izumi, Masako) Lipschitz classes and Fourier coefficients. *J. Math. Mech.* **18** (1968/69), 857–870. (K. Oskolkov (RŽMat **1970** #3 B142)) **49** #11128 42A32

(*with* Izumi, Masako) Absolute Nörlund summability factor of Fourier series. *Indian J. Math.* **12** (1970), 175–188. (B. D. Malviya) **46** #4092 42A28

★Some topics on the summability and absolute summability of Fourier series. Seminaire d'Analyse Moderne, No. 8. *Département de Mathématiques, Université de Sherbrooke, Sherbrooke, Que.*, 1971. iii + 103*pp.* (Editors) **57** #1003 42A24

(*with* Izumi, Masako) Integrability of trigonometric series. III. *Bull. Austral. Math. Soc.* **5** (1971), 205–219. (G. Sunouchi) **47** #2252 42A16 (42A28)

(*with* Izumi, Masako) Integrability of trigonometric series. II. *Pacific J. Math.* **42** (1972), 359–367. (G. Sunouchi) **47** #2251 42A16 (42A28)

(*with* Izumi, Masako) Divergence of Fourier series. *Bull. Austral. Math. Soc.* **8** (1973), 289–304. (Authors' summary) **56** #3545 (E **56** #3546) (E **56** #3547) 42A20

(*with* Izumi, Masako) Corrigendum; "Divergence of Fourier series" (Bull. Austral. Math. Soc. **8** (1973), 289–304). *Bull. Austral. Math. Soc.* **9** (1973), 319–320. **56** #3546 42A20

(*with* Izumi, Masako) Uniform convergence and everywhere convergence of Fourier series. I, II. *Bull. Austral. Math. Soc.* **9** (1973), 321–335; *ibid.* **9** (1973), 337- Sunouchi) **49** #9520 42A20

(*with* Izumi, Masako) Formal multiplication of trigonometric series. Coll articles dedicated to the memory of Hanna Neumann, I. *J. Austral. Math.* (1973), 70–77. (F. C. Hsiang) **48** #4605 42A16

(*with* Izumi, Masako) Corrigenda, II: "Divergence of Fourier series" (Bull. Math. Soc. **8** (1973), 289–304). *Bull. Austral. Math. Soc.* **10** (1974), 152–160. (summary) **56** #3547 42A20

(*with* Izumi, Masako) On the Riemann zeta-function. I. *Bull. Austral. M* **15** (1976), *no.* 2, 161–211. (Ernst Heppner) **55** #2798 10H05

Izumi, Shuzo Dependence of local homeomorphisms and local C^r-structures. *Kyoto Univ.* **14** (1974), 287–318. (G. R. Belickiĭ) **51** #11575 58C99 (57D10

Tangents of a continuum and differentiable maps. *J. Math. Kyoto Univ.* **1** 635–641. (P. T. Church) **50** #14832 58C20 (57D35)

Zero sets of certain ideals of differentiable functions. *J. Math. Kyoto* (1976), *no.* 3, 683–696. (M. L. Gromov) **55** #4214 57D45 (58C25)

Zeros of ideals of C^r functions. *J. Math. Kyoto Univ.* **17** (1977), *no.* 2, 413– Bochnak) **55** #13470 58C25

Notes on induced maps of Moore families. *J. Math. Kyoto Univ.* **18** (197 87–93. (M. E. Adams) **58** #2669 54A05

Izumisawa, M. (*with* Kazamaki, Norihiko) Weighted norm inequalities for mart *Tôhoku Math. J.* (2) **29** (1977), *no.* 1, 115–124. (Roger L. Jones) **55** #9260

Izumoto, Yoshiro (*with* Ojika, Takeo; Teraishi, Minoru; Kasue, Yasuo) A comp algorithm for nonlinear two-point boundary-value problems. *Mem. Osaka Kyoi III Natur. Sci. Appl. Sci.* **25** (1976), *no.* 1, 31–49. (R. S. Anderssen) **56** # 65L10

Ižutkin, V. S. (*with* Zabotin, Ja. I.) A modification of the gradient projection meth convex programming problem. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (19 4, 32–39. (A. Göpfert) **45** #9702 90C25

A multiplex method for a convex programming problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 3, 123–127. (A. Göpfert) **49** # 90C25

(*with* Mološnjuk, A. N.) A method of descent with the use of duality solution of a convex programming problem in a Hilbert space. (Russian) *Issle Mat. Vyp.* 3 (1975), 75–81. (Bruce D. Craven) **57** #5100 90C25

See also **Orthogonal polynomial expansion**, **58** #29733

Izutsu, Masaaki (*with* Kobayashi, Kenji K.) Exact solution of the *n*-dimensional sine-Gordon equation. *J. Phys. Soc. Japan* **41** (1976), *no.* 3, 1091–1092. (A summary) **56** #9587 58F05

Izuyama, Takeo On the rigorous definition of superfluidity and superconductivity. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyot Kyoto*, 1975), *pp.* 353–355. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (A introduction) **58** #32584 81.47

The Thomas-Kuhn sum rule and superfluidity. I. Applicability of linear theory to macroscopic systems. *Progr. Theoret. Phys.* **56** (1976), *no.* 6, 1674–168 reviewed) 82.60

Izverceanu, P. N. Intrinsic functions on polynomial algebras. (Romanian. Russi German summaries) Collection of articles dedicated to Vasile Mioc on his sev birthday. *Bul. Şti. Tehn. Inst. Politehn. Timişoara—Ser. Mat.-Fiz.-Mec. Teor* **17(31)** (1972), *no.* 1, 41–45. (Ion Enescu) **49** #10687 13F20

aksoo, Ü. Adaptive control of an inertia-free object. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 3, 50–61. (R. Lipcer (RŽMat **1970** #1 V229)) **45** #9777 93C40

(*with* Nurges, Ü.) The minimal realization of linear systems with a varying dimension of the state vector. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **21** (1972), 59–65. (D. Obradović) **45** #6474 93B20

The approximation of a matrix estimate. (Russian) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **21** (1972), 300–303. (C. Reischer) **48** #11157 15A45

(*with* Nurges, Ü.) Reduction of the size of linear dynamical systems with multiple inputs and outputs. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 2, 149–157. (Stanislav K. Myškov) **55** #14296 93B20

(*with* Nurges, Ü.) Canonical forms of the representation of certain linear systems. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 3, 270–276. (Author's summary) **57** #5237 93B10

ber, Hadi (*with* Alkutibi, Salim S.) A note on Hurewicz fibrations. (Arabic summary) *Bull. College Sci.* (*Baghdad*) **16** (1975), *no.* 1, 153–157. (Frederick H. Croom) **52** #15454 55F05

abine, T. B. *See* **Proceedings: Session of the International Statistical Institute**, **49** #8146

ablon, Claude (*with* Simon, Jean Claude) ★Applications des modèles numériques en physique. Interdisciplinary Systems Research, No. 53. *Birkhäuser Verlag, Basel-Stuttgart*, 1978. iv+283 *pp.* *ISBN* 3-7643-1001-4 (E. G. D′jakonov) **58** #24829 65–01 (65C99, 65P05, 69.00)

ablon, Peter A generalised propositional calculus. *Notre Dame J. Formal Logic* **16** (1975), 295–297. (Constantin Milici) **51** #5259 02B05

wkow-Jabłońska, Krystyna *See* **Lewkow-Jabłońska, Krystyna**

abłoński, Aleksander On a certain class of regular functions. *Demonstratio Math.* **10** (1977), *no.* 1, 33–43. (Michael R. Ziegler) **56** #3270 30A32

abłoński, Andrzej The discrete Fourier transform, and fast computational algorithms for spectral analysis with the aid of computers. (Polish. Russian and English summaries) *Algorytmy* **10**, *no.* 18, 31–61 (1973). (Author's summary) **55** #13737 65D15

abłoński, Filip Franciszek (*with* Bogowski, Franciszek; Stankiewicz, Jan) Subordination en domaine et inégalités des modules pour certaines classes de fonctions holomorphes dans le cercle unité. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **20** (1966), 23–28 (1971). (F. R. Keogh) **46** #3759 30A32

(*with* Wesołowski, Andrzej) Sur une famille de fonctions holomorphes dans le cercle unité. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **21** (1967), 91–99 (1972). (R. J. Libera) **48** #8771 30A32

Sur la subordination en module et en domaine des fonctions holomorphes. (Polish and Russian summaries) Proceedings of the Fifth Conference on Analytic Functions (Univ. Mariae Curie-Skłodowska, Lublin, 1970). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **22-24** (1968/70), 79–83 (1972). (Editors) **49** #5339 30A42

Sur la subordination en module et en domaine des fonctions holomorphes. (English and Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 569–576. (M. S. Robertson) **46** #342 30A36

abłoński, M. On invariant measures for piecewise convex transformations. *Ann. Polon. Math.* **32** (1976), *no.* 2, 207–214. (Author's summary) **58** #28440 28A70

ablonskiĭ, A. I. The extremal properties of random search. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 1104–1111. (V. N. Igolkin) **45** #8368 93E20

On the question of the asymptotic behavior of the regular solutions of the first and second Painlevé equations. (Russian) *Differencial′nye Uravnenija* **8** (1972), 1130–1132. (D. Izjumova) **46** #475 34E99

(*with* Markina, A. M.) On the question of algebraic movable singularities. (Russian) *Differencial′nye Uravnenija* **8** (1972), 1409–1415. (A. Corduneanu) **46** #5711 34A20

(*with* Kravčenko, T. K.) A certain boundary value problem on a semi-infinite interval. (Russian) *Differencial′nye Uravnenija* **8** (1972), 2180–2186. (M. Ráb) **47** #5346 34B15

(*with* Kondratenja, S. G.) Conditions for the existence of solutions with singular initial conditions of a nonlinear system of two differential equations. (Russian) *Differencial′nye Uravnenija* **9** (1973), 1765–1773, 1923. (Vojislav Marić) **49** #5436 34A20

The movable singularities of a certain class of differential equations. (Russian) *Differencial′nye Uravnenija* **10** (1974), 873–878, 956. (Z. Nehari) **50** #7632 34A20

(*with* Danilova, E. I.) The algebraic singularities of certain systems of differential equations. (Russian) *Differencial′nye Uravnenija* **10** (1974), 1772–1777, 1916. (J. Rausen) **51** #8507 34A20

(*with* Pisarenok, V. P.) The movable essentially singular points of a first order differential equation. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 12, 2281–2282, 2304. (K. R. Schneider) **52** #14428 34A20

(*with* Pisarenok, V. P.) A differential equation that has solutions with algebraic movable singular points. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 5, 928–930, 959. (Shlomo Strelitz) **54** #13179 34A20

Randomized strategy in adaptive processes with a choice of two alternatives. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 1, 32–36, 93. (Author's summary) **58** #9582 93C40

(*with* Veresovič, P. P.) Moving singular points of third order systems of differential equations. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 11, 1932–1939, 2106–2107. (Authors' summary) **58** #11632 34C05

See also **Maslennikov, M. V.**, **58** #29496b

ablonskiĭ, A. N. *See* **Erugin, N. P.; et al.**, **58** #16024

ablonskiĭ, G. S. (*with* Slin′ko, M. G.; Bykov, V. I.; Kuznecov, Ju. I.; Matros, Ju. Š.; Fedotov, A. V.) Optimization of catalytic processes with variable activity. (Russian) *Problemy Kibernet. No.* 27 (1973), 153–178, 294. (J. S. Joel) **57** #14957 80.49

(*with* Bykov, V. I.; Akramov, T. A.; Slin′ko, M. G.) The rate of decrease of the free energy of a complex chemical reaction. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 3, 621–624. (From the text) **58** #32438 80.35

ablonskiĭ, S. V. (*with* Zaharova, E. Ju.) Certain properties of nondegenerate superpositions in P_k. (Russian) *Mat. Zametki* **12** (1972), 3–12. (I. G. Rosenberg) **48** #13509 94A20 (02C05)

The construction of irredundant multiple experiments for automata. (Russian) Mathematical logic, theory of algorithms and theory of sets (dedicated to P. S. Novikov on the occasion of his seventieth birthday). *Trudy Mat. Inst. Steklov.* **133** (1973), 263–272, 276. (M. Tetruašvili) **50** #4156 94A30

(*with* Vasil′ev, Ju. L.; Vetuhnovskiĭ, F. Ja.; Glagolev, V. V.; Žuravlev, Ju. I.; Levenšteĭn, V. I.) ★Дискретная математика и математические вопросы кибернетики. Том первый. (Russian) [Discrete mathematics and mathematical questions of cybernetics. Vol. 1] Edited by S. V. Jablonskiĭ and O. B. Lupanov. *Izdat. "Nauka", Moscow*, 1974. 311 *pp.* (János Demetrovics) **57** #5373 94–02

The structure of the upper neighborhood for predicate-describable classes in P_k. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 304–307. (W. Marek) **50** #6792 02C05 (02F20)

(*with* Lupanov, O. B.; Žuravlev, Ju. I.) Alekseĭ Andreevič Ljapunov. (Russian) Issue dedicated to the memory of Alekseĭ Andreevič Ljapunov. *Problemy Kibernet. No.* 32 (1977), 9–14. (Editors) **57** #9431 01A70

See also **Birthday: Jablonskiĭ, S. V.**, **51** #7793 *and* **Problems in applied mathematics and mechanics**, **58** #8593

Jabr, Hamid A. (*with* Youla, Dante C.; Bongiorno, Joseph J., Jr.) Modern Wiener-Hopf design of optimal controllers. I. The single-input-output case. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.*1, 3–13. (N. Harris McClamroch) **56** #4961 93C05

(*with* Youla, Dante C.; Bongiorno, Joseph J., Jr.) Modern Wiener-Hopf design of optimal controllers. II. The multivariable case. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 3, 319–338. (N. Harris McClamroch) **56** #4962 93C05

Jabrova, A. G. (*with* Šapiro, Ja. L.) Homomorphisms of an affine connection, and geodesic distributions. (Russian) *Ukrain. Geometr. Sb. No.* 10 (1971), 80–87. (I. Vaisman) **45** #4313 53B05

Jabs, Arthur Lorentz-invariant and non-invariant momentum space and thermodynamics. *Nuclear Phys.* **B34** (1971), 177–188. (N. D. Sengupta) **47** #1408 81.62

Jacak, Witold (*with* Tchoń, Krzysztof) Events and systems. (Russian summary) *Systems Sci.* **1** (1975), *no.* 2, 77–88 (1976). (J. Heidema) **54** #7011 93A05

(*with* Sierocki, Ireneusz; Tchoń, Krzysztof) A plan to define time in systems theory. (Polish. English and Russian summaries) Selected problems in the foundations of systems theory. *Prace Nauk. Inst. Cybernet. Techn. Politechn. Wrocław. No.* 25 *Ser. Stud. i Materiały No.* 17 (1976), 39–61. (Authors' summary) **56** #17939 93A10

(*with* Tchoń, Krzysztof) A proposal for defining a system by means of the space of events. (Polish. English and Russian summaries) Selected problems in the foundations of systems theory. *Prace Nauk. Inst. Cybernet. Techn. Politechn. Wrocław. No.* 25 *Ser. Stud. i Materiały No.* 17 (1976), 63–80. (Authors' summary) **56** #15372 02C99 (93A05)

(*with* Adamska-Tchoń, Jadwiga; Tchoń, Krzysztof) A formal description and algorithization of a certain transport problem. (Polish. English and Russian summaries) Selected problems in the foundations of systems theory. *Prace Nauk. Inst. Cybernet. Techn. Politechn. Wrocław. No.* 25 *Ser. Stud. i Materiały No.* 17 (1976), 181–208. (Authors' summary) **56** #17761 90B10

(*with* Tchoń, Krzysztof) On goal-oriented eventistic systems. *Systems Sci.* **3** (1977), *no.* 3, 307–313. (From the introduction) **58** #20647 93A10

Jacassi, Pietro (*with* Bampi, Franco) A hydrodynamical model for the null electromagnetic field. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no.* 2, 286–293. (N. D. Sengupta) **58** #20190 83.53

graf-Jaccottet, M. *See* **Graf-Jaccottet, M.**

Jaccottet, Monique (*with* Tomassone, Richard) Méthodes d'analyse factorielle en théorie des plans d'expérience. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **12** (1976), *no.* 3, 233–256. (E. J. Williams) **55** #1658 62K15

Jacenko, A. A. (*with* Krasil′nikov, V. V.; Cukanov, V. D.) Kinetic equations for electron systems with paramagnetic impurities. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 133–140. (Authors' summary) **57** #8775 82.47

Jacenko, N. Ja. The approximation of continuous functions by ordinary polynomials. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no.* 5(96), 113–116. (D. L. Ragozin) **46** #2321 41A50

The approximation of continuous functions by algebraic sums of S. N. Bernšteĭn type. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no.* 12(103), 144–118. (H. Weber) **45** #9038 41A50

(*with* Gubanov, G. P.) The approximation of continuous functions of two variables by singular integrals. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 19–24. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (M. W. Müller) **54** #810 41A35

(*with* Gubanov, G. P.) The approximation of functions of two variables by algebraic sums of S. N. Bernšteĭn type. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 24–29. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (Luciana Lupas) **54** #3248 41A50

The approximation of functions of two variables by algebraic polynomials that are best on a given system of points. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 3(130), 119–125. (T. Bojanov) **47** #9139 41A50

The approximation of functions that satisfy a Lipschitz condition by sums of Fejer type. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 7(146), 91–94. (Bl. Sendov) **50** #14028 42A08

Approximation by trigonometric polynomials of the type of Bernšteĭn polynomials in the classes of functions H^α and H_ω. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications*, *No.* 6 (*Russian*), *pp.* 92–99. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (Editors) **58** #29747 42A08

Deviation of bounded 2π-periodic functions from their corresponding truncated means of polynomials of the best uniform approximation in a given system of points. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 70–73, 158. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Author's summary) **58** #29748 42A08

Jacenko, S. A. The Riemann problem, in spaces of generalized functions and differentials, on a closed Riemann surface. (Russian. English summary) *Boundary value problems of mathematical physics* (*Russian*), *pp.* 348–360. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (D. Mitrović) **49** #3160 30A88

Functionals of Cauchy type in spaces of generalized functions and differentials on closed Riemann surfaces. (Russian) *Linear and nonlinear boundary value problems* (*Russian*), *pp.* 232–244. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1971. (D. Mitrović) **52** #6410 46F10 (30A88)

Sohockiĭ's boundary value problem on a closed Riemann surface in spaces of generalized functions and differentials. (Russian) *Ukrain. Mat. Ž.* **23** (1971), 852–855. (P. Caraman) **45** #570 30A88

The boundary value problems with saltus on a closed Riemann surface in classes of generalized functions and differentials. (Russian. English summary) *Linear boundary value problems of mathematical physics* (*Russian*), *pp.* 354–363. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (D. Mitrović) **51** #906 30A88 (46F10)

The generalized Haseman boundary value problem on a closed Riemann surface. (Ukrainian. English and Russian summaries) *Dopovidī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 58–60, 94. (V. Mićić) **48** #11527 30A88

The Hilbert boundary value problem on a bordered Riemann surface in classes of generalized functions and differentials. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 279–282, 287. (D. Mitrović) **49** #7460 30A88

A boundary value problem with shift for two functions on a bordered Riemann surface in the class of generalized functions. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 280–283, 287. (D. Mitrović) **51** #8430 30A88

A generalized boundary value problem of Haseman type on a closed Riemann surface. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 5, 708–710, 719. (V. Mićić) **56** #12277 30A88

Operator equations on a closed Riemann surface in a class of generalized functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 28 (1976), 31–35, 151. (D. Mitrović) **57** #7219 47A50 (30A88, 45E99)

Jacewicz, Chester Alan The modulus of the boundary values of bounded analytic functions of several variables. *Trans. Amer. Math. Soc.* **176** (1973), 253–261. (L. R. Hunt) **47** #493 32A10

Jachanová, Jaroslava On permutable quadratic inversions in plane with two common singular points. (Czech summary) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **33** (1971), 29–36. (J. F. Rigby) **48** #12262 50D25

(*with* Žáková, Helena) Polarities and order of a projective plane. *Grundlagen der Geometrie und algebraische Methoden* (*Internat. Kolloq.*, *Pädagog. Hochsch.* "*Karl Liebknecht*", *Potsdam*, 1973), *pp.* 130–133. *Potsdamer Forschungen*, *Reihe B*, *Heft* 3, *Pädagog. Hochsch.* "*Karl Liebknecht*", *Potsdam*, 1974. (D. A. Foulser) **51** #12569 05B25 (50D20)

Epimorphisms of k-nets without singular points. (Czech and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* **B-56** (1975), 41–46. (E. J. F. Primrose) **52** #6565 50D35

(*with* Žáková, Helena) On a dependence between polarities and an order of a projective plane. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **49** *Mat.* (1976), 29–33. (Authors' summary) **58** #30735 50D35

Characterization of epimorphisms of nets by normal decompositions. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci Mat.* **16** (1977), 141–147. (Author's summary) **58** #30712 50B30

Jačiauskas, Ignotas (*with* Skėrus, Stasys) A three person coalition differential game. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 887–898. (R. Petrović) **45** #4848 90D25

(*with* Skėrus, Stasys) A certain n-person coalition differential game. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 2, 163–175, 265. (R. Petrović) **48** #3514 90D25

(*with* Skėrus, Stasys) Existence of equilibrium situations for linear differential games. (Russian. English summary) *Mat. Metody v Social. Nauk.—Trudy Sem. Processy Optimal. Upravlenija. II Sekcija Vyp.* 2 (1973), 89–94. (Authors' summary) **57** #5142 90D25

(*with* Skėrus, Stasys) A certain coalition linear differential game. (Russian. Lithuanian and English summaries) *Mat. Metody v Social. Nauk.—Trudy Sem. Processy Optimal. Upravlenija II Sekcija Vyp.* 4 (1974), 57–67. (Authors' summary) **56** #17875 90D25

Barriers for pursuit games with a lifeline. (Russian. Lithuanian and English summaries) *Mat. Metody v Social. Nauk.—Trudy Sem. Processy Optimal. Upravlenija II Sekcija No.* 9 (1977), 115–119, 122. (Author's summary) **58** #20519 90D25

Jacjuk, V. T. (*with* Iščuk, V. V.) An investigation by asymptotic methods of an equation of Mathieu type with quasiperiodic coefficients. (Russian) *Asymptotic and qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 59–77. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1971. (I. Kiguradze) **50** #13740 34C99 (34E99)

On the investigation of countable systems of differential equations in the space C^∞. (Russian) *Asymptotic and qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 218–239. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1971. (S. D. Miluševa) **51** #3618 34C30

(*with* Homa, G. P.) Truncation of a countable system of partial differential equations. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 418–421. (O. Horáček) **46** #2213 35F99

On the existence of quasiperiodic solutions of systems of second order differential equations. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 675–682, 717. (K. R. Schneider) **47** #3767 34C25

Existence of quasiperiodic solutions of systems of second order differential equations. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 701–708, 718. (C. Olech) **51** #6051 34C25

Existence of quasiperiodic solutions of autonomous systems of differential equations that are close to exactly integrable ones. (Russian) *Approximate methods for the study of nonlinear systems* (*Russian*), *pp.* 244–248. *Izdanie Inst. Mat. Akad. Nauk SSR*, *Kiev*, 1976. (W. S. Loud) **57** #6635 34C25

Existence of quasiperiodic solutions of systems of differential equations that are nearly exactly integrable ones. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 1, 137–140, 144. (A. Halanay) **53** #6014 34C25

A generalization of a theorem of N. N. Bogoljubov on the existence of quasiperiodic solutions in problems of nonlinear mechanics. (Russian) *Analytic and qualitative methods for the study of differential and differential-difference equations* (*Rus.* 157–188. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1977. (Author' (RŽMat **1978** #6 B175)) **58** #22806 34C25

Jack, Henry A generalization of an early multivariate integral. *Proc. Edinburgh M* (2) **18** (1972/73), 125–128. (F. Brooks) **47** #6966 26A63

A surface integral and symmetric functions. *Proc. Roy. Soc. Edinburgh Se* *part* 4, 347–364 (1972). (H. Gupta) **46** #5293 12D99

Jack, William Brydone *See* **Kennedy, J. E.**, **58** #15953

Jacke, B. (*with* Menges, Günter) The scientist's utility function and the prir maximum likelihood. (German, French and Russian summaries) Collection o dedicated to the memory of John E. Walsh. *Statist. Hefte* (*N.F.*) **15** (1974), (Terrence Fine) **50** #15095 62A10 (90A10)

Jackett, D. R. (*with* Gardner, B. J.) Rings on certain classes of torsion-free abelian *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 3, 493–506. (David M. Arnold) **56** #15795 20K15

Jackevič, L. A. *See* **Applied multidimensional geometry**, **48** #12228

Jackin, N. I. (*with* Kreĭn, S. G.) Differential form equations. (Russian) *Voror* *Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 5 *Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 75–79. (Authors' introduction) **56** #6691 58A (32L10)

A generalization of the Ljapunov-Floquet theorem. (Russian) *Collection o* *on applications of functional analysis* (*Russian*), *pp.* 203–210. *Voronež. Tehnol* *Voronezh*, 1975. (L. Reiziņš) **56** #16700 58F99 (34C35)

The periodic solutions of linear equations in differential forms. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1607–1619, 1716. (J. S. Joel) **58** # 34C25

Questions on the reducibility of linear differential equations on manifol special form. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 792–794. (Z Nitecki) **52** #4343 58F99 (34A30)

(*with* Kryloveckiĭ, A. G.) Canonical formalism and its geometrical interpret the covariant theory of a classical electron. (Russian) *Izv. Vysš. Učebn. Zave* **1976**, *no.* 6, 88–92. (Authors' summary) **57** #8731 81.58 (58F05)

Linear differential equations with constant coefficients on manifolds with connection. (Russian) *Mat. Zametki* **19** (1976), *no.* 5, 773–782. (I. Vaisman) **5** 58A10 (53C05)

Jackiw, Roman (*with* Coleman, Sidney) Why dilatation generators do not generate dilatations. *Ann. Physics* **67** (1971), 522–598. (T. Arai) **45** #4765 81.35 (81.

(*with* Gerstein, Ira S.; Lee, Benjamin W.; Weinberg, Steven) Chiral loops *Rev. D* (3) 3 (1971), 2486–2492. (L. O'Raifeartaigh) **49** #1951 81.22

(*with* Treĭman, S.; Gross, David J.) ★Lectures on current algebra and its applications. Princeton Series in Physics. *Princeton University Press*, *Princeto* 1972. x+362 *pp.* (P. Roman) **48** #1621 81.46

Symmetry restoration at finite temperature. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ.*, *Kyoto*, 1975), *pp.* 3 *Lecture Notes in Phys.*, 39. *Springer*, *Berlin*, 1975. (Editors) **58** #32699 82.6

Quantization of non-linear waves. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ.*, *Kyoto*, 1975), *pp.* 394–400. *Lecture* *Phys.*, 39. *Springer*, *Berlin*, 1975. (Editors) **58** #32536 81.35

Invariant quantization, scale symmetry and Euclidian field theory. With discussions. *Laws of hadronic matter* (*Internat. School Subnuclear Phys.*, *Erice*, 1 30–61. *Subnuclear Series*, *Vol.* 11, *Academic Press*, *New York*, 1975. (G. R. **58** #4069 81.47

(*with* Woo, G.) Semiclassical scattering of quantized nonlinear waves. *Phys.* (3) **12** (1975), *no.* 6, 1643–1649. (G. R. Allcock) **57** #15027 81.35

(*with* Rebbi, C.) Solitons with fermion number 1/2. *Phys. Rev. D* (3) **13** (19 12, 3398–3409. (T. Izuyama) **57** #8618 81.35

(*with* Rebbi, C.) Conformal properties of a Yang-Mills pseudoparticle. *Phy* *D* (3) **14** (1976), *no.* 2, 517–523. (John McEwan) **57** #4861 81.22 (22E20)

(*with* Treĭman, S.; Gross, David J.) ★Лекции по алгебре токов. (Russian) [Lectures on current algebras] Translated from the English by N. N. Nikolaev A. Novikov. With a foreword by B. L. Ioffe. *Atomizdat*, *Moscow*, 1977. 232 *pp* *errata*) (Editors) **56** #10479 81.02

(*with* Rebbi, C.) Degrees of freedom in pseudoparticle systems. *Phys. Let* (1977), *no.* 2, 189–192. (Authors' summary) **56** #2061 81.47

(*with* Rebbi, C.) Spinor analysis of Yang-Mills theory. *Phys. Rev. D* (3) **16** *no.* 4, 1052–1060. (Authors' summary) **57** #18638 81.58 (58E99)

Quantum meaning of classical field theory. *Rev. Modern Phys.* **49** (1977), 681–706. (J. Denmead Smith) **58** #19967 81.35

Jackowski, Janice A. (*with* Herman, Gabor T.) A decision procedure using discrete geometry. *Discrete Math.* **5** (1973), 131–144. (J. Hartmanis) **48** #5832 02F15 (02G05, 94A25)

Jackowski, Stefan Oriented bundles in generalized cohomology theories. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 5 (Joel M. Cohen) **50** #3221 55F15 (55B20)

Equivariant K-theory and cyclic subgroups. *Transformation groups* (*Proc.* *Univ. Newcastle upon Tyne*, *Newcastle upon Tyne*, 1976), *pp.* 76–91. *London Mat* *Lecture Note Series*, *No.* 26, *Cambridge Univ. Press*, *Cambridge*, 1977. (Stew Weintraub) **56** #6684 57E10

Jackson, A. D. (*with* Maximon, L. C.) Integrals of products of Bessel functions. *S* *Math. Anal.* 3 (1972), 446–460. (C. J. Bouwkamp) **47** #520 33A40

(*with* Chao, Y. A.) The optimized polynomial approximation to solving i equations: Lippmann-Schwinger equation. *Nuclear Phys.* **A215** (1973), 157–177. **50** #9017 65R05

Jackson, David A. Schur multipliers of some finite nilpotent groups. *Proc. Amer.* *Soc.* **66** (1977), *no.* 1, 1–5. (Robert Steinberg) **57** #452 20D15

Jackson, David M. (*with* White, Lee J.) Stability problems in non-statistical classifi theory. *Comput. J.* **15** (1972), 214–221. (Authors' summary) **47** #9912 68A4

Expectations of functions of sequences over finite alphabets with given tra probabilities by methods independent of sequence length. *SIAM J. Comput.* **1** *no.* 3, 203–217. (John Mylopoulos) **47** #7969 68A45

Closed form approximations for random errors in distance functions. *Comput. J.* **16** (1973), 52–56. (O. Gulyás) **48** #5720 94A10

Combinatorial problems in non-parametric classification theory. *Compstat* 1974 (*Proc. Sympos. Computational Statist., Univ. Vienna, Vienna*, 1974), *pp.* 111–118. *Physica Verlag, Vienna*, 1974. (P. W. Mielke, Jr.) **50** #15167 62H30 (05A15, 15A51)

(*with* Wadge, William W.) Normal form reduction of probabilistic computations in non-parametric classification. *Comput. J.* **17** (1974), 249–252. (Rani Siromoney) **52** #9713 68A45

(*with* Reilly, James W.) The enumeration of homeomorphically irreducible labelled graphs. *J. Combinatorial Theory Ser. B* **19** (1975), *no.* 3, 272–286. (Edward A. Bender) **54** #10069 05C30

(*with* Van Rees, G. H. J.) The enumeration of generalized double stochastic nonnegative integer square matrices. *SIAM J. Comput.* **4** (1975), *no.* 4, 474–477. (R. A. Brualdi) **52** #7915 05A15

Formal enumerative methods for the homeomorphically irreducible labelled graph problem, and the generalized Simon Newcomb and Smirnov problems. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 361–372. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (R. C. Read) **52** #13408 05A15

(*with* Reilly, James W.) Permutations with a prescribed number of *p*-runs. *Ars Combinatoria* **1** (1976), *no.* 1, 297–305. (Morton Abramson) **54** #2481 05A15

Laguerre polynomials and derangements. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 2, 213–214. (J. Gillis) **53** #12966 05A15 (33A65)

(*with* Aleliunas, R.) Decomposition based generating functions for sequences. *Canad. J. Math.* **29** (1977), *no.* 5, 971–1009. (Michael Henle) **56** #8379 05A15

The unification of certain enumeration problems for sequences. *J. Combinatorial Theory Ser. A* **22** (1977), *no.* 1, 92–96. (Roger C. Grimson) **55** #2592 05A15

The combinatorial interpretation of the Jacobi identity from Lie algebras. *J. Combinatorial Theory Ser. A* **23** (1977), *no.* 3, 233–256. (D. P. Roselle) **58** #272 05A99

See also **Advances in computers, 50** #3629

ackson, Douglas E. (*with* Entringer, Roger C.; Schatz, J. A.) On nonrepetitive sequences. *J. Combinatorial Theory Ser. A* **16** (1974), 159–164. (E. C. Milner) **48** #10860 05B30

(*with* Entringer, Roger C.) A preamble to an enumeration of certain generalized arrays associated with ballot theorems. *Matrix Tensor Quart.* **26** (1975/76), *no.* 4, 146–148. (Edward Spence) **54** #109 05A15

(*with* Entringer, Roger C.; Snyder, D. A.) Distance in graphs. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 2, 283–296. (From the Introduction) **58** #27583 05C10

(*with* Entringer, Roger C.) Enumeration of certain generalized arrays associated with ballot theorems. *Matrix Tensor Quart.* **27** (1976/77), *no.* 1, 30–35. (Edward A. Bender) **58** #5253a 05A15

(*with* Entringer, Roger C.) Enumeration of certain generalized arrays associated with ballot theorems. (Continuation) *Matrix Tensor Quart.* **27** (1976/77), *no.* 2, 39–47. (Edward A. Bender) **58** #5253b 05A15

ackson, E. Atlee (*with* Evans, Kenneth, Jr.) Double Laplace transformation in mixed boundary-initial value problems. *J. Mathematical Phys.* **12** (1971), 2012–2023. (G. Doetsch) **45** #828 44A10 (35A22)

Unbounded solutions of coupled mode equations. *J. Mathematical Phys.* **13** (1972), 1189–1192. (H. A. Antosiewicz) **46** #7650 34D99

Nonlinearity and irreversibility in lattice dynamics. Conference on the Theory and Application of Solitons (Tucson, Ariz., 1976). *Rocky Mountain J. Math.* **8** (1978), *no.* 1–2, 127–196. (Joseph Ford) **57** #18675 82.58 (58F05)

Jackson, F. Congregation equations in population dynamics. *Bull. Inst. Math. Appl.* **12** (1976), *no.* 7, 219–222. (Author's summary) **58** #33148 92A15

Jackson, Frank (*with* Ellis, Brian; Pargetter, Robert) An objection to possible-word semantics for counterfactual logics. Recent philosophical logic in Italy. *J. Philos. Logic* **6** (1977), *no.* 3, 355–357. (From the text) **58** #27323 02C10

(*with* Davidson, Barbara; Pargetter, Robert) Modal trees for T and S5. *Notre Dame J. Formal Logic* **18** (1977), *no.* 4, 602–606. (J. Michael Dunn) **58** #16145 02C10

Jackson, G. L. (*with* Malik, Norbert R.; Kim, Young Soo) Theory and applications of resistor, linear controlled resistor, linear controlled conductor networks. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 4, 222–228. (András Recski) **56** #15192 94A20

Jackson, Howard (*with* Acock, Malcolm) Sense and sense data. *Studien zu Frege, Band III*, *pp.* 117–137. *Problemata, No. 44, Frommann-Holzboog, Stuttgart*, 1976. (From the summary) **58** #27228 02A05 (01A55, 02–03)

Jackson, Howard L. On minimally thin sets in a Stolz domain. *Canad. Math. Bull.* **15** (1972), 219–223. (E. C. Schlesinger) **46** #3815 31A15

Sur la comparaison des duex types d'effilement. *Séminaire de Théorie du Potentiel* (15*e année*: 1972), *Exp. No.* 23, 8 *pp. Secrétariat Math., Paris*, 1973. (J. Ferrand) **54** #7810 31B05

(*with* Essén, Matts R.) Comparaison entre un ensemble effilé et un ensemble qui satisfait à une condition généralisée d'Azarin. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A241–A242. (David R. Adams) **53** #3327 31B15

(*with* Essén, Matts R.) Sur des propriétés d'un ensemble effilé-au sens minimal dans un demi-espace. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 865–867. (L. I. Hedberg) **51** #10655 31B15

On the mapping properties of certain exceptional sets in R^2. *Canad. J. Math.* **27** (1975), 44–49. (R. M. Hervé) **51** #5944 31B15

(*with* Essén, Matts R.) A comparison between thin sets and generalized Azarin sets. *Canad. Math. Bull.* **18** (1975), *no.* 3, 335–346. (Denis Feyel) **53** #13600 31B15

Jackson, J. C. A quantisation of time. *J. Phys. A* **10** (1977), *no.* 12, 2115–2122. (Author's summary) **57** #15170 83.00

Jackson, J. Edward *See* **Davidson, Roger R.; et al., 45** #4552

Jackson, James R. (*with* Shonick, William) An improved stochastic model for occupancy related random variables in general-acute hospitals. *Operations Res.* **21** (1973), 952–965. (D. L. Iglehart) **50** #6474 90B99

Jackson, John David ★Classical electrodynamics. Second edition. *John Wiley & Sons, Inc., New York-London-Sydney*, 1975. xxii + 848 *pp.* (T. Kahan) **55** #9721 78.00

Jackson, Julius L. *See* **Topics in statistical mechanics and biophysics: a memorial to Julius L. Jackson, 56** #4891; **Gornick, Fred, 57** #11223 *and* **Bibliography: Jackson, Julius L., 58** #10238

Jackson, K. R. (*with* Enright, W. H.; Hull, T. E.) A theoretical criterion for comparing Runge-Kutta formulas. *SIAM J. Numer. Anal.* **15** (1978), *no.* 3, 618–641. (A. R. Gourlay) **57** #11052 65L05

Jackson, L. W. (*with* Surendra Kumar, K.) A fourth order exponentially fitted method. *SIAM J. Numer. Anal.* **11** (1974), 965–978. (W. H. Enright) **50** #15364 65L15

Interval arithmetic error-bounding algorithms. *SIAM J. Numer. Anal.* **12** (1975), 223–238. (W. Börsch-Supan) **52** #4632 65L05

The *A*-stability of a family of fourth order methods. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **16** (1976), *no.* 4, 383–387. (J. D. Lambert) **55** #13793 65L05

(*with* Cabay, S.) A polynomial extrapolation method for finding limits and antilimits of vector sequences. *SIAM J. Numer. Anal.* **13** (1976), *no.* 5, 734–752. (Colin M. Campbell) **55** #1712 65D99

(*with* Skeel, Robert D.) Consistency of Nordsieck methods. *SIAM J. Numer. Anal.* **14** (1977), *no.* 5, 910–924. (D. F. Mayers) **56** #13650 65L05

Jackson, Leland B. Roundoff noise bounds derived from coefficient sensitivities for digital filters. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 8, 481–485. (Author's summary) **56** #15120 94A05

Jackson, Lloyd K. Uniqueness and existence of solutions of boundary value problems for ordinary differential equations. *Ordinary differential equations* (*Proc. NRL-MRC Conf., Math. Res. Center, Naval Res. Lab., Washington, D.C.*, 1971), *pp.* 137–149. *Academic Press, New York*, 1972. (N. I. Vasil'ev) **58** #6449 34B15

Existence and uniqueness of solutions of boundary value problems for third order differential equations. *J. Differential Equations* **13** (1973), 432–437. (C. Avramescu) **49** #703 34B10

Uniqueness of solutions of boundary value problems for ordinary differential equations. *SIAM J. Appl. Math.* **24** (1973), 535–538. (J. W. Bebernes) **48** #615 34B10

(*with* Innes, Joan E.) Nagumo conditions for ordinary differential equations. *International Conference on Differential Equations* (*Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 385–398. *Academic Press, New York*, 1975. (F. A. Howes) **53** #13686 34A15 (34B10)

A compactness condition for solutions of ordinary differential equations. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 89–92. (P. Waltman) **53** #8543 34B15

A Nagumo condition for ordinary differential equations. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 93–96. (P. Waltman) **53** #8561 34C10

Boundary value problems for ordinary differential equations. *Studies in ordinary differential equations*, *pp.* 93–127. *Stud. in Math., Vol.* 14, *Math. Assoc. of America, Washington, D.C.*, 1977. (S. J. Lee) **58** #6450 34B15

Jackson, M. P. (*with* Fletcher, R.) Minimization of a quadratic function of many variables subject only to lower and upper bounds. *J. Inst. Math. Appl.* **14** (1974), 159–174. (Norihiko Adachi) **52** #5033 90C30

Jackson, Margaret (*with* Fletcher, Pamela) On multiple integrals which can be evaluated in terms of the *H*-function of Fox. (Arabic summary) *Libyan J. Sci.* **7** (1977), *no.* B, 41–47. (R. G. Buschman) **58** #28718 33A35

Jackson, P. R. (*with* Green, T. R. G.) "Hark-back": a simple measure of search patterns. *British J. Math. Statist. Psychology* **29** (1976), *no.* 1, 103–113. (Authors' summary) **55** #10073 92A25 (68A50)

Jackson, Paul H. (*with* Novick, Melvin R.) Maximizing the validity of a unit-weight composite as a function of relative component lengths with a fixed total testing time. *Psychometrika* **35** (1970), 333–347. (Authors' summary) **53** #14837 62P15

(*with* Novick, Melvin R.; Thayer, Dorothy T.) Bayesian inference and the classical test theory model: Reliability and true scores. *Psychometrika* **36** (1971), 261–288. (A. D. McLaren) **47** #1189 62F15

The estimation of true score variance and error variance in the classical test theory model. *Psychometrika* **38** (1973), 183–201. (Robert Hultquist) **48** #5287 62J10 (62P15)

(*with* Novick, Melvin R.; Lewis, Charles) The estimation of proportions in *m* groups. *Psychometrika* **38** (1973), *no.* 1, 19–46. (Authors' summary) **53** #9488 62F15

(*with* Isaacs, Gerald L.; Christ, David E.; Novick, Melvin R.) ★Tables for Bayesian statisticians. *The University of Iowa, Iowa City, Iowa*, 1974. iii + 377 *pp.* (*errata insert*) (Editors) **53** #11940 62Q05

(*with* Agunwamba, Christian C.) Lower bounds for the reliability of the total score on a test composed of nonhomogeneous items. I. Algebraic lower bounds. *Psychometrika* **42** (1977), *no.* 4, 567–578. (Authors' summary) **58** #18998a 62P15

(*with* Woodhouse, Brian) Lower bounds for the reliability of the total score on a test composed of nonhomogeneous items. II. A search procedure to locate the greatest lower bound. *Psychometrika* **42** (1977), *no.* 4, 579–591. (Authors' summary) **58** #18998b 62P15

Jackson, R. (*with* Horn, F. J. M.) General mass action kinetics. *Arch. Rational Mech. Anal.* **47** (1972), 81–116. (J. Adler) **53** #4753 80.34

Jackson, R. N. (*with* Murthy, D. N. Prabhakar) Optimal linear estimation with uncertain observations. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 3, 376–378. (Stuart Schwartz) **55** #5286 93E10

Jackson, R. R. P. (*with* Poyntz, C. D.) The steady-state solution for the queueing process $E_k/E_m/r$. *Operational Res. Quart.* **24** (1973), 615–625. (B. Dimitrov) **49** #9981 60K25

Jackson, Robert John Victor ★Canonical differential operators and lower-order symbols. Memoirs of the American Mathematical Society, No. 135. *American Mathematical Society, Providence, R. I.*, 1973. viii + 235 *pp.* (Ju. V. Egorov) **56** #6760 58G15

Jackson, S. B. Arcs of local cyclic order three. *Math. Scand.* **28** (1971), 355–365 (1972). (P. Scherk) **46** #6259 53C75

Cyclic order and dissection order of certain arcs. *Proc. Amer. Math. Soc.* **38** (1973), 609–613. (W. F. Pohl) **46** #9916 53C75

Jackson, T. H. One-sided inequalities for quaternary forms. *Proc. London Math. Soc.* (3) **23** (1971), 267–282. (E. S. Barnes) **45** #6770 10H99

Note on the minimum of an indefinite binary quadratic form. *J. London Math. Soc.* (2) **5** (1972), 209–214. (Carl Riehm) **47** #3315 10C05

Asymmetric sets of residues. *Mathematika* **19** (1972), 191–199. (H. London) **47** #4908 10A10

(*with* Williamson, J. H.; Woodall, D. R.) Difference-covers that are not *k*-sum-covers. I. *Proc. Cambridge Philos. Soc.* **72** (1972), 425–438. (H. Gupta) **46** #1690 10A10 (05B10)

(*with* Rehman, Fazal) Note on difference-covers that are not *k*-sum-covers. *Mathematika* **21** (1974), 107–109. (S. Znám) **50** #9832 10L05 (05B10)

(*with* Hall, R. R.; Sudbery, A.; Wild, K.) Some advances in the no-three-in-line problem. *J. Combinatorial Theory Ser. A* **18** (1975), 336–341. (R. K. Guy) **51** #3063 10E99 (05B30)

On the minima of zero binary quadratic forms. *J. London Math. Soc.* (2) **14** (1976), *no.* 1, 178–182. (S. Böge) **55** #5542 10E20

Another proof of the "ϕ sequence" property. *Math. Gaz.* **61** (1977), *no.* 415, 62–63. (M. Rahman) **57** #5893 10A40

Jackson, W. A characterization of the reducibility of non-negative matrices. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 381–384. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (C. Y. Chao) **58** #16726 15A48 (05C20)

Jackson, William D. (*with* Barback, Joseph; Parnes, Milton N.) Analogous characterizations of finite and isolated sets. *Notre Dame J. Formal Logic* **13** (1972), 551–555. (J. N.Crossley) **48** #3722 02F40

A note on a theorem of C. Yates. *Notre Dame J. Formal Logic* **14** (1973), 100–102. (C. G. Jockusch, Jr.) **48** #1905 02F99

Jaco, William Finitely presented subgroups of three-manifold groups. *Invent. Math.* **13** (1971), 335–346. (H. B. Griffiths) **45** #9325 57A10

(*with* Hempel, John) 3-manifolds which fiber over a surface. *Amer. J. Math.* **94** (1972), 189–205. (L. Neuwirth) **45** #4417 55F05

Geometric realizations for free quotients. *J. Austral. Math. Soc.* **14** (1972), 411–418. (C. B. Thomas) **47** #5118 20E30 (57C10)

(*with* Evans, Benny D.) Varieties of groups and three-manifolds. *Topology* **12** (1973), 83–97. (D. B. A. Epstein) **48** #1207 55A05

Roots, relations and centralizers in three-manifold groups. *Geometric topology* (*Proc. Conf., Park City, Utah*, 1974), *pp.* 283–309. *Lecture Notes in Math., Vol.* 438, *Springer, Berlin*, 1975. (J. S. Birman) **52** #15469 57A10 (20E40)

(*with* Shalen, Peter B.) Seifert fibered spaces in irreducible, sufficiently-large 3-manifolds. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 5, 765–767. (J. S. Birman) **54** #3706 57A15

(*with* Shalen, Peter B.) Peripheral structure of 3-manifolds. *Invent. Math.* **38** (1976), *no.* 1, 55–87. (J. S. Birman) **55** #1357 57A10 (55A10)

(*with* Shalen, Peter B.) Surface homeomorphisms and periodicity. *Topology* **16** (1977), *no.* 4, 347–367. (J. S. Birman) **57** #4173 57A05

Jacob, Caius *See* **Iacob, Caius**

Jacob, Geneviève Polynômes représentant la fonction nulle sur un anneau commutatif unitaire. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 7, Ai, A421–A424. (William James Lewis) **55** #327 13A15

Parties denses au sens de Zariski d'un anneau commutatif unitaire. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 8, Ai, A555–A557. (M. Nagata) **56** #335 13B25

Sur certaines catégories de modules, généralisant les modules de type fini, et les modules noethériens. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 9, Ai, A687–A690. (Author's summary) **58** #28078 16A64 (18E15)

Jacob, Gérard Séries formelles en variables non commutatives. Transductions rationnelles. *Comptes Rendus des Journées Mathématiques de la Société Mathématique de France* (*Univ. Sci. Tech. Languedoc, Montpellier*, 1974), *pp.* 199–222. *Cahiers Math. Montpellier, No.* 3, *U.E.R. de Math, Univ. Sci. Tech. Languedoc, Montpellier*, 1974. (G. Renault) **51** #12040 68A30 (13J05)

Sur un théorème de Shamir. (English summary) *Information and Control* **27** (1975), 218–261. (P. M. Cohn) **51** #2361 68A30 (16A06)

(*with* Fliess, Michel) Topologies pour certaines fonctions de lignes non linéaires; application aux asservissements. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 6, Ai, A321–A324. (Authors' summary) **56** #4932 93A10 (46N05)

Complexité des demi-groupes de matrices. *Automata, languages and programming* (*Fourth Colloq., Univ. Turku, Turku*, 1977), *pp.* 269–281. *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin*, 1977. (Author's summary) **58** #6028 20M35 (68A20)

Semi-groupes linéaires de rang borné. Décidabilité de la finitude. *Séminaire d'Algèbre Paul Dubreil, 29ème année* (*Paris*, 1975–1976), *pp.* 116–135. *Lecture Notes in Math.*, 586, *Springer, Berlin*, 1977. (Editors) **58** #28226 20M05 (20M30)

Décidabilité de la finitude des demi-groupes de matrices. *Theoretical computer science* (*Third GI Conf., Darmstadt*, 1977), *pp.* 259–269. *Lecture Notes in Comput. Sci., Vol.* 48, *Springer, Berlin*, 1977. (Claude Benzaken) **58** #22363 20M35 (68A30)

Un algorithme calculant le cardinal, fini ou infini, des demi-groupes de matrices. (English summary) *Theoret. Comput. Sci.* **5** (1977/78), *no.* 2, 183–204. (D. Simovici) **57** #12754 20M35 (94A30)

Demi-groupes de matrices localement testables caractérisation et décidabilité. (English summary) *Proceedings of a Conference on Theoretical Computer Science* (*Univ. Waterloo, Waterloo, Ont.*, 1977), *pp.* 213–220. *Comput. Sci. Dept., Univ. Waterloo, Waterloo, Ont.*, 1978. (D. Simovici) **58** #16926 20M35

La finitude des représentations linéaires des semi-groupes est décidable. (English summary) *J. Algebra* **52** (1978), *no.* 2, 437–459. (D. R. LaTorre) **57** #12750 20M30

Jacob, H. G. Another proof of the rational decomposition theorem. *Amer. Math. Monthly* **80** (1973), 1131–1134. (Abraham Berman) **49** #9009 15A21

Jacob, J. R. Restoration, Reformation and the origins of the Royal Society. *Hist. of Sci.* **13** (1975), *no.* 3, 155–176. (M. Kline) **58** #21132 01A45

Jacob, P. General covariance is incompatible with the concept of elementary systems. *Lett. Nuovo Cimento* (2) **17** (1976), *no.* 2, 59–62. **58** #32507 81.22

Jacob, Pierre Convergence faible uniforme de mesures. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1309–A1311. (C. L. Scheffer) **48** #3088 60B10

Représentation d'une famille de mesures de probabilité par une fonction a presque sûrement continue. (English summary) *C. R. Acad. Sci. Paris Sér. A* (1975), Aiii, A1307–A1308. (R. M. Dudley) **51** #6903 60B10

Representation of families of probabilities by an almost surely continuous function. *Recent developments in statistics* (*Proc. European Meeting Statisticians, Grenoble*, 1976), *pp.* 475–480. *North-Holland, Amsterdam*, 1977. (J. Hoffmann-Jør **58** #2941 60B05 (60B10, 60F99)

Notion de convergence d'une suite de probabilités qualitatives. (English sum *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 4, A281–A284. (Author's su **57** #1586 60A05

Représentations convergentes de mesures et de processus ponctuels. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 15, A953–A955. (A summary) **58** #13339 60G55

Jacob, Roy T., Jr. Some matrix transformations on analytic sequence spaces. *Pa Math.* **59** (1975), *no.* 2, 487–491. (Kenneth A. Jukes) **52** #8714 40C05

Matrix transformations involving simple sequence spaces. *Pacific J. M* (1977), *no.* 1, 179–187. (W. J. Davis) **58** #7029 46A45

Jacobi, Carl Gustav Jacob *See* **Waterman, Michael S.**, **51** #5459; **Biermann, Kurt Reinhard**, **58** #4870 *and* **Variationsrechnung**, **58** #27167

Jacobinski, Heinz Lattices over orders. *Representation theory of finite groups and topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Wisconsin, Madison, Wis.*, 19 85–88. *Amer. Math. Soc., Providence, R. I.*, 1971. (R. B. Tarsy) **47** #6752 (06A20)

Unique decomposition of lattices over orders. *Proceedings of the Intern Conference on Representations of Algebras* (*Carleton Univ., Ottawa, Ont.*, 1974), *No.* 15, 9 *pp.* *Carleton Math. Lecture Notes, No.* 9, *Carleton Univ., Ottawa, Ont.* (Ju. A. Drozd) **51** #589 16A18

Representation of orders over a Dedekind domain. *Symposia Mathematica, V* (*Convegno di Strutture in Corpi Algebrici, INDAM, Rome*, 1973), *pp.* 397–402. *Ac Press, London*, 1975. (I. Reiner) **52** #3295 20C05 (16A18)

See also **Report: Algebra Group**, **50** #6727; **Representations of algebras**, **52** *and* **Bergé, Anne-Marie**, **55** #8005

Jacobowitz, Howard Local isometric embeddings of surfaces into Euclidean four *Indiana Univ. Math. J.* **21** (1971/72), 249–254. (P. Hartman) **46** #6247 53C4

Implicit function theorems and isometric embeddings. *Ann. of Math.* (2) **95** 191–225. (C. S. Houh) **46** #6248 53C40 (58C15)

Deformations leaving a hypersurface fixed. *Partial differential equations Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif.*, 1971), *pp.* 34 *Amer. Math. Soc., Providence, R.I.*, 1973. (M. L. Gromov) **49** #3702 53A05 (58G99)

(*with* Moore, John Douglas) The Cartan-Janet theorem for conformal embed *Indiana Univ. Math. J.* **23** (1973/74), 187–203. (M. Kurita) **47** #5757 53B25

Isometric embedding of a compact Riemannian manifold into Euclidean s *Proc. Amer. Math. Soc.* **40** (1973), 245–246. (M. L. Gromov) **51** #11369 53C

Extending isometric embeddings. *J. Differential Geometry* **9** (1974), 291–307. Gromov) **51** #13942 53C40 (58C15)

Periodic solutions of $x'' + f(x,t) = 0$ via the Poincaré-Birkhoff theorem. *J. Differential Equations* **20** (1976), *no.* 1, 37–52. (R. A. Struble) **52** #14482 34C

Induced connections on hypersurfaces in $\mathbf{C}^{n+1}$. *Invent. Math.* **43** (1977), 109–123. (S. I. Pinčuk) **56** #15972 32C05

Corrigendum: The existence of the second fixed point: a correction to "Pe solutions of $x'' + f(x, t) = 0$ via the Poincaré-Birkhoff theorem" (J. Differential Equations **20** (1976), no. 1, 37–52). *J. Differential Equations* **25** (1977), *no.* 1, 148 (Editors) **55** #10778 34C25 (58F05)

See also **Differential geometry**, **51** #6864

Jacobs, Barry E. On generalized computational complexity. *J. Symbolic Logic* **42** (*no.* 1, 47–58. (L. Hay) **58** #21538 02F27 (68A20)

See also **Davis, Martin**, **50** #77

Jacobs, D. A. H. (*with* Lambert, F.) On the numerical calculation of polylogarit *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 581–585. **48** #1433 6

See also **Numerical methods in fluid dynamics**, **49** #10260 *and* **State of the numerical analysis**, **55** #13726

Jacobs, David R., Jr. (*with* Schach, Siegfried) Stochastic order relationships between $GI/G/k$ systems. *Ann. Math. Statist.* **43** (1972), 1623–1633. (Micha Yadin) **51** # 60K25

Jacobs, I. M. (*with* Viterbi, Andrew J.) Advances in coding and modulation for noncoherent channels affected by fading, partial band, and multiple-access interfere *Advances in communication systems, Vol.* 4, *pp.* 279–308. *Academic Press, New* 1975. (From the introduction) **58** #33493 94A05

Jacobs, Irwin Mark *See* **Key papers in the development of coding theory**, **52** #5176

Jacobs, John B. On classifying simple Lie algebras of prime characteristic by nilp elements. *J. Algebra* **19** (1971), 31–50. (Robert Lee Wilson) **46** #223 17B20

(*with* Benson, Clark T.) On hearing the shape of combinatorial drums. *J. Combinatorial Theory Ser. B* **13** (1972), 170–178. (A. J. Schwenk) **46** #8901 05

Necessary conditions for isomorphism of Lie algebras of Block. *Trans. Amer. M Soc.* **208** (1975), 73–79. (Robert Lee Wilson) **51** #5688 17B20

Jacobs, Konrad Extremalpunkte konvexer Mengen. *Selecta Mathematica, III*, *pp.* 90– *Heidelberger Taschenbücher*, 86. *Springer, Berlin*, 1971. (Author's review (Zbl **219** # **58** #30754 52A40 (46A99)

Recent developments in ergodic theory. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *A*, *pp.* 283–308. *Reidel, Dordrecht*, 1977. (B. M. Gurevič) **58** #22481 28A65 (58 60K35)

See also **Turing machines and recursive functions**, **50** #12679 *and* **Selecta Mathematica**, **58** #20945

Jacobs, Laurence SU(3) theory of fermion-monopole systems. *Phys. Rev. D* (3) **14** (1 *no.* 10, 2739–2746. (M. E. Mayer) **58** #14578 81.35

(*with* Cerveró, José M.; Nohl, Craig R.) Elliptic solutions of classical Yang- theory. *Phys. Lett. B* **69** (1977), *no.* 3, 351–354. (M. Sachs) **56** #10526 81.35

cobs, Marc Q. (*with* Banks, H. T.) Optimal control and linear functional differential equations. *Seminar on Differential Equations and Dynamical Systems, II* (*Univ. Maryland, College Park, Md.*, 1969), *pp.* 5–15. *Lecture Notes in Math., Vol.* 144, *Springer, Berlin*, 1970. (D. K. Hughes) **53** #6394 49B35

(*with* Banks, H. T.; Latina, M. R.) The synthesis of optimal controls for linear, time-optimal problems with retarded controls. *J. Optimization Theory Appl.* **8** (1971), 319–366. (D. H. Chyung) **46** #4325 49B35

An optimization problem for an nth order scalar neutral functional differential equation with functional side conditions. *Delay and functional differential equations and their applications* (*Proc. Conf., Park City, Utah*, 1972), *pp.* 345–352. *Academic Press, New York*, 1972. (D. K. Hughes) **52** #11706 49B35

(*with* Kao, Ti-jeun) An optimum settling problem for time lag systems. *J. Math. Anal. Appl.* **40** (1972), 687–707. (From the introduction) **58** #12580 49A30

(*with* Banks, H. T.) An attainable sets approach to optimal control of functional differential equations with function space terminal conditions. *J. Differential Equations* **13** (1973), 127–149. (T. Yoshizawa) **49** #5991 49B35

(*with* Banks, H. T.; Langenhop, Carl E.) Function space controllability for linear functional differential equations. *Differential games and control theory* (*Proc. NFS-CBMS Regional Res. Conf., Univ. Rhode Island, Kingston, R.I.*, 1973), *pp.* 81–98. *Lecture Notes in Pure Appl. Math., Vol.* 10, *Dekker, New York*, 1974. (T. Yoshizawa) **58** #7332 49E15 (34K05)

(*with* Banks, H. T.; Langenhop, Carl E.) Applications of the Fredholm alternative to controllability of functional differential equations. *Optimal control theory and its applications* (*Proc. 14th Biennial Sem. Canad. Math. Congr., Univ. Western Ontario, London, Ont.*, 1973), *Part II, pp.* 1–23. *Lecture Notes in Econom. and Math. Systems, Vol.* 106, *Springer, Berlin*, 1974. (From the authors' introduction) **57** #5224 93B05

(*with* Banks, H. T.; Langenhop, Carl E.) Characterization of the controlled states in $W_2^{(1)}$ of linear hereditary systems. *SIAM J. Control* **13** (1975), 611–649. (W. T. Reid) **51** #13831 49E15 (49B35)

(*with* Langenhop, Carl E.) Criteria for function space controllability of linear neutral systems. *SIAM J. Control Optimization* **14** (1976), *no.* 6, 1009–1048. (F. M. Kirillova) **54** #5947 49E15

(*with* Pickel, W. C.) Numerical methods for solving time optimal control problems for hereditary systems. *Optimal control and differential equations* (*Proc. Conf., Univ. Oklahoma, Norman, Okla.*, 1977), *pp.* 151–163. *Academic Press, New York*, 1978. (V. Gourishankar) **58** #18041 49A99 (65L99)

See also **Dynamical systems**, **58** #22710

acobs, Neal H. (*with* Rauch, Harry E.; Marz, Jonathan L.) Buckling of a complete spherical shell under uniform external pressure. *Studies in Appl. Math.* **58** (1978), *no.* 2, 141–158. (Authors' summary) **58** #14111 73.34

acobs, O. L. R. (*with* Patchell, J. W.) Separability, neutrality and certainty equivalence. *Internat. J. Control* (1) **13** (1971), 337–342. (N. U. Ahmed) **48** #3582 93E20

(*with* Hughes, D. J.) Simultaneous identification and control using a neutral control law. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 30.2, 7 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33422 93E10

On the functional recurrence equation of optimal discrete-time stochastic control. *Internat. J. Control* **26** (1977), *no.* 5, 763–768. (B. Wittenmark) **56** #14956 93C40 (93E20)

Jacobs, Patricia A. Functionals of an infinite particle system with independent motions, creation, and annihilation. *Advances in Appl. Probability* **6** (1974), 636–650. (Olav Kallenberg) **50** #8764 60K35

A random measure model for the emission of pollutants by vehicles on a highway. *Stochastic Processes Appl.* **2** (1974), 163–176. (E. Arjas) **52** #12117 60K20

(*with* Lewis, Peter A. W.) A mixed autoregressive-moving average exponential sequence and point process (EARMA 1, 1). *Advances in Appl. Probability* **9** (1977), *no.* 1, 87–104. (Alan G. Hawkes) **55** #1456 60G55 (62M10)

A Poisson convergence theorem for a particle system with dependent constant velocities. *Stochastic Processes Appl.* **6** (1977/78), *no.* 1, 41–52. (Olav Kallenberg) **57** #14193 60K35

(*with* Gaver, Donald P.) Non-homogeneously paced random records and associated extremal processes. *J. Appl. Probab.* **15** (1978), *no.* 3, 552–559. (Mark Westcott) **57** #17894 60K99 (60G55)

A cyclic queueing network with dependent exponential service times. *J. Appl. Probab.* **15** (1978), *no.* 3, 573–589. (Peter Purdue) **58** #13400 60K25

Jacobs, Sigvard (*with* Carleson, Lennart) Best uniform approximation by analytic functions. *Ark. Mat.* **10**, 219–229 (1972). (V. P. Havin) **48** #772 41A50 (30A82, 46E15)

schjaer-Jacobsen, Hans *See* **Schjaer-Jacobsen, Hans**

Jacobsen, Martin A characterization of minimal Markov jump processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 32–46. (J. F. C. Kingman) **46** #10076 60J25

Splitting times for Markov processes and a generalised Markov property for diffusions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **30** (1974), 27–43. (A. O. Pittenger) **51** #11670 60J40

(*with* Pitman, J. W.) Birth, death and conditioning of Markov chains. *Ann. Probability* **5** (1977), *no.* 3, 430–450. (R. T. Smythe) **56** #3949 60J10

Jacobsen, Stephen E. On marginal allocation in single constraint min-max problems. *Management Sci.* **17** (1970/71), 780–783. (F. Giannessi) **46** #4933 90C10

On Shepard's duality theorem. *J. Econom. Theory* **4** (1972), *no.* 3, 458–464. (From the author's introduction) **56** #4757 90A15 (90B30)

(*with* Arunkumar, S.) Investment in series and parallel systems to maximize expected life. *Management Sci.* **19** (1972/73), 1023–1028. (F. Beichelt (Zbl **265** #90011)) **51** #2625 90B25

(*with* Bansal, P. P.) Characterization of local solutions for a class of nonconvex programs. *J. Optimization Theory Appl.* **15** (1975), 549–564. (Santosh Kumar) **53** #4980 90C30

(*with* Bansal, P. P.) An algorithm for optimizing network flow capacity under economies of scale. *J. Optimization Theory Appl.* **15** (1975), 565–586. (Nimrod Megiddo) **53** #12550 90B10 (90C30)

(*with* Bali, S.) On the convergence of the modified Tui algorithm for minimizing a concave function on a bounded convex polyhedron. *Optimization techniques* (*Proc. 8th IFIP Conf., Würzburg*, 1977), *Part* 2, *pp.* 59–66. *Lecture Notes in Control and Information Sci., Vol.* 7, *Springer, Berlin*, 1978. (Siegfried Schaible) **58** #15170 90C30

(*with* Torabi, Mohammed) A global minimization algorithm for a class of one-dimensional functions. *J. Math. Anal. Appl.* **62** (1978), *no.* 2, 310–324. (J. Falk) **57** #4516 65K05

See also **Diewert, W. E., 55** #7335 *and* **Field, C. A., 56** #4758

Jacobson, David (*with* Williams, Kenneth S.) On the solution of linear G.C.D. equations. *Pacific J. Math.* **39** (1971), 187–206. (D. H. Lehmer) **46** #3451 10C99

(*with* Williams, Kenneth S.) On the number of distinguished representations of a group element. *Duke Math. J.* **39** (1972), 521–527. (J. D. Dixon) **46** #1608 05A15 (20F10)

On perfect subfields over which a field is separably generated. *Proc. Amer. Math. Soc.* **33** (1972), 292–296. (E. Inaba) **45** #3373 12F10

Linear GCD equations. *Pacific J. Math.* **55** (1974), 177–193. (K. S. Williams) **51** #10327 13G05 (10B05)

(*with* Flatto, Leopold) Functions satisfying the mean value property for product measures. *Amer. J. Math.* **97** (1975), *no.* 4, 1049–1059. (Carlos A. Berenstein) **52** #11083 31B05

Finite rings in which 1 is a sum of two non-p-th power units. *Canad. J. Math.* **28** (1976), *no.* 1, 94–103. (H. H. Storrer) **53** #521 16A44

Jacobson, David H. Totally singular quadratic minimization problems. *IEEE Trans. Automatic Control* **AC-16** (1971), 651–658. (Author's summary) **46** #4315 49B05

On singular arcs and surfaces in a class of quadratic minimization problems. *J. Math. Anal. Appl.* **37** (1972), 185–201. (O. Gürel) **45** #3110 49A05

(*with* Oksman, W.) An algorithm that minimizes homogeneous functions of n variables in $n+2$ iterations and rapidly minimizes general functions. *J. Math. Anal. Appl.* **38** (1972), 535–552. (P. Brock) **46** #10203 65K05

New interpretations and justifications for worst case min-max design of linear control systems. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp.* 353–357. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (A. B. Kuržanskiĭ) **52** #5112 93C05

Optimal stochastic linear systems with exponential performance criteria and their relation to deterministic differential games. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 2, 124–131. (A. B. Kuržanskiĭ) **55** #14386 93E20 (90D25)

(*with* Speyer, Jason L.; Deyst, John) Optimization of stochastic linear systems with additive measurement and process noise using exponential performance criteria. *IEEE Trans. Automatic Control* **AC-19** (1974), 358–366. (V. Kolmanovskiĭ) **54** #7086 93E20

(*with* Pels, L. M.) A modified homogeneous algorithm for function minimization. *J. Math. Anal. Appl.* **46** (1974), 533–541. (S. F. McCormick) **49** #8351 65K05

A general result in stochastic optimal control of nonlinear discrete-time systems with quadratic performance criteria. *J. Math. Anal. Appl.* **47** (1974), 153–161. (H. J. Kushner) **50** #4081 93E20

Factorization of symmetric M-matrices. *Linear Algebra and Appl.* **9** (1974), 275–278. (A. R. Amir-Moéz) **50** #4621 15A24

(*with* Bell, David J.) ★Singular optimal control problems. Mathematics in Science and Engineering, Vol. 117. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1975. xi + 190 *pp.* (D. K. Hughes) **53** #8989 49–02 (93–02)

On the optimal control of systems of quadratic and bilinear differential equations. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 51.4, 3 *pp. IFAC, Düsseldorf*, 1975. (Author's summary) **58** #33289 93C10

Stabilization and optimal control of nonlinear systems homogeneous-in-the-input. *Directions in large-scale systems, many-person optimization and decentralized control* (*Proc. Sympos., Wakefield, Mass.*, 1975), *pp.* 389–399. *Plenum, New York*, 1976. (L. D. Berkovitz) **56** #11324 93D15 (93C15)

(*with* Botsaris, C. A.) A Newton-type curvilinear search method for optimization. *J. Math. Anal. Appl.* **54** (1976), *no.* 1, 217–229. (Norihiko Adachi) **53** #12008 65K05 (90C30)

On fuzzy goals and maximizing decisions in stochastic optimal control. *J. Math. Anal. Appl.* **55** (1976), *no.* 2, 434–440. (H.-J. Engelbert) **54** #4799 93E20

A generalization of Finsler's theorem for quadratic inequalities and equalities. *Quaestiones Math.* **1** (1976), *no.* 1, 19–28. (C. G. Lekkerkerker) **55** #2768 10E25 (90C05)

★Extensions of linear-quadratic control, optimization and matrix theory. Mathematics in Science and Engineering, Vol. 133. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1977. x + 217 *pp.* (Peter A. Cook) **56** #17985 93C05 (93E20)

(*with* Judelman, M.) The effect of data grid size on certain interpolation methods for unconstrained function minimization. *Comput. Math. Appl.* **3** (1977), *no.* 3, 175–182. (Norihiko Adachi) **57** #4474 65D05 (65K05)

On values and strategies for infinite-time linear quadratic games. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 490–491. (Vera Winitzky de Spinadel) **57** #15511 90D25

(*with* Getz, Wayne M.) Sufficiency conditions for finite escape times in systems of quadratic differential equations. *J. Inst. Math. Appl.* **19** (1977), *no.* 4, 377–383. (Authors' summary) **58** #22851 34D20 (92A15)

(*with* Pachter, Meir) Control with conic control constraint set. *J. Optim. Theory Appl.* **25** (1978), *no.* 1, 117–123. (James T. Wong) **58** #15382 93B05

See also **Fjeld, Magne**, **55** #10106

Jacobson, Nathan ★Lectures on quadratic Jordan algebras. Tata Institute of Fundamental Research Lectures on Mathematics, No. 45. *Tata Institute of Fundamental Research, Bombay*, 1969. iv + 178 + 3 *pp.* (E. J. Taft) **48** #4062 17A15

(*with* McCrimmon, Kevin) Quadratic Jordan algebras of quadratic forms with base points. *J. Indian Math. Soc.* (*N.S.*) **35** (1971), 1–45 (1972). (Michel L. Racine) **50** #9999 17C10

Connections between associative and Jordan rings. *Symposia Mathematica, Vol.*

VIII (*Convegno sulle Algebre Associative, INDAM, Rome,* 1970), *pp.* 261–268. *Academic Press, London,* 1972. (C. Tsai) **49** #2859 17A15

(*with* Katz, Jerome M.) Generically algebraic quadratic Jordan algebras. Collection of articles dedicated to the memory of Abraham Adrian Albert. *Scripta Math.* **29**, *no.* 3-4, 215–227 (1973). (Michel L. Racine) **53** #8172 17C10

★Basic algebra. I. *W. H. Freeman and Co., San Francisco, Calif.,* 1974. xvi + 472 *pp.* (M. F. Smiley) **50** #9457 00A05

PI-algebras. *Ring theory* (*Proc. Conf., Univ. Oklahoma, Norman, Okla.,* 1973), *pp.* 1–30. *Lecture Notes in Pure and Applied Mathematics, Vol.* 7, *Dekker, New York,* 1974. (J. L. Fisher) **49** #354 16A38

Abraham Adrian Albert (1905–1972). *Bull. Amer. Math. Soc.* **80** (1974), 1075–1100. (Editors) **49** #7087 01A70 (16–03, 17–03)

★Lectures in abstract algebra. Volume II: Linear algebra. Reprint of the 1953 edition [Van Nostrand, Toronto, Ont.]. Graduate Texts in Mathematics, No. 31. *Springer-Verlag, New York-Berlin,* 1975. xii + 280 *pp.* (Editors) **51** #5614 15–02

★PI-algebras. An introduction. Lecture Notes in Mathematics, Vol. 441. *Springer-Verlag, Berlin-New York,* 1975. iv + 115 *pp.* (Edward Formanek) **51** #5654 16A38

★Lectures in abstract algebra. Vol. I. Basic concepts. Reprint of the 1951 edition. Graduate Texts in Mathematics, No. 30. *Springer-Verlag, New York-Heidelberg,* 1975. xii + 217 *pp.* (Editors) **52** #13044 00A05

★Lectures in abstract algebra. III. Theory of fields and Galois theory. Second corrected printing. Graduate Texts in Mathematics, No. 32. *Springer-Verlag, New York-Heidelberg,* 1975. xi + 323 *pp.* (Editors) **52** #13719 12–02

Some recent developments in the theory of PI-algebras. *Universale Algebren und Theorie der Radikale, pp.* 17–21. *Studien zur Algebra und ihre Anwendungen, Band* 1, *Akademie-Verlag, Berlin,* 1976. (Louis Rowen) **56** #15693 16A38

Structure groups and Lie algebras of Jordan algebras of symmetric elements of associative algebras with involution. *Advances in Math.* **20** (1976), *no.* 2, 106–150. (Holger Petersson) **53** #10886 17C50

(*with* McCrimmon, Kevin; Parvathi, M.) Localization of Jordan algebras. *Comm. Algebra* **6** (1978), *no.* 9, 911–958. (I. P. Šestakov) **58** #28106 17C10

Jacobson, Steven Pointwise bounded approximation and analytic capacity of open sets. *Trans. Amer. Math. Soc.* **218** (1976), 261–283. (T. W. Gamelin) **54** #7794 30A82

Jacoby, Neil H., Jr. (*with* Baker, Robert M. L., Jr.) Preliminary orbit-determination method having no co-planar singularity. *Celestial Mech.* **15** (1977), *no.* 2, 137–160. (See Zbl **391** #70027) 85.35

Jacoby, S. L. S. (*with* Kowalik, J. S.; Pizzo, J. T.) ★Iterative methods for nonlinear optimization problems. Prentice-Hall Series in Automatic Computation. *Prentice-Hall, Inc., Englewood Cliffs, N.J.,* 1972. xi + 274 *pp.* (J. E. Dennis, Jr.) **49** #4194 65–02 (65K05)

(*with* Gagnon, C. R.; Hicks, R. H.; Kowalik, J. S.) A nonlinear programming approach to a very large hydroelectric system optimization. *Math. Programming* **6** (1974), 28–41. (M. Dragomirescu) **50** #1734 90C50

Jacod, Jean Théorème de renouvellement et classification pour les chaînes semi-markoviennes. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **7** (1971), 83–129. (D. Revuz) **46** #4626 (E **50** #5969) 60K05

Générateurs infinitésimaux des processus à accroissements semi-markoviens. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **7** (1971), 219–233. (Author's summary) **46** #958 60J35

Fonctionnelles multiplicatives et sous-processus des *P*-processus. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **7** (1971), 299–325. (Author's summary) **46** #969 60K15

Noyaux multiplicatifs d'un processus de Markov. *Contributions au calcul des probabilités, pp.* 81–117. *Bull. Soc. Math. France, Mém. No.* 35, *Soc. Math. France, Paris,* 1973. (E. Çinlar) **58** #18742 60J40

Fonctionnelles additives et systèmes de Lévy des produits semi-directs de processus de Markov. *Contributions au calcul des probabilités, pp.* 119–144. *Bull. Soc. Math. France, Mém. No.* 35, *Soc. Math. France, Paris,* 1973. (E. Çinlar) **58** #18743 60J40

Semi-groupes et mesures invariantes pour les processus semi-markoviens à espace d'état quelconque. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **9** (1973), 77–112. (N. H. Bingham) **49** #6384 60J75 (60K15)

(*with* Benveniste, Albert) Projection des fonctionnelles additives et représentation des pontentiels d'un processus de Markov. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1365–A1368. (Gunnar A. Brosamler) **48** #5191 60J45

(*with* Benveniste, Albert) Systèmes de Lévy des processus de Markov. *Invent. Math.* **21** (1973), 183–198. (Martin L. Silverstein) **49** #8117 60J45

Corrections et compléments à: "Théorème de renouvellement et classification pour les chaînes semi-markoviennes" (Ann. Inst. H. Poincaré Sect. B (N.S.) 7 (1971), 83–129). *Ann. Inst. H Poincaré Sect. B* (*N.S.*) **10** (1974), 201–209. (D. Revuz) **50** #5969 60K15

Systèmes régénératifs et processsus semi-markoviens. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **31** (1974/75), 1–23. (E. Çinlar) **52** #9391 60J40 (60K15)

Multivariate point processes: predictable projection, Radon-Nikodým derivatives, representation of martingales. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **31** (1974/75), 235–253. (David Oakes) **52** #1875 60G55 (60G45)

(*with* Benveniste, Albert) Intensité stochastique d'un processus ponctuel stationnaire, reconstruction du processus ponctuel à partir de son intensité stochastique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *A*iii, *A*821–*A*824. (P. Jagers) **53** #4223 60G55

Two dependent Poisson processes whose sum is still a Poisson process. *J. Appl. Probability* **12** (1975), 170–172. (D. N. Shanbhag) **51** #6976 60G55

(*with* Mémin, Jean) Un théorème de représentation des martingales pour les ensembles régénératifs. *Séminaire de Probabilités, X* (*Première partie, Univ. Strasbourg, Strasbourg, année universitaire* 1974/1975), *pp.* 24–39. *Lecture Notes in Math., Vol.* 511, *Springer, Berlin,* 1976. (E. Çinlar) **58** #7834 60G45

(*with* Yor, Marc) Étude des solutions extrêmales et représentation intégrale des solutions pour certains problèmes de martingales. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 7, *A*iv, *A*523–*A*525. (Norihiko Kazamaki) **54** #6265 60G45

Un théorème de représentation pour les martingales discontinues. (English summary) *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **34** (1976), *no.* 3, 2
(M. P. Eršov) **54** #6263 60G45 (60H05)

(*with* Mémin, Jean) Caractéristiques locales et conditions de continuité
pour les semi-martingales. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35**
no. 1, 1–37. (M. P. Eršov) **54** #6264 60G45 (60H05)

A general theorem of representation for martingales. *Probability* (*Proc.*
Pure Math., Vol. XXXI, Univ. Illinois, Urbana, Ill., 1976), *pp.* 37–53. *Amer. Ma*
Providence, R. I., 1977. (R. Š. Lipcer) **56** #1447 60G45

Existence, uniqueness, and absolute continuity for stochastic differential equ
Recent developments in statistics (*Proc. European Meeting Statisticians, Grenoble*
pp. 157–170. *North-Holland, Amsterdam,* 1977. (Ju. M. Kabanov) **57** #17826
(60G30, 60G45)

Sur la construction des intégrales stochastiques et les sous-espaces sta
martingales. *Séminaire de Probabilités, XI* (*Univ. Strasbourg, Strasbourg,* 1975
pp. 390–410. *Lecture Notes in Math., Vol.* 581, *Springer, Berlin,* 1977. (Do
Lepingle) **56** #16778 60G45 (60H05)

(*with* Bremaud, Pierre) Processus ponctuels et martingales: résultats récent
modélisation et le filtrage. (English summary) *Advances in Appl. Probability* **9** (19
2, 362–416. (L. I. Gal′čuk) **56** #9684 60G55 (60G45, 60G35)

(*with* Yor, Marc) Étude des solutions extrémales et représentation intégr
solutions pour certains problèmes de martingales. *Z. Wahrscheinlichkeitstheo*
Verw. Gebiete **38** (1977), *no.* 2, 83–125. (L. I. Gal′čuk) **56** #3940 60G45

See also **Benveniste, Albert, 58** #3001

Jacopini, G. Principio di estensionalità nel calcolo dei combinatori. (English sum
Calcolo **11** (1974), *no.* 4, 465–471 (1975). (Henk Barendregt) **53** #2641
(02H10)

A condition for identifying two elements of whatever model of combinatory
λ-*calculus and computer science theory* (*Proc. Sympos., Rome,* 1975), *pp.* 213–219.
Notes in Comput. Sci., Vol. 37, *Springer, Berlin,* 1975. (John Staples) **57** #
02C20

Jacoš, Vasil (*with* Jendrol′, Stanislav) A problem concerning *j*-pancyclic graphs.
Časopis Sloven. Akad. Vied **24** (1974), 259–262. (J. A. Bondy) **51** #12617 05

On *j*-pancyclic graphs. *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no.* 3, 28
(R. Faudree) **54** #154 05C35

dubreil-Jacotin, Marie-Louise *See* **Dubreil-Jacotin, Marie-Louise**

Jacquard, Albert ★Structures génétiques des populations. Avec une préface de J. S
un chapitre de Daniel Courgeau. *Masson et C*^{ie}, *Editeurs, Paris,* 1970. iii + 399 *pp*
Heuch) **54** #9718a 92A10

Genetic information given by a relative. (French summary) *Biometrics* **28**
1101–1114. **48** #8013 92A10

★The genetic structure of populations. Translated from the French by D. Charlesworth and B. Charlesworth, with additions and revisions. With a preface
C. Lewontin and a chapter by Daniel Courgeau. Biomathematics, Vol. 5. *Springer-Verlag, New York-Heidelberg,* 1974. xviii + 569 *pp.* (Ivar Heuch) **54** #97
92A10

(*with* Leviandier, Th.) Homogeneisation of kinship in a small population. *Genealogical mathematics* (*Proc. MSSB Conf., Univ. Texas, Houston, Tex.,* 197
285–290. *Mouton, Paris,* 1974. (Edward Pollak) **52** #2636 92A10

See also **Genetics and social structure, 49** #10401

Jacquemard, Claude Sur le théorème de Stein-Rosenberg, dans le cas des itérations chaotiques à retards. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 887–889. (L. C
50 #15312 65F30

Jacquemin, Alex P. Optimal control and advertising policy. *Metroecon.* **25** (1973), 200–207. (M. Rössler) **49** #8608 90A99

Jacques, A. Constellations et graphes topologiques. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred,* 1969), *pp.* 657–673. *North-Holland, Amsterdam,* 1970. (A. T. White) **45** #6676 05C10

Nombre de cycles d'une permutation et caractères du groupe symétrique. *Permutations* (*Actes Colloq., Univ. René-Descartes, Paris,* 1972), *pp.* 93–96. *Gauthier-Villars, Paris,* 1974. (Henry S. Leonard, Jr.) **50** #4713 20B05

Jacques, Francis Référence et description chez Meinong. De la phénoménologie à l'analyse. Special issue on A. Meinong. *Rev. Internat. Philos.* **27** (1973), *no.*
266–287. (Editors) **58** #27229 02A05

Jacquet, H. Introduction à la théorie des formes automorphes. *Summer School on Representations of Lie Groups* (*Namur,* 1969), *pp.* 181–240. *Math. Dept., Uni*
Brussels, Brussels, 1969. (Editors) **57** #237 22E50 (10D20)

(*with* Langlands, R. P.) ★Automorphic forms on GL(2). Lecture Notes in Mathematics, Vol. 114. *Springer-Verlag, Berlin-New York,* 1970. vii + 548 *pp.* (S. Gelbart) **53** #5481 10D15 (22E55, 12A65, 12A70)

Zeta functions of simple algebras. *Seminar on Modern Methods in Number T*
(*Inst. Statist. Math., Tokyo,* 1971), *Paper No.* 2, 5 *pp. Inst. Statist. Math., Tokyo,*
(Editors) **51** #10300 12A80

Représentations des groupes linéaires *p*-adiques. *Theory of group representations*
Fourier analysis (*Centro Internaz. Mat. Estivo* (*C.I.M.E.*), *II Ciclo, Montecatini Te*
1970), *pp.* 119–220. *Edizioni Cremonese, Rome,* 1971. (J. Dieudonné) **45** #453
22E45 (20G05)

(*with* Godement, Roger) ★Zeta functions of simple algebras. Lecture Note
Mathematics, Vol. 260. *Springer-Verlag, Berlin-New York,* 1972. ix + 188 *pp.* (L. Cor
49 #7241 12A80 (12A65, 12A70, 12B35, 22E55)

★Automorphic forms on GL(2). Part II. Lecture Notes in Mathematics, Vol.
Springer-Verlag, Berlin-New York, 1972. xiii + 142 *pp.* (Stephen Gelbart (Zbl **243** #12005)) **58** #27778 10D15 (22E55)

(*with* Langlands, R. P.) ★Автоморфные формы на GL(2). (Russian) [Automorphic forms on GL(2)] Translated from the English by O. M. Fomenko. Ed
by A. N. Andrianov. *Izdat. "Mir", Moscow,* 1973. 372 *pp.* (Editors) **53** #54
10D15 (22E55, 12A65, 12A70)

Zeta functions of simple algebras (local theory). *Harmonic analysis on homogen*
spaces (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, M*
1972), 381–385. *Amer. Math. Soc., Providence, R.I.,* 1973. (L. Corwin) **50** #45
12B35

(*with* Shalika, Joseph A.) Hecke theory for GL(3). *Compositio Math.* **29** (1974), 75–87. (S. Gelbart) **50** #7037 10D20 (12A70, 22E55, 32N10)

(*with* Piatetski-Shapiro, I. I.; Shalika, Joseph A.) ★Construction of cusp forms on GL(3). Department of Mathematics, University of Maryland, Lecture Note, No. 16. *Department of Mathematics, University of Maryland, College Park, Md.*, 1975. i+85 *pp.* (Stephen Gelbart) **58** #16522 10D15 (22E55)

Euler products and automorphic forms. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B.C.*, 1974), *Vol.* 1, *pp.* 459–463. *Canad. Math. Congress, Montreal, Que.*, 1975. (Stephen Gelbart) **54** #12660 10D20

Sur les représentations des groupes réductifs *p*-adiques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aii, A1271–A1272. (Stephen Gelbart) **51** #5856 22E50

(*with* Piatetski-Shapiro, I. I.; Shalika, Joseph A.) Construction de formes automorphes pour le groupe GL(3). (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 2, Ai, A91–A93. (Stephen Gelbart) **52** #13648 10D20

(*with* Shalika, Joseph A.) A non-vanishing theorem for zeta functions of GL_n. *Invent. Math.* **38** (1976/77), *no.* 1, 1–16. (Mark E. Novodvorsky) **55** #5583 12A70 (10D20, 10H10)

(*with* Gelbart, Stephen S.) A relation between automorphic forms on GL(2) and GL(3). *Proc. Nat. Acad. Sci. U.S.A.* **73** (1976), *no.* 10, 3348–3350. (Roy Fuller) **54** #283 12B35 (10D20, 12A65)

Generic representations. *Non-commutative harmonic analysis* (*Actes Colloq., Marseille-Luminy*, 1976), *pp.* 91–101. *Lecture Notes in Math., Vol.* 587, *Springer, Berlin*, 1977. (P. C. Kutzko) **58** #16985 22E50

(*with* Shalika, Joseph A.) Comparaison des représentations automorphes du groupe linéaire. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 13, A741–A744. (Authors' summary) **55** #5539 10D15 (22E55)

See also **Séminaire: Banach**, **51** #8773

c-Jacquet, Marc *See* **Duc-Jacquet, Marc**

cquet, P. *See* **Operational Research**, **49** #12059

cquet-Lagreze, Eric Analyse d'opinions valuées et graphes de préférence. *Math. Sci. Humaines No.* 33 (1971), 33–55. (Vo-Khac Khoan) **45** #9409 62F05

Le problème de l'agrégation des préférences: une classe de procédures à seuil. (English summary) Opinions et scrutins: analyse mathématique. *Math. Sci. Humaines No.* 43 (1973), 29–37. (B. G. Mirkin) **51** #5069 92A20

How we can use the notion of semiorders to build outranking relations in multicriteria decision making. (French, German, Italian and Spanish summaries) *Metra* **13** (1974), 59–86, 95–97. (B. G. Mirkin) **57** #11662 90A05

See also **Bouroche, Jean-Marie**, **55** #7298

cquez, John A. (*with* Daniels, Eugene) Differential equations in physiology and how to find them. *Delay and functional differential equations and their applications* (*Proc. Conf., Park City, Utah*, 1972), *pp.* 181–183. *Academic Press, New York*, 1972. (W. C. Rheinboldt) **52** #7582 92A05

(*with* Foster, David M.) Multiple zeros for eigenvalues and the multiplicity of traps of a linear compartmental system. *Math. Biosci.* **26** (1975), *no.* 1/2, 89–97. (Brian D. Sleeman) **53** #10352 92A05

acquier-Bryssine, Nadiejda (*with* Pacquement, Antoine) Sur une extension du procédé d'intégration de O. Perron. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 20, Aii, A839–A842. (Authors' summary) **55** #8273 26A39

acquot, Jean Harriot, Hill, Warner and the new philosophy. *Thomas Harriot: Renaissance scientist*, *pp.* 107–128. (1 *plate*) *Clarendon Press, Oxford*, 1974. (J. S. Joel) **58** #10048 01A45

acquot, R. G. (*with* Constantinides, C. T.; Kia-Koojoori, T.) Stability of a feedback controlled distributed system by modal representation. *Internat. J. Systems Sci.* **7** (1976), *no.* 9, 989–1003. (Shinzo Kitamura) **55** #12237 93D15

acun, V. A. Certain analytic properties of expansions in Jacobi polynomials. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 429–431, 478. (M. Tomić) **45** #611 33A65 (30A16)

Representation of partial wave amplitudes by power moments and its consequences. I. (Russian. English summary) *Teoret. Mat. Fiz.* **13** (1972), *no.* 3, 351–361. (Author's summary) **57** #8619 81.35

On a generalized moment problem. *Helv. Phys. Acta* **47** (1974/75), 631–644. (J. L. Ullman) **51** #6306 44A50

A certain property of the sequence of moments. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 135–139, 144. (A. Devinatz) **50** #5388 44A50

acunov, A. I. (*with* Romankevič, A. M.) A certain method of representing Boolean functions. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 3, 30–35. (Authors' summary) **50** #4137 94A20

manin-Jacur, G. *See* **Romanin-Jacur, G.**

acur, G. Romanin *See* **Conference: Optimization Techniques**, **48** #5758

acusiel, P. (*with* Rootenberg, Jacob) On the design of suboptimal linear time-varying systems. *Proc. IEEE* **58** (1970), 258–259. (D. F. Lawden) **46** #8733 93E20

acy Monteiro, L. H. ★Teoria de Galois. (Portuguese) [Galois theory] *Instituto de Pesquisas Matemáticas, Universidade de São Paulo, São Paulo*, 1969. v+187 *pp.* (J. S. Joel) **54** #10184 12–01

acyno, Zdzislaw Stabilité des systèmes à constantes réparties. (English summary) *Automatic Control Theory Appl.* **2** (1974), *no.* 1, 1–7. (V. M. Popov) **49** #4618 93D05

Second order conservative systems. (French summary) *Automatic Control Theory Appl.* **3** (1975), *no.* 2, 34–40. (P. C. Parks) **52** #8574 34C99

acyšin, A. E. (*with* Nazarov, O. V.) On the question of the analysis of linear dynamical systems in the Walsh basis. (Russian) *Voprosy Teor. Sistem Avtomat. Upravlenija Vyp.* 3 (1977), 66–74, 116. (Authors' summary) **58** #4563 93E10

adczyk, A. Z. A note on scale transformations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 683–687. (W. Güttinger) **48** #7831 81.46

(*with* Jancewicz, Bernard) Maximal localizability of photons. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 477–484. (George Zipfel, Jr.) **48** #5551 81.47

Extensions of projective representations to unitary group representations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 581–583. (A. O. Barut) **50** #3793 81.22 (22E70)

Note on canonical commutation relations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 963–965. (Panayotis Tsilimigras) **53** #10002 81.47

Magnetic charge quantization and generalized imprimitivity systems. *Internat. J. Theoret. Phys.* **14** (1975), *no.* 3, 183–192. (Derek Capper) **54** #1987 81.47

(*with* Cegła, Wojciech) Logics generated by causality structures. Covariant representations of the Galilean logic. *Rep. Mathematical Phys.* **9** (1976), *no.* 3, 377–385. (C. W. Kilmister) **55** #5021 81.46

(*with* Cegła, Wojciech) Causal logic of Minkowski space. *Comm. Math. Phys.* **57** (1977), *no.* 3, 213–217. (Authors' summary) **57** #8528 81.06

Jaderberg, Linda K. (*with* Busenberg, Stavros N.) Decay characteristics for differential equations without linear terms. *J. Differential Equations* **18** (1975), 87–102. (F. Brauer) **51** #3625 34D10

Jadgarov, Dž. Ja. Application of affine mapping to the solution of certain problems. (Russian) *Taškent. Gos. Univ.-Buharsk. Ped. Inst. Naučn. Trudy Vyp.* 2(16) (1967), 62–65. (V. Medek) **53** #11477 50B05

(*with* Muradov, Š.) Determination of the geometric locus of the centers of ellipses belonging to a set of planes. (Russian) *Taškent. Gos. Univ.—Buharsk. Ped. Inst. Naučn. Trudy No.* 4(18) (1969), 165–180. (RŽMat **1969** #8 A482) **58** #30706 50B05

Jadina, V. F. Methods of estimating the necessity of calculating the accumulation of break-downs in the analysis of the reliability of a finite automaton. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 6, 39–43. (Author's summary) **45** #8442 94A30

(*with* Skljarevič, A. N.; Denisenko, O. S.) Testing of combinational schemes with ramifications. (Russian) *Theory of finite automata and its applications*, *No.* 3 (*Russian*), *pp.* 5–18, 78. *Izdat. "Zinatne", Riga*, 1974. (Authors' summary) **54** #12398 94A20

See also **Questions of the reliability of discrete automata**, **47** #6136

Jadiya, B. L. (*with* Pendharker, G. M.) Approximation of a function its Laguerre expansion. *Vikram* **19** (1975), *no.* 1-3, 37-42. (Authors' summary) **58** #28732 33A65

Jadrenko, M. Ĭ. (*with* Ēžov, Ī. Ī.) Some life span distributions with random failure rate. (Russian) *Avtomat. i Vyčisl. Tehn.* **1967**, *no.* 4, 55–57. (K. Sarkadi) **46** #2805 62N05

Statistical problems for isotropic random fields. (Russian) *Proceedings of the Eighth Mathematical Summer School* (*Kaciveli*, 1970) (*Russian*), *pp.* 237–283. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (M. Iosifescu) **51** #6962 60G30 (62M10)

A certain interpolation problem for a homogeneous and isotropic random field. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 4 (1971), 212–220. (Z. Zerakidze) **48** #1306 60G25

(*with* Nagornii̇, V. N.) Polynomial interpolation of random processes. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv.* **1971**, *no.* 13, 10–12, 145. (A. Ja. Dorogovcev) **46** #6551 62M99

(*with* Gīhman, Ĭ. Ī.; Taratuta, A. S.) Certain models of random fluctuations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 14 (1971), 36–47. (József Pergel) **46** #10152 62M15

A certain problem of linear interpolation for a homogeneous isotropic random field. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 346–347, 383. (Ju. I. Petunin) **46** #10028 60G25 (94A10)

Isotropic random fields on a sphere in Hilbert space. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 6 (1972), 142–146. (R. M. Dudley) **46** #6441 60G20

The absolute continuity of measures corresponding to homogeneous Gaussian random fields. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 7 (1972), 152–161, 167. (From the author's summary) **55** #6554 60G30

Quasianalytic random fields. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 14 (1972), 59–61, 148. (From the author's summary) **56** #9662 60G17

(*with* Breĭ, V. V.; Nagornii̇, V. N.; Pogorelyĭ, L. V.) The simulation of certain classes of stochastic processes. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 17 (1972), 39–50. (I. Văduva) **47** #6053 65C10

(*with* Pogorelyĭ, L. V.) Certain models of random processes that describe the operation of moving assemblages. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 18 (1972), 102–107. (A. Moro) **48** #1326 60J20

(*with* Hacet, S. V.) Certain statistical problems for isotropic random fields on a sphere. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp.* 242–250. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Editors) **54** #14071 60G25 (62M10)

Optimal linear estimates of the regression coefficients of isotropic random fields. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 1303–1306. (RŽMat **1973** #10 V190) **58** #24796 62M10

On optimal linear estimates of expectation and regression coefficients of homogeneous and isotropic random fields. *Problemy Upravlenija i Teorii Informacii* **2** (1973), *no.* 1, 17–26; *translated as Problems of Control and Information Theory* (*English translation of Communications in Russian*) **2** (1973), *no.* 1, 1–9. (E. J. Hannan) **48** #10018 62M10

Optimal linear estimates of the regression coefficients of isotropic random fields. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 3, 68–79. (Ivar Petersen) **48** #5296 62M10

(*with* Skorohod, A. V.) Absolute continuity of measures that correspond to homogeneous Gaussian fields. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 30–43. (J. L. Doob) **47** #1120 60G30 (60G15)

The orthogonality of measures that correspond to homogeneous Gaussian random fields. (Russian) *Theory of random processes*, *No.* 2 (*Russian*), *pp.* 131–135, 140. *Izdat. "Naukova Dumka", Kiev*, 1974. (Author's summary) **55** #6555 60G30

Linear and quadratic functionals on homogeneous and isotropic Gaussian random fields. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 884–886, 956. (M. Skalsky) **50** #11410 60G15

A problem of the discrimination of hypotheses for isotropic random fields. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 68–72. (T. Nemetz) **54** #6255 60G30 (62M99) (*with* Rudomanov, V. I.; Sinjavs'kiĭ, V. F.) The simulation of realizations of stationary random processes. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 24 (1974), 33–40, 158. (H. Salehi) **51** #1928 60G10 (65C05)

(*with* Al′-Madani, M. G.) Spectral decompositions of homogeneous and isotropic vector random fields. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 99–101, 187. (E. V. Bulinskaja) **52** #15626 60G10

(*with* Leonenko, M. M.) The central limit theorem for homogeneous and isotropic random fields. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 4, 314–316, 380. (G. K. Eagleson) **51** #14215 60F05 (60G10)

The integral equations of the statistics of homogeneous and isotropic random fields. I. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 12 (1975), 159–169, 175. (G. M. Molčan) **52** #15645 60G25 (62M10)

(*with* Al′-Madani, M. G.) On a filtering problem for homogeneous and isotropic random fields. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 13 (1975), 13–20, 160. (P. S. Knopov) **54** #14081 60G35

(*with* Kozačenko, Ju. V.) Local properties of sample functions of random fields. I. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 14 (1976), 53–66, 155. (1 *table*) (R. M. Dudley) **54** #6252 60G17

(*with* Kozačenko, Ju. V.) Local properties of sample functions of random fields. II. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 15 (1976), 82–98, 155. (R. M. Dudley) **54** #6253 60G17

(*with* Hacet, S. B.) Optimal estimates of the unknown mean value of a homogeneous random field on the cylinder. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 18 (1976), 75–80, 143. (Authors' summary) **58** #13578 62M99 (62F10)

(*with* Docenko, B. I.; Kurčenko, O. O.) A problem of nonlinear filtering of a random process. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 28 (1976), 100–107, 154. (Z. A. Piranašvili) **56** #9667 60G35

(*with* Docenko, B. I.; Kurčenko, O. O.) A nonlinear filtering problem for a random process. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 29 (1976), 123–129, 155. (Authors' summary) **56** #13346 60G35

(*with* Al′-Madani, M. G.) A problem of linear extrapolation of a vector-valued homogeneous and isotropic random field. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 10, 871–873, 958. (R. M. Dudley) **58** #13307 60G10

(*with* Leonenko, M. M.) The asymptotic normality of least squares estimates of the regression coefficients of homogeneous and isotropic random fields. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 2, 108–112. (Authors' summary) **58** #31665 62M10

(*with* Mokljačuk, M. P.) Linear statistical problems for isotropic random fields on the sphere that are homogeneous with respect to time. I. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 18 (1978), *no.* 106–115, 182. (G. M. Molčan) **58** #24512a 60G25 (62M10, 62M20)

(*with* Mokljačuk, M. P.) Linear statistical problems for isotropic random fields on the sphere that are homogeneous with respect to time. II. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 19 (1978), *no.* 111–121, 159. (G. M. Molčan) **58** #24512b 60G25 (62M10, 62M20)

See also **Selected translations in mathematical statistics and probability**, **49** #4728 *and* **Symposium: Information Theory**, **50** #9416

Jadykin, A. B. (*with* Propoĭ, A. I.) A modification of duality relation in dynamic linear programming. *Avtomat. i Telemeh.* **1975**, *no.* 5, 106–114 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 5, *part* 2, 796–804. (Authors' summary) **56** #8014 90C40

(*with* Propoĭ, A. I.) A parametric iterative method for the solution of linear dynamic programming problems. I. The nondegenerate case. *Avtomat. i Telemeh.* **1975**, *no.* 12, 127–135 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 12, *part* 2, 2046–2054. (Authors' summary) **56** #10999 90C40

A parametric method in the problem of quadratic programming with a degenerate quadratic form. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 6, 1436–1446, 1624. (A. B. Pevnyĭ) **53** #4975 90C20

An iterative method in linear dynamic programming based on using an augmented Lagrangean function. *Progress in operations research, Vols. I, II* (*Proc. Sixth Hungarian Conf., Eger*, 1974), *pp.* 963–969. *Colloq. Math. Soc. János Bolyai, Vol.* 12, *North-Holland, Amsterdam*, 1976. (S. N. Afriat) **58** #23942 49D99 (90C50)

(*with* Propoĭ, A. I.) A parametric iterative method for the solution of linear dynamic programming problems. II. A general case. *Avtomat. i Telemeh.* **1976**, *no.* 2, 136–145 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 2, *part* 2, 243–252. (Authors' summary) **56** #11000 90C40

Method of factoring in solution of problems of parametric quadratic programming. *Avtomat. i Telemeh.* **1977**, *no.* 11, 132–141 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 11, *part* 2, 1687–1695 (1978). (Josef Kaška) **58** #4299 90C05

Parametrization in degenerate quadratic programming problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 3, 634–648, 803. (Ulrich Eckhardt) **56** #7984 90C20

(*with* Propoĭ, A. I.) Parametric quadratic and linear programming. II. *Avtomat. i Telemeh.* **1978**, *no.* 4, 135–143 (*Russian. English summary*); *translated as Automat. Remote Control* **39** (1978), *no.* 4, *part* 2, 578–586. (F. Giannessi) **58** #25992 90C20

Jadykin, I. B. (*with* Petrov, B. N.; Rutkovskiĭ, V. Ju.; Zemljakov, S. D.; Krutova, I. N.) Non-searching self-adjusting systems (NSAS): theoretical foundations and prospects. With a discussion by Jiří Benes. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 37.5, 15 *pp.*, A38. *IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33381 93D05

See also **Theory and methods of construction of multivariable control systems**, **50** #6585

Jaeckel, Louis A. Some flexible estimates of location. *Ann. Math. Statist.* **42** (1971), 1540–1552. (A. P. Basu) **50** #3443 62G05

Estimating regression coefficients by minimizing the dispersion of the residuals. *Ann. Math. Statist.* **43** (1972), 1449–1458. (P. K. Bhattacharya) **50** #1424 62J05

Jaeger, Arno (*with* Wenke, Klaus) ★Lineare Wirtschaftsalgebra. Eine Einführung. Leitfäden der Angewandten Mathematik und Mechanik, Band 13. *B. G. T* *Stuttgart*, 1969. x + 334 *pp.* (Peter Bod) **55** #12744 15–01 (90–01)

A plea for preordinators. *Mathematical economics and game theory*, *pp.* 6 *Lecture Notes in Econ. and Math. Systems, Vol.* 141, *Springer, Berlin*, 1977. (H Werner) **56** #15504 06A10

Jaeger, François (*with* Payan, Charles) Nombre maximal d'arêtes d'un hypergraphe τ-critique de rang *h*. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A221–A223. (A summary) **58** #21812 05C35

(*with* Payan, Charles) Relations du type Nordhaus-Gaddum pour le nombre d'absorption d'un graphe simple. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A728–A730. (R. C. Read) **45** #3234 05C99

Sur l'indice chromatique du graphe représentatif des arêtes d'un graphe régul *R. Acad. Sci. Paris Sér. A-B* **277** (1973), A237–A239. (W. G. Brown) **48** # 05C15

On vertex-induced forests in cubic graphs. *Proceedings of the Fifth South Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ Raton, Fla.*, 1974), *pp.* 501–512. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.*, 1974. (H. Fleischner) **50** #9650 05C05

Sur l'indice chromatique du graphe représentatif des arêtes d'un graphe ré *Discrete Math.* **9** (1974), 161–172. (J. A. Bondy) **50** #6908 05C15

On nowhere-zero flows in multigraphs. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 373–378. *Con Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (W.-K. Chen) **52** # 90B10 (05B35)

On parity patterns of even *Q*-angulations. *J. Combinatorial Theory Ser. B* **21** (*no.* 3, 206–211. (D. Barnette) **57** #5805 05C10 (57C15)

Balanced valuations and flows in multigraphs. *Proc. Amer. Math. Soc.* **55** (*no.* 1, 237–242. (D. J. Kleitman) **55** #191 05C99

(*with* Nguyen Huy Xuong; Payan, Charles) Genre maximal et connectivite graphe. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 5, *A*337–*A*339. (Authors' summary) **56** #2857 05C10

Sur certaines valuations des hypergraphes d'intervalles. (English summary) *Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 7, A487–A489. (From the summary) **58** #21785 05C25

See also **Problems: Combinatorial mathematics**, **53** #141

Jaeger, J. C. (*with* Starfield, A. M.) ★An introduction to applied mathematics. S edition. *Clarendon Press, Oxford*, 1974. xii + 504 *pp.* (Editors) **51** #12052 69.0

Jaeger, Jens Pythagorean number sets. (Danish. English summary) *Nordisk Mat. T* **24** (1976), *no.* 2, 56–60, 75. (Author's summary) **56** #15540 10A25

Jaegermann, Michal Morita contexts and radicals. (Russian summary) *Bull. Acad. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 619–623. (R. L. Kruse) **47** # 16A21

(*with* Krempa, Jan) Rings in which ideals are annihilators. *Fund. Math.* **76** (*no.* 2, 95–107. (G. Krause) **46** #5381 16A34

Normal radicals of rings of additive categories. (Russian summary) *Bull. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 883–885. (L. S. Ioffe) **53** # 16A21

Normal radicals of endomorphism rings of free and projective modules. *Math.* **86** (1975), *no.* 3, 237–250. (Darrell R. Turnidge) **56** #15687 16A21

Normal radicals. *Fund. Math.* **95** (1977), *no.* 3, 147–155. (N. Divinsky) **58** # 16A21

(*with* Sands, A. D.) On normal radicals, *N*-radicals, and *A*-radicals. *J. Algeb* (1978), *no.* 2, 337–349. (R. Wiegandt) **58** #16745 16A21

tomczak-Jaegermann, Nicole *See* **Tomczak-Jaegermann, Nicole**

Jaenicke, Joachim Bemerkung über die Singularität von Lösungen der ersten Randwertaufgabe hyperbolischer Differentialgleichungen. *Ann. Acad. Sci. Fenn. S I No.* 543 (1973), 6 *pp.* (William Margulies) **48** #6706 35L10

Jaenisch, Sigbert Stückweise-linear approximierbare quasikonforme Homöomorphi *N*-dimensionaler Gebiete. *Mitt. Math. Sem. Giessen No.* 99 (1973), iii + 95 *pp.* (See **267** #30020) 30A60

Jaeschke, G. *See* **Erdős, Paul**, **53** #7969

Jaeschke, Gerhard Vicinal sequencing problems. *Operations Res.* **20** (1972), 984 (Louis J. Billera) **48** #10478 90B35 (05C35)

Jafaev, D. R. The spectrum of the perturbed polyharmonic operator. (Russian) *Prob of mathematical physics, No. 5: Spectral theory* (*Russian*), *pp.* 122–128. *Izdat. Lenin Univ., Leningrad*, 1971. (H. Baumgärtel) **46** #2493 47F05 (31B30, 35P05)

The discrete spectrum of the three-particle Schrödinger operator. (Russian) *Akad. Nauk SSSR* **206** (1972), 68–70. (R. C. Gilbert) **48** #956 47F05 (81.47)

The point spectrum in the quantum mechanical many particle problem. (Russ *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 4, 103–104. (J. Wiesner) **46** #10336

Trace formulas for charged particles in nonrelativistic quantum mechanics. (Russian. English summary) *Teoret. Mat. Fiz.* **11** (1972), *no.* 1, 78–92. (Aut summary) **57** #15070 81.47

The spectrum of the perturbed polyharmonic operator. II. (Russian) *Problem mathematical physics, No.* 6 (*Russian*), *pp.* 142–148. (*errata insert*) *Izdat. Lenin Univ., Leningrad*, 1973. (H. Baumgärtel) **51** #10899 35P05

On the theory of the discrete spectrum of the three-particle Schrödinger oper (Russian) *Mat. Sb.* (*N.S.*) **94(136)** (1974), 567–593, 655–656. (Yu. S. Sayasov) **50** #9221 81.35 (35J10, 35P05)

Remark on scattering theory for a perturbed polyharmonic operator. (Russ *Mat. Zametki* **15** (1974), 445–454. (J. R. Schulenberger) **50** #796 35P25 (47A4

The finiteness of the discrete spectrum of the three-particle Schrödinger oper (Russian. English summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 2, 185–195. (Aut summary) **58** #14665 81.47

The virtual level of the Schrödinger equation. (Russian) Mathematical questio the theory of wave propagation, 7. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Steklov.* (*LOMI*) **51** (1975), 203–216, 220. (Yu. S. Sayasov) **53** #12353 81.47

The point spectrum in the quantum mechanical problem of many particles. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 4, 908–948, 951. (A

Arsen′ev) **54** #9414 81.35 (35P05)

The number of discrete levels in the quantum three-particle problem. (Russian. English summary) *Teoret. Mat. Fiz.* **27** (1976), *no.* 1, 55–66. (Author's summary) **56** #7561 81.35

(*with* Deĭč, V. G.; Korotjaev, E. L.) Potential scattering with allowance for spatial anisotropy. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 4, 749–752. (Boris Pavlov) **58** #29423 35P25 (47A40, 81.35)

(*with* Korotjaev, E. L.) Traces on surfaces in function classes with dominating mixed derivatives. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 10. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **69** (1977), 106–123, 275. (A. Kufner) **58** #2230 46E35

See also **Spectral theory**, **49** #4733

farian, Ali A. On reductive operators. *Indiana Univ. Math. J.* **23** (1973/74), 607–613. (Edward Azoff) **49** #1205 47B40

Some results on $\mathfrak{A}$-unitary, $\mathfrak{A}$-self-adjoint and decomposable operators. *Indiana Univ. Math. J.* **23** (1973/74), 975–979. (K. K. Oberai) **49** #3590 47B40

Existence of hyperinvariant subspaces. *Indiana Univ. Math. J.* **24** (1974/75), 565–575. (C. R. Putnam) **50** #14278 47A15

(*with* Vasilescu, Florian-Horia) A characterization of 2-decomposable operators. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 769–771. (Henry R. Dowson) **50** #10889 47B40

Weak and quasi-decomposable operators. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 2, 195–212. (R. G. Bartle) **56** #6459 47B40 (47A15)

Weak contractions of Sz.-Nagy and Foiaş are decomposable. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 4, 489–497. (H. A. Gindler) **56** #6458 47B40 (47A65)

farov, Š. A. A linear-fractional integral of the geodesics in quasieuclidean spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 5(108), 109–116. (E. Vamanu) **45** #9264a 53B20

A linear fractional integral of the geodesics in Weyl spaces and Riemannian spaces of two dimensions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematicka* **1972**, *no.* 3(118), 108–118. (E. Vamanu) **45** #9264b 53B20

Nonequiaffine spaces of an affine connection of two dimensions that admit the field of an absolutely parallel vector. (Russian) *Ufim. Aviacion. Inst. Trudy. No.* 43 (1972), 72–81. (*errata insert*) (See RŽMat **1973** #9 A675) 53B05

Linear-fractional integral of the geodesic lines of two-dimensional affinely connected spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973** *no.* 5(132), 109–115. (E. Vamanu) **48** #12341 53B05

A quadratic-fractional integral of the geodesics in two-dimensional spaces with affine connection. (Russian) *Differential geometry*, *No.* 1 (*Russian*), *pp.* 118–132, 139. *Izdat. Saratov. Univ.*, *Saratov*, 1974. (E. Siwek) **54** #6003 53B05

Weyl spaces of two dimensions that admit an isotropic linear-fractional integral of the geodesics. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 4(143), 120–128. (A. Goetz) **50** #11081 53C05

The singular geodesic fields of a two-dimension space with affine connection. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 9(148), 90–99. (K. Bélteky) **52** #9101 53B05

(*with* Norden, A. P.) Theory of the nongeodesic vector field in affinely connected spaces of two dimensions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 12(151), 29–34. (A. Goetz) **52** #4155 53B05

A convergent linear-fractional integral of the geodesics in two-dimensional affinely connected spaces. I. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 8 (159), 106–108. (Gheorghe Murărescu) **56** #6555 53B05

The convergence of vector fields, and convergent nets of a space with an affine connection of two dimensions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 12 (163), 70–78 (1976). (L. Tamássy) **55** #8978 53B05

Geodesic vector fields in a two-dimensional space with affine connection of two dimensions. I. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 5(168), 124–126. (A. Švec) **57** #13738a 53B05

Geodesic vector fields of a space with affine connection of two dimensions. II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 6(169), 125–127. (A. Švec) **57** #13738b 53B05

A convergent linear-fractional integral of the geodesics in two-dimensional affinely connected spaces. II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 7(170), 117–118. (Gheorghe Murărescu) **58** #12765 53B05

Nets in a Weyl space of dimension two. I. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 12(187), 118–124. (W. Wrona) **58** #30890 53B99

affard, P. ★Probabilités. Résumé de cours-exercices-problèmes. Collection "Comprendre et Appliquer" Mathématiques Pratiques Élémentaires, No. 9. *Masson*, *Paris-New York-Barcelona*, 1976. iii + 61 *pp.* (From the preface) **58** #7756 60–01

affe, Arthur (*with* Glimm, James) The energy momentum spectrum and vacuum expectation values in quantum field theory. II. *Comm. Math. Phys.* **22** (1971), 1–22. (W. Faris) **45** #4775 81.47

(*with* Glimm, James) Positivity and self adjointness of the $P(\phi)_2$ Hamiltonian. *Comm. Math. Phys.* **22** (1971), 253–258. (S. Aramaki) **50** #6368 81.47

(*with* Glimm, James) The Yukawa$_2$ quantum field theory without cutoffs. *J. Functional Analysis* **7** (1971), 323–357. (Authors' summary) **54** #6755 81.46

(*with* Glimm, James) Boson quantum field models. *Mathematics of contemporary physics* (*Proc. Instructional Conf.* (*NATO Advanced Study Inst.*), *Bedford Coll.*, *London*, 1971), *pp.* 77–143. *Academic Press*, *New York*, 1972. (Editors) **58** #32630 81.60

(*with* Glimm, James) The $\lambda\phi_2^4$ quantum field theory without cutoffs. IV. Perturbations of the Hamiltonian. *J. Mathematical Phys.* **13** (1972), 1568–1584. (W. Faris) **47** #6230 81.46

(*with* Glimm, James) What is renormalization? *Partial differential equations* (*Proc. Sympos. Pure Math.*, *Vol. XXIII*, *Univ. California*, *Berkeley*, *Calif.*, 1971), *pp.* 401–411. *Amer. Math. Soc.*, *Providence*, *R.I.*, 1973. (S. Aramaki) **49** #11992 81.47

(*with* Glimm, James) The particle search in a quantum field model. *Bull. Amer. Math. Soc.* **79** (1973), 979–980. (W. Faris) **50** #3811 81.47

(*with* Glimm, James) Positivity of the ϕ_3^4 Hamiltonian. *Fortschr. Physik* **21** (1973), 327–376. (R. Høegh-Krohn) **53** #12345 81.47

(*with* Glimm, James) The entropy principle for vertex functions in quantum field models. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **21** (1974), 1–25. (Thomas Spencer) **52** #12615 81.47

(*with* Glimm, James) Critical point dominance in quantum field models. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **21** (1974), 27–41. (Sergio Albeverio) **54** #1981 81.47

(*with* Glimm, James; Spencer, Thomas) The Wightman axioms and particle structure in the $\mathcal{P}(\phi)_2$ quantum field model. *Ann. of Math.* (2) **100** (1974), 585–632. (H. Araki) **50** #15694 81.46

(*with* Glimm, James) Remark on the existence of φ_4^4. *Phys. Rev. Lett.* **33** (1974), 440–442. (U. Cattaneo) **53** #4799 81.46

(*with* Glimm, James) Particles and bound states and progress toward unitarity and scaling. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ.*, *Kyoto*, 1975), *pp.* 118–127. *Lecture Notes in Phys.*, 39. *Springer*, *Berlin*, 1975. (Authors' introduction) **58** #32580 81.47

(*with* Glimm, James) Absolute bounds on vertices and couplings. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **22** (1975), *no.* 2, 97–107. (H. Araki) **52** #4889 81.47

(*with* Glimm, James) On the approach to the critical point. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **22** (1975), *no.* 2, 109–122. (H. Araki) **52** #4890 81.47

(*with* Glimm, James) Two and three body equations in quantum field models. *Comm. Math. Phys.* **44** (1975), *no.* 3, 293–320. (R. Høegh-Krohn) **54** #1982 81.47

(*with* Glimm, James; Spencer, Thomas) Phase transitions for ϕ_2^4 quantum fields. *Comm. Math. Phys.* **45** (1975), *no.* 3, 203–216. (H. Araki) **52** #12616 81.47

(*with* Glimm, James) Three-particle structure of ϕ^4 interactions and the scaling limit. *Phys. Rev. D* (3) **11** (1975), 2816–2827. (Authors' summary) **56** #10581 81.47

Problèmes ergodiques dans la théorie quantique des champs. *International Conference on Dynamical Systems in Mathematical Physics* (*Rennes*, 1975), *pp.* 105–112. *Astérisque*, *No.* 40, *Soc. Math. France*, *Paris*, 1976. (Thomas Spencer) **56** #7659 81.60

(*with* Glimm, James) ϕ^j bounds in $P(\phi)_2$ quantum field models. (French summary) *Les méthodes mathématiques de la théorie quantique des champs* (*Colloq. Internat. CNRS*, *No.* 248, *Marseille*, 1975), *pp.* 147–156. *Éditions Centre Nat. Recherche Sci.*, *Paris*, 1976. (Authors' summary) **57** #18601 81.46

(*with* Glimm, James) Critical problems in quantum fields. (French summary) *Les méthodes mathématiques de la théorie quantique des champs* (*Colloq. Internat. CNRS*, *No.* 248, *Marseille*, 1975), *pp.* 157–173. *Éditions Centre Nat. Recherche Sci.*, *Paris*, 1976. (Authors' summary) **57** #18633 81.53 (53C05)

(*with* Glimm, James; Spencer, Thomas) Existence of phase transitions for ϕ_2^4 quantum fields. (French summary) *Les méthodes mathématiques de la théorie quantique des champs* (*Colloq. Internat. CNRS*, *No.* 248, *Marseille*, 1975), *pp.* 175–184. *Éditions Centre Nat. Recherche Sci.*, *Paris*, 1976. (Authors' summary) **57** #18595 81.46

(*with* Glimm, James) Critical exponents and renormalization in the ϕ^4 scaling limit. *Quantum dynamics*: *models and mathematics* (*Proc. Sympos.*, *Centre for Interdisciplinary Res.*, *Bielefeld Univ.*, *Bielefeld*, 1975), *pp.* 147–166. *Acta Phys. Austriaca*, *Suppl. XVI*, *Springer*, *Vienna*, 1976. (Editors) **58** #32579 81.47

(*with* Glimm, James; Spencer, Thomas) An asymptotic perturbation expansion for multiphase Φ_2^4. *Quantum dynamics*: *models and mathematics* (*Proc. Sympos.*, *Centre for Interdisciplinary Res.*, *Bielefeld Univ.*, *Bielefeld*, 1975), *pp.* 167–175. *Acta Phys. Austriaca*, *Suppl. XVI*, *Springer*, *Vienna*, 1976. (From the introduction) **58** #32633 81.60 (81.47)

Mathematical problems motivated by quantum field theory. *Symposia Mathematica*, *Vol. XX* (*Convegno sulle Algebre C* e loro Applicazioni in Fisica Teorica*, *Convegno sulla Teoria degli Operatori Indice e Teoria K*, *INDAM*, *Roma*, 1975), *pp.* 207–217. *Academic Press*, *London*, 1976. (Thomas Spencer) **56** #7598 81.46

(*with* Glimm, James; Spencer, Thomas) A convergent expansion about mean field theory. I. The expansion. *Ann. Physics* **101** (1976), *no.* 2, 610–630. (Alan D. Sloan) **55** #11855a 81.47

(*with* Glimm, James; Spencer, Thomas) A convergent expansion about mean field theory. II. Convergence of the expansion. *Ann. Physics* **101** (1976), *no.* 2, 631–669. (Alan D. Sloan) **55** #11855b 81.47

(*with* Glimm, James; Spencer, Thomas) Phase transitions in $P(\varphi)_2$ quantum fields. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 5, 713–715. (Editors) **56** #2058 81.47

(*with* Glimm, James) Particles and scaling for lattice fields and Ising models. *Comm. Math. Phys.* **51** (1976), *no.* 1, 1–13. (Thomas Spencer) **55** #5045 81.47

(*with* Glimm, James) A tutorial course in constructive field theory. *New developments in quantum field theory and statistical mechanics* (*Proc. Cargèse Summer Inst.*, *Cargèse*, 1976), *pp.* 1–34. *NATO Adv. Study Inst. Ser.*, *Ser. B*: *Physics*, 26. *Plenum*, *New York*, 1977. (Brian DeFacio) **58** #32581 81.47

(*with* Glimm, James) Functional integral methods in quantum field theory. *New developments in quantum field theory and statistical mechanics* (*Proc. Cargèse Summer Inst.*, *Cargèse*, 1976), *pp.* 35–66. *NATO Adv. Study Inst. Ser.*, *Ser. B*: *Physics*, 26. *Plenum*, *New York*, 1977. (From the introduction) **58** #32582 81.47

(*with* Glimm, James) Critical exponents and elementary particles. *Comm. Math. Phys.* **52** (1977), *no.* 3, 203–209. (Jean-Pierre Eckmann) **56** #2047 81.46

(*with* Glimm, James) Instantons in a $U(1)$ lattice gauge theory: a Coulomb dipole gas. *Comm. Math. Phys.* **56** (1977), *no.* 3, 195–212. (Alan D. Sloan) **57** #4937 82.47

(*with* Glimm, James) Multiple meron solutions of the classical Yang-Mills equation. *Phys. Lett. B* **73** (1978), *no.* 2, 167–170. (Franco Strocchi) **57** #8554 81.22

(*with* Glimm, James) Droplet model for quark confinement. *Phys. Rev. D* (3) **18** (1978), *no.* 2, 463–467. (Jacques Leveille) **58** #14496 81.22

See also **Constructive quantum field theory**, **52** #16310

Jaffe, Jeffrey Permutation numbers. *Math. Mag.* **49** (1976), *no.* 2, 80–84. (Richard T. Bumby) **52** #13614 10A30

Counting productions in context-free derivations. *Inform. Process. Lett.* **7** (1978), *no.* 4, 196–200. (Jan van Leeuwen) **58** #13972 68A30

Jaffe, Joseph (*with* Anderson, Samuel W.) Projections between memory codes and some speech events not derivable from stimulus-response theory. *Math. Biosci.* **12** (1971), 303–320. (H. Jürgensen) **49** #2132 92A25

Jaffe, L. Rolle regular Birkhoff interpolation. *Approximation theory, II* (*Proc. Internat. Sympos.*, *Univ. Texas*, *Austin*, *Tex.*, 1976), *pp.* 397–404. *Academic Press*, *New York*, 1976. (H. Werner) **55** #8611 41A05

Jaffe, R. L. (*with* Chodos, Alan; Johnson, K.; Thorn, C. B.; Weisskopf, V. F.) New extended model of hadrons. *Phys. Rev. D* (3) **9** (1974), *no.* 12, 3471–3495. (Authors' summary) **57** #11452 81.35

Jaffe, V. A. Two classes of context-free languages with a solvable equivalence problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 2, 89–93. (I. M. Havel) **55** #1842 68A30

Jaffe, William J. *See* **Applied mathematics**, **52** #13097

Jaffee, Harris A. Real forms of hermitian symmetric spaces. *Bull. Amer. Math. Soc.* **81** (1975), 456–458. (S. Kaneyuki) **54** #613 32M15

Jaffer, A. G. (*with* Gupta, Someshwar C.) Recursive Bayesian estimation with uncertain observation. *IEEE Trans. Information Theory* **IT-17** (1971), 614–616. (K. Jacobs) **46** #1035 62M05

(*with* Gupta, Someshwar C.) On estimation of discrete processes under multiplicative and additive noise conditions. *Information Sci.* **3** (1971), 267–276. (K. S. Miller) **46** #5010 93E10

A note on conditional moments of random signals in Gaussian noise. *IEEE Trans. Information Theory* **IT-18** (1972), 513–514. (Robert Gray) **51** #14252 60G35

(*with* Gupta, Someshwar C.) On relations between detection and estimation of discrete time processes. *Information and Control* **20** (1972), 46–54. (M. Zakai) **49** #7003 94A05 (93E10)

Jaffray, Jean-Yves On the extension of additive utilities to infinite sets. *J. Mathematical Psychology* **11** (1974), 431–452. (B. G. Mirkin) **51** #2596 90A10

Existence of a continuous utility function: an elementary proof. *Econometrica* **43** (1975), *no.* 5-6, 981–983. (From the author's introduction) **56** #2226 90A10

Semicontinuous extension of a partial order. *J. Math. Econom.* **2** (1975), *no.* 3, 395–406. (Norbert Schmitz) **52** #16535 90A10 (06A10, 90D30)

Jafri, Jawed A. (*with* Whitten, Jerry L.) Iterative natural orbitals for configuration interaction using perturbation theory. *Theoret. Chim. Acta* **44** (1977), *no.* 3, 305–313. (Authors' summary) **57** #11484 81.47

Jagan, N. C. (*with* Reddy, D. C.) Multidimensional transforms: new technique for the association of variables. *Electron. Lett.* **7** (1971), 278–279. (Authors' summary) **47** #7346 44A10

Jagani, H. P. Neyman-Pearson type test of hypotheses about random parameters. *Mat. Vesnik* **11(26)** (1974), 209–213. (D. V. Lindley) **50** #15082 62F05

Jagannathan, R. (*with* Rao, M. R.) On dynamic lot size and production smoothing models. *Cahiers Centre Études Recherche Opér.* **14** (1972), 133–150. (F. Giannessi) **49** #2065 90B30

(*with* Dent, Warren T.; Rao, M. R.) Parametric linear programming: some special cases. *Naval Res. Logist. Quart.* **20** (1973), 725–728. (K. Swarup) **49** #10356 90C05

(*with* Rao, M. R.) A class of nonlinear chance-constrained programming models with joint constraints. Mathematical programming and its applications. *Operations Res.* **21** (1973), 360–364. (B. Bereanu) **51** #5021 90C30

Duality for nonlinear fractional programs. *Z. Operations Res. Ser. A-B* **17** (1973), *no.* 1, A1–A3. (Author's summary) **55** #10004 90C30

A sequential algorithm for a class of programming problems with nonlinear constraints. *Management Sci.* **21** (1974/75), *no.* 1, 13–21. (Author's summary) **55** #14217 90C30

Chance-constrained programming with joint constraints. *Operations Res.* **22** (1974), *no.* 2, 358–372. (Peter Kall) **53** #12583 90C15

(*with* Ranganathan, N. R.) On generalized Clifford groups. I, II. *Rep. Mathematical Phys.* **5** (1974), *no.* 1, 131–143; *ibid.* **7** (1975), *no.* 2, 229–238. (F. D. Veldkamp) **52** #8236 20C15

(*with* Ramakrishnan, Alladi) A new approach to matrix theory or many facets of the matrix decomposition theorem. *Topics in numerical analysis, II* (*Proc. Roy. Irish Acad. Conf., Univ. College, Dublin*, 1974), *pp.* 133–139. *Academic Press, London*, 1975. (B. Levinger) **53** #8096 15A30

(*with* Dutt, H. N. V.) A negative energy relativistic wave equation. *J. Mathematical and Physical Sci.* **9** (1975), 301–303. (P. C. Vaidya) **51** #2518 81.35

A matrix approach to certain number theoretic problems. *Proceedings of the Conference on Matrix Algebra, Computational Methods and Number Theory* (*Mysore*, 1976), *Paper No.* 2, 13 *pp. Matscience Report No.* 87, *Inst. Math. Sci., Madras*, 1977. (D. Rearick) **56** #8474 10A20 (10M20)

Minimax procedure for a class of linear programs under uncertainty. *Operations Res.* **25** (1977), *no.* 1, 173–177. (C. Harvey) **56** #2382 90C15

See also **Proceedings: International Colloquium on Group Theoretical Methods in Physics**, **48** #10342

Jagannathan, T. V. S. Ordered projective planes. *J. Indian Math. Soc.* (*N.S.*) **36** (1972), 65–78. (G. Pickert) **47** #7587 50D35

Jagdžjan, K. A. Mixed problems for certain classes of nonsymmetrizable hyperbolic systems. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **11** (1976), *no.* 5, 424–431, 482. (V. Ďurikovič) **56** #3472 35L50

Necessary conditions for correctness of the mixed problem for non-strictly hyperbolic systems. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **64** (1977), *no.* 2, 91–95. (J. Kopáček) **57** #6858 35L35 (35L50)

Jagdžjan, V. G. (*with* Oganesjan, S. Š.) Weight spectrum for certain classes of correcting cyclic codes. (Russian) *Problemy Peredači Informacii* **6** (1970), *no.* 3, 31–37. (G. M. Tenengol'c) **46** #8762 94A10

(*with* Oganesjan, S. Š.) Classes of codes that correct bursts of errors in an asymmetric channel. (Russian) *Problemy Peredači Informacii* **6** (1970), *no.* 4, 27–34. (G. M. Tenengol'c) **48** #10653 94A10

(*with* Oganesjan, S. Š.) Finding cyclic representations in binary cyclic alphabets. (Russian. Armenian summary) *Trudy Vyčisl. Centra Akad. Nauk Armjan. SSR i Erevan. Gos. Univ. Mat. Voprosy Kibernet. i Vyčisl. Tehn.* **6** (1970), 35–38. (G. M. Tenengol'c) **46** #6922 94A10

(*with* Oganesjan, S. Š.) Joining cyclic representations according to common weights in binary alphabets. (Russian. Armenian summary) *Trudy Vyčisl. Centra Akad. Nauk Armjan. SSR i Erevan. Gos. Univ. Mat. Voprosy Kibernet. i Vyčisl. Tehn.* **6** (1970), 39–48. (G. M. Tenengol'c) **46** #6923 94A10

(*with* Oganesjan, S. Š.) A class of optimal cyclic codes with base *p*. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 2, 109–111. (G. M. Tenengol'c) **46** #8763 94A10

(*with* Oganesjan, S. Š.; Tairjan, V. I.) Decomposition of cyclic codes into equal-weight classes. *Problems of Control and Information Theory / Problemy Upra*
i Teorii Informacii **3** (1974), *no.* 2, 13–21, 117–125. (J.-M. Goethals) **55** #
94A10

See also **Symposium: Information Theory**, **50** #9416

Jägel, A. General problems of parametric linear programming. (Russian) *Trudy*
Centra Tartu. Gos. Univ. No. 13 (1968), 54–69. (From the author's introd
45 #8259 90C05

de Jager, E. M. Singular elliptic perturbations of vanishing first-order differential operators. *Conference on the Theory of Ordinary and Partial Differential Eq*
(*Univ. Dundee, Dundee*, 1972), *pp.* 73–86. *Lecture Notes in Math., Vol.* 280, *Sp*
Berlin, 1972. (William Margulies) **55** #821 35B25

On functions holomorphic in tube domains $\mathbf{R}^n + iC$. *Spectral theory and asym*
of differential equations (*Proc. Conf., Scheveningen*, 1973), *pp.* 137–147. *North-H*
Math. Studies, Vol. 13, *North-Holland, Amsterdam*, 1974. (A. G. Sergeev) **55** #1
32A07 (46F10, 32D15)

Singular perturbations of hyperbolic type. *Nieuw Arch. Wisk.* (3) **23** (1975),
145–172. (L. E. Bobisud) **51** #13415 35B25

(*with* de Groot, E. H.) On the solution of an integral equation of convolution
SIAM J. Math. Anal. **6** (1975), 208–227. (H. Widom) **52** #1208 45E10

See also **Spectral theory and asymptotics of differential equations**, **50** #10393

Jäger, Eberhard *See* **Landau, L. D.; et al.**, **49** #11970; **Landau, L. D.; et al.**, **49** #
Cunningham, John, **50** #4827 *and* **Tjablikov, S. V.**, **53** #2243

Jager, H. On decimal expansions. *Zahlentheorie* (*Tagung, Math. Forschungsinst, Oberwolfach*, 1970), *pp.* 67–75. *Ber. Math. Forschungsinst., Oberwolfach, Heft* 5, *Bibliographisches Inst., Mannheim*, 1971. (M. Mendès France) **50** #12950 10K

(*with* Lekkerkerker, C. G.) In memoriam Prof. Dr. J. Popken. *Nieuw Arch.*
(3) **19** (1971), 1–9. (Editors) **46** #8797 01A70 (10F35)

On the number of Dirichlet characters with modulus not exceeding *x*. *Nederl.*
Wetensch. Proc. Ser. A **76** = *Indag. Math.* **35** (1973), 452–455. (E. M. Hor
48 #6035 10H25

Some remarks on primitive residue class characters. *Nieuw Arch. Wisk.*
(1973), 44–47. (S. I. Gendler) **48** #2039 10A10

(*with* Lenstra, Hendrik W., Jr.) Linear independence of cosecant values.
Arch. Wisk. (3) **23** (1975), *no.* 2, 131–144. (S. L. Segal) **52** #3071 10F35 (12A

Jäger, Joachim Längenberechnung und kanonische Ideale in eindimensionalen Ri
Arch. Math. (*Basel*) **29** (1977), *no.* 5, 504–512. (Tadayuki Matsuoka) **57** #3
13H10

Jäger, R. Tabellen für die korrigierte Schätzung des Korrelationskoeffizienten nach
und Pratt für $n = 8$ bis 40. (English summary) *Biometrische Z.* **16** (1974), 115–
52 #9495 62H10 (62Q05)

Jäger, Willi Ein gewöhnlicher Differentialoperator zweiter Ordnung für Funktione
Werten in einem Hilbertraum. *Math. Z.* **113** (1970), 68–98. (V. De (RŽMat **197**
B684)) **57** #6699 34G05

Ein Maximumprinzip für ein System nichtlinearer Differentialgleichungen.
Akad. Wiss. Göttingen Math.-Phys. Kl. II **1976**, *no.* 11, 157–164. (Z. C. Mo
56 #3463 35J60

Das Randverhalten von Flächen beschränkter mittlerer Krümmung bei $C^{1,\alpha}$-Rändern. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1977**, *no.* 5, 4
(From the introduction) **58** #29204 35J65 (53A10)

Jagerman, David Information theory and approximation of bandlimited functions.
System Tech. J. **49** (1970), 1911–1941. (M. Zerner) **47** #9136 41A45 (94A15)

Some properties of the Erlang loss function. *Bell System Tech. J.* **53** (
525–551. (U. Narayan Bhat) **52** #15735 60K30

Nonstationary blocking in telephone traffic. *Bell System Tech. J.* **54** (1975), 625–661. (Izhak Rubin) **51** #12317 90B99

Jagers, A. A. A note on Cesàro sequence spaces. *Nieuw Arch. Wisk.* (3) **22** (1
113–124. (K. Chandrasekhara Rao) **50** #942 46A45

Problem 73-21, "A sine inequality", by R. A. Askey. *SIAM Rev.* **16** (1
550–553. (S. Saran) **50** #10335 33A10

(*with* Göbel, F.) Random walks on graphs. *Stochastic Processes Appl.* **2** (1974
4, 311–336. (S. G. Mohanty) **53** #1743 60J15 (60C05, 05C99)

Jägers, G. A. Modified Bernstein operators. *Delft Progress Rep.* **2** (1976/77), *no.* 1,
(Martin E. Price) **57** #962 41A10

Stirling numbers of the second kind. *Delft Progress Rep.* **2** (1976/77), *no.* 1, 27
(F. T. Howard) **55** #5458 05A10

Asymptotic relations for a modified operator of Baskakov's and Schurer's.
Progress Rep. Ser. F **2** (1976/77), *no.* 3, 183–192. (G. Mühlbach) **56** #9151 41

Modified Baskakov and Schurer operators. *Delft Progress Rep. Ser. F* **2** (1976/
no. 4, 279–292. (Manfred v. Golitschek) **56** #9150 41A35

Linear positive operators generated by functions. *Rev. Anal. Numér. Théorie Approximation* **5** (1976), *no.* 1, 27–30 (1977). (A. Sharma) **57** #6955 41A10

Jagers, Peter A general stochastic model for population development. *Skand. Aktuarietidskr.* **1969**, 84–103. (From the author's introduction) **55** #4406 60J8

Diffusion approximations of branching processes. *Ann. Math. Statist.* **42** (1
2074–2078. (P. E. Ney) **47** #1140 60J80

A ruin problem for the insurance of expanding portfolios. *Skand. Aktuarieti*
1972, 187–190 (1973). (W. Greblicki) **50** #8893 62P05 (60J85)

On the weak convergence of superpositions of point processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **22** (1972), 1–7. (F. Papangelou) **46** #
60G99

A limit theorem for sums of random numbers of i.i.d. random variables. *Mathematics and statistics* (*in honour of Harald Bergström on the occasion of his*
birthday), *pp.* 33–39. *Dept. of Math., Chalmers Inst. Tech., Göteborg*, 1973. (B. L
Prakasa Rao) **51** #14212 60F05 (60J80, 62M05)

(*with* Çinlar, Erhan) Two mean values which characterize the Poisson process.
Appl. Probability **10** (1973), 678–681. (P. M. Lee) **51** #1991 60K05

On Palm probabilities. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (19
17–32. (P. M. Lee) **49** #4089 60G55

(*with* Lindvall, Torgny) Thinning and rare events in point processes. *Z.*

Wahrscheinlichkeitstheorie und Verw. Gebiete **28** (1973/74), 89–98; *erratum, ibid.* **29** (1974), 272. (Mark Westcott) **50** #11434 60G55 (60F05)

Aspects of random measures and point processes. *Advances in probability and related topics, Vol.* 3, *pp.* 179–239. *Dekker, New York*, 1974. (P. M. Lee) **53** #1728 60G55 (60F05)

Galton-Watson processes in varying environments. *J. Appl. Probability* **11** (1974), 174–178. (Norman Kaplan) **51** #4438 60J80

Convergence of general branching processes and functionals thereof. *J. Appl. Probability* **11** (1974), 471–478. (Anthony G. Pakes) **50** #11497 60J80

★Branching processes with biological applications. Wiley Series in Probability and Mathematical Statistics—Applied Probability and Statistics. *Wiley-Interscience* [*John Wiley & Sons*], *London-New York-Sydney*, 1975. xiii+268 *pp. ISBN* 0-471-43652-6 (Dean H. Fearn) **58** #7890 60J80 (60J85, 92A15)

A decent likelihood function is certainly minimal sufficient. *Scand. J. Statist.* **4** (1977), *no.* 1, 35–36. (J. K. Ghosh) **55** #9346 62B05

See also **Mathematics and statistics**, **50** #5873

agetya, R. N. On certain dual integral equations and fractional integration. *J. Mathematical and Physical Sci.* **4** (1970), 270–277. (R. G. Buschman) **46** #5964 45F05

Triple integral equations and fractional integration. *Univ. Nac. Tucumán Rev. Ser. A* **20** (1970), 41–47. (*errata insert*) (S. L. Kalla) **45** #2427 45F05 (26A33)

aggi, D. S. On common fixed points of contractive maps. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 1-2, 143–146 (1977). (Kok-Keong Tan) **57** #13896 54H25

(*with* Dass, Bal Kishan) On fixed point theorems for product of metric spaces. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 5, 592–595. (S. Swaminathan) **58** #18393 54H25

Some unique fixed point theorems. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 2, 223–230. (E. Fadell) **58** #18394 54H25

Fixed point theorems for orbitally continuous functions. *Mat. Vesnik* **1(14)(29)** (1977), *no.* 2, 129–135. (Simeon Reich) **57** #10696 54H25

An approach to fixed points in product spaces. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **21(35)** (1977), 93–98. (T. Zamfirescu) **57** #1464 54H25

aglom, A. M. (*with* Jaglom, I. M.) ★Вероятность и информация. (Russian) [Probability and information] Third edition, revised and augmented. *Izdat. "Nauka", Moscow*, 1973. 511 *pp.* (Editors) **50** #6642 94A15 (94A05)

(*with* Džaparidze, K. O.) Asymptotically efficient estimation of the spectrum parameters of stationary stochastic processes. *Proceedings of the Prague Symposium on Asymptotic Statistics* (*Charles Univ., Prague*, 1973), *Vol. I, pp.* 55–105. *Charles Univ., Prague*, 1974. (Rolf K. Adenstedt) **53** #1890 62M15

(*with* Džaparidze, K. O.) Applications of the modified Fisher's "method of scoring" to the estimation of the parameters of the spectrum of random processes. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 512–515. (G. Tusnády) **50** #8885 62M15

aglom, I. M. (*with* Grünbaum, Branko) ★Этюды по комбинаторной геометрии и теории выпуклых тел. (Russian) [Studies in combinatorial geometry and the theory of convex bodies] Translated from the English by S. I. Zalgaller. Edited by V. A. Zalgaller and I. M. Jaglom. Mathematics library. *Izdat. "Nauka", Moscow*, 1971. 95 *pp.* (Editors) **50** #5626 52A05

(*with* Rabinovič, V. L.) Inequalities that are related to the Erdős-Mordell inequality for a triangle. (Russian) *Moskov. Gos. Ped. Inst. Učen. Zap. No.* 401 (1971), 123–128. (S. Kutateladze) **46** #4369 52A40

A certain extremal property of the number π. (Russian) *Moskov. Gos. Ped. Inst. Učen. Zap. No.* 401 (1971), 135–138. (G. C. Shephard) **47** #4147 52A40

★Trasformazioni geometriche. Le isometrie. Tradotto del russo di Pier Giovanni Donini. Matematica Moderna, No. 11. [Modern Mathematics, No. 11] *Zanichelli, Bologna*, 1972. 145 *pp.* (Editors) **52** #15201 50–01

(*with* Jaglom, A. M.) ★Вероятность и информация. (Russian) [Probability and information] Third edition, revised and augmented. *Izdat. "Nauka", Moscow*, 1973. 511 *pp.* (Editors) **50** #6642 94A15 (94A05)

(*with* Škljarskiĭ, D. O.; Čencov, N. N.) ★Геометрические оценки и задачи из комбинаторной геометрии. (Russian) [Geometrical estimates and problems from combinatorial geometry] With a preface by I. M. Jaglom. Библиотека Математического Кружка, Вып. 13. [Library of the Mathematical Circle, No. 13] *Izdat. "Nauka", Moscow*, 1974. 383 *pp.* (Editors) **52** #15205 50–01

(*with* Trahtenbrot, B. A.; Ventcel', È. S.; Solodovnikov, A. S.) ★Nouvelles orientations des mathématiques. Traduit du russe par O. Smirnov. Initiation aux Mathématiques. *Editions Mir, Moscow*, 1975. 408 *pp.* (Editors) **56** #8252 00A05

(*with* Rombe, I. A.) Some versions of the breakdown of panmixia in population genetics. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 12 (1975), 94–102. (Ju. I. Ljubič) **57** #5180 92A10

(*with* Golovina, L. I.) ★Inducción en la geometría. (Spanish) [Induction in geometry] Translated from the Russian by Carlos Vega. Lecciones Populares de Matemáticas. [Popular lectures in Mathematics] *Editorial Mir, Moscow*, 1976. 126 *pp.* (From the authors' preface) **56** #9446 50–01

Plane Minkowski geometry—problems and results. (Russian) *Studies in the theory of functions of several real variables* (*Russian*), *pp.* 90–103. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (Editors) **58** #30739 52–02 (50C25)

See also **Die Hilbertschen Probleme**, **49** #10488; **Dieudonné, Jean A.**, **49** #10705; **Kac, Mark; et al.**, **50** #1784; **Pólya, George**, **50** #4204; **Weyl, Hermann**, **51** #2830; **Lyndon, Roger C.**, **52** #13301; **Danzer, Ludwig; et al.**, **52** #15242; **Pólya, George**, **55** #24 *and* **Wenninger, Magnus J.**, **57** #7350b

agodin, V. M. (*with* Salikov, L. M.) Structural transformations and the invariance of linear nonstationary automatic control systems. (Russian) *Complex control systems* (*Russian*), *pp.* 92–103. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (Stanislav K. Myškov) **49** #4616 93C50 (93C05)

agola, A. G. (*with* Gončarskiĭ, A. V.; Leonov, A. S.) The solution of two-dimensional Fredholm integral equations of the first kind with a kernel that depends on the difference of the arguments. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1296–1301. (G. F. Miller) **45** #2941 45B05 (65R05)

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) A certain generalization of the principle of the residual to the case of an operator that is given inaccurately. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 1238–1239. (Z. V. Kovarik) **46** #2854 65J05 (47A50)

(*with* Gončarskiĭ, A. V.; Guščina, L. G.; Leonov, A. S.) Certain algorithms for finding the approximate solution of ill-posed problems on a set of monotone functions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 283–297. (Z. V. Kovarik) **46** #10233 65R05

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) Certain estimates of the rate of convergence of regularized approximations for equations of convolution type. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 762–770. (L. A. Mysak) **46** #8455 65R05

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) A certain regularizing algorithm for ill-posed problems with an approximately given operator.`(Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1592–1594, 1632. (Hans-Jürgen Albrand) **47** #2820 65K05 (49D99, 65J05)

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) A generalized residual principle. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 294–302, 530. (V. V. Ivanov) **48** #9422 47A50 (65J05)

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) The principle of the residual in the solution of nonlinear ill-posed problems. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 499–500. (Ulrich Kosel) **49** #3621 47H15 (65J05)

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) Finite difference approximation of linear ill-posed problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 15–24, 266. (I. M. Sheffer) **49** #6604 65J05

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) The regularization of ill-posed problems with approximately given operator. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1022–1027, 1078. (Hans-Jürgen Albrand) **50** #8964 65J05 (47A50)

(*with* Gončarskiĭ, A. V.; Leonov, A. S.) The applicability of the principle of the residual in the case of nonlinear ill-posed problems, and a new regularizing algorithm for their solution. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 2, 290–297, 538. (Hans-Jürgen Albrand) **52** #1439 47H15 (65J05)

(*with* Vinokurov, V. A.; Gončarskiĭ, A. V.; Česlavskiĭ, S. V.) A numerical study of the fundamental equation of superconductivity. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 4, 837–840. (Editors) **57** #8763 82.45

(*with* Gončarskiĭ, A. V.; Čerepaščuk, A. M.) ★Численные методы решения обратных задач астрофизики. (Russian) [Numerical methods for the solution of inverse problems of astrophysics] *Izdat. "Nauka", Moscow*, 1978. 335 *pp.* (Editors) **58** #20267 85.65

Jagol'nicer, M. A. (*with* Bekker, A. V.; Kolokolov, A. A.; Gladkih, B. A.) ★Распознавание образов при построении экономико-статистических моделей. (Russian) [Pattern recognition in the design of economical-statistical models] Edited by B. B. Rozin and B. G. Mirkin. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1975. 92 *pp.* (A. Aganbegjan) **57** #18274 68A45 (90A15, 62H30)

Jagovdik, G. I. (*with* Dorfman, A. A.) Equations of the approximate nonlinear dispersion theory of long gravitational waves that are created by shifts of the bottom and propagated in a basin of variable depth. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **8** (1977), *no.* 1 *Mat. Modelirovanie*, 36–48. (From the authors' text) **56** #14050 76.35

Jagubov, M. A. (*with* Èfendieva, O. A.; Ahmedov, K. T.) An application of the method of averaging functional corrections to the solution of a certain class of extremal-integral equations. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1968**, *no.* 3, 3–13. (A. Filatov) **45** #7419 45L05

(*with* Mamašev, S. H.) A bifurcation problem. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **1** (1970), 100–107, 322. (Authors' summary) **56** #13007 47H15 (58E99)

(*with* Èfendieva, O. A.; Ahmedov, K. T.) Construction of an approximate solution of an extremal-integral equation of mixed type by the method of averaging functional corrections. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1970**, *no.* 3, 16–19. (A. Haimovici) **45** #9227 49A30 (45G99)

(*with* Svaričevskaja, N. A.) A certain problem of perturbed differential equations with constant lag. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 2, 35–39. (C. Corduneanu) **45** #5517 34K05

An optimal control problem for a certain process with distributed parameters. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1972**, *no.* 3, 52–58. (O. V. Vasil'ev) **56** #6513 49B25

(*with* Ahmedov, K. T.; Svaričevskaja, N. A.) An approximate solution of a two-point boundary value problem with a parameter by the method of averaging functional corrections. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **29** (1973), *no.* 8, 3–7. (R. S. Levitin) **49** #700 34A45

Construction of a branching equation for a certain mixed problem. (Russian. English and Azerbaijani summaries) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1974**, *no.* 2-3 *Fiz. i Mat.*, 82–87. (Robert L. Wheeler) **54** #13507 45K05

(*with* Abudov, A. A.) Necessary optimality conditions for a certain class of control systems with distributed parameters. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 2, 15–20. (L. von Wolfersdorf) **51** #6531 49B25

(*with* Svaričevskaja, N. A.) Approximate solution of a nonlinear integral equation with a parameter by means of a combination of quasilinearization with the averaging of functional corrections. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **31** (1975), *no.* 4, 3–7. (Zbl **313** #45011) **57** #11135 65R05 (45L05)

A certain optimal control problem for an elliptic equation. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 7(158), 92–98. (Rolf Klötzler) **53** #11457 49B25

(*with* Bagirov, A. M.; Mansimov, K. B.) An application of Balakrishnan's ε-technique to the study of control processes that are described by a system of linear hyperbolic equations with Goursat-Darboux boundary conditions. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 3, 10–15. (Claudia Simionescu) **55** #8921 49A20

(*with* Nadžafov, M. A.) A singularly perturbed control problem for a linear system with lag. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 3, 22–27. (Robert Hastings) **58** #23917 49B99 (34H05)

Jagub-zade, R. I. (*with* Salaev, V. V.) A quadrature formula for a singular integral along a closed rectifiable curve. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **27** (1971/72), *no.* 11-12, 14–18. (Walter Gautschi) **46** #2830 65D30

Jagudaev, I. Ja. (*with* Faĭnleĭb, L. A.) A multidimensional local theorem for additive functions. (Russian) *Taškent. Gos. Ped. Inst. Učen. Zap.* **100** *Voprosy Teor. Verojatnost.* (1972), 120–130, 139. (Editors) **57** #3095 10K20

Jagžev, A. V. Lattice determinacy of certain matrix algebras. (Russian) *Algebra i Logika* **13** (1973), 104–116, 122. (Ju. A. Drozd) **51** #602 16A48

The generators of the group of tame automorphisms of an algebra of polynomials. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 1, 222–225, 240. (L. A. Skornjakov) **55** #10445 13F20

Jahagirdar, R. P. (*with* Lalli, B. S.) On Levin's comparison theorem. *Bull. Soc. Math. Grèce* (*N.S.*) **13** (1972), *no.* 1-2, 129–132. (J. S. Papadakis) **51** #6040 34C10

(*with* Lalli, B. S.) Oscillatory properties of a second order nonlinear functional differential equation. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 390–396. *Greek Math. Soc., Athens*, 1974. (Yiannis Sficas) **57** #6740 34K15

(*with* Lalli, B. S.) Oscillatory properties of certain second order nonlinear differential equations. *Ann. Mat. Pura Appl.* (4) **101** (1974), 375–382. (J. W. Macki) **51** #3607 34C10

(*with* Lalli, B. S.) Comparison theorems of Levin type. *J. Math. Anal. Appl.* **49** (1975), 705–709. (H. A. DeKleine) **50** #13723 34C10

Jahanmir, M. (*with* Tiersten, H. F.) A theory of composites modeled as interpenetrating solid continua. *Arch. Rational Mech. Anal.* **65** (1977), *no.* 2, 153–192. (M. Biermann (Zbl **377** #73007)) **58** #25268 73.35

Jahanshahlou, G. R. (*with* Mitra, G.) Two algorithms for finding all the vertices of a convex polyhedron. *Progress in operations research, Vols. I, II* (*Proc. Sixth Hungarian Conf., Eger*, 1974), *pp.* 503–535. *Colloq. Math. Soc. János Bolyai, Vol.* 12, *North-Holland, Amsterdam*, 1976. (M. Maňas) **55** #7373 90C05

Jahn, H. A. (*with* Abramsky, Y. J.; King, R. C.) Frobenius symbols and the groups S_s, GL(*n*), O(*n*) and Sp(*n*). *Canad. J. Math.* **25** (1973), 941–959. (J. S. Frame) **48** #4135 20G05

(*with* El-Sharkaway, Nahid Gamel) Young operators in standard orthogonal form. *J. Phys. A* **10** (1977), *no.* 5, 659–676. (Nigel B. Backhouse) **55** #9763 81.47

Jahn, K.-U. Eine Theorie der Gleichungssysteme mit Intervall-Koeffizienten. (English and Russian summaries) *Z. Angew. Math. Mech.* **54** (1974), 405–412. (H. Ratschek) **51** #536 15A06 (65F05)

Eine auf den Intervall-Zahlen fussende 3-wertige lineare Algebra. *Math. Nachr.* **65** (1975), 105–116. (Zbl **301** #15002) **58** #24894 65G05 (02C05, 02K10, 65F30)

Intervall-wertige Mengen. *Math. Nachr.* **68** (1975), 115–132. (A. Tauts) **52** #10371 02C05

Punktkonvergenz in der Intervall-Rechnung. *Z. Angew. Math. Mech.* **55** (1975), *no.* 10, 606–608. (Siegfried Filippi) **53** #6992 65D99

Min-Max-Intervallrechnung. *Math. Nachr.* **71** (1976), 267–272. (Zbl **278** #65033) **58** #19089 65G05 (04A99)

Jahn, Walter ★Die Faktoranalyse und ihre Anwendung. Mit einer Einleitung von F. Burkhardt. *Verlag Die Wirtschaft, Berlin*, 1970. 228 *pp.* (*loose errata*) (From the preface) **50** #3464 62H25 (62P15)

Jähner, Ulrich Der Satz von M. Artin über die Lösungen analytischer Gleichungen mit Koeffizienten in einem Körper beliebiger Charakteristik. *Arch. Math.* (*Basel*) **29** (1977), *no.* 5, 485–490. (Robert L. Ellis) **57** #6023 14D15

Jähnig, Jürgen Über die Grenzen der Anwendbarkeit des Bazley-Fox-Verfahrens. *Beiträge Numer. Math.* **2** (1974), 61–67. (I. M. Sheffer) **55** #3933 49G15 (47A70, 65J05)

Qualitative Untersuchungen einer allgemeinen Verfahrensklasse zur näherungsweisen Eigenwert- und Eigenvektorbestimmung. *Beiträge Numer. Math.* **5** (1976), 51–56. (S. Burýšek) **56** #13601 65J05 (49G99)

Jahnke, E. (*with* Emde, F.; Lösch, F.) ★Специальные функции: Формулы, графики, таблицы. (Russian) [Special functions: Formulae, graphs, tables] Translated from the German sixth edition by G. V. Tolstova. Third edition, unrevised. Edited by L. I. Sedov. *Izdat. "Nauka", Moscow*, 1977. 342 *pp.* (Editors) **56** #3366 33–XX (65A05)

Jahnke, H. N. (*with* Steinbring, H.; Vogel, D.) Zahlbegriff und Rechenfertigkeit—zur Problematik der Entwicklung wissenschaftlicher Begriffe. *Educ. Stud. Math.* **6** (1975), *no.* 2, 213–252. (Curt Christian) **58** #16 00A25

See also **Mathematiker über die Mathematik**, **51** #2831

Jahnke, Hans-Günther (*with* Sandmann, Horst) Ein iteratives Verfahren gemischter Strategie zur Nullstellenbestimmung von Polynomen in einer Unbestimmten mit automatischer Fehlerabschätzung für die Näherungswerte der Nullstellen. *Beiträge Numer. Math.* **1** (1974), 109–120. (Peter Lancaster) **56** #17049 65H05

Jahno, V. G. (*with* Buhgeĭm, A. L.) Two inverse problems for differential equations. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 4, 785–786. (J. Kisyński) **54** #767 35R30 (35L10)

A uniqueness theorem for a certain inverse problem for a hyperbolic equation. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 3, 544–551, 574. (J. F. Heyda) **58** #23193 35R30 (35L15)

Jahsman, W. E. (*with* Janssen, D. M.; Datta, S. K.) Propagation of weak waves in elastic-plastic solids. *J. Mech. Phys. Solids* **20** (1972), 1–18. (J. Bejda) **47** #2884 73.35

el Jaï, Abdelhaq *See* **El Jaï, Abdelhaq**

Jaikumar, Ramchandran (*with* Fisher, Marshall L.) An algorithm for the space-shuttle scheduling problem. *Operations Res.* **26** (1978), *no.* 1, 166–182. (John C. Gittins) **58** #4282 90B35

gutiérrez Jaimez, Ramón *See* **Gutiérrez Jaimez, Ramón**

Jain, A. K. *See* **Jain, Anil K.**

Jain, A. K. (*with* McGhee, Robert B.) Some properties of regularly realizable gait matrices. *Math. Biosci.* **13** (1972), 179–193. (D. Rosenblatt) **47** #1475 92A05

Jain, Anil K. (*with* Angel, Edward) Invariant imbedding and partial differential equations. *Invariant imbedding* (*Proc. Summer Workshop, Univ. Southern California, Los Angeles, Calif.*, 1970), *pp.* 34–45. *Lecture Notes in Operations Research and Mathematical Systems, Vol.* 52, *Springer, Berlin*, 1971. (A. O. Garder, Jr.) **50** #11818 65N35

(*with* Cohen, Gerald H.) A method of characteristics invariant imbedding for distributed control problems. *Invariant imbedding* (*Proc. Summer Workshop,* *Southern California, Los Angeles, Calif.*, 1970), *pp.* 68–86. *Lecture Notes in Oper. Re* *Math. Systems, Vol.* 52, *Springer, Berlin*, 1971. (Russell D. Rupp) **48** #9509 4

(*with* Angel, Edward; Distéfano, José Néstor) Invariant imbedding and the reduction of boundary-value problems of thin plate theory to Cauchy formula (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **9** (1 933–945. (Authors' summary) **49** #6737 73.45

(*with* Cohen, Gerald H.) A method of characteristics and invariant imbeddi distributed control problems. *J. Math. Anal. Appl.* **38** (1972), 372–381. (Au summary) **46** #768 49C10

(*with* Sworder, David D.) Constrained linear filtering as a multistage proces *Math. Anal. Appl.* **44** (1973), 48–56. (N. U. Ahmed) **48** #3591 94A05

(*with* Angel, Edward; Kalaba, Robert E.) Initial-value problems in potential theory. *J. Optimization Theory Appl.* **11** (1973), 274–283. (Authors' summary) **48** # 65M05

(*with* Distéfano, José Néstor) A one-sweep method for linear elliptic equations irregular domains. *J. Optimization Theory Appl.* **14** (1974), 585–597. (G. T. Sy **50** #9014 65N99

(*with* Chandrasekaran, Balakrishnan) Independence, measurement complexity classification performance. *IEEE Trans. Systems Man Cybernet.* **SMC-5** (1975), 240–244. (Authors' summary) **58** #32051a (E **58** #32051bc) 68A20

A fast Karhunen-Loeve transform for a class of random processes. *IEEE T* *Comm.* **COM-24** (1976), *no.* 9, 1023–1029. (L. L. Campbell) **55** #7563 94A05 (60G35)

On an estimate of the Bhattacharyya distance. *IEEE Trans. Systems Man Cyb* **SMC-6** (1976), *no.* 11, 763–766. (Josef Kittler) **56** #7368 68A45

An operator factorization method for restoration of blurred images. *IEEE T* *Computers* **C-26** (1977), *no.* 11, 1061–1071. (S. Csibi) **57** #5386 94A05

(*with* Chandrasekaran, Balakrishnan) An emendation: "Independence, measurement complexity, and classification performance" (IEEE Trans. Systems Cybernet. **SMC-5** (1975), no. 2, 240–244). *IEEE Trans. Systems Man Cybernet.* **SM** (1977), *no.* 7, 564–566. (Authors' summary) **58** #32051c 68A20

(*with* Padgug, Robert A.) Fast restoration of finite objects degraded by finite *J. Comput. Phys.* **28** (1978), *no.* 2, 167–180. (Authors' summary) **58** #20757 9

See also **Duin, Robert P. W.**, **58** #32051b

Jain, Bijendra N. Guaranteed error estimation in uncertain systems. *Proceedings o* 1974 *IEEE Conference on Decision and Control including* 13*th Symposium on Ada* *Processes* (*Phoenix, Ariz.*, 1974), *pp.* 87–90. *Inst. Electr. Electron. Engrs., New* 1974. (Author's summary) **56** #18042 93E10

Guaranteed error estimation in uncertain systems. *IEEE Trans. Automatic Co* **AC-20** (1975), 230–232. (V. Kolmanovskiĭ) **55** #7539 93E10

Bounding estimators for systems with colored noise. *IEEE Trans. Autom* *Control* **AC-20** (1975), 365–368. (L. I. Gal'čuk) **55** #14366 93E10

Jain, D. K. (*with* Yajnik, Kirit; Afzal, Noor) Equilibrium turbulent boundary-layer w the framework of the asymptotic theory. (French summary) *J. Mécanique* **16** (1977 3, 441–459. (R. Manohar) **57** #11331 76.41

Jain, D. L. (*with* Kanwal, Ram P.) Williams integral equation technique with applica to mathematical physics. Special issue presented to Professor Bibhutibhusan Sen o occasion of his seventieth birthday, Part II. *Indian J. Mech. Math. Special* (1968/69), *part II*, 43–73 (1971). (Authors' summary) **50** #10713 45B05

Electromagnetic diffraction by a thin conducting circular disk placed at the p interface of two different media. *Appl. Sci. Res.* **24** (1971), 379–395. (N. Zi **47** #2921 78.45

(*with* Kanwal, Ram P.) Three-part boundary value problems in potential generalized axially symmetric potential theories. *J. Analyse Math.* **25** (1972), 107– (R. P. Srivastav) **46** #3819 31B20

(*with* Kanwal, Ram P.) An integral equation perturbation technique in app mathematics. II. Applications to diffraction theory. *Applicable Anal.* **4** (1974/75), 297–329. (G. P. Bava) **55** #999 45A05

(*with* Vaid, B. K.) An integral equation technique. *SIAM J. Appl. Math.* **26** (1 445–468. (A. Ramm) **49** #5750 45H05 (78.45)

(*with* Kanwal, Ram P.) Scattering of acoustic, electromagnetic and elastic waves by two-dimensional obstacles. *Ann. Physics* (*New York*) **91** (1975), 1–39 Miklowitz) **54** #9355 78.35 (73.35, 76.35)

(*with* Goel, G. C.) A note on electrostatic problems involving two strips. *India* *Pure Appl. Math.* **7** (1976), *no.* 7, 751–756. (Authors' summary) **58** #32420 7 (45B05)

(*with* Vaid, B. K.) Some electrostatic and hydrodynamic problems for two spher caps. *SIAM J. Appl. Math.* **30** (1976), *no.* 3, 452–462. (Ian Lerche) **53** #4748 7

(*with* Lal, Bansi) An electrostatic problem of two staggered parallel strips i bounded space. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 8, 873–879. (E. Lüneb **58** #14392 78.41

Jain, D. R. (*with* Jain, Pawan Kumar) On the lower order of an entire function with power series. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1643–1648. (Hari Shan **48** #6416 30A66

(*with* Jain, Pawan Kumar) On the lower order (R) of an entire Dirichlet ser *Ann. Inst. Fourier* (*Grenoble*) **24** (1974), *No.* 1, 123–129. (M. E. Noble) **50** #752 30A62

(*with* Jain, Pawan Kumar) On an entire Dirichlet series of lower order (R) infi (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (19 783–788. (R. S. L. Srivastava) **50** #7521 30A62

(*with* Jain, Pawan Kumar) On the space of entire functions of several variable finite growth over non-Archimedean fields. (Italian summary) *Boll. Un. Mat. Ital.* *A* **13** (1976), *no.* 1, 196–205. (P. K. Kamthan) **55** #12939 32A15 (32A30)

(*with* Jain, Pawan Kumar) On a class of entire functions given by power series polynomials. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. P* **24** (1976), *no.* 1, 43–49. (J. P. Singh) **53** #5866 30A64

(*with* Jain, Pawan Kumar) Simultaneous automorphisms in the space of en functions over non-Archimedean fields. (Serbo-Croatian summary) *Glasnik Mat. S* *III* **11(31)** (1976), *no.* 2, 255–261. (Authors' summary) **55** #319 12J10 (12B40) (*with* Jain, Pawan Kumar) Topological structure of the space of entire functions of several variables over non-Archimedean fields. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 2, 305–314. (N. De Grande-De Kimpe) **58** #2193 46E10 (32A15)

(*with* Jain, Pawan Kumar) Automorphisms on the spaces of entire functions of several variables over non-Archimedean fields. *J. Reine Angew. Math.* **292** (1977), 13–18. (Manjul Gupta) **56** #657 32A30 (46E10, 32A15)

(*with* Jain, Pawan Kumar) On the bases in a space of entire Dirichlet transforms of several complex variables. *Tamkang J. Math.* **8** (1977), *no.* 2, 183–195. (L. I. Ronkin) **58** #28590 32A15

ain, Gopi C. Joint distributions of intersections (±) waves and (±) steps in a Bernoullian symmetric random walk. II. *J. Indian Statist. Assoc.* **7** (1969), 46–58. (J. Gillis) **48** #7385 60J15

Some results in a correlated random walk. *Canad. Math. Bull.* **14** (1971), 341–347. (N. C. Jain) **47** #4339 60J15

Linear operators defined with Poisson type distribution. *Riv. Mat. Univ. Parma* (2) **12** (1971), 205–211. (John A. Roulier) **50** #14002 41A35

(*with* Consul, P. C.) A generalized negative binomial distribution. *SIAM J. Appl. Math.* **21** (1971), 501–513. (M. M. Siddiqui) **46** #6525 62E15

(*with* Pethe, S. P.) Approximation of functions by a Bernstein-type operator. *Canad. Math. Bull.* **15** (1972), 551–557. (B. Wood) **47** #687 41A35

Approximation of functions by a new class of linear operators. *J. Austral. Math. Soc.* **13** (1972), 271–276. (A. Sharma) **46** #5904 41A35

(*with* Nagabhushanam, A.) A generalized coin tossing game. *Nanta Math.* **5** (1972), *no.* 3, 1–7. (J. Gillis) **49** #8112 60J15

(*with* Consul, P. C.) On some interesting properties of the generalized Poisson distribution. (German summary) *Biometrische Z.* **15** (1973), 495–500. (From the authors' summary and text) **54** #9028 62P10 (60E05)

On the expected number of visits of a particle before absorption in a correlated random walk. *Canad. Math. Bull.* **16** (1973), 389–395. (J. Gillis) **48** #9856 60J15

(*with* Gupta, R. P.) Some uses of Lagrange's formula in the distribution theory with reference to queuing problems. (German and French summaries) *Math. Operationsforsch. Statist.* **4** (1973), *no.* 1, 69–73. (Frank A. Haight) **54** #3801 60E05

(*with* Gupta, R. P.) Exact distributions of likelihood ratio criteria for testing the equality of covariance matrices. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 673–679. (A. F. Ifram) **49** #1682 62H10

(*with* Consul, P. C.) A generalization of the Poisson distribution. *Technometrics* **15** (1973), 791–799. (Bernard Harris) **52** #12153 (E **52** #12154) 62E10

(*with* Gupta, R. P.) A logarithmic series type distribution. *Trabajos Estadíst.* **24** (1973), *no.* 1-2, 99–105. **49** #8160 62E10

A Borel-Tanner distribution and its approximation to the negative binomial distribution. (German and French summaries) *Math. Operationsforsch. Statist.* **5** (1974), *no.* 3, 207–212. (I. Guttman) **49** #6436 62E10

(*with* Nagabhushanam, A.) A general Markovian correlated combat. *Nanta Math.* **7** (1974), *no.* 2, 21–32. (François Brodeau) **51** #12389 93E05

(*with* Gupta, R. P.) A generalized Hermite distribution and its properties. *SIAM J. Appl. Math.* **27** (1974), 359–363. (A. E. Danese) **50** #2580 33A65

On power series distributions associated with Lagrange expansion. (German summary) *Biometrische Z.* **17** (1975), 85–97. (Frank A. Haight) **52** #12156 62E10

(*with* Plunkett, Ivan G.) Three generalised negative binomial distributions. (German summary) *Biometrische Z.* **17** (1975), *no.* 5, 286–302. (C. J. Park) **53** #9454 62E15

A linear function Poisson distribution. (German summary) *Biometrische Z.* **17** (1975), *no.* 8, 501–506. (Author's summary) **52** #15769 62E10

A generalized Neyman's type a *A* distribution for the busy period of queues. *Comm. Statist.* **4** (1975), *no.* 11, 1065–1071. (A. Obretenov) **57** #4360 60K25

(*with* Singh, Naunihal) On bivariate power series distributions associated with Lagrange expansion. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 352, 951–954. (Ju. V. Borovskih) **52** #12168 62E20 (60K25)

(*with* Gupta, R. P.) On a class of polynomials and associated probabilities. *Utilitas Math.* **7** (1975), 363–381. (A. E. Danese) **52** #3634 33A70 (62E15)

(*with* Gupta, R. P.) A generalized bivariate logarithmic series distribution. (German summary) *Biometrische Z.* **18** (1976), *no.* 2, 169–173. (J. K. Ord) **56** #16872 62E15

(*with* Churchill, K. E.) Further bivariate distributions associated with Lagrange expansion. (German summary) *Biometrische Z.* **18** (1976), *no.* 8, 639–649. (Frank A. Haight) **56** #1404 60E05 (62E99)

(*with* Gupta, R. P.) Bivariate combinatorial identities associated with Lagrange expansion. *J. Combinatorics Information Syst. Sci.* **1** (1976), *no.* 3-4, 92–101. (Authors' summary) **58** #21659 05A19

(*with* Plunkett, Ivan G.) A Borel-Hermite distribution and its applications. *Biometrical J.* **19** (1977), *no.* 5, 347–354. (Authors' summary) **57** #1736 62E99 (62P10, 60K25)

(*with* Pethe, S. P.) On the generalizations of Bernšteĭn and Szász-Mirakyan operators. *Nanta Math.* **10** (1977), *no.* 2, 185–193. (From the introduction) **58** #29654 41A35

See also **Binet, F. E.**, **52** #12154

ain, J. L. (*with* Rani, R. G.) The transient behaviour of the queueing system $GI/M/1{:}(\infty/\mathrm{FCFS})$ with arrivals in batches. (Czech summary) *Ekonom.-Mat. Obzor* **7** (1971), 299–304. (N. U. Prabhu) **45** #4809 60K25 (90B99)

ain, J. P. Optimal control problems in queuing theory. *Opsearch* **14** (1977), *no.* 1, 38–40. (Editors) **56** #9730 60K25

ain, K. C. (*with* Patni, G. C.) On some information measures. *Information and Control* **31** (1976), *no.* 2, 185–192. (P. N. Rathie) **53** #15562 94A15

(*with* Goyal, A. N.) On a generalised function of three variables. I. *Acta Ci. Indica* **3** *no.* 3, 259–264 (1977). (James M. Horner) **57** #6535 33A35

(*with* Patni, G. C.) On axiomatic characterization of some non-additive measures of information. *Metrika* **24** (1977), *no.* 1, 23–34. (J. Aczél) **55** #3584 39A20 (94A15)

(*with* Patni, G. C.) Generalized functional equation and its applications in information theory. *Proc. Indian Acad. Sci. Sect. A* **86** (1977), *no.* 4, 353–364. (Ram Autar) **57** #5425 94A15

ain, L. C. (*with* Jaiswal, R. C.) On the non-symmetric field theory. *Ganita* **27** (1976), *no.* 1-2, 109–116. (W. B. Bonnor) **58** #9043 83.35

The kinematic motion of astral real and counter bodies in *Trilokasāra*. *Indian J. History Sci.* **11** (1976), *no.* 1, 58–74. (R. C. Gupta) **58** #26735 01A25

On certain mathematical topics of the *Dhavalā* texts (the Jaina School of Mathematics). *Indian J. History Sci.* **11** (1976), *no.* 2, 85–111. (A. I. Volodarskiĭ) **58** #34 01A25 (01A35)

Jain, M. K. (*with* Jain, R. K.) Optimum Runge-Kutta Fehlberg methods for first order differential equations. *J. Inst. Math. Appl.* **8** (1971), 386–396. (L. Collatz) **45** #8003 65M05

(*with* Jain, R. K.) Optimum Runge-Kutta-Fehlberg methods for second-order differential equations. *J. Inst. Math. Appl.* **10** (1972), 202–210. (J. Hurt) **49** #6622 65L05

(*with* Iyengar, Satteluri R. K.) Higher order difference formulae for the numerical solution of the heat conduction equation. *J. Inst. Math. Appl.* **13** (1974), 147–151. (Samuel Levy) **49** #8521 80.65

(*with* Iyengar, Satteluri R. K.) The stability of modified predictor-corrector methods. *J. Mathematical and Physical Sci.* **8** (1974), 319–325. (Abbas I. Abdel Karim) **55** #4684 65L05

(*with* Kumar, Ravindra) Quadrature formulas for semi-infinite integrals. *Math. Comp.* **28** (1974), 499–503. (Jozef Mikloško) **49** #8290 65D30

On certain integral operational formulae. I. *Rev. Mat. Hisp.-Amer.* (4) **35** (1975), 22–30. (B. M. Agrawal) **51** #3812 44A45

(*with* Ahuja, Raj; Bhattacharyya, S.) Difference schemes for second order hyperbolic equations. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 4, 960–964. (Authors' summary) **56** #10042 65N05

(*with* Iyengar, Satteluri R. K.) Comparative study of two and three level ADI methods for parabolic equations with a mixed derivative. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 6, 1309–1315. (Sean McKee) **56** #7229 65M05

(*with* Iyengar, Satteluri R. K.; Lone, A. G.) Higher order difference formulas for a fourth order parabolic partial differential equation. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 6, 1357–1367. (Alfred R. Mitchell) **56** #4189 65N05

(*with* Ahuja, Raj; Bhattacharyya, S.) Locally one-dimensional (L.O.D.) difference methods for second order hyperbolic equations. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 4, 347–353. (Alfred R. Mitchell) **54** #14392 65M05

(*with* Jain, R. K.; Saldanha, J. S. V.) Some multistep methods for stiff ordinary differential equations. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 5, 449–456. (Frank G. Hagin) **55** #6859 65L05 (34A50)

(*with* Iyengar, Satteluri R. K.; Saldanha, J. S. V.) Numerical solution of a fourth-order ordinary differential equation. *J. Engrg. Math.* **11** (1977), *no.* 4, 373–380. (Authors' summary) **56** #10017 65L05

(*with* Iyengar, Satteluri R. K.; Lone, A. G.) Multilevel ADI methods for parabolic partial differential equations. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 5, 471–481. (A. R. Mitchell) **57** #14532 65P05

(*with* Lone, A. G.) Difference schemes for solving heat flow equation. *J. Math. Phys. Sci.* **12** (1978), *no.* 1, 35–43. (Authors' summary) **58** #19205 65N20

Jain, N. C. A relation between Meijer-Laplace and Hankel transforms of two variables. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **13(61)** (1969), *no.* 4, 439–445 (1970). (V. P. Mainra) **45** #2422 44A15

On Meijer-Laplace transform of two variables. *Kyungpook Math. J.* **11** (1971), 81–91. (H. M. Srivastava) **46** #2365 44A30

Integrals that contain hypergeometric functions and the *H* function. (Spanish) *Repúb. Venezuela Bol. Acad. Ci. Fís. Mat. Natur.* **31** (1971), *no.* 90, 95–102. (J. A. Donaldson) **47** #5314 33A35

Expansion formula for the Kampé de Fériet doubly hypergeometric function by means of finite difference operators. (Spanish) *Repúb. Venezuela Bol. Acad. Ci. Fís. Mat. Natur.* **31** (1971), *no.* 91, 119–121. (I. Stamate) **47** #7071 33A30

Some infinite integrals involving confluent hypergeometric functions and generalised function of two variables. *Indian J. Mech. Math.* **10** (1972), 47–57. (R. S. Dahiya) **50** #10351 33A35

A theorem on Meijer-Laplace transform of two variables. *Kyungpook Math. J.* **12** (1972), 137–144. (C. M. Joshi) **46** #5951 44A15

(*with* Saxena, Rajendra K.) Some double integral transformation of Meijer's *G*-function. *Kyungpook Math. J.* **12** (1972), 273–278. (R. S. Dahiya) **47** #7079 33A35

An expansion formula for generalised functions of two variables involving Jacobi polynomials. *Ricerca* (*Napoli*) (2) **23** (1972), *gennaio-aprile*, 3–10. (H. Hochstadt) **47** #5309 33A30

Inversion formulae for Meijer-Laplace transform of two variables. *Gaṇita* **25** (1974), *no.* 1, 29–37. (C. M. Joshi) **54** #5751 44A10

Jain, N. K. Expansion of incomplete gamma function in terms of Gegenbauer polynomials. *J. of M. A. C. T.* **8** (1975), 73–75. (R. N. Jain) **53** #13680 33A50

On the extension of Mellin type integral transform. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 4, 325–330. (P. C. Golas) **58** #2038 44A05

Jain, Naresh C. (*with* Pruitt, William E.) The range of random walk. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. III*: *Probability theory*, *pp.* 31–50. *Univ. California Press*, *Berkeley*, *Calif.*, 1972. (H. Kesten) **53** #14677 60J15

(*with* Pruitt, William E.) The law of the iterated logarithm for the range of random walk. *Ann. Math. Statist.* **43** (1972), 1692–1697. (J. E. A. Dunnage) **49** #9955 60J15

(*with* Kallianpur, G.) Oscillation function of a multiparameter Gaussian process. *Nagoya Math. J.* **47** (1972), 15–28. (P. M. Lee) **47** #5946 60G15 (60F20)

(*with* Taylor, Samuel James) Local asymptotic laws for Brownian motion. *Ann. Probability* **1** (1973), 527–549. (O. P. Stackelberg) **51** #1984 60J65

(*with* Orey, Steven) Some properties of random walk paths. *J. Math. Anal. Appl.* **43** (1973), 795–815. (J. Hawkes) **50** #11460 60J15 (60J45)

(*with* Pruitt, William E.) Maxima of partial sums of independent random variables. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **27** (1973), 141–151. (W. J. Hendricks) **50** #11386 60F05 (60G50)

(*with* Marcus, Michael B.) A new proof of a sufficient condition for discontinuity of

Gaussian processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **27** (1973), 293–296. (Simeon M. Berman) **50** #11412 60G15

(*with* Marcus, Michael B.) Sufficient conditions for the continuity of stationary Gaussian processes and applications to random series of functions. (French summary) Colloque International sur les Processus Gaussiens et les Distributions Aléatoires (Colloque Internat. du CNRS, No. 222, Strasbourg, 1973). *Ann. Inst. Fourier* (*Grenoble*) **24** (1974), *no.* 2, vi, 117–141. (A. C. Offord) **54** #1356 60G15

(*with* Pruitt, William E.) Further limit theorems for the range of random walk. *J. Analyse Math.* **27** (1974), 94–117. (H. Kesten) **57** #17844 60J15 (60F05)

(*with* Jogdeo, Kumar; Stout, William F.) Upper and lower functions for martingales and mixing processes. *Ann. Probability* **3** (1975), 119–145. (M. Métivier) **51** #4372 60G45 (60B10, 60G10)

(*with* Pruitt, William E.) The other law of the iterated logarithm. *Ann. Probability* **3** (1975), *no.* 6, 1046–1049. (David J. Scott) **53** #1701 60F15 (60G50)

(*with* Marcus, Michael B.) Central limit theorems for $C(S)$-valued random variables. *J. Functional Analysis* **19** (1975), 216–231. (J. Hoffmann-Jørgensen) **52** #6853 60G15 (60B10)

(*with* Marcus, Michael B.) Integrability of infinite sums of independent vector-valued random variables. *Trans. Amer. Math. Soc.* **212** (1975), 1–36. (J. Hoffmann-Jørgensen) **52** #6854 60G15 (60B05, 60G50)

Tail probabilities for sums of independent Banach space valued random variables. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **33** (1975/76), *no.* 3, 155–166. (J. Hoffmann-Jørgensen) **53** #14568 60B05 (60G50)

Central limit theorem in a Banach space. *Probability in Banach spaces* (*Proc. First Internat. Conf., Oberwolfach*, 1975), *pp.* 113–130. *Lecture Notes in Math., Vol.* 526, *Springer, Berlin*, 1976. (W. A. Woyczyński) **56** #9614 60B10

An example concerning CLT and LIL in Banach space. *Ann. Probability* **4** (1976), *no.* 4, 690–694. (Michael Marcus) **56** #9612 60B10

Central limit theorem and related questions in Banach space. *Probability* (*Proc. Sympos. Pure Math., Vol. XXXI, Univ. Illinois, Urbana, Ill.*, 1976), *pp.* 55–65. *Amer. Math. Soc., Providence, R.I.*, 1977. (W. A. Woyczyński) **56** #9615 60B10

Jain, O. P. (*with* Sinha, S. M.) On indefinite programming problems. *Z. Operations Res. Ser. A-B* **18** (1974), A41–A45. (Ih-Ching Hsu) **54** #4672 90C30

(*with* Saxena, P. C.) A duality theorem for a special class of programming problems in complex space. *J. Optimization Theory Appl.* **16** (1975), 207–220. (R. W. Cottle) **51** #14990 90C30

(*with* Sinha, S. M.) Symmetry and self-duality in nonlinear programming in complex space. *Cahiers Centre Études Recherche Opér.* **18** (1976), *no.* 3, 355–366. (Bruce D. Craven) **55** #12112 90C30

Jain, P. C. (*with* Sharma, Bhagirath Lal) Some generating functions of Appell function F_1. *Proc. Nat. Acad. Sci. India Sect. A* **40** (1970), 241–246. (C. M. Joshi) **45** #7118 33A30

(*with* Sharma, Bhagirath Lal) Some formulae for the generalised double hypergeometric function. *Univ. Nac. Tucumán Rev. Ser. A* **20** (1970), 125–132. (C. M. Joshi) **45** #2218 33A30

Some new double-series expansions of the generalised function of two variables. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **13** (1970), 181–189. (B. M. Agrawal) **46** #2094 33A30

(*with* Bhattacharyya, S. P.) Hydrodynamic stability in the presence of a magnetic field. *Arch. Rational Mech. Anal.* **44** (1971/72), 281–295. (S. I. Pai) **48** #12988 76.35

(*with* Pai, Devidas) Approximation theorems of the Korovkin-type for complex-valued functions. *Indian J. Math.* **13** (1971), 123–129. (L. Raymon) **49** #966 41A65

(*with* Mahanti, P. K.) A finite element formulation of diffusion equation. *Indian J. Pure Appl. Math.* **4** (1973), 770–774. (W. Langlois) **50** #3766 76.65

(*with* Bhattacharyya, S. P.) Study of hydromagnetic stability of a hot rotating layer of fluid by Liapunov method. *J. Mathematical and Physical Sci.* **7** (1973), 197–212. (R. R. Gold) **48** #5492 76.35

(*with* Sharma, Bhagirath Lal) Some new summation formulae. *Mathematica* (*Cluj*) **15(38)** (1973), 183–208. (R. N. Jain) **50** #10590 40A25 (33A30)

(*with* Mahanti, P. K.) Finite element method and variational Green function. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 5, 489–493. (M. Zlámal) **57** #18144 65N30

(*with* Kadalbajoo, M. K.) Dynamic programming solutions of mildly non-linear elliptic problems over irregular regions. *Internat. J. Comput. Math.* **5** (1975/76), *no.* 3, 231–239. (Ammon Barak) **53** #12038 65N35

(*with* Kadalbajoo, M. K.) A numerical method for solving mildly nonlinear elliptic problems over irregular regions. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 2, 212–223. (Authors' summary) **57** #14520 65N99

(*with* Prakash, C. V. S.) Universal stability criterion for ferro-fluids. *J. Indian Math. Soc.* (*N.S.*) **40** (1976), *no.* 1-4, 123–130 (1977). (Cataldo Agostinelli) **56** #10442 78.35

(*with* Kadalbajoo, M. K.) Invariant imbedding approach for the solution of the minimal surface equation. *J. Math. Anal. Appl.* **61** (1977), *no.* 3, 643–657. (Klaus Glashoff) **57** #7334 49F25 (35J67, 65P05)

Jain, Pawan Kumar On convex functions of order zero. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **33** (1968), 45–49 (1971). (Hari Shankar) **48** #4222 26A51

(*with* Gupta, Ved Parkash) A note on subharmonic functions. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 1, 47–50 (1972). (R. A. Hunt) **47** #8881 31A05

Logarithmic order and lower logarithmic order of an entire Dirichlet series. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **36** (1971), 15–21 (1974). (A. K. Agarwal) **57** #9945 30A16

On entire Dirichlet series of order (R) infinity. *Mat. Vesnik* **8(23)** (1971), 27–30. (Benjamin Lepson) **45** #3683 30A16

A note on a result of Valiron. *Math. Education* **5** (1971), A1–A3. (T. Sato) **45** #8841 30A66

Growth of the mean values of an entire function represented by Dirichlet series. II. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 1077–1084. (R. S. L. Srivastava) **45** #7054 30A64

(*with* Kamthan, Pawan Kumar) On Nevanlinna's proximity functions of a meromorphic function. *Ann. Polon. Math.* **26** (1972), 109–113. (V. Ganapathy **46** #356 30A70

(*with* Gupta, Ved Parkash) A note on subharmonic functions. II. *Bull. Math* *Sci. Math. R. S. Roumanie* (*N.S.*) **16(64)** (1972), *no.* 4, 447–449 (1974). (Edi **54** #7803 31A05

Growth of geometric means of an entire function. *J. Math. Sci.* **7** (1972), 7 (1974). (Author's introduction) **57** #12851 30A66

(*with* Gupta, Ved Parkash) On the maximum moduli of an entire function a first derivative. *Mat. Vesnik* **9(24)** (1972), 109–112. (S. K. Bose) **48** #533 30A

Applications of Kennedy's representation theorem for a subharmonic func *Math. Nachr.* **53** (1972), 245–253. (E. F. Beckenbach) **49** #3166 31A05

Entire functions with gap power series. *Rev. Roumaine Math. Pures Appl.* **17** (875–877. (L. R. Sons) **47** #7027 30A66

(*with* Jain, D. R.) On the lower order of an entire function with gap power se *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1643–1648. (Hari Shankar) **48** #6 30A66

A theorem on the means of an entire function. *Riv. Mat. Univ. Parma* (3) **1** (1 79–82. (D. Drasin) **51** #8418 30A66

(*with* Kamthan, Pawan Kumar) Remarks on the geometric means of entire functions of several complex variables. *Riv. Mat. Univ. Parma* (3) **1** (1972), 113 (A. K. Agarwal) **51** #8450 32A15

On the means of an entire function of several complex variables. *Yokohama M* *J.* **20** (1972), 125–129. (R. S. L. Srivastava) **46** #7544 32A15

(*with* Chugh, Vasdev Lal) A note on the maximum modulus of an entire Diri series. (Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **11** (1973), 137–14 K. Kamthan) **51** #5928 30A66

(*with* Anand, S. K.) Growth of the Nevanlinna-Selberg characteristic functic algebroid function. (Italian summary) *Boll. Un. Mat. Ital.* (4) **8** (1973), 419–426. (Gross) **48** #8799 30A70

(*with* Chugh, Vasdev Lal) Sur les moyennes d'une fonction entière d'ordre z *Bull. Sci. Math.* (2) **97** (1973), 5–15. (S. M. Shah) **48** #8793 30A66

(*with* Chugh, Vasdev Lal) A note on the real values of an entire function of zero. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **8(28)** (1973), 225–228. (G Frank) **48** #11509 30A66

On the means of the product of two entire functions. *Kyungpook Math. J.* **13** (1 59–61. (J. Clunie) **47** #8853 30A64

(*with* Chugh, Vasdev Lal) Mean values of an entire Dirichlet series of order zero. *Math. Japon.* **18** (1973), 273–281. (Fred Gross) **49** #7444 30A64

(*with* Gupta, P. N.; Gupta, Ved Parkash) On a class of subharmonic functi *Math. Nachr.* **55** (1973), 287–292. (M. Brelot) **49** #9226 31A05

(*with* Chugh, Vasdev Lal) On the logarithmic convergence exponent of the zer entire functions. *Yokohama Math. J.* **21** (1973), 97–101. (J. D. DePree) **49** #31 30A64

(*with* Jain, D. R.) On the lower order (R) of an entire Dirichlet series. *Ann.* *Fourier* (*Grenoble*) **24** (1974), *No.* 1, 123–129. (M. E. Noble) **50** #7520 30A62

(*with* Jain, D. R.) On an entire Dirichlet series of lower order (R) infinity. (Ru summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 783– (R. S. L. Srivastava) **50** #7521 30A62

(*with* Chugh, Vasdev Lal) Sur les zéros et moyennes d'une classe de fonc entières. *Bull. Sci. Math.* (2) **98** (1974), *no.* 1, 17–28. (S. Hellerstein) **55** #58 30A64

(*with* Gupta, Ved Parkash) On the means of entire functions of several com variables of small order. *Kyungpook Math. J.* **14** (1974), 185–194. (L. R. Sons) **51** #3494 32A15

Growth of the mean values of an entire function represented by Dirichlet series. *Math. Student* **42** (1974), 13–16 (1975). (Hari Shankar) **53** #13562 30A64

(*with* Gupta, Ved Parkash) Slowly growing subharmonic functions. *Math. Stu* **42** (1974), 166–176 (1975). (M. Brelot) **53** #11069 31A05

Geometric means of an entire Dirichlet series. (Italian summary) *Rend. Mat.* ((1974), 395–401 (1975). (Hari Shankar) **52** #748 30A64

(*with* Gupta, Ved Parkash) Growth of certain subharmonic functions. *Math. Nachr.* **65** (1975), 145–152. (H. L. Jackson) **51** #3476 31A05 (30A64)

(*with* Kalsi, P. S.) Growth of the geometric means of entire Dirichlet ser *Mathematica* (*Cluj*) **17(40)** (1975), *no.* 1, 71–76. (Shlomo Strelitz) **57** #16554 30

(*with* Jain, D. R.) On the space of entire functions of several variables of f growth over non-Archimedean fields. (Italian summary) *Boll. Un. Mat. Ital. A* (5 (1976), *no.* 1, 196–205. (P. K. Kamthan) **55** #12939 32A15 (32A30)

(*with* Jain, D. R.) On a class of entire functions given by power series of polynomials. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. P* **24** (1976), *no.* 1, 43–49. (J. P. Singh) **53** #5866 30A64

(*with* Gupta, Ved Parkash) Certain classes of univalent functions with neg coefficients. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 3, 409–416. (Selden Trim **54** #2941 30A32

(*with* Gupta, Ved Parkash) Certain classes of univalent functions with nega coefficients. II. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 3, 467–473. (Selden Trim **55** #8334 30A32

(*with* Jain, D. R.) Simultaneous automorphisms in the space of entire functions non-Archimedean fields. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **11(31)** (1976), *no.* 2, 255–261. (Authors' summary) **55** #319 12J10 (12B40)

(*with* Singh, Paramjit) On modified deficient values of a meromorphic function its derivatives. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 2, 224–240. (Zbl **371** #30 **58** #22561 30A70

(*with* Gupta, Ved Parkash) On starlike functions. (Italian summary) *Rend. Mat.* **9** (1976), *no.* 3, 433–437. (M. S. Robertson) **55** #641 30A32

(*with* Chugh, Vasdev Lal) Logarithmic proximate order and geometric means of entire function of order zero. *Riv. Mat. Univ. Parma* (4) **2** (1976), 57–68. (R. S Srivastava) **56** #5879 30A64

(*with* Gupta, Ved Parkash) A note on a class of Bazilevič functions. *Tamkang* *Math.* **7** (1976), *no.* 1, 117–119. (Albert E. Livingston) **54** #7769 30A32 (*with* Gupta, Ved Parkash) On order and type of an entire Dirichlet series of several complex variables. *Yokohama Math. J.* **24** (1976), *no.* 1–2, 51–56. (L. I. Ronkin) **57** #6482 32A15

(*with* Saxena, R. K.) Simultaneous automorphisms in the spaces of analytic functions over non-Archimedean fields. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no.* 1, 98–106. (A. F. Monna) **55** #11014 46E10 (32K10)

(*with* Chugh, Vasdev Lal) The geometric means of an entire function of order zero. *Collect. Math.* **28** (1977), *no.* 2, 115–129. (D. Drasin) **58** #17087 30A66

(*with* Jain, D. R.) Topological structure of the space of entire functions of several variables over non-Archimedean fields. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 2, 305–314. (N. De Grande-De Kimpe) **58** #2193 46E10 (32A15)

(*with* Anand, S. K.) Some results on p-valued entire algebroid functions. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 5, 567–573. (S. M. Shah) **57** #12850 30A66

(*with* Jain, D. R.) Automorphisms on the spaces of entire functions of several variables over non-Archimedean fields. *J. Reine Angew. Math.* **292** (1977), 13–18. (Manjul Gupta) **56** #657 32A30 (46E10, 32A15)

(*with* Kapoor, N. M.) On bases and projections in non-Archimedean Banach spaces. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 109–113. (L. Narici) **58** #2184 46B99

(*with* Jain, D. R.) On the bases in a space of entire Dirichlet transforms of several complex variables. *Tamkang J. Math.* **8** (1977), *no.* 2, 183–195. (L. I. Ronkin) **58** #28590 32A15

n, Prabha On the integrability of power series. *Proc. Amer. Math. Soc.* **42** (1973), 569–574. (W. A. Woyczynski) **49** #3430 42A32

An integrability theorem for power series. *Publ. Math. Debrecen* **20** (1973), 129–131. (W. Beekmann) **48** #4566 40A10

Integrability theorems for Fourier series and Parseval's formulas. *Comment. Math. Univ. St. Paul.* **23** (1974/75), *no.* 1, 1–6. (Yung-ming Chen) **51** #8720 42A20

Integrability theorems for certain trigonometric series with δ-quasi-monotone coefficients. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 10, 951–960. (Satoru Igari) **55** #8672 42A32

On some inequalities for Fourier series. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 10, 1103–1112. (Author's summary) **56** #16242 42A32

The integrability class of the sine transform of a monotonic function. *Publ. Math. Debrecen* **22** (1975), *no.* 1-2, 65–67. (R. P. Boas, Jr.) **51** #10997 42A68

n, Pramod K. (*with* Verma, Harish L.) Game theory and promotional competition. *Proceedings of the Annual Meeting of the American Statistical Association, Business and Economic Statistics Section* (*St. Louis, Mo.*, 1974), *pp.* 590–595. *Amer. Statist. Assoc., Washington, D. C.*, 1975. (O. Opitz) **55** #12001 90B05 (90A15, 90D45)

n, Pravin C. *See* **Applications of Walsh functions**, **48** #8080

n, Pushpa (*with* Singal, M. K.) On subparacompact and countably subparacompact spaces. *Bull. Austral. Math. Soc.* **5** (1971), 289–304. (R. Hodel) **45** #5955 54D20

(*with* Singal, M. K.) m-subparacompact spaces. *Jñānabha Sect. A* **2** (1972), 143–158. (G. H. M. Thomas) **51** #1736 54D20

Subparacompact spaces. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 231–249 (1974). (J. Dugundji) **53** #3998 54D20

(*with* Singal, M. K.) A note on $\aleph$-spaces. *Kyungpook Math. J.* **13** (1973), 203–210. (V. J. Mancuso) **52** #9175 54D20 (54C10)

(*with* Singal, M. K.) Some generalisations of metacompact spaces. *Kyungpook Math. J.* **14** (1974), 145–164. (Stephen Willard) **52** #1631 54D30

(*with* Singal, M. K.) Semiparacompact spaces. *Period. Math. Hungar.* **5** (1974), 243–248. (R. Hodel) **50** #5740 54D20

(*with* Arya, Shashi Prabha) Some function space topologies for multifunctions. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 12, 1488–1506. (R. E. Smithson) **57** #13834 54C35

n, R. C. (*with* Tailor, J. K.) A note on test of hypothesis about mean after preliminary testing. *Trabajos Estadist.* **23** (1972), *no.* 1-2, 77–83. (Mir Ali) **47** #9758 62F05

On pseudo-Boolean inequalities-consistency and solutions. *Acta Ci. Indica* **1**, *no.* 4, 347–352 (1975). (Csaba Fabian) **53** #15357 90C10

Approximate power formulas of a test using three preliminary tests of significance in a component of variance model. *Vikram* **19** (1975), *no.* 1-3, 55–61. (Author's summary) **58** #31527 62F05 (62J10)

Maximum two dimensional transform. *Math. Education* **11** (1977), *no.* 2, A31–A35. (Author's summary) **56** #2351 90C05 (90C50)

On minimization of pseudo-Boolean functions (a variant method). *Math. Education* **11** (1977), *no.* 4, A67–A71. (Author's summary) **57** #14446 65K05

(*with* Gupta, P. M.) On locally minimizing points of pseudo-Boolean quadratic functions. *Pure Appl. Math. Sci.* **6** (1977), *no.* 1-2, 27–35. (From the authors' summary) **57** #8004 65K05

Bias and mean square error of a variance estimator after three preliminary tests of significance in a component of variance model. *Indian J. Pure Appl. Math.* **9** (1978), *no.* 1, 1–16. (Chien-Pai Han) **57** #14286 62J10

n, R. K. Higher order Runge-Kutta methods with extended region of stability for a system of first order differential equations. *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1971), *pp.* 385–400. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man.*, 1971. (Jerrold S. Rosenbaum) **54** #14378 65L05

A-stable multi-step methods for stiff ordinary differential equations. *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1971), *pp.* 401–416. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man.*, 1971. (Rolf Jeltsch) **48** #12841 65L05

The absolute harmonic summability factors of infinite series. *Colloq. Math.* **23** (1971), 157–164. (J. P. King) **46** #5889 40G05

(*with* Jain, M. K.) Optimum Runge-Kutta Fehlberg methods for first order differential equations. *J. Inst. Math. Appl.* **8** (1971), 386–396. (L. Collatz) **45** #8003 65M05

(*with* Jain, M. K.) Optimum Runge-Kutta-Fehlberg methods for second-order differential equations. *J. Inst. Math. Appl.* **10** (1972), 202–210. (J. Hurt) **49** #6622 65L05

Some A-stable methods for stiff ordinary differential equations. *Math. Comp.* **26** (1972), 71–77. (Jochen Werner) **46** #2869 65L05

(*with* Sachdev, S.) Higher order repeated quadrature methods. *Z. Angew. Math. Mech.* **52** (1972), 55–56. (V. Pereyra) **45** #7988 65D30

(*with* Pradhan, G. K.; Banerjee, Mihir B.) On the equilibrium of circular flows under gravity. *J. Math. Anal. Appl.* **42** (1973), 138–147. (R. K. Rathy) **48** #10301 76.35

(*with* Agarwal, Ravi P.) Finite difference method for second order functional differential equations. *J. Mathematical and Physical Sci.* **7** (1973), 301–306. (M. L. Juncosa) **51** #9541 65Q05

(*with* Sachidananda, S. V.) Universal stability in hydromagnetics. *J. Mathematical and Physical Sci.* **8** (1974), 355–362. (Ll. G. Chambers) **54** #11970 76.49

(*with* Banerjee, Mihir B.; Pradhan, G. K.) On the stability of non-homogeneous rotatory Couette flow under gravity. *J. Mathematical and Physical Sci.* **9** (1975), 57–69. (R. Ballabh) **51** #7457 76.35

(*with* Acharya, H. S.) On an extension of Rayleigh criterion. *J. Mathematical and Physical Sci.* **9** (1975), *no.* 6, 543–550. (T. W. Kao) **54** #9292 76.35

(*with* Jain, M. K.; Saldanha, J. S. V.) Some multistep methods for stiff ordinary differential equations. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 5, 449–456. (Frank G. Hagin) **55** #6859 65L05 (34A50)

(*with* Singh, B. M.) A short note on quadruple integral equations and its application to steady-state heat conduction problem. *Z. Angew. Math. Mech.* **56** (1976), *no.* 2, 118–120. (S. L. Kalla) **54** #3324 45F10

(*with* Ganguly, Ashok; Madan, B. K.) On $|V, \lambda|_k$ summability factors of Fourier series. *Indian J. Pure Appl. Math.* **9** (1978), *no.* 3, 282–289. (L. Leindler) **57** #13351 42A28

(*with* Sachidananda, S. V.) Benard problem with a porous boundary. *Pure Appl. Math. Sci.* **7** (1978), *no.* 1-2, 67–76. (Authors' summary) **57** #2123 76.35

See also **Collection: Bhatnagar, Prabhu L.**, **52** #10304

Jain, R. N. Some integrals involving G-functions. *Vikram—Quart. Res. J. Vikram Univ.* **11** (1967), *no.* 1-3, 41–50. (S. L. Kalla) **45** #604 33A35

(*with* Dave, C. K.) Generating functions for polynomials of two variables. I. *Simon Stevin* **46** (1972/73), 129–139. (H. M. Srivastava) **49** #671 33A70

Jain, Rama (*with* Yadav, B. S.) Polynomially bounded operators and spectral ρ-dilations. *Math. Nachr.* **77** (1977), 263–266. (Dumitru Gaşpar) **56** #12932 47A20

Jain, Ramesh Outline of an approach for the analysis of fuzzy systems. *Internat. J. Control* **23** (1976), *no.* 5, 627–640. (Kiyoji Asai) **55** #2204 93A10

Jain, S. K. (*with* Bhattacharya, P. B.) ★First course in group theory. *Wiley Eastern Private Ltd., New Delhi*, 1972. v+97 *pp.* (Editors) **50** #13204 20–01

(*with* Singh, Surjeet) Quasi-injective and pseudo-injective modules. *Canad. Math. Bull.* **18** (1975), *no.* 3, 359–366. (M. Teply) **53** #531 16A52

(*with* Singh, Surjeet) Rings with quasi-projective left ideals. *Pacific J. Math.* **60** (1975), *no.* 1, 169–181. (J. P. Jans) **52** #496 16A50

(*with* Geol, S. C.; Singh, Surjeet) Rings whose cyclic modules are injective or projective. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 16–18. (Z. Papp) **52** #3234 16A52

(*with* Rathie, P. N.; Shah, M. C.) The exact distributions of certain likelihood ratio criteria. *Sankhyā Ser. A* **37** (1975), *no.* 1, 150–163. (A. M. Mathai) **55** #6638 62E15

(*with* Goel, S. C.) Semiperfect rings with quasi-projective left ideals. *Math. J. Okayama Univ.* **19** (1976/77), *no.* 1, 39–43. (V. C. Cateforis) **55** #10522 16A50 (16A48)

(*with* Singh, Surjeet; Symonds, R. G.) Rings whose proper cyclic modules are quasi-injective. *Pacific J. Math.* **67** (1976), *no.* 2, 461–472. (V. C. Cateforis) **54** #12829 16A52

(*with* Bhattacharya, P. B.) ★First course in rings, fields and vector spaces. *Halsted Press* [*John Wiley & Sons*], *New York-London-Sydney*, 1977. xi+238 *pp.* (Tomas Kepka) **57** #1 00A05

Rings whose cyclic modules have certain properties and the duals. *Ring theory* (*Proc. Conf., Ohio Univ., Athens, Ohio*, 1976), *pp.* 143–160. *Lecture Notes in Pure and Appl. Math., Vol.* 25, *Dekker, New York*, 1977. (Lawrence S. Levy) **55** #10520 16A48

(*with* Goel, V. K.; Singh, Surjeet) Semiprime rings with finite length w.r.t. an idempotent kernel functor. *Israel J. Math.* **28** (1977), *no.* 1-2, 110–112. (K. A. Byrd) **56** #8603 16A12 (18E40)

(*with* Goel, V. K.) π-injective modules and rings whose cyclics are π-injective. *Comm. Algebra* **6** (1978), *no.* 1, 59–73. (J. C. Robson) **58** #11016 16A52

See also **Ring theory**, **55** #2973 *and* **Problems: Population genetics**, **56** #17911

Jain, Saroj Flat and FP-injectivity. *Proc. Amer. Math. Soc.* **41** (1973), 437–442. (E. A. Walker) **48** #2183 16A52

Jain, Sunita Double series generating functions. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 11, 1372–1377. (Y. L. Luke) **57** #3478 33A65

Generating functions for Laguerre polynomial. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 1, 1–4. (Y. Lehrer-Ilamed) **53** #13682 33A65 (33A75)

(*with* Manocha, H. L.) Special linear group and generating functions. *Comment. Math. Univ. St. Paul.* **26** (1977/78), *no.* 1, 105–113. (Y. Lehrer-Ilamed) **58** #1313 33A75 (22E45)

Jain, Suresh (*with* Balachandran, V.) Optimal facility location under random demand with general cost structure. *Naval Res. Logist. Quart.* **23** (1976), *no.* 3, 421–436. (Kåne M. Mjelde) **56** #2336 90B99 (90C05)

(*with* Deshmukh, S. D.) Capacity design and service quality control in a queuing system. *Operations Res.* **25** (1977), *no.* 4, 651–661. (N. U. Prabhu) **56** #3967 60K25

Jain, U. C. (*with* Gupta, K. C.) The H-function. II. *Proc. Nat. Acad. Sci. India Sect. A* **36** (1966), 594–609. (R. G. Buschman) **46** #7580 33A35

On generalized Laplace transforms. I. *Proc. Nat. Acad. Sci. India Sect. A* **36** (1966), 661–674. (G. Doetsch) **46** #4111 44A10

Jain, Vijay K. (*with* Nagrath, I. J.) Formulation of state equations of general nonlinear systems of multiterminal components. *Proc. Inst. Elec. Engrs.* **114** (1967), 1647–1651. (D. Obradović) **46** #6861 93A10

Representation of sequences. *IEEE Trans. Audio Electroacoust.* **AU-19** (1971), *no.* 3, 208–215. (J. B. Bednar) **52** #12952 94A05 (*with* Govil, N. K.) On the Eneström-Kakeya theorem. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **27** (1973), 13–18 (1975). (M. Marden) **52** #11013 30A08

(*with* Datt, Brham) A note on the sequence of Fourier coefficients. *Math. Student* **41** (1973), *no.* 3-4, 401–404 (1974). (Colin Bennett) **52** #3857 42A24

(*with* Govil, N. K.; Labelle, Gilbert) Inequalities for polynomials satisfying $p(z) \equiv z^n p(1/z)$. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 238–242. (D. A. Brannan) **54** #2930 30A06

On the zeros of polynomials. *Comm. Fac. Sci. Univ. Ankara Sér. A_1 Math.* **26** (1977), *no.* 1, 1–5. (Z. Rubinstein) **57** #16550 30A08

Some inequalities for polynomials. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 2, 263–269. (Wolfgang Luh) **58** #1103 30A06

(*with* Govil, N. K.) On the Eneström-Kakeya theorem. II. *J. Approximation Theory* **22** (1978), *no.* 1, 1–10. (M. Marden) **57** #3360 30A08

Jai Singh, Sawai, II *See* **Blanpied, William A.**, **54** #7166

Jaiswal, Anuradha (*with* Sharma, P. L.; Singh, Bijendra) Weakly *N*-almost periodic functions. *Math. Japon.* **19** (1974), *no.* 3, 263–266. (H. Burkill) **55** #3677 42A84

(*with* Sharma, P. L.; Singh, Bijendra) A note on almost periodic functions. *Math. Japon.* **19** (1974), *no.* 3, 279–282. (A. Precupanu) **53** #8800 43A60

(*with* Sharma, P. L.; Singh, Bijendra) Semifield valued almost periodic functions on groups. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 25–32. (J. W. Baker) **53** #6242 43A60

(*with* Sharma, P. L.; Singh, Bijendra) An integral of Cesaro-Perron type. *Math. Japon.* **20** (1975), *no.* 1, 107–111. (Peter Bullen) **52** #8352 26A39

(*with* Singh, Bijendra) On approximation problem in non-Archimedean quasi-normed spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no. XV*, 2 *pp.* (I. Namioka) **55** #1045 46B99

(*with* Singh, Bijendra) The Hahn-Banach extension theorem in normed linear spaces over topological semifield. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no XVI*, 3 *pp.* (I. Namioka) **54** #898 46B05 (46A99)

(*with* Singh, Bijendra) A generalisation of Isêki's fixed point theorem. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXV*, 2 *pp.* (S. P. Singh) **53** #6371 47H10

(*with* Singh, Bijendra) A common fixed points of mappings. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXVI*, 3 *pp.* (I. Namioka) **54** #1195 54H25

(*with* Singh, Bijendra) Nonstandard analysis of weakly almost periodic functions. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper No. XXXIII*, 4 *pp.* (L. D. Kugler) **54** #850 42A84

(*with* Singh, Bijendra) Semifield metrizability. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXIV*, 4 *pp.* (Haskell Cohen) **54** #6096 54E99 (22A99)

(*with* Iseki, Kiyoshi; Singh, Bijendra) Non-Archimedean Banach space valued almost periodic functions. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXXIV*, 10 *pp.* (A. C. M. van Rooij) **53** #14026 43A60

(*with* Singh, Bijendra) Fixed point theorem in metric space over topological semifields. *Math. Japon.* **21** (1976), *no.* 2, 187–195. (I. A. Rus) **55** #1339 54H25

Jaiswal, D. V. Some matrix properties of a generalized Fibonacci sequence. *Labdev—J. Sci. Tech. Part A* **11** (1973), *no.* 1-2, 1–3. (D. A. Klarner) **54** #13357 39A05 (15A21)

Some geometrical properties of the generalized Fibonacci sequence. *Fibonacci Quart.* **12** (1974), 67–70. (L. Carlitz) **50** #226 10A35

On polynomials related to Tchebichef polynomials of the second kind. *Fibonacci Quart.* **12** (1974), 263–265. (C. W. Clenshaw) **50** #7895 41A10

Jaiswal, M. C. (*with* Khatri, C. G.) Testing the equality of parameters in *k* triangular populations when the location parameters are unknown. *J. Indian Statist. Assoc.* **7** (1969), 30–37. (S. Kotz) **48** #7438 62F05

(*with* Khatri, C. G.) On certain tests and monotonicity of their power for the parameters involved in the non-regular density functions. *Ann. Inst. Statist. Math.* **23** (1971), 199–210. (R. V. Hogg) **47** #4398 62J05 (62F05)

Sheppard's corrections for grouped data from rectangular and exponential populations. *Gujarat Statist. Rev.* **1** (1974), 41–45. (C. G. Khatri) **54** #1437 62E15

(*with* Shah, Y. K.) On a discrete deterministic inventory model with demand varying in progression. *AIIE Trans.* **8** (1976), *no.* 4, 456–460. (C. Mohan) **57** #2501 90B05

(*with* Shah, Y. K.) A lot-size model for exponentially deteriorating inventory with finite production rate. *Gujarat Statist. Rev.* **3** (1976), *no.* 2, 1–15. (Knut Richter) **55** #7342 90B05

(*with* Jani, B. B.) A lot-size inventory model with finite production rate under the influence of two alternate pricing conditions. *Gujarat Statist. Rev.* **4** (1977), *no.* 2, 33–50. (E. S. Boylan) **56** #17756 90B05

(*with* Shah, Y. K.) An order-level inventory model for a system with constant rate of deterioration. *Opsearch* **14** (1977), *no.* 3, 174–184. (Roman Słowiński) **56** #14634 90B30

Jaiswal, M. P. (*with* Masood, S.) On a generalised transform. *J. Sci. Res. Banaras Hindu Univ.* **20** (1969/70), *no.* 1, 86–98. (P. N. Rathie) **53** #14038 44A30

(*with* Masood, S.) Infinite series of *G*-functions. *J. Sci. Res. Banaras Hindu Univ.* **22** (1971/72), *no.* 2, 17–21. (C. K. Sharma) **57** #737 33A35

(*with* Tiwari, S.) On characterization of the spectrum associated with a matrix differential operator. *J. Indian Inst. Sci.* **59** (1977), *no.* 2, 16–24. (R. R. D. Kemp) **56** #12400 34B25

Jaiswal, N. K. ★Очереди с приоритетами. (Russian) [Priority queues] With a supplement by B. V. Gnedenko and È. A. Danieljan. Translated from the English by I. S. Nefedova and V. S. Manusevič. Edited by V. V. Kalašnikov. *Izdat. "Mir", Moscow*, 1973. 279 *pp.* (Editors) **49** #11657 60K25

Jaiswal, R. C. (*with* Jain, L. C.) On the non-symmetric field theory. *Gaṇita* **27** (1976), *no.* 1-2, 109–116. (W. B. Bonnor) **58** #9043 83.35

Jaiyesimi, S. B. On the analytic solution of certain linear difference equations. *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **22** (1976), *no.* 1, 59–66. (From the introduction) **58** #23213 39A10 (65Q05)

On a difference equation of type 1/*n*. *An. Sti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **22** (1976), *no.* 2, 161–164. (W. A. Al-Salam) **55** #909 39A10

On the summation of certain multiple series defined by a difference equatio *Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **23** (1977), *no.* 1, 97–102. (Fro author's introduction) **57** #3687 40A25 (39A10)

Jajte, Ryszard On random partitions of the segment. (Russian summary) *Bull. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 231–233. (Author's sum **51** #6922 60F05

On some random convex sets. *Colloq. Math.* **24** (1971/72), 103–107. (A. **46** #6410 60D05

On convergence of Gleason measures. (Russian summary) *Bull. Acad. Polo Sér. Sci. Math. Astronom. Phys.* **20** (1972), 211–214. (G. W. Johnson) **46** #7 28A60 (46L10)

Random linear operators. (Russian summary) *Bull. Acad. Polon. Sci. Sér Math. Astronom. Phys.* **21** (1973), 227–231. (J. J. Uhl, Jr.) **47** #9344 47B99 (6

Stationary fields of second order over a linear space. (Russian summary) *Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 433–439. (J. B. Robe **48** #3109 60G10

On derivatives of random fields over a Banach space. (Russian summary) *Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 305–311. (R. Fis **50** #1329 60G20

(*with* Nowak, B.) On convergence of observables in quantum mechanics. *Mathematical Phys.* **6** (1974), *no.* 3, 387–394. (Johan G. Belinfante) **52** #16 81.47

Convergence of observables. *Probability—Winter School (Proc. Fourth School, Karpacz*, 1975), *pp.* 57–68. *Lecture Notes in Math., Vol.* 472, *Springer,* 1975. (Alexander Holevo) **52** #16407 81.60

General consistency theorem for Nörlund-Borel methods of summability. (Ru summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), 415–416. (T. Pati) **52** #1087 40G05

(*with* Paszkiewicz, A.) Vector valued measures of the Gleason type. (Ru summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), 1167–1170. (J. J. Uhl, Jr.) **53** #8895 46G10 (47B99)

Quelques résultats dans la théorie non-commutative des probabilités. Two Symposia on Probability and Applications (Quatrième Acutecole d'Été de Calcu Probabilités, Saint-Flour, 1974). *Ann. Sci. Univ. Clermont No.* 58 *Math, No.* 12 (11–17. (Jean-Paul Marchand) **53** #7309 81.60

Quasi-stable measures in generalized convolution algebras. (Russian summ *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 7, 505–511. (Kruglov) **54** #1339 60E05 (60B15)

Conditional expectations of observables. *Proceedings of the Symposium to h Jerzy Neyman (Warsaw*, 1974), *pp.* 103–109. *Państw. Wydawn. Nauk., Warsaw*, 197 Gudder) **56** #10624 81.60

Quasi-stable measures in generalized convolution algebras. II. (Russian summ *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 1, 67–72. (Kruglov) **55** #9211 60E05 (60B15)

Semi-stable probability measures on $\mathbf{R}^N$. *Studia Math.* **61** (1977), *no.* 1, 2 (Thomas A. O'Connor) **55** #9210 60E05

(*with* Paszkiewicz, A.) Vector measures on the closed subspaces of a Hilbert sp *Studia Math.* **63** (1978), *no.* 3, 229–251. (Robert E. Huff) **58** #30225 46G10 (28

(*with* Hensz, Ewa) On a class of limit laws. (Russian summary) *Teor. Verojatn Primenen.* **23** (1978), *no.* 1, 215–221. (Thomas A. O'Connor) **57** #10763 6 (60F05)

Noncommutative measure theory. (Polish) *Wiadom. Mat.* (2) **20**, *no.* 2, 161 (1978). (T. Neubrunn) **58** #4029 81.28 (28A45)

Jaju, R. P. On a generalised convolution transform involving Hermite polynomial i kernel. *Gaṇita* **24** (1973), *no.* 2, 73–79. (P. G. Rooney) **50** #7961 44A15

On a generalised convolution transform involving Hermite polynomial in its ker *Gaṇita* **25** (1974), *no.* 1, 39–44. (P. G. Rooney) **54** #10996 44A35

Jakál, L. Über äquivalente parameterinvariante Variations-probleme erster Ordnung. *Publ. Math. Debrecen* **24** (1977), *no.* 1-2, 139–149. (H. Rund) **56** #3707 4 (53B40)

Jakel, D. (*with* Rajagopalan, M.; Soundararajan, T.) On perfect images of ordi *TOPO 72—general topology and its applications (Proc. Second Pittsburgh Internat. C Pittsburgh, Pa.*, 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 228– *Lecture Notes in Math., Vol.* 378, *Springer, Berlin*, 1974. (Paul R. Meyer) **51** #17 54C10

Jäkel, H.-J. (*with* Loeper, H.; Otter, Wolfgang) Anwendung der Automatentheorie der Behandlung der Modusäquivalenz in ALGOL 68. *Z. Elek. Informations-Energietech.* **7** (1977), *no.* 5, 437–443. (Not reviewed) 68A05 (68A25, 94A30)

Jakeman, A. J. (*with* Anderssen, R. S.) Product integration for functionals of particle distributions. *Utilitas Math.* **8** (1975), 111–126. (Ivar Petersen) **53** #4357 65G0

Jakes, R. (*with* Leung, Kin Vinh) A new system of pseudo-random number generat *Proceedings of the Second Manitoba Conference on Numerical Mathematics (Univ. Manitoba, Winnipeg, Man.*, 1972), *pp.* 245–259. *Congressus Numerantium, No. Utilitas Math., Winnipeg, Man.*, 1973. (P. Kratochvíl) **51** #7228 65C10

Jaki, Stanley L. The Milky Way before Galileo. *J. Hist. Astronom.* **2** (1971), 161–167. (Editors) **58** #26813 01A35

The original formulation of the Titius-Bode law. *J. Hist. Astronom.* **3** (1972), 136–138. (M. Kline) **58** #15924 01A50

The five forms of Laplace's cosmogony. *Amer. J. Phys.* **44** (1976), *no.* 1, 4–11. O. Matviĭšin) **56** #2745 01A55

See also **Gauss-Gesellschaft Göttingen**, **52** #13117

Jakimčuk, G. S. (*with* Nikitin, Ju. P.; Sirik, V. K.) Approximate analysis of periodic inhomogeneous long lines. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* 1 *no.* 11, 1176–1183. **54** #7016 93A15

Jakimec, I. V. *See* **Problems of applied mathematics**, **48** #24

Jakimenko, T. S. (*with* Monastyrnyĭ, P. I.) Some generalizations of A. A. Abram method. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 1, 13 139. (Stefan Balint) **56** #5995 34B05

Jakimıv, Ja. M. A certain criterion for the essential selfadjointness of operators. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Se*

1975, *no.* 4, 326–328, 381. (Author's summary) **57** #10480 47B25 (81.47)

Uniqueness of the dynamics of cutoff models of quantum field theory. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 1, 130–137, 144. (R. A. Minlos) **54** #4426 81.47

(*with* Zolotarjuk, O. V.) The generalized Yukawa cut-off model. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 3, 393–399, 430. (James D. Fabrey) **54** #4436 81.47

Jimov, M. D. Solution of the filtration problem in an earth dam in the case of nonlinear law of drainage flows. (Ukrainian) *Boundary value problems of hydroaeromechanics* (*Ukrainian*), *pp.* 160–168. *Akad. Nauk Ukraïn. RSR Inst. Mat., Kiev*, 1973. (E. Ungureanu-David) **56** #17397 76.30

Jimov, N. D. A study of a boundary value problem for filtration in an earth dam with fine drainage. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 11 (1974), 195–206. (Author's introduction) **57** #14834 76.34

(*with* Il'inskiĭ, N. B.; Salimov, N. B.; Fatkullin, R. G.) The problem of filtration in an earth dam on a permeable foundation that has a different coefficient of filtration. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 13 (1976), 93–111. (From the text) **58** #25360 76.41

Variational theorems for problems with depression curves. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 13 (1976), 258–275. (From the text) **58** #25369 76.49

An investigation of the problem of the detonation of a charge of a curvilinear cross section. (Russian) *Trudy Sem. Kraev. Zadačam No.* 14 (1977), 232–240. (From the text) **58** #32311 76.30

Jimov, R. M. On the construction of the dual linear programming problem. (Russian) *Perm. Politehn. Inst. Sb. Naučn. Trudov* **170** (1975), 143–145. (I. Maruşciac) **56** #17796 90C05

Jimov, S. P. (*with* Agekjan, T. A.) Theory of the third integral of motion. *Astronom. Ž.* **50** (1973), 731–736; *translated as Soviet Astronom. AJ* **17** (1974), 466–469. (Authors' summary) **52** #4762 70.35

(*with* Agekjan, T. A.) The multiplicity of a velocity field and the ergodicity of a motion. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 13 *Mat. Meh. Astronom. vyp.* 3, 177–183, 188. (Ljubomir Lilov) **56** #13850 70.34

Jimov, Stoičo P. Simple groups of length 9. (Russian) *Uspehi Mat. Nauk* **33** (1978), *no.* 2(200), 212. (P. Fong) **58** #5895 20D05

Jimovski, Amnon (*with* Russell, Dennis C.) Matrix mappings between *BK*-spaces. *Bull. London Math. Soc.* **4** (1972), 345–353. (D. J. H. Garling) **47** #7383 46A45 (40J05)

(*with* Livne, Avishai) On matrix transformations between sequence spaces. *J. Analyse Math.* **25** (1972), 345–370. (E. Dubinsky) **46** #2393 46A45

(*with* Tzimbalario, Jean) Inclusion relations for Riesz typical means. *Proc. Cambridge Philos. Soc.* **72** (1972), 417–423. (G. U. Brauer) **46** #4055 40D25

(*with* Livne, Avishai) An extension of Brudno-Mazur-Orlicz theorem. *Studia Math.* **41** (1972), 257–262. (M. S. Ramanujan) **46** #4064 40J05

(*with* Russell, Dennis C.; Tzimbalario, Jean) Inclusion theorems for matrix transformations. *J. Analyse Math.* **26** (1973), 391–404. (B. E. Rhoades) **48** #6761 40D25

(*with* Livne, Avishai) Tauberian theorems for $[J,f(x)]$ transformations. *J. Austral. Math. Soc.* **15** (1973), 202–221. (L. Hoischen) **48** #11841 40E05

(*with* Tzimbalario, Jean) Inclusion relations for general Riesz typical means. *Canad. Math. Bull.* **17** (1974), 51–61. (I. J. Maddox) **51** #1195 40D25

(*with* Rhoades, Billy E.; Tzimbalario, Jean) Hausdorff matrices as bounded operators over l^p. *Math. Z.* **138** (1974), 173–181. (M. R. Parameswaran) **50** #5530 47B37 (40G05)

(*with* Tzimbalario, Jean) Inclusion relations for absolute Riesz means and on a conjecture by Maddox. *Proc. London Math. Soc.* (3) **30** (1975), 366–384. (G. U. Brauer) **51** #3745 40D25

(*with* Levikson, Benny) A new approximation operator of the Arato-Renyi type. *Israel J. Math.* **23** (1976), *no.* 1, 39–52. (S. Dubuc) **53** #3556 41A30 (60F99)

(*with* Russell, Dennis C.) Best order conditions in linear spaces, with applications to limitation, inclusion, and high indices theorems for ordinary and absolute Riesz means. *Studia Math.* **56** (1976), *no.* 2, 101–120. (I. J. Maddox) **54** #10924 (EA **58**) 40H05

On the perfectness of limitation methods. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 8, 763–765. (R. N. Mohapatra) **58** #6810 40C05

(*with* Russell, Dennis C.) On the Hausdorff moment problem. *General inequalities* (*Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach*, 1976), *I*, *pp.* 63–81. *Birkhäuser, Basel*, 1978. (K. Endl) **58** #23390 44A50

Jl, Vojtěch (*with* Chytil, Michal P.) Serial composition of 2-way finite-state transducers and simple programs on strings. *Automata, languages and programming* (*Fourth Colloq., Univ. Turku, Turku*, 1977), *pp.* 135–137. *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin*, 1977. (Michael Bauer) **58** #19367 68A25 (68A05, 94A25)

kob, J. (*with* Neumann, Peter) Optimale Nullstellensuche bei Vorliegen einer apriori-Verteilung. (English and Russian summaries) *Math. Operationsforsch. Statist.* **6** (1975), *no.* 3, 397–412. (Authors' summary) **56** #17047 65H05 (93E20)

kob, Kajus *See* **Iacob, Caius**

kobčuk, O. A. (*with* Gupalo, G.-V. S.) The exterior generalized Neumann problem. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1973**, *no.* 8, 48–51, 147. (M. A. Atahodžaev) **53** #840 31B20

kóbczyk, F. On the generalized Josephus problem. *Glasgow Math. J.* **14** (1973), 168–173. (G. F. Clements) **48** #5869 05A05

kobi, V. È. *See* **Cybernetics—in the service of Communism**, **48** #10432

kobsen, Hans Plesner (*with* Vergne, Michèle) Wave and Dirac operators, and representations of the conformal group. *J. Functional Analysis* **24** (1977), *no.* 1, 52–106. (David J. Simms) **55** #12876 22E45

kobsen, Ivan Tafteberg ★On certain homomorphism-properties of graphs with applications to the conjecture of Hadwiger. Doctoral dissertation, University of London, 1971. Various Publications Series, No. 15. *Matematisk Institut, Aarhus Universitet, Aarhus*, 1970. iv + 138 *pp.* (*not consecutively paged*) (H. V. Kronk) **45** #5024 05C15

A homomorphism theorem with an application to the conjecture of Hadwiger. *Studia Sci. Math. Hungar.* **6** (1971), 151–160. (W. Mader) **49** #4864 05C99

On certain homomorphism properties of graphs. I. *Math. Scand.* **31** (1972), 379–404. (Torrence D. Parsons) **48** #1997 05C99

Some remarks on the chromatic index of a graph. *Arch. Math.* (*Basel*) **24** (1973), 440–448. (L. W. Beineke) **48** #10874 05C15

On critical graphs with chromatic index 4. *Discrete Math.* **9** (1974), 265–276. (R. J. Wilson) **50** #161 05C15

On graphs critical with respect to edge-colouring. *Infinite and finite sets* (*Colloq., Keszythely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. II*, *pp.* 927–934. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (F. Bernhart) **52** #10474 05C15

Jakobson, G. È. Successive decomposition of finite automata. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 1, 1–6. (Author's summary) **45** #1692 94A30

Parallel decomposition of finite automata. (Russian) *Avtomat. i Vyčisl. Tehn.* **1971**, *no.* 1, 1–7. (F. Gécseg) **46** #1505 94A30

(*with* Giorgadze, A. H.; Buršteĭn, L. V.) Loop-free decomposition of a probabilistic automaton. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 4, 88–94. (Authors' summary) **58** #15751 94A35

Jakobson, M. V. On the question of the topological classification of rational mappings of the Riemann sphere. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 2(170), 247–248. (Ju. E. Gliklih) **52** #15564 58F20

Certain properties of Markov partitions. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 5, 1021–1024. (L. A. Bunimovič) **53** #11671 58F15 (28A65)

The properties of the one-parameter family of dynamical systems $x| A\cdot x\cdot e^{-x}$. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2(188), 239–240. (Ju. E. Gliklih) **54** #6199 58F05

Jakobzon, M. I. (*with* Fricnovič, G. F.) The minimization of the number of states of a finite automaton. (Russian) *Questions on the synthesis of finite automata* (*Russian*), *pp.* 27–32. *Izdat. "Zinatne", Riga*, 1972. (Bolesław Mikołajczak) **58** #4724 94A30 (05C15, 94A20)

(*with* Fricnovič, G. F.) The use of the coloring of graph vertices in coding the internal states of an asynchronous finite automaton. (Russian) *Questions on the synthesis of finite automata* (*Russian*), *pp.* 41–54. *Izdat. "Zinatne", Riga*, 1972. (Ljudmil Dakovski) **58** #9894 94A25

Two-dimensional Abelian varieties that have indefinite quaternions as endomorphism algebra. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 6(180), 185–186. (J.-E. Bertin) **53** #448 14K22

Jakovenko, A. G. *See* **Differential equations and their applications**, **58** #26644

Jakovenko, G. N. Trajectory synthesis of optimal control. *Avtomat. i Telemeh.* **1972**, *no.* 6, 5–12 (*Russian*); *translated a. Automat. Remote Control* **33** (1972), *no.* 6, *part* 1, 889–895. (Kailash C. Kapur) **51** #15084 93C15

A necessary condition for controllability. (Russian) *Questions in applied mathematics* (*Russian*), *pp.* 108–119. *Sibirsk. Ènerget. Inst. Akad. Nauk SSSR Sibirsk. Otdel., Irkutsk*, 1975. (From the author's text) **56** #13083 49E15

An invariance criterion for control systems. (Russian) *Optimization methods and operations research, applied mathematics* (*Russian*), *pp.* 71–78, 188. *Akad. Nauk SSSR Sibirsk. Otdel. Sibirsk. Ènerget. Inst., Irkutsk*, 1976. (Author's summary) **58** #4488 93B05

Jakovenko, L. P. (*with* Kvačev, V. G.) Application of imitation modeling in the design of experimental data processing systems. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 51 (1977), 33 *pp.* (Authors' summary) **58** #25078 68A05

Jakovenko, V. M. (*with* Kapšiviĭ, O. O.) A certain problem of linear conjugacy of *p*-analytic functions with characteristic $p=x^k$. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 14 (1972), 72–80, 149. (M. Ī. Nagnibīda) **56** #5905 30A94

(*with* Kapšiviĭ, O. O.) Solution of boundary value problems of x^k-analytic functions for a half plane with a slit along an arc of a circle. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 20 (1973), 32–44, 163. (G. Wildenhain) **47** #8877 30A94

(*with* Kapšiviĭ, O. O.) A mixed boundary value problem of x^k-analytic functions for a half-disk and for a half-plane with a half-disk removed. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 23 (1974), 105–115, 175. (N. K. Karapetjanc) **49** #10890 30A88

(*with* Kapšiviĭ, O. O.) A mixed boundary value problem of x^k-analytic functions for a half-plane with a cut along the real axis. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 24 (1974), 3–10, 157. (Authors' summary) **50** #4969 30A88

Jakovickiĭ, È. F. *See* **Questions of mathematical physics and theory of oscillations**, **58** #25195

Jakovieva, A. P. Quasiperiodic solutions of linear systems of differential-difference equations. (Russian) *Analytic methods for the study of the solutions of nonlinear differential equations* (*Russian*), *pp.* 198–207. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (From the author's introduction) **57** #13253 35R10 (34K15)

Jakovlenko, S. I. (*with* Gudzenko, L. I.; Evstigneev, V. V.; Lakoba, I. S.; Marčenko, V. S.; Sorkina, A. E.; Syc'ko, Ju. I.; Čertoprud, V. E.) The kinetics of simple models of oscillation theory. (Russian) *Trudy Fiz. Inst. Lebedev.* **90** (1976), 208 *pp.* (Publisher's description) **57** #8453 78.00 (80.34)

Jakovlenva, N. A. The solution of some additive problems in prime numbers for almost all *n* by the method of elementary fitting. (Russian) Number theory: collection of studies in additive number theory. *Kuĭbyšev. Gos. Ped. Inst. Naučn. Trudy* **158** (1975), 58–67. (Ekkehard Krätzel) **58** #21987 10J15

Jakovlev, A. A. A linear periodic boundary value problem for a system of third-order equations. (Russian) *Differencial'nye Uravnenija* (*Ryazan*) *No.* 5 (1975), 229–238. (See RŽMat **1976** #11 B300) 34B05

Some tests for the nonnegativity of the Green matrix of a periodic problem for a system of differential equations. (Russian) *Differencial'nye Uravnenija* (*Ryazan*) *No.* 5 (1975), 239–243. (See RŽMat **1976** #11 B301) 34B99

A problem of Sturm-Liouville type. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 9 (1977), 172–179. (Author's summary) **57** #6598 34B25 (34B10)

Jakovlev, A. I. Determination of optimal weight function for adaptive-game strategies for eliminating uncertainties in signals acting on the system. *Avtomat. i Telemeh.* **1976**, *no.* 2, 72–82 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 2, *part* 1, 185–193. (Author's summary) **56** #14801 90D40 (93E05)

(*with* Jarlykov, M. S.; Smirnov, Vladimir A.) Optimum processing of pulsed signals in the presence of discrete interference. *Radiotehn. i Èlektron.* **21** (1976), *no.* 2, 243–249

(*Russian*); *translated as Radio Engrg. Electron. Phys.* **21** (1976), *no.* 2, 21–26. (Authors' summary) **56** #11485 94A05

Jakovlev, A. V. A classification of the 2-adic representations of a cyclic group of order eight. (Russian) Investigations on the theory of representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **28** (1972), 93–129. (I. Reiner) **48** #8613 20C20

Symmetric cubature formulae for a truncated octahedron. (Russian) *Mat. Zametki* **14** (1973), 667–675. (J. Kofroň) **49** #8287 65D30

Hopf algebras with involution over noncommutative rings, and their homology. I. (Russian) Modules and homology in group theory and Galois theory. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **31** (1973), 140–164. (D.-M. Popescu) **49** #5137 18H15

Hopf algebras with involution over noncommutative rings, and their homology. II. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **46** (1974), 110–139, 142. (D.-M. Popescu) **52** #536 16A24 (18H15)

On the theory of symplectic spaces with operators. (Russian) *Sibirsk Mat. Ž.* **16** (1975), 169–174, 197. (J. Browkin) **52** #3123 12B10

(*with* Petrov, A. I.) Stochastic optimization of adaptive control systems. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 31 (1976), 77–87, 104. (Bojan Popović) **56** #2610 93E20

On the classification problem of torsion-free abelian groups of finite rank. (Russian) Modules in representation theory and algebraic geometry. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **57** (1976), 171–175, 178. (I. Reiner) **57** #481 20K15

(*with* Sarkisjan, Ju. S.) The homological determinacy of Γ-modules. (Russian) Rings and modules. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **64** (1976), 104–126, 161. (S. P. Demuškin) **56** #11985 13D99

(*with* Zjapkov, N. P.) Universally consistent Galois extensions. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **71** (1977), 133–152, 285. (J. Browkin) **57** #12462 12A55

(*with* Halin, V. G.) Universal norms in Γ-extensions. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **71** (1977), 251–255, 287. (Ján Sliwa) **57** #12452 12A35

Comments on my paper: "The Galois group of the algebraic closure of a local field" (Izv. Akad. Nauk SSSR Ser. Mat. **32** (1968), 1283–1322). (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **42** (1978), *no.* 1, 212–213. (Helmut Koch) **58** #604 12B15

Abstract characterization of the Galois group of the algebraic closure of a local field. (Russian) Rings and linear groups. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **75** (1978), 179–193, 199. (Helmut Koch) **58** #10828 12B20

See also **Investigations on the theory of representations**, **52** #2785 (EA **52**) *and* **Modules and homology in group theory and Galois theory**, **56** #8717

Jakovlev, B. V. Conditions under which a lattice is isomorphic to the lattice of subgroups of a group. (Russian) *Algebra i Logika* **13** (1974), *no.* 6, 694–712, 720. (Charles S. Holmes) **53** #5759 20F30

An example of lattice-isomorphic solvable torsion-free groups that are not isomorphic. (Russian) *Algebra i Logika* **14** (1975), *no.* 4, 456–484. (F. Haimo) **53** #8268 20F30

Jakovlev, G. N. The traces of functions whose derivatives are summable with a certain weight. (Russian) *Imbedding theorems and their applications* (*Proc. Sympos., Baku,* 1966) (*Russian*), *pp.* 225–233, 247. *Izdat. "Nauka", Moscow,* 1970. (O. John) **48** #4716 46E35

Differential properties of the extremals of quadratic functionals with discontinuous coefficients. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1288–1293, 1342. (L. C. Young) **45** #5741 46E35 (35R05, 49A20)

Solution of second order elliptic equations in weight spaces. (Russian) *Differencial'nye Uravnenija* **8** (1972), 928–930. (G. Wildenhain) **47** #9047 35J25

The solutions of a certain class of second order quasilinear elliptic equations. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 1020–1023. (S.-F. Sburlan) **45** #715 35J15

Unbounded solutions of degenerate elliptic equations. (Russian) Studies in the theory of differentiable functions of several variables and its applications, IV. *Trudy Mat. Inst. Steklov.* **117** (1972), 312–320, 346. (A. Borzymowski) **50** #5184 35J70

The first boundary value problem for quasilinear second order elliptic equations. (Russian) Studies in the theory of differentiable functions of several variables and its applications, IV. *Trudy Mat. Inst. Steklov.* **117** (1972), 321–340, 346–347. (A. Borzymowski) **50** #5180 35J65

(*with* Erugin, N. P.; Nikol'skiĭ, S. M.) Lev Dmitrievič Kudrjavcev (on his fiftieth birthday). (Russian) *Differencial'nye Uravnenija* **9** (1973), 969–973. (Editors) **47** #3136 01A70 (35J40, 46E35)

Certain properties of the generalized solutions of elliptic equations in divergence form. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 1025–1028. (D. K. Gvazava) **50** #10531 35J30 (35D99)

Properties of the solution of a certain class of quasilinear second order elliptic equations in divergence form. (Russian) Studies in the theory of differentiable functions of several variables and its applications, V. *Trudy Mat. Inst. Steklov.* **131** (1974), 232–242, 248. (V. V. Kovrižkin) **50** #13878 35J60

Differential properties of generalized solutions of second order quasilinear elliptic equations. (Russian) *Theory of cubature formulas and applications of functional analysis to some problems in mathematical physics* (*Russian*), *pp.* 239–248, 255–256. *Inst. Mat., Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk,* 1975. (Author's summary) **58** #29119 35D10 (35J60)

Certain properties of the solutions of quasilinear elliptic equations. (Russian) Theory of functions and its applications (collection of articles dedicated to Sergeĭ Mihaĭlovič Nikol'skiĭ on the occasion of his seventieth birthday). *Trudy Mat. Inst. Steklov.* **134** (1975), 389–404, 412. (H. Marcinkowska) **52** #14621 35J25

See also **Theory and applications of differentiable functions of several variables**, **50** #9472; **Theory and applications of differentiable functions of several variables**, **52** #14951 *and* **Mathematical analysis and the theory of functions**, **58** #29250

Jakovlev, I. A. (*with* Kandidov, V. P.; Landa, P. S.; Leontovič, M. A.; Fursov, V. S.; Harlamov, A. A.; Šmal'gauzen, V. I.) Sergeĭ Pavlovich Strelkov (obituary). *Uspeh* *Nauk* **114** (1974), *no.* 1-2, 169–171 (*Russian*); *translated as Soviet Physics Uspek* (1975), *no.* 5, 812–814. (Editors) **51** #7790 01A70

Jakovlev, Ju. S. Method of asymptotically equivalent functions. *Izv. Akad. Nauk S* *Meh. Tverd. Tela* **1975**, *no.* 5, 144–149 (*Russian*); *translated as Mechanics of Soli* (1975), *no.* 5, 121–125. (Jean Lavoine) **56** #985 44A10 (41A60)

Propagation of wave perturbations in an inhomogeneous ideal fluid with an arbitrary depth distribution of the speed of sound. (Russian) *Applied problem* *strength and plasticity*, 4 (*Russian*), *pp.* 3–14, 109. *Gor'kov. Gos. Univ., Gorky,* (Author's summary) **58** #25361 76.41

Jakovlev, M. F. Remarks on explicit iteration methods of solution of difference equat (Russian) *Numeriacal analysis* (*Proc. Sem., Kiev,* 1969), *No.* 2 (*Russian*), *pp.* 110- *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (I. Šelihova (RŽMat **1970** #8 B755)) **45** # 65Q05

Numerical solution of a cerain boundary value problem for the biharmonic equ with a nonunique solution. (Russian) *Numerical analysis* (*Proc. Sem., Kiev,* 1968/1 *pp.* 66–76. *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (I. Šelihova (RŽMat **1970** #5 B **45** #9513 65N20

Application of explicit iteration methods to the determination of generalized solutions of non-simultaneous systems of difference equations with a symmetric nonnegative matrix. (Russian) *Numerical analysis* (*Proc. Sem., Kiev,* 1969), *N* (*Russian*), *pp.* 123–134. *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (I. Šelihova (RŽMat #5 B757)) **45** #9523 65Q05

Solution of a second order inhomogeneous difference equation. (Russian) *Soft* *of electronic digital computers* (*Proc. Sem. Numer. Anal., Kiev,* 1971) (*Russian*) 306–310. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev,* 1971. (Raičo Lazarov) **52** #2258 65Q05

(*with* Molčanov, Ī. M.) A certain class of iteration processes for the solutio incompatible systems of linear algebraic equations. (Russian) *Dokl. Akad. Nauk S* **209** (1973), 782–784. (J. Segethova) **49** #8303 65F10

(*with* Molčanov, Ī. M.) Iteration methods for the solution of certain classe difference problems. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. N* *Ukraïn. RSR Ser. A* **1973**, 815–818, 861. (W. V. Petryshyn) **50** #15306 65F10

(*with* Molčanov, Ī. M.) On one class of iterative methods for obtaining the generalized solution of non-consistent systems of linear algebraic equations. *Inform* *Processing Lett.* **2** (1973), 86–90. (C. S. Duris) **50** #8943 65F20

(*with* Molčanov, Ī. M.) Two-step iteration methods for the solution of a cer class of incompatible systems of linear algebraic equations. (Russian) *Dokl. Akad. N* *SSSR* **214** (1974), 1265–1268. (C. Ilioi) **49** #1751 65F10

(*with* Molčanov, Ī. M.) Iteration processes for the solution of a certain clas incompatible systems of linear algebraic equations. (Russian) *Ž. Vyčisl. Mat. i Mat.* **15** (1975), *no.* 3, 547–558, 809. (J. Segethová) **52** #9579 65F10

See also **Numerical analysis**, **58** #31701

Jakovlev, M. N. Estimates for the approximate solution of the Cauchy problem, and method of lines. (Russian) *Differencial'nye Uravnenija* **7** (1971), 2078–2085. (F. Pascal) **45** #4679 65N10

On estimation of the error of the solution of the Cauchy problem for a syste ordinary second order differential equations. (Russian) *Zap. Naučn. Sem. Lening* *Otdel. Mat. Inst. Steklov.* (*LOMI*) **23** (1971), 138–139. (G. Maess) **46** #2125 34 (65L05)

On the estimation of the approximate solution of the Cauchy problem. (Russ *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **23** (1971), 140–142. Maess) **46** #2870 65L05

The method of lines in nonlinear boundary value problems for nonlinear para equations. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI* (1971), 143–150. (G. Maess) **46** #2871 65N99

A finite difference method of solution of the first boundary value problem f second order ordinary differential equation. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **35** (1973), 156–159. (M. Stojanović) **49** #1789 65L10

An implicit scheme of the network method of solution of the first boundary v problem for a nonlinear second order parabolic equation. (Russian) Numerical meth and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Stek* (*LOMI*) **35** (1973), 160–166. (G. W. Hedstrom) **57** #11084 65M15 (65M10)

Uniform convergence with order h^4 of a certain scheme of the method of stra lines for quasilinear parabolic and hyperbolic equations. (Russian) Numerical meth and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Stek* (*LOMI*) **48** (1974), 205–211, 214. (N. Cristescu) **51** #7315 65N10

The method of finite differences for the solution of the first boundary value prob for a second order nonlinear ordinary differential equation with a divergence princ part. (Russian) Numerical methods and automatic programming. *Zap. Naučn. S* *Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **58** (1976), 14–21, 158. (R. S. Anders **57** #11067 65L10

The uniform convergence of the method of lines in the case of the first bound value problem for a nonlinear second order parabolic equation. (Russian) Numer methods and questions on organization of computations. *Zap. Naučn. Sem. Lening* *Otdel. Mat. Inst. Steklov.* (*LOMI*) **70** (1977), 232–240, 294–295. (Author's summa **58** #19243 65N99

The uniform convergence of the implicit scheme of the network method in solution of the first boundary value problem for a nonlinear second order parab equation. (Russian) Numerical methods and questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) (1977), 241–255, 295–296. (Author's summary) **58** #19244 65N99

The solvability of the finite-differences equations of the implicit scheme fo nonlinear second order parabolic equation. (Russian) Numerical methods and questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. M* *Inst. Steklov.* (*LOMI*) **70** (1977), 256–266, 296–297. (Author's summary) **58** #3189 65N20

See also **Numerical methods and functional analysis**, **49** #6540

Jakovlev, N. E. *See* **Cybernetics and computer technology**, **48** #1733

kovlev, N. N. The center of the enveloping algebra of a Witt algebra. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 2, 99–100. (M. Slater) **46** #225 17B35 (17B60)

The cohomology of the Witt algebra. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 3, 95–96. (A. Verona) **52** #10851 18H25 (57D25)

g-metrizable spaces. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 3, 530–532. (Thomas E. Gantner) **54** #3662 54E35 (54D20)

On the theory of *o*-metrizable spaces. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 6, 1330–1331. (Stojan Nedev) **54** #3663 54E35 (54A25)

Quotient compact images of metric spaces. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no.* 2 *Issled. Sovremen. Mat. Anal.*, 201–212, 220 (1977). (A. B. Németh) **58** #12897 54C10 (54A25, 54E35)

See also **Steinberg, Robert**, **57** #16422

kovlev, O. S. Synthesis of control for second order nonlinear systems. (Russian) *Theory of automatic control* (*Proc. Sem., Kiev*, 1968/1969), *No.* 1 (*Russian*), *pp.* 99–106. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (E. Leimanis) **46** #8714 93D05

Controller synthesis by Lyapunov's second method. *Avtomatika* **1970**, *no.* 4, 42–49 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **3** (1970), *no.* 4, 34–39 (1971). (J. H. George) **46** #9484 34H05 (93D15)

Analytical synthesis of a nonlinear controller for a third-order system. *Avtomatika* **1971**, *no.* 5, 14–22 (*Ukrainian*); *translated as Soviet Automat. Control* **4** (1971), *no.* 5, 11–18 (1972). (Author's summary) **46** #1403 93C10

Some determinant identities. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 422–427, 432. (D. Z. Đoković) **50** #348 15A15

Analytic synthesis of regulators for *n*th order nonlinear systems. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 31 (1976), 54–61, 103. (D. Obradović) **55** #14320 93C10 (93D99)

(*with* Pavlov, V. V.; Voronin, A. N.; Golego, V. N.; Melešev, A. M.) ★Технические эргатические системы (синтез эргаматов). (Russian) [Technical man-machine systems (man-machine synthesis)] Edited by V. V. Pavlov. *Golovn. Izdatel'stvo Izdatel'skogo Ob"ed. "Višča Škola", Kiev*, 1977. 343 *pp.* (Editors) **58** #33358 93C99

Optimal damping of transient processes. *Avtomatika* **1977**, *no.* 1, 39–45 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **10** (1977), *no.* 1, 30–35. (K. W. Han) **56** #14986 93D05

See also **Cybernetics and computer technology**, **48** #1735 *and* **Man-machine control systems**, **49** #8696

kovlev, P. V. *See* **Cybernetics and computer technology**, **48** #1737

kovlev, S. A. The asymptotic properties of a certain class of recognition algorithms. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 6, 1571–1577, 1629. (W. Greblicki) **58** #8562 68A45

Recognition algorithms with a linear procedure for the construction of the decision function. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 1, 197–210, 270. (Author's summary) **58** #8563 68A45

kovlev, V. B. (*with* Antonov, V. N.; Vavilov, A. A.; Terehov, V. A.) Sensitivity and invariance of nonlinear sampled-data automatic systems. (Russian) *Voprosy Teor. Sistem Avtomat. Upravlenija Vyp.* 3 (1977), 3–13, 112. (Andrzej Gościński) **58** #9643 93D99 (93B35)

kovlev, V. I. (*with* Borovik, V. N.; Vereščagin, I. F.) Game situations on a sphere. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 239 (1969), 49–61 (1971). (F. M. Kirillova) **45** #8293 90D25

(*with* Čerepanov, A. N.) Exact solutions of the one-dimensional nonstationary equations of magnetohydrodynamics with finite gas conductivity. *Magnit. Gidrodinamika* **6** (1970), 11–18 (*Russian*); *translated as Magnetohydrodynamics* **6** (1970), 452–459 (1973). (L. Dragoş) **48** #1582 76.35

A method for the integration of ordinary linear stationary systems. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 8 (1971), 10–20. (Not reviewed) 65L99

Correct integration of ordinary linear stationary systems in Cramér form. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 9 (1971), 10–20. (RŽMat **1972** #6 B214) **57** #14343 65D30 (65F99)

The game "with a life line" in a multiply connected domain. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 4(155), 87–91. (F. Szidarovszky) **52** #16682 90D25

kovlev, V. Ja. (*with* Gonor, A. L.) Dynamics of the impact of a drop on a solid surface. (Russian) *Izv. Akad. Nauk SSSR Ser. Meh. Židk. Gaza* **1978**, *no.* 1, 36–43. (From the summary) **58** #14350 76.65

kovlev, V. M. The construction of the attainable domain for a certain linear system with a simultaneous constraint on the control functions. (Russian) *Diskret. Analiz No.* 13 (1968), 42–47; *errata, ibid. No.* 14 (1969), 69. (I. Beĭko (RŽMat **1969** #8 B496)) **45** #4853 93B05

(*with* Larin, R. M.) Studies in the theory of continuous controllable processes. (Russian) *Upravljaemye Sistemy No.* 12 (1974), 16–19, 86. (See RŽMat **1974** #10 B957) 93–02

One approach to the solution of the problem of optimizing the final state of linear discrete control systems. (Russian) *Upravljaemye Sistemy No.* 15 *Diskret. Èkstremal. Zadači* (1976), 74–79, 82. (I. Muntean) **58** #7328 49D35

kovlev, V. P. (*with* Krementulo, Ju. V.) Application of a method of regularization in an identification problem. (Russian) *Cybernetics and computer technology, No.* 6: *Discrete control systems* (*Russian*), *pp.* 110–114. *Naukova Dumka, Kiev*, 1970. (Authors' summary) **45** #4892 94A15 (93B30)

Factorization of an algebraic polynomial with real coefficients. (Russian) *Cybernetics and computer technology, No.* 9: *Discrete control systems* (*Russian*), *pp.* 46–48, 109. "*Naukova Dumka*", *Kiev*, 1971. (V. L. Makarov) **48** #5365 65H05

An investigation of the accuracy of an iterative method for identification from discrete data with the help of sensitivity functions. (Russian) *Discrete control systems* (*Sem. Inst. Cybernet., Kiev*, 1972) (*Russian*), *pp.* 79–93. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972 (1973). (From the author's introduction) **54** #2266 93B30

Error estimates in the identification of continuous dynamical systems from discrete data by the method of Kalman. (Russian) *Cybernetics and computer technology, No.* 20: *Discrete control systems* (*Russian*), *pp.* 8–17, 126. "*Naukova Dumka*", *Kiev*, 1973. (L. I. Gal'čuk) **48** #10599 93E10

On the estimation of the accuracy of the iteration method for identification on the basis of discrete data. (Russian) *Cybernetics and computer technology, No.* 24: *Discrete control systems* (*Russian*), *pp.* 23–29, 123. *Izdat.* "*Naukova Dumka*", *Kiev*, 1974. (L. I. Gal'čuk) **52** #16799 93E10

(*with* Lazarjan, V. A.; Krementulo, Ju. V.; Red'ko, S. F.; Uškalov, V. F.) Estimation of errors in the identification of linear mechanical systems by algebraic means. (Russian) *Prikl. Meh.* **10** (1974), *no.* 9, 78–84, 142. (Authors' summary) **54** #9801 93E10

(*with* Bobrovnikov, I. D.) Optimal estimation of correlation integrals in indirect measurement schemes, and dual renewal. (Russian) *Numerical methods for signal processing* (*Russian*), *pp.* 127–132. *Trudy Radiotehn. Inst. Akad. Nauk SSSR, No.* 23, *Radiotehn. Inst. Akad. Nauk SSSR, Moscow*, 1975. (Authors' summary) **58** #3431 65K05

Interaction of a two-level atom with an electromagnetic field in the quasiclassical approximation. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no.* 12, 1823–1832. (Author's summary) **57** #14917 78.34

(*with* Molodcov, V. S.; Pilipčuk, N. I.) A statistical description of an adaptive quantizer. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 3, 20–27. (Authors' summary) **57** #19057 94A05

(*with* Red'ko, S. F.) Decomposition of the problem of the identification of complex mechanical systems. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 37 (1977), 3–9, 118. (M. M. Konstantinov) **57** #11864 93B30

A criterion for estimating the order of the transmission functions of identifiable systems. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 38 (1977), 10–19, 113. (Andrzej Gościński) **58** #26268 93B30

(*with* Red'ko, S. F.) A method for group-by-group determination of the parameters of mechanical systems. (Russian) *Prikl. Meh.* **13** (1977), *no.* 6, 68–72, 141. **56** #13881 70.65

See also **Cybernetics and computer technology**, **48** #1733; **Discrete control systems**, **58** #4530 *and* **Discrete control systems**, **58** #33336a

Jakovlev, V. V. (*with* Selezov, I. T.) An application of the method of polynomial operators to the solution of the problem of the diffraction of waves by an arbitrary inhomogeneity. (Russian) *Gidromeh.* (*Kiev*) *Vyp.* 31 (1975), 82–87, 111. (From the authors' introduction) **56** #17438 76.35

The approximate solution of the problem of the diffraction of waves by an inhomogeneous medium. (Russian) *Gidromeh.* (*Kiev*) *Vyp.* 32 (1975), 20–24, 116. (From the author's text) **56** #17417 76.35

(*with* Dobris, G. V.) Synthesis of stochastic data converters containing closed nonlinear circuits. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1976**, *no.* 1, 93–97 (*Russian*); *translated as Engrg. Cybernetics* **14** (1976), *no.* 1, 85–92 (1977). (Authors' summary) **58** #9828 94A20

Jakovleva, E. M. Certain properties of graphs. (Russian) *Moskov. Gos. Ped. Inst. Učen. Zap. No.* 277 (1971), 223–227. (I. M. Havel) **46** #5176 05C99

Jakovleva, M. A. A certain general method of calculating complementary columns in special problems of linear programming. (Russian) *Optimal. Planirovanie No.* 15 (1970), 58–75. (I. Maruşciac) **45** #6417 90C05

(*with* Bulavskiĭ, V. A.) A method of successive improvement for convex problems with linear constraints. (Russian) *Optimizacija No.* 5 (22) (1972), 37–62, 158. (A. Göpfert) **49** #6000 49D10 (90C25)

(*with* Zvjagina, R. A.) A method for the solution of linear programming problems on the basis of a multistep block structure with bordering. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 268–271. (K. Zimmermann) **50** #15342 65K05 (90C05)

The transportation problem with bordering. (Russian) *Optimizacija Vyp.* 15(32) (1974), 79–89, 185. (Marcel Rădulescu) **54** #4631 90C05

(*with* Bulavskiĭ, V. A.) Algorithms with an ordered basis for a two-component linear programming problem. (Russian) *Optimizacija No.* 19(36) (1977), 29–47, 154. (Authors' summary) **58** #32912 90C05

Jakovleva, M. F. *See* **Questions of geometric simulation**, **50** #1462

Jakovleva, N. A. (*with* Bredihin, B. M.) Applications of the dispersion method in the Goldbach problem. (Russian) Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 253–263. (A. I. Vinogradov) **51** #3094 10J15 (10L10)

(*with* Bredihin, B. M.) Foundation of the heuristic principle in additive problems with primes. (Russian) Presented at the All-Union Conference on Number Theory (Vilnius, 1974). *Mat. Zametki* **17** (1975), *no.* 4, 659–668. (M. I. Israilov) **54** #263 10J15

Jakovleva, N. G. (*with* Sedunov, E. V.; Trofimov, A. I.) Construction of optimal randomized plans of experiments by linear programming methods. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 5, 82–87. (Editors) **58** #20481 90C50 (90C05)

Jakovleva, N. I. The growth of entire characteristic functions of probability laws. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 15 (1972), 43–49. (M. I. Jadrenko (Zbl **255** #60012)) **50** #14881 60E05

Computation of the parameters of certain probability distributions. (Russian) *Numerical mathematics and computer technology, No. IV* (*Russian*), *pp.* 28–33, 137. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1973. (Author's summary) **58** #7782 60E05

The growth of entire characteristic functions of probability laws. (Russian. English summary) *Questions on mathematical physics and functional analysis* (*Proc. Res. Sem. Inst. Low Temp. Phys. Engrg., Kharkov*) (*Russian*), *pp.* 43–54, 172. "*Naukova Dumka*", *Kiev*, 1976. (H.-J. Rossberg) **58** #24464 60E05

Decomposition of some infinitely divisible distribution functions into a composite of functions of bounded variation. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 2, 273–278, 286. (Harry I. Cohn) **58** #2966 60E05

Jakovleva, S. S. Genesis of certain variational principles of the thermodynamics of irreversible processes. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. Vyp.* 19 (1974), 69–78, 135. (Editors) **58** #21258 01A60

Jakovleva, T. M. (*with* Bravo de las Kasas, Ė.; Gončarenko, V. M.) A method for the approximate solution of stochastic boundary value problems. (Russian) *Nonlinear differential equations in applied problems* (*Russian*), *pp.* 153–157, 218. *Izdanie Inst. Mat.*

Akad. Nauk Ukrain. SSR, Kiev, 1977. (Editors) **58** #6717 35K99 (65C99)

Jakovleva, T. N. Nonstationary aperiodic motion of a thin wing at small distances from the supporting surface (the planar problem). (Russian) *Asymptotic methods in systems theory, No. 7 (Russian), pp.* 176–182. *Irkutsk. Gos. Univ., Irkutsk*, 1974. (Editors) **57** #11291 76.34

Jaksch, Hans Jürgen ★Theorie linearer Wirtschaftsmodelle. I. Mathematische Grundlagen. Uni-Taschenbücher, No. 293. *J.C.B. Mohr (Paul Siebeck), Tübingen*, 1974. iii + 122 *pp. ISBN* 3-16-335051-8 (Wolfgang Mayer) **58** #20278a 90–01

★Theorie linearer Wirtschaftsmodelle. II. Transport- und Standortmodelle. Uni-Taschenbücher, No. 491. *J.C.B. Mohr (Paul Siebeck), Tübingen*, 1975. x + 146 *pp. ISBN* 3-16-336531-0 (Wolfgang Mayer) **58** #20278b 90–01

A necessary and sufficient condition for the equality of the expansion rates in the von Neumann growth model. *J. Econom. Theory* **15** (1977), *no.* 1, 228–234. (A. A. Piontkovskiĭ) **56** #2243 90A15

Jakubaĭtis, È. A. (*with* Roginskiĭ, V. N.) A study of digital automata behaviour during transient periods. *Automatic and remote control III (Proc. Third Congr. Internat. Federation Automat. Control (IFAC), London*, 1966), *Vol.* 1, *p.* 68, *Paper* 35C, 8 *pp. Inst. Mech. Engrs., London*, 1967. (Authors' summary) **51** #9990 94A30

A real finite automaton with minimal external memory. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 2, 13–18. (Author's summary) **45** #1694 94A30

(*with* Gobzemis, A. Ju.) Coding of internal states of asynchronous finite automata with two-step memory. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 6, 1–4. (G. M. Tenengol'c) **45** #1693 94A30

Irredundant coding of the internal states of a finite automaton. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics (Tbilisi*, 1968), *Vol.* 3: *Automata, hybrid and control machines (Russian), pp.* 79–88, 263. *Izdat. "Nauka", Moscow*, 1972. **48** #8101 94A10

Stable coding of the states of a cyclic model of a discrete apparatus. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no.* 2, 1–6. (C. Reischer) **46** #5035 94A10

Synthesis of the structure of a multi-functional logical element. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no.* 3, 1–9. (R. Shirtladze) **46** #8772 94A20

Structure and effectiveness of a multifunctional logical element. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1972**, *no.* 5, 1–8. (J. Morávek) **48** #3643 94A30

(*with* Gobzemis, A. Ju.; Petrenko, A. F.; Fricnovič, G. F.) Synthesis of asynchronous finite automata. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 139–148 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1064–1071. (I. Mezník) **52** #13026 94A30 (94A20)

Synchronized finite automata. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1973**, *no.* 3, 1–8. (J. Kuntzmann) **48** #13517 94A30

A synchronized model of a discrete mechanism. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1973**, *no.* 4, 14–21. (Author's summary) **48** #3637 94A25

Universal logical elements. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1973**, *no.* 5, 12–21. (Author's summary) **48** #10710 94A30

(*with* Čapenko, V. P.; Kalnberzin', A. Ja.) A method for the synthesis of the structure of a multifunctional logical element. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1973**, *no.* 6, 1–6. (From the authors' introduction) **51** #2797 94A20

Subclasses and classes of Boolean functions. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1974**, *no.* 1, 1–8. (Author's summary) **50** #4130 94A20

(*with* Kalnberzin', A. Ja.) A method for the accelerated synthesis of the structure of a multifunctional logical element. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1974**, *no.* 2, 3–8. (From the authors' introduction) **51** #2798 94A20

★Логические автоматы и микромодули. (Russian) [Logical automata and micromodules] *Izdat. "Zinatne", Riga*, 1975. 259 *pp.* (W. Kwasowiec) **53** #10493 94A20 (94A30)

(*with* Vasjukevič, V. O.; Gobzemis, A. Ju.; Zaznova, N. E.; Kurmītis, A.; Lorenc, A. A.; Petrenko, A. F.; Čapenko, V. P.) Automata theory. (Russian) *Probability theory. Mathematical statistics. Theoretical cybernetics, Vol.* 13 (*Russian*), *pp.* 109–188, 299. (*loose erratum*), *Itogi Nauki i Tehniki, Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1976. (I. Meznik) **55** #10161 94A30 (02F10)

Programmable devices for automatic control. (Russian) *Latvijas PSR Zinātņ. Akad. Vēstis* **1976**, *no.* 9 (350), 25–31, 156. (Author's summary) **55** #7603 94A20 (93C99)

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360c

Jakubczyk, B. (*with* Hermes, Henry) Erratum: "Local controllability and sufficient conditions in singular problems" (J. Differential Equations **20** (1976), no. 1, 213–232) by Hermes. *J. Differential Equations* **22** (1976), *no.* 2, 523–524. (Editors) **55** #8939 49E15

Jakubczyk, Bronisław (*with* Przytycki, Feliks) On local models of K-tuples of vector fields. *Dynamical systems, Vol. I—Warsaw, pp.* 97–108. *Astérisque, No.* 49, *Soc. Math. France, Paris*, 1977. (Martin Golubitsky) **58** #13066 57D25 (58F99, 93C20)

Jakubec, Karl Lürothsche Reihen und singuläre Maße. *Monatsh. Math.* **78** (1974), 42–50. (F. Schweiger) **49** #4964 10K10

Induzierte Maße bei Lürothschen Reihen. *Monatsh. Math.* **78** (1974), 347–355. (F. Schweiger) **50** #4517 10K10

Jakubenko, O. A. (*with* Zmorovič, V. A.) On certain theorems from the theory of special classes of functions analytic in a disc. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 404–407, 476. (Z. Lewandowski) **46** #5599 30A32

(*with* Zmorovič, V. A.) On the theory of extremal properties of special classes of conformal mappings. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 597–600, 669. (J. G. Krzyż) **46** #9326 30A32

(*with* Zmorovič, V. A.) Bounded starlike functions in the disc $|z|<1$. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 691–693, 764. (J. G. Krzyż) **46** #9327 30A32

(*with* Zmorovič, V. A.) A certain generalization of a class of α-convex Mocanu functions. (Russian) *Mathematics collection (Russian), pp.* 254–257. *Izdat. "Naukova Dumka", Kiev*, 1976. (P. T. Mocanu) **58** #6208 30A32

(*with* Zmorovič, V. A.) Some sharp estimates in the class $B_0(b)$. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 8, 686–689, 763. (V. Kabaila) **57** #9956 30A32

Jakubiec, Andrzej (*with* Kijowski, Jerzy) On local symmetries of the Schrödinger equa *Rep. Mathematical Phys.* **10** (1976), *no.* 1, 21–41. (Manfred Andrié) **55** #5069 (58F05)

Jakubiec, Krzysztof Nonlinear regression methods. (Polish. Russian and English summaries) *Przegląd Statyst.* **24** (1977), *no.* 1, 55–67. (Author's summary) **56** #169 62P20 (62J05)

Jakubík, Ján Conditionally α-complete sublattices of a distributive lattice. *Algebra Universalis* **2** (1972), 255–261. (R. Balbes) **48** #3828 06A35

Weak product decompositions of partially ordered sets. *Colloq. Math.* **25** (1 177–190. (Heinrich Werner) **48** #8316 06A10

Distributivity in lattice ordered groups. *Czechoslovak Math. J.* **22(97)** (1 108–125. (F. D. Pedersen) **48** #3834 06A55

Cantor-Bernstein theorem for lattice ordered groups. *Czechoslovak Math. J.* **2** (1972), 159–175. (W. C. Holland) **45** #6718 06A55

Homogeneous lattice ordered groups. *Czechoslovak Math. J.* **22(97)** (1972), 325–337. (S. Wolfenstein) **47** #3273 06A55

Cardinal properties of lattice ordered groups. *Fund. Math.* **74** (1972), *no.* 2, 85 (S. Wolfenstein) **46** #1672 06A55

(*with* Dreveňák, Ondrej) Lattice ordered groups with a basis. *Math. Nachr* (1972), 217-236. (P. F. Conrad) **48** #2018 06A55

Lattice ordered groups of finite breadth. *Colloq. Math.* **27** (1973), 13–20. (Bernau) **49** #173 06A55

Center of a complete lattice. *Czechoslovak Math. J.* **23(98)** (1973), 125–138. (A Choudhury) **47** #8372 06A23

On σ-complete lattice ordered groups. *Czechoslovak Math. J.* **23(98)** (1973), 164–174. (J. C. Ault) **47** #6581 06A55

(*with* Kolibiar, Milan) On the occasion of the sixtieth birthday of Academ Štefan Schwarz. (Slovak) *Časopis Pěst. Mat.* **99** (1974), 200–213. (Editors) **50** # 01A70 (20–02)

Lattice ordered groups with complete epimorphic images. *Colloq. Math.* **31** (19 21–28. (S. J. Bernau) **51** #304 06A55

Normal prime filters of a lattice ordered group. *Czechoslovak Math. J.* **24** (1974), 91–96. (M. W. Glass) **50** #204 06A55

Splitting property of lattice ordered groups. *Czechoslovak Math. J.* **24(99)** (19 257–269. (P. F. Conrad) **50** #2016 06A55

(*with* Kolibiar, Milan) Sixtieth anniversary of the birthday of academician Šte Schwarz. *Czechoslovak Math. J.* **24(99)** (1974), 331–339. (Editors) **49** #7088 01

(*with* Kolibiar, Milan) On the occasion of the sixtieth birthday of Academ Štefan Schwarz. (Slovak) *Mat. Časopis Sloven. Akad. Vied* **24** (1974), 97, 99– (Editors) **50** #1819 01A70

Quasiorder on systems of directed sets. *Mat. Časopis Sloven. Akad. Vied* **24** (19 173–177. (E. Harzheim) **50** #4413 06A10 (06A20)

Unendliche Distributivität in Verbandsgruppen. (Russian summary) *Scripta Sci. Natur. UJEP Brunensis—Math.* **4** (1974), *no.* 1, 31–33 (P.F. Conrad) **54** #20 06A55

Modular lattices of locally finite length. *Acta Sci. Math. (Szeged)* **37** (1975), 79- (George Hutchinson) **52** #2982 06A30

Unoriented graphs of modular lattices. *Czechoslovak Math. J.* **25(100)** (19 240–246. (Joel Berman) **51** #5431 06A20

Sublattices with saturated chains. *Czechoslovak Math. J.* **25(100)** (1975), *no.* 442–444. (R. P. Dilworth) **52** #7981 06A20

Cardinal sums of linearly ordered groups. *Czechoslovak Math. J.* **25(100)** (1975). 4, 568–575. (S. Wolfenstein) **52** #7996 06A55

Products of torsion classes of lattice ordered groups. *Czechoslovak Math. J.* **25(1** (1975), *no.* 4, 576–585. (R. Madell) **52** #7997 06A55

Center of a bounded lattice. *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no.* 339–343. (R. J. Greechie) **56** #2887 06A20

Conditionally orthogonally complete l-groups. *Math. Nachr.* **65** (1975), 153–162. J. Bernau) **51** #305 06A55

Pairs of lattices with common congruence relations. *Lattice theory (Proc. Collo Szeged*, 1974), *pp.* 171–183. *Colloq. Math. Soc. János Bolyai, Vol.* 14, *North-Holla Amsterdam*, 1976. (Helen Skala) **55** #10335 06A20

Lattice ordered groups with cyclic linearly ordered subgroups. (Loose Russi summary) *Časopis Pěst. Mat.* **101** (1976), *no.* 1, 88–90. (F. D. Pedersen) **55** #12594 06A55

Principal projection bands of a Riesz space. *Colloq. Math.* **36** (1976), *no.* 195–203. (W. A. J. Luxemburg) **55** #3739 46A40 (06A65)

W-isomorphisms of distributive lattices. *Czechoslovak Math. J.* **26(101)** (1976), 2, 330–338. (Jacques Lévy-Bruhl) **53** #5400 06A35

Strongly projectable lattice ordered groups. *Czechoslovak Math. J.* **26(101)** (197 *no.* 4, 642–652. (S. J. Bernau) **55** #2701 06A55

Radical mappings and radical classes of lattice ordered groups. *Symposia Mathematica, Vol. XXI (Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Conveg. sui Gruppie Anelli Ordinati, INDAM, Rome*, 1975), *pp.* 451–477. *Academic Press, Londo* 1977. (Stuart A. Steinberg) **58** #10653 06A55

Archimedean kernel of a lattice ordered group. (Loose Russian summary) *Czechoslovak Math. J.* **28(103)** (1978), *no.* 1, 140–154. (S. Wolfenstein) **57** #3033 06A55

Generalized Dedekind completion of a lattice ordered group. *Czechoslovak Mat J.* **28(103)** (1978), *no.* 2, 294–311. (P. F. Conrad) **58** #27685 06A55 (20F30)

Orthogonal hull of a strongly projectable lattice ordered group. *Czechoslovak Mat J.* **28(103)** (1978), *no.* 3, 484–504. (S. J. Bernau) **58** #21891 06A55

See also **Kolibiar, Milan, 48** #3678 *and* **Černák, Štefan; et al., 58** #10164

Jakubíková, Danica Homomorphisms of unary algebras. (Russian. Loose English summary) *Math. Slovaca* **26** (1976), *no.* 4, 317–322. (P. Kratochvíl) **55** #2709 08A25 (06A10)

Jakubíková, Mária Konvexe gerichtete Untergruppen der Rieszschen Gruppen. (Loos English summary) *Mat. Časopis Sloven. Akad. Vied* **21** (1971), 3–8. (S. Wolfenstein **46** #1673 06A55

Abgeschlossene vollständige l-Untergruppen der Verbandsgruppen. (Loose Englis ummary) *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 55–63. (E. T. Schmidt) **48** #2019 06A55

Über die *B*-Potenz einer teilweise geordneten Gruppe. (Loose English summary) *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 231–239. (M. Kolibiar) **49** #2487 6A55

The nonexistence of free complete vector lattices. *Časopis Pěst. Mat.* **99** (1974), 42–146. (R. P. Dilworth) **50** #12854 06A65

Distributivität des *l*-Untergruppenverbandes einer Verbandsgruppe. (Loose English summary) *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no.* 2, 189–192. (S. Wolfenstein) **52** #13559 06A55

Totally inhomogeneous lattice ordered groups. *Czechoslovak Math. J.* **28(103)** 1978), *no.* 4, 594–610. (Klaus Keimel) **58** #16455 06A60

Jbov, A. Ja. (*with* Muhtarov, H. Š.) A weight estimate for a singular operator and its application. (Russian) *Methods of the theory of analytic functions* (*Russian*), *pp.* 24–26, *Severo-Oset. Gos. Univ., Ordzhonikidze*, 1974. (See RŽMat **1975** #5 B688) 30A86

A singular operator in the space $\mathfrak{J}_{\varphi,r}{}^{\alpha,\beta,p}$. (Russian) *Methods of the theory of analytic functions* (*Russian*), *pp.* 27–29, *Severo-Oset. Gos. Univ., Ordzhonikidze*, 1974. See RŽMat **1975** #5 B689) 47B99 (30A86)

A subspace of Guseinov's space that is invariant under a singular operator. Russian) *Methods of the theory of analytic functions* (*Russian*), *pp.* 30–32, *Severo-Oset. Gos. Univ., Ordzhonikidze*, 1974. (See RŽMat **1975** #7 B678) 30A86

(*with* Muhtarov, H. Š.) Some properties of the weight spaces $J_{\varphi,r}^{\alpha,\beta,p}$. (Russian) *Mapping methods* (*Russian*), *pp.* 26–41. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (J. Albrycht) **58** #7063 46E35

A certain weight space that is invariant with respect to a linear singular operator. Russian) *Mat. Zametki* **20** (1976), *no.* 4, 549–558. (S. G. Samko) **55** #1142 47G05 (46E35)

Jubov, È. H. (*with* Rahmankulov, R.) A certain extremal quasiconformal mapping of closed Riemann surfaces. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 761–763. (P. M. Tamrazov) **53** #8418 30A60

(*with* Sadat, Saïd Azizula) The extremal quasiconformal mapping of bichromatic circular charts. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR. Ser. Fiz.-Mat. Nauk* **1976**, *no.* 1, 25–28, 91. (G. V. Kuz′mina) **55** #10679 30A60 (30A38)

The method of Teichmüller spaces. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 490 *Voprosy Matematiki* (1976), 253–258, 275. (Author's summary) **57** #16705 32G15

Jubov, M. A. (*with* Ahmedov, K. T.; Veĭsov, I. A.) Certain integral inequalities. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **16** (1972), *no.* 1, 16–22. (P. Fischer) **47** #5198 26A86

Jubov, R. Ja. A spectral problem that is quadratic with respect to the parameter, and its application. (Russian) *Functional analysis, theory of functions and their applications, No.* 1 (*Russian*), *pp.* 201–215, 12. *Dagestan. Gos. Univ., Makhachkala*, 1974. (Stefan Balint) **56** #6008 34B25

Jubov, S. The uniqueness of the solution of a certain class of problems with unknown boundary for a second order parabolic equation. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 4, 35–39, 82. (P. C. Fife) **53** #1026 35K20

Jubov, S. Ja. The Cauchy problem for nonlinear second order hyperbolic equations. I, II. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1970**, *no.* 3, 16–22; *ibid.* **1970**, *no.* 5, 16–21. (J. Muszyński) **46** #479 34G05

Solvability of the Cauchy problem for abstract quasilinear second order hyperbolic equations, and their applications. (Russian) *Trudy Moskov. Mat. Obšč.* **23** (1970), 37–60. (J. Muszyński) **51** #3633 34G05 (35L15)

The two-fold completeness of the eigen- and associated elements of a quadratic operator pencil. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 1, 92–94. (J. Bognár) **47** #5631 47A65

Correctness of a boundary value problem for second order linear evolution equations. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1973**, *no.* 2, 37–42. (Leo F. Boron) **52** #8596 34G05

(*with* Aliev, A. B.) Almost periodic solutions of second order hyperbolic equations. (Russian) *Differencial′nye Uravnenija* **10** (1974), 1142–1144, 1152. (O. Vejvoda) **50** #7830 35L20 (35B15)

(*with* Ismailova, U. L.) "Global" solvability of a mixed problem for a quasilinear equation of Schrödinger type. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 6, 67–71. (P. P. Zabreĭko) **51** #13794 47H15 (35J10)

(*with* Samedova, S. G.) The correctness of the Cauchy problem for parabolic equations. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **31** (1975), *no.* 2, 17–20. (Leo F. Boron) **52** #936 34G05

(*with* Aliev, A. B.) Decay of the oscillations of the solutions of a hyperbolic equation. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 5, 883–888, 949. (J. Muszyński) **52** #6154 35B40

(*with* Mamedov, K. Š.) The multiple completeness of the system of eigen- and associated elements of a polynomial operator pencil, and multiple expansions in that system. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 1, 91–93. (H. Langer) **52** #6473 47A65

(*with* Aliev, A. B.) Solvability "in the large" of the Cauchy problem for quasiliner equations. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 5, 1025–1028. (A. Szép) **54** #669 34G05 (35R20, 35L60)

(*with* Balaev, M. K.) Correct solvability of operator differential equations on the whole real line. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 3, 562–565. (Š. Schwabik) **54** #3119 34G05 (47A50)

(*with* Karasik, B. G.; Mamedov, K. Š.) The Fredholm nature of boundary value problems for higher order linear operator-differential equations. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 2, 76–82. (From the text) **58** #11747 34G05 (47B30)

(*with* Šahmurov, V. B.) Imbedding theorems and trace theorems in anisotropic spaces of vector-valued functions. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **33** (1977), *no.* 11, 16–18. (Authors' summary) **58** #12334 46E35

(*with* Šahmurov, V. B.) Imbedding theorems for anisotropic spaces of vector-valued functions. (Russian) *Mat. Zametki* **22** (1977), *no.* 2, 297–301. (Alexander Doktor) **57** #17253 46E35

(*with* Gašimov, A. T.) The finite-difference method for the solution of the Cauchy problem for evolution equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1583–1587, 1630. (E. Schechter) **57** #1911 65M05

See also **Transactions of the Moscow Mathematical Society**, **50** #9474

Jakubov, T. The $(2,n)$-semigroup of n-ary operations. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1974**, *no.* 1, 29–46, 92–93. (G. Čupona) **49** #9112 20N15

(*with* Bektenov, A. S.) Systems of orthogonal n-ary operations. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1974**, *no.* 3, 7–14, 93. (G. Čupona) **50** #13352 20N15

Jakubov, V. P. (*with* Ponomarev, G. A.) The geometric optics approximation in the problem of the scattering of a wave by an uneven surface. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no.* 3, 407–417. (Authors' summary) **57** #2200 78.41

Jakubovič, E. D. The construction of an optimal control that realizes the exponential stability of linear systems. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 580–583. (H. A. Antosiewicz) **50** #13748 34D05 (34H05)

Solution of a problem in the optimal control of a discrete linear system. *Avtomat. i Telemeh.* **1975**, *no.* 9, 73–79 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 9, *part* 1, 1447–1453 (1976). (D. H. Chyung) **53** #15485 93C55

Optimal control of a linear discrete system in the presence of a nonmeasurable perturbation. *Avtomat. i Telemeh.* **1977**, *no.* 4, 49–54 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 4, *part* 1, 492–496. (Author's summary) **56** #13080 49E05

Jakubovič, E. I. *See* **Collection: Oscillations and waves in nonlinear media**, **49** #4705

Jakubovič, S. M. (*with* Gusakov, V. Ja.) The Galois correspondence, and certain theorems on the representation of binary relations. (Russian. English summary) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2. *Informacionnye Processy i Sistemy* **1974**, *no.* 7, 3–6, 40. (H.-J. Hoehnke) **51** #308 08A05

(*with* Gusakov, V. Ja.) Classification algorithms. (Russian. English and German summaries) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2. *Informacionnye Processy i Sistemy* **1976**, *no.* 12, 17–22, 39–40. (Witold Lipski) **58** #3783 68A50

Jakubovič, V. A. Frequency conditions for the existence of absolutely stable periodic and almost periodic limit regimes of control systems with many nonstationary nonlinearities. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 45, *Paper* 23D, 5 *pp. Inst. Mech. Engrs., London*, 1967. (R. Liu) **52** #2670 93C10

Absolute stability of pulse systems with several nonlinear or linear nonstationary blocks. II. *Avtomat. i Telemeh.* **1968**, *no.* 2, 81–101 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no.* 2, 244–263. (Author's summary) **52** #12922 93D99

Problem in unsupervised learning of purposeful behavior. *Avtomat. i Telemeh.* **1969**, *no.* 8, 119–139 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 8, 1292–1310. **56** #10186 68A35

Absolute stability of nonlinear control systems. I. General frequency criteria. *Avtomat. i Telemeh.* **1970**, *no.* 12, 5–14 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 12, 1903–1912. (A. N. V. Rao) **46** #10469 93D99

Solution of a certain algebra problem that arises in control theory. (Russian) *Dokl. Akad. Nauk SSSR* **193** (1970), 57–60. (J. M. Skowroński) **46** #7663 34H05

Frequency conditions for certain topological types of behavior "in the large" of solutions of nonlinear differential equations. (Russian) *Uspehi Mat. Nauk* **25** (1970), *no.* 6(156), 233–234. (D. Bobrowski) **45** #3838 34C99

On a method of adaptive control under conditions of great uncertainty. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 3: *Ecology and systems engineering, Large scale sensitivity optimization and adaptation theory*, *Paper No.* 37.3, 6 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 [1972]. (P. E. Sarachik) **51** #9902 93C55

Absolute instability of nonlinear control systems. II. Systems with nonstationary nonlinearities. The circle criterion. *Avtomat. i Telemeh.* **1971**, *no.* 6, 25–34 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 6, *part* 1, 876–884. (A. N. V. Rao) **46** #8724 93D99

(*with* Andreev, V. A.; Kazarinov, Ju. F.) Synthesis of optimal controls for linear inhomogeneous systems in problems of minimization of quadratic functionals. (Russian) *Dokl. Akad. Nauk SSSR* **199** (1971), 258–261. (I. Muntean) **48** #7066 49B10

(*with* Penev, G. D.) Certain problems in adaptive control. *Dokl. Akad. Nauk SSSR* **198** (1971), 787–790 (*Russian*); *translated as Soviet Physics Dokl.* **16** (1971), 422–425. (E. B. Lee) **45** #9778 93C40

The *S*-procedure in nonlinear control theory. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 1, 62–77. (P. Brunovský) **45** #6485 93D05

(*with* Staržinskiĭ, V. M.) ★**Линейные дифференциальные уравнения с периодическими коэффициентами и их приложения.** (Russian) [Linear differential equations with periodic coefficients and their applications] *Izdat. "Nauka", Moscow*, 1972, 718 *pp.* (Š. Schwabik) **51** #993 34Cxx (34A30)

(*with* Georgievskiĭ, V. S.; Levit, M. V.) Frequency conditions of autooscillations in nonlinear controlled systems. *Avtomat. i Telemeh.* **1972**, *no.* 2, 30–39 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 2, *part* 1, 192–200. (B. J. Leon) **55** #12234 93D10

(*with* Andreev, V. A.; Kazarinov, Ju. F.) Synthesis of optimal controls for linear inhomogeneous systems in a problem of minimization of the mean value of a quadratic functional. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 1247–1250. (S. P. Bingulac) **45** #4863 93C45

(*with* Andreev, V. A.; Kazarinov, Ju. F.) The synthesis of optimal controls in the problem of minimizing a quadratic functional. (Russian. English and German summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 391–427. (H. O. Fattorini) **48** #4876 49B10

(*with* Levit, M. V.) Algebraic criterion for stochastic stability of linear systems with parametric action of the white noise type. *Prikl. Mat. Meh.* **36** (1972), 142–148 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 130–136. (G. N. Mil′šteĭn) **48** #10605 93E15 (*with* Šepeleva, R. P.) Critical frequencies of systems that are invariant with respect to inversion of time. (Russian. English summary) *Vestnik Leningrad. Univ.* **1972**, *no.* 7, 71–81. (N. Chafee) **45** #7186 34C15

A certain theorem on the stability of a linear Hamiltonian system with periodic coefficients. (Russian) Boundary value problems of mathematical physics and related questions in the theory of functions, 6. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **27** (1972), 220–234. (E. Leimanis) **48** #2511 34D99 (47B99)

Necessary and sufficient conditions for absolute stability under certain types of quadratic constraints. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 312–315. (H. A. Antosiewicz) **50** #13747 34D05

Minimization of quadratic functionals under quadratic constraints, and the necessity of a frequency condition in the quadratic criterion for the absolute stability of nonlinear control systems. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1039–1042. (R. F. Datko) **48** #7087 49E20

(*with* Fradkov, A. L.) Necessary and sufficient conditions for absolute stability in classes of systems with two integral quadratic constraints. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 798–801. (H. A. Antosiewicz) **50** #13745 34D05

A frequency theorem in control theory. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 384–420, 462–463. (L. von Wolfersdorf) **48** #4889 49E20

Frequency conditions for auto-oscillations in nonlinear systems with a certain stationary nonlinearity. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 1100–1129, 1159. (Š. Schwabik) **48** #6546 34C15

(*with* Fradkov, A. L.) The *S*-procedure and the duality relation in convex quadratic programming problems. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1 (1973), 81–87, 155. (Jürgen Guddat) **52** #5016 90C20

(*with* Ljubačevskiĭ, B. D.) Adaptive control of stable dynamic plants. *Avtomat. i Telemeh.* **1974**, *no.* 4, 116–127 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no.* 4, *part* 2, 621–631. (Editors) **56** #11263 93C40

The frequency theorem for the case in which the state space and the control space are Hilbert spaces, and its application in certain problems in the synthesis of optimal control. I. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 639–668, 703. (Russell D. Rupp) **50** #1083 49B30

(*with* Timofeev, A. V.) A class of adaptive human-operator models in control systems. *Avtomatika* **1974**, *no.* 1, 52–65 (*Ukrainian*); *translated as Soviet Automat. Control* **7** (1974), *no.* 1, 43–54. (Authors' summary) **56** #11265 93C40

An a priori estimate of the decrease of decreasing solutions of nonlinear systems. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 3 (177), 239–240. (Ljubomir Lilov) **53** #971 34H05

(*with* Šepeleva, R. P.) Critical frequencies of parametric resonance in the class of fractionally periodic equations that are invariant with respect to time reversal. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1974), 64–73, 156. (C. E. Langenhop) **50** #7699 34D10

(*with* Staržinskiĭ, V. M.) ★Linear differential equations with periodic coefficients. 1, 2. Translated from Russian by D. Louvish. *Halsted Press* [*John Wiley & Sons*] *New York-Toronto, Ont.,*; *Israel Program for Scientific Translations, Jerusalem-London*, 1975. *Vol.* 1: xii + 386 *pp.*; *Vol.* 2: xii + *pp.* 387–839. (Editors) **51** #994 34Cxx (34A30)

(*with* Barabanov, A. T.; Katkovnik, V. Ja.; Nelepin, R. A.; Hlypalo, E. I.) ★Методы исследования нелинейных систем автоматического управления. (Russian) [Methods for the study of nonlinear automatic control systems] Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat.* "*Nauka*", *Moscow*, 1975. 447 *pp.* (V. Komkov) **56** #14934 93C10

Frequency conditions of oscillations in nonlinear control systems with one single-valued or hysteresis-type nonlinearity. *Avtomat. i Telemeh.* **1975**, *no.* 12, 51–64 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 12, *part* 1, 1973–1985 (1976). (Mark A. Aĭzerman) **53** #12705 93D99

(*with* Šepeleva, R. P.) Critical frequencies of canonical fractional-periodic equations. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 3, 612–622, 646. (Š. Schwabik) **54** #10755 34C15

(*with* Burkin, I. M.) Frequency conditions for the existence of two almost periodic solutions of a nonlinear automatic control system. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 5, 916–924, 1129. (Š. Schwabik) **53** #3424 34C25 (49E99)

The frequency theorem for the case in which the state space and the control space are Hilbert spaces, and its application in certain problems in the synthesis of optimal control. II. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 5, 1081–1102, 1132. (Author's summary) **57** #13636 49B30 (49E05, 93C05)

(*with* Antonov, V. G.) The special representation of Hermitian forms that are encountered in game theory. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 5(185), 199–200. (From the text) **58** #9635 93D15

(*with* Antonov, V. G.; Lihtarnikov, A. L.) A discrete frequency theorem for the case of Hilbert spaces of states and controls. (Russian. English summary) Collection of articles dedicated to the memory of Academician V. I. Smirnov. *Vestnik Leningrad. Univ.* **1975**, *no.* 1 *Mat. Meh. Astronom. vyp.* 1, 22–31, 188. (H. O. Fattorini) **57** #15647 93C55 (93D05)

(*with* Antonov, V. G.) The determination of optimal strategies in linear discrete games with quadratic pay-off functional. (Russian. English summary) *Vestnik Leningrad. Univ.* **1975**, *no.* 19 *Mat. Meh. Astronom. vyp.* 4, 7–17, 166. (M. Vlach) **53** #15400 90D20 (49B20)

Some alternatives of the abstract maximum principle. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 4, 816–819. (Constantin Vârsan) **56** #1174 49B30

Adaptive suboptimal control of a linear dynamical object in the presence of a delay in the control. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 1, 26–43. (*loose errata*) (Author's summary) **57** #11885 93C40

(*with* Lihtarnikov, A. L.) A frequency theorem for equations of evolution type. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 5, 1069–1085, 1198. (Björn Textorius) **55** #3459 34G05 (49B30)

(*with* Lihtarnikov, A. L.; Ponomarenko, V. I.) A discrete frequency theorem for the case of Hilbert spaces of states and controls. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 19 *Mat. Meh. Astronom. vyp.* 4, 69–76, 156. (S. Rolewicz) **55** #1200 49E05 (49C05)

Frequency conditions for oscillations in a system with one differentiable nonlinearity. (Russian) *Problems of the asymptotic theory of nonlinear oscillations* (*Russian*), *pp.* 264–269, 280. *Naukova Dumka, Kiev*, 1977. (Author's summary) **58** #28918 34D99

Frequency methods for the qualitative study of nonlinear control systems. (Russ *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, 1, *pp.* 365–387. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn.*, 3N, *Akademie-Verlag, Berlin*, 1977. (H. O. Fattorini) **58** #33372 93D05

(*with* Lihtarnikov, A. L.) A frequency theorem for continuous one-parameter semigroups. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 4, 895–911, (G. N. Mil′šteĭn) **58** #15436 93C05 (47D05)

On the abstract theory of optimal control. I. (Russian) *Sibirsk. Mat. Ž.* **18** (1 *no.* 3, 685–707, 720. (S. Rolewicz) **58** #23868a 49A25

Toward an abstract theory of absolute stability of nonlinear systems. (Rus English summary) *Vestnik Leningrad. Univ.* **1977**, *no.* 13 *Mat. Meh. Astronom. vy* 99–118, 172. (Angelo Favini) **58** #17364 34D99 (58F10, 93D10)

Frequency criteria of the invariance up to ε of control systems with a nonli block. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 2, 283–286. (V. N. Igol **58** #9629 93D10 (34H05)

On the abstract theory of optimal control. II. (Russian) *Sibirsk. Mat. Ž.* **19** (19 *no.* 2, 436–460, 480. (S. Rolewicz) **58** #23868b 49A25

(*with* Lihtarnikov, A. L.) Frequency theorems and a theorem on stabilization unbounded operators. (Russian) *Uspehi Mat. Nauk* **33** (1978), *no.* 2(200), 195–196 Rolewicz) **58** #9651 93D99 (47B25, 93C25)

See also **Proceedings: International Conference on Nonlinear Oscillations, 47** #8969; **Linear operators and operator equations, 49** #4718; **Proceedings: International Congress of the International Federation of Automatic Control (IF 51** #12360a; **Boundary value problems of mathematical physics and related question the theory of functions, 52** #8620; **Adaptive systems, 58** #9586 *and* **Kreĭn, M. 58** #33376

Jakubovskiĭ, O. A. Structure of the resolvent of the Schrödinger operator of a system c particles with decreasing paired interaction. (Russian) *Trudy Mat. Inst. Steklov.* (1970), 146–177. (K. Veselić) **46** #730 47F05 (81.35)

See also **Boundary value problems of mathematical physics, 48** #681

Jakubowicz, Antoni A new formula for the bending of a light ray in the gravitational fi of a star. (Polish. English summary) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politec Wrocław. No.* 2 , *Ser. Studia i Materiały No.* 2 *Geom. Rózniczk.* (1970), 7–11. (W. Tulczyjew) **50** #1689 83.53

The existence of a connection in a generalized Riemannian space. (Polish. Engl summary) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. No.* 2 *Ser. Stud Materiały No.* 2 *Geom. Rózniczk.* (1970), 13–16. (A. Goetz) **49** #6069 53B30

(*with* Węgrzynowska, Anna) The existence of a recurrent covariant derivative i nonsingular generalized three-dimensional Riemannian space. (Polish. German summary) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. No.* 2 *Ser. Stud Materiały No.* 2 *Geom. Rózniczk.* (1970), 17–21. (S. Gołąb) **49** #3731 53B30

(*with* Węgrzynowska, Anna) Notwendige und hinreichende Bedingung für die Rekurrenz der kovarianten Ableitung eines beliebigen 2-fach kovarianten nichtsingulären Tensors des drei-dimensionalen Raumes. *Publ. Math. Debrecen* (1971), 153–164 (1972). (Yung-Chow Wong) **46** #6253 53A45

The relationship between the classification of Einstein space-times with respect the ranks of the matrix of the curvature tensor and the classification of Petrov. *Ten* (*N.S.*) **23** (1972), 91–94. **47** #2965 83.53

(*with* Szczepanek, W.) On some gravitational field satisfying the Einstein equatio *Tensor* (*N.S.*) **23** (1972), 157–158. **46** #3037 83.53

On some coordinate system for the Einstein space-times of the type *N*. *Tens* (*N.S.*) **23** (1972), 159–161. **46** #3038 (E **55** #14053) 83.53

(*with* Zdrojewski, W.; Zięba, J.) ★Two Riemann spaces of the type $V_4^* -$ obtained by the method of connection on algebras. *Tensor* (*N.S.*) **23** (1972), 266–2 (Virgil Obădeanu) **49** #1367 53B20

On certain concomitants of the curvature tensor of the space with an affi connection of bivectors. Commemoration volumes for Prof. Dr. Akitsugu Kawaguch seventieth birthday, Vol. I. *Tensor* (*N.S.*) **24** (1972), 211–216. (S. Gołąb) **49** #1353 (E **49**) 53A55

Transitive domains of the curvature tensor in the four-dimensional Einstein space-time. Collection of articles dedicated to Stanisław Gołąb on his 70th birthday. *Demonstratio Math.* **6** (1973), 127–136. (R. Roşca) **53** #2281 83.53

(*with* Lizak, R.) The relationship between the classification of Riemann space-tim with respect to the ranks of the matrix of the curvature tensor and the classification Petrov. *Tensor* (*N.S.*) **27** (1973), 349–354. (From the introduction) **58** #30864 53B30

Supplement to the classification of four-dimensional Riemann and Einstein spaces *Tensor* (*N.S.*) **27** (1973), 379–383. (M. D. Upadhyay) **51** #6636 53B30

Erratum: "On some coordinate system for the Einstein space-times of the type *N* (Tensor (N.S.) **23** (1972), 159–161). *Tensor* (*N.S.*) **27** (1973), 383. (Editors) **55** #140 83.53

(*with* Bury, Teresa) Determination of linear connection of mixed, covariantly constant, second order tensor field in two-dimensional space. *Demonstratio Math.* (1975), *no.* 2, 175–183. (Editors) **56** #13125 53A55

(*with* Bury, T.) On existence of a linear connection determined by a covariant constant tensor field of type (1, 1). *Tensor* (*N.S.*) **31** (1977), *no.* 3, 265–270. (Prakash) **58** #7439 53B05

On the fields of scalar concomitants of tensor field of type (p, q) and on existence o a linear connection determined by this field so as to be parallel with respect to th connection. *Tensor* (*N.S.*) **31** (1977), *no.* 3, 287–291. (T. J. Willmore) **57** #7418 53A45 (53B15)

On certain classification of the Riemann spaces and 4-dimensional Einstein space-times. *Period. Math. Hungar.* **9** (1978), *no.* 1-2, 49–53. (Yvette Kosmann-Schwarzbach) **58** #4149 83.33 (53C25)

Jakubowicz, C. A. On generalized products preserving compactness. (Russian summary) *Algebra i Logika* **13** (1974), 227–231, 235. (B. Węglorz) **51** #7854 (E **53** #117) 02H05 (08A05)

Erratum: "On generalized products preserving compactness" (Algebra i Logika 1 (1974), 227–231). (Russian) *Algebra i Logika* **13** (1974), *no.* 6, 721. (Editors) **53** #117

02H05 (08A05)

Preserving some properties of large cardinals under mild Cohen extensions. *Colloq. Math.* **29** (1974), 161–166. (G. Fodor) **49** #2384 02K35

ubowski, Mirosław The $\mathcal{T}$-computable sets and functions. *Demonstratio Math.* **10** (1977), *no.* 1, 205–210. (Author's summary) **56** #11649 94A30

ubowski, Ryszard (*with* Krieger, Michael M.) System simulation by functional graphs. (Polish and Russian summaries) *Podstawy Sterowania* **1** (1971), 55–70. (S. L. Hakimi) **47** #1502 93B99

A simulation language for dynamical systems that is based on signal flow graphs. (Polish. English and Russian summaries) *Podstawy Sterowania* **1** (1971), 115–143. (B. Zelinka) **46** #4979 93A10 (34C35, 68A55, 94A20)

(*with* Król, Jerzy) A simulation language for dynamical systems with improved data organization. (Polish. English and Russian summaries) *Podstawy Sterowania* **1** (1971), 231–237. (B. Zelinka) **46** #6664 68A55 (94A20)

(*with* Gościński, Andrzej) A stochastic automata theoretical approach to dynamic programming. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 425–429. (M. Rössler) **46** #10527 94A35 (90C99)

(*with* Król, Jerzy) Implementation of the simulation language based on functional graphs. (Polish and Russian summaries) *Podstawy Sterowania* **2** (1972), 137–146. (Herbert J. Bernstein) **53** #7166 68A55 (94A20)

(*with* Gościński, Andrzej) A stochastic automaton as a dynamic programming model. (Polish. English and Russian summaries) *Podstawy Sterowania* **2** (1972), 147–162. (E. Ikaunieks) **46** #6976 94A35 (49C99)

(*with* Król, Jerzy) Simulation of complex systems by means of functional graphs. (Polish. English and Russian summaries) *Podstawy Sterowania* **2** (1972), 269–277. (Editors) **50** #9084 68A55

(*with* Kasprzak, Andrzej) Regular expressions in application to the description and recognition of machine element shapes. (Polish. English and Russian summaries) *Podstawy Sterowania* **2** (1972), 279–291. (Authors' summary) **55** #14439 94A25 (68A25, 94A30)

(*with* Kasprzak, Andrzej) Application of fuzzy programs to the design of machining technology. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 69–74. (K. Vairavan) **49** #12204 94A30

(*with* Król, Jerzy) Functional graphs as applied to the description and simulation of complex dynamical systems. (Polish. English and Russian summaries) *Podstawy Sterowania* **3** (1973), 131–151. (*one foldout*) (Authors' summary) **50** #9085 68A55

(*with* Kasprzak, Andrzej; Peschak, Ryszard) Automata that recognize the shapes of machine elements. (Polish. English and Russian summaries) *Podstawy Sterowania* **3** (1973), 209–219. (Authors' summary) **55** #12358 94A30

(*with* Gościński, Andrzej) Application of automata theory and fuzzy programs in control problems. (Polish. English and Russian summaries) *Podstawy Sterowania* **3** (1973), 221–234. (Editors) **57** #5218 93A10 (94A30)

(*with* Król, Jerzy) A formalization of the description of the structure of complex systems. (Polish. English and Russian summaries) *Podstawy Sterowania* **4** (1974), 27–37. (B. Zelinka) **50** #6570 93A15

(*with* Król, Jerzy) A computer representation of the structure of complex systems. (Polish. English and Russian summaries) *Podstawy Sterowania* **4** (1974), 371–379. (W. Kwasowiec) **50** #15437 68A25

Functional graphs as models of parallel processes. (Polish. English and Russian summaries) *Podstawy Sterowania* **5** (1975), *no.* 2, 163–174. (Aleksander Albicki) **55** #5324 94A30 (68A05)

(*with* Król, Jerzy; Lembas, Jacek) The generation of the data structure of a complex system. (Polish. English and Russian summaries) *Podstawy Sterowania* **5** (1975), *no.* 4, 343–354. (M. Novotný) **53** #5070 93A10

(*with* Król, Jerzy) General algorithm of complex dynamic systems simulation. (Russian summary) *Systems Sci.* **1** (1975), *no.* 1, 17–27. (T. Kaczorek) **53** #5071 93A10 (68A55)

(*with* Grabska, Ewa) Transformations on functional graphs. (Polish. English and Russian summaries) *Podstawy Sterowania* **6** (1976), *no.* 1, 81–102. (Author's summary) **56** #18139 94A20

(*with* Kasprzak, Andrzej) A syntactic description of operations that shape contours of rotary machine elements. (Polish. English and Russian summaries) *Podstawy Sterowania* **6** (1976), *no.* 3, 277–284. (Authors' summary) **56** #17241 68A45

(*with* Szelc, Andrzej) Functional graphs as an extension of Petri nets. I. Marking processes over functional graphs. (Polish and Russian summaries) *Podstawy Sterowania* **6** (1976), *no.* 4, 401–412. (Authors' introduction) **57** #5457 94A20 (68A05)

kubowski, T. On the form of principal torus-bundles over toruses. *Colloq. Math.* **31** (1974), 211–217. (C. Teleman) **51** #14045 55F25 (53C30)

kubowski, Zbigniew Jerzy The maximum of the functional $A_3+\alpha A_2$ in the family of univalent functions with real coefficients. (Polish. French summary) *Zesyty Nauk. Uniw. Łódz. Nauki Mat. Przyrod. Ser. II No.* 20 *Matematyka* (1966), 43–61. (Z. Lewandowski) **50** #7502 30A34

On the coefficients of Carathéodory functions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 805–809. (P. S. Chiang) **46** #3770 30A34

On the coefficients of starlike functions of some classes. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 811–815. (M. Reade) **46** #2030 30A34

On some applications of the Clunie method. *Ann. Polon. Math.* **26** (1972), 211–217. (J. Clunie) **46** #2064 30A76

On the coefficients of starlike functions of some classes. *Ann. Polon. Math.* **26** (1972), 305–313. (*errata insert*) (Ch. Pommerenke) **46** #7497 30A34

On the upper bound of the functional $|f^{(n)}(z)|$ $(n=2,3,\ldots)$ in some classes of univalent functions. *Comment. Math. Prace Mat.* **17** (1973), 65–69. (F. R. Keogh) **48** #2369 30A34

On some properties of extremal functions of Carathéodory. *Comment. Math. Prace Mat.* **17** (1973), 71–80. (Harry B. Coonce) **48** #523 30A38

On some special class of regular functions. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 299–300. (W. K. Hayman) **54** #2946 30A36

(*with* Kamiński, Józef) On some properties of the coefficients of regular functions with positive real part. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **29** (1975), 79–92 (1977). (Carl P. McCarty) **58** #1161 30A76

Witold Janowski (1912–1972). (Polish) *Wiadom. Mat.* (2) **19**, *no.* 1, 43–49 (1975). (Editors) **56** #15328 01A70

(*with* Kamiński, Józef) On some properties of multivalent alpha-starlike functions. *Demonstratio Math.* **9** (1976), *no.* 2, 257–265. (M. Reade) **53** #8405 30A32

Jakub-Zade, R. I. Stability of the approximate solution of nonlinear singular integral equations by the quadrature method. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1975**, *no.* 6, 7–11. (Zbl **347** #45011) **57** #11131 65R05

Jakunin, S. A. (*with* Volkov, B. I.) Stationary motion of intensive flows of charged particles in crossed electric and magnetic fields. (Russian) *Vyčisl. Metody i Programmirovanie Vyp.* 24 (1975), 311–322. (From the introduction) **58** #32429 78.65

Jakunin, V. I. On the question of the approximation of a discrete arc by circles. (Russian) *Moskov. Aviacion. Inst. Ordžonikidze Trudy No.* 229 *Grafika i Prikl. Geometrija Poverhnosteĭ VII* (1971), 81–85. (S. Măruşter) **52** #2137 65D10

Jakupov, M. Š. Variation of linear integrals in a Riemann space. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 8 (1971), 151–154. (RŽFiz **1972** #6 V128) **58** #32747 83.49 (53B20)

Relativistic Einstein spaces of the second class. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 9 (1973), 109–114. (RŽFiz **1974** #6.B169) **58** #30917 53C25

The embedding class of Einstein spaces with a constant vector field. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 10-11 (1975), 113–116. (RŽMat **1977** #11 A650) **58** #32773 83.53

(*with* Dmitrieva, N. F.) Properties of the curvature of minimal hypersurfaces. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 10-11 (1975), 172–174. (Editors) **58** #30916 53B25

The mapping of flat spaces onto Riemannian spaces of class one. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 13 (1976), 122–128. (W. Wrona) **58** #30852 53B20

Jakupov, R. G. Action of a blast wave on a circular plate. (Russian) *Prikl. Meh.* **13** (1977), *no.* 11, 61–66, 141. **57** #2109 76.35

Jakupov, V. M. The Cauchy problem for the Korteweg-de Vries equation. (Russian) *Differencial'nye Uravnenija* **11** (1975), 556–561, 590–591. (H. Flaschka) **51** #13481 35Q99

Jakušev, Ju. F. A certain problem of queueing for a flow of calls through a nonreliable apparatus. (Russian) *Problemy Peredači Informacii* **5** (1969), *no.* 4, 84–88. (H.-J. Rossberg) **46** #10091 60K25

Servicing a non-ordinary flow by several devices. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 2, 54–59. (H.-J. Rossberg) **46** #10092 60K25

Two-phase servicing of a recurrent flow. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 3, 47–51 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 3, 398–402. (Author's summary) **52** #1927 60K25

Jakušev, N. Z. (*with* Galimov, K. Z.; Artjuhin, Ju. P.; Karasev, S. N.; Sačenkov, A. V.; Daragan, V. I.; Kostin, V. A.) ★Теория оболочек с учетом поперечного сдвига. (Russian) [The theory of shells with account taken of transverse shift] *Izdat. Kazan. Univ., Kazan*, 1977. 211 *pp*. (Editors) **58** #25229 73.00

(*with* Muljukov, R. M.) Reaction of thin cylindrical shells to the action of movable loads. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no.* 3(190), 103–111. (Authors' summary) **58** #19565 73.35

See also **Studies in the theory of plates and shells**, **48** #3343

Jakušev, V. S. *See* **Many-Valued elements and structures**, **53** #5140

Jakuškin, I. G. (*with* Dmitriev, V. L.) The passage of electromagnetic waves through a statistically inhomogeneous plasma layer. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 180 (1974), 7–10. (Ll. G. Chambers) **53** #12231 78.55

Jakuszenkow, Helena On some property of the generalized gamma-distribution. *Comment. Math. Prace Mat.* **17** (1973), 237–242. (A. M. Mathai) **48** #12675 62E10

New compound distributions. (Polish. Russian and English summaries) *Przegląd Statyst.* **20** (1973), 67–73. (I. I. Kotlarski) **47** #4361 62E10

On properties of the generalized gamma distribution. *Demonstratio Math.* **7** (1974), 13–22. (I. Guttman) **50** #8782 62E10

Bayes estimator in a generalized gamma distribution. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódz. No.* 245 *Mat. No.* 8 (1976), 25–33. (D. V. Lindley) **54** #8962 62F10

Jakut, L. I. On the investigation of the stability of difference schemes for parabolic equations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 19 (1973), 99–105, 159. (R. Kodnár) **48** #1486 65N05

Jakutin, I. N. (*with* Frolov, G. D.; Čudina, A. F.) Certain criteria for the complexity of a mapping system in automated information systems. (Russian) *Digital computer technology and programming, No.* 8 (*Russian*), *pp.* 21–23, 188. *Sovetskoe Radio, Moscow*, 1974. (Jaroslav Nešetřil) **52** #7739 94A30

Jakymiv, Ja. M. *See* **Jakimiv, Ja. M.**

Jakymiv, Ja. M. Asymptotical fields in the approximated renormalized two-dimensional Yukawa model. (Russian. English summary) *Teoret. Mat. Fiz.* **9** (1971), *no.* 3, 323–332. (Author's summary) **57** #11469 81.46

Asymptotic fields without ultraviolet cut-offs in two-dimensional models of field theory. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 130–136. (E. Zeidler) **46** #8587 81.47

lejeune-Jalabert, Monique *See* **Lejeune-Jalabert, Monique**

Jalas, A. (*with* Gabovič, E. Ja.; Čiž, A.) The bottleneck travelling salesman problem. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 22 (1971), 3–24. (Tomas Gal) **46** #1312 90B35

Jalava, Väinö Remarks on the regularity of the solutions of a linear partial differential equation with constant coefficients. *Ann. Acad. Sci. Fenn. Ser. A I No.* 530 (1973), 9 *pp.* (Hikosaburo Komatsu) **50** #5162 35D10

Jalickee, J. B. (*with* Wiegel, F. W.) The Bogoliubov theory of Bose condensation as a mean field theory. *Physica* **57** (1972), 317–333. **55** #5034 81.46

Jalobeanu, C. Indexed rooted trees. (Romanian. English summary) *Stud. Cerc. Mat.* **24**

(1972), 1561–1566. (R. C. Read) **50** #9651 05C05

Inclusion relations between families of bounded languages. (Romanian. English summary) *Rev. Anal. Numer. Teoria Aproximaţiei* **2** (1973), 159–166. (Petre Preoteasa) **56** #7346 68A30

Jalobeanu, M. Iterative systems, a topological and categorial approach. *Rev. Anal. Numér. Théorie Approximation* **2** (1973), 37–48. (Andrzej Blikle) **54** #5315 18B20 (68A05)

Jalovkin, B. D. (*with* Stojan, Ju. G.) Optimum selection of a system of control elements. (Russian) *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 3, 60–67. (Author's summary) **52** #10139 93C10

Jalovoĭ, V. V. Some problems of resource distribution. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 11, 982–983, 1052. (Author's summary) **56** #2415 90C99 (90B99)

Jalyšev, Ju. I. (*with* Zverev, V. V.; Pokazan'ev, V. G.) The method of functional equivalents in the angular momentum theory. (Russian. English summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 1, 97–107. (Authors' summary) **58** #14700 81.47

Jama, Danuta (*with* Czech, Adam; Janiec, Barbara) The stability of certain dynamical systems. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No.* 24 (1974), 63–77. (A. Pelczar) **51** #6154 35K99

(*with* Janiec, Barbara) Some properties of the solutions of second order parabolic equations with random coefficients. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. Zeszyt* **25** (1974), 101–107. (W. A. Woyczyński) **54** #8868 60H15 (35K99)

(*with* Czech, Adam; Janiec, Barbara; Szocińska, Ewa) Asymptotic properties of the solutions of stochastic boundary value problems on the plane. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. Zeszyt* **25** (1974), 109–122. (W. A. Woyczyński) **54** #8867 60H15 (35K99)

The stability of certain continuous and mixed systems. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976), 209–219. (Author's summary) **58** #26462 93E15

(*with* Czech, Adam) Application of the Ljapunov-Movčan method to the study of the stability of boundary value problems. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976), 221–226. (Authors' summary) **56** #16503 49E20

Jamāl al-Dīn 'Abd Callāh b. Khalīl b. Yūsuf al-Māridīnī *See* **King, David A., 56** #44

Jambekar, Anil B. (*with* Steinberg, David I.) An implicit enumeration algorithm for the all integer programming problem. *Comput. Math. Appl.* **4** (1978), *no.* 1, 15–31. (A. D. Booth) **57** #9059 90C10

Jambois, Thomas The theorem of Torelli for singular curves. *Trans. Amer. Math. Soc.* **239** (1978), 123–146. (A. H. Wallace) **58** #16678 14H15 (14K30)

Jambon, M. L'équation différentielle de Cauchy Riemann sur un domaine strictement pseudo-convexe. Solutions bornées. *Enseignement Math.* (2) **18** (1972), 303–337 (1973). (Ingo Lieb) **48** #8849 32F15 (35N15)

Jambon, Marc ★Variabilité locale constructive. Cahiers Mathématiques, No. 4. *U.E.R. de Mathématiques, Université des Sciences et Techniques du Languedoc, Montpellier*, 1975. ii + 112 *pp.* (Not reviewed) 26A99

Sur la notion de variabilité locale constructive. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 12, Ai, A423–A426. (B. van Rootselaar) **52** #2847 02E99 (26A03)

Jambor, Pavel On generation of torsion theories. *Comment. Math. Univ. Carolinae* **13** (1972), 79–98; *correction, ibid.* **14** (1973), 61. (Dorian Spulber) **49** #2888 18E40

(*with* Bečvář, Jindřich) On general concept of basic subgroups. *Comment. Math. Univ. Carolinae* **13** (1972), 745–761. (A. Mader) **47** #3566 20K10

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) On rings with trivial torsion parts. *Bull. Austral. Math. Soc.* **9** (1973), 275–290. (L. Š. Ioffe) **48** #8544 16A21

(*with* Bečvář, Jindřich) On general concept of basic subgroups. II. *Comment. Math. Univ. Carolinae* **14** (1973), 471–491. (A. Mader) **48** #4153 20K25

An orthogonal theory of a set-valued bifunctor. *Czechoslovak Math. J.* **23(98)** (1973), 447–454. (Dorian Spulber) **49** #2889 18E40

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) Preradicals. *Comment. Math. Univ. Carolinae* **15** (1974), 75–83. (M. Djabali) **50** #406 16A64

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) Composition of preradicals. *Comment. Math. Univ. Carolinae* **15** (1974), 393–405. (L. Š. Ioffe) **50** #9936 16A21

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) Stable and costable preradicals. *Acta Univ. Carolinae—Math. et Phys.* **16** (1975), *no.* 2, 63–69. (M. Djabali) **52** #8176 16A21

Hereditary tensor-orthogonal theories. *Comment. Math. Univ. Carolinae* **16** (1975), 139–145. (Jitendra Manocha) **53** #3000 16A30

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) Preradicals and change of rings. *Comment. Math. Univ. Carolinae* **16** (1975), 201–217. (M. Djabali) **51** #10379 16A21

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) Centrally splitting radicals. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 1, 31–47. (John A. Beachy) **54** #2710 16A21

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) A note on test modules. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 2, 345–355. (Edward T. Wong) **53** #13310 16A52

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) Hereditary and cohereditary preradicals. (Loose Russian summary) *Czechoslovak Math. J.* **26(101)** (1976), *no.* 2, 192–206. (John A. Beachy) **54** #2711 16A21 (18E40)

(*with* Bican, Ladislav; Kepka, Tomáš; Němec, Petr) Generation of preradicals. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 1, 155–166. (M. Djabali) **55** #8141 18E40 (16A64)

Jambu, Michel Le théorème de E. H. Brown pour les espaces stratifiés. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 587–589. (D. B. Fuks) **50** #8554 57D30 (58C25)

Jameleev, R. M. (*with* Gareev, F. A.; Gončarov, S. A.; Židkov, E. P.; Puzynin, I. V.; Horomskiĭ, B. N.) Numerical solution of eigenvalue problems for integrodifferential equations in nuclear theory. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 2, 407–419, 547. (Authors' summary) **58** #13819 65R05

James, Alan T. (*with* Wilkinson, G. N.) Factorization of the residual operator and canonical decomposition of nonorthogonal factors in the analysis of variance. *Biometrika* **58** (1971), 279–294. (C. G. Khatri) **48** #12742 62J10

The variance information manifold and the functions on it. *Multivariate ana III* (*Proc. Third Internat. Sympos., Wright State Univ., Dayton, Ohio*, 1972), *pp.* 157- *Academic Press, New York*, 1973. (N. H. Bingham) **50** #3452 62H05

(*with* Parkhurst, A. M.) Zonal polynomials of order 1 through 12. *Selected tab mathematical statistics, Vol. II, pp.* 199–388. *Amer. Math. Soc., Providence, R. I.*, (Authors' summary) **53** #11943 62Q05

(*with* Constantine, A. G.) Generalized Jacobi polynomials as spherical functio the Grassmann manifold. *Proc. London Math. Soc.* (3) **29** (1974), 174–192. (Hsiung) **51** #10723 33A75

(*with* Wilkinson, G. N.; Venables, W. N.) Interval estimates for a ratio of me *Sankhyā Ser. A* **36** (1974), *no.* 2, 177–183. (R. J. Buehler) **52** #15814 62F25

Special functions of matrix and single argument in statistics. *Theory and applic of special functions* (*Proc. Advanced Sem., Math. Res. Center, Univ. Wisconsin, Mad Wis.*, 1975), *pp.* 497–520. *Math. Res. Center, Univ. Wisconsin, Publ. No.* 35, *Acad Press, New York*, 1975. (Mineo Ikeda) **53** #5966 33A75 (62H10)

Tests for a prescribed subspace of principal components. *Multivariate analysis* (*Proc. Fourth Internat. Sympos., Dayton, Ohio*, 1975), *pp.* 73–77. *North-Holland, Amsterdam*, 1977. (Author's summary) **58** #24731 62H15 (62H25)

James, B. A. P. *See* **Role and effectiveness of theories of decision in practice, 56** #1

James, Barry R. A functional law of the iterated logarithm for weighted empirical distributions. *Ann. Probability* **3** (1975), *no.* 5, 762–772. (J. Kiefer) **53** #6695 6

A note on the law of the iterated logarithm for the empirical distribution functi *Bol. Soc. Brasil. Mat.* **8** (1977), *no.* 2, 109–115. (Jon A. Wellner) **58** #31355 60 (60G17, 62G30)

James, D. G. Even indefinite quadratic forms of determinant ±2*p*. *A spectrun mathematics* (*Essays presented to H. G. Forder*), *pp.* 17–21. *Auckland Univ. P Auckland*, 1971. (Dennis Estes) **55** #7914 10C05

On the orthogonal group $O(H(A \oplus A), A)$. *J. London Math. Soc.* (2) **4** (19 584–586. (Carl Riehm) **45** #6936 20G20

Representations by integral quadratic forms. *J. Number Theory* **4** (1972), 321– (H. Gross) **46** #8976 10C05

On the structure of orthogonal groups over local rings. *Amer. J. Math.* **95** (19 255–265. (Chan-nan Chang) **48** #8653 20H25

The structure of orthogonal groups of 2-adic unimodular quadratic forms. arithmetical theory of quadratic forms, II (Proc. Conf., Louisiana State Univ., Ba Rouge, La., 1972; dedicated to Louis Joel Mordell). *J. Number Theory* **5** (19 444–455. (Chan-nan Chang) **49** #2973 20G25

Orthogonal groups of dyadic unimodular quadratic forms. *Math. Ann.* **201** (19 65–74. (J. S. Hsia) **48** #8649 20G25 (10C05)

On the normal subgroups of integral orthogonal groups. *Pacific J. Math.* **52** (19 107–114. (J. S. Hsia) **50** #4494 10C30 (20G30)

Orthogonal groups of dyadic unimodular quadratic forms. II. *Pacific J. Math.* (1974), 425–441. (J. S. Hsia) **50** #4493 10C30 (20G25)

Orthogonal groups of three-dimensional anisotropic quadratic forms. *J. Algebra* (1975), *no.* 1, 121–136. (Carl Riehm) **52** #13641 10C30 (20G25)

Invariant submodules of unimodular Hermitian forms. *Pacific J. Math.* **72** (19 *no.* 2, 471–482. (S. Böge) **58** #27766 10C30 (10C05)

The structure of local integral orthogonal groups. *Trans. Amer. Math. Soc.* (1977), 165–186. (Carl Riehm) **55** #8204 20G25 (10C30)

Unitary groups over local rings. *J. Algebra* **52** (1978), *no.* 2, 354–363. (J. Dieudonné) **58** #16514 10C30 (20G15)

James, D. J. G. Stability and subharmonics in a sinusoidal perturbation hill-climb system. *Internat. J. Control* (1) **13** (1971), 165–178. (J. Willems) **45** #3100 93D9

Stability of model-reference systems with random inputs. *Stability of stochas dynamical systems* (*Proc. Internat. Sympos., Univ. Warwick, Coventry*, 1972), *pp.* 147–159. *Lecture Notes in Math., Vol.* 294, *Springer, Berlin*, 1972. (P. C. Par **53** #10439 93E15 (93C40)

James, David A. Functions automorphic on large domains. *Trans. Amer. Math. Soc.* 1 (1973), 385–400. (R. A. Rankin) **49** #2560 10D15

Polynomial and linear fractional factors of automorphy. *Illinois J. Math.* **20** (197 *no.* 4, 653–668. (Marvin I. Knopp) **54** #238 10D15 (30A58)

James, David V. Quantization errors in the fast Fourier transform. *IEEE Trans. Acou Speech Signal Processing* **ASSP-23** (1975), *no.* 3, 277–283. (Carl C. Grosjean) **54** #64 65G05

James, Edward W. On preserving entailment. *Mind* **84** (1975), *no.* 335, 443–449. (From t author's introduction) **56** #92 02C10

James, Eleanor M. Time optimal control and the Van der Pol oscillator. *J. Inst. Ma Appl.* **13** (1974), 67–81. (O. Gürel) **49** #11358 49E15 (34C05)

Control of non linear systems with self sustained oscillations and related problem *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part Paper No.* 22.1, 6 *pp. IFAC, Düsseldorf*, 1975. (Author's summary) **58** #33290 93C10

James, G. D. The modular characters of the Mathieu groups. *J. Algebra* **27** (197 57–111. (J. S. Frame) **48** #8614 20C20

The irreducible representations of the symmetric groups. *Bull. London Math. Soc.* (1976), *no.* 3, 229–232. (Jürgen Tappe) **54** #5329 20C30

Representations of the symmetric groups over the field of order 2. *J. Algebra* 3 (1976), *no.* 2, 280–308. (G. de B. Robinson) **53** #595 20C30

On the decomposition matrices of the symmetric groups. I. *J. Algebra* **43** (1976), *n* 1, 42–44. (A. Kerber) **55** #3057a 20C30

On the decomposition matrices of the symmetric groups. II. *J. Algebra* **43** (1976 *no.* 1, 45–54. (A. Kerber) **55** #3057b 20C30

A characteristic-free approach to the representation theory of $\mathfrak{S}_n$. *J. Algebra* 4 (1977), *no.* 2, 430–450. (Jürgen Tappe) **55** #12805 20C30

The module orthogonal to the Specht module. *J. Algebra* **46** (1977), *no.* 2, 451–45 (A. Kerber) **56** #460 20C30

Some counterexamples in the theory of Specht modules. *J. Algebra* **46** (1977), *no.* 2 457–461. (A. Kerber) **56** #461 20C30

A note on the *T*-ideal generated by $s_3[x_1, x_2, x_3]$. *Israel J. Math.* **29** (1978), *no.* 1

105–112. (A. P. Kemer) **58** #10869 13F20 (14M10)

Some combinatorial results involving Young diagrams. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 1, 1–10. (Michael H. Peel) **57** #3233 20C30

On a conjecture of Carter concerning irreducible Specht modules. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 1, 11–17. (Ronald C. King) **57** #3234 20C30 (20C20)

nes, Glenn *See* **Dictionary**, **55** #12400

nes, I. R. (*with* Darroch, J. N.) *F*-independence and null correlation of continuous, bounded-sum, positive variables. *J. Roy. Statist. Soc. Ser. B* **36** (1974), 467–483. (S. John) **50** #15162 62H20

nes, Ian R. Multivariate distributions which have beta conditional distributions. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 351, *part* 1, 681–684. (T. D. Dwivedi) **53** #14788 62H05

Infinite *F*-divisibility of integer-valued random variables. *Ann. Probability* **4** (1976), *no.* 2, 326–334. (S. K. Katti) **53** #1686 60E05

On *F*-independence for nonnegative, bounded-sum variables when the bound is large. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 357, 215–219. (Author's summary) **58** #24732 62H20 (62E10)

nes, Ioan M. Euclidean models of projective spaces. *Bull. London Math. Soc.* **3** (1971), 257–276. (P. J. Kahn) **45** #7729 57D40

On the maps of one fibre space into another. *Compositio Math.* **23** (1971), 317–328. (George McCarty) **46** #892 55F20

Products between homotopy groups. *Compositio Math.* **23** (1971), 329–345. (George McCarty) **46** #2669 55E15

Ex-homotopy theory. I. *Illinois J. Math.* **15** (1971), 324–337. (J.-P. Meyer) **45** #6004 55F65

Note on Stiefel manifolds. II. *J. London Math. Soc.* (2) **4** (1971), 109–117. (M. Mahowald) **45** #6027 57F15

On sphere-bundles with certain properties. *Quart. J. Math. Oxford Ser.* (2) **22** (1971), 353–370. (J. F. Adams) **45** #6005 55F25

Two problems studied by Heinz Hopf. *Lectures on algebraic and differential topology* (*Second Latin American School in Math., Mexico City*, 1971), *pp.* 134–174. *Lecture Notes in Math., Vol.* 279, *Springer, Berlin*, 1972. (K. H. Mayer) **51** #1840 57D25

(*with* Adem, José; Gitler, Samuel) On axial maps of a certain type. *Bol. Soc. Mat. Mexicana* (2) **17** (1972), 59–62. (K. Aoki) **49** #1530 57D40

(*with* Anderson, Donald W.) Bundles with special structure. II, III. *Proc. London Math. Soc.* (3) **24** (1972), 324–330; *ibid.* (3) **24** (1972), 331–347. (R. L. E. Schwarzenberger) **45** #2729 55F25

(*with* Sutherland, W. A.) On stunted real projective spaces. *Quart. J. Math. Oxford Ser.* (2) **25** (1974), 101–112. (J. F. Adams) **49** #3921 55D99

Homotopy-equivariance. *Comment. Math. Helv.* **50** (1975), *no.* 4, 521–533. (Michael Eggar) **53** #6559 55F65

Which fibre spaces are decomposable? *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), *no.* 5, 385–390. (Michael Eggar) **52** #9229 55G40

★The topology of Stiefel manifolds. London Mathematical Society Lecture Note Series, No. 24. *Cambridge University Press, Cambridge-New York-Melbourne*, 1976. viii + 168 *pp.* (David Handel) **55** #4240 57F20 (55F05)

Relative Stiefel manifolds. *J. London Math. Soc.* (2) **13** (1976), *no.* 2, 331–335. (K. W. Kwun) **53** #11613 55G40

Alternative homotopy theories. *Enseignement Math.* (2) **23** (1977), *no.* 3-4, 221–237. (J. Stasheff) **58** #2806 55D99 (55E40, 55F05)

mes, K. R. Convergence of matrix iterations subject to diagonal dominance. *SIAM J. Numer. Anal.* **10** (1973), 478–484. (L. J. Lardy) **48** #12795 65F10

(*with* Riha, W.) Convergence criteria for successive overrelaxation. *SIAM J. Numer. Anal.* **12** (1975), 137–143. (L. Hageman) **53** #4503 65F10

mes, L. (*with* Stott, S.) On the choice of an algorithm for estimating parameters of a dynamic system. *Towards global optimisation* (*Proc. Workshop, Univ. Cagliari, Cagliari*, 1974), *pp.* 258–276. *North-Holland, Amsterdam*, 1975. (J. Mockus) **53** #10387 93B30 (93E10)

mes, Lee O. (*with* Stanton, Ralph G.; Cowan, D. D.) Some results on tree numbers. *Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1971), *pp.* 317–330. *Louisiana State Univ., Baton Rouge, La.*, 1971. (A. Mowshowitz) **47** #6557 05C99

(*with* Stanton, Ralph G.) Numerical determination of covering designs. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont.*, 1971), *pp.* 219–230. *Lakehead Univ., Thunder Bay, Ont.*, 1971. (R. C. Mullin) **48** #8273 05B30

(*with* Luginbuhl, E.; Thomas, R. S. D.) On notations for non-permuting braids. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont.*, 1971), *pp.* 457–470. *Lakehead Univ., Thunder Bay, Ont.*, 1971. (J. S. Birman) **51** #9044 55A25 (20F05)

(*with* Stanton, Ralph G.; Cowan, D. D.) Tripartite path numbers. *Graph theory and computing*, *pp.* 285–294. *Academic Press, New York*, 1972. (H. V. Kronk) **49** #7180 05C35

(*with* Stanton, Ralph G.; Cowan, D. D.) Graph decomposition for undirected graphs. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 281–290. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. (E. A. Nordhaus) **50** #4397 05C99

(*with* Stanton, Ralph G.) From covering designs to graphs. *Aequationes Math.* **8** (1972), 76–81. (K. Vijayan) **46** #3352 05B40

(*with* Arnason, A. Neil) A true random number generator for the IBM 360 machine. *Proceedings of the Fourth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1973), *pp.* 357–380. *Utilitas Math., Winnipeg, Man.*, 1973. (Leon Levy) **50** #3525 65C10

A combinatorial proof that the Moore (7, 2) graph is unique. *Utilitas Math.* **5** (1974), 79–84. (E. A. Nordhaus) **50** #4398 05C99

mes, M. The generalised inverse. *Math. Gaz.* **62** (1978), *no.* 420, 109–114. (Thomas L. Boullion) **58** #5710 15A09

stings-James, R. *See* **Hastings-James, R.**

James, R. A. The solution of Poisson's equation for isolated source distributions. *J. Computational Phys.* **25** (1977), *no.* 2, 71–93. (Christopher Caldwell) **58** #8373 65N99 (65T05)

James, R. W. New tensor spherical harmonics, for application to the partial differential equations of mathematical physics. *Philos. Trans. Roy. Soc. London Ser. A* **281** (1976), *no.* 1302, 195–221. (H. W. Guggenheimer) **55** #3358 33A45 (35Q99)

James, Ralph L. Uniform convergence of positive operators. *Math. Z.* **120** (1971), 124–142. (Ja. Rutickiĭ (RŽMat **1971** #10 B551)) **56** #6333 46A40 (47B55)

The extension and convergence of positive operators. *J. Approximation Theory* **7** (1973), 186–197. (John W. Lee) **50** #2771 41A35

Korovkin sets in locally convex function spaces. *J. Approximation Theory* **12** (1974), 205–209. (D. E. Wulbert) **50** #7915 41A65

James, Richard M. On the remarkable accuracy of the vortex lattice method. *Comput. Methods Appl. Mech. Engrg.* **1** (1972), 59–79. (Radu Bădescu) **54** #11967 76.45

James, Robert C. Some self-dual properties of normed linear spaces. *Symposium on Infinite-Dimensional Topology* (*Louisiana State Univ., Baton Rouge, La.*, 1967), *pp.* 159–175. *Ann. of Math. Studies, No.* 69, *Princeton Univ. Press, Princeton, N.J.*, 1972. (B. M. Makarov) **56** #12849 46B10

Super-reflexive Banach spaces. *Canad. J. Math.* **24** (1972), 896–904. (J. P. Williams) **47** #9248 46B10

(*with* Schäffer, Juan Jorge) Super-reflexivity and the girth of spheres. *Israel J. Math.* **11** (1972), 398–404. (A. C. Zaanen) **46** #4175 46B10

Reflexivity and the sup of linear functionals. Proceedings of the International Symposium on Partial Differential Equations and the Geometry of Normed Linear Spaces (Jerusalem, 1972). *Israel J. Math.* **13** (1972), 289–300 (1973). (T. L. Hicks) **49** #3506 46B10

Quasicomplements. Collection of articles dedicated to J. L. Walsh on his 75th birthday, VI (Proc. Internat. Conf. Approximation Theory, Related Topics and their Applications, Univ. Maryland, College Park, Md., 1970). *J. Approximation Theory* **6** (1972), 147–160. (William B. Johnson) **49** #11189 46B05

Super-reflexive spaces with bases. *Pacific J. Math.* **41** (1972), 409–419. (Rosalind Reichard) **46** #7866 46B15

(*with* Giesy, Daniel P.) Uniformly non-$l^{(1)}$ and *B*-convex Banach spaces. *Studia Math.* **48** (1973), 61–69. (K. Sundaresan) **48** #11994 46B05

A separable somewhat reflexive Banach space with nonseparable dual. *Bull. Amer. Math. Soc.* **80** (1974), 738–743. (Edward W. Odell) **54** #5811 46B10

A nonreflexive Banach space that is uniformly nonoctahedral. *Israel J. Math.* **18** (1974), 145–155. (W. J. Davis) **50** #8012 46B05

(*with* Lindenstrauss, Joram) The octahedral problem for Banach spaces. *Proceedings of the Seminar on Random Series, Convex Sets and Geometry of Banach Spaces* (*Mat. Inst., Aarhus Univ., Aarhus*, 1974; *dedicated to the memory of E. Asplund*), *pp.* 100–120. *Various Publ. Ser., No.* 24, *Mat. Inst., Aarhus Univ., Aarhus*, 1975. (A. S. Gleit) **53** #3647 46B05

Quasi-reflexive Banach spaces. *Séminaire Maurey-Schwartz* (1975–1976), *Espaces* L^p *applications radonifiantes et géométrie des espaces de Banach*, *Exp. No.* 25, 8 *pp.* *Centre Math., École Polytech., Palaiseau*, 1976. (Y. Benyamini) **57** #17225 46B05

Banach spaces quasi-reflexive of order one. *Studia Math.* **60** (1977), *no.* 2, 157–177. (Yehoram Gordon) **57** #1084 46B10

See also **Dictionary**, **55** #12400

James, Rodney 2-groups of almost maximal class. *J. Austral. Math. Soc.* **19** (1975), 343–357. (G. S. Mikaeljan) **52** #3318 20D15

James, Sidney N. *See* **Applications of Walsh functions**, **48** #8080

James, Thomas R. The *G*(*m*)-spaces and other related topics. *Set-theoretic topology* (*Papers, Inst. Medicine and Math., Ohio Univ., Athens, Ohio*, 1975-1976), *pp.* 255–264. *Academic Press, New York*, 1977. (C. M. Pareek) **55** #13391 54E99

James II of England *See* **Débarbat, S.**, **58** #10040

Jameson, Antony (*with* Kreindler, Eliezer) Conditions for nonnegativeness of partitioned matrices. *IEEE Trans. Automatic Control* **AC-17** (1972), 147–148. (A. R. Amir-Moéz) **49** #2803 15A48

(*with* Kreindler, Eliezer) Optimality of linear control systems. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 3, 349–351. (Authors' summary) **55** #7502 93C05

(*with* Kreindler, Eliezer) On criteria for closed-loop sensitivity reduction. *J. Math. Anal. Appl.* **37** (1972), 457–466. (R. Gabasov (RŽMat **1972** #8 B539)) **52** #10133 93B35

(*with* Kreindler, Eliezer) On sensitivity reduction in nonlinear feedback systems. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp.* 131–136. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (B. J. Leon) **50** #12359 93B35

(*with* Kreindler, Eliezer) Inverse problem of linear optimal control. *SIAM J. Control* **11** (1973), 1–19. (Jan C. Willems) **47** #9387 49B10

(*with* O'Malley, Robert E., Jr.) Cheap control of the time-invariant regulator. *Appl. Math. Optim.* **1** (1974/75), *no.* 4, 337–354. (È. G. Al'breht) **55** #7530 (EA **55/56**) 93D15 (34H05)

Iterative solution of transonic flows over airfoils and wings, including flows at Mach 1. *Comm. Pure Appl. Math.* **27** (1974), 283–309. (I. O. Bohachevsky) **51** #12130 76.65

(*with* O'Malley, Robert E., Jr.) Singular perturbations and singular arcs. I. *IEEE Trans. Automatic Control* **AC-20** (1975), 218–226. (B. P. Molinari) **55** #8508 34H05 (49A10)

Numerical solution of nonlinear partial differential equations of mixed type. *Numerical solution of partial differential equations, III* (*Proc. Third Sympos.* (*SYNSPADE*), *Univ. Maryland, College Park, Md.*, 1975), *pp.* 275–320. *Academic Press, New York*, 1976. (Joseph Oliger) **57** #8093 65P05

(*with* O'Malley, Robert E., Jr.) Singular perturbations and singular arcs. II. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 328–337. (B. P. Molinari) **57** #13064 34H05 (93C10)

See also **Computing methods in applied sciences and engineering**, **49** #4198

Jameson, David L. *See* **Multivariate statistical methods: within-groups covariation**, **52** #2028

Jameson, Graham ★Ordered linear spaces. Lecture Notes in Mathematics, Vol. 141. *Springer-Verlag, Berlin-New York*, 1970. xv + 194 *pp*. (A. J. Ellis) **55** #10996 46A40

Some short proofs on subseries convergence. *Amer. Math. Monthly* **79** (1972), 53–55. (T. A. Cook) **46** #2379 46A05

A variant of a theorem of Sierpiński concerning partitions of continua. *Colloq. Math*. **25** (1972), 79–80. (M.-E. Hamstrom) **46** #6284 54D05

Convex series. *Proc. Cambridge Philos. Soc*. **72** (1972), 37–47. (D. R. Henney) **47** #772 46A99 (52A05)

The weak-star closure of the unit ball in a hyperplane. *Proc. Edinburgh Math. Soc*. (2) **18** (1972/73), 7–11. (J. V. Ryff) **47** #9249 46B10

The duality of pairs of wedges. *Proc. London Math. Soc*. (3) **24** (1972), 531–547. (H. Gordon) **45** #7440 46A40

A problem on series. *Amer. Math. Monthly* **80** (1973), 1119. (Editors) **48** #9160 40A05

Unconditional convergence in partially ordered linear spaces. *Math. Ann*. **200** (1973), 227–233. (F. Cunningham, Jr.) **48** #11982 46A40

★Topology and normed spaces. *Chapman and Hall, London*; *Halsted Press* [*John Wiley & Sons*], *New York*, 1974. xv + 408 *pp*. (K. Kutzler (Zbl **285** #46002)) **57** #3828 46B05 (54–01)

An elementary proof of the Arens and Borsuk extension theorems. *J. London Math. Soc*. (2) **14** (1976), *no*. 2, 364–368. (J. Dugundji) **55** #1287 54C20

Whiteley's technique and K_δ-subspaces of Banach spaces. *Amer. Math. Monthly* **84** (1977), *no*. 6, 459–461. (N. J. Kalton) **57** #1073 46A45

Jamet, Pierre A finite difference scheme and an existence theorem for a nonlinear hyperbolic system of differential equations. *SIAM J. Numer. Anal*. **8** (1971), 524–535. (P. Gordon) **46** #6607 65M05

(*with* Raviart, Pierre-Arnaud) Numerical solution of the stationary Navier-Stokes equations by finite element methods. *Computing methods in applied sciences and engineering* (*Proc. Internat. Sympos., Versailles*, 1973), *Part* 1, *pp*. 193–223. *Lecture Notes in Comput. Sci., Vol*. 10, *Springer*, *Berlin*, 1974. (Joachim A. Nitsche) **56** #7256 65N30

Un théorème permettant d'estimer l'erreur d'interpolation dans un domaine variable. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no*. 21, Aii, A909–A911. (D. C. Gilles) **53** #6980 65D05 (41A65)

Estimation d'erreur pour des éléments finis quadrilatéraux de type Q_1 qui peuvent dégénérer en triangles. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no*. 22, Aii, A983–A984. (Marc Duc-Jaquet) **52** #9564 65D05

(*with* Bonnerot, R.) Numerical solution of the Eulerian equations of compressible flow by a finite element method which follows the free boundary and the interfaces. *J. Computational Phys*. **18** (1975), 21–45. (M. G. Hall) **52** #2406 76.65

Estimations d'erreur pour des éléments finis droits presque dégénérés. (Loose English summary) *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Rouge Anal. Numér*. **10** (1976), *no*. R-1, 43-60. (Gilbert Strang) **56** #13521 65D10

Estimation de l'erreur d'interpolation dans un domaine variable et application aux éléments finis quadrilatéraux dégénérés. *Méthodes numériques en mathématiques appliquées* (*Sém. Math. Sup., Quatorzième Session, Univ. Montréal, Montreal, Que*., 1975), *pp*. 55–100. *Sém. Math. Sup., No*. 60, *Les Presses Univ. Montréal, Montreal, Que*., 1977. (Gilbert Strang) **56** #4196 65N30 (65G05, 65N15)

Éléments finis espace-temps pour la résolution numérique de problèmes de frontières libres. *Méthodes numériques en mathématiques appliquées* (*Sém. Math. Sup., Quatorizième Session, Univ. Montréal, Montreal, Que*., 1975), *pp*. 101–124. *Sém. Math. Sup., No*. 60, *Les Presses Univ. Montréal, Montreal, Que*., 1977. (N. N. Janenko) **56** #13714 65N30 (76.65)

(*with* Bonnerot, R.) Numerical computation of the free boundary for the two-dimensional Stefan problem by space-time finite elements. *J. Computational Phys*. **25** (1977), *no*. 2, 163–181. (A. R. Mitchell) **57** #14506 65N30

Estimation of the interpolation error for quadrilateral finite elements which can degenerate into triangles. *SIAM J. Numer. Anal*. **14** (1977), *no*. 5, 925–930. (P. G. Ciarlet) **56** #17137 65N30 (41A05)

Jami, Adrien (*with* Lenoir, Marc) Formulation variationnelle pour le couplage entre une méthode d'éléments finis et une représentation intégrale. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no*. 4, A269–A272. (Authors' summary) **56** #17138 65N30

(*with* Euvrard, Daniel; Morice, C.; Ousset, Y.) Calcul numérique des oscillations d'un navire engendrées par la houle. I. Le problème tridimensionnel et l'approximation des tranches. (English summary) *J. Mécanique* **16** (1977), *no*. 2, 289–326. (David M. Burley) **58** #14345a 76.65 (76.35)

(*with* Euvrard, Daniel; Morice, C.; Ousset, Y.) Calcul numérique des oscillations d'un navire engendrées par la houle. II. Les méthodes numériques. (English summary) *J. Mécanique* **16** (1977), *no*. 3, 327–394. (David M. Burley) **58** #14345b 76.65 (76.35)

Jamieson, Dale W. (*with* Teutsch, Ralph J.) Hockett on effective computability. *Found. Language* **11** (1974), 287–293. (Ju. V. Matijasevič) **57** #9467 02A05 (02E10)

Jamieson, M. J. (*with* O'Beirne, T. H.) A note on the generalisation of Aitken's δ^2 transformation. *J. Phys. B* **11** (1978), *no*. 2, L31–L35. (Thomas A. Atchison) **57** #7931 65B10

Jamiołkowski, A. Linear transformations which preserve trace and positive semidefiniteness of operators. *Rep. Mathematical Phys*. 3 (1972), *no*. 4, 275–278. (S. Newberger) **49** #7283 15A48 (47B99)

An effective method of investigation of positive maps on the set of positive definite operators. *Rep. Mathematical Phys*. **5** (1974), 415–424. (S. Newberger) **52** #16381 81.47

Jamison, Benton A result in Doeblin's theory of Markov chains implied by Suslin's conjecture. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 287–293. (W. E. Pruitt) **50** #3352 60J10

(*with* Sine, Robert) Sample path convergence of stable Markov processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 173–177. (Michael Lin) **50** #11451 60J05 (60J30)

Reciprocal processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **30** (1974), 65–86. (Mamoru Kanda) **50** #11471 60J35

A Martin boundary interpretation of the maximum entropy argument. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **30** (1974), 265–272. (J. L. Doob) **53** # 60A05 (60J50)

The Markov processes of Schrödinger. *Z. Wahrscheinlichkeitstheorie und Gebiete* **32** (1975), *no*. 4, 323–331. (D. W. Stroock) **52** #4436 60J60 (60G30)

Jamison, Dean T. Bayesian information usage. *Information and inference*, *pp*. 2 *Reidel, Dordrecht*, 1970. (I. J. Good) **46** #8333 62A15

(*with* Luce, Edward) Social homogeneity and the probability of intransitive majority rule. *J. Econom. Theory* **5** (1972), *no*. 1, 79–87. (From the authors' introduction) **56** #8090 92A20 (90A05)

(*with* Lau, Lawrence J.) Semiorders and the theory of choice. *Econometric* (1973), 901–912. (Authors' summary) **55** #14081a (E **55** #14081b) 90A05 (92

(*with* Lau, Lawrence J.) Correction: "Semiorders and the theory of choice" (Econometrica **41** (1973), 901–912). *Econometrica* **43** (1975), *no*. 5–6, 979–980. (Author's summary) **55** #14081b 90A05

(*with* Lau, Lawrence J.) The nature of equilibrium with semiordered prefere *Econometrica* **45** (1977), *no*. 7, 1595–1605. (A. Karmann) **58** #15050 90A15

Jamison, James E. (*with* Fleming, Richard J.) Isometries on certain Banach space *London Math. Soc*. (2) **9** (1974/75), 121–127. (P. Wojtaszczyk) **50** #14178 4 (46E30)

(*with* Fleming, Richard J.) Hermitian and adjoint Abelian operators on ce Banach spaces. *Pacific J. Math*. **52** (1974), 67–84. (Mary R. Embry) **50** #108 47B15

(*with* Berkson, Earl; Fleming, Richard J.) Groups of isometries on certain idea Hilbert space operators. *Math. Ann*. **220** (1976), *no*. 2, 151–156. (Norberto Sal **53** #14218 47D10 (46L05)

(*with* Fleming, Richard J.; Goldstein, Jerome A.) One parameter groups of isometries on certain Banach spaces. *Pacific J. Math*. **64** (1976), *no*. 1, 145–151. (M Rao) **54** #3372 46B99 (47D10)

(*with* Fleming, Richard J.) Adjoint Abelian operators on L^p and $C(K)$. *Tr Amer. Math. Soc*. **217** (1976), 87–98. (A. R. Sourour) **52** #15082 47B37

(*with* Fleming, Richard J.) Classes of operators on vector valued integration spa *J. Austral. Math. Soc. Ser. A* **24** (1977), *no*. 2, 129–138. (R. G. Bartle) **58** #24 47B15 (46G10, 47B37)

(*with* Fleming, Richard J.) On a conjecture of Istrăţescu. *Rev. Roumaine M Pures Appl*. **22** (1977), *no*. 7, 921–925. (F. H. Szafraniec) **58** #23746 47B99

Jamison, Robert E. (*with* Stavrakas, Nick M.) On a problem of Klee. *Canad. Math.* **14** (1971), 125–126. (D. Barnette) **45** #2570 52A05 (46A15)

(*with* Stavrakas, Nick M.) Valentine's extensions of Tietze's theorem on convex *Proc. Amer. Math. Soc*. **36** (1972), 229–230. (F. A. Valentine) **46** #9861 52A05

A quick proof for a one-dimensional version of Liapounoff's theorm. *Amer. M Monthly* **81** (1974), 507–508. (William Eames) **49** #3068 28A10

Functional representation of algebraic intervals. *Pacific J. Math*. **53** (1974), 399–423. (R. Arens) **51** #1398 46H05 (46E15)

(*with* Clarke, Frank H.) Multicolorings, measures and games on graphs. *Disc Math*. **14** (1976), *no*. 3, 241–245. (Authors' summary) **52** #10472 05C15

(*with* Ruckle, William H.) Factoring absolutely convergent series. *Math. Ann.* (1976), *no*. 2, 143–148. (T. Figiel) **55** #8747 46A45

(*with* O'Brien, Richard C.; Taylor, Peter D.) On embedding a compact convex into a locally convex topological vector space. *Pacific J. Math*. **64** (1976), *no* 193–205. (D. R. Henney) **54** #13532 46A99

Contractions of convex sets. *Proc. Amer. Math. Soc*. **62** (1976), *no*. 1, 129– (1977). (Roy M. Rakestraw) **55** #1220 52A05 (02H25)

Some intersection and generation properties of convex sets. *Compositio Math.* (1977), *no*. 2, 147–161. (John D. Baildon) **57** #10611 52A35 (46A99)

Covering finite fields with cosets of subspaces. *J. Combinatorial Theory Ser. A* (1977), *no*. 3, 253–266. (Stanley E. Payne) **55** #12550 05B40

Tietze's convexity theorem for semilattices and lattices. *Semigroup Forum* (1977/78), *no*. 4, 357–373. (Jimmie D. Lawson) **58** #2142 46A40 (06A20)

Jammel, A. *See* **Jahrestagung: Gesellschaft für Informatik**, **48** #1502

Jammer, Max Werner Heisenberg (1901–1976). *Z. Allgemeine Wissenschaftstheorie* **7** (1976), *no*. 1, 1–10. (Editors) **58** #21300 01A70

Jamnik, Rajko Paarweise unabhängige zufällige Grössen auf abzählbar unendlichen Wahrscheinlichkeitsfeldern. (Slovenian summary) *Publ. Dept. Math*. (*Ljubljana*) **6** (1971/73), 81–85 (1974). (J. G. Wendel) **48** #9785 60A10

★Teorija iger. (Slovenian) [Game theory] Reprint. Knjižnica Sigma, No. 1 [Sigma Library, No. 13a] *Državna Založba Slovenije, Ljubljana*, 1973. 255 *pp*. (Editc **50** #12282 90Dxx

★Elementi teorije informacije. (Slovenian) [Foundations of information theor Reprint. Knjižnica Sigma, No. 10a. [Sigma Library, No. 10a] *Državna Založba Sloven Ljubljana*, 1974. 175 *pp*. (Editors) **50** #12449 94A15

Mathematical statistics. (Slovenian. English summary) *Obzornik Mat. Fiz*. **21** (1974), 68–76. (Editors) **56** #9745 62–01

Game theory. (Slovenian. English summary) *Obzornik Mat. Fiz*. **21** (1974), 77– (Editors) **56** #4861 90Dxx

See also **Vidav, Ivan**, **52** #2

Jamoulle, E. (*with* Doulliez, P. J.) Transportation networks with random arc capacit (Loose French summary) *Rev. Française Automat. Informat. Recherche Opérationnell* (1972), *Sér*. V-3, 45–59. (A. K. Gayen) **49** #8621 90B15

(*with* Doulliez, P. J.) Transportation networks with random arc capacities. *Mathematical programs for activity analysis* (*Rep., Belgo-Israeli Colloq. Operations Re Pope Hadrian VI College, Univ. Louvain, Louvain*, 1972), *pp*. 121–133. *North-Hollan Amsterdam*, 1974. (W.-K. Chen) **52** #7505 90B15

Jampol'skiĭ, V. Z. *See* **Mathematical methods for the solution of economic problems**, **48** #7910 (EA **51**)

Jamrom, B. R. The average number of real roots of a random algebraic polynom (Russian. English summary) *Vestnik Leningrad. Univ*. **1971**, *no*. 19, 152–156. (J. Galambos) **45** #7791 60H99 (26A78)

The average number of real zeros of random polynomials. (Russian) *Dokl. Aka Nauk SSSR* **206** (1972), 1059 1060. (J. G. Wendel) **47** #2666 60G99

shidi, Mohammad On the imbedding solution of a class of optimal control problems. French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 637–640. W. C. Rheinboldt) **48** #10575 93C10

Suboptimal control of coupled time-delay systems. *Internat. J. Control* (1) **17** 1973), 995–1008. (Thomas S. Angell) **49** #10409 93C50

A three-stage design of non-linear control systems with time-delay. *Internat. J. Control* **21** (1975), 753–762. (Thomas S. Angell) **53** #5098 93C15 (49E25)

(*with* Razzaghi, Mohsen) Optimization of linear systems with input time-delay. *Kybernetika* (*Prague*) **11** (1975), *no.* 5, 375–384. (R. Leonard Brown) **56** #4966 93C15

Application of three time-scale near-optimum design to control systems. *Automatic Control Theory Appl.* **4** (1976), *no.* 1, 7–13. (J. P. Babary) **54** #9781 93C99

A feedback near-optimum control for nonlinear systems. *Information and Control* **32** (1976), *no.* 1, 75–84. (Takashi Yahagi) **54** #2279 93C10

(*with* Böttiger, F.) A parameter imbedding solution of algebraic matrix Riccati equation. *Internat. J. Control* **25** (1977), *no.* 2, 271–281. (B. P. Molinari) **56** #7208 55L05 (93C45)

kov, G. I. Estimates for generalized Dudley metrics in spaces of finite-dimensional distributions. (Russian. English summary) With notes by V. M. Zolotarev. *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 3, 590–595. (R. M. Dudley) **56** #16722 60B10

nen Jan *See* **Ten Men Jan**

C. J. A Bertini type theorem in analytic geometry. *J. Reine Angew. Math.* **259** (1973), 132–136. (F. Dress) **48** #3957 13J05

n, Yves *See* **Le Jan, Yves**

, Rabindra Nath (*with* Datta, Nanigopal) Hall effects on hydromagnetic Rayleigh problem in a rotating fluid. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **20(68)** 1976), *no.* 1–2, 63–70 (1977). (K. B. Ranger) **57** #4819 76.44

(*with* Datta, Nanigopal) Oscillatory flow of a dusty gas in a rotating frame. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 1-2, 71–76 (1977). Authors' summary) **56** #17409 76.35

(*with* Datta, Nanigopal) Unsteady flow of a dusty gas due to non-torsional oscillations of a plate in a rotating frame. *Bull. Math. Soc. Sci. Math. R.S. Roumanie* (*N.S.*) **21(69)** (1977), *no.* 3-4, 309–316. (Rishi Ram) **58** #8771 76.44

(*with* Gupta, A. S.; Datta, Nanigopal) Hall effects on the hydromagnetic flow past an infinite porous flat plate. *J. Phys. Soc. Japan* **43** (1977), *no.* 5, 1767–1772. (Authors' summary) **57** #2110 76.35

cek, G. Estimation of the minimum mean square error of prediction. *Biometrika* **62** 1975), 175–180. (Rolf K. Adenstedt) **52** #2100 62M20

it, Ju. A. *See* **Blaquière, Augustin, 50** #9380

kiev, B. Ja. (*with* Marinov, Ju. P.; Žečev, B. Ž.) On error-protecting capability of a communication system with a two-ensemble encoding alphabet. *Second International Symposium on Information Theory* (*Tsahkadsor*, 1971), *pp.* 95–101. *Akadémiai Kiadó, Budapest*, 1973. (Authors' summary) **51** #9966 94A15

kiraman, P. A. (*with* Rao, P. V.) Upper and lower bounds of limit cycles in non-linear discrete data systems. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 3, 239–245. (Michel Cotsaftis) **56** #11297 93D05

kiraman, S. (*with* Rajagopalan, M.) Topologies in locally compact groups. II. *Illinois J. Math.* **17** (1973), 177–197. (K. A. Ross) **47** #3593 22B05 (20K45)

Skew projective abelian groups. *Nederl. Akad. Wetensch. Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 233–236. (P. L. Sperry) **48** #440 20K15

A note on abelian groups. *J. Madurai Univ.* **5** (1976), 86–88. (Delmar L. Boyer) **56** #12147 20K99

(*with* Rangaswamy, K. M.) Strongly pure subgroups of abelian groups. *Group theory* (*Proc. Miniconf., Australian Nat. Univ., Canberra*, 1975), *pp.* 57–65. *Lecture Notes in Math., Vol.* 573, *Springer, Berlin*, 1977. (J. Werth, Jr.) **56** #5748 20K99

akov, G. S. The transformation of the Fourier series of certain classes of functions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **84** (1976), *no.* 1, 33–36. (M. Tomić) **55** #8667 42A20

rdan, Konanur G. (*with* Patil, G. P.) The multivariate inverse Polya distribution: a model of contagion for data with multiple counts in inverse sampling. *Studi di probabilità, statistica e ricerca operativa in onore di Giuseppe Pompilj, pp.* 327–341. *Edizioni Oderisi, Gubbio*, 1971. (Ramesh C. Gupta) **51** #7098 62E99

(*with* Patil, G. P.) A unified approach for a class of multivariate hypergeometric models. *Sankhyā Ser. A* **34** (1972), 363–376. (Ramesh C. Gupta) **49** #10052 62H05

(*with* Patil, G. P.) On multivariate modified Polya and inverse Polya distributions and their properties. *Ann. Inst. Statist. Math.* **26** (1974), 271–276. (V. R. R. Uppuluri) **52** #12204 62H05

A characterization of multinomial and negative multinomial distributions. *Scand. Actuar. J.* **1974**, 58–62. (Mir Ali) **49** #10047 62H05

Certain inference problems for multivariate hypergeometric models. *Comm. Statist.* **4** (1975), 375–387. (P. Fortunati) **52** #4507 62F15

Markov-Pólya urn models with predetermined strategies. I. *Gujarat Statist. Rev.* **2** (1975), *no.* 1, 17–32. (G. C. Jain) **52** #12038 62E10 (60C05)

Certain estimation problems for multivariate hypergeometric models. *Ann. Inst. Statist. Math.* **28** (1976), *no.* 3, 429–444. (C. J. Park) **55** #11475 62F10

A hypergeometric random walk dependent upon a predetermined point of attraction. *Gujarat Statist. Rev.* **3** (1976), *no.* 2, 16–20. (S. G. Mohanty) **56** #1538 62E15 (60J15)

(*with* Schaeffer, David J.) A generalization of Markov-Pólya distribution, its extensions and applications. (German summary) *Biometrical J.* **19** (1977), *no.* 2, 87–106. (Graham J. G. Upton) **55** #9358 62E10 (62P99)

Random walks associated with Markov-Polya urn schemes with a predetermined point of attraction. (German summary) *Biometrical J.* **19** (1977), *no.* 3, 175–179. (G. C. Jain) **57** #1657 60J15

Distribution of the sum of independent zero-truncated linear function Poisson random variables. *Biometrical J.* **20** (1978), *no.* 2, 115–117. (Author's summary) **58** #24657 62E15

as, Jan The Szegö type property of the (Q, ϕ) dilations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 355–357. (J. B. Miller) **46** #2454 47A20

A note on the von Neumann inequality. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 691–694. (T. T. Long) **49** #1201 47B37

Semi-spectral integrals and related mappings. *Studia Math.* **46** (1973), 301–313. (Edward Azoff) **49** #1194 47B15 (46G10)

Note on the spectrum and joint spectrum of hyponormal and Toeplitz operators. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 9, 957–961. (F.-H. Vasilescu) **55** #13276 47B20

Note on the joint spectrum of the Wiener-Hopf operators. *Proc. Amer. Math. Soc.* **50** (1975), 303–308. (J. W. Bunce) **51** #11173 47B35

Toeplitz operators related to certain domains in C^n. *Studia Math.* **54** (1975), *no.* 1, 73–79. (D. N. Clark) **52** #11650 (E **57** #17364) 47B35 (32A07)

Index formula for Toeplitz operators in certain strongly pseudoconvex domains. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 6, 433–436. (D. N. Clark) **54** #8744 58G10 (47B35, 32A10)

Some results on the operators of multiplication in Hilbert spaces of holomorphic functions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 8, 581–588. (L. J. Wallen) **54** #13620 47B37

An application of the theorem of Rudin to the Toeplitz operators on odd spheres. *Math. Z.* **150** (1976), *no.* 2, 185–187. (Charles Horowitz) **58** #2423 47B35 (32A30)

Toeplitz operators for a certain class of function algebras. *Studia Math.* **55** (1976), *no.* 2, 157–161. (J. W. Bunce) **54** #999 47B35

See also **Yabuta, Kôzô, 57** #17364

Janbihs, G. (*with* Kogan, B. I.) The construction of optimal graphs of the circulation of airplanes. (Russian) *Èkonom. i Mat. Metody* **5** (1969), 890–895. (Authors' introduction) **46** #10392 90B10

An application of the "branch and bound" method to the optimization of a network of computing centers. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no.* 1, 53–57. (D. Obradović) **46** #8658 90C10

(*with* Stoljarov, B. A.) Optimization of a multilevel centralized information transmission network. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 6, 49–54. (Authors' summary) **57** #11950 94A20

(*with* Bober, V. I.) Optimization of a hierarchic network of computing centers. (Russian) *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 1, 108–114. **55** #2256 93C99

(*with* Stoljarov, B. A.) Optimization of the structure of multiprogrammed computer systems for solving sets of dependent tasks. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 6, 62–69, 95. (Jacek Błażewicz) **57** #11714 90B35 (68A99)

Janbulatov, D. M. (*with* Cirel'man, N. M.) Application of a variational method for the solution of nonstationary heat conduction problems. *Inž.-Fiz. Ž.* **27** (1974), *no.* 1, 138–144 (*Russian*); *translated as J. Engrg. Phys.* **27** (1974), *no.* 1, 892–896 (1976). (S. Bhargava) **53** #2153 80.49

(*with* Cirel'man, N. M.) Variational solution of third boundary-value problem of heat conduction. *Inž.-Fiz. Ž.* **27** (1974), *no.* 2, 351–357 (*Russian*); *translated as J. Engrg. Phys.* **27** (1974), *no.* 2, 1030–1034 (1976). (S. Bhargava) **53** #2154 80.49

Janbyh, G. F. *See* **Janbihs, G.**

Jančak, V. A. The expansion of functions of a mixed class in a series of algebraic polynomials. (Russian) Collection of articles dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, II. *Trudy Mat. Inst. Steklov.* **128** (1972), 242–256, 262. (K. Karták) **47** #9124 41A10

Jančak, V. Ja. *See* **Collection: Vinogradov, I. M., 49** #7050

Jančařík, A. Simplified calculation of the partial correlation coefficient. *Biometrische Z.* **15** (1973), 245–246. **48** #9896 62-01

Jančev, I. D. Invariants of a pair of manifolds that are generated by one-parameter systems of lines and planes in P_4. (Bulgarian) *Naučn. Trud. Visš. Inst. Mašinostroen. Meh. Elektrifikac. Selsk. Stopanstv.—Ruse. Ser.* 8 *Obščoteoret. Prilož. Nauki* (*Mat. Meh. Mašinoznan. Teor. Eksperiment.*) **17** (1975), 67–70. (See RŽMat **1977** #7 A626) 53A20

Jančev, Ivan Riccati systems of curves on a nondevelopable ruled surface. (Czech. Russian and English summaries) *Sb. Vysoké. Učení Tech. v Brně* **1971**, 171–175. (A. Urban) **50** #11047 53A20

Jancevič, A. A. (*with* Livšic, M. S.) ★Теория операторных узлов в гильбертовых пространствах. (Russian) [Theory of operator colligations in Hilbert spaces] *Izdat. Har'kov. Univ., Kharkov*, 1971. 160 *pp.* (Editors) **58** #30342a 46N05 (47A65, 53B20, 60G99, 93A10)

(*with* Klebanova, G. B.) On an interpolation problem for random fields. (Russian) *Mat. Fiz. i Funkcional. Anal. Vyp.* 2 (1971), 41–44, 236. (Authors' summary) **56** #13344 60G17

(*with* Aleksandrov, Ju. A.) Representation of the density of the probability distribution of stationary random processes with after-effect by orthogonal series. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 66 (1971), 39–46. (H. Salehi) **46** #8287 60G10

(*with* Aleksandrov, Ju. A.) Random processes with after-effect and certain of their applications. Fundamental relations. I. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 66 (1971), 47–59. (K. Wickwire) **46** #8725 93E10

(*with* Aleksandrov, Ju. A.) Random processes with after-effect and certain of their applications. Optimal detection, filtration and control. II. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 66 (1971), 60–93. (K. Wickwire) **46** #8726 (E **54** #7089) 93E10

(*with* Aleksandrov, Ju. A.) Optimal filtration of signals and control of linear objects. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 67 (1971), 79–98. (K. Wickwire) **45** #9770 93E10

(*with* Aleksandrov, Ju. A.) Stochastic differential games. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 67 (1971), 99–110. (K. Wickwire) **45** #9706 93E05

(*with* Aleksandrov, Ju. A.) Constructive methods in the theory of quasi-Markov processes. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 83 *Mat. i Meh. Vyp.* 37 (1972), 67–77, 122. (Petr Mandl) **48** #9843 60H10

(*with* Aleksandrov, Ju. A.) S. N. Bernšteĭn's stochastic bridges. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 83 *Mat. i Meh. Vyp.* 37 (1972), 77–85, 122. (Petr Mandl) **49** #1606 60J99

(*with* Aleksandrov, Ju. A.) Corrections: "Random processes with after-effect and certain of their applications. Optimal detection, filtration and control. II" (Vestnik

Har′kov. Gos. Univ. No. 66 (1971), 60–93). (Russian) *Vestnik Har′kov. Gos. Univ. No.* 83 *Mat. i Meh. Vyp.* 37 (1972), 119. (Editors) **54** #7089 93E99

Operator *J*-colligations and associated open systems. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 17 (1973), 215–220, 247. (T. Ja. Azizov) **48** #9431 47A65

A class of nonselfadjoint operators with a two-dimensional imaginary component. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 28 (1977), 124–127, iv. (Andrei Rácz) **56** #6442 47A65

(*with* Livšic, M. S.) ★Operator colligations in Hilbert spaces. Edited and with a foreword by Ronald G. Douglas. Translated from the Russian. *V. H. Winston & Sons, Washington, D.C.; A Halsted Press Book, John Wiley & Sons, New York-Toronto, Ont.-London,* 1979. xiii + 212 *pp. ISBN* 0-470-26541-8 (Editors) **58** #30342b 46N05 (47A65, 53B20, 60G99, 93A10)

Jančevskiĭ, V. I. (*with* Platonov, V. P.) The structure of unitary groups and of the commutants of a simple algebra over global fields. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 541–544. (K. W. Roggenkamp) **47** #8714 20G30 (16A28)

Sfields with involutions, and symmetric elements. (Russian) *Dokl. Akad. Nauk BSSR* **18** (1974), 104–107, 186. (P. M. Cohn) **49** #2833 16A40

Simple algebras with involutions, and unitary groups. (Russian) *Mat. Sb.* (*N.S.*) **93 (135)** (1974), 368–380, 487. (Author's summary) **55** #12701 12A80 (16A40)

(*with* Platonov, V. P.) On a conjecture of Harder. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 4, 784–787. (P. M. Cohn) **52** #349 12B20 (12A60, 16A40, 20G10)

Commutants of simple algebras with a surjective reduced norm. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 5, 1056–1058. (P. M. Cohn) **52** #5729 16A40 (12A60, 12A80)

(*with* Platonov, V. P.) The Kneser-Tits conjecture for the unitary groups. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 1, 48–51. (J.-E. Bertin) **53** #635 20G15 (10C30, 16A64)

Division algebras over Henselian discretely valued fields. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 11, 971–974, 1051. (J. S. Joel) **55** #5685 16A40 (12A80, 12G99, 13J15)

Division algebras over Henselian discretely valued fields, and the Tannaka-Artin problem. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 2, 281–283. (J. S. Joel) **55** #2850 12A80 (16A40, 12A60)

Reduced unitary *K*-theory. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 6, 1332–1334. (J. S. Joel) **55** #12760 16A40 (20G30, 12A80)

Jancewicz, Bernard On some operator gradient transformation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 79–84. (Y. Kato) **46** #1249 81.47

(*with* Jadczyk, A. Z.) Maximal localizability of photons. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 477–484. (George Zipfel, Jr.) **48** #5551 81.47

Multiparticle eigenvectors for relativistic position operators. *Rep. Mathematical Phys.* **8** (1975), *no.* 2, 181–202. (Lawrence E. Thomas) **55** #1979 81.47

Operator density current and relativistic localization problem. *J. Mathematical Phys.* **18** (1977), *no.* 12, 2487–2494. (Author's summary) **58** #32585 81.47

(*with* Cegła, Wojciech) Representations of relativistic causality structure by an operator density current. *Rep. Mathematical Phys.* **11** (1977), *no.* 1, 53–63. (C. W. Kilmister) **55** #11823 81.06

Jančuk, L. F. (*with* Grudo, È. I.) Limit points of the solutions of completely integrable autonomous Pfaffian systems in the neighborhood of a stationary point. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 9, 1552–1556, 1723. (K. R. Schneider) **56** #739 34C05 (34D05)

(*with* Grudo, È. I.) Inequalities of Gronwall, Bihari and Langenhop type for Pfaffian systems. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 4, 749–752, 775. (C. E. Langehop) **57** #6575 34A40

Janczar, Bogdan The structure of boundary functions in the classes $\mathfrak{S}^M$ and $\mathfrak{M}^M$. *Demonstratio Math.* **5** (1973), 17–27. (Harry B. Coonce) **48** #2362 30A32

z_0-quasi-convex functions. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódź. No.* 186 *Mat. No.* 5 (1974), 27–42. (M. Reade) **57** #9953 30A32

On quasi-convex functions. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódz. Mat. No.* 7 (1976), 37–58. (Michael R. Ziegler) **55** #5850 30A32

Extremal problems in the class of z_0-quasi-convex functions. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódź. No.* 245 *Mat. No.* 8 (1976), 61–68. (S. Ruscheweyh) **54** #10588 30A32

Janczewski, L. J. Geometrical approach to multivalued logic function synthesis. *Conference Record of the International Symposium on Multiple-Valued Logic* (*Univ. Toronto, Toronto, Ont.*, 1973), *pp.* 106–118. *Office of Naval Res., Arlington, Va.*, 1973. (David C. Rine) **52** #2761 94A20

Janda, Jaroslav Über die Kategorie der Menge stetiger Funktionen, welche Differentialgleichungen ohne Eindeutigkeit bestimmen. *Czechoslovak Math. J.* **23(98)** (1973), 30–33. (Heinrich Steinlein) **47** #3727 (EA **58**) 34A10 (46E10, 58D99)

Janda, Ryszard (*with* Kuśmierz, Grażyna) A method for the application of the program-generator of an arbitrary language written in Backus normal form as an acceptor of that language. (Polish. Russian and English summaries) *Algorytmy* **11**, *no.* 20, 85–135 (1974). (Andrzej Blikle) **52** #4725 68A30

Jandarov, V. O. (*with* Mudraev, H. M.) Some classes of abstract and operator-valued functions. (Russian) *Methods of the theory of analytic functions* (*Russian*), *pp.* 9–12, *Severo-Oset. Gos. Univ., Ordzhonikidze*, 1974. (See RŽMat **1975** #6 B957) 46E40

Topological conditions for the imbedding of certain classes of vector-valued functions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **78** (1975), *no.* 1, 41–44. (A. J. Lazar) **52** #8918 46E40

Some properties of holomorphic mappings with values in a topological vector space. (Russian) *Mapping methods* (*Russian*), *pp.* 69–76. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (Editors) **58** #23589 46G20 (32A30)

(*with* Murdaev, H. M.) A study of a completely continuous operator. (Russian) *Mapping methods* (*Russian*), *pp.* 76–81. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (N. K. Karapetjanc) **58** #7216 47G05

A problem of Riemann-I. N. Vekua type. (Russian) *Mapping methods* (*Russian*), *pp.* 87–94. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (P. Ju. Alekna) **58** #6272 30

A theorem of Academician L. V. Kantorovič on quadrature formulas. (Rus *Mapping methods* (*Russian*), *pp.* 94–97. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (Gheorghe Coman) **58** #1908 41A55

A theorem of Academician L. V. Kantorovič. (Russian) *Mapping methods* (*Russian*), *pp.* 97–100. *Čečeno-Inguš. Gos. Univ., Groznyĭ*, 1976. (S. G. Samko) **58** #30508 47G05 (47B05)

Topological properties of certain classes of continuous functions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **83** (1976 3, 537–540. (A. Kufner) **57** #13461 46E15

(*with* Murdaev, H. M.) Theorems on compactness and weak convergence in ce classes of continuous functions. (Russian. Georgian and English summaries) *Sakh SSR Mecn. Akad. Moambe* **83** (1976), *no.* 3, 569–572. (P. Wojtaszczyk) **56** #10 46E15

Janecki, Sławomir Torsion of rotating, pretwisted rods with allowance for geom nonlinearities. (Polish. Russian and English summaries) *Prace Inst. Maszyn Przepływowych* **74** (1977), 121–135. (J. L. Nowinski) **58** #14143 73.35

Janekoski, Viktor T. A certain necessary and sufficient condition for the existence triangle. (Macedonian) *Bull. Soc. Math. Phys. Macédoine* **21** (1970), 85–87 (1972 Volenec) **47** #958 52A40

Existence and certain properties of triangles whose sides are trigonometric func of the angles of a given triangle. (Macedonian) *Bull. Soc. Math. Phys. Macédoin* (1970), 89–95 (1972). (V. Volenec) **47** #2477 50B10

Certain inequalities inferred from given triangles. (Macedonian. French summ *Bull. Soc. Math. Phys. Macédoine* **23** (1972), 79–87 (1973). (V. Volenec) **48** #49 52A40

A certain inequality. (Macedonian. French summary) *Bull. Soc. Math. Macédoine* **23** (1972), 89–91 (1973). (V. Volenec) **48** #4919 52A40

Some peculiarities of a certain system of quadratic equations. (Macedonian) *Soc. Math. Phys. Macédoine* **23** (1972), 93–96 (1973). (B. Crstici) **49** #215 1 (50B05)

Some properties of homogeneous functions. (Macedonian. French summary) *Proceedings of the Fifth Congress of Mathematicians, Physicists and Astronomer Yugoslavia* (*Ohrid*, 1970), *Vol. I, Mathematics* (*Macedonian*), *pp.* 109–114. *Sojuz Dru Mat., Fiz. i Astronom. Jugoslav., Skopje*, 1973. (B. Crstici) **57** #12797 26–01

Sur quelques égalités de l'algèbre vectorielle. *Proceedings of the Fifth Congres Mathematicians, Physicists and Astronomers of Yugoslavia* (*Ohrid*, 1970), *Vol. I, Mathematics* (*Macedonian*), *pp.* 125–129. *Sojuz Društva. Mat., Fiz. i Astronom. Jugos Skopje*, 1973. (Editors) **58** #28046 15A72

Janenko, A. P. (*with* Atavin, A. A.) The oscillations of the water level when a ship is out of a lock in a canal. (Russian) *Dinamika Splošn. Sredy No.* 30 (1977), 35–52, (Authors' summary) **58** #3913 76.35

Janenko, I. K. (*with* Belinskiĭ, P. P.; Godunov, S. K.; Ivanov, Ju. B.) Application certain class of quasi-conformal mappings to the construction of difference grid domains with curvilinear boundaries. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (19 *no.* 6, 1499–1511, 1625. (R. Kühnau) **55** #6878 65N05

Janenko, N. N. (*with* Šokin, Ju. I.) The group classification of difference schemes f system of one-dimensional equations of gas dynamics. (Russian) *Certain problem mathematics and mechanics* (*on the occasion of the seventieth birthday of M. A. Lavrent′ev*) (*Russian*), *pp.* 277–283. *Izdat. "Nauka", Leningrad*, 1970. (M. Drăga- **45** #6268 76.65

The method of fractional steps for the solution of problems in continuum mechanics. (Russian) *Partial differential equations* (*Proc. Sympos.*) (*Russian*), *pp.* 239–249. *Izdat. "Nauka", Moscow*, 1970. (V. Thomée) **47** #2835 65N20

(*with* Anučina, N. N.; Petrenko, V. E.; Šokin, Ju. I.) Methods for the calculat of problems of gas dynamics with large deformations. (Russian) *Čisl. Metody M Splošnoĭ Sredy* **1** (1970), *no.* 1, 40–62. (Simona Popp) **48** #13008 76.65

(*with* Kvasov, B. I.) An iteration method for the construction of semicubical spl functions. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **1** (1970), *no.* 3, 84–89. Zegeling) **49** #4212 65D15

★The method of fractional steps. The solution of problems of mathematical phy in several variables. Translated from the Russian by T. Cheron. English translat edited by M. Holt. *Springer-Verlag, New York-Heidelberg*, 1971. viii + 160 *pp.* (J. Burl **46** #6613 65N05 (65M05)

Méthodes numériques nouvelles en mécanique du continu. *Actes du Cong International des Mathématiciens* (*Nice*, 1970), *Tome* 3, *pp.* 297–309. *Gauthier-Vill Paris*, 1971. (W. F. Ames) **55** #4605 65D15

(*with* Gurov, B. G.; Jaušev, I. K.) Numerical computation of the nonpotent flows of an ideal fluid in plane channels. (Russian) *Čisl. Metody Meh. Splošnoĭ Sred* (1971), *no.* 1, 3–16. (Murli M. Gupta) **48** #5508 76.65

(*with* Šokin, Ju. I.) A group classification of implicit difference schemes for system of equations of gas dynamics. (Russian) *Čisl. Metody Meh. Splošnoĭ Sred* (1971), *no.* 2, 85–92. (I. O. Bohachevsky) **48** #3364 76.65

(*with* Raspopov, V. E.; Šapeev, V. P.) An application of the method of different connections to the one-dimensional equations of gas dynamics. (Russian) *Čisl. Met Meh. Splošnoĭ Sredy* **2** (1971), *no.* 5, 3–12. (E. Ungureanu-David) **49** #6771 76.3

Splitting methods for partial differential equations. *Information processing* 71 (*P IFIP Congr., Ljubljana*, 1971), *Vol.* 2: *Applications*, *pp.* 1206–1213. *North-Holla Amsterdam*, 1972. (Authors' summary) **56** #17160 65P05

(*with* Demidov, G. V.; Kantor, S. A.) Evolutionary double-layer difference schemes. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **3** (1972), *no.* 5, 95–114. (Leo Boron) **50** #2955 47A50 (47D05, 65J05)

(*with* Demidov, G. V.) Evolutionary two-layer difference schemes. (Russian) *Do Akad. Nauk SSSR* **204** (1972), 1057–1060. (B. Crstici) **46** #2855 65J05

On some problems of the theory of the difference schemes. *Proceedings of Equad III* (*Third Czechoslovak Conf. Differential Equations and their Applications, Brno*, 197 *pp.* 43–50. *Folia Fac. Sci. Natur. Univ. Purkynianae Brunensis, Ser. Monograph., Tom* 1, *Purkyně Univ., Brno*, 1973. (P. Laasonen) **50** #1511 65P05

(*with* Šokin, Ju. I.) Schémas numériques invariants de groupe pour les équations la dynamique de gaz. *Proceedings of the Third International Conference on Numeric *ethods in Fluid Mechanics* (*Univ. Paris VI and XI, Paris*, 1972), *Vol. I*, *pp*. 174–186. *ecture Notes in Phys*., *Vol*. 18, *Springer*, *Berlin*, 1973. (See Zbl **262** #76036; MR **55** #1945) 76.65

(*with* Šokin, Ju. I.) The group classification of difference schemes for the system of quations of gas dynamics. (Russian) Difference methods for the solution of problems f mathematical physics, Part II. *Trudy Mat. Inst. Steklov*. **122** (1973), 85–97, 99. (J. opáček) **50** #8999 65M05 (76.65)

(*with* Šokin, Ju. I.) On the theory of the difference schemes of gas dynamics. Russian) *Proceedings of the Symposium on Continuum Mechanics and Related Problems Analysis* (*Tbilisi*, 1971), *Vol*. 2 (*Russian*), *pp*. 292–306. *Izdat*. "*Mecniereba*", *Tbilisi*, 974. (Editors) **56** #14121 76.65

(*with* Zelenjak, T. I.; Novikov, V. A.) Properties of the solution of nonlinear quations of variable type. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **5** (1974), *no*. 4, 5–47. (Authors' introduction) **58** #29471 35Q99 (76.35)

(*with* Araĭs, E. A.; Šapeev, V. P.) A realization of Cartan's method of exterior orms on an electronic computer. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 37–738. (E. Maliszewski) **51** #9568 68A15 (58A15)

(*with* Fomin, V. M.; Šapeev, V. P.) *D*-properties of systems of one-dimensional quations of the dynamics of an inelastic solid medium. (Russian) *Dokl. Akad. Nauk SSR* **215** (1974), 1067–1070. (P. P. Teodorescu) **50** #1597 73.35

(*with* Raspopov, V. E.; Šapeev, V. P.) An application of the method of differential elations to the one-dimensional equations of gas dynamics. (Russian) *Izv. Vysš. Učebn. aved. Matematika* **1974**, *no*. 11 (150), 69–74. (L. Dragoş) **53** #9860 76.35

(*with* Paasonen, V. I.; Šokin, Ju. I.) On the theory of difference schemes for gas ynamics equations. *Proceedings of the Fourth International Conference on Numerical ethods in Fluid Dynamics* (*Univ. Colorado, Boulder, Colo*., 1974), *pp*. 293–303. *Lecture otes in Phys*., *Vol*. 35, *Springer*, *Berlin*, 1975. (See Zbl **352** #76045; MR **55** #4933) 5M05

(*with* Tuševa, L. A.; Šokin, Ju. I.) The construction of difference schemes of high rder of approximation on the basis of differential implications. (Russian) *Some roblems of numerical and applied mathematics* (*Russian*), *pp*. 184–191, 310. *Nauka ibirsk. Otdel*., *Novosibirsk*, 1975. (Authors' summary) **58** #31953 65P05

(*with* Berezin, Ju. A.; Kovenja, V. M.) Implicit numerical method for blunt-body roblem in supersonic flows. *Internat. J. Comput. & Fluids* **3** (1975), 271–281. (David F. riffiths) **52** #2400 76.65

Modèles numériques en mécanique des milieux continus. *Computing methods in pplied sciences* (*Second Internat. Sympos., Versailles*, 1975), *pp*. 114–132. *Lecture Notes n Phys*., *Vol*. 58, *Springer*, *Berlin*, 1976. (David M. Burley) **56** #1942 76.65

(*with* Fomin, V. M.; Vorožcov, E. V.) Differential analysers of shock waves: heory. *Comput. & Fluids* **4** (1976), *no*. 3-4, 171–183. (Joseph J. Roseman) **58** #8788 6.65

(*with* Vorožcov, E. V.; Fomin, V. M.) Differential analyzers of shock waves. Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no*. 1, 50–53. (E. G. D'jakonov) 3 #7217 76.65 (65P05)

(*with* Berezin, Ju. A.; Dudnikova, G. I.; Novikov, V. A.) Analytical and numerical tudies of equations with sign changing viscosity coefficient. *Singular perturbations and oundary layer theory* (*Proc. Conf., École Centrale, Lyon*, 1976), *pp*. 30–38. *Lecture Notes n Math*., *Vol*. 594, *Springer*, *Berlin*, 1977. (D. E. Edmunds) **58** #8756 76.41 (35Q99)

(*with* Kovenja, V. M.) A difference scheme for the solution of the multidimensional quations of gas dynamics. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 6, 273–1276. (Authors' introduction) **58** #8790 76.65 (65P05)

See also **Laurent, Pierre-Jean**, (Not reviewed); **Šemjakin, E. I.; et al., 45** #6563; **ifference methods for the solution of problems of mathematical physics, 48** #12999; **roceedings: Conference on Basic Problems of Numerical Mathematics, 51** #4621; **ifference methods of solving problems of mathematical physics, 51** #9655; **Berezin, Ju. ., 56** #14486; **Proceedings: All-Union Seminar on Numerical Methods in the Mechanics of a Viscous Fluid, 57** #8451 *and* **Interview with S. L. Sobolev and N. N. anenko, 58** #15788

ski, John (*with* Weissglass, Julian) Regularity of semilattice sums of rings. *Proc. mer. Math. Soc*. **39** (1973), 479–482. (R. A. Melter) **47** #5042 16A30

t, Maurice P. Zervos et le problème de Monge. *Bull. Sci. Math*. (2) **95** (1971), 15–26. I. Fenyő) **45** #13 01A65 (35–03)

v, Nikolaĭ I. (*with* Ivančev, Miroslav D.; Mitev, Ĭordan G.) An easily computerized lgorithm for solving mixed integer programming problems. (Bulgarian. Russian and nglish summaries) *Mathematics and mathematical education* (*Proc. Third Spring Conf. ulgar. Math. Soc., Burgas*, 1974) (*Bulgarian*), *pp*. 314–322, *B″lgar. Akad. Nauk, Sofia*, 976. (See Zbl **365** #90095) 90C10

(*with* Ivančev, Miroslav D.; Mitev, Ĭordan G.) A realization of the branch and ound method for the solution of the general mixed integer programming problem. Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **16** (1976), *no*. 3, 788–792, 823. (Authors' summary) **4** #4643 90C10

(*with* Ivančev, Miroslav D.; Sumarokov, V. M.) Increasing single-link search trees. Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 2, 296–299. (See RŽMat **1977** #5 614) 68A50

(*with* Ivančev, Miroslav D.; Sumarokov, V. M.) Combinatorial analysis of balanced est trees with a variable branching factor. (Russian) *Programmirovanie* **1977**, *no*. 4, 5–82, 96. (Witold Lipski) **58** #19442 68A50

(*with* Arnaudov, D. D.) A method for the application of partial integer linear rogramming to retrieval optimization in multilevel information retrieval systems. Russian) *Programmirovanie* **1978**, *no*. 1, 51–59, 96. (G. Šerkšnys) **58** #19438 8A50 (90C10, 90C50)

v, Nikolaĭ M. A certain class of decomposable age-dependent branching processes. *ath. Balkanica* **2** (1972), 58–75. (K. Dietz) **48** #1333 60J80

Branching random processes with immigration. (Bulgarian. Russian and English ummaries) *B″lgar. Akad. Nauk. Izv. Mat. Inst*. **15** (1974), 71–88. (E. Seneta) **1** #7027 60J80

Conditions for the degeneracy of ϕ-branching processes with random ϕ. (Russian. nglish summary) *Teor. Verojatnost. i Primenen*. **20** (1975), *no*. 2, 433–440. (P. Jagers) **1** #11684 60J80

The statistics of branching processes. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **20** (1975), *no*. 3, 623–633. (A. V. Nagaev) **52** #2088 62M05 (60J80)

Jang, L. *See* **Young, L. C.**

Jang, Pong Soo (*with* Geroch, Robert) Motion of a body in general relativity. *J. Mathematical Phys*. **16** (1975), 65–67. (Kotik K. Lee) **50** #9289 83.53

(*with* Cho, Y. M.) Unified geometry of internal space with space-time. *Phys. Rev. D* (3) **12** (1975), *no*. 12, 3789–3792. (Andrew King) **54** #14713 83.53

On the positive energy conjecture. *J. Mathematical Phys*. **17** (1976), *no*. 1, 141–145. (W. Israel) **53** #7356 83.53

(*with* Wald, Robert M.) The positive energy conjecture and the cosmic censor hypothesis. *J. Mathematical Phys*. **18** (1977), *no*. 1, 41–44. (Authors' summary) **58** #25755 83.49

Jangirov, D. G. (*with* Aleksandrov, R. L.) Strongly primitive elements of a Čebyšev field of prime degree. (Russian) *Modern algebra, No*. 5 (*Russian*), *pp*. 3–9. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1976. (Veikko Ennola) **57** #5974 12F10 (12A55)

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

Jani, B. B. (*with* Jaiswal, M. C.) A lot-size inventory model with finite production rate under the influence of two alternate pricing conditions. *Gujarat Statist. Rev*. **4** (1977), *no*. 2, 33–50. (E. S. Boylan) **56** #17756 90B05

Jani, P. N. Minimum variance unbiased estimation for some left-truncated modified power series distributions. *Sankhyā Ser. B* **39** (1977), *no*. 3, 258–278. (Author's summary) **58** #31543 62F10

Janiak, Andrzej (*with* Wierzbicki, Andrzej P.; Kręglewski, Tomasz) Single-iterative saddle-point algorithms for solving constrained optimization problems via augmented Lagrangians. *Optimization techniques* (*Proc. 8th IFIP Conf., Würzburg*, 1977), *Part* 2, *pp*. 179–189. *Lecture Notes in Control and Information Sci*., *Vol*. 7, *Springer*, *Berlin*, 1978. (D. M. Topkis) **58** #4343 90C30 (65K05)

Janiak, T. (*with* Kisielewicz, Michał) Existence theorem for functional-differential contingent equations. *Ann. Polon. Math*. **35** (1977/78), *no*. 2, 159–166. (Karol Baron) **57** #10166 34K05

Janić, Radovan R. (*with* Vasić, Petar M.) An inequality for convex functions. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 302-319 (1970), 39–42. (Z. Ziegler) **45** #8791 26A87

(*with* Vasić, Petar M.; Kečkić, Jovan D.) A functional equation related to the Lagrange interpolation polynomial. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 338-352 (1971), 82–86. (Pl. Kannappan (Zbl **214**, 391)) **47** #9108 39A15 (41A05)

(*with* Vasić, Petar M.; Kečkić, Jovan D.; Crstici, Borislav) Generalisation of a functional equation which is related to the Lagrange interpolation polynomial. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 357-380 (1971), 111–114. (V. Herman) **47** #9110 39A25

(*with* Mitrinović, Dragoslav S.; Tošić, Dobrilo Đ.) ★Specijalne funkcije. (Serbo-Croatian) [Special functions] Zbornik zadataka i problema. [A collection of exercises and problems] Novi Zbornik Matematičkih Problema, No. I. [New Collection of Mathematical Problems, No. I] *Naučna Knjiga, Belgrade*, 1972. xii + 158 *pp*. (Editors) **50** #7602 33–01

(*with* Vasić, Petar M.; Gheorghiu, Octavian Em.) Sur une équation fonctionnelle non linéaire. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 381-409 (1972), 101–105. (B. Choczewski) **49** #7640 39A30

(*with* Vasić, Petar M.; Kečkić, Jovan D.) Errata: "A complementary triangle inequality" (Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No. 338-352 (1971), 77–81). *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 381-409 (1972), 147. (S. Watanabe) **48** #2352 30A04

(*with* Mitrović, Žarko M.) On generalized Bourget's function. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 412-460 (1973), 31–35. (Mary L. Boas) **48** #11615 33A40

(*with* Mitrović, Žarko M.) Bernoulli and Euler polynomials in k variables. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 412-460 (1973), 75–78. (S. K. Chatterjea) **48** #6478 33A10

(*with* Mitrinović, Dragoslav S.; Kečkić, Jovan D.) Albert Sade (1898–1973). *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 412-460 (1973), 243–246. (Editors) **48** #1862 01A70

Bibliography of the works of Professor Dragoslav S. Mitrinović. II. (Serbo-Croatian) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 461-497 (1974), 195–206. (Editors) **50** #9493 01A70

(*with* Mitrinović, Dragoslav S.) ★Uvod u specijalne funkcije. (Serbo-Croatian) [Introduction to special functions] Second edition, revised and augmented. Matematički Metodi u Fizici i Tehnici. [Mathematical Methods in Physics and Engineering] *Izdavičko Preduzeće Gradevinska Knjiga, Belgrade*, 1975. xvi + 231 *pp*. (Editors) **55** #10735 33–01

(*with* Mitrinović, Dragoslav S.; Mihailović, D.; Vasić, Petar M.) Radomir P. Lučić (1934–1976). *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No*. 544–576 (1976), 171–172. (Editors) **55** #5360 01A70

See also **Introducing young people to scientific work, 45** #6553; **Introducing young people to scientific work, 45** #6554 *and* **Milisavljević, Branko M., 53** #3897

Jänich, Klaus (*with* Bröcker, Theodor) ★Einführung in die Differentialtopologie. Heidelberger Taschenbücher, Band 143. *Springer-Verlag, Berlin-New York*, 1973. v + 168 *pp*. (M. L. Gromov) **50** #11307 58–01

Caustics and catastrophes. *Math. Ann*. **209** (1974), 161–180. (John Guckenheimer) **50** #3273 58F10 (58C25)

★Einführung in die Funktionentheorie. Hochschultext. *Springer-Verlag, Berlin-New York*, 1977. viii + 239 *pp*. *ISBN* 3-540-08309-X (M. Hervé) **57** #12825 30–01

See also **Dynamical systems, 52** #11994

Janich, Peter Galilei und die Galilei-Invarianz. *Akten des II. Internationalen Leibniz-Kongresses* (*Hannover*, 1972), *Band II*: *Wissenschaftstheorie und Wissenschaftsgeschichte*, *pp*. 183–194. *Studia Leibnitiana Suppl*., *Vol. XIII*, *Steiner*, *Wiesbaden*, 1975. (Editors) **58** #10049 01A45

Trägheitsgesetz und Inertialsystem. Zur Kritik G. Freges an der Definition L.

Langes. *Studien zu Frege, Band III, pp*. 146–156. *Problemata, No*. 44, *Frommann-Holzboog, Stuttgart*, 1976. (Editors) **58** #27180 02–03 (01A55)

Janicka, Liliana (*with* Kalton, Nigel J.) Vector measures of infinite variation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **25** (1977), *no*. 3, 239–241. (J. Diestel) **56** #3235 28A45

Janicka, Renata An existence theorem for an integro-differential equation of neutral type. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A*. **28** (1974), 29–38 (1976). (A. F. Izé) **54** #8196 45J05

Janicke, Ortrud Diskrete Walsh-Funktionen. *Wiss. Z. Techn. Univ. Dresden* **25** (1976), *no*. 4, 813–816. (Siegmar Gerber) **57** #15727 94A05

Janicke, Winfried Ein neuer Algorithmus zur Bestimmung einer Basis von unabhängigen Elementarkreisen in einem stark zusammenhängenden Graphen. (Polish summary) *Zastos. Mat*. **15** (1976), *no*. 3, 315–323. (From the author's introduction) **55** #5484 05C99 (68A10)

(*with* Clauder, Ulf) Zur graphentheoretischen Lösung einer Klasse von diskreten Optimierungsproblemen. (Russian and English summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no*. 3, 323–327. (Rainer Burkard) **57** #9023 90B10 (90C40)

(*with* Biess, Günther; Meissler, H. G.) Ein Algorithmus zur Bestimmung aller Elementarkreise eines gerichteten Graphen. *Wiss. Z. Techn. Hochsch. Leuna-Merseburg* **19** (1977), *no*. 1, 103–111. (A. Jaeger) **56** #8413 05C20 (94A20, 68A10)

Janickene, D. Ju. *See* **Janickienė, Danguolė**

Janickene, Danguole *See* **Janickienė, Danguolė**

Janicki, A. Remarks on the time transportation problem. (Polish and Russian summaries) *Zastos. Mat*. **11** (1969/70), 493–502. (A. C. Williams) **45** #9662 90B10 (90C05)

An adaptive sequential test. (Polish summary) *Zastos. Mat*. **13** (1972/73), 301–320. (Author's summary) **55** #4551 62L10 (94A05)

Janicki, Ryszard Vectors of coroutines over Blikle nets. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp*. 113–119. *Lecture Notes in Comput. Sci., Vol*. 56, *Springer, Berlin*, 1977. (Andrzej Blikle) **58** #3621 68A05

An algebraic approach to the theory of recursive coroutines. *Fund. Inform*. (4) **1** (1977), *no*. 1, 131–145. (G. E. Ceĭtlin) **58** #3622 68A05

Janicki, Sławomir (*with* Szynal, Dominik) Some remarks on the extension of a finite set of stochastic automata. (Polish summary) *Zastos. Mat*. **14** (1974/75), *no*. 4, 549–564. (P. Turakainen) **52** #7747 94A35

(*with* Szynal, Dominik) Some remarks on extension of a finite set of stochastic automata. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **23** (1975), *no*. 2, 183–187. (Eugene S. Santos) **51** #15254 94A35

Sets generated by stochastic automata. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **23** (1975), *no*. 7, 795–798. (K. S. Fu) **56** #8245 94A35

(*with* Szynal, Dominik) On extension of stochastic *k*-automata. *Fund. Informat*. (4) **1** (1977), *no*. 2, 231 241. (Authors' summary) **57** #19195 94A35

Janickienė, Danguolė (*with* Kaminskas, Vytautas) A study of algorithms for the estimation of the parameters of the Hammerstein model. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp*. 10 (1975), 35–55. (Authors' summary) **57** #5338 93E10

(*with* Kaminskas, Vytautas) Identification of nonlinear discrete systems of Hammerstein's class. I. Algorithms for the estimation of parameters. (Russian. Lithuanian summary) *Trudy Akad. Nauk Litov. SSR Ser. B* **1978**, *no*. 2(105), 121–130. (M. M. Konstantinov) **58** #9512a 93B30

(*with* Kaminskas, Vytautas) Identification of nonlinear discrete systems of Hammerstein's class. II. The determination of the order of the model and generalizations. (Russian. Lithuanian summary) *Trudy Akad. Nauk Litov. SSR Ser. B* **1978**, *no*. 3(106), 75–82. (M. M. Konstantinov) **58** #9512b 93B30

Janickiĭ, V. E. Application of a Poisson stochastic process to the calculation of the collision relaxation of an unbalanced gas. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **13** (1973), 505–510, 535. (Alexej Sitenko) **49** #2011 82.60

An application of random walk processes to the simulation of a free molecular gas motion. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **14** (1974), 259–262, 272. (H. S. Green) **49** #2012 82.60

(*with* Belocerkovskiĭ, O. M.) A statistical method of particles in cells for the solution of problems of the dynamics of a rarefied gas. I. Principles for constructing the method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **15** (1975), *no*. 5, 1195–1208, 1361. (Nina B. Maslova) **52** #16461 82.65

(*with* Belocerkovskiĭ, O. M.) A statistical method of particles in cells for the solution of problems of the dynamics of a rarefied gas. II. Numerical aspects of the method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **15** (1975), *no*. 6, 1553–1567, 1626. (Nina B. Maslova) **53** #15238 82.62

Janicot, J. P. *See* **Proceedings: IFAC World Congress**, **50** #12339

Janiec, Barbara (*with* Czech, Adam; Jama, Danuta) The stability of certain dynamical systems. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No*. 24 (1974), 63–77. (A. Pelczar) **51** #6154 35K99

(*with* Bogucka, Stanisława; Czech, Adam) Uniqueness and stability of the solutions of the second boundary value problem for second order parabolic equations with random coefficients. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech Ślask. Mat.-Fiz. No*. 24 (1974), 157–162. (A. Pelczar) **51** #6153 35K99

(*with* Jama, Danuta) Some properties of the solutions of second order parabolic equations with random coefficients. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. Zeszyt* **25** (1974), 101–107. (W. A. Woyczyński) **54** #8868 60H15 (35K99)

(*with* Czech, Adam; Jama, Danuta; Szocińska, Ewa) Asymptotic properties of the solutions of stochastic boundary value problems on the plane. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. Zeszyt* **25** (1974), 109–122. (W. A. Woyczyński) **54** #8867 60H15 (35K99)

Janin, Guy *See* **Proceedings: Conference on the Numerical Solution of Ordinary Differential Equations**, **49** #4257

Janin, Louis Le cadran solaire de la Mosquée Umayyade à Damas. *Centaurus* **16** (1971/72), *no*. 4, 285–298. (Editors) **58** #15843 01A30

(*with* Rohr, René R. J.) Deux astrolabes-quadrants turcs. *Centaurus* **19** (1975), *no*. 2, 108–124. (From the authors' text) **57** #12029 01A30

Un cadran solaire juif. *Centaurus* **19** (1975), *no*. 4, 264–272. (H. W. Guggenhei **56** #43 01A30

(*with* King, David A.) Ibn al-Shāṭir's ṣandūq al-yawāqīt: an astronomical "compendium". (Arabic summary) *J. Hist. Arabic Sci*. **1** (1977), *no*. 2, 187–256 9 *plates*) (E. S. Kennedy) **58** #26745 01A30

Janin, Robert Sur une classe de fonctions sous-linéarisables. *C. R. Acad. Sci. Paris A-B* **277** (1973), A265–A267. (M. Z. Nashed) **49** #9650 46N05 (49D99)

Sur la dualité en programmation dynamique. *C. R. Acad. Sci. Paris Sér. A-B* (1973), A1195–A1197. (J. Warga) **51** #1552 49C15

Sensitivity for non convex optimization problems. *Convex analysis and its applications* (*Proc. Conf., Muret-le-Quaire*, 1976), *pp*. 115–119. *Lecture Notes in Eco. and Math. Systems, Vol*. 144, *Springer, Berlin*, 1977. (Author's introduction) **57** #1 49D45

On sensitivity in an optimal control problem. *J. Math. Anal. Appl*. **60** (1977), *n* 631–657. (From the introduction) **58** #23890 49A99

Janis, Allen I. (*with* Chang, S. C.) A note on Perng's unified field theory. *Ann. Inst Poincaré Sect. A* (*N.S.*) **17** (1972), 291–293. (W. B. Bonnor) **48** #1642 83.53

(*with* Demmie, Paul N.) The characteristic development of trapped surfaces *Mathematical Phys*. **14** (1973), 793–802. (Kotik K. Lee) **48** #10417 83.53

(*with* Hansen, R. O.; Newman, Ezra T.; Porter, John R.; Winicour, Jeffrey) Tensors, spinors, and functions on the unit sphere. *General Relativity and Gravitat* (1976), *no*. 8, 687–693. (Richard Hansen) **57** #2427 83.53

(*with* Fette, C. W.; Newman, Ezra T.) Algebraically special *H*-spaces. *J. Mathematical Phys*. **17** (1976), *no*. 5, 660–664. (Brian O. J. Tupper) **53** #10131 8

(*with* Chang, S. C.) Nonspreading solutions to a class of differential equations *Mathematical Phys*. **17** (1976), *no*. 8, 1429–1431. (Maria Cinquini-Cibrario) **54** #10 35L05

(*with* Fette, C. W.; Newman, Ezra T.) Nondiverging algebraically special *H*-spa *General Relativity and Gravitation* **8** (1977), *no*. 1, 29–43. (Klaus Horneffer) **55** #981 83.53

(*with* Grünbaum, Adolf) The geometry of the rotating disk in the special theor relativity. Hans Reichenbach, logical empiricist. Part III. *Synthese* **34** (1977), *no* 281–299. (Burton H. Voorhees) **58** #9067 83.53

(*with* Grünbaum, Adolf) Can the effect precede its cause in classical electrodynamics? *Amer. J. Phys*. **46** (1978), *no*. 4, 337–341. (Authors' summary) **57** #4833 78.01 (01A60)

Janiševskiĭ, A. P. (*with* Vasilenko, V. P.; Martinjuk, A. A.) The stability of motion w respect to prescribed coordinates of a two-rotor gyrocompass with dampers. (Russia *Mathematical physics, No*. 16 (*Russian*), *pp*. 27–31, 195. *Izdat*. "*Naukova Dumka*", K 1974. (Authors' summary) **48** #10244 70.34

See also **Mathematical physics**, **48** #5766

Janīševs'kiĭ, A. T. A certain iterative method of solution of Fredholm type equatio (Ukrainian. German and Russian summaries) *Vīsnik Kiïv. Unīv*. **1971**, *no*. 13, 94– 149. (A. H. Stroud) **46** #8457 65R05

(*with* Kalaĭda, O. F.) The solution of integral equations of the second kind in spa with weight. (Russian. English summary) *Vyčisl. Prikl. Mat*. (*Kiev*) *No*. 20 (19 68–77, 164. (Stefan Balint) **48** #821 45L05

Janiszowski, Krzysztof Global controllability of nonlinear systems. (Polish. Russian a English summaries) *Arch. Automat. i Telemech*. **17** (1972), 379–388. (O. Hájek) **47** #9400 49E15

A necessary condition for the controllability of continuous nonlinear dynami systems. (Polish. Russian and English summaries) *Arch. Automat. i Telemech*. **20** (197 *no*. 3, 321–330. (Author's summary) **56** #11140 93B05

Jank, G. (*with* Wirths, Karl-Joachim) Generalized maximum principles in certain clas of pseudoanalytic functions. *Function theoretic methods in differential equations*, 63–67. *Res. Notes in Math., No*. 8, *Pitman, London*, 1976. (See Zbl **346** #30032; MR #593) 30A93

Jank, Gerhard (*with* Florian, Helmut) Polynomerzeugende bei einer Klasse von Differentialgleichungen mit zwei unabhängigen Variablen. *Monatsh. Math*. **75** (197 31–37. (Vojislav Marić) **45** #8970 35A20 (30A20)

(*with* Bauer, Karl Wilhelm) Differentialoperatoren bei einer inhomogenen elliptischen Differentialgleichung. (Italian and English summaries) *Rend. Ist. M Univ. Trieste* **3** (1971), 140–168 (1972). (Manfred W. Kracht) **46** #9509 35C (35J15)

Integrodifferentialoperatoren bei partiellen Differentialgleichungen. *Ergebnisse einer Tagung über "Funktionentheoretische Methoden bei partiellen Differentialgleichungen"* (*Bonn*, 1972), *pp*. 91–96. *Gesellsch. Math. Datenverarbeitun Bonn, Ber. No*. 77. *Gesellsch. Math. Datenverarbeitung, Bonn*, 1973. (E. Kreysz **56** #16123 35C15

(*with* Ruscheweyh, Stephan) Eine Bemerkung zur Darstellung gewisser pseudoanalytischer Funktionen. *Three articles on pseudoanalytic functions and ellipt differential equations, pp*. 17–19. *Gesellsch. Math. Datenverarbeitung, Bonn, Ber. No*. 7 *Gesellsch. Math. Datenverarbeitung, Bonn*, 1973. (R. N. Abdulaev) **54** #10619 30A93 (35J15)

Integral- und Differentialoperatoren bei einer Differentialgleichung mit mehrere komplexen Veränderlichen. *Period. Math. Hungar*. **3** (1973), *no*. 3-4, 305–312. (Manfre W. Kracht) **48** #2543 35C99

Some function theoretical aspects in the theory of partial differential equations *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *p* 388–393. *Lecture Notes in Math., Vol*. 415, *Springer, Berlin*, 1974. (A. Džuraev) **54** #13282 35C05

(*with* Ruscheweyh, Stephan) Funktionenfamilien mit einem Maximumprinzip un elliptische Differentialgleichungen. II. (English summary) *Monatsh. Math*. **79** (1975 103–113. (E. Kreyszig) **51** #8618 35J15 (30A42)

Automorphe Lösungen der Euler-Darboux Gleichung. *Function theoretic method for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp*. 277–282 *Lecture Notes in Math., Vol*. 561, *Springer, Berlin*, 1976. (M. Hervé) **57** #10279 35Q05 (30A58)

On integro-differential-operators for partial differential equations. *Function* *eoretic methods in differential equations*, *pp*. 158–171. *Res. Notes in Math*., *No*. 8, *itman*, *London*, 1976. (J. Chrastina) **58** #1536 35C05

Investigating the solutions of certain elliptic differential equations by complex halytic methods. *Differential equations* (*Colloq*., *Keszthely*, 1974), *pp*. 291–301. *Colloq. ath. Soc. János Bolyai*, *Vol*. 15, *North-Holland*, *Amsterdam*, 1977. (E. Giusti) #11874 35J15 (35C05)

(*with* Wallner, Herbert) Über das Wachstum gewisser Klassen kanonischer odukte. *Arch. Math*. (*Basel*) **28** (1977), *no*. 3, 274–280. (M. E. Noble) **55** #8358 A66

Walther Flächen mit kongruenten Fallparabeln. *Österreich. Akad. Wiss. ath.-Natur. Kl. S.-B. II* **181** (1973), 49–70. (O. Bottema) **49** #1331 53A05

Antitrochoiden, ein Analogon zu den Radlinien. (English summary) *Monatsh. ath*. **80** (1975), *no*. 2, 101–114. (J. Hoschek) **52** #4146 53A05

Geometrische Betrachtungen über Flächen mit Fallparabeln. *Österreich. Akad. iss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no*. 5-7, 395–401. (H. W. Guggenheimer) #8438 50D25

Ein Bündelmodell des dreidimensionalen elliptischen Raumes. *Österreich. Akad. iss. Math.-Naturwiss. Kl. S.-B. II* **186** (1977), *no*. 4-7, 301–319. (Cyril W. L. Garner) #18093 50C05

Symmetrische Koppelkurven mit sechspunktig berührendem heitelkrümmungskreis. (English and Russian summaries) *Z. Angew. Math. Mech*. **58** 978), *no*. 1, 37–43. (J. Hoschek) **58** #8619 70.50 (50D15)

uskas, K. I. (*with* Petrauskas, A. K.) The density matrix in the canonical SU(3)-basis a unitary scheme. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb*. **13** 973), *no*. 1, 33–44, 101. (Authors' summary) **58** #8977 82.20 (22E70)

(*with* Sabaliauskas, L.; Petrauskas, A. K.) Computation of the density distribution d of the charged formfactors of nuclei with account taken of many-quanta excitations. ussian. Lithuanian and English summaries) *Litovsk. Fiz. Sb*. **15** (1975), *no*. 4, 9–515, 671. (Authors' summary) **54** #14600 81.22

E. *See* **Jahnke, E.**

Werner Iterationsverfahren zur Berechnung höherer Wurzeln. *Praxis Math*. **16** 974), 115–120. (J. W. Schmidt) **54** #14349 65H05

wicz, Maria Explicit formulas for transition intensities in the queueing system $/E_2/n$. (Polish summary) *Zastos. Mat*. **13** (1972/73), 187–198. (P. R. Milch) #12660 60K25

Cyclic system with preemptive priority. (Polish summary) *Zastos. Mat*. **14** (1974), 5–176. (H. L. Seal) **50** #3906 90B25

(*with* Kopociński, Bolesław) Steady-state distributions of piecewise Markov ocesses. (Polish summary) *Zastos. Mat*. **15** (1976), *no*. 1, 25–32. (E. Arjas) **54** #11520 60J25 (60K25)

(*with* Rolski, Tomasz) Piecewise Markov processes on a general state space. (Polish mmary) *Zastos. Mat*. **15** (1976/77), *no*. 4, 421–436. (Richard F. Serfozo) **56** #16819 60K15

A. K. (*with* Solopenko, V. M.; Prohur, M. Z.) A method for the numerical mputation of two-dimensional viscous flows by means of the evolution approximation the stationary Navier-Stokes equations. (Russian. English summary) *Dokl. Akad. uk Ukrain. SSR Ser. A* **1978**, *no*. 2, 155–158. (A. Ženišek) **58** #8388 65P05 .35)

Béla (*with* Gaidici, A.) On the method of Newton-Kantorovič and the majorant nciple. (Romanian. English summary) *Stud. Cerc. Mat*. **22** (1970), 447–452. (C. rtia) **46** #10197 65J05

(*with* Groze, Sever) On generalized divided differences. (Romanian. French mmary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat*. (*N.S.*) **17** (1971), 375–379. (I. văloiu) **47** #2813 65J05

(*with* Groze, Sever; Goldner, G.) On the method of chords in the solution of erator equations defined in supermetric spaces. (Romanian. English summary) *Stud. rc. Mat*. **23** (1971), 719–725. (A. I. Şchiop) **48** #7041 47H15 (65J05)

(*with* Groze, Sever) On the solution of nonlinear operator equations defined in supermetric spaces. (Romanian. Russian and English summaries) *Studia Univ. beş-Bolyai Ser. Math.-Mech*. **16** (1971), *no*. 1, 81–85. (E. Rotaro) **45** #7545 H15 (65J05)

(*with* Groze, Sever) Sur la méthode de Newton dans les espaces L-supermétriques. omanian and Russian summaries) *Studia Univ. Babeş-Bolyai Ser. Math.-Mech*. **17** 72), *no*. 1, 55–59. (R. A. Tapia) **46** #6583 65J05

Sur les méthodes d'itération pour la résolution des équations fonctionnelles non éaires définies dans l'espace de Banach. *Rev. Roumaine Math. Pures Appl*. **18** (1973), –52. (Simeon Reich) **51** #11955 65J05 (47H15)

(*with* Groze, Sever) Application of iterative methods for solving operator equations d improving convergence conditions. *Anal. Numér. Théor. Approx*. **6** (1977), *no*. 1, –21. (From the text) **58** #31826 65J05 (34A99)

(*with* Groze, Sever) Convergent methods of order K in supermetric spaces. omanian. English summary) *Studia Univ. Babeş-Bolyai Math*. **22** (1977), *no*. 2, 23–28. uthors' summary) **58** #13686 65J05

Jaroslav *See* **Knotek, Miroslav; et al.**, **49** #8801

Wolfgang Combinatorial considerations on the optimality of heuristic solutions of blems. *Datenstrukturen*, *Graphen*, *Algorithmen* (3. *Fachtagung Graphentheoretische nzepte der Informatik*, *Linz*, 1977), *pp*. 215–225. *Appl. Comp. Sci*., *Vol*. 8, *Carl Hanser*, *unich*, 1978. (J. M. Steele) **58** #15220 90C99 (68A10)

Zvonimir A class of non-solvable finite groups. *Actes du Congrès International des athématiciens* (*Nice*, 1970), *Tome* 1, *pp*. 367–369. *Gauthier-Villars*, *Paris*, 1971. litors) **54** #7613 20D25

(*with* Wong, S. K.) A characterization of the McLaughlin's simple group. *J. ebra* **20** (1972), 203–225. (H. Nagao) **46** #1899 20D05

Nonsolvable finite groups all of whose 2-local subgroups are solvable. I. *J. Algebra* (1972), 458–517. (R. W. Carter) **50** #10052 20D05

A class of simple groups of characteristic 2. *Finite groups '72* (*Proc. Gainesville nf*., *Univ. Florida*, *Gainesville*, *Fla*., 1972), *pp*. 98–100. *North-Holland Math. Studies*, *l*. 7, *North-Holland*, *Amsterdam*, 1973. (Thomas Laffey) **50** #13247 20D05

A new finite simple group of order 86·775·571·046·077·562·880 which possesses $_4$ and the full covering group of M_{22} as subgroups. *J. Algebra* **42** (1976), *no*. 2, 564–596. (Peter Landrock) **55** #5734 20D05

Jankov, V. A. *See* **Rasiowa, Helena; et al.**, **50** #4232

Jankov, V. V. A solution of an inverse problem of the dispersal of an electromagnetic pulse in a conducting medium. (Russian) *Ž. Vyčisl. Mat. i T. Fiz*. **17** (1977), *no*. 1, 273–275, 288. (D. K. Cohoon) **57** #4835 78.35

Janković, Bogdan (*with* Parezanović, Nedeljko S.) Generative grammars of metaprogramming languages. (Serbo-Croatian. English summary) *Mat. Vesnik* **13(28)** (1976), *no*. 3, 273–278. (Authors' summary) **55** #6916 68A05

Jankovič, V. A parallel method of solution of the differential equations by the formulas containing higher derivatives. Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys*. **15** (1974), *no*. 1-2, 55–57. (Pietro Marzulli) **52** #16031 65L05

Janković, Z. On the differential operators in a generalized vector and tensor calculus scheme. *Tensor* (*N.S.*) **23** (1972), 11–16. (K. K. Gorowara) **46** #4404 53A45

On the autoparallel and geodesic curves in a generalized case. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 171–178. (K. K. Gorowara) **48** #12342 53B05

On the transformation operators in a generalized vector and tensor calculus scheme. *Tensor* (*N.S.*) **27** (1973), 143–157. (K. K. Gorowara) **48** #12333 53A45

On the coefficients of connection in a generalized case. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 301–308. (C. W. Kilmister) **53** #11511 53A45

On the geodesic and autoparallel curves in a generalized metric space. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech*. **54** (1974), T189–T190. (K. K. Gorowara) **50** #5711 53C70

Über eine Verallgemeinerung der Vektor- und Tensorrechnung. 7. *Steiermärkisches Mathematisches Symposium* (*Graz*, 1975), *Ber. No*. 40, 38 *pp*. *Ber. Mat.-Statist. Sektion*, *Forschungszentrum Graz*, *No*. 38-45, *Math.-Statist. Sektion*, *Forschungszentrum Graz*, *Graz*, 1975. (C. W. Kilmister) **54** #1107 53A45

Professor Dr. Željko Marković (February 20, 1889–August 23, 1974). (Serbo-Croatian) *Glasnik Mat. Ser. III* **10(30)** (1975), *no*. 1, 169–176. (Editors) **51** #7789 01A70

On the conjugation in a generalized vector and tensor calculus scheme. *Tensor* (*N.S.*) **29** (1975), *no*. 3, 217–224. (C. W. Kilmister) **55** #1234 53A45

On the conjugate vector spaces in a generalized vector and tensor calculus scheme. *Tensor* (*N.S.*) **29** (1975), *no*. 3, 225–233. (C. W. Kilmister) **53** #11512 53A45

On the conjugate vector spaces in a generalized case. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech*. **55** (1975), *no*. 4, *T*200–*T*202. (M. Kucharzewski) **54** #8491 53A45

Jankovics, Ronald Über Funktionen mit der Eigenschaft $\mathrm{Re}(e^{i\alpha}(f(z)/z-\beta))<0$. *Math. Z*. **143** (1975), *no*. 3, 235–242. (M. Reade) **51** #8392 30A32 (30A40)

Jankovskaja, A. E. (*with* Zakrevskiĭ, A. D.) Practical algorithms for coding the interior states of asynchronous automata. (Russian) *Avtomat. i Vyčisl. Tehn*. **1969**, *no*. 3, 15–21. (G. Blohina (RŽMat **1969** #12 V353)) **45** #9861 94A30

(*with* Abramov, I. P.) A heuristic algorithm for internal state assignment of an asynchronous automaton with two-step memory. (Russian) *Avtomat. i Vyčisl. Tehn*. (*Riga*) **1976**, *no*. 2, 16–22. (Authors' summary) **58** #4650 94A20

Jankovski, A. Elements of infinite filtration in generalized cohomology theories on a category of spectra. (Russian) *Mat. Zametki* **11** (1972), 699–704. (Csaba Hatvany) **46** #893 55H25

Jankovskiĭ, G. *See* **Èl'sgol'c, L. È.**, **49** #9291; **Krasnov, M. L.; et al.**, **50** #5389; **Petrovskiĭ, I. G.**, **50** #5391; **Krasnov, M. L.; et al.**, **52** #4059; **Kuroš, A. G.**, **52** #5240; **Zel'dovič, Ja. B.; et al.**, **54** #14475; **Baranenkov, G. S.; et al.**, **55** #5804; **Efimov, N. V.; et al.**, **57** #3148 *and* **Krylov, V. I.; et al.**, **58** #2043

Jankovský, Jan *See* **Birthday: Jankovský, Jan**, **57** #15928

Jankovský, Zdeněk $\mathfrak{M}$-Bewegungen mit den (U)-Automorphismen. (Czech and loose Russian summaries) *Časopis Pěst. Mat*. **101** (1976), *no*. 2, 140–152. (H. W. Guggenheimer) **57** #13685 50D45 (53A25)

Jankowska, J. (*with* Kiełbasiński, Andrzej) Fehleranalyse der Schmidtschen und Powellschen Orthonormalisierungsverfahren. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech*. **54** (1974), T223. (L. B. Rall) **51** #11948 65G05

Jankowska-Zorychta, Zofia Models for scheduling jobs on machines. (Polish. Russian and English summaries) *Przegląd Statyst*. **20** (1973), 11–25. (E. V. Bulinskaja) **47** #1446 90B35

Jankowski, Andrzej Note on the characteristic classes of the elements of the unitary bordism module. *Comment. Math. Prace Mat*. **15** (1971), 91–102. (R. De Sapio) **46** #10013 57D90

Remarks on generalized homology theories. *Comment. Math. Prace Mat*. **15** (1971), 185–199. (Richard R. Patterson) **53** #9197 55B20

(*with* Rubinsztein, Ryszard L.) Functions with non-degenerate critical points on manifolds with boundary. *Comment. Math. Prace Mat*. **16** (1972), 99–112. (R. L. Bishop) **48** #9742 57D70

Note on Z_2-equivariant immersions. *Comment. Math. Prace Mat*. **17** (1973), 81–85. (L. S. Husch) **48** #9739 57D40

Algebras of the cohomology operations in some cohomology theories. *Dissertationes Math*. (*Rozprawy Mat*.) **110** (1974), 45 *pp*. (Edgar H. Brown, Jr.) **49** #3942 55G25

Remark concerning K-theory of classifying spaces. *Comment. Math. Prace Mat*. **19** (1976/1977), *no*. 2, 229–237. (J. W. Vick) **58** #7604 55B15 (18F25)

Jankowski, Daniel F. (*with* Gersting, John M., Jr.) Numerical methods for Orr-Sommerfeld problems. *Internat. J. Numer. Methods Engrg*. **4** (1972), 195–206. (Authors' summary) **45** #1481 76.65

Jankowski, Janusz (*with* Grysa, Krzysztof) Summation of certain Dini and trigonometric series occurring in problems of the theory of continuum mechanics. (Polish. Russian and English summaries) *Mech. Teoret. Stos*. **16** (1978), *no*. 3, 299–319. (Authors' summary) **58** #25279 73.42

Jankowski, Karol (*with* Bobińska, M.) Some remarks on the computation of $3j$ and $6j$ coefficients. *Acta Phys. Polon. A* **46** (1974), 749–754. **53** #12247 81.22

(*with* Rutkowski, Andrzej K.) An investigation of the reliability of the Galerkin-Petrov method with a special study of the helium atom ground state. *Theoret. Chim. Acta* **43** (1976/77), *no.* 2, 145–159. (J.-L. Calais) **56** #9900 65B99 (65J05, 81.65)

Jankowski, Leszek Some properties of the core topologies. *Comment. Math. Prace Mat.* **19** (1976/77), *no.* 2, 239–247. (Author's summary) **57** #10402 46A15

Jankowski, M. (*with* Woźniakowski, H.) Computational complexity in numerical analysis. (Polish) *Mat. Stos.* (3) **5** (1975), 5–27. (Editors) **58** #24940 65K05 (68A20)

(*with* Woźniakowski, H.) Iterative refinement implies numerical stability. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **17** (1977), *no.* 3, 303–311. (H. R. Schwarz) **57** #4490 65F05 (65F10)

Jankowski, Tadeusz Convergence of generalized-approximate iterations for an abstract equation. *Ann. Polon. Math.* **24** (1970/71), 269–280. (W. C. Rheinboldt) **46** #739 47H15

(*with* Kwapisz, Marian) On the existence and uniqueness of solutions of systems of differential equations with a deviated argument. *Ann. Polon. Math.* **26** (1972), 253–277. (*errata insert*) (M. Q. Jacobs) **46** #2189 34K05

On the convergence of approximate iterations for an abstract equation. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 3, 277–283. (Boro Döring) **54** #14358 65J05 (47H10)

On periodic solutions of the equation $x'(t) = F(t, x(t), x'(t))$. *Comment. Math. Prace Mat.* **19** (1976/77), *no.* 2, 249–252. (Eleanor M. James) **56** #12422 34C25

(*with* Kwapisz, Marian) On the existence and uniqueness of solutions of boundary-value problems for differential equations with parameter. *Math. Nachr.* **71** (1976), 237–247. (R. R. D. Kemp) **53** #8984 47H15 (34G05)

(*with* Kwapisz, Marian) Convergence of approximate iterations for functional equations in a Banach space. *Rev. Roumaine Math. Pures Appl.* **21** (1976), *no.* 8, 1029–1048. (Karol Baron) **55** #6046 39A15 (45D05, 34K05)

Jankowski, Wiktor *See* **Bobrowski, Dobiesław**, **58** #16014

Jankunis, T. *See* **Transactions: Conference of Army Mathematicians**, **49** #4736

Jannamorelli, Bruno (*with* Biancofiore, Aldo) Interpretazione dell'omologia di Reidemeister-Franz-De Rham come omologia a coefficienti in un fibrato. (English summary) *Rend. Mat.* (6) **9** (1976), *no.* 3, 481–488. (Csaba Hatvany) **55** #11239 55B30

Janner, Aloysio (*with* Ascher, Edgar) Space-time symmetry of transverse electromagnetic plane waves. *Helv. Phys. Acta* **43** (1970), 296–303. (R. C. Lyndon) **45** #3006 81.22

(*with* Ascher, Edgar) Relativistic symmetry groups of uniform electromagnetic fields. *Physica* **48** (1970), 425–446. (B. K. Datta) **45** #8203 83.22 (78.22)

(*with* Janssen, T.) Electromagnetic compensating gauge transformations. *Physica* **53** (1971), 1–27. (A. O. Barut) **47** #9967 81.22

(*with* Ascher, Edgar) Crystallographic concepts for inhomogeneous subgroups of the Poincaré group. *Physica* **54** (1971), 77–93. (Philip H. Butler) **50** #4772 20H15 (82.20)

(*with* Janssen, T.) A charged particle in the field of a transverse electromagnetic plane wave. A group-theoretical analysis. *Physica* **60** (1972), 292–321. (R. L. Ingraham) **51** #7501 81.22

(*with* Cattaneo, U.) Mackey-Moore cohomology and topological extensions of Polish groups. *J. Mathematical Phys.* **15** (1974), 1155–1165. (A. Kleppner) **53** #10974 22D10

(*with* Cattaneo, U.) Coupling of space-time and electromagnetic gauge transformations. *J. Mathematical Phys.* **15** (1974), 1166–1173. (S. Sankaran) **50** #15631 81.22

Modulated space groups. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 9–30. *Academic Press, New York*, 1977. (Werner Nowacki) **58** #4110 82.20 (20H15)

(*with* Janssen, T.) Properties of lattices associated with a modulated crystal. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 31–38. *Academic Press, New York*, 1977. (Werner Nowacki) **58** #4111 82.20 (10E15, 20H15)

See also **Proceedings: International Colloquium on Group Theoretical Methods in Physics**, **48** #10342 *and* **Group theoretical methods in physics**, **57** #11993

Jannussis, A. D. (*with* Papaloucas, L. C.) Coherent states and the magnetic operators. *Z. Naturforsch.* **28a** (1973), 701–704. (Fritz Schwarz) **53** #12354 81.47

(*with* Ktenas, P.) On some properties of the operators of the generalized angular momentum. (Bulgarian and Russian summaries) *B″lgar. Akad. Nauk. Izv. Mat. Inst.* **15** (1974), 161–171. (R. K. Ritt) **51** #7512 81.35

(*with* Hadjikonstantinou, P.) Relativistic motion of an electron in uniform external electric and magnetic fields. *Fizika* (*Zagreb*) **7** (1975), *no.* 4, 177–186. (G. P. Bava) **57** #2270 81.35

(*with* Patargias, N.) Eigenfunctions and eigenvalues of the Wigner operator. *Phys. Lett. A* **53** (1975), *no.* 5, 357–358. (Fritz Schwarz) **52** #4891 81.47

(*with* Streclas, A.; Patargias, N.; Sourlas, D.; Vlachos, K.) Wigner operators of angular momentum in phase space. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 7, 238–240. (From the text) **58** #14666 81.47

(*with* Streclas, A.; Sourlas, D.; Vlachos, K.) Some properties of commutators and the equations of motion. *Phys. Scripta* **15** (1977), *no.* 3, 163–166. (H. Araki) **57** #11470 81.46

(*with* Patargias, N.; Brodimas, G.) New creation and annihilation operators in phase space. *J. Phys. Soc. Japan* **45** (1978), *no.* 1, 336–342. (Editors) **58** #14667 81.47

(*with* Paptheou, V.; Tsilimigras, P.) The motion of an electron in one-dimensional periodic potential under the influence of uniform electric and magnetic fields. *Phys. Status Solidi* (*B*) **88** (1978), *no.* 1, 341–350. (Authors' summary) **58** #25641 81.60

Janos, Ludvik Periodic maps via even continuity. *Arch. Math.* (*Basel*) **22** (1971), 534–535. (B. F. Bryant) **46** #2657 54H15

Optimal metrics on metrizable spaces. *Arch. Math.* (*Basel*) **22** (1971), 660–663. (D. R. Traylor) **47** #7706 54E35

On maximal groups of isometries. *Rev. Roumaine Math. Pures Appl.* **16** (1971), 1397–1400. (L. M. Blumenthal) **45** #5984 54H15

An application of combinatorial techniques to a topological problem. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **55** (1973) (1974). (I. A. Rus) **52** #4268 54H25

Complementarity between nilpotent selfmappings and periodic autohomeomorphisms. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. S* *Mat. Natur.* (8) **55** (1973), 639–644 (1974). (Joe A. Guthrie) **51** #11409 54C

An application of combinatorial techniques to a topological problem. *Bull.* *Math. Soc.* **9** (1973), 439–443. (S. K. Kaul) **49** #3853 54E40

An application of combinatorial techniques to a topological problem. *Combi* *mathematics* (*Proc. Second Australian Conf., Univ. Melbourne, Melbourne*, 19 56–60. *Lecture Notes in Math., Vol.* 403, *Springer, Berlin*, 1974. (I. Juhász) **50** # 54H25

Contraction property of the operator of integration. (Italian summary) *Atti* *Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), *no.* 3, 269–271. (S. P. **54** #13885 54H25 (47G05, 54E40)

Rigid subsets in Euclidean and Hilbert spaces. *Boll. Un. Mat. Ital.* (4) **9** 662–669. (C. E. Burgess) **51** #1757 54E35

On representations of selfmappings by contractions. *Bull. Austral. Math.* (1974), 37–41. (K. Goebel) **50** #11178 54E40

Un teorema di punto fisso associato all'equazione delle corde vibranti. (I summary) Collection of articles dedicated to Giovanni Sansone on the occasion eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 80–86. (O. Bc **54** #7954 34C10

Contraction property of the operator of integration. *Canad. Math. Bull.* **18** *no.* 3, 367–369. (Vo-Khac Khoan) **52** #15127 47H05 (47G05)

On the Edelstein contractive mapping theorem. *Canad. Math. Bull.* **18** (1975) 675–678. (S. T. Lin) **54** #8603 54H25

Rigid subsets in Euclidean and Hilbert spaces. *J. Austral. Math. Soc.* **20** (197 1, 66–72. (K. Sieklucki) **55** #1319 54E35

On mappings contractive in the sense of Kannan. (Italian summary) *Atti* *Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no.* 3, 205–209. Fournier) **58** #12981 54H25 (54E40)

(*with* Derrick, William R.) A global existence and uniqueness theorem for or differential equations. *Canad. Math. Bull.* **19** (1976), *no.* 1, 105–107. (Peter J. B **54** #10716 34A10

On mappings contractive in the sense of Kannan. *Proc. Amer. Math. Soc.* **61** *no.* 1, 171–175 (1977). (I. A. Rus) **54** #13886 54H25 (54E40)

Some inequalities concerning the characteristic frequencies of elastic contir *Ann. Mat. Pura Appl.* (4) **112** (1977), 273–283. (B. G. Pachpatte) **55** #8451

(*with* Solomon, J. L.) Even continuity and the Banach contraction principle. *Amer. Math. Soc.* **69** (1978), *no.* 1, 166–168. (Kok Keong Tan) **58** #18398 54

(*with* Martin, Harold W.) Metric characterizations of dimension for sep metric spaces. *Proc. Amer. Math. Soc.* **70** (1978), *no.* 2, 209–212. (B. M. **57** #13876 54F45

(*with* Solomon, J. L.) A fixed point theorem and attractors. *Proc. Amer. Mat* **71** (1978), *no.* 2, 257–262. (S. Swaminathan) **58** #2772 54H25

Janositz, J. Die Schätzung von Einfachen- und Doppelintegralen aufgrund geschic Probeentnahme. (English and Russian summaries) *Acta Tech. Acad. Sci. Hung* (1975), *no.* 3-4, 249–264. (Author's summary) **56** #13542 65D30 (65C05)

Janossy, I. (*with* Dubois-Violette, E.; Guyon, E.; Pieranski, P.; Manneville, P.) T and experiments on plane shear flow instabilities in nematics. (French summar *Mécanique* **16** (1977), *no.* 5, 733–767. (R. R. Gold) **57** #2099 76.35

Jánossy, L. A new approach to the theory of relativity. *Found. Phys.* **1** (1970/71), 111 (J. Blackman) **48** #3435 83.53

A new approach to the theory of relativity. II. The general theory of relat *Found. Phys.* **1** (1970/71), 251–267. (J. Blackman) **49** #6870 83.53

A new approach to the theory of relativity. III. Problem of the ether. *Found. P* (1972), 9–25. (J. Blackmann) **49** #6871 83.53

The physical interpretation of wave mechanics. I. *Found. Phys.* **3** (1973), 185–202. (Wolfgang Lücke) **56** #7562 81.35 (76.35)

The physical interpretation of wave mechanics. II. *Found. Phys.* **4** (1973), 445–452. (Wolfgang Lücke) **56** #7563 81.35 (76.35)

An elementary procedure for the evaluation of electric networks. *Studies in numerical analysis* (*papers in honour of Cornelius Lanczos on the occasion of his birthday*), *pp.* 65–72. *Academic Press, London*, 1974. (N. K. Bose) **51** #7738

Wave mechanics and physical reality. III. The many-body problem. *Found. P* (1976), *no.* 3, 341–350. (Wolfgang Lücke) **56** #7564 81.35 (81.53)

(*with* Yourgrau, Wolfgang; van der Merwe, A. J.) On the dimensionality of physical space. *Acta Phys. Acad. Sci. Hungar.* **44** (1978), *no.* 2, 167–180. (C. B. Co **58** #25628 81.53

Janov, I. O. *See* **Control in space**, **48** #8040

Janov, Ju. I. Certain semantic characteristics of Turing machines. (Russian) *Dokl.* *Nauk SSSR* **224** (1975), *no.* 2, 301–304. (Pavel Strnad) **52** #7878 02F15 (68A

★Метод сверток для разрешения свойств формальных систем. (Russia convolution method for the solution of properties of formal systems] With an E summary. Preprint No. 11 (1977). *Inst. Prikl. Mat. Akad. Nauk SSSR, Moscow*, 197 *pp.* (From the summary) **58** #16202 02E10 (02F15, 02G05)

Equivalent transformations of computational trees. (Russian. English summ *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 76 (1977), 48 *pp.* (Max I. Kan **58** #5146 02F43

Computations in a class of programs. (Russian) Issue dedicated to the memo Alekseĭ Andreevič Ljapunov. *Problemy Kibernet. No.* 32 (1977), 237–245, 247. (Aut summary) **58** #10382 02F43

Janover, V. G. (*with* Cekanovs'kiĭ, È. R.) On the theory of linearly representable nonstationary random processes. (Russian) *Theory of random processes, No.* 3 (*Rus* *pp.* 121–130, 160. *Izdat. "Naukova Dumka", Kiev*, 1975. (M. Loève) **51** #116 60G99

Janovič, L. A. (*with* Egorov, A. D.) The approximate computation of integrals with res to Gaussian measure. (Russian) *Dokl. Akad. Nauk BSSR* **14** (1970), 873–876. (Dobrakov) **46** #7468 28A40 (60G15, 65D30)

(*with* Sobolevskiĭ, P. I.) Certain approximate formulas for multiple Wiener integ ussian) *Dokl. Akad. Nauk BSSR* **15** (1971), 578–581. (T. Neubrunn) **45** #500 8A40 (65D30)

(*with* Gončar, T. V.; Skoblja, N. S.) Cubature formulae for integrals over a domain f functions of a complex variable. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. avuk* **1971**, *no.* 2, 36–42. (J. B. Butler, Jr.) **45** #1387 65D30

(*with* Erugin, N. P.; Keda, N. P.) Vladimir Ivanovič Krylov (on his seventieth irthday). (Russian) *Differencial'nye Uravnenija* **8** (1972), 2281–2286. (Editors) 7 #1570 01A70

(*with* Sobolevskiĭ, P. I.) Certain formulas with real parameters for the approximate alculation of integrals with respect to a Gaussian measure. (Russian) *Dokl. Akad. auk BSSR* **16** (1972), 197–200. (Alan H. Shuchat) **45** #5308 28A40 (65D30)

(*with* Nutfullin, Š. N.) Čebyšev quadrature formulae with certain weight functions at depend on parameters. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **972**, *no.* 6, 24–30, 135. (J. T. Scheick) **48** #9203 41A55

(*with* Vorob'eva, A. A.) A quadrature formula of Gaussian type for a certain articular form of the Wiener integral. (Russian) *Vescī Akad. Navuk BSSR Ser. iz.-Mat. Navuk* **1973**, *no.* 1, 48–51, 136. (J. S. Joel) **48** #5350 65D30

(*with* Sobolevskiĭ, P. I.) The formulae of V. S. Vladimirov for the approximate omputation of integrals with respect to Gaussian measure. (Russian) *Dokl. Akad. auk BSSR* **18** (1974), 965–968, 1050. (G. N. Sytaja) **53** #4226 60H05 (60G15, 8A40)

(*with* Egorov, A. D.) Evaluation of integrals with respect to Gaussian measure in near spaces of certain special functionals. (Russian) *Vescī Akad. Navuk BSSR Ser. iz.-Mat. Navuk* **1974**, *no.* 2, 22–29, 137. (R. M. Dudley) **49** #8072 60B05 (28A40)

(*with* Egorov, A. D.) Some formulas for integrals with respect to a Gaussian easure in linear spaces. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **974**, *no.* 3, 13–20, 138. (V. Ficker) **53** #13507 28A40 (60G15)

(*with* Keda, N. P.) A remark on the convergence of trigonometric interpolation. ussian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 5, 9–12, 139. (J. regor) **50** #14034 42A12

★Приближенное вычисление континуальных интегралов по гауссовым мерам. ussian) [Approximate computation of path integrals with respect to Gaussian easures] *Izdat. "Nauka i Tehnika", Minsk*, 1976. 384 *pp.* (RŽMat **1976** #10 B892K) 8 #19050 65D30 (28A40)

(*with* Platonov, V. P.) Vladimir Ivanovič Krylov (on the occasion of his 75th rthday). (Russian) *Vesci Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1977**, *no.* 6, 24–126. (Editors) **58** #10209 01A70

ič, V. I. The problem of the reconstruction of dynamical systems. (Russian) *Vestnik eloruss. Gos. Univ. Ser. I* **1975**, *no.* 2, 6–8, 99. (J. Jarník) **52** #945 34H05

On the question of the reconstruction of dynamical systems. (Russian) *Vestnik eloruss. Gos. Univ. Ser. I* **1977**, *no.* 2, 21–25, 92–93. (J. Jarník) **57** #3555 34H05 3C15)

ickiĭ, È. G. A radiation field in a semi-infinite atmosphere under isotropic scattering. ussian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 6, 1319–1322. (S. Kaliski) **55** #1949 78.45

See also **Astrometry and astrophysics**, **53** #4899

skaja, E. B. Cores in noncooperative games. *Internat. J. Game Theory* **1** (1971/72), 09–215. (L. A. Petrosjan) **47** #8128 90D10

Infinite antagonistic games. (Russian) *Probability theory. Mathematical statistics. heoretical cybernetics, Vol.* 10 (*Russian*), *pp.* 75–106, 144. (*errata insert*) *Akad. Nauk SSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1972. (O. N. Bondareva) 3 #15393 90D05

The existence of the value of a game in games on the unit square with discontinuous ayoff functions. (Russian. German and English summaries) *Math. Operationsforsch. tatist.* 3 (1972), *no.* 2, 91–96. (M. Mañas) **48** #13292 90D25

Criteria of optimality in coalition-free games. (Russian. English summary) *Advances game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp.* 106–114. *zdat. "Mintis", Vilnius*, 1973. (B. G. Mirkin) **52** #5055 90D10

Equilibrium situations in finite nonatomic games. (Russian. English summary) *dvances in game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp.* 15–119. *Izdat. "Mintis", Vilnius*, 1973. (Author's summary) **50** #12286 90D12

On the existence of a value of antagonistic games with semicontinuous gain inctions. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 6, 56–60 (*Russian*); *anslated as Engrg. Cybernetics* **11** (1973), *no.* 6, 933–936. (J. M. Skowroński) 0 #15945 90D13

Equilibrium situations in games with nonarchimedean utilities. (Russian. English nd Lithuanian summaries) *Mat. Metody v Social. Nauk.—Trudy Sem. Processy ptimal. Upravlenija II Sekcija Vyp.* 4 (1974), 98–118. (Author's summary) **56** #17876 90D30 (90D10)

Finitely additive extensions of noncooperative games. (Russian. English summary) *urrent trends in game theory* (*Russian*), *pp.* 136–142. *Izdat. "Mokslas", Vilnius*, 1976. (J. . Isbell) **55** #7432 90D10

Balanced games and situations of ℜ-equilibrium. (Russian. German and English immaries) *Math. Operationsforsch. Statist. Ser. Optim.* **9** (1978), *no.* 1, 57–68. (M. lañas) **58** #15235 90D12

See also **Probability theory, Mathematical statistics, Theoretical cybernetics**, 9 #10504 *and* **Game theory**, **56** #2417

skaja, S. A. On the role of mathematical rigor in the history of the creative evelopment of mathematics and especially on the *Geometry* of Descartes. (Russian) *tudies in systems of logic* (*dedicated to the memory of S. A. Janovskaja*) (*Russian*), *pp.* 3–50. *Izdat. "Nauka", Moscow*, 1970. (H. Freudenthal) **47** #6412 01A45 (00A25)

★Методологические проблемы науки. (Russian) [Methodological problems in cience] Edited by I. G. Bašmakova, D. P. Gorskiĭ and V. A. Uspenskiĭ. *Izdat. Mysl', loscow*, 1972. 280 *pp.* (1 *plate*) (Editors) **50** #12619 01A75 (00A25, 02A05)

See also **Gorskiĭ, D. P.**, **47** #6421; **Studies in systems of logic**, **47** #6426 *and* **ólya, George**, **51** #12459

skiĭ, L. P. (*with* Sobolevs'kiĭ, P. O.) An iteration method for solving quasilinear econd order elliptic equations. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 5 971), 114–121. (Todor G. Genčev) **53** #11217 35J25

(*with* Sobolevs'kiĭ, P. O.) Solvability of a boundary value problem for a quasilinear parabolic equation with continuous initial data. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. No.* 3 (1971), 119–134. (See RŽMat **1972** #2 B368) 35K55

(*with* Sobolevs'kiĭ, P. O.) A certain iteration method for the approximate solution of quasilinear elliptic equations. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU No.* 3 (1971), 142–146. (J. Nečas) **47** #9050 35J25

Periodic solutions of a quasilinear parabolic problem in the case of second order growth of the nonlinearity with respect to the derived solutions. (Russian) *Collection of papers by postgraduates, Vol.* 2 (*Russian*), *pp.* 82–85. *Voronež. Gos. Univ., Voronezh*, 1972. (See RŽMat **1974** #5 B426; MR **57** #9376) 35B10 (35K55)

An approximate solution of a nonlinear elliptic problem by the quasi-Newton method. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 19 (1975), 165–166. (Zbl **365** #35023) **58** #8374 65N99

(*with* Abramovič, Ju. A.; Posicel'skiĭ, E. D.) A new numerical characteristic of KN-lineals. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 20 (1975), 65–66. (K. Jacobs) **58** #2131 46A40

The iterative solution of second order differential equations with monotone nonlinearities. (Russian) *Ž. Vyčisl. Mat. i. Mat. Fiz.* **15** (1975), *no.* 3, 776–779, 813. (J. W. Schmidt) **52** #4640 65L10

See also **Gantmaher, F. R.**, (Not reviewed)

Janovskiĭ, R. G. (*with* Marčuk, G. I.; Kulikov, L. Ja.; Kargapolov, M. I.; Taĭmanov, A. D.; Plotkin, B. I.; Kemhadze, Š. S.; Andrunakievič, V. A.; Eršov, Ju. L.; Širšov, A. I.) From speeches at the opening of the Tenth All-Union Algebra Colloquium dedicated to the memory of Academician A. I. Mal'cev. (Russian) *Selected questions of algebra and logic* (*collection dedicated to the memory of A. I. Mal'cev*) (*Russian*), *pp.* 300–314. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1973. (Editors) **58** #21310 01A70

Janovský, Vladimír Elliptic boundary value problems with nonvariational perturbation and the finite element method. (Czech summary) *Apl. Mat.* **18** (1973), 422–433. (Amnon Barak) **48** #12868 65N10

Hybrid variational principles and their use in the finite element method. Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys.* **15** (1974), *no.* 1-2, 59–61. (I. Norman Katz) **52** #7164 65N99

Nonconform finite element procedure for solving of the simply supported plate problem. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 4, 717–733. (Siegfried Filippi) **53** #4576 65N30 (73.65)

(*with* Procházka, Petr) The nonconforming finite element method in the problem of clamped plate with ribs. (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 4, 273–289. (Gilbert Strang) **54** #1662 65N30 (73.65)

(*with* Procházka, Petr) Convergence analysis of a nonconforming finite element method solving a plate with ribs. (Russian summary) *Apl. Mat.* **23** (1978), *no.* 1, 9–30. (From the authors' text) **57** #2075 73.65

Janowitz, Melvin F. On the lattice of left annihilators of certain rings. *Fund. Math.* **71** (1971), *no.* 3, 199–205. (S. Sakai) **45** #4149 46H05 (46M99)

Equivalence relations induced by Baer *-semigroups. *J. Natur. Sci. and Math.* **11** (1971), 83–102. (M. Kolibiar) **47** #88 06A30 (20M99)

Indexed orthomodular lattices. *Math. Z.* **119** (1971), 28–32. (A. C. Choudhury) **45** #127 06A30

(*with* Blyth, T. S.) ★Residuation theory. International Series of Monographs in Pure and Applied Mathematics, Vol. 102. *Pergamon Press, Oxford-New York-Toronto, Ont.*, 1972. ix+379 *pp.* (B. M. Schein (Šaĭn)) **53** #226 06A50

The near center of an orthomodular lattice. *J. Austral. Math. Soc.* **14** (1972), 20–29. (R. J. Greechie) **47** #4880 06A30

Constructible lattices. *J. Austral. Math. Soc.* **14** (1972), 311–316. (R. J. Greechie) **47** #4881 06A30

On a paper by Iqbalunnisa. *Fund. Math.* **78** (1973), *no.* 2, 177–182. (R. P. Dilworth) **47** #6569 06A25

(*with* Randall, C. H.; Foulis, D. J.) Orthomodular generalizations of homogeneous Boolean algebras. *J. Austral. Math. Soc.* **15** (1973), 94–104. (B. L. Jeffcott) **47** #8376 06A30

SM-semilattices. *Proceedings of the Lattice Theory Conference* (*Ulm*, 1975), *pp.* 100–117. *Univ. Ulm, Ulm*, 1975. (T. S. Blyth) **55** #7863 06A20

Annihilator , reserving congruence relations of lattices. *Algebra Universalis* **5** (1975), *no.* 3, 391–394. (R. Balbes) **52** #13546 06A35

Semimultiplicative residuated mappings. *Algebra Universalis* **5** (1975), *no.* 3, 429–442. (T. S. Blyth) **53** #2768 06A20

Examples of statisch and finite-statisch AC-lattices. *Fund. Math.* **89** (1975), *no.* 3, 225–227. (Heinrich Werner) **52** #2983 06A30

On the "del" relation in certain atomistic lattices. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3–4, 231–240. (Heinrich Werner) **55** #2681 06A20

A note on Rickart rings and semi-Boolean algebras. *Algebra Universalis* **6** (1976), *no.* 1, 9–12. (R. A. Melter) **53** #2791 06A40

Modular SM-semilattices. *Algebra Universalis* **6** (1976), *no.* 1, 13–20. (T. S. Blyth) **54** #2558 06A30

(*with* Coté, N. H.) Finite-distributive atomistic lattices. *Portugal. Math.* **35** (1976), *no.* 1-2, 81–91. (R. Balbes) **56** #5380 06A35

A triple construction of SM-semilattices. *Algebra Universalis* **7** (1977), *no.* 3, 389–402. (T. S. Blyth) **56** #191 06A20

Complemented congruences on complemented lattices. *Pacific J. Math.* **73** (1977), *no.* 1, 87–90. (E. T. Schmidt) **57** #3022 06A25

An order theoretic model for cluster analysis. *SIAM J. Appl. Math.* **34** (1978), *no.* 1, 55–72. (Author's summary) **57** #16161 06A75

Janowski, Witold A certain family of univalent functions. (Polish. French summary) *Zeszyty Nauk. Uniw. Łódz. Nauki Mat. Przyrod. Ser. II No.* 20 *Matematyka* (1966), 3–41. (Z. Lewandowski) **50** #7498 30A32

Some extremal problems for certain families of analytic functions. I. *Ann. Polon. Math.* **28** (1973), 297–326. (S. Fisher) **48** #6401 30A40

Some extremal problems for certain families of analytic functions. I. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 17–25. (W. C. Royster) **47** #3659 30A32

See also **Jakubowski, Zbigniew Jerzy**, **56** #15328

Janpol′skiĭ, A. P. (*with* Baranenkov, G. S.; Demidovič, B. P.; Efimenko, V. A.; Kogan, S. M.; Lunc, G. L.; Poršneva, E. F.; Syčeva, E. P.; Frolov, S. V.; Šostak, R. Ja.) ★Problems in mathematical analysis. Under the editorship of B. Demidovich. Translated from the Russian by G. Yankovsky. Fourth printing. *Mir Publishers, Moscow*, 1976. 496 *pp*. (Editors) **55** #5804 26–01

Janpol′skiĭ, A. R. (*with* Baranenkov, G. S.; Demidovič, B. P.; Efimenko, V. A.; Kogan, S. M.; Lunc, G. L.; Poršneva, E. F.; Syčeva, E. P.; Frolov, S. V.; Šostak, R. Ja.) ★Problems in mathematical analysis. Edited by B. Demidovich [B. P. Demidovič]. Translated from the Russian by G. Yankovsky [G. Jankovskiĭ]. Third printing. *Mir Publishers, Moscow*, 1973. 496 *pp*. (Editors) **50** #2398 26–01

(*with* Baranenkov, G. S.; Demidovič, B. P.; Efimenko, V. A.; Frolov, S. V.; Kogan, S. M.; Lunc, G. L.; Poršneva, E. F.; Syčeva, E. P.; Šostak, R. Ja.) ★Esercizi e problemi di analisi matematica. A cura di B. Demidovič. Tradutto dell'edizione russa di 1959. Nuova Biblioteca di Cultura, Serie Scientifica, No. 138. *Editori Riuniti, Rome*; *Edizioni Mir, Moscow*, 1975. 486 *pp*. (Editors) **54** #2370 00A05 (26–01)

Jans, J. P. Torsion associated with duality. *Tôhoku Math. J.* (2) **24** (1972), 449–452. (R. Strano) **48** #11205 16A49

Jansen, A. J. E. M. *See* **Janssen, A. J. E. M.**

Jansen, A. V. A necessary and sufficient condition for a homomorphism of homology groups to be induced by a map. *Math. Colloq. Univ. Cape Town* **7** (1971/72), 4–7 (1972). (D. Baladze) **55** #4133 55B05

Chain complexes from *g*-functions. *Math. Colloq. Univ. Cape Town* **7** (1971/72), 14–16 (1972). (J. Dugundji) **55** #1356 55J15

Open set correspondences and continuous functions. *Math. Colloq. Univ. Cape Town* **8** (1973), 63–72. (From the author's introduction) **55** #1283 54C05

On *V*-maps. *J. London Math. Soc.* (2) **12** (1975/76), *no*. 4, 465–466. (Timothy Porter) **52** #11903 55D99

On map induced shapings. Proceedings of the Second Symposium on Categorical Topology (Univ. Cape Town, Cape Town, 1976). *Quaestiones Math.* (2) **2** (1977/78), *no*. 1-3, 225–234. (V. A. Kalinin) **58** #2807 55D99

Jansen, H. J. F. (*with* Meuwese, A. J.; Tolhoek, H. A.) Wave propagation according to higher order field equations. I. *Phys. A* **82** (1975), *no*. 1, 72–96 (1976). (Brian DeFacio) **53** #7277 81.35

Jansen, Hu. (*with* Butzer, Paul L.; Dickmeis, W.; Nessel, Rolf Joachim) Alternative forms with orders of the Lax equivalence theorem in Banach spaces. (German summary) *Computing* **17** (1976/77), *no*. 4, 335–342. (Joachim A. Nitsche) **55** #13804 65M10

Jansen, Jozef Karel Maria ★Simple-periodic and non-periodic Lamé functions and their application in the theory of conical wave-guides. With a Dutch summary. Doctoral thesis, Technische Hogeschool Eindhoven, Eindhoven. *Mathematisch Centrum, Amsterdam*, 1976. vi+98 *pp*. (R. F. Millar) **57** #8457 78.33

★Simple-periodic and non-periodic Lamé functions. Mathematical Centre Tracts, No. 72. *Mathematisch Centrum, Amsterdam*, 1977. iii+104 *pp*. *ISBN* 90-6196-130-0 (V. P. Madan) **57** #3476 33A55 (65D20, 78.33)

Jansen, Karl-Heinz Neue Kriterien für das Fehlen von L^2-Lösungen für $-\Delta v = f(x, v)$ im $\mathbf{R}_n$ unter besonderer Berücksichtigung des linearen Falles. *Jber. Deutsch. Math.-Verein.* **72** (1970/71), *Abt.* 1, 190–204. (Author's introduction) **58** #29157 35J15

(*with* Kalf, Hubert) On positive eigenvalues of one-body Schrödinger operators: remarks on papers by S. Agmon (Proceedings of the International Conference on Functional Analysis and Related Topics (Tokyo, 1969) pp. 216–224, Univ. Tokyo Press, Tokyo, 1970; J. Analyse Math. **23** (1970), 1–25) and B. Simon (Comm. Pure Appl. Math. **22** (1969), 531–538). *Comm. Pure Appl. Math.* **28** (1975), *no*. 6, 747–752. (Teruo Ikebe) **54** #10888 35P15

Jansen, R. (*with* Somermeyer, W. H.; Louter, A. S.) Estimating quarterly values of annually known variables in quarterly relationships. *J. Amer. Statist. Assoc.* **71** (1976), *no*. 355, 588–595. (P. C. B. Phillips) **54** #14301 62P20 (90A99)

Jansen, Siegfried L. Représentation d'un ensemble ordonné dans un sous-treillis d'un treillis complet et complètement distributif. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no*. 4, Ai, A127–A128. (G. Bruns) **52** #10514 06A10

Subdirect representation of partially ordered sets. *J. London Math. Soc.* (2) **17** (1978), *no*. 2, 195–202. (Ivan Rival) **58** #5423 06A10

Jansen, Uwe (*with* König, Dieter) Eine Invarianzeigenschaft zufälliger Bedienungsprozesse mit positiven Geschwindigkeiten. Collection of articles dedicated to the memory of Wolfgang Richter. *Math. Nachr.* **70** (1975), 321–364. (Brian Conolly) **55** #4426a 60K25

(*with* König, Dieter) Invariante stationäre Zustandswahrscheinlichkeiten für eine Klasse stochastischer Modelle mit funktionellen Abhängigkeiten. (English and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no*. 4, 497–522. (Brian Conolly) **55** #4426b 60K25

(*with* König, Dieter; Kotzurek, Matthias; Rabe, H.) Ergebnisse von Invarianzuntersuchungen für ausgewählte Bedienungs- und Zuverlässigkeitssysteme. *Math. Operationsforsch. Statist.* **7** (1976), *no*. 4, 523–556. (Jos H. A. de Smit) **55** #4427 60K25

(*with* König, Dieter) Stochastic processes and properties of invariance for queueing systems with speeds and temporary interruptions. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A, pp*. 335–343. *Reidel, Dordrecht*, 1977. (Richard F. Serfozo) **58** #7913 60K25

Jansen, Willem G. Fsp rings and modules, and local modules. *Comm. Algebra* **6** (1978), *no*. 6, 617–637. (M. Teply) **57** #6100 16A50

Jansen, Z. A. *See* **Janson, Z. A.**

Jan Ši (*with* Garibjan, G. M.) Radiation from an ultrarelativistic charge in a stack of plates with allowance for absorption and multiple scattering. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Fiz.* **12** (1977), *no*. 2, 105–117, 160. (Authors' summary) **57** #8485 78.60

Janson, Ja. V. *See* **Jansons, J.**

Janson, Svante On functions with conditions on the mean oscillation. *Ark. Mat.* **14** (1976), *no*. 2, 189–196. (D. Sarason) **55** #10951 42A40

Characterizations of H^1 by singular integral transforms on martingales and $\mathbf{R}^n$. *Math. Scand.* **41** (1977), *no*. 1, 140–152. (J. A. Chao) **57** #3729 42A40 (60G45)

On random divisions of a convex set. *J. Appl. Probab.* **15** (1978), *no*. 3, 645–649. (Pamela J. Davy) **58** #2960 60D05

Janson, Z. A. High-frequency asymptotic theory of the solutions of the wave equat plane wave guide that is formed by two caustics. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **17** (1970), 218–243. (N. D. Kaz **45** #9592 78.35

Asymptotic solutions of a second order differential equation with two turnin and a complex parameter. I. (Russian. English summary) Mathematical quest the theory of wave propagation, 8. *Zap. Naučn. Sem. Leningrad. Otdel. Ma Steklov.* (*LOMI*) **62** (1976), 220–233, 238–239. (A. Alenicyn) **58** #6569 34

See also **Mathematical problems in the theory of wave propagation, 46** #955

Jansons, J. Justification of the gluing method for a certain Dirichlet problem. (F Latvian and English summaries) *Latvian mathematical yearbook*, 15 (*Russi* 203–223, 235. *Izdat.* "*Zinatne*", *Riga*, 1974. (A. Haimovici) **49** #10897 31A

(*with* Riekstiņš, E.) Asymptotic expansion of integrals with periodic kernels. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 33–46, 243. (S. Aljančić) **56** 41A60

Some transformations of asymptotic series. (Russian) *Latviĭsk. Mat. Ežegodn* 19 (1976), 71–78, 244. (B. Choczewski) **57** #646 30A84 (41A60)

Janssen, A. J. E. M. ★Generalized stochastic processes. T. H.-Report, No. 76-W *Department of Mathematics, Technische Hogeschool Eindhoven, Eindhoven*, 1976 *pp*. (Reuven Meidan) **56** #9663 60G20

(*with* Hall, J. I.; Kolen, A. W. J.; van Lint, Jacobus H.) Equidistant cod distance 12. *Discrete Math.* **17** (1977), *no*. 1, 71–83. (J.-M. Góethals) **56** #1 94A10 (05B30)

Janssen, D. (*with* Djolos, R. V.) A microscopic approach to the description of pro of quadrupole nuclear excitations. (Russian. English summary) *Fiz. Èlementar. C Atom. Jadra* **8** (1977), *no*. 2, 330–373. (Authors' summary) **57** #2308 81.47

(*with* Monien, Burkhard) Über die Komplexität der Fehlerdiagnose bei Syst *Z. Angew. Math. Mech.* **57** (1977), *no*. 5, T315–T317. (Cristian Calude) **56** # 68A20

Janssen, D. M. (*with* Datta, S. K.; Jahsman, W. E.) Propagation of weak wa elastic-plastic solids. *J. Mech. Phys. Solids* **20** (1972), 1–18. (J. Bejda) **47** #2 73.35

Janssen, Gerhard Formal-reelle Jordanalgebren unendlicher Dimension und verallgemeinerte Positivitätsbereiche. *J. Reine Angew. Math.* **249** (1971), 173–2 Stern (RŽMat **1972** #3B609)) **54** #12846 17C35 (46C99)

Restricted ultraproducts of finite von Neumann algebras. *Contributions to non-standard analysis* (*Sympos., Oberwolfach*, 1970), *pp*. 101–114. *Studies in Log Found. Math., Vol.* 69, *North-Holland, Amsterdam*, 1972. (D. G. Tacon) **58** #2 46L10 (02H25)

Reelle Jordanalgebren mit endlicher Spur. (English summary) *Manuscripta* **13** (1974), 237–273. (E. Størmer) **50** #9991 17A15

Bemerkungen zum Dichtigkeitssatz von Kaplansky. *Math. Z.* **139** (1974), 15 (K. Saitô) **50** #10842 46L10

Die Struktur endlicher schwach abgeschlossener Jordanalgebren. I. Stetige Jordanalgebren. (English summary) *Manuscripta Math.* **16** (1975), *no*. 3, 277–30 Størmer) **51** #13710a 46L10 (17C99)

Die Struktur endlicher schwach abgeschlossener Jordanalgebren. II. Diskrete Jordanalgebren. (English summary) *Manuscripta Math.* **16** (1975), *no*. 4, 307–33 Størmer) **51** #13710b 46L10 (17C99)

A criterion for modularity of certain lattices. *J. London Math. Soc.* (2) **15** (197 3, 384–386. (Johnny A. Johnson) **56** #199 06A30

Janssen, Hans-Karl (*with* Dohm, Volker) Dynamic scaling near bicritical points. *Rev. Lett.* **39** (1977), *no*. 15, 946–949. (Authors' summary) **56** #4595 82.47

Janssen, Jacques Sur une généralisation du concept de promenade aléatoire sur la réele. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **6** (1970), 249–26 Mineka) **45** #2803 60J15

Extension of a two-sided inequality of Daley and Moran to the completely semi-Markov queueing model. (French summary) *Cahiers Centre Études Rech Opér.* **18** (1976), *no*. 4, 459–469. (Peter Purdue) **57** #4352 60K15 (60K25)

Some duality results in semi-Markov chain theory. *Rev. Roumaine Math. Appl.* **21** (1976), *no*. 4, 429–441. (Jozef L. Teugels) **54** #14141 60K15

Absorption problems in semi-Markov chains. *Recent developments in stat* (*Proc. European Meeting Statisticians, Grenoble*, 1976), *pp*. 481–488. *North-Hol Amsterdam*, 1977. (R. L. Tweedie) **57** #14174 60K15

Janssen, Klaus Martin boundary and $\mathcal{H}^p$-theory of harmonic spaces. *Seminar on Pote Theory, II, pp*. 102–151. *Lecture Notes in Math., Vol.* 226, *Springer, Berlin*, 1971. (H Airault) **52** #14337 31B35 (31D05)

(*with* Bliedtner, Jürgen) Harnacksche Kegel und Metrik in harmonischen Räum *Math. Ann.* **198** (1972), 85–97. (B. Walsh) **48** #8824 31D05

(*with* Bliedtner, Jürgen) Integraldarstellung positiver Lösungen von linearen elliptischen und parabolischen Differentialgleichungen mit konstanten Koeffizien *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1001–1011. (G. Wildenhain) **48** #88 31B35

(*with* Bliedtner, Jürgen) Bezugsmasse und dominante Masse in harmonischen Räumen. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 183–187. (M. Brelot) **47** # 31C05

(*with* Bliedtner, Jürgen) A generalization of H. Bauer's minimum principle. *A Math.* (*Basel*) **25** (1974), 505–510. (I. Netuka) **51** #912 31D05

On the existence of a Green function for harmonic spaces. *Math. Ann.* **208** (19 295–303. (R. M. Hervé) **50** #2538 31D05

(*with* Nguyen-Xuan-Loc) On the balayage of Green functions on finely open s *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **31** (1974/75), 147–155. (J. C. Tay **52** #782 31D05

A co-fine domination principle for harmonic spaces. *Math. Z.* **141** (1975), 185– (Thomas E. Armstrong) **51** #915 31D05

Janssen, Paul (*with* Bouwkamp, C. J.; Koene, A.) Note on pantactic squares. *Math.* **54** (1970), *no*. 390, 348–351. (Editors) **58** #18065 50–04

(*with* Callaert, Herman) The Berry-Esseen theorem for *U*-statistics. *Ann. Statis* (1978), *no*. 2, 417–421. (W. Hoeffding) **57** #4290 60F05

en, T. (*with* Janner, Aloysio) Electromagnetic compensating gauge transformations. *hysica* **53** (1971), 1–27. (A. O. Barut) **47** #9967 81.22

On projective unitary-antiunitary representations of finite groups. *J. Mathematical hys.* **13** (1972), 342–351. (G. F. Koster) **45** #3593 20C25

(*with* Janner, Aloysio) A charged particle in the field of a transverse lectromagnetic plane wave. A group-theoretical analysis. *Physica* **60** (1972), 292–321. R. L. Ingraham) **51** #7501 81.22

★Crystallographic groups. *North-Holland Publishing Co., Amsterdam-London; merican Elsevier Publishing Co., Inc., New York*, 1973. xiii+281 *pp*. (Werner Nowacki) **0** #2359 20H15

(*with* Chen, Li Ching) A charged particle in a uniform electromagnetic field. A roup-theoretical analysis. *Physica* **77** (1974), 290–310. (Kishin Mariwalla) **52** #2408 8.22

(*with* Janner, Aloysio) Properties of lattices associated with a modulated crystal. *roup theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Iontreal, Que.*, 1976), *pp*. 31–38. *Academic Press, New York*, 1977. (Werner Nowacki) **8** #4111 82.20 (10E15, 20H15)

See also **Proceedings: International Colloquium on Group Theoretical Methods in hysics**, **48** #10342 *and* **Group theoretical methods in physics**, **57** #11993

sen, T. M. V. (*with* van Emde Boas, Peter) On the proper treatment of referencing, lereferencing and assignment. *Automata, languages and programming* (*Fourth Colloq., Jniv. Turku, Turku*, 1977), *pp*. 282–300. *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin*, 1977. (Gianni Aguzzi) **57** #4556 68–02 (68A05)

(*with* van Emde Boas, Peter) The expressive power of intensional logic in the emantics of programming languages. *Mathematical foundations of computer science Proc. Sixth Sympos., Tatranská Lomnica*, 1977), *pp*. 303–311. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (G. E. Ceĭtlin) **58** #32005 68A05

sens, P. *See* **Équations différentielles et fonctionnelles non linéaires**, **47** #7088

son, Leif (*with* Färe, Rolf) On VES and WDI production functions. *Internat. Econom. Rev.* **16** (1975), *no*. 3, 745–750. (Ronald W. Shephard) **56** #2313 90B30 90A15)

ke, Klaus-P. Zur Kompliziertheit der konsistenten Erkennung von Klassen allgemein-rekursiver Funktionen. *Algorithmische Kompliziertheit, Lern- und Erkennungsprozesse* (*Zweites Internat. Sympos., Friedrich-Schiller-Univ., Jena*, 1976), *pp*. 45–52. *Friedrich-Schiller-Universität, Jena*, 1976. (From the introduction) **58** #5119 02F20 (68A20)

osciak, James (*with* Prenowitz, Walter) Geometries and join spaces. *J. Reine Angew. Math.* **257** (1972), 100–128. (H. Groh) **46** #8020 50A20

sch, Erich *See* **Evolution and consciousness**, **56** #17905

scher, Lothar ★Distributionen. de Gruyter Lehrbuch. *Walter de Gruyter, Berlin-New York*, 1971. 367 *pp*. (Editors) **57** #3848 46Fxx

zen, Jens Carsten Darstellungen halbeinfacher algebraischer Gruppen und zugeordnete kontravariante Formen. *Bonn. Math. Schr. No.* 67 (1973), v+124 *pp*. (G. I. Lehrer) **53** #5761 20G05

Zur Charakterformel gewisser Darstellungen halbeinfacher Gruppen und Lie-Algebren. *Math. Z.* **140** (1974), 127–149. (D.-N. Verma) **55** #5756 20G05 (22E60, 17B35)

(*with* Borho, Walter) Über primitive Ideale in der Einhüllenden einer halbeinfachen Lie-Algebra. (English summary) *Invent. Math.* **39** (1977), *no*. 1, 1–53. (Michiel Hazewinkel) **56** #12079 17B10 (17B35)

Über das Dekompositionsverhalten gewisser modularer Darstellungen halbeinfacher Gruppen und ihrer Lie-Algebren. *J. Algebra* **49** (1977), *no*. 2, 441–469. (R. Steinberg) **58** #5881 20C20 (20G05)

Darstellungen halbeinfacher Gruppen und kontravariante Formen. *J. Reine Angew. Math.* **290** (1977), 117–141. (J. E. Humphreys) **55** #5758 20G15

Kontravariante Formen auf induzierten Darstellungen halbeinfacher Lie-Algebren. *Math. Ann.* **226** (1977), *no*. 1, 53–65. (G. I. Lehrer) **55** #12783 17B10

tzen, Robert T. Tensor harmonics on the 3-sphere. *J. Mathematical Phys.* **19** (1978), *no*. 5, 1163–1172. (Helmuth K. Urbantke) **57** #15180 83.22

ušanec, Ju. B. (*with* Lazutkin, V. F.) Asymptotic behavior of a series of eigenfunctions of the Laplace operator that corresponds to a family of invariant curves. II. (Russian) *Problems in mathematical physics, No.* 7 (*Russian*), *pp*. 65–79, 182. *Izdat. Leningrad. Univ., Leningrad*, 1974. (Authors' summary) **58** #24413b 58G99 (35P20)

(*with* Lazutkin, V. F.) Asymptotic behavior of a series of eigenfunctions of the Laplace operator that corresponds to a family of invariant curves. III. (Russian) *Problems in mathematical physics, No.* 8 (*Russian*), *pp*. 92–109, 173. *Izdat. Leningrad. Univ., Leningrad*, 1976. (Authors' summary) **58** #24414 58G99 (35P20)

ušauskas, Algimantas Entire solutions of second order elliptic equations. (Russian) *Sibirsk. Mat. Ž.* **11** (1970), 1161–1170, 1199. (I. Aganović (Zbl **205**, 402)) **56** #9062 35J15

Mappings of three-dimensional domains. (Russian) *Metric questions of the theory of functions and mappings, No.* 3 (*Proc. Second Colloq. Theory of Quasiconformal Mappings and its Generalizations, dedicated to M. A. Lavrent'ev's seventieth birthday, Donetsk*, 1970) (*Russian*), *pp*. 127–138. *Izdat. "Naukova Dumka", Kiev*, 1971. (V. Mićić) **50** #4977 30A96

Critical points of electrostatic potentials. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 1 (1971), 84–90, 97. (Bert-Wolfgang Schulze) **51** #13254 31B05 (58E99)

The composition of singular integrals. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 1390–1397. (S. G. Samko) **45** #3740 31B20

Reduction of the problem of the oblique derivative to a Fredholm integro-differential equation. (Russian) *Differencial'nye Uravnenija* **8** (1972), 179–189. (J. Veselý) **45** #5391 31B20

A certain reduction of the problem with an oblique derivative. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 1014–1017. (S. V. Temko) **46** #4025 35Q99

Harmonic mappings of domains that are bounded by spheres. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 1313–1315. (P. Caraman) **46** #9313 30A30 (31B05)

A measure of sub-definiteness for an oblique derivative problem. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 718–723. (D. P. Squier) **46** #2214 35J05 (31A05)

The absence of critical points of harmonic functions that are regular in symmetric domains. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 1407–1410, 1423. (Ü. Kuran) **48** #8820 31B05

A class of integro-differential equations. (Russian) *Differential and integral equations, No.* 2 (*Russian*), *pp*. 187–217, 313. *Irkutsk. Gos. Univ., Irkutsk*, 1973. (Author's summary) **57** #3795 45K05

Series in powers of one variable that satisfy partial differential equations. (Russian) All-Union Symposium on Selected Questions of Partial Differential Equations (Prièlbrus, 1972). *Differencial'nye Uravnenija* **9** (1973), 189–191, 200. (J. Mitchell) **48** #4473 35C10

The completeness of special families of solutions of degenerate equations. (Russian) *Differencial'nye Uravnenija* **9** (1973), 343–348, 397. (D. P. Squier) **48** #4474 35C10 (32A25)

The behavior of harmonic mappings in the neighborhood of nondegenerate critical points of the defining functions. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 4 (1973), 77–85, 93. (Bert-Wolfgang Schulze) **51** #13255 31B05 (58E99)

The problem of the oblique derivative with polynomial coefficients. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 555–557. (M. A. Atahodžaev) **47** #3826 35J25 (31B20)

Singular points of harmonic mappings. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 828–830. (Ü. Kuran) **49** #3170 31B05

The level surfaces of a harmonic function. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 442–449, 464. (Ü. Kuran) **48** #6448 31B05

A certain first order system. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 1149–1152, 1160. (A. Haimovici) **48** #6641 35E99

Elementary harmonic mappings of three-dimensional domains. (Russian) *Metric questions of the theory of functions and mappings, No. V* (*Russian*), *pp*. 178–201. *Izdat. "Naukova Dumka", Kiev*, 1974. (V. G. Šeretov) **52** #14328 30A60 (31B05)

A certain boundary value problem for a system of harmonic functions. (Russian) *Differencial'nye Uravnenija* **10** (1974), 174–177, 184. (S. V. Temko) **49** #3168 31A25

Harmonic mappings of three-dimensional domains. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 7 (1974), 93–152, 161. (Bert-Wolfgang Schulze) **51** #13256 31B05 (58E99)

The method of two-dimensional decomposition in the study of the critical points of harmonic functions. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no*. 1, 207–222, 233. (Bert-Wolfgang Schulze) **52** #11084 31B05 (58E05)

The minimum of the scalar square of the gradient of a harmonic function. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1157–1162, 1183. (I. Netuka) **51** #909 31B05

On the theory of degenerate elliptic equations. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1394–1405, 1432. (V. Barbu) **50** #13880 35J70

Some questions on the distribution of the critical points of harmonic polynomials in three variables. (Russian) *Differencial'nye Uravnenija* **11** (1975), 170–175, 205–206. (V. Ĭ. Ševčenko) **51** #5948 31B20 (35J05, 58E15)

On the problem of the oblique derivative for elliptic equations. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 405–408, 422. (Bert-Wolfgang Schulze) **51** #13437 35J25 (31B05)

Critical points of the Green's function of the exterior of a convex domain. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no*. 5, 1103–1109, 1132. (Bert-Wolfgang Schulze) **53** #3328 31B20

Mappings of three-dimensional domains that are realized by harmonic functions. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no*. 5, 1124–1126, 1133. (Bert-Wolfgang Schulze) **54** #14017 58G99 (31C05)

On the Cauchy problem for the Laplace equation with three independent variables. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no*. 6, 1352–1363, 1372. (Bert-Wolfgang Schulze) **53** #11215 35J05 (58G99)

A generalization of mappings that are harmonic in the sense of M. A. Lavrent'ev. (Russian) *Some problems in modern function theory* (*Proc. Conf. Modern Problems of Geometric Theory of Functions, Inst. Math., Acad. Sci. USSR, Novosibirsk*, 1976) (*Russian*), *pp*. 176–180. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1976. (Editors) **58** #22622 31C05

Global methods of studying the oblique derivative problem for elliptic equations. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no*. 1, 159–171, 190–191. (Bert-Wolfgang Schulze) **54** #3149 35J25

A property of power series that satisfy partial differential equations. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 15 (1976), 63–70, 87. (J. D. Kečkić) **57** #13134 35C10 (42A44)

Direct methods for studying the analytic continuability of the sum of a double power series. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no*. 3, 217–227, 238. (L. Gogoladze) **55** #3294 32A05 (32A30)

A certain nonlinear system of first order differential equations. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no*. 2, 474–476, 481. (A. Haimovici) **53** #13812 35F20

On the theory of elliptic equations in which the coefficients of the lower derivatives have higher order singularities. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no*. 5, 1177–1187, 1199. (Vojislav Marić) **55** #830 35C15 (35B40)

Direct methods for studying the singularities of the sums of Laplace series that lie on the boundary of a ball of convergence. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no*. 2, 344–357, 382. (J. Veselý) **57** #12876 31B05

Analytic continuation of the sums of double power series and Laplace series. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 18 (1977), 51–73, 77. (R. P. Boas, Jr.) **57** #3422 32A05 (31B10, 32A15)

Elementary theorems on the convergence of double Dirichlet series. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no*. 1, 34–37. (R. P. Boas, Jr.) **56** #651 32A05 (30A16, 40B05)

The coefficients of harmonic functions that are positive in the unit ball. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no*. 4, 776–779. (Ü. Kuran) **55** #12934 31B05

Analogues of the theorems of Leau and Le Roy for the functions of two complex variables. (Russian) *Litovsk. Mat. Sb.* **17** (1977), *no.* 4, 213–220, 225. (A. I. Heĭfic) **57** #6488 32A30

Axially symmetric Laplace series. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 2, 444–454, 480. (M. A. Atahodžaev) **56** #5914 31B05 (30A12)

Analytic continuation of the sum of an axially symmetric Laplace series as a function of the arithmetic properties of the coefficients. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 1, 160–166, 191. (V. I. Gavrilov) **57** #9944 30A10 (33A30)

Double Dirichlet series. (Russian. Lithuanian and French summaries) *Litovsk. Mat. Sb.* **18** (1978), *no.* 3, 201–211, 217. (R. P. Boas, Jr.) **58** #11477 32A05 (30A16)

An analogue of the conformal radius. (Russian) *Sibirsk Mat. Ž.* **19** (1978), *no.* 1, 217–224, 240. (J. Siciak) **58** #6298 31B15

Januševskiĭ, R. T. ★Теория линейных оптимальных многосвязных систем управления. (Russian) [Theory of linear optimal multiply connected control systems] *Izdat. "Nauka", Moscow*, 1973. 464 *pp.* (J. M. Skowroński) **48** #8045 93C05

★Теория линейных оптимальных многосвязных систем управления. (Russian) [Theory of linear optimal multivariable control systems] *Izdat. "Nauka", Moscow*, 1973. 464 *pp.* (K. Amborski) **50** #6586 93Cxx

Design of optimal low-sensitivity feedback control systems. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp.* 271–275. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (Peter J. Moylan) **53** #7558 93B35

A decomposition in the solution of optimal problems on the synthesis of linear multivariable control systems. (Russian) *Theory and methods of construction of multivariable control systems* (*Russian*), *pp.* 144–153, 337. *Izdat. "Nauka", Moscow*, 1973. (P. Brunovský) **52** #11713 49E05

Singularities of solutions of a problem of optimal synthesis of linear multi-channel systems in the presence of a set of non-measurable phase coordinates of the object. (Russian) *Sb. Trudov Inst. Problem Upravlen. Vyp.* 3 *Issled. i Optimizacija Složn. Mnogosvjaz. Sistem* (1973), 10–13, 144. (RŽMat **1974** #3 B584) **57** #9192 93B99

Optimal synthesis for a class of n-person differential games. (Russian) *Sb. Trudov Inst. Problem Upravlen. Vyp.* 3 *Issled. i Optimizacija Složn. Mnogosvjaz. Sistem* (1973), 27–33, 145. (Editors) **58** #26072 90D25

Mathematical description and optimization of closed multivariable systems with lag. (Russian) *Control of multivariable systems* (*Russian*), *pp.* 30–42, 133. *Izdat. "Nauka", Moscow*, 1975. (From the author's text) **57** #2675 93C05 (93E10)

Factorization of one class of matrices in synthesizing multiconnected systems with delay. *Avtomat. i Telemeh.* **1975**, *no.* 4, 19–23 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 4, *part* 1, 538–542. (Author's summary) **56** #9945 65F30 (49E30)

See also **Proceedings: All-Union Conference on Automatic Control—Engineering Cybernetics**, **48** #8022

Janusz, Gerald J. Faithful representations of p groups at characteristic p. *Representation theory of finite groups and related topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 89–90. *Amer. Math. Soc., Providence, R.I.*, 1971. (Editors) **52** #8239 20C20

Faithful representations of p groups at characteristic p. II. *J. Algebra* **22** (1972), 137–160. (Bhama Srinivasan) **46** #240 20C20

Some left serial algebras of finite type. *J. Algebra* **23** (1972), 404–411. (Robert S. Cunningham) **46** #1847 16A64

The Schur index and roots of unity. *Proc. Amer. Math. Soc.* **35** (1972), 387–388. (T. V. Fossum) **46** #1891 20C05 (16A16)

★Algebraic number fields. Pure and Applied Mathematics, Vol. 55. *Academic Press* [*A Subsidiary of Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1973. x + 220 *pp.* (Jack Sonn) **51** #3110 12–02

(*with* Ford, Charles) Examples in the theory of the Schur group. *Bull. Amer. Math. Soc.* **79** (1973), 1233–1235. (W. E. Baxter) **48** #8548 16A26

(*with* Alperin, J. L.) Resolutions and periodicity. *Proc. Amer. Math. Soc.* **37** (1973), 403–406. (Edward Cline) **47** #8717 20J05

The local index of elements in the Schur group. *Proceedings of the International Conference on Representations of Algebras* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 16, 7 *pp. Carleton Math. Lecture Notes, No.* 9, *Carleton Univ., Ottawa, Ont.*, 1974. (S. Yuan) **51** #440 12A60 (16A16)

Simple components of $Q[\mathrm{SL}(2,q)]$. *Comm. Algebra* **1** (1974), 1–22. (Donald S. Passman) **49** #9062 20C05

The Schur group of cyclotomic fields. *J. Number Theory* **7** (1975), *no.* 3, 345–352. (Mark Benard) **52** #3119 12A60 (20C15)

Generators for the Schur group of local and global number fields. *Pacific J. Math.* **56** (1975), *no.* 2, 525–546. (Mark Benard) **52** #10679 12A60 (12A65, 20C05)

The Schur group of an algebraic number field. *Ann. of Math.* (2) **103** (1976), *no.* 2, 253–281. (Mark Benard) **53** #8211 20C05 (12A60)

Automorphism groups of simple algebras and group algebras. *Representation theory of algebras* (*Proc. Conf., Temple Univ., Philadelphia, Pa.*, 1976), *pp.* 381–388. *Lecture Notes in Pure Appl. Math., Vol.* 37, *Dekker, New York*, 1978. (I. Reiner) **57** #12610 16A72 (16A16, 12A80)

See also **Representations of algebras**, **52** #3207 *and* **Selected papers: Algebra**, **57** #2802

Janusz, Mika Singular perturbation method for linear differential equations in Banach spaces. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. on Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 321–334. (R. E. Showalter) **50** #10477 34G05 (47D05)

Januszkiewicz, Janina *See* **Dictionary: Polish-Russian**, **54** #12430

Januszkiewicz, Lech T. (*with* Charatonik, Janusz J.; Maćkowiak, Tadeusz) An uncountable collection of nonplanable smooth dendroids. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 2, 147–149. (Lee Mohler) **56** #6627 54F50

Janvier, Michel ★Topologies linéaires sur des groupes abéliens. U. E. R. de Mathématiques, 1970–1971. Secrétariat des Mathématiques, Université des Sciences et Techniques du Languedoc, Publication No. 98. *Université des Sciences et Techniqu Languedoc, Montpellier*, 1971. ii + 70 *pp.* (R. S. Pierce) **48** #6285 20K45 (22A0

Janyšev, Š. T. (*with* Koržik, V. I.) Estimations of error probability in analog decodi Gaussian channels. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 45 (1971), 156– 55 #2344 94A10

abou-Jaoudé, Saab *See* **Abou-Jaoudé, Saab**

Jaouiche, Khalil Le livre du qarasṭūn de Tābit ibn Qurra. Étude sur l'origine de la de travail et du calcul du moment statique d'une barre homogène. *Arch. History Sci.* **13** (1974), 325–347. (Y. Dold) **58** #26787 01A30

Jap, Bing K. (*with* Glaeser, Robert M.) The scattering of high-energy electrons. I. Feynman path-integral formulation. *Acta Cryst. Sect. A* **34** (1978), *no.* 1, 94- (Vladimir Sips) **58** #25501 81.26

Japovoĭ, V. V. *See* **Systems analysis and algorithmization of production processes**, **49** #7064

Jaquette, David L. A discrete time population control model. *Math. Biosci.* **15** (1 231–252. (Robert O. Barr) **52** #7591 92A15

(*with* Crabill, Thomas B.) A two product dynamic economic lot size produc model with either-or production constraints. *Naval Res. Logist. Quart.* **21** (1 505–513. (Authors' summary) **55** #9920 90B30

A discrete-time population-control model with setup cost. *Operations Res* (1974), *no.* 2, 298–303. (P. W. A. Dayananda) **53** #7536 92A15

Jaquette, Stratton C. Markov decision processes with a new optimality criterion: s interest rates. *Ann. Math. Statist.* **43** (1972), 1894–1901. (N. H. Bingham) **50** #38 90A05 (90D30)

Markov decision processes with a new optimality criterion: discrete time. *Statist.* **1** (1973), 496–505. (Jaap Wessels) **51** #15005 90C40

(*with* Burton, Robert W.) The initial provisioning decision for insurance type ite *Naval Res. Logist. Quart.* **20** (1973), 123–146. (N. Zierler) **47** #10032 90B05

Markov decision processes with a new optimality criterion: continuous time. *A Statist.* **3** (1975), 547–553. (J. Gani) **50** #15931 90C40

A utility criterion for Markov decision processes. *Management Sci.* **23** (1975/ *no.* 1, 43–49. (Author's summary) **55** #11938 90A05

Jarahmedov, G. Ja. A certain question on the approximation of functions in the space $(p>1)$. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no.* 5(96), 109–112. (J Kahane) **45** #785 41A30

On the uniqueness of the polynomial of best approximation. (Russian) Questi on mathematical analysis. *Novosibirsk. Gos. Ped. Inst. Naučn. Trudy Vyp.* 67 (19 73–85. (V. N. Malozemov) **55** #951 41A50

On a certain theorem of A. N. Kolmogorov. (Russian) *Izv. Vysš. Učebn. Za Matematika* **1972**, *no.* 3(118), 103–107. (V. Veselinov) **46** #2322 41A50

A certain characterization of the element of best approximation in a normed ve space. (Russian) *Optimizacija No.* 8(25) (1972), 117–125, 129. (G. Godini) **49** #340 41A65

Jarancev, Ju. A. A certain procedure for dynamic memory allocation in compute *Avtomat. i Telemeh.* **1976**, *no.* 3, 161–172 (*Russian. English summary*); *translated Automat. Remote Control* **37** (1976), *no.* 3, *part* 2, 457–467. (Jozef Mikloško) **56** #72 68A05 (90C35)

Jarcev, Ju. The stability of the Fejér collocation method. (Russian. Estonian and Germ summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **20** (1971), 395–400. Švejda) **45** #2944 65N35

A certain variant of the collocation method for the solution of multidimension integral equations. (Russian. German summary) Mathematics and theoretical mechanics, VI. *Tallin. Polütehn. Inst. Toimetised Seer. A No.* 312 (1971), 55–59. (Schechter) **54** #1679 65R05

Programming of the Fejér collocation method in the language MALGOL. (Russia German summary) Mathematics and theoretical mechanics, VI. *Tallin. Polütehn. In Toimetised Seer. A No.* 312 (1971), 61–65. (E. Schechter) **54** #1626 65L10

Jarchow, Hans Dualität und Marinescu-Räume. *Math. Ann.* **182** (1969), 134–144. (Zl **175**, 415) **58** #23474 46A20

(*with* Frölicher, Alfred) La réflexivité des espaces vectoriels à génération compacte *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A616–A617. (H. Herrlich) **45** #4094 46A25 (54D99)

(*with* Frölicher, Alfred) Zur Dualitätstheorie kompakt erzeugter und lokalkonvexe Vektorräume. *Comment. Math. Helv.* **47** (1972), 289–310. (D. J. H. Garling) **52** #886 46A15

Duale Charakterisierungen der Schwartz-Räume. *Math. Ann.* **196** (1972), 85–90. (A Pietsch) **46** #4138 46A05

(*with* Swart, Johan) On Mackey convergence in locally convex spaces. *Israel J Math.* **16** (1973), 150–158. (D. J. Randtke) **48** #11971 46A09

Barrelledness and Schwartz spaces. *Math. Ann.* **200** (1973), 241–252. (Tosun Terzioğlu) **48** #826 46A07

Die Universalität des Raumes c_0 für die Klasse der Schwartz-Räume. *Math. Ann* **203** (1973), 211–214. (Tosun Terzioğlu) **47** #9235 46A45

On Schwartz spaces and Mackey convergence. Actes du Deuxième Colloqu d'Analyse Fonctionnelle de Bordeaux (Univ. Bordeaux, 1973), II, pp. 79–97. *Publ. Dép Math.* (*Lyon*) **10** (1973), *no.* 3, 233–251. (M. Schroder) **51** #1325 46A15

Null sequences in the theory of locally convex spaces. *Proceedings of the Symposium on Functional Analysis* (*Istanbul*, 1973), *pp.* 19–30. *Publ. Math. Res. Inst.-Istanbul, No.* 1. *Math. Res. Inst., Istanbul*, 1974. (H. Hogbe-Nlend) **55** #6158 46A09

Stetigkeit indefiniter Metriken. *Topics in analysis* (*Colloq. Math. Anal., Jyväskylä.* 1970), *pp.* 203–210. *Lecture Notes in Math., Vol.* 419, *Springer, Berlin*, 1974. (H. H Keller) **51** #11072 46D05

★Nuclear locally convex spaces. Department of Mathematics, University of Maryland, Lecture Note, No. 13. *Department of Mathematics, University of Maryland. College Park, Md.*, 1976. ii + 157 *pp.* (William Robinson) **57** #1066 46A15 (47B10)

Factorization through inclusion mappings between l_p-spaces. *Math. Ann.* **220** (1976), *no.* 2, 123–135. (N. De Grande-De Kimpe) **53** #1322 47B10 (46L20)

Jarden, Dov *See* **Morrison, Michael A.; et al.**, **47** #1731 *and* **Brillhart, John D.**, **53** #4451

Jarden, Moshe Elementary statements over large algebraic fields. *Trans. Amer. Math. Soc.*

64 (1972), 67–91. (M. Fried) **46** #1795 12L05 (10B99, 10N05)

Realization of finite groups over function fields. *J. Algebra* **24** (1973), 154–158. (F. eMeyer) **46** #7202 12B15 (12A90)

On Čebotarev sets. *Arch. Math.* (*Basel*) **25** (1974), 495–497. (G. Whaples) **1** #3124 12A75

Algebraic extensions of finite corank of Hilbertian fields. *Israel J. Math.* **18** (1974), 79–307. (Jack Sonn) **51** #12792 12A55

An injective rational map of an abstract algebraic variety into itself. *J. Reine ngew. Math.* **265** (1974), 23–30. (T. Kambayashi) **49** #2730 14E05 (02H15)

(*with* Frey, Gerhard) Approximation theory and the rank of abelian varieties over arge algebraic fields. *Proc. London Math. Soc.* (3) **28** (1974), 112–128. (M. Bašmakov) **9** #2765 14K15

(*with* Kiehne, Ursel) The elementary theory of algebraic fields of finite corank. *nvent. Math.* **30** (1975), *no.* 3, 275–294. (M. Fried) **55** #8012 12F99 (02H15, 12L10, 2A20)

(*with* Geyer, Wulf-Dieter) Fields with the density property. *J. Algebra* **35** (1975), 178–189. (M. Fried) **52** #10685 12A75

On ideal theory in high Prüfer domains. *Manuscripta Math.* **14** (1975), 303–336. Robert Gilmer) **52** #5652 13F05 (12F05)

Roots of unity over large algebraic fields. *Math. Ann.* **213** (1975), 109–127. (J. Knopfmacher) **51** #460 12F10

Algebraically closed fields with distinguished subfields. *Arch. Math.* (*Basel*) **27** 1976), *no.* 5, 502–505. (M. Fried) **54** #12517 02H15 (12L05)

(*with* Fried, Michael D.) Stable extensions and fields with the global density property. *Canad. J. Math.* **28** (1976), *no.* 4, 774–787. (W.-D. Geyer) **53** #10773 12F10 (12J10, 12A70)

The elementary theory of ω-free Ax fields. *Invent. Math.* **38** (1976/77), *no.* 2, 187–206. (M. Fried) **55** #8013 12F99 (02H15, 12L10)

Intersections of conjugate fields of finite corank over Hilbertian fields. *J. London Math. Soc.* (2) **17** (1978), *no.* 3, 393–396. (W.-D. Geyer) **58** #16608 12B15 (02H15, 12F10)

lin, S. C. (*with* Johnson, J. L.; Greene, John M.; Grimm, R. C.) Dynamical grid method for time-dependent simulations of axisymmetric instabilities in tokamaks. *J. Comput. Phys.* **29** (1978), *no.* 1, 101–126. (Authors' summary) **58** #25719 82.65

line, Charles J. (*with* Jardine, Nicholas) The matching of parts of things. (Polish and Russian summaries) *Studia Logica* **27** (1971), 123–132. (D. Rosenblatt) **46** #3127 92A05

line, Donald A. *See* **Data base management systems**, **57** #8228

line, Nicholas (*with* Sibson, Robin) ★Mathematical taxonomy. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons Ltd., London-New York-Sydney*, 1971. xvii + 286 *pp.* (D. Vaida) **55** #14258 92A05

(*with* Jardine, Charles J.) The matching of parts of things. (Polish and Russian summaries) *Studia Logica* **27** (1971), 123–132. (D. Rosenblatt) **46** #3127 92A05

Galileo's road to truth and the demonstrative regress. *Studies in Hist. and Philos. Sci.* **7** (1976), *no.* 4, 277–318. (William R. Shea) **58** #21133 01A45

See also **Multivariate statistical methods: among-groups covariation**, **51** #14407

ek, Paweł (*with* Sąsiada, Edward) On the conjugacy of homeomorphisms of unit interval. *Comment. Math. Prace Mat.* **19** (1976/77), *no.* 2, 365–371. (Roman Duda) **56** #13146 54C10

ema, L. L. (*with* Ljudkevič, I. V.) An application of the regularization method to the solution of a problem of analysis in electron optics. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 25 (1975), 80–83, 144. (Authors' summary) **52** #2416 78.45

ema, P. F. (*with* Begin, M. V.; Homa, I. Ju.) Construction of the general solution of the equations for the bending equilibrium of plates in a steady temperature field. (Russian) *Prikl. Meh.* **14** (1978), *no.* 1, 97–101, 143. (B. Vujanović) **57** #14710 73.35

emčuk, O. P. (*with* Mova, V. V.) A test for the effectiveness of open queueing systems with constraints. (Russian) *Mixed boundary value problems and questions of mathematical simulation* (*Russian*), *pp.* 132–136. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Z. Khalil) **54** #6933 90B35 (60K25)

A mathematical model of the dynamical priorities in a queuing system with random time of determining the type of request that is accepted for servicing. (Russian) *Mixed boundary value problems and questions of mathematical simulation* (*Russian*), *pp.* 137–146. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Z. Khalil) **55** #1528 60K25

(*with* Mova, V. V.) A model of a system with random time of determining the type of request. (Russian) *Mixed boundary value problems and questions of mathematical simulation* (*Russian*), *pp.* 147–152. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Z. Khalil) **54** #6934 90B35 (60K25)

emenko, O. G. (*with* Īvahnenko, O. G.; Toloknjanenko, V. O.) Control with prediction optimization using discrete linear prediction models of the plant. *Avtomatika* **1974**, *no.* 1, 28–38 (*Ukrainian*); *translated as Soviet Automat. Control* 7 (1974), *no.* 1, 22–31. (Bojan Popović) **51** #12379 (E **51** #12380) 93C50

(*with* Īvahnenko, O. G.; Toloknjanenko, V. O.) Answer to: "On the stability of discrete control systems with prediction optimization" (Soviet Automat. Control 7 (1974), no. 3, 71–73). *Avtomatika* **1974**, *no.* 3, 90 (*Ukrainian*); *translated as Soviet Automat. Control* 7 (1974), *no.* 3, 74. (Editors) **51** #12381 93C50

emenko, V. V. Neighbor coding of the vertices of a graph. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 1, 35–40. (B. Zelinka) **53** #12767 94A20 (05C99)

A discrete description of time diagrams. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 24 (1977), 21 *pp.* (Author's summary) **58** #9905 94A30

es'ko, V. M. Convergence of the Rayleigh method for axially symmetric problems of hydrodynamic stability. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 15 (1971), 141–145. (Author's summary) **46** #2988 76.65

rić, J. (*with* Plavšić, Milan) The principle of virtual work and the constitutive equations in generalized theories of elasticity. (Polish and Russian summaries) *Rozprawy Inż.* **22** (1974), 181–211. (M. Carrassi) **54** #14527 73.53

rić, Marko V. (*with* Birman, Joseph L.) New algorithms for the Molien function. *J. Mathematical Phys.* **18** (1977), *no.* 7, 1456–1458. (G. I. Lehrer) **58** #11098a 20C35 (20C30)

(*with* Birman, Joseph L.) Calculation of the Molien generating function for invariants of space groups. *J. Mathematical Phys.* **18** (1977), *no.* 7, 1459–1465. (G. I. Lehrer) **58** #11098b 20C35 (20C30)

(*with* Birman, Joseph L.) Erratum: "Calculation of the Molien generating function for invariants of space groups" (J. Mathematical Phys. **18** (1977), no. 7, 1459–1465). *J. Mathematical Phys.* **18** (1977), *no.* 10, 2085. (Editors) **58** #11098c 20C35 (20C30)

Some symmetry properties of renormalization-group transformations. *Phys. Rev. B* (3) **18** (1978), *no.* 5, 2237–2243. (Author's summary) **58** #25478 81.22

Lines of fixed points and physically irreducible representations. *Phys. Rev. B* (3) **18** (1978), *no.* 5, 2391–2393. (Author's summary) **58** #25479 81.22 (22E70)

Jaritz, Wolfgang Verbandsäquivalenz von topologischen Räumen. *Ber. Math.-Statist. Sekt. Forschungszentrum Graz. No.* 71 (1977), 57 *pp.* (G. Chogoshvili) **58** #18344 54D10 (06A23)

Jarkin, A. N. Occurrence of an internal boundary layer in singularly perturbed systems of conditionally stable type. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 12, 2285–2286, 2304. (Vojislav Marić) **56** #778 34E15

Jarkovaja, T. N. A theorem of Tauberian type for the strong pth power summability ($p \geqslant 1$) of double series by matrix methods. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications, No.* 6 (*Russian*), *pp.* 140–147. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (Editors) **58** #29559 40E05

Invertibility conditions in the theory of absolute summability of double series. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications, No.* 6 (*Russian*), *pp.* 147–154. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (Editors) **58** #29570a 40F05 (40B05)

On the question of the strong pth power summability ($p>1$) of series by matrix methods. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications, No.* 6 (*Russian*), *pp.* 154–158. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (Editors) **58** #29570b 40F05

(*with* Volkova, N. Ī.) Absolute pth power summability ($p>1$) of double Fourier series by integral methods. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 84–89, 159–160. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Authors' summary) **58** #29779 42A28

Theorems of Tauberian type for the summability of double series. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 102–106, 161. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Author's summary) **58** #29560 40E05 (40B05)

Inclusion theorems for the absolute pth power summability of double series. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 107–110, 161–162. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Author's summary) **58** #29550 40B05

Jarkulov, U. *See* **Abstracts: Conference of the Faculties on Advances in Research**, **48** #3665

Jarlykov, M. S. Bayes estimates in problems of nonlinear filtering of nonstationary radio signals. *Radiotehn. i Èlektron.* **16** (1971), 1374–1384 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 1291–1299. (S. Cambanis) **53** #2504 94A05

(*with* Černjakov, M. V.) Suboptimal reception of noncoherent signals in asynchronous address systems with frequency-time coding. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 2, 43–52. (József Pergel) **50** #12427 94A05

(*with* Mironov, M. A.) Stochastic differential equations in problems of estimation of parameters and nonlinear filtering of signals in white noise. *Radiotehn. i Èlektron.* **18** (1973), 1826–1831 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **18** (1973), 1339–1343. (Authors' summary) **56** #11484 94A05 (93E10)

(*with* Smirnov, Vladimir A.; Jakovlev, A. I.) Optimum processing of pulsed signals in the presence of discrete interference. *Radiotehn. i Èlektron.* **21** (1976), *no.* 2, 243–249 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **21** (1976), *no.* 2, 21–26. (Authors' summary) **56** #11485 94A05

Jarlykov, N. E. A method for increasing the efficiency of sequential tests. (Russian) *Nadežn. i Kontrol' Kačestva* **1977**, *no.* 8, 15–23, 76. (Author's summary) **58** #13589 62N10 (62L10)

Jarmoljuk, V. K. (*with* Rvačov, V. L.; Kravčenko, V. P.) The application of the method of R-functions to the solution of mixed boundary value problems with nonhomogeneous boundary conditions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 984–987, 1052. (A. Ženíšek) **46** #6626 65N30

(*with* Kravčenko, V. F.; Rvačov, V. L.; Slesarenko, A. P.) The solution of the external problems of electrostatics by the method of R-functions. (Russian) *Radiotehn.* (*Har'kov*) *No.* 20 (1972), 150–154. (A. A. Mullin) **47** #4544 (EA **47**) 78.65 (31B20)

Jarmoš, N. A. (*with* Golovnja, A. A.) External sorting of information files that are nearly ordered. (Russian) *Vyčisl. Tehn. v Mašinostroen.* **1974**, *no.* 1(32), 156–158. **56** #13837 68A50

See also **Computer science in mechanical engineering**, **50** #6713

Jarmuhamedov, Š. Integral representations of harmonic functions of several variables. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 799–802. (Vojislav Marić) **46** #5655 31B10

A generalization of the Martinelli-Bochner integral representation. (Russian) *Mat. Zametki* **15** (1974), 739–747. (I. I. Bavrin) **50** #10304 32A25

The Cauchy problem for the Laplace equation. (Russian) *Mat. Zametki* **18** (1975), *no.* 1, 57–61. (M. A. Atahodžaev) **52** #3561 31B20

Carleman formulas in a space of holomorphic functions of several variables. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 296 (1976), 163–171, 181. (Author's summary) **58** #22638 32A30

The Cauchy problem for the Laplace equation. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 2, 281–283. (M. A. Atahodžaev) **56** #7239 65M99

See also **Abstracts: Conference of the Faculties on Advances in Research**, **48** #3665

Jarmuš, Ja. I. (*with* Lučka, A. Ju.) The number of arithmetic operations necessary for the solution of a system of linear algebraic equations by the projection-iteration method. (Russian) *Methods for the quantitative and qualitative study of differential and integral equations* (*Russian*), *pp.* 99–113. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (From the author's introduction) **53** #14881 65F10

The rate of convergence of the projection-iteration method for linear integral equations. (Russian) *Mathematics collection* (*Russian*), *pp.* 228–231. *Izdat. "Naukova Dumka", Kiev*, 1976. (G. F. Miller) **56** #17167 65R05

(*with* Lučka, A. Ju.) The solution of a system of linear finite difference equations by the projection-iteration method. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 5(168), 54–64. (M. Bartušek (Zbl **339** #65049)) **58** #8299 65L10 (65Q05)

Jarnagin, M. P., Jr. (*with* DiDonato, A. R.) Maximum likelihood estimation in quantal response experiments. *SIAM J. Appl. Math.* **26** (1974), 447–454. (H. L. Harter) **49** #6463 62F10

Jarnecki, T. S. ★π—a new value. *Polytechnic of Central London Civil Engineering Department, London*, 1978. 20 *pp.* (*not consecutively paged*) (1 *foldout*) (Editors) **58** #7360 50B10

Järnefelt, G. On the linear algebraic structure representing one electron-position in vacuum. *Ann. Acad. Sci. Fenn. Ser. A I No.* 565 (1974), 56 *pp.* (L. Méder) **50** #3822 81.50

On the possibliity of a finite model describing the universe. (German summary) *Astronom. Nachr.* **297** (1976), *no.* 3, 131–139. (C. V. Vishveshwara) **54** #12136 83.53

On the possibility of a finite model describing the universe. II. The case of a relativistic free particle. (German summary) *Astronom. Nachr.* **298** (1977), *no.* 2, 69–79. (C. V. Vishveshwara) **56** #4666 83.53 (81.53)

Jarnicki, Marek Analytic continuation of harmonic functions. *Zeszyty Nauk. Uniw. Jagielloń.* **403** *Prace Mat. No.* 17 (1975), 93–104. (Vazgain Avanissian) **53** #8485 32D05

Analytic continuation of pluriharmonic functions. *Zeszyty Nauk. Uniw. Jagielloń.* **441** *Prace Mat. Zeszyt* 18 (1977), 45–51. (P. Agranovič) **56** #664 32D10

Holomorphic functions with polynomial growth. *Proceedings of the First Finnish-Polish Summer School in Complex Analysis* (*Podlesice*, 1977), *Part I*, *pp.* 153–184. *Univ. Łódź, Łódź*, 1978. (M. Hervé) **58** #17201 32E10

Jarník, Jiří On the relation of solutions and coefficients of linear differential equation. (Czech summary) *Časopis Pěst. Mat.* **98** (1973), 74–77, 100. (F. S. Van Vleck) **48** #2465 34A30

On convolution of *k* continuous functions. (Czech summary) *Časopis Pěst. Mat.* **98** (1973), 199 205, 213. (D. T. Haimo) **48** #9291 44A35

On exponentially bounded solutions of linear parabolic difference-differential equations. *Časopis Pěst. Mat.* **99** (1974), 244–254. (K. Zima) **50** #7858 35R10

(*with* Kurzweil, Jaroslav) Ryabov's special solutions of functional differential equations. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 198–208. (R. D. Driver) **56** #12515 34K20

Exponentially bounded solutions of a system of operator equations. *Beiträge Anal. Heft* 9 (1976), 35–37. (K. Zima) **56** #9116 35R20 (35K10)

(*with* Kurzweil, Jaroslav) On Ryabov's special solutions of functional differential equations. *Differential equations* (*Colloq., Keszthely*, 1974), *pp.* 303–308. *Colloq. Math. Soc. János Bolyai, Vol.* 15, *North-Holland, Amsterdam*, 1977. (D. Ramakrishna Rao) **58** #17420 34K15

(*with* Kurzweil, Jaroslav) Right-hand sides of differential inclusions which cannot be reduced. (Russian summary) *Problems of the asymptotic theory of nonlinear oscillations* (*Russian*), *pp.* 122–132, 277. *Naukova Dumka, Kiev*, 1977. (Authors' summary) **58** #28773 34A99

(*with* Kurzweil, Jaroslav) Reducing differential inclusions. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Teil* 1, *pp.* 477–479. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (Hans-Otto Walther) **58** #22736 34A99

(*with* Kurzweil, Jaroslav) On conditions on right hand sides of differential relations. (Czech and loose Russian summaries) *Časopis Pěst. Mat.* **102** (1977), *no.* 4, 334–349, 426. (David Berlinski) **57** #6579 34A99 (34K05)

Jarník, Vojtěch ★Diferenciální rovnice v komplexním oboru. (Czech) [Differential equations in the complex domain] With a preface by Břetislav Novák *Academia, Prague*, 1975. 283 *pp.* (M. Bartušek (Zbl **326** #34005)) **57** #751 34A20

See also **Novák, Břetislav; et al.**, **46** #6982a; **Bibliography: Jarník, Vojtěch**, **46** #6982b *and* **Novák, Břetislav**, **55** #12433

Jaroch, Otakar Asymptotic formulae of Hilb type for orthogonal exponential polynomials. (Czech. English summary) *Apl. Mat.* **18** (1973), 227–237. (Jozef Mikloško) **48** #594 33A65 (41A60)

Jaroker, I. S. Semigroups of homeomorphic transformations of bounded closed sets of dimension 0. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 10(113), 89–96. (H. Salzmann) **45** #7690 54H15

Semigroups of homeomorphisms of certain topological spaces. (Ukrainian. English and Russian summaries) *Dopovidi Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 1008–1010, 1055. (W. Szlenk) **48** #3027 54H15

(*with* Gluskin, L. M.; Schein, Boris M.; Šneperman, L. B.) Addendum to: "A survey of semigroups of continuous selfmaps" (Semigroup Forum **11** (1975/76), no. 3, 189–282) by K. D. Magill. *Semigroup Forum* **14** (1977), *no.* 2, 95–125. (K. N. Sigmon) **56** #3168 20M20 (22A15)

Jaroker, Ja. N. Completely simple Menger operatives. (Ukrainian. English and Russian summaries) *Dopovidi Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 34–37, 93. (B. M. Schein (Šaĭn)) **46** #3675 20N15

Operatives of relations. (Ukrainian. English and Russian summaries) *Dopovidi Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 49–51, 93. (L. Potemkin) **48** #205 08A05

Jarominek, Władysław Application of the method of integral measure for determining the ranges of quasi-optimal transfer functions in the space of the parameters of linear time invariant automatic control systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 3, *Paper* 1G, 8 *pp. Inst. Mech. Engrs., London*, 1967. (Editors) **51** #9898 93C45

A general system of discriminants for characteristic equations. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **15** (1970), 383–402. (R. F. Matlak) **51** #2706 93C15 (15A15)

On a method of synthesis of stationary systems on the basis of stability inversion, performance inversion and concepts of spectra R_n. Routh centenary issue. *Internat. J. Control* **26** (1977), *no.* 2, 249–263. (Author's summary) **58** #33373 93D05

See also **Proceedings: International Congress of the International Federa of Automatic Control (IFAC)**, **51** #12360a

Jaroń, Jerzy Functionisms and morphisms of complex cybernetical systems. *Cybe tica* **15** (1972), 26–38. (B. P. Zeigler) **55** #7750 02F10 (94A30)

Complex cybernetic systems. (Polish. English summary) *Zeszyty Nauk. w Łódzk. Nauki Mat. Przyrod. Ser. II No.* 50 *Cybernet.* (1973), 69–86. (B. Z ka) **50** #4007 93A10

Goal-oriented cybernetical systems. (Russian summary) *Systems Sci.* **1** (1975) 5–16. (D. Obradović) **55** #14279 93A15 (90D40)

Mappings that order proper time, state spaces and space-time systems. (sh English and Russian summaries) Selected problems in the foundations of s ms theory. *Prace Nauk. Inst. Cybernet. Techn. Politechn. Wrocław. No.* 25 *Ser. S Materiały No.* 17 (1976), 5–37. **58** #26278 93B99

The goals-space of the cybernetical system. *Modern trends in cybernetics and sy ms* (*Proc. Third Internat. Congr., Bucharest*, 1975), *Vol. II*, *pp.* 409–421. *Springer, n,* 1977. (B. Zelinka) **56** #8367 04A05 (93A10)

Relations and topologies in the goals-space of a system. (Russian sumr) *Systems Sci.* **3** (1977), *no.* 2, 101–118. (From the text) **58** #33223 93A99

Systemic prolegomena to theoretical cybernetics. (Polish and Russian summa) *Prace Nauk. Inst. Cybernet. Tech. Politech. Wrocław. Ser. Monograf. No.* 8 (1978), p. (Michitaka Kameyama) **58** #20923 94A99 (93A99)

Jaroš, František *See* **Collection: Hamaker, Hugo C.**, **50** #5998

Jarosch, H. S. (*with* Brauer, Fred; Soudack, A. C.) Stabilization and de-stabilizati of predator-prey systems under harvesting and nutrient enrichment. *Internat. J. Cont 3* (1976), *no.* 4, 553–573. (Brian D. Sleeman) **54** #9724 (E **55** #12169) 92A15

(*with* Brauer, Fred; Soudack, A. C.) Errata: "Stabilization and de-stabilizati of predator-prey systems under harvesting and nutrient enrichment" (Internat. J. Co l **23** (1976), no. 4, 553–573). *Internat. J. Control* **24** (1976), *no.* 6, 887. (Editors) **55** #12169 92A15

Jarošenko, A. P. (*with* Polovina, N. N.) A dibaric particle in a constant magnetic l. (Russian) *Ukrain. Fiz. Ž.* **16** (1971), 1212–1214. (Authors' summary) **45** #81 81.47

Jaroševič, G. O. A method for determining the center. (Russian) *Penz. Politehn. Isnt. Zap. Mat. Meh.* **1969**, *no.* 2, 26–32. (Editors) **54** #7945 34C05

(*with* Vygoda, Ju. A.; Nikol'skaja, Ž. A.; Marčenko, V. V.) Investigation nonlinear differential equation of a special form. (Russian) *Penz. Politehn. Inst. U Zap. Mat. Meh.* **1970**, *no.* 3, 17–23. (S. P. Hastings) **45** #3839 34C99

A study of stability by means of polynomials. (Russian) *Problems in analy mechanics, stability and control theories* (*Second Četaev Conf., Kazan*, 1973) (*Russian*) 330–332, 343. *Izdat. "Nauka", Moscow*, 1975. (A. A. Reinfelds) **56** #12454 34 (58F10)

A necessary and sufficient condition for the existence of a limit cycle. (Russi *Penz. Politehn. Inst. Učen. Zap. Mat. Meh.* **1975**, *no.* 6, 35–48, 115. (Author's summ **58** #6487 34C05

The dynamical interaction of mechanisms for generating oscillations in nonli systems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 7 (182), 99–104. Bertolino) **57** #10106 34C35 (58F99, 93C15)

Jaroševskaja, I. B. An example of a separated quasivector topology in R^1 that is differ from the usual topology. (Russian. English summary) *Vestnik Moskov. Univ. Se Mat. Meh.* **30** (1975), *no.* 2, 35–40. (J. G. Ceder) **52** #11522 46A15 (54A10)

Jaroševskiĭ, V. A. *See* **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics**, **47** #4666 (EA 47) *and* **Control in space**, **48** #13319

Jaroslavcev, A. A. (*with* Galperin, Efrim A.) Stabilization of steady motions in a nonlin controllable system with two zero roots. *Avtomat. i Telemeh.* **1974**, *no.* 10, 13 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no. part* 1, 1549–1558 (1975). (From the authors' summary) **56** #11338 93D99

Control system stabilization in a critical case. *Avtomat. i Telemeh.* **1974**, *no.* 24–34 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), 12, *part* 1, 1895–1904 (1975). (Author's summary) **56** #15002 93D99

Jaroslavcev, M. I. (*with* Anisimov, A. S.) Investigation of the dynamics of the system identification of nonstationary dynamic objects. (Russian) *Izv. Sibirsk. Otdel. Ak Nauk SSSR* **1972**, *no.* 3, 102–112. (V. N. Igolkin) **55** #14304 93B30 (93C40)

(*with* Anisimov, A. S.) Synthesis of algorithms for the identification of paramet of dynamical objects on the basis of the provisional method. (Russian) *Adapt. Siste Avtomat. Upravlenija Vyp.* 2 (1974), 67–75, 151. (Authors' summary) **55** #5259 93B30

Jaroslavceva, V. Ja. A certain class of degenerate equations with the Legendre operato (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 9 *Sb. Rabot Uravn. Čast Proizvodn. i Vyčisl. Mat.* (1973), 121–125. (RŽMat **1974** #7 B346) **57** #10204 35G15

Formulation of boundary value problems for a degenerate elliptic equation. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 13 *Sb. Rab Prikl. Mat. i Meh.* (1974), 55–61. (RŽMat **1975** #9 B282) **57** #6834 35J70

The reduction method for a certain class of degenerate equations. (Russian *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 14 *Sb. Statei Teo Operator. Uravnenii* (1974), 78–88. (Editors) **57** #6580 34A99 (35A99)

A certain class of transformation operators, and their application to differenti equations. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 4, 816–819. (Fra Kappel) **56** #5989 34A25

Boundary value problems for equations with a Legendre operator. (Russian *Differencial'nye Uravnenija* **13** (1977), *no.* 7, 1341–1343, 1352. (O. John) **57** #6797 35G15

Jaroslavskiĭ, L. P. (*with* Mirkin, L. I.; Rabinovič, M. A.) A method of generating correlated Gaussian pseudorandom numbers on an electronic computer. (Russian) *Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1353–1357, 1368. (V. Dupač) **48** #12773 65C

See also **Symposium: Information Theory**, **50** #9416

baran-Jarosz, Barbara *See* **Baran-Jarosz, Barbara**

Jaroszewicz, T. (*with* Wosiek, J.) High-energy bremsstrahlung and pair production in th Coulomb field: Bethe and Maximon versus Cheng and Wu approaches. *Acta Phy Polon. B* **8** (1977), *no.* 10, 837–854. (Chindhu S. Warke) **56** #17567 81.31

szewska, Magdalena Hölder's condition for some function spaces. *Comment. Math. Prace Mat.* **15** (1971), 75–86. (G. O. Okikiolu) **47** #5577 46E30

$L^{(p,\lambda)}(\Omega)$ and $M^{(p,\lambda)}(\Omega)$-spaces. (English and Russian summaries) *Fasc. Math. No.* 6 (1972), 79–84 (1973). (P. Szeptycki) **49** #11238 46E35

A generalization of the Riesz-Thorin theorem. *Comment. Math. Prace Mat.* **17** (1973), 87–96. (G. Geymonat) **49** #9616 46E35

Some properties of the spaces $W_s^{(p,\lambda)}(\Omega)$. *Comment. Math. Prace Mat.* **17** (1973/74), 359–372. (A. Kufner) **51** #1373 46E35

On the Riesz-Thorin theorem. *Demonstratio Math.* **7** (1974), 155–166. (Jörgen Löfström) **50** #10805 46E35

On convolution operators in $L^{p,\phi}$ spaces with mixed norms. *Funct. Approximatio Comment. Math.* **2** (1976), 75–81. (M. Mikolás) **56** #6473 47G05 (46E30)

On convolution of functions in the spaces L^p with mixed norm. *Funct. Approximatio Comment. Math.* **3** (1976), 87–91. (Walter R. Bloom) **56** #9185 43A15

On the space $M^{p\lambda}(\Omega)$ with mixed norm. *Funct. Approximatio Comment. Math.* **3** (1976), 93–99. (Zbl **356** #46037) **58** #2210 46E30

On interpolation in the $L^{p\lambda}$-spaces with mixed norms. (Italian summary) *Boll. Un. Mat. Ital. B* (5) **14** (1977), *no.* 1, 149–159. (Colin Bennett) **56** #3627 46E30

szyński, M. (*with* Kozłowski, M.; Abramowicz, M. A.) The analytic theory of fluid disks orbiting the Kerr black hole. *Astronom. and Astrophys.* **63** (1978), *no.* 1-2, 209–220. (R. L. Ingraham) **57** #8957 85.53

(*with* Abramowicz, M. A.; Sikora, M.) Relativistic, accreting disks. *Astronom. and Astrophys.* **63** (1978), *no.* 1-2, 221–224. (R. L. Ingraham) **57** #8958 85.53

ovic′kiĭ, M. V. (*with* Sakunova, I. A.) A circular route problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 3, 128–133. (E. Ja. Gabovič) **49** #6912 90B99

ovlĭ, S. S. (*with* Bodnarčuk, P. Ī.; Pustomel′nikov, Ī. P.; Slon′ovs′kiĭ, R. V.) On certain applications of branching continued fractions in the investigation of Markov processes. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 391–394, 475. (B. Choczewski) **46** #6469 60J10

ovoĭ, A. T. The *n*-point boundary value problem for difference equations. (Russian) *Numerical analysis* (*Russian*), *pp.* 49–51. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1973. (Editors) **58** #3571 65Q05 (65L10)

ratt, P. A review of methods for solving nonlinear algebraic equations in one variable. *Numerical methods for nonlinear algebraic equations* (*Proc. Conf., Univ. Essex, Colchester*, 1969), *pp.* 1–26. *Gordon and Breach, London*, 1970. (C. W. Gear) **51** #9471 65H05

(*with* Dowell, M.) A modified Regula Falsi method for computing the root of an equation. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **11** (1971), 168–174. (W. M. Kincaid) **45** #2910 65H05

(*with* Dowell, M.) The "Pegasus" method for computing the root of an equation. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 503–508. (Authors' summary) **48** #1454 65H05

(*with* Parkin, N.) On the asymptotic behaviour of a certain non-linear difference equation. *J. Inst. Math. Appl.* **13** (1974), 83–88. (R. F. Albrecht) **49** #11798 65H05 (65Q05)

raud, Pierre (*with* Dubois, Philippe) Une propriété de commutation au changement de base des images directes supérieures du faisceau structural. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 745–747. (J. S. Joel) **51** #12853 14F05

rett, Richard G. Bounds for the efficiency factor of block designs. *Biometrika* **64** (1977), *no.* 1, 67–72. (U. B. Paik) **56** #4070 62K10

unin, V. S. (*with* Popov, V. N.) On the question of the phase operator of the linear harmonic oscillator. (Russian. English summary) *Vestnik Leningrad Univ. No.* 22 *Fiz. Him. Vyp.* 4 (1973), 7–12, 168. (Not reviewed) 81.47

(*with* Damaskinskiĭ, E. V.) The Hermitian phase operator and Heisenberg's commutation relations. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1978**, *no.* 6, 59–65. (Authors' summary) **58** #19999 81.47

ušek, Jiří (*with* Nečas, Jindřich) Sur les domaines des valeurs des opérateurs non-linéaires. (Loose Russian summary) *Časopis Pěst. Mat.* **102** (1977), *no.* 1, 61–72. (Authors' introduction) **58** #30555 47H15 (35G20)

ušek, V. R. On the behavior of automata in a controllable Markov medium. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 2, 79–89 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 2, 255–264. (Yasuyoshi Inagaki) **54** #4207 68A35 (94A35)

uševs′ka, A. S. (*with* Darbašova, M. Ī.; Zīnčenko, O. Ī.) A certain modification of the basic Newton-Kantorovič method. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 682–685, 763. (S. Fučík) **46** #7990 47H15 (65J05)

uškin, B. I. Models for the representation of economic information. *Avtomat. i Telemeh.* **1976**, *no.* 7, 102–108 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 7, *part* 1, 1063–1068. (E. C. Posner) **55** #4814 68A50

usov, A. G. *See* **Computer science in mechanical engineering**, **50** #6713

rv, Èleonora Asymptotic properties of functionals with Čebyšev service. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1972), 33–36. (R. P. Boas, Jr.) **47** #3883 41A50

Zolotarev critical intervals. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 60–63. (Bl. Sendov) **48** #9184 41A10

Properties of a functional with Čebyšev stability. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **23** (1974), 12–18. (Bl. Sendov) **49** #7669 41A50

rvi, Pentti Removability theorems for meromorphic functions. *Ann. Acad. Sci. Fenn. Ser. A I Math. Dissertationes No.* 12 (1977), 33 *pp.* (Y. Komatu) **56** #5884 30A68 (30A48, 30A60)

rvi, Timo On control sets induced by grammars. *Ann. Acad. Sci. Fenn. Ser. A I No.* 480 (1970), 7 *pp.* (S. Ginsburg) **45** #6537 68A30

(*with* Nurminen, Markku) Some problems in automatic process grouping and file consolidation. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 416–429. (Leon Levy) **51** #2376 68A50

(*with* Pursiheimo, Ulla) Preface to: Studies in honour of Olavi Bertel Hellman on the occasion of his fiftieth birthday. *Ann. Univ. Turku. Ser. A I No.* 175 (1978), 3. (Editors) **57** #9435 01A70

rvinen, Pertti On a routing problem in a graph with two types of costs associated with the edges. *Acta Univ. Tamper. Ser. A* **50** (1973), 55 *pp.* (Michel Chein) **54** #12220 90C35

Jarvis, C. L. Experimental design for a particular non-linear parameter estimation problem. *Error, approximation, and accuracy* (*Proc. Sem., Austral. Nat. Univ., Canberra*, 1972), *pp.* 95–108. *Univ. Queensland Press, St. Lucia*, 1973. (H. L. Harter) **54** #3996 62K99

See also **Error, approximation, and accuracy**, **52** #2124

Jarvis, John J. (*with* Tindall, John B.) Minimal disconnecting sets in directed multi-commodity networks. *Naval Res. Logist. Quart.* **19** (1972), 681–690. (J. Fichefet) **48** #1679 90B10

(*with* Jezior, Anthony M.) Maximal flow with gains through a special network. *Operations Res.* **20** (1972), 678–688. (I. T. Frisch) **47** #6286 90B10

(*with* Miller, Duane D.) Maximal funnel-node flow in an undirected network. Mathematical programming and its applications. *Operations Res.* **21** (1973), 365–369. (Kenji Onaga) **50** #15877 90B10

(*with* Bazaraa, Mokhtar S.) ★Linear programming and network flows. *John Wiley & Sons, New York-London-Sydney*, 1977. x+565 *pp.* (A. C. Williams) **56** #2346 90Cxx (90–01)

(*with* Evans, James R.; Duke, Richard A.) Graphic matroids and the multicommodity transportation problem. *Math. Programming* **13** (1977), *no.* 3, 323–338. (C. B. Garcia) **56** #17839 90C50 (90C05)

(*with* Evans, James R.) Network topology and integral multicommodity flow problems. *Networks* **8** (1978), *no.* 2, 107–119. (Authors' summary) **58** #15088 90B10

Jarvis, P. D. On a solution of the $U(N)\supset O(N)$ state labelling problem for two-rowed representations. *J. Phys. A* **7** (1974), 1804–1816. (Anthony J. Bracken) **53** #7251 81.22

(*with* Barnes, K. J.; Ketley, I. J.) A calculation of SO(8) Clebsch-Gordan coefficients. *J. Phys. A* **11** (1978), *no.* 6, 1025–1043. (Philip Huddleston) **57** #18550 81.22 (22E70)

Jarvis, R. A. Optimization strategies in adaptive control: a selective survey. *IEEE Trans. Systems Man Cybernet.* **SMC-5** (1975), *no.* 1, 83–94. (Bojan Popović) **54** #14835 93C40 (68A35)

Jarvis, Richard (*with* Ahluwalia, Daljit S.; Keller, Joseph B.) Elastic waves produced by surface displacements. *SIAM J. Appl. Math.* **26** (1974), 108–119. (J. Bejda) **48** #12955 73.35

Jarzabek, Stanislaw (*with* Krawczyk, Tomasz) LL-regular grammars. *Information Processing Lett.* **4** (1975/76), *no.* 2, 31–37. (From the conclusion) **58** #19386 68A30

Jasakov, A. I. (*with* Raskin, V. G.) On the question of exponential stability of the solutions of differential equations in a Banach space. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp* 1 *Sb. Stateĭ po Teorii Operatornyh Uravneniĭ* (1970), 120–127. (T. Enikesva (RŽMat 1971 #5 B942)) **54** #13247 34G05

A priori estimates and nonlocal existence theorems for the solutions of quasilinear parabolic equations in L_p spaces. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 2, 372–374, 384. (Author's summary) **58** #6710 35K25

Jasakova, V. P. (*with* Evstigneev, V. A.) A certain algorithm on graphs. (Russian) *Control systems, No.* 2 (*Russian*), *pp.* 9–11. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat. Inst. Kataliza, Novosibirsk*, 1969. (E. Dinic (RŽMat **1970** #10 V242)) **50** #12801 05C35 (94A20)

The transformation of the incidence matrix of a directed graph to the triangular form. (Russian) *Upravljaemye Sistemy No.* 4-5 (1970), 44–46. (See RŽMat **1970** #12 B349) 05B20

Jäsche, Gottlob Benjamin *See* **Kant, Immanuel**, **50** #12620

Jaščuk, L. E. On the probability distribution and mathematical expectation of the maximal lengths of carries in adders. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 4, 143–150, 222 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 4, 110–117. (Leon Levy) **52** #7195 68A10

Jasik, Steve *See* **Design and optimization of compilers**, **55** #1770

Jasilionis, R. The number of equilibrium solutions in certain vectorial optimization problems. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp.* 120–123. *Izdat. "Mintis", Vilnius*, 1973. (W. W. Breckner) **51** #11231 49A30

Jasim, Sabah A. On KC^*-spaces. (Arabic summary) *Bull. College Sci.* (*Baghdad*) **16** (1975), *no.* 1, 159–165. (G. H. M. Thomas) **53** #1524 54D99

Jašin, A. I. Filtering a discontinuous Markov process with unknown probability characteristics in the presence of additive noise. *Avtomat. i Telemeh.* **1968**, *no.* 12, 25–30 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no.* 12, 1913–1919. (R. L. Kashyap) **52** #12928 93E10

Filtering of jump processes. *Avtomat. i Telemeh.* **1970**, *no.* 5, 52–58 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 5, 725–730. (D. L. Iglehart) **46** #8729 93E10 (93E20)

(*with* Klement′ev, A. A.; Petrovskiĭ, A. M.; Maslov, E. P.) Control of stochastic processes when the duration of the control interval can be regulated. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 226–236, 479. *Izdat. "Nauka", Moscow*, 1972. (V. Kolmanovsky) **51** #7690 93E20

Constructive algorithms of optimal nonlinear filtering. I. *Avtomat. i Telemeh.* **1975**, *no.* 11, 33–39 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 1, 1775–1781 (1976). (L. I. Gal′čuk) **55** #12255 93E10

On constructive algorithms of optimal nonlinear filtering. II. *Avtomat. i Telemeh.* **1975**, *no.* 12, 108–113 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 12, *part* 2, 2027–2033. (L. I. Gal′čuk) **55** #12256 93E10

Estimation of the characteristics of random discontinuous processes. *Avtomat. i Telemeh.* **1976**, *no.* 4, 55–60 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 4, *part* 1, 521–526. (Hironao Kawashima) **56** #11375 93E10 (60J75, 94A05)

Jašina, N. P. (*with* Kirilenko, A. A.; Šestopalov, V. P.) A strict solution of the problem of a circular waveguide with a step discontinuity. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1482–1493, 1627. (Authors' summary) **56** #14177 78.65

Jasinevičene, G. M. *See* **Theory and methods of construction of multivariable control**

systems, **50** #6585

Jasins'ka, Ē. U. (*with* Kucharzewski, Mieczysław) Kleinsche Geometrie und Theorie der geometrischen Objekte. Collection of articles commemorating Władysław Ślebodziński. *Colloq. Math.* **26** (1972), 271–279. (M. Kuczma) **49** #3713 53A55

(*with* Kucharzewski, Mieczysław) Grundlegende Begriffe der Kleinschen Geometrie. *Demonstratio Math.* **7** (1974), 381–402. (Z. Moszner) **50** #14444 50A15 (53A55)

Spaces with projective metric. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Monograf.* **1** (1974), 69 *pp*. (R. I. Pimenov) **50** #8269 50C25

Metric invariants and covariants of linear complexes in real non-Euclidean and semi-non-Euclidean spaces. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no*. 2, 271–278, 287. (D. B. Persic) **54** #11160 50C25

Analytic and conformal geometry of a space with projective metric. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Politech. Wrocław. No.* 18 *Ser. Monograf. No.* 4 (1977), 90 *pp*. (M. Kucharzewski) **58** #18095 50C25 (53A35)

Jasinski, Heinrich (*with* Wagner, Peter) Über ein numerisches Verfahren zur Optimierung von Systemen mit konzentrierten Parametern. *Wiss. Z. Techn. Hochsch. Chem. Leuna-Merseburg* **15** (1973), 148–158. (R. Leonard Brown) **53** #14906 65K05

(*with* Wagner, Peter) Zur Anwendung von Gradientenverfahren zur Optimierung eines dreisektoralen Prognosemodells für die Volkswirtschaft. *Beiträge Numer. Math.* **5** (1976), 57–68. (J. Švejda) **56** #1708 65K05 (49D10, 90A15)

Jasiński, Leszek Jerzy An orthogonalization algorithm in the method of least squares. (Polish. Russian and English summaries) *Przegląd Statyst.* **22** (1975), *no*. 3, 385–401. (Author's summary) **53** #6904 62J05 (62P20)

Game theory method in stochastic programming. (Polish. Russian and English summaries) *Przegląd Statyst.* **23** (1976), *no*. 1, 107–117. (Author's summary) **55** #12080 90C15

A three-stage method of least squares with side conditions. (Polish. Russian and English summaries) *Przegląd Statyst.* **24** (1977), *no*. 1, 21–32. (Author's summary) **56** #4100 62P20

Jasinskiĭ, V. K. (*with* Sljusarčuk, V. E.; Car'kov, E. F.) The stability of the solutions of linear differential-functional equations under random perturbations of the parameters. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 409–415, 432. (A. Ja. Dorogovcev) **48** #9847 60H99

(*with* Sljusarčuk, V. E.) Stability of the solutions of linear stochastic systems with aftereffect. (Russian) *A study of systems with random perturbations* (*Russian*), *pp*. 3–15. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (G. S. Ladde) **58** #18727 60H10

Jasinskiĭ, V. V. (*with* Beĭko, I. V.) Problems of decision making in conflict situations. (Russian) *Akad. Nauk Ukrain. SSR Inst. Mat. Preprint No.* 27 (1977), 48 *pp*. (M. Vlach) **58** #15242 90D20

Jasiulewicz, Helena One-dimensional distribution functions of a stochastic process that is controlled by the product of two Markov processes in a certain inventory storage problem. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Politechn. Wrocław. No.* 11 *Ser. Stud. i Materiały No.* 10 *Problemy rachunku prawdopodobieństwa* (1975), 27–53. (Author's summary) **53** #6796 60K30

Jasiulionis, A. I. (*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Eigenvectors of trigonometric polynomials. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **17(21)** (1971), *no*. 3-4, *part I*, 11–16. (Editors) **46** #591 42A04

Application of matrices in the study of algebraic operations on algebraic polynomials in any number of variables. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **14** (1974), *no*. 3, 223–232, 243. (W. Narkiewicz) **52** #5708 15A30

Matrices in vector calculus. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **16** (1976), *no*. 1, 229–242, 253. (J. L. Brenner) **54** #5280 15A72

Jasiūnas, H. The estimate of the remainder term in a multidimensional central limit theorem. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 905–910. (A. V. Nagaev (Zbl **244** #60020)) **48** #5151 60F05

See also **Selected translations in mathematical statistics and probability**, **49** #4729

Jasjulenis, A. I. *See* **Jasiulionis, A. I.**

Jasjunas, G. *See* **Jasiūnas, H.**

Jaskevič, L. F. On the question of the numerical realization of the method of polynomial transformation. (Russian) *Control methods and models, No.* 6 (*Russian*), *pp*. 100–104. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1973. (Jozef Miklośko) **50** #11791 65L99

The method of polynomial transformation for nonautonomous systems. (Russian) *Methods and models of control, No.* 7 (*Russian*), *pp*. 13–17, 119. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1974. (W. S. Loud) **51** #13366 34C20

An algorithm for the construction of a certain part of the convex hull of a finite number of points. (Russian) *Methods and models of control, No.* 7 (*Russian*), *pp*. 36–41, 120. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1974. (E. Hertel) **52** #4131 52A25

The simulation on an electronic computer of the polynomial transformation method. (Russian) *Methods and models of control, No.* 7 (*Russian*), *pp*. 42–47, 120. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1974. (Author's summary) **55** #1744 65L99

See also **Methods and models of control**, **48** #10741

Jaškin, S. N. Perturbations in satellite orbital elements from the tesseral and sectorial harmonics of the earth's potential. *Astronom. Ž.* **47** (1970), 1112–1120 (*Russian*); *translated as Soviet Astronom. AJ* **14** (1970), 890–895 (1971). (William B. Heard) **48** #1555 70.34 (85.34)

Jaškina, I. N. The solution of a boundary value problem for a certain equation that contains an elliptic operator. (Russian) *Mathematics* (*Russian*), *pp*. 60–65. *Minsk. Gos. Ped. Inst., Minsk*, 1973. (V.-V. Olariu) **51** #3687 35J40

Jasko, F. F. (*with* Sljusarčuk, V. E.) Necessary and sufficient conditions for the exponential stability of the solutions of operator difference equations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no*. 5, 109–112, 143. (Authors' summary) **58** #6793 39A12 (47A50)

Jaskold Gabszewicz, Jean (*with* Mertens, Jean François) An equivalence theorem for the core of an economy whose atoms are not "too" big. *Econometrica* **39** (1971), 713–721. (Manfred Kochen) **53** #4921 90A15

(*with* Drèze, Jacques H.; Schmeidler, David; Vind, Karl) Cores and prices exchange economy with an atomless sector. *Econometrica* **40** (1972), 1091–1108. Kannai) **52** #7488 90A15

(*with* Hansen, Terje) Collusion of factor owners and distribution of social ou *J. Econom. Theory* **4** (1972), *no*. 1, 1–18. (From the authors' introduction) **56** #10 90A15 (90A20)

(*with* Vial, Jean-Philippe) Oligopoly "à la Cournot" in a general equilibrium analysis. *J. Econom. Theory* **4** (1972), *no*. 3, 381–400. (From the authors' introdu **56** #7841 90A15

Coalitional fairness of allocations in pure exchange economies. *Econometri* (1975), *no*. 4, 661–66,. (Author's summary) **56** #2244 90A15 (90D45)

Asymmetric duopoly and the core. *J. Econom. Theory* **14** (1977), *no*. 1, 172–17 Tintner) **55** #9865 90A15

(*with* Drèze, Jacques H.; Postlewaite, Andrew) Disadvantageous monopolie disadvantageous endowments. *J. Econom. Theory* **16** (1977), *no*. 1, 116–121. (Gio M. Zambruno) **58** #4212 90A10 (90D13)

Jaškov, S. F. Distribution of the conditional waiting time in a system with division of *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no*. 5, 88–94 (*Russian*); *translated as E Cybernet.* **15** (1977), *no*. 5, 44–52 (1978). (D. C. McNickle) **58** #18778 60K25

Jaśkowski, Stanisław Investigations into the system of intuitionist logic. Translated the French by S. McCall (Actes Congr. Internat. Philos. Sci. (Paris, 1935), fasc. pp. 58–61, Hermann, Paris, 1936). Stanisław Jaśkowski's achievements in mathema logic (Proc. 20th Conf. History of Logic, Cracow, 1974). *Studia Logica* **34** (1975), 117–120. (Editors) **51** #7832 02C15

Three contributions to the two-valued propositional calculus. Translated from French (Studia Soc. Sci. Torunensis. Sect. A 1 (1948), 1–15). Stanisław Jaśkow achievements in mathematical logic (Proc. 20th Conf. History of Logic, Cracow, *Studia Logica* **34** (1975), *no*. 2, 121–132. (Editors) **51** #7846 02G10

About certain groups of classes of sets and their application to the definitio numbers. Translated from the French (Studia Soc. Sci. Torunensis. Sect. A 1 (23–35). Stanisław Jaśkowski's achievements in mathematical logic (Proc. 20th History of Logic, Cracow, 1974). *Studia Logica* **34** (1975), *no*. 2, 133–144. (Edi **51** #7878 04A10

See also **Dubikajtis, Lech**, **51** #7782 *and* **Stanisław Jaśkowski's achievement mathematical logic**, **51** #7800

Jasnickaja, N. N. (*with* Dol'berg, M. D.) Lower bounds for the oscillation frequenci an elastic system. Generalized Dunkerly-Papkovič estimates. (Russian) *Dokl. A Nauk SSSR* **212** (1973), 1317–1319. (W. Kecs) **49** #11925 73.49

Jašnikov, V. P. Harmonic functions connected with finite von Neumann algebras. (Russian) *Uspehi Mat. Nauk* **26** (1971), *no*. 5(161), 229–230. (E. Gerlach) **52** #149 46G05 (46L10)

Certain properties of harmonic functions that are connected with finite von Neumann algebras. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no*. 1(169), 257–258. Gerlach) **58** #30206a 46G05 (46L10)

Harmonic functions that are connected with von Neumann algebras. (Russi *Trudy Moskov. Mat. Obšč.* **32** (1975), 211–226. (E. Gerlach) **58** #30206b 46 (46L10)

Jasniskiĭ, Ju. M. (*with* Zareckiĭ, M. V.; Kunjavskiĭ, M. S.) A production efficiency tes economic equilibrium models. (Russian) *Èkonom. i Mat. Metody* **10** (1974), *no* 1003–1006. (RŽMat **1975** #1 V813) **57** #9035 90B30

Jasnow, David (*with* Fisher, Michael E.) Decay of order in isotropic systems of restric dimensionality. I. Bose superfluids. *Phys. Rev. B* (3) **3** (1971), 895–907. (H. J. Hilho **55** #5106 82.47

(*with* Fisher, Michael E.) Decay of order in isotropic systems of restricted dimensionality. II. Spin systems. *Phys. Rev. B* (3) **3** (1971), 907–924. (H. J. Hilho **55** #5107 82.47

Jaspers, M. (*with* Beckers, J.) Representations of the Poincaré algebra, spin algebras a the infinite-momentum frame. *Phys. A* **79** (1975), 338–349. (G. R. Allcock) **51** #121 81.22

Rotations de Wigner et matrices associées dans le cas de particules de Dir (English summary) *Bull. Soc. Roy. Sci. Liège* **45** (1976), *no*. 1-2, 30–35. (Pavel Winternitz) **53** #15134 81.22

Rotations de Wigner et matrices associées dans le cas de masse nulle. (Engl summary) *Bull. Soc. Roy. Sci. Liège* **45** (1976), *no*. 5-8, 201–210. (C.-H. Woo) **55** #4979 81.22

(*with* Beckers, J.) Générateurs du groupe de Poincaré associés aux représentatio irréductibles unitaires du genre espace. *Group theoretical methods in physics* (*Proc. Fi Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp*. 455–461. *Academic Pre New York*, 1977. (Philip Huddleston) **58** #6086 22E70

(*with* Beckers, J.) Remarks on transformation laws in nonzero mass quantum fie theory. *Bull. Soc. Roy. Sci. Liège* **46** (1977), *no*. 5-8, 189–194. (From the autho summary) **57** #8670 81.47

(*with* Beckers, J.) On timelike, lightlike, and spacelike realizations of Poinca generators. *Ann. Physics* **113** (1978), *no*. 2, 237–256. (A. O. Barut) **58** #19915 81.

Jastrebeneckiĭ, M. A. The reliability of renewed elements under external influences. *Iz Akad. Nauk SSSR Tehn. Kibernet.* **1970**, *no*. 4, 43–53 (*Russian*); *translated as Engr Cybernetics* **8** (1970), *no*. 4, 659–668 (1971). (H. L. Harter) **45** #6133 62N05

The influence of external actions on the correlation properties of breakdown flow of control systems. (Russian) *Avtomat. i Vyčisl. Tehn.* **1971**, *no*. 3, 20–27. (S. Bingulac) **45** #9731 93A10

(*with* Rykov, V. V.) Renewal processes with several types of regeneration point (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no*. 3, 82–86. (M. R Leadbetter) **48** #1337 60K05

On a rarefied Markov renewal process connected with some reliability problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 4, 97–107 (*Russian*); *translated a Engrg. Cybernetics* **10** (1972), *no*. 4, 647–656. (H. Taylor) **48** #7410 60K20

The convergence of sums of Markov renewal processes to a branching Poisso process. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no*. 1, 95–98. (J. G Wendel) **46** #970 60K15

A flow of failures caused by crossing of a nonconstant level by a regenerating random process. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 3, 108–113 (*Russian*); *translated at Engrg. Cybernetics* **12** (1974), *no.* 3, 75–81. (Z. W. Birnbaum) **53** #4279 60K15

rebov, A. V. The recurrence of the second quadratic form of hypersurfaces. (Russian) *Geometry and topology*, *No.* 1 (*Russian*), *pp.* 157–162. *Leningrad. Gos. Ped. Inst. im Gercena, Leningrad*, 1974. (M. C. Chaki) **54** #3610 53B25

Spaces with a symmetric curvature structure. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **18** (1978), 329–344. (O. Kowalski) **58** #18270 53C20

rebov, V. S. *See* **Control in space**, **48** #8041

remskiĭ, A. I. Certain properties of a stochastic analogue of the Leont′ev model. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 4, 139–141. (B. Bereanu) **47** #1431 90A15

The simplest optimizational stochastic inter-industrial model. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 5, 139–140. (Author's summary) **54** #9627 90A15

Duality in two-phase stochastic programming and a stochastic linear production model. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 2, 141–145. (J. Mockus) **54** #2195 90C15

Ordinal measurability of utility and finding the most preferential plan in man-machine interface. (Russian) *Macroeconomic models* (*Russian*), *pp.* 50–64. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1976. (B. Bereanu) **57** #8982 90A05 (90A10)

Rates of growth and efficiency standard in the optimal design of a dynamic stochastic production model. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 3, 110–114. (I. V. Evstigneev) **56** #17778 90B30 (90A15)

See also **Macroeconomic models**, **56** #4720

ržembskiĭ, A. L. (*with* Makedonskaja, P. G.) An algorithm for the rational approximation of a tabularly given function. (Russian) *Vyčisl. Mat. i Vyčisl. Tehn.* (*Kharkov*) **1971**, *no.* 2, 11–12, 157. (See RŽMat **1972** #2 B878) 65D15

ron, M. A. (*with* Symm, G. T.) ★Integral equation methods in potential theory and elastostatics. Computational Mathematics and Applications. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1977. xiv + 287 *pp.* *ISBN* 0-12-381050-7 (Editors) **58** #17147 31A15 (76.31)

czak, Marian (*with* Żekanowski, Zbigniew) Some properties of linear connections on Riemannian manifolds. I. *Demonstratio Math.* **8** (1975), *no.* 3, 321–328. (P. Stavre) **52** #1545 53B15

On some generalization of the notion of decomposable tensor in a locally decomposable Riemannian space. *Demonstratio Math.* **9** (1976), *no.* 1, 61–63. (Bernard Rouxel) **57** #4023 53B20

ev, M. On the problem of the stability of nonholomorphic systems. (Russian) *Differential equations and their application* (*Russian*), *pp.* 3–9, 209. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1970. (R. F. Datko) **52** #11224 34D99

gaonkar, Arun Vinayak Structure and classification of hereditary Noetherian prime rings. *Ring theory* (*Proc. Conf., Park City, Utah*, 1971), *pp.* 171–229. *Academic Press, New York*, 1972. (C. Feldman) **53** #10845 16A18

Skew polynomial rings over orders in Artinian rings. *J. Algebra* **21** (1972), 51–59. (J. C. Robson) **45** #8672 16A18

The torsion theory at a semi-prime ideal. *An. Acad. Brasil. Ci.* **45** (1973), 197–200. (G. Michler) **49** #2851 16A66

Injective modules and classical localization in Noetherian rings. *Bull. Amer. Math. Soc.* **79** (1973), 152–157. (G. Krause) **47** #259 16A08

Relative Krull dimension and prime ideals in right Noetherian rings. *Comm. Algebra* **2** (1974), 429–468. (J. C. Robson) **50** #9962 16A46

Jacobson's conjecture and modules over fully bounded Noetherian rings. *J. Algebra* **30** (1974), 103–121. (G. Krause) **50** #4657 16A46

Integral group rings of polycyclic-by-finite groups. *J. Pure Appl. Algebra* **4** (1974), 337–343. (Donald S. Passman) **49** #9084 20E25

(*with* Formanek, Edward) Subrings of Noetherian rings. *Proc. Amer. Math. Soc.* **46** (1974), 181–186. (G. Michler) **54** #2725 16A46

Injective modules and localization in noncommutative Noetherian rings. *Trans. Amer. Math. Soc.* **190** (1974), 109–123. (B. J. Müller) **50** #2220 16A08

Principal ideal theorem for Noetherian P.I. rings. *J. Algebra* **35** (1975), 17–22. (Edward Formanek) **51** #8161 16A38

Certain injectives are Artinian. *Noncommutative ring theory* (*Internat. Conf., Kent State Univ., Kent Ohio*, 1975), *pp.* 128–139. *Lecture Notes in Math., Vol.* 545, *Springer, Berlin*, 1976. (B. J. Müller) **55** #5688 16A46

gaonkar, Vasanti A. Global dimension of triangular orders over a discrete valuation ring. *Proc. Amer. Math. Soc.* **38** (1973), 8–14. (J. S. Alin) **46** #9091 16A18

Global dimension of tiled orders over commutative noetherian domains. *Trans. Amer. Math. Soc.* **190** (1974), 357–374. (B. J. Müller) **50** #7231 16A18

Global dimension of tiled orders over a discrete valuation ring. *Trans. Amer. Math. Soc.* **196** (1974), 313–330. (K. W. Roggenkamp) **50** #2222 16A18

eau, L. Définition et conditions d'équilibre des contraintes en déformations non infiniment petites. (Italian summary) *Atti Accad. Ligure Sci. Lett.* **27** (1970), 67–89 (1971). (Radu Bădescu) **49** #11929 73.53

va, L. N. On the strong logarithmic summability of a factored Fourier series. *Jñānabha Sect. A* **1** (1971), *no.* 1, 63–69. (B. N. Sahney) **47** #2255 42A24

ch, Joseph-Maria Scattering theory in general quantum mechanics. *Analytic methods in mathematical physics* (*Sympos., Indiana Univ., Bloomington, Ind.*, 1968), *pp.* 185–205. *Gordon and Breach, New York*, 1970. (S. Gudder) **49** #6793 81.06

(*with* Lavine, Richard B.; Newton, Roger G.) Scattering into cones. *Helv. Phys. Acta* **45** (1972/73), 325–330. (Authors' summary) **54** #6769 81.47

(*with* Sinha, Kalyan; Misra, Baidyanath) Time-delay in scattering processes. *Helv. Phys. Acta* **45** (1972/73), 398–426. (Authors' summary) **54** #6770 81.47

(*with* Sinha, Kalyan) Scattering systems with finite total cross-section. *Helv. Phys. Acta* **45** (1972/73), 580–586. (K. Veselić) **52** #2472 81.47

(*with* Báron, J. G.) Entropy, information and Szilard's paradox. *Helv. Phys. Acta* **45** (1972), *no.* 2, 220–232. (Authors' summary) **56** #7709 82.60

(*with* Amrein, Werner O.; Georgescu, V.) The spectral integral in scattering theory. *Vector and operator valued measures and applications* (*Proc. Sympos., Alta, Utah*, 1972), *pp.* 149–153. *Academic Press, New York*, 1973. (M. J. Westwater) **48** #10374 81.47 (47A40)

Analytical thermodynamics. I. Thermostatics—general theory. *Found. Phys.* **5** (1975), *no.* 1, 111–132. (Author's summary) **58** #3997 80.58

(*with* Berthier, Anne-Marie) A theorem on the support of functions in $L^2(\mathbf{R})$ and of their Fourier transforms. *Lett. Math. Phys.* **1** (1975/76), *no.* 2, 93–97. (W. O. Amrein) **54** #849 42A68 (46E30)

(*with* Rohrlich, F.) ★The theory of photons and electrons. The relativistic quantum field theory of charged particles with spin one-half. Second expanded edition. Texts and Monographs in Physics. *Springer-Verlag, New York-Heidelberg*, 1976. ix + 553 *pp.* (Editors) **52** #7332 81.00

(*with* Amrein, Werner O.; Sinha, Kalyan) ★Scattering theory in quantum mechanics. Physical principles and mathematical methods. Lecture Notes and Supplements in Physics, No. 16. *W. A. Benjamin, Inc., Reading, Mass.-London-Amsterdam*, 1977. xxiii + 691 *pp.* *ISBN* 0-8053-0202-6 (Anne-Marie Berthier) **58** #14631 81.47 (35P25, 47A40)

See also **Foundations of quantum mechanics**, **52** #7333; **Chandler, Colston; et al.**, **53** #9987; **Klauder, John R.**, **55** #7199; **Physical reality and mathematical description**, **57** #5545 *and* **Yourgrau, Wolfgang**, **58** #98

Jauhari, R. S. *See* **Johari, R. S.**

Jaulent, Marcel On an inverse scattering problem with an energy-dependent potential. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **17** (1972), 363–378. (T. Sasakawa) **50** #15655 81.31

(*with* Jean, C.) The inverse *s*-wave scattering problem for a class of potentials depending on energy. *Comm. Math. Phys.* **28** (1972), 177–220. (J. Wiesner) **46** #10319 81.34

Sur le problème inverse de la diffusion pour l'équation de Schrödinger radiale avec un potentiel dépendant de l'énergie. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aii, A1467–A1470. (T. Sasakawa) **51** #12175 81.34

(*with* Miodek, I.) Nonlinear evolution equations associated with "energy-dependent Schrödinger potentials". *Lett. Math. Phys.* **1** (1975/77), *no.* 3, 243–250. (Authors' summary) **55** #6034 35P25 (35J10)

(*with* Jean, C.) The inverse problem for the one-dimensional Schrödinger equation with an energy-dependent potential. I. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **25** (1976), *no.* 2, 105–118. (J. Wiesner) **55** #13990 81.34

(*with* Jean, C.) The inverse problem for the one-dimensional Schrödinger equation with an energy-dependent potential. II. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **25** (1976), *no.* 2, 119–137. (J. Wiesner) **55** #13991 81.34

Inverse scattering problems in absorbing media. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1351–1360. (V. H. Weston) **54** #4335 78.34

(*with* Leon, J. J. P.) Nonlinear evolution equations associated with a massive Dirac system. *Lett. Nuovo Cimento* (2) **23** (1978), *no.* 4, 129–136. (P. Rochus) **58** #25528a 81.35 (35Q99)

(*with* Leon, J. J. P.) Connection between Dirac and matrix Schrödinger inverse-scattering transforms. *Lett. Nuovo Cimento* (2) **23** (1978), *no.* 4, 137–142. (P. Rochus) **58** #25528b 81.35 (35Q99)

Jaulin, Bernard (*with* Azra, J.-P.) ★Récursivité. Préface de Daniel Lacombe. Collection "Programmation". *Gauthier-Villars Éditeur, Paris-Brussels-Montreal, Que.*, 1973. xix + 218 *pp.* (John T. Gill) **51** #5275 02Fxx (68-01, 02-01)

Sur l'art de sonner les cloches. *Math. Sci. Humaines No.* 60 (1977), 5–20. (Editors) **58** #27543 05A99 (20B25)

Jaumain, Christian Eine Methode für approximative Berechnungen und ihre Anwendung in der Lebensversicherungsmathematik. (English summary) *Bl. Dtsch. Ges. Versicherungsmath.* **12** (1975/76), *no.* 1, 79–93. (Erling Sverdrup) **54** #4014 62P05

Jaumes, Gérard (*with* Sidériadès, Lefteri) Sur la classification des points singuliers d'une récurrence non linéaire d'ordre 3. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 7, Aiii, A471–A473. (T. Ura) **52** #6113 34C35 (93D99)

Jaumotte, André L. Éloge du Professeur Fraeijs de Veubeke. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **63** (1977), *no.* 2, 110–116. (Editors) **56** #8301 01A70

Jaunberg, A. A. An application of the multiple scattering method in the theory of the local states of an electron in a crystal with a point defect. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap.* **234** *Elektron. i Ion. Processy v Ion. Kristallah* (1975), *no.* 3, 3–25. (Author's summary) **56** #14269 81.35

Jaung, L. L. (*with* Tewarson, Reginald P.; Stephenson, J. L.) A note on solution of large sparse systems of nonlinear equations. *J. Math. Anal. Appl.* **63** (1978), *no.* 2, 439–445. (W. Börsch-Supan) **58** #3397 65H10

Jaunzemis, Walter Differential geometry and continuum mechanics. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 118–124. (E. J. Post) **49** #6746 73.53

Jaunzems, A. Certain perturbations of linear operators in topological vector spaces. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 277–290. *Izdat. "Zinatne", Riga*, 1971. (S. Rolewicz) **47** #2401 47A55 (47B30)

Stability of the normal solvability of bounded operators in *F*-spaces. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 291–300. *Izdat. "Zinatne", Riga*, 1971. (S. Rolewicz) **47** #2402 47A55 (47B30)

Certain geometric properties of locally convex spaces. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 10 (*Russian*), *pp.* 211–226. *Izdat. "Zinatne", Riga*, 1972. (S. Rolewicz) **47** #3932 46A05

The stability of the openness and normal solvability of linear operators. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 14 (*Russian*), *pp.* 233–236. *Izdat. "Zinatne", Riga*, 1974. (S. Rolewicz) **50** #14299 47A55

p-complete locally convex spaces, and open linear operators in them. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 14 (*Russian*), *pp.* 237–246. *Izdat. "Zinatne", Riga*, 1974. (S. Rolewicz) **50** #14300 47A55

bujanda Jauregui, M. Paz *See* **Bujanda Jauregui, M. Paz**

Jaušev, I. K. (*with* Gurov, B. G.; Janenko, N. N.) Numerical computation of the nonpotential flows of an ideal fluid in plane channels. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **2** (1971), *no.* 1, 3–16. (Murli M. Gupta) **48** #5508 76.65

(*with* Hakimzjanov, G. S.) Numerical computation of stationary plane-parallel flows of ideal fluids and gas in channels of complex configuration. (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR Ser. Tehn. Nauk* **13** (1977), *no.* 3, 37–45, 142. (From the introduction) **58** #25383 76.65

Javdan, M. R. Transfer function synthesis. *Internat. J. Control* **22** (1975), *no.* 2, 281–287. (Roger Brockett) **52** #2655 93A10

A unified theory of optimal multi-level control. *Internat. J. Control* **22** (1975), *no.* 4, 517–524. (A. Majthay) **55** #2247 93C25

Extension of dual coordination to a class of non-linear systems. *Internat. J. Control* **24** (1976), *no.* 4, 551–571. (O. I. Nwokah) **58** #9554 93C10

(*with* Richards, R. J.) Decentralized control systems theory: a critical evaluation. *Internat. J. Control* **26** (1977), *no.* 1, 129–144. (Authors' summary) **58** #9460 93A15

Javelov, A. Ja. (*with* Makarov, O. M.) Investigation of the accuracy of the reproduction and realizability of a given spectrum of a random process. (Russian) *Cybernetics and computer technology, No.* 1: *Complex control systems* (*Russian*), *pp.* 105–124. *Naukova Dumka, Kiev*, 1969. **45** #9785 94A05

Javid, S. H. (*with* Kokotović, Petar V.) A decomposition of time scales for iterative computation of time-optimal controls. *J. Optimization Theory Appl.* **21** (1977), *no.* 4, 459–468. (Authors' review (Zbl **336** #49025)) **58** #33353 93C99

The time-optimal control of a class of non-linear singularly perturbed systems. *Internat. J. Control* **27** (1978), *no.* 6, 831–836. (Author's summary) **58** #15442 93C10

Javlovskiĭ, V. A. *See* **Questions in differential equations**, **48** #10742

Javna, A. A. (*with* Kuz′min, I. V.; Ključko, V. I.) ★**Элементы вероятностных моделей АСУ.** (Russian) [Fundamentals of probabilistic models of automatic control systems] "*Sovetskoe Radio*", *Moscow*, 1975. 335 *pp.* (From the publisher's description) **55** #12376 94A35 (92A25)

Jávor, A. An approach to the modelling of uncertainties in the simulation of quasideterministic discrete event systems. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 3, 219–229. (J. Černý) **56** #11462 93E99

značko-Javorskaja, G. V. *See* **Značko-Javorskaja, G. V.**

Javorskiĭ, A. L. (*with* Osipov, L. V.) Asymptotic distribution of sums of a random number of random variables. (Russian. English summary) *Vestnik Leningrad. Univ.* **1978**, *no.* 7 *Mat. Meh. Astronom. no.* 2, 156–158, 165. (John C. Wierman) **58** #2987 60F05

Javors′kiĭ, E. B. (*with* Homenko, M. P.) One-component imbeddings of graphs in orientable 2-manifolds. (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 83–89, 300–301. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (N. Poláková) **52** #13454 05C10 (57C35)

Properties of the φ-transformation of a cycle under an R-equivalence on pairs of edges. (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 126–131, 302. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Author's summary) **55** #12560 05C15

One-component embedding of graphs, and φ-transformations. (Ukrainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), *pp.* 97–102, 362–363. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (J. Bosák) **53** #2725 05C10 (57A05)

(*with* Homenko, M. P.) Representation of 2-manifolds by means of graphs. (Ukrainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), *pp.* 234–250, 368–369. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (N. Poláková) **52** #13456 05C10 (57A05)

Javorskiĭ, I. N. (*with* Dragan, Ja. P.) A certain paradox of the model of rhythm. (Russian) *Otbor i Peredača Informacii Vyp.* 41 (1974), 11–15, 100. (I. G. Zurbenko) **55** #11361 60G10

Influence of surface waves of finite amplitude on the transmission of hydroacoustic signals. (Russian) *Otbor i Peredača Informacii No.* 42 (1974), 44–52, 106. (Author's summary) **51** #15151 94A05

Javorskiĭ, M. T. (*with* Adamjan, V. M.) On the theory of canonical systems of differential equations on the half axis. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **56** (1973), 71–78. (R. C. Gilbert) **48** #4394 34B25 (47A40, 47E05)

(*with* Gal′, M. M.) On the theory of canonical systems of differential equations on the half-axis. *Methods for the quantitative and qualitative study of differential and integral equations* (*Russian*), *pp.* 169–177. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Björn Textorius) **54** #3105 34C99

The inverse problem of the spectral theory of Hamiltonian systems with symplectic Hermitian. (Russian) *Mathematics collection* (*Russian*), *pp.* 26–30. *Izdat. "Naukova Dumka", Kiev*, 1976. (Alexander Alenicyn) **57** #6599 34B25 (34G05)

Javorskiĭ, V. V. (*with* Makarov, I. P.) One generalization of the traveling salesman problem. *Avtomat. i Telemeh.* **1975**, *no.* 4, 71–74 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 4, *part* 1, 586–589. (Authors' summary) **56** #7902 90B10 (90C40)

Javrjan, V. A. A certain inverse problem for Sturm-Liouville operators. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **6** (1971), *no.* 2–3, 246–251. (R. C. Gilbert) **46** #723 47E05 (34B25)

The asymptotic behavior of the spectral matrix function of a canonical system of differential equations. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **56** (1973), 129–134. (R. C. Gilbert) **48** #4395 34B25 (47E05)

The trace of certain integral operators. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **12** (1977), *no.* 2, 143–146, 164. (Author's summary) **56** #16457 47G05

Jawerth, Björn Weighted norm inequalities for functions of exponential type. *Ark. Mat.* **15** (1977), *no.* 2, 223–228. (Hans P. Heinig) **57** #3723 42A20 (28A45)

Some observations on Besov and Lizorkin-Triebel spaces. *Math. Scand.* **40** (1977), *no.* 1, 94–104. (H. Triebel) **56** #12867 46E35

The trace of Sobolev and Besov spaces if $0<p<1$. *Studia Math.* **62** (1978), *no.* 1, 65–71. (M. Itano) **58** #2227 46E35

Jaworowski, Jan W. Symmetric products of ANR's. *Math. Ann.* **192** (1971), 173–176. (H. L. Shapiro) **46** #4465 54C55

Symmetric products of ANR's associated with a permutation group. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 649–651. (A. H. Copeland, Jr.) **47** #4209 54C55

Extensions of maps in spaces with periodic homeomorphisms. *Bull. Amer. Soc.* **78** (1972), 527–531. (K. Sieklucki) **45** #9319 55C35 (54C20)

Extending equivariant maps for compact Lie group actions. *Bull. Amer. Mat* **79** (1973), 698–701. (G. E. Bredon) **48** #2985 54C55 (57E15)

Equivariant extensions of maps. *Pacific J. Math.* **45** (1973), 229–244. (S. Mar **47** #9524 54C20 (54C55)

Extensions of G-maps and Euclidean G-retracts. *Math. Z.* **146** (1976), 143–148. (Allan Edmonds) **52** #15351 54C55 (57E10)

See also **Bronšteĭn, I. N.; et al.**, **49** #10470; **Bronšteĭn, I. N.; et al.**, **49** #1047 **Topology and its applications**, **50** #6736

Jaworski, Janusz Decisive aspects of the production function of the Cobb-Douglas (Polish. Russian and English summaries) *Przegląd Statyst.* **19** (1972), 363–370. (Bulinskaja) **47** #1445 90B30

Jayachandran, M. (*with* Rajagopalan, M.) Scattered compactification for $N \cup \{P\}$. *P J. Math.* **61** (1975), *no.* 1, 161–171. (R. Telgársky) **53** #14419 54D35 (54B15)

(*with* Rajagopalan, M.) Scattered compactification for the Arens' space S_2. *Math.* **96** (1977), *no.* 3, 225–228. (Peter J. Nyikos) **58** #2724 54D35

Jayachandran, Toke (*with* Wilde, Carroll O.) Amenable transformation semigroup *Austral. Math. Soc.* **12** (1971), 502–510. (E. Granirer) **45** #6972 22A15 (47D0

(*with* Barr, Donald R.) Improved confidence bounds applied to reliability. *Trans. Reliab.* **R-24** (1975), *no.* 1, 67–68. (Carl M. Harris) **53** #15324 90B25 (62N05)

A note on a confidence interval for an interclass mean. *Naval Res. Logist. Qua* (1977), *no.* 1, 197–200. (N. U. Prabhu) **56** #6991 62F25

Jayadeva *See* **Selenius, Clas-Olof**, **57** #5581

Jayakar, S. D. (*with* Matessi, Carlo) Models of density-frequency dependent selectio the exploitation of resources. I. Intraspecific competition. *Population genetics ecology* (*Proc. Conf., Israel*, 1975), *pp.* 707–721. *Academic Press, New York*, 1976. (D M. Dubois) **56** #2474 92A15

(*with* Matessi, Carlo) Conditions for the evolution of altruism under Darwi selection. *Theoret. Population Biology* **9** (1976), *no.* 3, 360–387. (P. D. M. Macdor **54** #2247 92A10

See also **Genetics and social structure**, **49** #10401

Jayalakshmi, A. (*with* Atre, Ananth K.) On normal subright groups of a right gr *Vignana Bharathi* **4** (1978), *no.* 1, 24–27. (Mohan S. Putcha) **58** #11191 20M30

Jayant, Nuggehally S. A study of statistical pattern verification. *IEEE Trans. Syst Man, and Cybernet.* **SMC-2** (1972), 238–246. (K. Fritzsch (Zbl **244** #62009)) **50** #15468 68A45

Jayarajan, N. (*with* Chawla, M. M.) Hermite and Gauss type optimal quadratures analytic functions. *Calcolo* **10** (1973), 275–283. (Authors' summary) **49** #111 41A55

Error estimates for Gauss-Chebyshev and Clenshaw-Curtis quadrature formu *Calcolo* **11** (1974), 289–296. (M. M. Chawla) **55** #4612 65D30

(*with* Chawla, M. M.) A generalization of Hermite's interpolation formula in variables. *J. Austral. Math. Soc.* **18** (1974), 402–410. (R. E. Barnhill) **52** #37 41A05

(*with* Chawla, M. M.) Quadrature formulas for Cauchy principal value integ (German summary) *Computing* **15** (1975), *no.* 4, 347–355. (Robert Piessens) **54** #4 65D30

(*with* Chawla, M. M.) Bivariate cardinal interpolation and cubature formul *SIAM J. Numer. Anal.* **12** (1975), *no.* 4, 605–616. (Henning Esser) **52** #4583 65

(*with* Piessens, Robert; Chawla, M. M.) Gaussian quadrature formulas for numerical calculation of integrals with logarithmic singularity. *J. Computational P* **21** (1976), *no.* 3, 356–360. (Thomas A. Atchison) **54** #1558 65D30

Jayaraman, J. Proper Poincaré invariance in the determination of arbitrary-spin w equations: constraints from discrete symmetries. (Italian and Russian summari *Nuovo Cimento A* (11) **13** (1973), 877–896. (A. O. Barut) **50** #9199 81.22

Invariant scalar products and quantization of general Poincaré-invariant w equations. (Italian and Russian summaries) *Nuovo Cimento A* (11) **14** (1973), 343–3 (J.-P. Antoine) **51** #4900 81.47

On the additional invariance of arbitrary spin relativistic wave equations. *J. Phys.* **9** (1976), *no.* 7, 1181–1185. (Author's summary) **56** #10708 83.35

Jayashree, Totadri (*with* Basu, Dhruba) On a simple postcorrection for nonresto division. *IEEE Trans. Computers* **C-24** (1975), *no.* 10, 1019–1020. (I. Kaufma **53** #9705 68A10

Jayasri, Totadri (*with* Basu, Dhruba) An approach to organizing microinstructions wh minimizes the width of control store words. *IEEE Trans. Computers* **C-25** (1976), *no.* 514–521. (W. Kwasowiec) **54** #9197 68A99 (94A20)

Jayatissa, W. A. Tests of equality between sets of coefficients in two linear regressio when disturbance variances are unequal. *Econometrica* **45** (1977), *no.* 5, 1291–129 (Maxwell W. Layard) **57** #17965 62J05 (62P20)

Jayawardene, S. A. The influence of practical arithmetics on the *Algebra* of Raf Bombelli. *Isis* **64** (1973), *no.* 224, 510–523. (R. Rashed) **58** #15874 01A40

Jayne, J. E. Topological representations of measurable spaces. *General topology and relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympo* 1971), *pp.* 217–221. *Academia, Prague*, 1972. (E. J. Braude) **51** #4193 54H10 (28A05, 54C50)

Characterizations and metrization of proper analytic spaces. *Invent. Math.* (1973/74), 51–62. (J. P. R. Christensen) **48** #9687 54H05

(*with* Anderson, J. M.) The sequential stability index of a function space. *Mathematika* **20** (1973), 210–213. (D. Sarason) **49** #11240 46E99 (26A21)

Spaces of Baire functions. I. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **2** (1974), *no.* 4, v, 47–76 (1975). (E. R. Lorch) **51** #6714 54C50 (54H05)

The space of class α Baire functions. *Bull. Amer. Math. Soc.* **80** (1974), 1151–115 (R. D. Mauldin) **50** #14647 54C50 (46E15, 54H05)

Continuous images of proper analytic and proper Borel spaces. *Proc. Cambridg Philos. Soc.* **75** (1974), 185–191. (Roger W. Hansell) **49** #6200 54H05

Structure of analytic Hausdorff spaces. *Mathematika* **23** (1976), *no.* 2, 208–21 (Ashok Maitra) **57** #1451 54H05 (28A05)

Generation of Baire sets. *General topology and its relations to modern analysis an* *algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B, pp.* 187–194. *Soc. Czechoslovak Mathematicians and Physicists, Prague*, 1977. (V. V. Miškin) **57** #4139 54H05

(*with* Rogers, C. A.) The extremal structure of convex sets. *J. Functional Analysis* **26** (1977), *no.* 3, 251–288. (Benno Fuchssteiner) **58** #23515 46B99 (46A99)

(*with* Davies, Roy O.; Ostaszewski, A. J.; Rogers, C. A.) Theorems of Novikov type. *Mathematika* **24** (1977), *no.* 1, 97–114. (D. W. Bressler) **57** #1450 54H05 (04A15)

Generation of σ-algebras, Baire sets and descriptive Borel sets. *Mathematika* **24** (1977), *no.* 2, 241–256. (From the text) **58** #22445 28A05 (04A15, 54H05)

Metrization of compact convex sets. *Math. Ann.* **234** (1978), *no.* 2, 109–115. (P. Saworotnow) **58** #12287 46A99

ne, John W. (*with* Crates, Gladys Hayes) Inclusion theorems for the zeros of certain recursively generated polynomials. *SIAM J. Math. Anal.* **7** (1976), *no.* 2, 264–270. (A. G. Law) **52** #14408 33A65

ne, Lance W. (*with* Orszag, Steven A.) Local errors of difference approximations to hyperbolic equations. *J. Computational Phys.* **14** (1974), 93–103. (From the summary) **58** #13762a (E **58** #13762b) 65N15

See also **Chin, Raymond C. Y., 58** #13762b

es, E. T. The well-posed problem. *Found. Phys.* **3** (1973), 477–492. (I. J. Good) **54** #14173 62A99

Confidence intervals vs. Bayesian intervals. With comments by M. W. Maxfield and O. Kempthorne and replies by the author. *Foundations of probability theory, statistical inference, and statistical theories of science* (*Proc. Internat. Res. Colloq., Univ. Western Ontario, London, Ont.*, 1973), *Vol. II, pp.* 175–257. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 6, *Reidel, Dordrecht*, 1977. (R. J. Buehler) **57** #14201 62A15

See also **Foundations of statistical inference, 51** #9280

es, G. (*with* Okuno, Masahiro; Schmeidler, David) Efficiency in an atomless economy with fiat money. *Internat. Econom. Rev.* **19** (1978), *no.* 1, 149–156. (J. Rosenmüller) **58** #4205 90A05

iri, N. T. Fisher ideal index numbers formula: A note. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **21** (1972), 89–92. (Author's summary) **46** #2807 62P20

al-razzāz al-Jazarī, Badī ʻal-Zamān Abū al-ʻIzz Ismaʻil *See* **ibn al-Razzāz al-Jazarī, Badī ʻal-Zamān Abū al-ʻIzz Ismaʻil**

yeri, Mehdi (*with* Ogden, William F.; Rounds, William C.) The intrinsically exponential complexity of the circularity problem for attribute grammars. Papers from the Second ACM Symposium on Principles of Programming Languages (Palo Alto, Calif., 1975). *Comm. ACM* **18** (1975), *no.* 12, 697–706. (I. Hal Sudborough) **52** #16115 68A20

vinski, A. *See* **Control in space, 48** #8041

, C. (*with* Jaulent, Marcel) The inverse *s*-wave scattering problem for a class of potentials depending on energy. *Comm. Math. Phys.* **28** (1972), 177–220. (J. Wiesner) **46** #10319 81.34

(*with* Sabatier, P. C.) On an inverse scattering problem of quantum theory. (Italian and Russian summaries) *Nuovo Cimento A* (11) **18** (1973), 105–150. (Michael Tortorella) **52** #4838 81.34

(*with* Jaulent, Marcel) The inverse problem for the one-dimensional Schrödinger equation with an energy-dependent potential. I. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **25** (1976), *no.* 2, 105–118. (J. Wiesner) **55** #13990 81.34

(*with* Jaulent, Marcel) The inverse problem for the one-dimensional Schrödinger equation with an energy-dependent potential. II. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **25** (1976), *no.* 2, 119–137. (J. Wiesner) **55** #13991 81.34

, Maurice Sur les systèmes évolutifs: définition et existence. (Russian summary) *Proceedings of the Fifth International Conference on Nonlinear Oscillations* (*Kiev*, 1969). *Vol. 2: Qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 144–165. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1970. (G. S. Ladde) **47** #9012 34K05 (93C25)

Eléments de la théorie des équations différentielles avec commandes. *Non-linear mechanics* (*C.I.M.E., I Ciclo, Bressanone*, 1972), *pp.* 113–149. *Edizioni Cremonese, Rome*, 1973. (A. B. Kuržanskiĭ) **54** #13688 49E15 (34G05, 49B30)

, Michel Periodic solutions of ordinary differential equations as fixed points of the translation mapping near certain critical cases. *International Conference on Differential Equations* (*Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 399–423. *Academic Press, New York*, 1975. (N. Chafee) **53** #11163 34C25

Un cadre abstrait pour l'espace vectoriel topologique ordonné $W^{1,p}(\Omega)$ et quelques uns de ses bornes. *Travaux du Séminaire d'Analyse Convexe, Vol. V, Exp. No.* 7, 31 *pp. U.E.R. Math., Univ. Sci. Tech. Languedoc, Montpellier*, 1975. (Editors) **58** #23542 46E35 (46E05)

(*with* Bouc, Robert; Geymonat, Giuseppe; Nayroles, Bernard) Solution périodique du problème quasi-statique d'un solide viscoélastique à coefficients périodiques. (English summary) *J. Mécanique* **14** (1975), *no.* 4, 609–637. (D. Graffi) **52** #9756 73.35

(*with* Bouc, Robert; Geymonat, Giuseppe; Nayroles, Bernard) Hilbertian unilateral problems in viscoelasticity. *Applications of methods of functional analysis to problems in mechanics* (*Joint Sympos., IUTAM/IMU, Marseille*, 1975), *pp.* 219–234. *Lecture Notes in Math.*, 503. *Springer, Berlin*, 1976. (D. Graffi) **58** #32259 73.45

Some complete lattices of $W^{1,p}(U)$. (Italian summary) *Boll. Un. Mat. Ital.* (5) **13A** (1976), *no.* 1, 186–195. (Jimmie D. Lawson) **54** #5824 46E35 (46E05)

(*with* Bouc, Robert; Geymonat, Giuseppe; Nayroles, Bernard) Cauchy and periodic unilateral problems for aging linear viscoelastic materials. *J. Math. Anal. Appl.* **61** (1977), *no.* 1, 7–39. (L. W. Morland) **56** #13952 73.45

See also **Basu, Dipak Kumar, 56** #138

, Roger ★Mesure et intégration. Avec un préface de Serge Dubuc. *Les Presses de l'Université du Québec, Montreal, Que.*, 1975. xxii + 305 *pp.* (From the author's foreword) **57** #6341 28–01

, Tsan Rong *See* **Chien, Ts'an Lung**

n, Wei Haw *See* **Chien, Wei Hua**

odel, D. (*with* Brison, J. F.; Mathieu, Jean) Modeling methods in physical and spectral space. *Phys. Fluids* **21** (1978), *no.* 2, 169–182. (Authors' summary) **56** #17470 76.35

njean, Patrick Optimal development programs under uncertainty: the undiscounted case. *J. Econom. Theory* **7** (1974), *no.* 1, 66–92. (Author's summary) **56** #17726 90A15

Jeanquartier, Pierre Développement asymptotique de la distribution de Dirac attachée à une fonction analytique. *C. R. Acad. Sci. Paris Sér. A-B* **201** (1970), A1159–A1161. (Author's summary) **54** #8707 58C99

Jeans, N. S. (*with* Hendy, M. D.) Determining the fundamental unit of a pure cubic field given any unit. *Math. Comp.* **32** (1978), *no.* 143, 925–935. (T. Metsänkylä) **57** #12451 12A30 (12A45)

Jeavons, J. S. (*with* McIntosh, C. B. G.; Sen, D. K.) A correction to the Sen and Dunn gravitational field equations. *J. Mathematical Phys.* **16** (1975), 320–321. (C. Gilbert) **55** #5142 83.35

Jebli, Ahmed Sur certaines topologies linéaires. *Colloque d'Algèbre Commutative* (*Rennes*, 1972), *Exp. No.* 7, 5 *pp. Publ. Sém. Math. Univ. Rennes, Année* 1972, *Univ. Rennes, Rennes*, 1972. (Robert Gilmer) **50** #13010 13F05

Sur certaines topologies linéaires. *Séminaire de Théorie des Nombres*, 1971–1972 (*Univ. Bordeaux I, Talence*), *Exp. No.* 7, 5 *pp. Lab. Théorie des Nombres, Centre Nat. Recherche Sci., Talence*, 1972. (Editors) **52** #10715 13F05

Modules sur les anneaux de Krull. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A93–A94. (Robert Gilmer) **47** #4994 13F05

Corps des fractions et topologies artiniennes. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 973–976. (Robert Gilmer) **49** #4991 13C05

Topologies linéaires sur le corps des fractions d'un anneau de polynômes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Ai, A701–A703. (Robert Gilmer) **51** #3143 13C05

See also **Séminaire: Théorie des Nombres, 52** #8009

Jech, Thomas J. ★Lectures in set theory, with particular emphasis on the method of forcing. Lecture Notes in Mathematics, Vol. 217. *Springer-Verlag, Berlin-New York*, 1971. iv + 137 *pp.* (J. R. Shoenfield) **48** #105 02Kxx

Two remarks on elementary embeddings of the universe. *Pacific J. Math.* **39** (1971), 395–400. (E. R. Fisher) **46** #7032 02K35

Some combinatorial problems concerning uncountable cardinals. *Ann. Math. Logic* **5** (1972/73), 165–198. (Paul E. Howard) **48** #3744 04A20 (02K35)

Automorphisms of ω_1-trees. *Trans. Amer. Math. Soc.* **173** (1972), 57–70. (F. R. Drake (Zbl **268** #02044)) **50** #108 02K30

★Теория множеств и метод форсинга. (Russian) [Set theory and the method of forcing] Translated from the English by V. I. Fukson. Edited by V. M. Grišin. *Izdat. "Mir", Moscow*, 1973. 148 *pp.* (Editors) **49** #10547 02Kxx (02Hxx)

★The axiom of choice. Studies in Logic and the Foundations of Mathematics, Vol. 75. *North-Holland Publishing Co., Amsterdam-London; Amercan Elsevier Publishing Co., Inc., New York*, 1973. xi + 202 *pp.* (D. Pincus) **53** #139 04A25 (02K05)

(*with* Felgner, Ulrich) Variants of the axiom of choice in set theory with atoms. *Fund. Math.* **79** (1973), *no.* 1, 79–85. (M. Boffa) **47** #8302 02K20

Properties of the gimel function and a classification of singular cardinals. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, I. *Fund. Math.* **81** (1973), *no.* 1, 57–64. (Keith Devlin) **52** #10424 02K35

Forcing with trees and ordinal definability. *Ann. Math. Logic* **7** (1974/75), 387–409. (L. Bukovský) **51** #142 02K05

Simple complete Boolean algebras. *Israel J. Math.* **18** (1974), 1–10. (L. Bukovský) **50** #4300 02K15 (02K05)

(*with* Prikry, Karel) On ideals of sets and the power set operation. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 4, 593–595. (A. Tauts) **58** #21618 02K35

(*with* Harrington, Leo A.) On S_1 well-orderings of the universe. *J. Symbolic Logic* **41** (1976), *no.* 1, 167–170. (John P. Burgess) **53** #7780 02K05

A note on countably generated complete Boolean algebras. *Proc. Amer. Math. Soc.* **56** (1976), 272–276. (M. Yasuhara) **53** #2679 02K05 (06A40)

Precipitous ideals. *Logic Colloquium* 76 (*Oxford*, 1976), *pp.* 521–530. *Studies in Logic and Found. Math., Vol.* 87, *North-Holland, Amsterdam*, 1977. (W. Marek) **58** #5224 02K35

(*with* Hrbáček, Karel) ★Introduction to set theory. Pure and Applied Mathematics, Vol. 45. *Marcel Dekker, Inc., New York-Basel*, 1978. vi + 190 *pp. ISBN* 0-8247-6570-2 (L. Gillman) **58** #10453 04–01 (02K05)

(*with* Galvin, Fred; Magidor, Menachem) An ideal game. *J. Symbolic Logic* **43** (1978), *no.* 2, 284–292. (James D. Halpern) **58** #5237 04A20 (02K35)

See also **Axiomatic set theory, 50** #6840; **Handbook: Mathematical logic, 56** #15351 *and* **Handbook: Mathematical logic, 58** #27475

Jechlitschka, Kurt Über die Konstruktion von Stützhalbräumen für 0-1-Polyeder. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **26** (1977), *no.* 5, 547–554. (Rainer Burkard) **58** #32932 90C10 (52A45)

Jedinák, Dušan Statements of Albert Einstein. (Slovak) *Pokroky Mat. Fyz. Astronom.* **20** (1975), *no.* 6, 315–319. (Editors) **58** #10182 01A70

Jędryka, T. M. (*with* Musielak, Julian) On bimodular spaces. *Comment. Math. Prace Mat.* **15** (1971), 201–208. (M. V. Subbarao) **50** #944 46A99 (46E30)

(*with* Musielak, Julian) Some remarks on *F*-modular spaces. *Funct. Approximatio Comment. Math.* **2** (1976), 83–100. (W. A. J. Luxemburg) **56** #1045 46E30 (46A15)

(*with* Musielak, Julian) On a modular equation. I. *Funct. Approximatio Comment. Math.* **3** (1976), 101–111. (D. J. H. Garling) **56** #12856 46E10

(*with* Musielak, Julian) On some modular spaces of analytic functions in the unit disc. *Funct. Approximatio Comment. Math.* **3** (1976), 113–120. (A. C. Zaanen) **56** #9242 46E10 (46E30)

Jędrysik, Irena A report from the Scientific Conference of the Statistics Departments of the Academies of Economics of Southern Poland. (Polish) *Przegląd Statyst.* **22** (1975), *no.* 3, 463–468. (Editors) **55** #6626 62–06

Jędrzejewski, Jacek Marek On limit numbers of real functions. *Fund. Math.* **83** (1973/74), *no.* 3, 269–281. (A. M. Bruckner) **48** #8702 26A15

Approximately smooth functions. (Polish. English summary) *Zeszyty Nauk. Uniw. Łódzk. Nauki Mat. Przyrod. Ser. II No.* 52 *Mat.* (1973), 7–14. (Pavel Kostyrko) **49** #480 26A24

The generalized limit and generalized continuity. (Polish. English summary) *Zeszyty Nauk. Uniw. Łódzk. Nauki Mat. Przyrod. Ser. II No.* 52 *Mat.* (1973), 19–38. (Pavel Kostyrko) **49** #474 26A15

(*with* Wilczyński, Władysław) The family of sets of (𝔅) limit numbers. (Polish summary) *Zeszyty Nauk. Uniw. Łódzk. Nauki Mat. Przyrod. Ser. II No.* 52 *Mat.* (1973), 39–43. (Pavel Kostyrko) **49** #475 26A15

(*with* Skopiec, J.) On a mathematical model of a heat exchange process in conductors. (Polish summary) *Zastos. Mat.* **14** (1974), 403–413. (R. S. Levitin) **50** #15612 80.34

Jędrzejewski, Janusz Inequalities for some classical lattice and continuum systems. *J. Phys.* **9** (1976), *no.* 10, 1665–1672. (Derek W. Robinson) **56** #14456 82.47 (82.06)

Jeffcott, Barbara The center of an orthologic. *J. Symbolic Logic* **37** (1972), 641–645. (N. C. A. da Costa) **48** #189 06A20 (81.06)

Commuting observables in a σ-orthologic. *Indiana Univ. Math. J.* **23** (1973/74), 369–376. (R. Piziak) **48** #2007 06A10 (81.06)

A note on commutivity in the composite product of orthologics. *J. Natur. Sci. and Math.* **14** (1974), *no.* 2, 137–148. (J. Jakubík) **55** #7869 06A25

Decomposable orthologics. *Notre Dame J. Formal Logic* **16** (1975), 329–338. (R. Piziak) **51** #7496 81.06 (02Jxx)

(*with* Spears, William T.) Semimodularity in the completion of a poset. *Pacific J. Math.* **58** (1975), *no.* 2, 467–474. (R. P. Dilworth) **52** #215 06A30

(*with* Spears, William T.) Decompositions of difference sets: a generalization of balanced weighing matrices. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 385–414. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (Authors' summary) **58** #27557 05B10

Jeffers, J. N. R. (*with* Pearce, S. C.) Block designs and missing data. *J. Roy. Statist. Soc. Ser. B* **33** (1971), *no.* 1, 131–136. (Authors' summary) **52** #12246 62K10

Jefferson, David (*with* Suzuki, Norihisa) Verification decidability of Presburger array programs. *Proceedings of a Conference on Theoretical Computer Science* (*Univ. Waterloo, Waterloo, Ont.*, 1977), *pp.* 202–212. *Comput. Sci. Dept., Univ. Waterloo, Waterloo, Ont.*, 1978. (From the introduction) **58** #13880 68A05

Jefferson, T. R. (*with* Scott, C. H.) Optimal regulation of the service rate for a queue with finite waiting space. *J. Optimization Theory Appl.* **20** (1976), *no.* 2, 245–250. (Andor Dobó) **55** #6620 60K25

(*with* Scott, C. H.) Duality for convex functionals: specific cases. *Internat. J. Systems Sci.* **8** (1977), *no.* 11, 1313–1320. (K. G. Murty) **56** #17845 90C99

(*with* Scott, C. H.) Trace optimization problems and generalized geometric programming. *J. Math. Anal. Appl.* **58** (1977), *no.* 2, 373–377. (Jean-Pierre Crouzeix) **57** #5102 90C25

(*with* Scott, C. H.) Duality in infinite-dimensional mathematical programming: convex integral functionals. *J. Math. Anal. Appl.* **61** (1977), *no.* 1, 251–261. (Suresh Chandra) **58** #20436 90C25 (90C30)

(*with* Scott, C. H.) Duality in finite dimensional complex space. *Bull. Austral. Math. Soc.* **18** (1978), *no.* 1, 65–75. (A. G. Azpeitia) **58** #4331 90C25 (90C30)

Jeffery, E. A. Commutation rules for generalized Pauli spin matrices. *Austral. J. Phys.* **31** (1978), *no.* 5, 367–376. (Author's summary) **58** #25480 81.22 (22E70)

Jeffery, Ralph L. Generalized integrals with respect to base functions which are not of bounded variation. *Topics in analysis* (*Colloq. Math. Anal., Jyväskylä*, 1970), *pp.* 211–220. *Lecture Notes in Math., Vol.* 419, *Springer, Berlin*, 1974. (Ralph Henstock) **54** #2898 26A39

See also **Robinson, Gilbert de B., 54** #2391

Jefferys, William H. Perturbation theory for strongly perturbed dynamical systems. I. *Astronom. J.* **73** (1968), *no.* 6, 522–527. (Author's summary) **56** #13879 70.65

Perturbation theory for strongly perturbed dynamical systems. II. Canonical coordinates. *Astronom. J.* **81** (1976), *no.* 6, 485–488. (Author's summary) **56** #13880 70.65

Jeffner, Anders *See* **Logic and value**, **48** #3691

Jeffords, Ralph D. (*with* Benson, David B.) Parallel decomposition of LR(k) parsers. *Automata, languages and programming* (*Fourth Colloq., Univ. Turku, Turku*, 1977), *pp.* 76–86. *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin*, 1977. (A. V. Anīsīmov) **56** #17216 68A30

Jeffreson, Carl P. (*with* Chow, Ee Pan) Least squares coefficents for a quadrature formula for Laplace transform inversion. *J. Comput. Appl. Math.* **4** (1978), *no.* 1, 53–58. (Siegfried Filippi) **58** #3326 65D20

Jeffrey, Alan (*with* Kato, Yusuke) Liapunov's direct method in stability problems for semilinear and quasilinear hyperbolic systems. *J. Math. Mech.* **18** (1968/69), 659–682. (Zbl **185**, 189) **58** #29080 35B35 (35L60)

★Magnetoidrodinamica. Traduzione dall'inglese di Franco Molina. Poliedro, No. 10. *Cremonese, Rome*, 1969. viii+272 *pp.* (Editors) **50** #3743 76.35

Mathematical methods in wave propagation. I. Linear wave front analysis. *Internat. J. Math. Ed. Sci. Tech.* **1** (1970), *no.* 4, 319–337. (Author's summary) **58** #29337a 35L65

Mathematical methods in wave propagation. II. Non-linear wave front analysis. *Internat. J. Math. Ed. Sci. Tech.* **2** (1971), *no.* 1, 5–20. (Author's summary) **58** #29337b 35L65

Stability of parabolic systems. *Indiana Univ. Math. J.* **22** (1972/73), 1109–1135. (L. A. Peletier) **52** #14666 35K60

A property of exponential polynomials of importance in dynamical systems theory. *Internat. J. Systems Sci.* 3 (1972), 209–213. (H. I. Freedman) **48** #674 34K15

(*with* Kakutani, Tsunehiko) Weak nonlinear dispersive waves: A discussion centered around the Korteweg-de Vries equation. *SIAM Rev.* **14** (1972), 582–643. (R. L. Richardson) **48** #12993 76.35 (35Q99)

The propagation of weak discontinuities in quasi-linear hyperbolic systems with discontinuous coefficients. I. Fundamental theory. Collection of articles dedicated to Eberhard Hopf on the occasion of his 70th birthday. *Applicable Anal.* 3 (1973), 79–100. (R. Glassey) **52** #14676a 35L65

The propagation of weak discontinuities in quasi-linear hyperbolic systems with discontinuous coefficients. II. Special cases and application. *Applicable Anal.* 3 (1973/74), 359–375. (R. Glassey) **52** #14676b 35L65

Quasi-linear hyperbolic systems and continuum mechanics. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. on Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 166–183. (R. Glassey) **53** #11238 35L65

(*with* Tin, Saw) Waves over obstacles on a shallow seabed. *Proc. Roy. Edinburgh Sect. A* **71**, *part* 3, 181–192 (1973). (F. Ursell) **49** #6769 76.35

★Basic mathematics for engineers and technologists. *Thomas Nelson and Ltd., London*, 1974; *distributed by Crane, Russak & Co., Inc., New York*, 1974. ix *pp.* (Editors) **51** #14682 69.00

(*with* Teymur, M.) Formation of shock waves in hyperelastic solids. (Ge summary) *Acta Mech.* **20** (1974), 133–149. (D. R. Bland) **50** #9113 73.35

Breakdown of the solution to a completely exceptional system of hyperbolic equations. *J. Math. Anal. Appl.* **45** (1974), 375–381. (J. Kopáček) **48** #11797

(*with* Inan, Esin) The propagation of second-order Lipschitz discontinui quasi-linear hyperbolic systems with discontinuous coefficients. *Proc. Roy. Soc. Edinburgh Sect. A* **74** (1974/75), 205–224 (1976). (S. Cinquini) **56** #6129 35L.

Smooth fronted waves in the shallow water approximation. *Proc. Roy. Soc. Edinburgh Sect. A* **73** (1975), 107–116. (J. W. Miles) **52** #2374 76.35

(*with* Şuhubi, Erdoğan S.) Propagation of weak discontinuities in a layered hyperelastic half-space. *Proc. Roy. Soc. Edinburgh Sect. A* **75** (1975/76), *no.* 3, 209 (Radu Bādescu) **57** #18378 73.35 (35L60)

★Quasilinear hyperbolic systems and waves. Research Notes in Mathematics 5. *Pitman Publishing, London-San Francisco, Calif.-Melbourne*, 1976. vii+230 *pp.* (Ronald DiPerna) **54** #5635 35L40

Non-linear dissipative and dispersive wave propagation. *Trends in applicatio pure mathematics to mechanics* (*Conf., Univ. Lecce, Lecce*, 1975), *pp.* 157–173. *Monographs and Studies in Math., Vol.* 2, *Pitman, London*, 1976. (Mark J. Ablo **58** #1763 35Q99

The exceptional condition and unboundedness of solutions of hyperbolic syster conservation type. *Proc. Roy. Soc. Edinburgh Sect. A* **77** (1977), *no.* 1-2, 1–8 Pelczar) **58** #1695 35L65

Jeffrey, D. J. Group expansions for the bulk properties of a statistically homogen random suspension. *Proc. Roy. Soc.* (*London*) *Ser. A* **338** (1974), 503–516. (Lumley) **50** #3762 76.60

On the averaged-equation approach to conduction through a suspension. (P and Russian summaries) Symposium on Continuum Models of Discrete Sys (Jodłowy Dwór, 1975). *Arch. Mech.* (*Arch. Mech. Stos.*) **28** (1976), *no.* 3, 423–429. (E DeFacio) **57** #11387 80.45

Jeffrey, Richard (*with* Boolos, George S.) ★Computability and logic. *Cambridge University Press, London-New York*, 1974. x+262 *pp.* (C. G. Jockusch, Jr.) **49** #71 02Fxx (02–02)

Jeffrey, Richard C. Probability measures and integrals. *Studies in inductive logic probability, Vol. I, pp.* 167–223. *Univ. California Press, Berkeley, Calif.*, 1971. (Fron text) **58** #2938 60A10 (02C99)

Carnap's inductive logic. *Synthese* **25** (1973), 299–306. (Editors) **57** #159 02C99 (60A05)

Mises redux. *Basic problems in methodology and linguistics* (*Proc. Fifth Inte Congr. Logic, Methodology and Philos. of Sci., Part III, Univ. Western Ontario, Lon Ont.*, 1975), *pp.* 213–222. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 11, *Re Dordrecht*, 1977. (Editors) **58** #24637 62A99 (02A05, 60A05)

See also **Studies in inductive logic and probability**. **48** #49

Jeffreys, Bertha Swirles (*with* Jeffreys, Harold) ★Методы математической физики. E 1, 2, 3. (Russian) [Methods of mathematical physics. Nos. 1, 2, 3] Translation from English edited by V. N. Žarkov. *Izdat. "Mir", Moscow, No.* 1: 1969. 424 *pp.* (J. Bur **50** #15488 69.00

An easy commerce of the old and the new. *Math. Gaz.* **54** (1970), *no.* 389, 205– (Editors) **58** #9980 01–01

See also **Collected papers: Jeffreys, Harold. 56** #15342

Jeffreys, Harold (*with* Jeffreys, Bertha Swirles) ★Методы математической физики. B 1, 2, 3. (Russian) [Methods of mathematical physics. Nos. 1, 2, 3] Translation from English edited by V. N. Žarkov. *Izdat. "Mir", Moscow, No.* 1: 1969. 424 *pp.* (J. Burl **50** #15488 69.00

On isotropic tensors. *Proc. Cambridge Philos. Soc.* **73** (1973), 173–176. (Agn Vescan) **47** #3431 15A72

Asymptotic approximations and notation. *Bull. Inst. Math. Appl.* **10** (1974), 9-10, 334–339. (J. S. Joel) **58** #29707 41A60 (01A55, 41–03)

Fisher and inverse probability. (French summary) *Internat. Statist. Rev.* **42** (19 1–3. (D. A. Sprott) **50** #11557 62Axx

Probability theory in geophysics. *J. Inst. Math. Appl.* **19** (1977), *no.* 1, 87– (Editors) **55** #7296 86.60

See also **Collected papers: Jeffreys, Harold. 56** #15342

Jeffries, Clark 0-deformable (1, 1)-tensor fields. *J. Differential Geometry* **7** (1972), 575–5 (Yuen-Fat Wong) **49** #1402 53C05

Probabilistic limit cycles. *Mathematical problems in biology* (*Conf., Univ. Victor Victoria, B.C.*, 1973), *pp.* 123–131. *Lecture Notes in Biomath., Vol.* 2, *Springer, Ber* 1974. (Colin W. Clark) **51** #2670 92A05 (34C05)

Clifford multiplication and *f*-structures. *J. Differential Geometry* **9** (1974), 135–1 (A. Gray) **49** #3753 53C15

Stability of certain dynamical systems. *Canad. Math. Bull.* **18** (1975), *no.* 371–373. (J. Auslander) **53** #6027 34C35

Stability of ecosystems with complex food webs. *Theoret. Population Biology* (1975), 149–155. (Ronald E. Harrell) **52** #12833 92A05

(*with* Klee, Victor; van den Driessche, Pauline) When is a matrix sign stabl *Canad. J. Math.* **29** (1977), *no.* 2, 315–326. (Charles R. Johnson) **56** #5603 15A (05C99)

Jeffries, Clark D. Analytic evaluation of certain characteristic classes. *Canad. Math. Bu* **16** (1973), 219–223. (K. H. Mayer) **48** #3060 (E **49** #11528) 57D20

Correction: "Analytic evaluation of certain characteristic classes" (Canad. Mat Bull. **16** (1973), 219–223). *Canad. Math. Bull.* **16** (1973), 623. (K. H. Mayer) **49** #115 57D20

Jeffries, D. L. (*with* Oğuztöreli, Mehmet Namık; Leung, Kin Vinh) A kinetic study enzyme systems. *Nonlinear Anal.* **1** (1976), *no.* 1, 15–35. (Mario Primicerio) **55** #52 92A05 (34K99)

mow, N. W. *See* **Efimov, N. V.**

mow, Witalij M. (*with* Zielonko, Romuald) Analysis of a certain method of adaptive sampling of measurement signals. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **20** (1971), 1005–1017. (Authors' summary) **46** #5025 94A05

r, Franz Josef Karl ★Ueber Gruppen deren ganzzahlige Homologie in einer vorgegebenen Klasse liegt. Abhandlung zur Erlangung des Titels eines Doktors der Mathematik der Eidgenoessischen Technischen Hochschule, Zürich. Mit einer englischen Zusammenfassung. Diss. No. 6011. *Eidgenössische Technische Hochschule, Zurich*, 1977. ii + 52 *pp*. (D. F. Holt) **58** #5973 20J05 (18H10)

er, Max ★Einführung in die Kombinatorik. Band 1. Klett Studienbücher Mathematik. *Ernst Klett Verlag, Stuttgart*, 1973. 219 *pp*. (Harald Scheid) **56** #15432 05–01

Irreduzible Polynome als kombinatorische Figuren. *Elem. Math.* **28** (1973), 86–92. (John H. Hodges) **48** #8454 12C05

Über die Anzahl der inkongruenten ebenen Netze des Würfels und des regulären Oktaeders. *Elem. Math.* **30** (1975), *no.* 4, 73–82. (A. K. Dewdney) **55** #2612 05B25

rlehner, F. On the existence of light-like charges in quantum field theory. *Helv. Phys. Acta* **46** (1973/74), 824–843. (M. J. Westwater) **51** #2535 81.47

Renormalization of non-renormalizable polynomial perturbations. *Nuclear Phys. B* **100** (1975), *no.* 1, 21–60. (J. Glimm) **52** #12618 81.47

Construction of renormalized field theories from cutoff and lattice models. *Phys. Rev. D* (3) **16** (1977), *no.* 2, 397–407. (Author's summary) **57** #18613 81.47

le, Hansgeorg Über die Approximation von linearen Gleichungen zweiter Art und Eigenwertproblemen in Banach-Räumen. *Math. Z.* **124** (1972), 319–342. (G. Vainikko) **46** #4244 47A50 (65J05)

(*with* Grigorieff, Rolf Dieter) Approximation von Eigenwertproblemen bei nichtlinearer Parameterabhängigkeit. (English summary) *Manuscripta Math.* **10** (1973), 245–271. (G. Vainikko) **48** #4789 47A55 (65J05)

Lokale Konvergenzaussagen für die Quadraturformelmethode bei Integralgleichungen auf unbeschränkten Intervallen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Ljubljana, 1972). *Z. Angew. Math. Mech.* **53** (1973), T198–T200. (H. Brunner) **51** #2316 65R05

Zur Störungstheorie nichtlinearer Variationsungleichungen. *Optimization and optimal control* (*Proc. Conf., Oberwolfach*, 1974), *pp.* 158–176. *Lecture Notes in Math., Vol.* 477, *Springer, Berlin*, 1975. (Editors) **58** #18029 49A20

Uniformly convergent approximations for integral equations on non-compact manifolds. *Applicable Anal.* **5** (1975/76), *no.* 3, 227–248. (P. M. Anselone) **54** #1680 65R05 (45L05, 47G05)

A geometric duality theory for augmented Lagrange multiplier functions. *First Symposium on Operations Research* (*Univ. Heidelberg, Heidelberg*, 1976), *Teil* 1, *pp.* 70–78. *Operations Research Verfahren, XXV. Hain, Meisenheim*, 1977. (Author's summary) **58** #32967 90C30

(*with* Wendland, Wolfgang L.) On the discrete approximation of eigenvalue problems with holomorphic parameter dependence. *Proc. Roy. Soc. Edinburgh Sect. A* **78** (1977/78), *no.* 1-2, 1–29. (Alan L. Andrew) **57** #14427 65J05

e, Wolfram Über die Struktur der Multiplikationsgruppe von Körpern. *J. Reine Angew. Math.* **256** (1972), 190–209. (H. Yokoi) **46** #9170 20F15 (12F99)

On Kronecker equivalence of algebraic number fields. *Séminaire de Théorie des Nombres*, 1974–1975 (*Univ. Bordeaux I, Talence*), *Exp. No.* 26, 15 *pp. Lab. Théorie des Nombres, Centre Nat. Recherche Sic., Talence*, 1975. (Jacques Martinet) **53** #8012 12A55

Eine Faserprodukt-Darstellung eindimensionaler Kohomologiegruppen für bizyklische Operatorgruppen. *Arch. Math.* (*Basel*) **26** (1975), *no.* 6, 567–573. (William C. Waterhouse) **53** #3067 18H10 (12G05)

(*with* Klingen, Norbert) Superprimes and a generalized Frobenius symbol. *Acta Arith.* **32** (1977), *no.* 3, 209–232. (*errata insert*) (G. Cherlin) **55** #12694 12A65 (02H25)

Kronecker classes of algebraic number fields. *J. Number Theory* **9** (1977), *no.* 3, 279–320. (Jacques Martinet) **56** #5499 12A65 (12A55)

Über die Einheiten- und Divisorenklassengruppe von reellen Frobeniuskörpern von Maximaltyp. *Math. Z.* **152** (1977), *no.* 3, 223–252. (Helmut Koch) **55** #2838 12A45 (12A50)

On Kronecker classes of atomic extensions. *Proc. London Math. Soc.* (3) **34** (1977), *no.* 1, 32–64. (Jürgen Ritter) **55** #2845 12A55

l, Pál (*with* Gesztelyi, Ernő) Perfectly accurate calculation with arbitrarily large integers on a computer. (Hungarian. English and Russian summaries) *Közlemények—MTA Számitástechn. Automat. Kutató Int. Budapest No.* 16 (1976), 53–84. (A. Zajta) **57** #8135 68A10 (10A30)

l, Solomon M. On two theorems of A. Haefliger concerning foliations. *Topology* **15** (1976), *no.* 3, 267–271. (D. B. A. Epstein) **55** #9116 57D30 (58D05)

Simplicial $K(G, 1)$'s. *Manuscripta Math.* **21** (1977), *no.* 2, 189–203. (D. B. Fuks) **56** #1298 55D20 (57D30)

s, M. W. Finite-length binary phase codes for digital pulse compression. *Electron. Lett.* **12** (1976), *no.* 8, 197–199. (Ian Blake) **54** #12357 94A10

, Milena Certain dimension functions in bitopological spaces. (Serbo-Croatian. Russian summary) *Mat. Vesnik* **11(26)** (1974), 38–42. (D. Adnađević) **50** #11196 54F45 (54E55)

Certain properties of dimension functions in bitopological spaces. (Russian) Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* 4 (1974), 309–311. (K. Sieklucki) **52** #1647 54F45 (54E55)

The dimension $\mathcal{P}$-dm of topological spaces. (Serbo-Croatian. Russian summary) *Mat. Vesnik* **13(28)** (1976), *no.* 3, 279–283. (D. Adnadjević) **56** #1276 54F45

Semibicontinuous and bi-irresolute mappings of bitopological spaces. (Serbo-Croatian. Russian summary) *Mat. Vesnik* **1(14)(29)** (1977), *no.* 4, 393–397. (D. Adnadjević) **58** #12932 54E55

ek, C. O. (*with* Ballard, Dana H.; Schinzinger, R.) An algorithm for the solution of constrained generalised polynomial programming problems. *Comput. J.* **17** (1974), 261–266. (Robert A. Abrams) **53** #4979 90C30

ek, Frederick (*with* Bahl, Lalit R.) Rate $\frac{1}{2}$ convolutional codes with complementary generators. *IEEE Trans. Information Theory* **IT-17** (1971), 718–727. (Philippe Piret) **52** #5185 94A10

(*with* Berger, Toby; Wolf, Jack Keil) Permutation codes for sources. *IEEE Trans. Information Theory* **IT-18** (1972), 160–169. (Giuseppe Longo) **53** #5151 94A10

(*with* Bahl, Lalit R.) On the structure of rate $1/n$ convolutional codes. *IEEE Trans. Information Theory* **IT-18** (1972), 192–196. (Authors' summary) **53** #15544 94A10

(*with* Schneider, Kenneth S.) On variable-length-to-block coding. *IEEE Trans. Information Theory* **IT-18** (1972), 765–774. (J.-M. Goethals) **52** #5199 94A15

(*with* Anderson, John B.) A 2-cycle algorithm for source coding with a fidelity criterion. *IEEE Trans. Information Theory* **IT-19** (1973), *no.* 1, 77–92. (S. Guiaşu) **52** #16861 94A15

Upper bounds on sequential decoding performance parameters. *IEEE Trans. Information Theory* **IT-20** (1974), 227–239. (T. Nemetz) **51** #5164 94A10

(*with* Dick, Robert J.; Berger, Toby) Tree encoding of Gaussian sources. *IEEE Trans. Information Theory* **IT-20** (1974), 332–336. (Jack K. Wolf) **56** #8168 94A10

(*with* Schneider, Kenneth S.) Variable-length encoding of fixed-rate Markov sources for fixed-rate channels. *IEEE Trans. Information Theory* **IT-20** (1974), 750–755. (Authors' summary) **56** #18114 94A15

(*with* Bahl, Lalit R.; Cocke, John; Raviv, Josef) Optimal decoding of linear codes for minimizing symbol error rate. *IEEE Trans. Information Theory* **IT–20** (1974), 284–287. (J.-M. Goethals) **51** #5155 94A10

(*with* Longo, Giuseppe) Algorithms for source coding. *Coding and complexity* (*Summer School, Udine*, 1974), *pp.* 293–330. *Internat. Centre for Mech. Sci., CISM Courses and Lectures, No.* 216, *Springer, Vienna*, 1975. (See Zbl **357** #94021; MR **58** #9786) 94A15

Bootstrap trellis decoding. *IEEE Trans. Information Theory* **IT-21** (1975), 318–325. (G. M. Tenengol'c) **54** #4813 94A10

See also **Key papers in the development of coding theory**, **52** #5176 *and* **Key papers in the development of information theory**, **52** #5177

Jelínek, Jiří Les changements de signe d'une distribution. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 843–845. (J. N. Pandey) **49** #11248 46F10

Sur des propriétés d'approximation des espaces de distributions. I. *Comment. Math. Univ. Carolinae* **15** (1974), 745–765. (J. L. Griffith) **50** #14209 46F05

Sur des propriétés d'approximation des espaces de distributions. II. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 1, 147–165. (J. L. Griffith) **53** #14114 46F05

Jellett, Francis *See* **Dixmier, Jacques**, **56** #16388

Jelsma, Lawrence F. (*with* Phillips, Ronald L.; Tweed, Edward W.; Taylor, Russell W.) Boundary conditions for the four vector potential. *IEEE Trans. Microwave Theory Tech.* **18** (1970), 648–649. (E. Pinney) **53** #7227 78.35

Jeltsch, Rita ★Der Riemannsche Abbildungssatz in der konstruktiven Analysis. Abhandlung zur Erlangung der Würde eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich. Diss. No. 4707. *Eidgenössische Technische Hochschule Zürich, Zurich*, 1971. 78 *pp*. (Author's introduction) **57** #5705 02E15 (30A30)

Über hebbare Unstetigkeiten. *Elem. Math.* **27** (1972), 129–132. (David A. Sprecher) **49** #476 26A15

Jeltsch, Rolf ★Numerische Berechnung einer Funktion aus einer höheren Ableitung. Abhandlung zur Erlangung der Würde eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich. Diss. No. 4901. *Eidgenössische Technische Hochschule, Zurich*, 1972. 77 *pp*. (*loose errata*) (H. Brunner) **49** #10151 65L05

Integration of iterated integrals by multistep methods. *Numer. Math.* **21** (1973/74), 303–316. (H. Brunner) **49** #1786 65L05

(*with* Gladwin, Charles J.) Stability of quadrature rule methods for first kind Volterra integral equations. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 144–151. (Sean McKee) **58** #19272 65R05 (65D30)

★Multistep multiderivative methods for the numerical solution of initial value problems of ordinary differential equations. Seminar Notes 1975–76. *Department of Mathematics, University of Kentucky, Lexington, Ky.*, 1976. ii + 160 *pp.* + vii. (*not consecutively paged*) (Walter Gautschi) **57** #1897 65L05

Multistep multiderivative methods and Hermite-Birkhoff interpolation. *Proceedings of the Fifth Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1975), *pp.* 417–428. *Congressus Numerantium, No. XVI, Utilitas Math. Publ., Winnipeg, Man.*, 1976. (Author's summary) **55** #9543 65L05

A necessary condition for A-stability of multistep multiderivative methods. *Math. Comp.* **30** (1976), *no.* 136, 739–746. (J. C. Butcher) **55** #4685 65L05

Note on A-stability of multistep multiderivative methods. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **16** (1976), *no.* 1, 74–78. (L. Fox) **53** #14912 65L05

Stiff stability and its relation to A_0- and $A(0)$-stability. *SIAM J. Numer. Anal.* **13** (1976), *no.* 1, 8–17. (J. D. Lambert) **53** #14913 65L05

Multistep methods using higher derivatives and damping at infinity. *Math. Comp.* **31** (1977), *no.* 137, 124–138. (C. W. Gear) **55** #1736 65L05

Stiff stability of multistep multiderivative methods. *SIAM J. Numer. Anal.* **14** (1977), *no.* 4, 760–772. (W. H. Enright) **57** #11053 65L05

On the stability regions of multistep multiderivative methods. *Numerical treatment of differential equations* (*Proc. Conf., Math. Forschungsinst., Oberwolfach*, 1976), *pp.* 63–80. *Lecture Notes in Math., Vol.* 631, *Springer, Berlin*, 1978. (J. C. Butcher) **58** #19151 65L05

Stability on the imaginary axis and A-stability of linear multistep methods. *BIT* **18** (1978), *no.* 2, 170–174. (H.-O. Kreiss) **58** #3468 65L05

(*with* Kratz, L.) On the stability properties of Brown's multistep multiderivative methods. *Numer. Math.* **30** (1978), *no.* 1, 25–38. (John J. H. Miller) **58** #8271 65L05

Jen, Gun Wei *See* **Ren, Geng Wei**

Jena, S. C. (*with* Kishore, Nand) Absolute matrix summability of a sequence of Fourier coefficients. *Ranchi Univ. Math. J.* **7** (1976), 61–68. (B. Kuttner) **58** #29772 42A28

(*with* Majhi, S. N.) Fourier transforms with more general trigonometrical kernels. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 1, 27–35. (L. Arteaga) **56** #16246 42A76

Jenč, F. Some theorems on atomicity in axiomatic quantum mechanics. *J. Mathematical Phys.* **13** (1972), 1675–1680. (Johan G. Belinfante) **52** #16362 81.46

★Postulates for a "realistic" quantum theory (or "How little Francis imagines quantum axiomatics"). Notes in Mathematical Physics, No. 13. *Abteilung Mathematische Physik, Fachbereich Physik, Universität Marburg, Marburg*, 1974. vi + 141 *pp*. (*loose summary*; *loose remarks*) (S. Gudder) **53** #15120 81.06 (81.46)

Atomicity and maximality in axiomatic quantum theory. *Rep. Mathematical Phys.* **6** (1974), *no.* 2, 253–264. (S. Gudder) **52** #12565 81.06

Jendrol', Stanislav (*with* Jucovič, Ernest) On a conjecture by B. Grünbaum. *Discrete Math.* **2** (1972), 35–49. (W. J. Firey) **46** #1641 05C30 (52A25)

(*with* Jucovič, Ernest) On the toroidal analogue of Eberhard's theorem. *Proc. London Math. Soc.* (3) **25** (1972), 385–398. (H. Sachs) **46** #7083 05C30 (52A40)

(*with* Jacoš, Vasil) A problem concerning *j*-pancyclic graphs. *Mat. Časopis Sloven. Akad. Vied* **24** (1974), 259–262. (J. A. Bondy) **51** #12617 05C99

On the face-vector of a simple map. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp*. 311–314. *Academia, Prague*, 1975. (D. Barnette) **53** #2726 05C10 (52A25)

A new proof of Eberhard's theorem. (Slovak and Russian summaries) *Acta Fac. Rerum Natur. Univ. Comenian. Math.* **31** (1975), 1–9. (P. R. Goodey) **52** #6577 52A25

On the non-existence of certain nearly regular planar maps with two exceptional faces. *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no.* 2, 159–164. (Ethan D. Bolker) **52** #13508 05C99

Jeng, Bor-Ren A. (*with* Maki, Gary K.; Sawin, Dwight H., III) Improved state assignment selection tests. *IEEE Trans. Computers* **C-21** (1972), 1443–1449. (Authors' summary) **54** #7128 94A20

Jeng, Garbo (*with* Wexler, Alvin) Self-adjoint variational formulation of problems having non-self-adjoint operators. *IEEE Trans. Microwave Theory Tech.* **26** (1978), *no.* 2, 91–94. (From the summary) **58** #2563 49D15 (49G10)

Jengo, R. (*with* Calucci, G.; Furlan, G.; Rebbi, C.) Smoothness near the light-cone and superconvergence. *Phys. Lett.* **37B** (1971), 416–419. (P. R. Chernoff) **47** #2936 81.30

(*with* Girardello, L.) The non-linear Schrödinger equation as a model for the Regge-Gribov field theory. *Nuclear Phys. B* **120** (1977), *no.* 1, 23–44. (Authors' summary) **56** #2025 81.35

Jenkins, Gwilym M. (*with* Box, George E. P.) ★Анализ временных рядов. Прогноз и управление. Вып. 1. (Russian) [Time series analysis. Forecasting and control. No. 1] Translated from the English by A. L. Levšin. Edited by V. F. Pisarenko. *Izdat. "Mir", Moscow*, 1974. 406 *pp*. (Editors) **50** #6077 62Mxx

(*with* Box, George E. P.) ★Анализ временных рядов. Прогноз и управление. Вып. 2. (Russian) [Time series analysis. Forecasting and control. No. 2] Translated from the English by A. L. Levšin. Edited by V. F. Pisarenko. *Izdat. "Mir", Moscow*, 1974. 197 *pp*. (Editors) **50** #6078 62Mxx

(*with* Box, George E. P.; MacGregor, John F.) Some recent advances in forecasting and control. II. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **23** (1974), 158–179. (A. K. Gayen) **53** #7573 93E10

(*with* Box, George E. P.) ★Time series analysis: forecasting and control. Revised edition. Holden-Day Series in Time Series Analysis. *Holden-Day, San Francisco, Calif.-Düsseldorf-Johannesburg*, 1976. xxi + 575 *pp*. (Alfred E. Tong) **55** #9445 62M10 (90A20)

See also **Newbold, Paul; et al.**, **56** #9865

Jenkins, J. (*with* Grunsky, Helmut) A Hilbert space method in the theory of schlicht functions. *Proceedings of the Symposium on Complex Analysis* (*Univ. Kent, Canterbury*, 1973), *pp*. 75–79. *London Math. Soc. Lecture Note Ser., No.* 12, *Cambridge Univ. Press, London*, 1974. (T. J. Suffridge) **53** #5845 30A34

Jenkins, J. D. An equivalence theorem for a massive spin one particle interacting with Dirac particles in quantum field theory. *J. Phys. A* **5** (1972), 705–716. (Author's summary) **54** #6741 81.35

Some remarks on an equivalence theorem for an interacting massive spin one particle in quantum field theory. *J. Phys. A* **5** (1972), 1037–1042. (Author's summary) **54** #6742 81.35

Jenkins, J. W. On the characterization of Abelian W^*-algebras. *Proc. Amer. Math. Soc.* **35** (1972), 436–438. (Wai-Mee Ching) **46** #6055 46L10

Free semigroups and unitary group representations. *Studia Math.* **43** (1972), 27–39. (Robert S. Doran) **47** #395 22D05 (22D10, 43A20, 46K05)

A characterization of growth in locally compact groups. *Bull. Amer. Math Soc.* **79** (1973), 103–106. (A. C. M. van Rooij) **47** #5172 22D05 (43A20)

Growth of connected locally compact groups. *J. Functional Analysis* **12** (1973), 113–127. (A. Hulanicki) **50** #2388 22D05

Nonsymmetric group algebras. *Studia Math.* **45** (1973), 295–307. (S. Sankaran) **49** #5855 46K05 (22E30)

Følner's condition for exponentially bounded groups. *Math. Scand.* **35** (1974), 165–174. (M. Rajagopalan) **51** #5842 22D05

Representations of exponentially bounded groups. *Amer. J. Math.* **98** (1976), *no.* 1, 29–38. (A. Hulanicki) **56** #12770 43A65 (22D12)

(*with* Hulanicki, Andrzej; Leptin, Horst; Pytlik, Tadeusz) Remarks on Wiener's Tauberian theorems for groups with polynomial growth. *Colloq. Math.* **35** (1976), *no.* 2, 293–304. (Helmut Boseck) **53** #13469 22D15 (43A20)

A fixed point theorem for exponentially bounded groups. *J. Functional Analysis* **22** (1976), *no.* 4, 346–353. (Joseph Max Rosenblatt) **54** #2866 22D05 (54H15)

Jenkins, James A. (*with* Oikawa, Kôtaro) On results of Ahlfors and Hayman. *Illinois J. Math.* **15** (1971), 664–671. (G. Schober) **45** #5332 (E **55** #10655) 30A24

A topological three pole theorem. *Indiana Univ. Math. J.* **21** (1971/72), 1013–1018. (Horst Tietz) **45** #4377 57A05 (30A68)

(*with* Oikawa, Kôtaro) A remark on *p*-valent functions. *J. Austral. Math. Soc.* **12** (1971), 397–404. (W. C. Royster) **45** #3693 30A34

A remark on "pairs" of regular functions. *Proc. Amer. Math. Soc.* **31** (1972), 119–121. (Y. Komatu) **45** #519 30A26

(*with* Suita, Nobuyuki) On regular functions on Riemann surfaces. *Illinois J. Math.* **17** (1973), 563–570. (T. Kubo) **48** #2373 30A40 (30A46)

(*with* Suita, Nobuyuki) On analytic self-mappings of Riemann surfaces. *Mat* **202** (1973), 37–56. (R. Osserman) **58** #22535a 30A46

On a problem concerning harmonic measure. *Math. Z.* **135** (1973/74), 279–2 Gaier) **49** #567 30A44 (31A15)

A general form of the annulus theorem. *Proceedings of the Symposium on C Analysis* (*Univ. Kent, Canterbury*, 1973), *pp*. 91–92. *London Math. Soc. Lecture No No.* 12, *Cambridge Univ. Press, London*, 1974. (K. Strebel) **53** #11046 30A50

On a lemma of Tord Hall. Collection of articles in celebration of the s birthday of Ky Fan. *Bull. Inst. Math. Acad. Sinica* **2** (1974), 371–375. (D. A. Br **52** #3509 30A44

(*with* Suita, Nobuyuki) On analytic self-mappings of Riemann surfaces. II. *Ann.* **209** (1974), 109–115. (R. Osserman) **58** #22535b 30A46

Some remarks on Weierstrass points. *Proc. Amer. Math. Soc.* **44** (1974), 12 (H. M. Farkas) **48** #6405 30A46

On a result of M. Heins. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 371–373. (M. H. Heins) **52** #8415 30A48

On results of R. Nevanlinna and Ahlfors. *Bull. London Math. Soc.* **7** (1975), (W. H. J. Fuchs) **51** #13212 30A36

(*with* Suita, Nobuyuki) On regular functions on Riemann surfaces. II. *Illi Math.* **19** (1975), 122–126. (T. Kubo) **51** #13205 30A30

On the sharp form of the three-circles theorem. *Kōdai Math. Sem. Rep.* **27** (*no.* 1-2, 155–158. (M. H. Heins) **53** #11044 30A40

(*with* Oikawa, Kôtaro) On a theorem of Carathéodory and Fejér. *Bull. L Math. Soc.* **9** (1977), *no.* 2, 165–167. (Peter J. Nicholls) **56** #5865 30A40

(*with* Oikawa, Kôtaro) Conformality and semi-conformality at the boundar *Reine Angew. Math.* **291** (1977), 92–117. (B. G. Eke) **55** #12924 30A72

(*with* Oikawa, Kôtaro) On Ahlfors' "second fundamental inequality". *Proc. Math. Soc.* **62** (1977), *no.* 2, 266–270. (J. E. McMillan) **55** #10655 30A30

(*with* De Temple, Duane W.) A Loewner approach to a coefficient inequali bounded univalent functions. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 1, 125 (Donald K. Blevins) **56** #3278 30A34

On quadratic differentials whose trajectory structure consists of ring dom *Complex analysis* (*Proc. S.U.N.Y. Conf., Brockport, N.Y.*, 1976), *pp*. 65–70. *Le Notes in Pure and Appl. Math., Vol.* 36, *Dekker, New York*, 1978. (Y. Kusu **58** #6221 30A52 (30A38)

Jenkins, James T. A theory of magnetic fluids. *Arch. Rational Mech. Anal.* **46** (1 42–60. (S. Kaliski) **48** #13006 76.53

The equations of mechanical equilibrium of a model membrane. *SIAM J. Math.* **32** (1977), *no.* 4, 755–764. (V. Gheorghiţă) **55** #13942 73.35

Jenkins, John D. (*with* Hawkes, John) Infinitely divisible sequences. *Scand. Actu* **1978**, *no.* 2, 65–76. (Jozef L. Teugels) **58** #18761 60K05 (40A25)

Jenkins, John H. The relative efficiency of direct and maximum likelihood estimat mean waiting time in the simple queue, $M/M/1$. *J. Appl. Probability* **9** (1972), 396 (D. J. Daley) **49** #9977 60K25 (62G20)

Jenkins, Lawrence (*with* Liu, Ruey Wen) Stability of flows of a dynamic flow netw Special issue on large-scale networks and systems. *IEEE Trans. Circuits and Sy* **CAS-23** (1976), *no.* 12, 826–829. (W.-K. Chen) **56** #2677 94A20 (90B10)

Jenkins, M. A. Bernoulli's method with implicit shifting. *Proceedings of the Man Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1971) 417–434. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man.*, 1971. (J. W. Schn **49** #8325 65H05

Bernoulli's method with implicit shifting. *J. Assoc. Comput. Mach.* **20** (1 539–544. (E. R. Hansen) **49** #4240 65H05

(*with* Traub, J. F.) Principles for testing polynomial zerofinding programs. *A Trans. Math. Software* **1** (1975), *no.* 1, 26–34. (James Howland) **53** #2009 68 (65H05)

Jenkins, O. C. (*with* Ringer, L. J.; Hartley, H. O.) Root estimators. *J. Amer. St Assoc.* **68** (1973), 414–419. (P. W. Mielke, Jr.) **51** #11749 62D05

Jenkins, Terry L. (*with* Kreiling, Daryl) On the construction of the Kurosh lower rac class for associative rings. *J. Austral. Math. Soc.* **13** (1972), 362–364. (W. G. Lea **46** #5374 16A21

On Andrunakievič's lemma. *J. Natur. Sci. and Math.* **12** (1972), 129–130. (E Armendariz) **49** #5068 16A21

(*with* van Leeuwen, Leo C. A.) A supernilpotent non-special radical class. *Austral. Math. Soc.* **9** (1973), 343–348. (W. G. Leavitt) **48** #8546 16A21

(*with* Olson, Dwight M.) A note of the Levitzki radical of a semiring. *Fund. M.* **79** (1973), *no.* 2, 91–93. (R. Gorton) **47** #6786 16A78

(*with* van Leeuwen, Leo C. A.) On the hereditariness of the upper radical. *A Math.* (*Basel*) **25** (1974), 135–137. (W. G. Leavitt) **49** #5071 16A21

(*with* van Leeuwen, Leo C. A.) *N*-radicals and simple rings. *J. Natur. Sci. Math.* **14** (1974), *no.* 2, 127–135. (G. Krause) **55** #8084 16A21

(*with* van Leeuwen, Leo C. A.) A note on radical semisimple classes. *Publ. M Debrecen* **21** (1974), 179–184. (R. Wiegandt) **50** #2226 16A21

(*with* van Leeuwen, Leo C. A.) Upper radicals and simple rings. *Period. M Hungar.* **6** (1975), 69–74. (W. G. Leavitt) **51** #5644 16A21

(*with* van Leeuwen, Leo C. A.) *N*-radicals and simple rings. *J. Natur. Sci. Math.* **17** (1977), *no.* 1, 95–103. (R. Wiegandt) **57** #16342 16A21

Jenkins, W. Kenneth (*with* Leon, Benjamin J.) The use of residue number systems in design of finite impulse response digital filters. *IEEE Trans. Circuits and Syste* **CAS-24** (1977), *no.* 4, 191–201. (Stefan Dodunekov) **56** #8196 94A20 (68A20)

Jenkovszky, L. L. *See* **Ēnkovs'kiĭ, L. L.**

Jenkyns, Thomas A. The efficacy of the "greedy" algorithm. *Proceedings of the Seve Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Louisia State Univ., Baton Rouge, La.*, 1976), *pp*. 341–350. *Congressus Numerantium, No. XV Utilitas Math., Winnipeg, Man.*, 1976. (Ethan D. Bolker) **56** #5303 05A05

p-systems as intersections of matroids. *Proceedings of the Eighth Southeast Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Ba Rouge, La.*, 1977), *pp*. 415–418. *Congressus Numerantium, No. XIX, Utilitas Ma Winnipeg, Man.*, 1977. (W. D. Wallis) **58** #21729 05B35

Jenner, W. E. On parametrization of elliptic curves by theta functions. *J. Elisha Mitch*

Sci. Soc. **87** (1971), 101–102. (W.-D. Geyer) **46** #9049 14K25 (10D99, 14H15, 14H40)

★Lectures on non-associative algebras. *Department of Mathematics, University of North Carolina, Chapel Hill, N. C.*, 1973. iii+69 *pp*. (A. A. Nikitin) **54** #10349 17–02

On non-associative algebras derived from graphs. *Amer. Math. Monthly* **80** (1973), 288–289. (T. S. Ravisankar) **48** #352 17A99

nergren, L. Peter A price schedules decomposition algorithm for linear programming problems. *Econometrica* **41** (1973), 965–980. (Author's summary) **55** #14131 90A15

A note on a Dantzig-Wolfe decomposition-like method for solving a particular resource-allocation problem under uncertainty. (German and French summaries) *Math. Operationsforsch. Statist.* **4** (1973), *no.* 2, 127–132. (A. G. Azpeitia) **54** #2141 90A05 (90B05)

A primal decomposition algorithm for nonlinear programming problems. *Cahiers Centre Études Recherche Opér.* **16** (1974), 239–249. (A. Göpfert) **51** #2650 90C30

(*with* Dirickx, Yvo M. I.) On the optimality of myopic policies in sequential decision problems. *Management Sci.* **21** (1974/75), *no.* 5, 550–556. (Santosh Kumar) **53** #10176 90A05

(*with* Graham, Daniel A.; Peterson, David W.; Weintraub, E. Roy) Trader-commodity parity theorems. *J. Econom. Theory* **12** (1976), *no.* 3, 443–454. (M. B. Suryanarayana) **54** #9623 90A15

ings, Alan The development and application of simultaneous iteration for eigenvalue problems. *Conference on Applications of Numerical Analysis* (*Univ. Dundee, Dundee*, 1971), *pp.* 297–309. *Lecture Notes in Math., Vol.* 228, *Springer, Berlin*, 1971. (C. G. Cullen) **50** #11744 65F15

(*with* Clint, Maurice) Erratum: "The evaluation of eigenvalues and eigenvectors of real symmetric matrices by simultaneous iteration" (Comput. J. **13** (1970), 76–80). *Comput. J.* **14** (1971), 351. (From the authors' text) **47** #9813 65F15

Accelerating the convergence of matrix iterative processes. *J. Inst. Math. Appl.* **8** (1971), 99–110. (J. G. Herriot) **45** #1338 65F10

(*with* Clint, Maurice) A simultaneous iteration method for the unsymmetric eigenvalue problem. *J. Inst. Math. Appl.* **8** (1971), 111–121. (G. W. Stewart) **45** #6174 65F15

(*with* Tuff, A. D.) An iterative method for large systems of linear structural equations. *Internat. J. Numer. Methods Engrg.* **7** (1973), 175–183. (L. Hageman) **49** #6584 65F10

(*with* Stewart, W. J.) Simultaneous iteration for partial eigensolution of real matrices. *J. Inst. Math. Appl.* **15** (1975), 351–361. (L. Hageman) **53** #11986 65F15

(*with* Corr, R. B.) A simultaneous iteration algorithm for symmetric eigenvalue problems. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 3, 647–663. (Authors' summary) **56** #13560 65F15

★Matrix computation for engineers and scientists. *Wiley-Interscience* [*John Wiley & Sons*], *London-New York-Sydney*, 1977. xv+330 *pp*. (B. Levinger) **57** #10981 65–01

Matrices, ancient and modern. *Bull. Inst. Math. Appl.* **13** (1977), *no.* 5, 117–123. (Editors) **57** #5613 01A60 (15–03, 65–03)

Influence of the eigenvalue spectrum on the convergence rate of the conjugate gradient method. *J. Inst. Math. Appl.* **20** (1977), *no.* 1, 61–72. (F. Szidarovszky) **56** #9940 65F15

(*with* Malik, G. M.) Partial elimination. *J. Inst. Math. Appl.* **20** (1977), *no.* 3, 307–316. (Ralph A. Willoughby) **56** #17029 65F10

(*with* Malik, G. M.) The solution of sparse linear equations by the conjugate gradient method. *Internat. J. Numer. Methods Engrg.* **12** (1978), *no.* 1, 141–158. Abraham Berman) **57** #1848 65F10

See also **Large sparse sets of linear equations**, **48** #10074

ings, B. K. (*with* Bhaduri, R. K.) Note on the error function. *Amer. J. Phys.* **44** (1976), *no.* 6, 590–592. (From the authors' text) **56** #17001 65D20

ings, Gray Discrete shocks. *Comm. Pure Appl. Math.* **27** (1974), 25–37. (R. Kodnár) **49** #3358 39A10 (65N20)

See also **Nonlinear wave motion**, **49** #790

ings, L. S. An improperly posed quadratic programming problem. *Optimization Proc. Sem., Austral. Nat. Univ., Canberra*, 1971), *pp.* 152–171. *Univ. Queensland Press, St. Lucia*, 1972. (M. Rusin) **53** #10299 90C20

Regularization techniques for first kind integral equations. *Error, approximation, and accuracy* (*Proc. Sem., Austral. Nat. Univ., Canberra*, 1972), *pp.* 81–94. *Univ. Queensland Press, St. Lucia*, 1973. (Christopher T. H. Baker) **55** #4758 65R05

(*with* Osborne, Michael R.) A direct error analysis for least squares. *Numer. Math.* **22** (1974), 325–332. (N. N. Abdelmalek) **50** #11758 65G05

(*with* Osborne, Michael R.) Generalized eigenvalue problems for rectangular matrices. *J. Inst. Math. Appl.* **20** (1977), *no.* 4, 443–458. (C. G. Cullen) **58** #19074 65F15

See also **Optimization**, **52** #2574

ings, R. E. Pseudo-subjectivism in ethics. *Dialogue* **13** (1974), 515–518. (Editors) **58** #10316 02C10

A utilitarian semantics for deontic logic. *J. Philos. Logic* **3** (1974), 445–456. (Editors) **57** #15966 02C10

ison, R. C. (*with* Ashworth, D. G.) Surveying in rotating systems. *J. Phys. A* **9** (1976), *no.* 1, 35–43. (Authors' summary) **52** #16485 83.53

rich, Robert I. Orthogonal rotation algorithms. *Psychometrika* **35** (1970), 229–235. (D. Papamicail) **46** #10144 62H25

(*with* Thayer, Dorothy T.) A note on Lawley's formulas for standard errors in maximum likelihood factor analysis. *Psychometrika* **38** (1973), 571–580. (C. Hayashi) **49** #10064 62H25 (62P15)

(*with* Archer, Claude O.) Standard errors for rotated factor loadings. *Psychometrika* **38** (1973), 581–592. (C. Hayashi) **49** #10061 62H25 (62P15)

Standard errors for obliquely rotated factor loadings. *Psychometrika* **38** (1973), 593–604. (C. Hayashi) **49** #10063 62H25 (62P15)

Simplified formulae for standard errors in maximum-likelihood factor analysis. *British J. Math. Statist. Psychology* **27** (1974), 122–131. (Author's summary) **54** #11660 62H25

(*with* Sampson, P. F.) Newton-Raphson and related algorithms for maximum likelihood variance component estimation. *Technometrics* **18** (1976), *no.* 1, 11–17. (M. Atiqullah) **52** #15870 62J10

(*with* Bright, Peter B.) Fitting systems of linear differential equations using computer generated exact derivatives. With a discussion by Alvin D. Wiggins. *Technometrics* **18** (1976), *no.* 4, 385–399. **54** #9099 65L99

See also **Multivariate statistical methods: within-groups covariation**, **52** #2028 *and* **Discriminant analysis and applications**, **57** #17959

Jensema, Carl J. An application of latent trait mental test theory. *British J. Math. Statist. Psychology* **27** (1974), 29–48. (Author's summary) **54** #11714 62P15

Jensen, A. L. Leslie matrix models for fisheries studies. (French summary) *Biometrics* **30** (1974), 547–551. (Colin W. Clark) **53** #5032 92A05

Jensen, Anton The possible influence of non-standard analysis on elementary mathematics. *Proceedings of the First Scandinavian Logic Symposium* (*Åbo*, 1968), *pp.* 61–68. *Filosofiska Studier, No.* 8, *Filosof. Föreningen och Filosof. Inst., Uppsala Univ., Uppsala*, 1970. (Andrew Adler) **51** #137 (EA **51**) 02H25

A computer oriented version of "non-standard analysis". *Contributions to non-standard analysis* (*Sympos., Oberwolfach*, 1970), *pp.* 281–289. *Studies in Logic and Found. Math., Vol.* 69, *North-Holland, Amsterdam*, 1972. (I. Fenyő) **58** #5192 02H25 (02–04, 26A98)

Jensen, Arne Local distortion technique, resonances, and poles of the S-matrix. *J. Math. Anal. Appl.* **59** (1977), *no.* 3, 505–513. (P. Achuthan) **55** #14017 81.47

Some remarks on eigenfunction expansions for Schrödinger operators with non-local potentials. *Math. Scand.* **41** (1977), *no.* 2, 347–357. (Richard B. Lavine) **58** #23159 35P10 (81.35)

Local decay in time of solutions to Schrödinger's equation with a dilation-analytic interaction. *Manuscripta Math.* **25** (1978), *no.* 1, 61–77. (A. A. Arsen′ev) **58** #12006 35P25 (35J10, 81.35)

See also **Operational Research**, **49** #12059

Jensen, Christian U. ★Les foncteurs dérivés de $\varprojlim$ et leurs applications en théorie des modules. Lecture Notes in Mathematics, Vol. 254. *Springer-Verlag, Berlin-New York*, 1972, iv+103 *pp*. (E. Enochs) **53** #10874 16A62

On $\mathrm{Ext}^1_R(A,R)$ for torsion-free A. *Bull. Amer. Math. Soc.* **78** (1972), 831–834. (L. Bican) **47** #219 13G05

On the structure of $\mathrm{Ext}^1_R(A,R)$. *Rings, modules and radicals* (*Proc. Colloq., Keszthely*, 1971), *pp.* 215–226. *Colloq. Math. Soc. János Bolyai, Vol.* 6, *North-Holland, Amsterdam*, 1973. (R. A. Wiegand) **50** #13002 13C10

(*with* Gruson, Laurent) Modules algébriquement compacts et foncteurs $\varprojlim^{(i)}$. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1651–A1653. (T. Albu) **47** #8653 18E25

(*with* Jøndrup, Søren) Centres and fixed-point rings of Artinian rings. *Math. Z.* **130** (1973), 189–197. (G. Michler) **47** #6769 16A46

(*with* Gruson, Laurent) Deux applications de la notion de L-dimension. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 1, *A*ii, *A*23–*A*24. (T. Albu) **53** #5706 18G20

On the global dimension of the functor category (mod R, Ab). *J. Pure Appl. Algebra* **11** (1977/78), *no.* 1-3, 45–51. (R. B. Warfield, Jr.) **58** #16836 18E05 (16A64)

Some remarks on valuations and subfields of given codimension in algebraically closed fields. *Publ. Math. Debrecen* **24** (1977), *no.* 3-4, 317–321. (J. Knopfmacher) **57** #9675 12F99

Jensen, Claus Identification of a tract in an Arabic manuscript: Eratosthenes on two mean proportionals. *Isis* **61** (1970), *no.* 206, 111. (Not reviewed) 01A30 (01A20)

Abū Naṣr Manṣūr's approach to spherical astronomy as developed in his treatise *The table of minutes*. *Centaurus* **16** (1971/72), *no.* 1, 1–19. (J. Vernet) **58** #26788 01A30

Jensen, D. R. A generalization of the multivariate Rayleigh distribution. *Sankhyā Ser. A* **32** (1970), 193–208. **45** #2830 62E10

A note on positive dependence and the structure of bivariate distributions. *SIAM J. Appl. Math.* **20** (1971), 749–753. (J. R. Blum) **45** #7854 62E10

The limiting form of the non-central Wishart distribution. *Austral. J. Statist.* **14** (1972), 10–16. (N. Giri) **52** #15841 62H10

Monotone bounds on the chi-squared approximation to the distribution of Pearson's X^2 statistics. *Austral. J. Statist.* **15** (1973), 65–70. (I. I. Kotlarski) **51** #2089 62E20

On the joint distribution of Friedman's χ_r^2 statistics. *Ann. Statist.* **2** (1974), 311–322. (N. Giri) **53** #1836 62G10 (62H10)

On the joint distribution of Pearson's X^2 statistics. *Scand. Actuar. J.* **1974**, 65–75. (M. Bhaskara Rao) **54** #6351 62E20

Robustness of some distribution of products and quotients under ε-independence. *SIAM J. Appl. Math.* **27** (1974), 53–58. (K. S. Miller) **50** #3456 62H10

(*with* Mayer, Lawrence S.) Normal-theory approximations to tests for linear hypotheses. *Ann. Statist.* **3** (1975), 429–444. (M. D. Perlman) **51** #4497 62E20

(*with* Mayer, Lawrence S.; Myers, Raymond H.) Optimal designs and large-sample tests for linear hypotheses. *Biometrika* **62** (1975), 71–78. (A. Hedayat) **52** #9526 62K05

The use of efficient estimates in multiple tests for goodness of fit. *Scand. Actuar. J.* **1975**, *no.* 4, 215–225. (C. G. Khatri) **52** #15842 62H10 (62G10)

(*with* Hamdan, M. A.) A bivariate binomial distribution and some applications. *Austral. J. Statist.* **18** (1976), *no.* 3, 163–169. (B. Raja Rao) **57** #7919 62N10 (62H10)

The comparison of several response functions with a standard. (French summary) *Biometrics* **32** (1976), *no.* 1, 51–59. (Emil Spjøtvoll) **53** #6911 62J15

(*with* Mayer, Lawrence S.) Some variational results and their applications in multiple inference. *Ann. Statist.* **5** (1977), *no.* 5, 922–931. (C. W. Chen) **56** #7012 62H10 (62F25)

On approximating the distributions of Friedman's χ_r^2 and related statistics. *Metrika* **24** (1977), *no.* 2, 75–85. (P. K. Sen) **56** #1544 62E20 (62G10)

Jensen, Don On local proof restrictions for strong theories. *Dissertationes Math.* (*Rozprawy Mat.*) **108** (1973), 47 *pp*. (S. Feferman) **51** #120 02G10 (02D99)

(*with* Ehrenfeucht, Andrzej) Some problem in elementary arithmetics. *Fund. Math.* **92** (1976), *no.* 3, 223–245. (O. V. Belegradek) **54** #7244 02H13 (02D99, 10N15, 02H20, 02H25)

(*with* Pietrzykowski, Tomasz) Mechanizing ω-order type theory through unification. *Theoret. Comput. Sci.* **3** (1976), *no.* 2, 123–171 (1977). (A. Rose) **57** #59 02B15 (68A40)

Jensen, E. (*with* Waadeland, Haakon) A coefficient inequality for bi-univalent functions. *Norske Vid. Selsk. Skr. (Trondheim)* **1972**, *no.* 15, 11 *pp.* (A. W. Goodman) **54** #10590 30A34

Jensen, Finn V. (*with* Arndt, Ole) ★An introduction to a discussion on dialectic materialism and mathematics. Various Publications Series, No. 22. *Matematisk Institut, Aarhus Universitet, Aarhus*, 1972. i + 10 *pp.* (Michael Otte) **54** #12432 00A25

Interpolation and definability in abstract logics. On the foundations of mathematics (Colloq., Second Finnish Summer School in Math. Logic, Helsinki, 1973). *Synthese* **27** (1974), 251–257. (Flavio Previale) **58** #21565 02G99

On completeness in cardinality logics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 2, 117–122. (Lee Badger) **55** #2489 02B20

Souslin-Kleene does not imply Beth. *Fund. Math.* **90** (1975/76), *no.* 3, 269–273. (S. Feferman) **54** #2452 02H10 (02G10)

Jensen, Francis (*with* Stewart, Neil-Frederick) ★Solution numérique des problèmes matriciels. *Les Presses de l'Université de Montréal, Montreal, Que.*; *Éditions Eyrolles, Paris*, 1975. 249 *pp.* (Editors) **53** #6993 65Fxx

Jensen, G. A. (*with* de Groot, Johannes H.; Hursch, J. L., Jr.) Local connectedness and other properties of GA compactifications. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 11–18. (S. A. Naimpally) **46** #4480 54D35

Jensen, Gary R. Einstein metrics on principal fibre bundles. *J. Differential Geometry* **8** (1973), 599–614. (Pham Mau Quan) **50** #5694 53C25

Imbeddings of Stiefel manifolds into Grassmannians. *Duke Math. J.* **42** (1975), *no.* 3, 397–407. (K. Nomizu) **51** #11360 53C30

★Higher order contact of submanifolds of homogeneous spaces. Lecture Notes in Mathematics, Vol. 610. *Springer-Verlag, Berlin-New York*, 1977. xii + 154 *pp.* *ISBN* 3-540-08433-9 (Rolf Sulanke) **58** #18226 53B25 (53A55)

Jensen, George L. (*with* Paulson, Albert S.; Sullo, Pasquale) Explicit steady state solutions for a particular $M^{(X)}/M/1$ queueing system. *Naval Res. Logist. Quart.* **24** (1977), *no.* 4, 651–659. (Carl M. Harris) **57** #7800 60K25

Jensen, Gerd *See* **Pommerenke, Christian**, **58** #22526

Jensen, Helge Elbrønd Scattered C^*-algebras. *Math. Scand.* **41** (1977), *no.* 2, 308–314. (Shinzō Kawamura) **58** #2321 46L05

Jensen, Jens A. (*with* Rowland, John H.) ★Methods of computation. The linear space approach to numerical analysis. *Scott, Foresman and Co., Glenview, Ill.-Brighton*, 1975. vii + 303 *pp.* (A. O. Garder, Jr.) **53** #6964 65–01

Jensen, Jorgen B. (*with* Schotch, Peter K.; Larsen, Peter F.) A strong completeness theorem for Łukasiewicz finitely many-valued logics. *Proceedings of the Seventh International Symposium on Multiple-Valued Logic (Charlotte, N.C.*, 1977), *pp.* 89–91. *IEEE Comput. Soc., Long Beach, Calif.*, 1977. (Michael Byrd) **56** #15366 02C05

Jensen, Louis Solving a singular diffusion equation occurring in population genetics. *J. Appl. Probability* **11** (1974), 1–15. (M. Kimura) **50** #8734 60J70 (92A15)

(*with* Stone, Mervyn) Cross-validatory choice of weights for inter- and intrablock estimation in balanced incomplete block designs. (French summary) *Biometrics* **32** (1976), *no.* 3, 677–681. (U. B. Paik) **54** #3989 62J10

Jensen, Michael C. (*with* Long, John B., Jr.) Corporate investment under uncertainty and Pareto optimality in the capital markets. *Bell J. Econom. and Management Sci.* **3** (1972), 151–174. (I. M. Stancu-Minasian) **46** #10386 90A99

flensted-Jensen, Mogens *See* **Flensted-Jensen, Mogens**

Jensen, P. A. Optimum repair level analysis: some extensions. *Logistics*, *pp.* 87–104. *North-Holland/TIMS Stud. Management Sci., Vol.* 1, *North-Holland Amsterdam*, 1975. (Author's summary) **57** #15384 90B25

(*with* Bhaumik, Gora) A flow augmentation approach to the network with gains minimum cost flow problem. *Management Sci.* **23** (1976/77), *no.* 6, 631–643. (Edward Minieka) **55** #14163 90B10

Jensen, Paul A. Optimum network partitioning. *Operations Res.* **19** (1971), 916–932. (N. K. Bose) **45** #8413 94A20

Jensen, Paul S. The solution of large symmetric eigenproblems by sectioning. *SIAM J. Numer. Anal.* **9** (1972), 534–545. (K. Najzar) **47** #4429 65F15

An inclusion theorem related to inverse iteration. *Linear Algebra and Appl.* **6** (1973), 209–215. (M. Lotkin) **47** #1826 15A42 (65F15)

Stiffly stable methods for undamped second order equations of motion. *SIAM J. Numer. Anal.* **13** (1976), *no.* 4, 549–563. (C. W. Gear) **54** #1634 65L15

Jensen, Robert (*with* Friedman, Avner) A parabolic quasi-variational inequality arising in hydraulics. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **2** (1975), *no.* 3, 421–468. (Lu-San Chen) **52** #1007 35K10

(*with* Friedman, Avner) Elliptic quasi-variational inequalities and application to a non-stationary problem in hydraulics. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **3** (1976), *no.* 1, 47–88. (Giovanni Troianiello) **53** #6087 35J20

Structure of the non-monotone free boundaries in a filtration problem. *Indiana Univ. Math. J.* **26** (1977), *no.* 6, 1121–1135. (R. C. MacCamy) **58** #11868 35J05 (76.35)

Jensen, Ronald Björn Definable sets of minimal degree. *Mathematical logic and foundations of set theory (Proc. Internat. Colloq., Jerusalem*, 1968), *pp.* 122–128. *North-Holland, Amsterdam*, 1970. (D. A. Martin) **46** #5130 02K05

The fine structure of the constructible hierarchy. With a section by Jack Silver. *Ann. Math. Logic* **4** (1972), 229–308; *erratum, ibid.* **4** (1972), 443. (Andreas Blass) **46** #8834 02K05

(*with* Johnsbråten, Håvard) ★A new construction of a non-constructible Δ_3^1 subset of ω. Mathematics Preprint Series, No. 3 (1973). *Matematisk Institutt, Universitetet i Oslo, Oslo*, 1973. ii + 22 *pp.* (Editors) **52** #13382 02K05 (02K30)

Measurable cardinals and the GCH. *Axiomatic set theory (Proc. Sympos. Pure Math., Vol. XIII, Part II, Univ. California, Los Angeles, Calif.*, 1967), *pp.* 175–178. *Amer. Math. Soc., Providence, R.I.*, 1974. (F. R. Drake) **51** #5309 02K35 (02K05, 02K25)

(*with* Johnsbråten, Håvard) A new construction of a non-constructible Δ_3^1 subset of ω. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, IV. *Fund. Math.* **81** (1974), 279–290. (Keith Devlin) **54** #7253 02 (02K30)

(*with* Devlin, Keith J.) Marginalia to a theorem of Silver. ⊧*ISILC Logic Confe* (*Proc. Internat. Summer Inst. and Logic Colloq., Kiel*, 1974), *pp.* 115–142. *Lecture* *in Math., Vol.* 499, *Springer, Berlin*, 1975. (A. Tauts) **58** #235 02K35

See also **Devlin, Keith J., 52** #13389 *and* **Devlin, Keith J., 53** #2659

Jensen, Søren Tolver An algebraic theory for normal statistical models with unk covariance. *Recent developments in statistics (Proc. European Meeting Statistic Grenoble*, 1976), *pp.* 285–288. *North-Holland, Amsterdam*, 1977. (C. G. Khatri) **57** #14264 62H15

Jensen, U. (*with* Bosch, Karl) Deterministische Inspektionsstrategien. (English summ *Z. Oper. Res. Ser. A-B* **22** (1978), *no.* 3, A151–A168. (E. Lieuwens) **58** #4272 9

Jenssen, Øystein O. Eigenfunctions and spectrum of the hard-sphere collision opera *Phys. Norveg.* **6** (1972), 179–191. (Carlo Cercignani) **55** #9776 82.45

Jentsch, Lothar ★Über Wärmespannungen in Körpern mit stückweise konstanten Laméschen Elastizitätsmoduln. Schriftenreihe des Zentralinstituts für Mathematik Mechanik, Heft 14. *Akademie-Verlag, Berlin*, 1972. v + 122 *pp.* (*loose errata*) (Edi **56** #1879 73.35

Existenzsätze der Thermoelastostatik stückweise homogener Körper. *Beiträge* *No.* 5 (1973), 107–119. (F. V. Pohle) **48** #10261 73.35

Stationäre Schwingungen in stückweise homogenen elastischen Körpern unter zeitlich periodischen Randbedingungen bezüglich des Verschiebungsvektors und Temperatur. *Beiträge Anal. Heft* 6 (1974), 113–116. (C. E. Pearson) **56** #102 73.35

Über stationäre thermoelastische Schwingungen in inhomogenen Körpern. *M* *Nachr.* **64** (1974), 171–231. (Clarence M. Ablow) **51** #1169 35Q99 (73.35)

Stationäre thermoelastische Schwingungen in stückweise homogenen Körpern infolge zeitlich periodischer Außentemperatur. *Math. Nachr.* **69** (1975), 15–37. Parkus) **52** #16222 73.35

Zur numerischen Behandlung von gekoppelten Randwertproblemen der Thermoelastostatik. *Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **25** (19 *no.* 1, 27–38. (Author's summary) **58** #8710 73.65 (73.35)

Bemerkungen zu einigen neueren gekoppelten Randwertproblemen der Thermoelastostatik. *Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **25** (19 *no.* 1, 39–52. (Author's summary) **58** #8693 73.49

Die Greensche Matrix für zwei aneinander reibungsfrei gleitende elastische Halbräume mit verschiedenen Laméschen Moduln. (English and Russian summar *Z. Angew. Math. Mech.* **58** (1978), *no.* 4, 209–224. (Author's summary) **58** #141 73.35

Jentsch, Werner On an initial-value problem for linear partial difference equati *Fibonacci Quart.* **9** (1971), *no.* 3, 313–323. (C. H. Franke) **46** #2280 39A10

Über die Zugehörigkeit rationaler Operatoren zum Grundring der zweidimensionalen diskreten Operatorenrechnung. Tagungsbericht zur ersten Tag der WK Analysis (1970). *Beiträge Anal. No.* 4 (1972), 135–137. (A. Erdélyi) **48** #1 47B99 (44A40)

Über die Struktur der rationalen Operatoren in der zweidimensionalen diskr Operatorenrechnung. *Studia Math.* **42** (1972), 15–27. (I. Fenyő) **46** #623 44 (39A10)

Über eine Erweiterung der zweidimensionalen diskreten Operatorenrechnung. *Beiträge Anal. Heft* 9 (1976), 159–165 (I. Fenyő) **56** #906 39A12 (44A45)

Über ein Hallenser Manuskript der Dissertation Georg Cantors. (English summa *Historia Math.* **3** (1976), 449–462. (I. Grattan-Guinness) **58** #4879 01A55 (10–0

Ein Struktursatz über rationale Operatoren von Verschiebungsoperatoren. *B* *Anal. No.* 10 (1977), 41–45. (Hans P. Heinig) **58** #12231 44A40

Jentsch, Winfried Zum Problem der optimalen Klassifikation in der Zeichenerken und Diagnostik. (Russian, English and French summaries) *Wiss. Z. Humboldt-U* *Berlin Math.-Natur. Reihe* **21** (1972), 473–474. (K. D. Günther) **48** #5278 62 (93C40)

Jentzsch, Gerhard (*with* Lange, Gerald; Rosenbach, Otto) Anwendung der Spline-Funktionen zur Bearbeitung geophysikalischer Messreihen. (English summa *Spline functions (Proc. Internat. Sympos., Karlsruhe*, 1975), *pp.* 99–115. *Lecture Note* *Math., Vol.* 501, *Springer, Berlin*, 1976. (Authors' summary) **58** #9107 86.65 (65D30)

Jeppson, M. M. (*with* Allgower, E. L.) The approximation of solutions of nonlinear elli boundary value problems having several solutions. *Numerische, insbesondere approximationstheoretische Behandlung von Funktionalgleichungen (Tagung, Math. Forschungsinst., Oberwolfach*, 1972), *pp.* 1–20. *Lecture Notes in Math., Vol.* 333, *Sprin* *Berlin*, 1973. (S. V. Parter) **55** #6893 65N99

Jeppson, Mark A search for the fixed points of a continuous mapping. *Mathematical top* *in economic theory and computation (Sympos. Math. Econom., SIAM Fall Meeting, U* *Wisconsin, Madison, Wis.*, 1971), *pp.* 122–129. *Soc. Indust. Appl. Math., Philadelphia,* 1972. (Eugene Allgower) **53** #12001 65H10 (90C30)

Jerbic, Stephen K. ★Fibonomial coefficients–a few summation properties. A th presented to the faculty of the Department of Mathematics San Jose State College partial fulfillment of the requirements for the degree Master of Arts. *San Jose S* *College, San Jose, Calif.*, 1968. iii + 86 *pp.* (F. T. Howard) **53** #2817 10A35

Jeremy, Louis Anneaux engendrés par leurs idempotents. Quasi-continuité de $M^{(I)}$. *C.* *Acad. Sci. Paris Sér. A-B* **276** (1973), A1541–A1543. (S. Teleman) **49** #5080 16A

Modules et anneaux quasi-continus. *Canad. Math. Bull.* **17** (1974), 217–228. (T. Shores) **51** #5667 16A52

(*with* Goursaud, Jean-Marie) Sur l'enveloppe injective des anneaux réguliers. *Comm. Algebra* **3** (1975), *no.* 9, 763–779. (K. R. Goodearl) **52** #3220 16A30

Modules π-projectifs. *Séminaire d'Algèbre Non Commutative (année* 1975–197 *Exp. No.* 12, 12 *pp. Publ. Math. Orsay, No.* 186-7655, *U. E. R. Math., Univ. Paris* *Orsay*, 1976. (Søren Jøndrup) **58** #16766 16A50

Une notion de rang dans les facteurs réguliers auto-injectifs à droite. *Sémina* *d'Algèbre Non Commutative (année* 1975-1976), *Exp. No.* 4, 12 *pp. Publ. Math. Ors* *Nos.* 186-7655, *U. E. R. Math., Univ. Paris XI, Orsay*, 1976. (T. Cheatham) **58** #221 16A30

(*with* Goursaud, Jean-Marie) Un anneau régulier continu à gauche et $\aleph_0$-continu droite est continu. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 1, Ai, A807–A808. (Robert L. Snider) **55** #402 16A30

(*with* Goursaud, Jean-Marie) Une notion de rang dans les facteurs réguliers uto-injectifs à droite. *Comm. Algebra* **5** (1977), *no.* 8, 829–839. (K. R. Goodearl) 6 #5641 16A30 (16A52)

See also **Séminaire: Algèbre Non Commutative**, **48** #5787

on, David Sur un théorème d'interpolation de R. Nevanlinna. (English summary) *C. . Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 22, Aii, A1291–A1293. (V. P. Havin) 5 #5862 30A80

on, Meyer (*with* Gillman, Leonard) ★Rings of continuous functions. Reprint of the 960 edition. Graduate Texts in Mathematics, No. 43. *Springer-Verlag, New ork-Heidelberg*, 1976. xiii + 300 *pp.* (Editors) **53** #11352 46E25 (54C40)

, Wolfgang (*with* Schiebel, Wolfgang; Terno, Johannes; Unger, Gerhard) Ein eitrag zur Behandlung der Entartung beim Simplexverfahren. (English summary) *eiträge Numer. Math.* **4** (1975), 105–114. (Csaba Fabian) **56** #14681 90C10

vsky, W. The transformation operator approach to multi-subsystems dynamics. I. The eneral approach. *Matrix Tensor Quart.* **27** (1976/77), *no.* 2, 48–59. (Author's ummary) **56** #7395 70.53

The transformation operator approach to multi-subsystem dynamics. II. pplications to systems of particles. *Matrix Tensor Quart.* **27** (1976/77), *no.* 4, 116–128. Author's summary) **58** #32195 70.53

akow, S. M. *See* **Ermakov, S. M.**

sky, T. On unconditionally convergent basis expansions in the space of continuous unctions. (Russian summary) *Anal. Math.* **3** (1977), *no.* 4, 257–262. (A. Olevskiĭ) 8 #6842 41A30 (46E15)

ne, Joseph W. (*with* Schumaker, L. L.) Local bases and computation of *g*-splines. *ethoden und Verfahren der mathematischen Physik, Band 5, pp.* 171–199. *B. -Hochschulskripten, No. 724 a-b, Bibliographisches Inst., Mannheim*, 1971. (Ian ladwell) **50** #15273 65D15

Singular self-adjoint multipoint boundary value problems: solutions and pproximations. *Linear operators and approximation* (*Proc. Conf., Math. Res. Inst., berwolfach*, 1971), *pp.* 470–486. *Internat. Ser. Numer. Math., Vol.* 20, *Birkhäuser, Basel*, 972. (Editors) **58** #1363 34B25 (46E35)

(*with* Pierce, J. G.) On spline functions determined by singular self-adjoint ifferential operators. Collection of articles dedicated to J. L. Walsh on his 75th irthday, I. *J. Approximation Theory* **5** (1972), 15–40. (Marc Atteia) **54** #9040 5D05

Asymptotic estimates of the *n*-widths in Hilbert space. *Proc. Amer. Math. Soc.* **33** 1972), 367–372. (E. W. Cheney) **45** #5642 41A65 (47F05)

Topics in multivariate approximation theory. *Approximation theory* (*Proc. Internat. ympos., Univ. Texas, Austin, Tex.*, 1973), *pp.* 151–198. *Academic Press, New York*, 1973. L. L. Schumaker) **48** #9173 41–02

Linearization in certain nonconvex minimization problems and generalized spline rojections. *Spline functions and approximation theory* (*Proc. Sympos., Univ. Alberta, dmonton, Alta.*, 1972), *pp.* 119–167. *Internat. Ser. Numer. Math., Vol.* 21, *Birkhäuser, asel*, 1973. (Howard L. Weinert) **53** #6191 41A65

(*with* Fisher, Stephen D.) Elliptic variational problems in L^2 and L^∞. *Indiana Univ. ath. J.* **23** (1973/74), 685–698. (J. Frehse) **51** #13442 35J35 (41A65)

On uniform approximation by certain generalized spline functions. *J. pproximation Theory* **7** (1973), 143–154. (Joachim Domsta) **53** #1107 41A15

(*with* Schumaker, L. L.) Characterizations of absolute continuity and essential oundedness for higher order derivatives. Collection of articles dedicated to Salomon ochner. *J. Math. Anal. Appl.* **42** (1973), 452–465. (K. M. Garg) **50** #974 46E35 26A24, 41A15)

Minimization problems and linear and nonlinear spline functions. I. Existence. *IAM J. Numer. Anal.* **10** (1973), 808–819. (Werner Haussmann) **53** #13955 41A65

Minimization problems and linear and nonlinear spline functions. II. Convergence. *IAM J. Numer. Anal.* **10** (1973), 820–830. (Werner Haussmann) **53** #13956 41A65

Nonlinear singular multipoint boundary value problems. (German and Russian ummaries) *Z. Angew. Math. Mech.* **53** (1973), *no.* 1, 31–38. (Allan C. Peterson) 3 #8544 34B15

(*with* Schumaker, L. L.) On the distance to a class of generalized splines. *Linear erators and approximation, II* (*Proc. Conf., Math. Res. Inst., Oberwolfach*, 1974), *pp.* 03–517. *Internat. Ser. Numer. Math., Vol.* 25, *Birkhäuser, Basel*, 1974. (Philip W. Smith) 2 #14755 41A15

(*with* Fisher, Stephen D.) Perfect spline solutions to L^∞ extremal problems. *J. pproximation Theory* **12** (1974), 78–90. (R. Franke) **50** #7898 41A15

(*with* Kaplan, James L.) A unified approach to certain nonlinear initial value and oundary value problems. *J. Math. Anal. Appl.* **48** (1974), 31–42. (L. Erbe) **51** #985 4B15

(*with* Fisher, Stephen D.) The existence, characterization and essential uniqueness f solutions of L^∞ extremal problems. *Trans. Amer. Math. Soc.* **187** (1974), 391–404. D. E. Wulbert) **51** #1236 41A65

(*with* Fisher, Stephen D.) ★Minimum norm extremals in function spaces. With pplications to classical and modern analysis. Lecture Notes in Mathematics, Vol. 479. *pringer-Verlag, Berlin-New York*, 1975. viii + 209 *pp.* (Werner Krabs) **56** #1159 9–02

(*with* Fisher, Stephen D.) Spline solutions to L^1 extremal problems in one and everal variables. Collection of articles dedicated to G. G. Lorentz on the occasion of is sixty-fifth birthday, I. *J. Approximation Theory* **13** (1975), 73–83. (W. W. Breckner) 0 #14022 41A65

Smooth interpolating curves of prescribed length and minimum curvature. *Proc. mer. Math. Soc.* **51** (1975), 62–66. (Christian Coatmélec) **52** #1451 49A05 (41A05)

Galerkin methods for the existence and approximation of weak solutions of onlinear Dirichlet problems with discontinuities. *Approximation theory* (*Proc. Internat. olloq., Inst. Angew. Math., Univ. Bonn, Bonn*, 1976), *pp.* 274–290. *Springer, Berlin*, 1976. rom the introduction) **58** #31914 65N30

Existence and approximation of weak solutions of the Stefan problem with onmonotone nonlinearities. *Numerical analysis* (*Proc. 6th Biennial Dundee Conf., Univ. undee, Dundee*, 1975), *pp.* 148–165. *Lecture Notes in Math., Vol.* 506, *Springer, Berlin*, 1976. (G. T. McAllister) **57** #8077 65N30

(*with* Schumaker, L. L.) Local support bases for a class of spline functions. *J. Approximation Theory* **16** (1976), *no.* 1, 16–27. (Derek W. Arthur) **52** #14756 41A15

(*with* Fisher, Stephen D.) Stable and unstable elastica equilibrium and the problem of minimum curvature. *J. Math. Anal. Appl.* **53** (1976), *no.* 2, 367–376. (S. N. Murthy) **53** #7195 73.49

On spline functions derivable from singular differential operators with compact resolvents. *J. Math. Anal. Appl.* **53** (1976), *no.* 3, 567–577. (Howard L. Weinert) **53** #6156 41A15 (34B25)

Nonlinear equations of evolution and a generalized Stefan problem. *J. Differential Equations* **26** (1977), *no.* 2, 240–261. (Mario Primicerio) **58** #1659a 35K55

(*with* Fisher, Stephen D.) Uniqueness of optimal controls in L^∞. *J. Optimization Theory Appl.* **21** (1977), *no.* 4, 469–476. (Authors' review (Zbl **336** #49005)) **58** #33348 93C99

Generalized boundary value problems and the evolution equation. *Proc. London Math. Soc.* (3) **34** (1977), *no.* 1, 145–154. (D. E. Edmunds) **54** #13602 47A50 (35G15)

Corrigendum: "Nonlinear equations of evolution and a generalized Stefan problem" (J. Differential Equations **26** (1977), no. 2, 240–261). *J. Differential Equations* **28** (1978), *no.* 3, 452. (Mario Primicerio) **58** #1659b 35K55

Jeroslow, Robert Consistency statements in formal theories. *Fund. Math.* **72** (1971), *no.* 1, 17–40. (S. Feferman) **45** #8524 02F40

(*with* Kortanek, K. O.) On semi-infinite systems of linear inequalities. *Israel J. Math.* **10** (1971), 252–258. (A. Ben-Israel) **46** #3531 15A39 (90C05)

Comments on integer hulls of two linear constraints. *Operations Res.* **19** (1971), 1061–1069. (C.-A. Burdet) **47** #1459 90C10

(*with* Kortanek, K. O.) On an algorithm of Gomory. *SIAM J. Appl. Math.* **21** (1971), 55–60. (R. W. Cottle) **52** #5009 90C10

Non-effectiveness in S. Orey's arithmetical compactness theorem. *Z. Math. Logik Grundlagen Math.* **17** (1971), 285–289. (M. R. Krom) **45** #1762 02G05

(*with* Balas, Egon) Canonical cuts on the unit hypercube. *SIAM J. Appl. Math.* **23** (1972), 61–69. (Csaba Fabian) **46** #3072 90C10

The simplex algorithm with the pivot rule of maximizing criterion improvement. *Discrete Math.* **4** (1973), 367–377. (S. Cruceanu) **51** #7611 90C05

Linear programs dependent on a single parameter. *Discrete Math.* **6** (1973), 119–140. (K. G. Murty) **47** #10054 90C05

Redundancies in the Hilbert-Bernays derivability conditions for Gödel's second incompleteness theorem. *J. Symbolic Logic* **38** (1973), 359–367. (A. Kino) **49** #2283 02D99

There cannot be any algorithm for integer programming with quadratic constraints. Mathematical programming and its applications. *Operations Res.* **21** (1973), 221–224. (M. Rössler) **50** #6489 90C10

A generalization of a theorem of Chvátal and Gomory. *Nonlinear programming*, 2 (*Proc. Sympos. Special Interest Group on Math. Programming, Univ. Wisconsin, Madison, Wis.*, 1974), *pp.* 313–331. *Academic Press, New York*, 1974. (M. Rössler) **51** #12329 90C10

On algorithms for discrete problems. *Discrete Math.* **7** (1974), 273–280. (M. Rössler) **53** #7464 90C10

Trivial integer programs unsolvable by branch-and-bound. *Math. Programming* **6** (1974), 105–109. (Csaba Fabian) **49** #10361 90C10

Trivial integer programs unsolvable by branch-and-bound. *Math. Programming* **6** (1974), 105–109. (Csaba Fabian) **50** #3936 90C10

On defining sets of vertices of the hypercube by linear inequalities. *Discrete Math.* **11** (1975), 119–124. (M. S. Cheema) **50** #11031 52A20

Experimental logics and Δ_2^0-theories. *J. Philos. Logic* **4** (1975), *no.* 3, 253–267. (From the introduction) **58** #21558 02G05 (02F50)

(*with* Smith, T. H. C.) Experimental results on Hillier's linear search. *Math. Programming* **9** (1975), *no.* 3, 371–376. (Charles E. Blair) **52** #16607 90C10

Cutting-plane theory: disjunctive methods. *Studies in integer programming* (*Proc. Workshop, Bonn*, 1975), *pp.* 293–330. *Ann. of Discrete Math., Vol.* 1, *North-Holland, Amsterdam*, 1977. (F. Giannessi) **56** #10953 90C10

(*with* Blair, Charles E.) The value function of a mixed integer program. I. *Discrete Math.* **19** (1977), *no.* 2, 121–138. (A. C. Williams) **57** #15424 90C10

(*with* Blair, Charles E.) A converse for disjunctive constraints. *J. Optim. Theory Appl.* **25** (1978), *no.* 2, 195–206. (Authors' summary) **58** #20416 90C10

Jerrard, Richard On Knaster's conjecture. *Trans. Amer. Math. Soc.* **170** (1972), 385–402. (P. T. Church) **46** #8212 55C20 (54H25)

(*with* Temperley, Nicholas) Almost perfect numbers. *Math. Mag.* **46** (1973), 84–87. (H. L. Abbott) **51** #12686 10A40

Homology with multiple-valued functions applied to fixed points. *Trans. Amer. Math. Soc.* **213** (1975), 407–427. (Ju. G. Borisovič) **52** #1675 (E **53** #6539) 55C20

Erratum to: "Homology with multiple-valued functions applied to fixed points" (Trans. Amer. Math. Soc. **213** (1975), 407–427). *Trans. Amer. Math. Soc.* **218** (1976), 406. (Ju. G. Borisovič) **53** #6539 55C20

Jerri, Abdul J. Sampling theorem for not necessarily finite energy signals. *Internat. J. Systems Sci.* **4** (1973), 255–260. (L. Arteaga) **48** #4629 42A68 (94A05)

(*with* Kreisler, Dale W.) Sampling expansions with derivatives for finite Hankel and other transforms. *SIAM J. Math. Anal.* **6** (1975), 262–267. (V. M. Bhise) **51** #1302 44A15

Sampling expansion for a Laguerre-L_ν^a transform. *J. Res. Nat. Bur. Standards Sect. B* **80B** (1976), *no.* 3, 415–418. (William L. Perry) **54** #13482 44A15

Towards a discrete Hankel transform and its applications. *Applicable Anal.* **7** (1977/78), *no.* 2, 97–109. (Michel Gatesoupe) **58** #2048 44A15

Computations of the Hill functions of higher order. *Math. Comp.* **31** (1977), *no.* 138, 481–484. (J. Segethová) **58** #19026 65D05 (41A15)

Jervell, Herman Ruge A normalform in first order arithmetic. *Proceedings of the Second Scandinavian Logic Symposium* (*Oslo*, 1970), *pp.* 93–108. *Studies in Logic and the Foundations of Mathematics, Vol.* 63, *North-Holland, Amsterdam*, 1971. (L. E. Sanchis) **48** #10774 02D99 (02C15)

Conservative endextensions and the quantifier "there exist uncountably many".

Proceedings of the Third Scandinavian Logic Symposium (*Univ. Uppsala, Uppsala*, 1973), *pp.* 63–80. *Stud. Logic Found. Math., Vol.* 82, *North-Holland, Amsterdam*, 1975. (G. Fuhrken) **51** #10027 02B20

Jerwood, D. (*with* Gani, J.) The cost of a general stochastic epidemic. *J. Appl. Probability* **9** (1972), 257–269. (K. Dietz) **49** #8691 92A15

The cost of a carrier-borne epidemic. *J. Appl. Probability* **11** (1974), 642–651. (K. Dietz) **51** #2679 92A15

Jerzykiewicz, Krystyna Semantic analysis of an ALGOL text. (Polish summary) *Zastos. Mat.* **12** (1971/72), 413–497. (W. Kwasowiec) **47** #4480 68A10

Jeschek, F. Remarks on "connected" topologies for function spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 1045–1051. (O. T. Alas) **46** #6279 54C35

(*with* Poppe, H.; Stärk, A.) A compactness criterion for the space of almost periodic functions. *Math. Nachr.* **76** (1977), 159–161. (Bolis Basit) **57** #13371 42A84

Jesiak, B. (*with* Rossberg, H.-J.) On the unique determination of stable distribution functions. *Math. Nachr.* **82** (1978), 297–308. (F. W. Steutel) **58** #7785 60E05

Jeśmanowicz, L. Recollections of Vilnius mathematicians. (Polish) *Wiadom. Mat.* (2) **12**, *no.* 2, 309–319 (1971). (Editors) **56** #11716 01A70 (01A60)

Jeśmanowicz, Leon (*with* Bieńkowska-Lipińska, Krystyna; Browkin, Jerzy; Dymowski, Stanisław; Grochowski, Bogusław; Gutowski, Roman; Kotlarski, Ignacy I.; Krasnodębski, Ryszard; Kudrewicz, Jacek; Leitner, Roman; Muszyński, Jerzy; Osiowski, Jerzy; Pawłowicz, Ireneusz; Piskorek, Adam; Sobczyk, Kazimierz; Traczyk, Tadeusz; Trajdos, Tadeusz; Waligórski, Stanisław; Wojdat, Marian; Zuber, Roman; Żakowski, Wojciech) ★Mathematik Handbuch für Technik und Naturwissenschaft. Herausgegeben von Jerzy Dreszer. Redaktion der deutschsprächigen Ausgabe von Günther Eisenreich und Wolfgang Naumann. Aus dem Polnischen übersetzt von A. Dworak, L. Kulik, L. Kutyła und W. Pilarczyk. *Verlag Harri Deutsch, Zurich-Frankfurt am Main*, 1975. xii + 1346 *pp.* (Editors) **52** #7771 00A20

Jespersen, D. C. *See* **Mathematical problems in biology**, **49** #10392

Jespersen, Dennis C. Arakawa's method is a finite-element method. *J. Computational Phys.* **16** (1974), 383–390. (Carl C. Grosjean) **55** #9568 65N30

(*with* Lyness, J. N.) Moderate degree symmetric quadrature rules for the triangle. *J. Inst. Math. Appl.* **15** (1975), 19–32. (Henning Esser (Aachen)) **51** #14536 65D30

A least squares decomposition method for solving elliptic equations. *Math. Comp.* **31** (1977), *no.* 140, 873–880. (Joachim A. Nitsche) **57** #1930 65N30

Ritz-Galerkin methods for singular boundary value problems. *SIAM J. Numer. Anal.* **15** (1978), *no.* 4, 813–834. (Robert D. Russell) **58** #8296 65L10

Jess, Jochen A. G. (*with* Nagi, Magdy) Synthesis of linear, constant systems with constrained structure—A state space approach. (German summary) *AEÜ—Arch. Elektron Übertragungstech.* **26** (1972), *no.* 3, 111–120. (T. Kaczorek) **53** #10404 93C45 (93C05)

Some new results on decomposition and pivoting of large sparse systems of linear equations. Special issue on large-scale networks and systems. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 12, 719–738. (From the summary) **58** #8182 65F05

Jesse, Richard R., Jr. Production-inventory decisions under order-occurrence risk: the deterministic order quantity case. *Management Sci.* **22** (1975/76), *no.* 6, 664–669. (Stratton C. Jaquette) **53** #10224 90B05

Jessel, M. *See* **Louis de Broglie: sa conception du monde physique**, **52** #13119

Jessel, Maurice De quelques principes fondamentaux utilisables en propagation non linéaire. (English summary) *Rev. CETHEDEC No.* 48 (1976), 179–194. (Alan Jeffrey) **58** #8737 76.35

Jessen, Børge Zur Algebra der Polytope. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1972**, 47–53. (H. S. M. Coxeter) **50** #5636 52A25 (50B30)

The algebra of polytopes. (Danish) *Danish Mathematical Society* (1923–1973), *pp.* 83–91. *Dansk Mat. Forening, Copenhagen*, 1973. (Editors) **58** #30747 52A25

Jessup, P. (*with* Crone, Lawrence; Fleming, D. J.) Fundamental biorthogonal sequences and K-norms on ϕ. *Canad. J. Math.* **23** (1971), 1040–1050. (J. T. Marti) **45** #844 46A35

(*with* Crone, Lawrence; Fleming, D. J.) Diagonal nuclear operators. *Studia Math.* **43** (1972), 51–56. (Tosun Terzioğlu) **48** #837 46A45 (47B10)

Jesty, P. *See* **Software for numerical mathematics**, **50** #6095

de Jesus, Fernando Fundamental aspects of the general theory of mathematical programming. (Portuguese) *Gaz. Mat.* (*Lisboa*) **31** (1970), *no.* 117–120, 1–40. (Editors) **55** #9935 90Cxx

Jeswani, P. T. (*with* Sikdar, S.) A new approach to machine generation of random variables with any distribution. *IEEE Trans. Reliab.* **27** (1978), *no.* 1, 55–57. (J. H. Halton) **58** #13612 65C10

Jeter, Melvyn W. (*with* Pye, W. C.) A minimal permanent-like function. *Linear Algebra and Appl.* **12** (1975), *no.* 2, 171–178. (Thomas L. Boullion) **52** #429 15A15

On the extremal elements of the convex cone of superadditive n-homogeneous functions. *Pacific J. Math.* **56** (1975), *no.* 1, 131–141. (Roy M. Rakestraw) **51** #13631 46A40

Jetter, Kurt Splines und Quadratureformeln. (English summary) *Spline-Funktionen* (*Tagung des Math. Forschungsinst. Oberwolfach*, 1973), *pp.* 155–163. *Biliographisches Inst., Mannheim*, 1974. (F. Pecka) **54** #9056 65D30 (41A15)

Optimale Quadraturformeln mit semidefiniten Peano-Kernen. (English summary) *Numer. Math.* **25** (1975/76), *no.* 3, 239–249. (D. D. Stancu) **55** #11576 65D30

Fehlerbetrachtungen bei interpolatroischen Quadraturformeln. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, T242–T243. (Walter Gautschi) **53** #9584 65D05 (65D30)

Nullstellen von Splines. (English summary) *Approximation theory* (*Proc. Internat. Colloq., Inst. Angew. Math., Univ. Bonn, Bonn*, 1976), *pp.* 291–304. *Springer, Berlin*, 1976. (Author's summary) **58** #29615 41A15

Birkhoff interpolation by splines. *Approximation theory, II* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1976), *pp.* 405–410. *Academic Press, New York*, 1976. (A. K. Varma) **54** #13372 41A05

Duale Hermite-Birkhoff-Probleme. (English summary) *J. Approximation Theory* **17** (1976), *no.* 2, 119–134. (G. G. Lorentz) **54** #10928 41A05

Optimale Quadraturformeln. Vorträge der Wissenschaftlichen Jahrestagung Geselleschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Ang Math. Mech.* **56** (1976), *no.* 3, T292–T293. (Rolf Jeltsch) **53** #9605 65D30

(*with* Locher, Franz) A note on numerical Fourier analysis and uniform approximation on cubes. *Constructive theory of functions of several variables* (*Pr Conf., Math. Res. Inst., Oberwolfach*, 1976), *pp.* 109–118. *Lecture Notes in Math.,* 571, *Springer, Berlin*, 1977. (Pierre Hillion) **57** #18165 65T05

(*with* Lange, Gerald) Die Eindeutigkeit L_2-optimaler polynomialer Monosplin (English summary) *Math. Z.* **158** (1978), *no.* 1, 23–34. (Dietrich Braess) **57** #696 41A15

Jeuland, Abel (*with* Bass, Frank M.; Wright, Gordon P.) Equilibrium stochastic cho and market penetration theories: derivations and comparisons. *Management Sci.* (1975/76), *no.* 10, 1051–1063. (Authors' summary) **55** #9843 90A15

Jeulin, Thierry (*with* Azéma, Jacques) Précisions sur la mesure de Föllmer. (Engl summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **12** (1976), *no.* 3, 257–283. (J. L. Do **55** #1446 60G45

Partie positive d'une quasimartingale. (English summary) *C. R. Acad. Sci. P Sér. A-B* **287** (1978), *no.* 5, A351–A352. (Author's summary) **58** #24532 60G45

Compactification de Martin d'un processus droit. *Z. Wahrscheinlichkeitstheorie Verw. Gebiete* **42** (1978), *no.* 3, 229–260. (Michael Sharpe) **57** #17853 60J50

Jeurissen, R. H. Covers, matchings and odd cycles of a graph. *Discrete Math.* **13** (197 *no.* 3, 251–260. (Gary Haggard) **54** #168 05C99

Jevicki, A. (*with* Gervais, J.-L.) Point canonical transformations in the path integr *Nuclear Phys. B* **110** (1976), *no.* 1, 93–112. (Jacques P. Leveille) **53** #15175 81.3

(*with* Gervais, J.-L.) Quantum scattering of solitons. *Nuclear Phys. B* **110** (1976), 1, 113–152. (Jacques P. Leveille) **54** #14610 81.35

Jewell, Nicholas P. (*with* Sinclair, Allan M.) Epimorphisms and derivations on $L^1(0,1)$ continuous. *Bull. London Math. Soc.* **8** (1976), *no.* 2, 135–139. (B. E. Johnson) **53** #6326 46H05

Multiplication by the coordinate functions on the Hardy space of the unit sphere $\mathbf{C}^n$. *Duke Math. J.* **44** (1977), *no.* 4, 839–851. (R. G. Douglas) **57** #3904 47B (32A30)

(*with* Davie, A. M.) Toeplitz operators in several complex variables. *J. Functio Analysis* **26** (1977), *no.* 4, 356–368. (R. G. Douglas) **57** #1180 47B35

Continuity of module and higher derivations. *Pacific J. Math.* **68** (1977), *no.* 91–98. (G. R. Allan) **58** #12369 46H05

The existence of discontinuous module derivations. *Pacific J. Math.* **71** (1977), 2, 465–475. (H. G. Dales) **56** #9268 46J05

Jewell, William S. Credible means are exact Bayesian for exponential families. *Astin B* **8** (1974), 77–90. (J. J. Deely) **53** #11926 62P05

Model variations in credibility theory. With a discussion by Erwin Straub. *Credibility: theory and applications* (*Proc. Berkeley Actuar. Res. Conf., Univ. Californ Berkeley, Calif.*, 1974; *dedicated to Edward A. Lew*), *pp.* 193–247, 409–414. *Acade Press, New York*, 1975. (Alfred E. Tong) **54** #11711 62P05

Linearized Bayesian estimation of network flows. Special issue on large-sc networks and systems. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 823–826. (Jonathan Halpern) **56** #17770 90B15

Two classes of covariance matrices giving simple linear forecasts. *Scand. Actuar.* **1976**, *no.* 1, 15–29. (Alfred E. Tong) **53** #6957 62P05 (62M20)

Bayesian life testing using the total Q on test. *The theory and applications reliability, with emphasis on Bayesian and nonparametric methods, Vol. I* (*Conf., Un South Florida, Tampa, Fla.*, 1975), *pp.* 49–66. *Academic Press, New York*, 1977. (G. Lingappaiah) **56** #9877 62N05 (62N15)

Jewett, Robert I. Spaces with an abstract convolution of measures. *Advances in Math.* (1975), *no.* 1, 1–101. (U. B. Tewari) **52** #14840 43A05 (43A40)

Jeyakumar, A. Vincent Principal indecomposable representations for the group $SL(2,q)$. *Algebra* **30** (1974), 444–458. (J. E. Humphreys) **49** #7347 20C30

Jeyamma, S. (*with* Venkataraman, M.) Continuously differentiable spaces. *Publ. Ma Debrecen* **18** (1971), 1–8 (1972). (M. Balanzat) **52** #8864 46A15 (46F05)

(*with* Ramakrishnan, P. V.) On the convergence of Mikusiński operators. *J. Lond Math. Soc.* (2) **8** (1974), 582–584. (M. Cîrnu) **51** #8761 44A40

Generalised operational functions. II. *Yokohama Math. J.* **25** (1977), *no.* 1, 65– (From the introduction) **58** #12232 44A40

Jeyarajan, P. A. An inclusion theorem in summability. *Bull. Calcutta Math. Soc.* **64** (197 121–124. (W. Beekmann) **49** #920 40D25

A Tauberian theorem for the generalised Abel method of summability. II. *Indian Math.* **14** (1972), 9–14. (Gokulananda Das) **48** #9169 40E05

A Tauberian theorem for the generalized Abel method of summability. I. *J. Indi Math. Soc.* (*N.S.*) **36** (1973), 279–289. (Gokulananda Das) **48** #9168 40E05

Theorems on strong summability. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **18(32)** (197 85–98. (S. L. Segal) **52** #14735 40G05

Jeyaratnam, S. The Diophantine equation $Y(Y+m)(Y+2m)(Y+3m)=2X(X+m)(X+2m)(X+3m)$. *Pacific J. Math.* **60** (197 *no.* 1, 183–187. (E. L. Cohen) **52** #8030 10B10

Ježek, Jaroslav On categories of structures and classes of algebras. *Dissertationes Ma Rozprawy Mat.* **75** (1970), 33 *pp.* (H.-B. Brinkmann) **47** #3283 08A25

The existence of upper semicomplements in lattices of primitive classes. *Commen Math. Univ. Carolinae* **12** (1971), 519–532. (I. Petrescu) **45** #1817 08A25

(*with* Beran, Ladislav) On embedding of lattices in simple lattices. *Acta Un Carolinae—Math. et Phys.* **13** (1972), *no.* 1, 87–89. (G. Szász) **47** #8368 06A20

Algebraicity of endomorphisms of some relational structures. *Acta Univ. Carolina —Math. et Phys.* **13** (1972), *no.* 2, 43–52. (G. Pollák) **52** #10544 08A05

(*with* Slavík, Václav) Some examples of primitive lattices. *Acta Univ. Carolinae—Math. et Phys.* **14** (1973), *no.* 2, 3–8 (1974). (H. F. J. Lowig) **51** #12638 06A20

Realization of small concrete categories by algebras and injective homomorphisms *Colloq. Math.* **29** (1974), 61–69. (M. S. Burgin) **49** #4906 08A25

Algebraicity of endomorphisms of some structures. Collection of papers on th theory of ordered sets and general algebra. *Acta Fac. Rerum Natur. Univ. Comenia Math., Special No.* (1975), 17–18. (Gilbert Crombez) **50** #4438 08A05 (*with* Kepka, Tomáš) Extensive varieties. *Acta Univ. Carolinae—Math. et Phys.* **16** (1975), *no.* 2, 79–87. (M. Gould) **52** #3010 08A15

(*with* Kepka, Tomáš) The lattice of varieties of commutative abelian distributive groupoids. *Algebra Universalis* **5** (1975), *no.* 2, 225–237. (James B. Nation) **53** #2803 08A25 (20L05)

(*with* Kepka, Tomáš) Quasigroups, isotopic to a group. *Comment. Math. Univ. Carolinae* **16** (1975), 59–76. (D. A. Robinson) **51** #3345 20N05

Normal subsets of quasigroups. *Comment. Math. Univ. Carolinae* **16** (1975), 77–85. (D. A. Robinson) **51** #3346 20N05

(*with* Kepka, Tomáš) Semigroup representations of commutative idempotent abelian groupoids. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 3, 487–500. (M. Yamada) **52** #3367 20L05

(*with* Kepka, Tomáš) Atoms in the lattice of varieties of distributive groupoids. *Lattice theory* (*Proc. Colloq., Szeged*, 1974), *pp.* 185–194. *Colloq. Math. Soc. János Bolyai, Vol.* 14, *North-Holland, Amsterdam*, 1976. (Zbl**359** #20037) **58** #5455 08A15 (20L05)

(*with* Kepka, Tomáš) Free commutative idempotent abelian groupoids and quasigroups. (Russian and Czech summaries) *Acta Univ. Carolinae—Math. et Phys.* **17** (1976), *no.* 2, 13–19. (R. Artzy) **54** #10466 20N05

Intervals in the lattice of varieties. *Algebra Universalis* **6** (1976), *no.* 2, 147–158. (Stanley N. Burris) **54** #7354 08A15

EDZ-varieties: the Schreier property and epimorphisms onto. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 2, 281–290. (James B. Nation) **53** #13077 08A15

Endomorphism semigroups and subgroupoid lattices. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp.* 209–212. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam*, 1977. (Evelyn Nelson) **57** #12347 08A25

Varieties of algebras with equationally definable zeros. (Loose Russian summary) *Czechoslovak Math. J.* **27(102)** (1977), *no.* 3, 394–414. (Evelyn Nelson) **56** #11872 08A15

(*with* Kepka, Tomáš) Varieties of Abelian quasigroups. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 3, 473–503. (M. Gould) **56** #8740 20N05 (08A25)

quel, Claude (*with* Genin, Robert) Sur un modèle d'oscillateur non linéaire admettant pour cycle limite un carré. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 23, A1151–A1154. (Authors' summary) **58** #11627 34C05

wski, Donald J. A comparative study of Newtonian, Kustaanheimo/Stiefel, and Sperling/Burdet optimal trajectories. *Celestial Mech.* **12** (1975), *no.* 3, 297–315. (Giorgio E. O. Giacaglia) **53** #9796 70.65

K/S two-point-boundary-value problems. Proceedings of the Fifth Conference on Mathematical Methods in Celestial Mechanics (Oberwolfach, 1975), Part I. *Celestial Mech.* **14** (1976), *no.* 1, 105–111. (Author's summary) **55** #9640 70.49

Optimal N-impulse transfer trajectories using Kustaanheimo/Stiefel variables. *AIAA J.* **15** (1977), *no.* 3, 390–394. (D. F. Lawden) **56** #4978 93C99

(*with* Donaldson, John D.) An element formulation for perturbed motion about the center of mass. *Celestial Mech.* **16** (1977), *no.* 3, 367–387. (Authors' summary) **58** #19510 70.65

or, Anthony M. (*with* Jarvis, John J.) Maximal flow with gains through a special network. *Operations Res.* **20** (1972), 678–688. (I. T. Frisch) **47** #6286 90B10

ita, K. (*with* Bałaban, Tadeusz; Rączka, Ryszard) Canonical quantization of classical nonlinear relativistic field theory. *Lett. Nuovo Cimento* (2) **10** (1974), 705–709. (Not reviewed) 81.46

The canonical structure of a classical theory, quantization procedures and non-equilibrium quantum statistical mechanics. *Current problems in elementary particle and mathematical physics* (*Proc. XV. Internat. Universitätswochen Kernphysik, Univ. Graz, Schladming*, 1976), *pp.* 323–335. *Acta Phys. Austriaca, Suppl. XV, Springer, Vienna*, 1976. (Author's introduction) **58** #25682 82.47

(*with* Bałaban, Tadeusz; Rączka, Ryszard) Second quantization of classical nonlinear relativistic field theory. II. Construction of relativistic interacting local quantum field. *Comm. Math. Phys.* **48** (1976), *no.* 3, 291–311. (Pierre Hillion) **54** #4410 81.46

A. C. (*with* Kumar, M.) Unsymmetrical cruciform crack in a thin circular elastic plate. *Defence Sci. J.* **26** (1976), *no.* 3, 143–152. (F. Erdogan) **57** #4776 73.45

(*with* Srivastava, K. N.; Kumar, M.) An edge crack in a thin semi-circular plate. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 1, 72–83. (M. Sokołowski) **57** #11270 73.45

(*with* Srivastava, K. N.; Kumar, M.) Stress distribution in a thin circular elastic plate containing a Griffith crack embedded in an infinite elastic medium. *Defence Sci. J.* **28** (1978), *no.* 1, 15–24. (Authors' summary) **58** #25284 73.45

A. N. (*with* Rajamani, V. S.) State-estimation in linear distributed parameter systems via boundary measurements containing coloured noise. *Internat. J. Systems Sci.* **8** (1977), *no.* 7, 721–725. (S. G. Tzafestas) **57** #5335 93E10

(*with* Rajamani, V. S.) State estimation in linear distributed systems with time delays via boundary measurements containing coloured noise. *Internat. J. Systems Sci.* **8** (1977), *no.* 10, 1173–1180. (S. G. Tzafestas) **57** #5336 93E10

D. K. (*with* Valatin, J. G.) XY model and algebraic methods. *J. Phys. A* **6** (1973), 1679–1692. (Authors' summary) **50** #15714 81.47

Ganganand Singh Binomial theorem in Hindu mathematics. *Math. Education* **11** (1977), *no.* 3, B55–B58. (R. C. Gupta) **58** #4796 01A25

Kamal Kant Some new results on ε-tensor products of locally convex spaces. *Proc. Indian Acad. Sci. Sect. A* **73** (1971), 179–191. (J. Gil de Lamadrid) **45** #5701 46A05 (46M05)

(*with* Sinha, Balmiki Kumar) Some properties of permanence of ε-tensor products of locally convex spaces. *Progr. Math.* (*Allahabad*) **5** (1971), *no.* 1-2, 1–6. (J. Gil de Lamadrid) **49** #1148 46M05

Analysis of bounded sets in a topological tensor product. *Proc. Indian Acad. Sci. Sect. A* **75** (1972), 176–188. (H. Buchwalter) **46** #7863 46B10 (46M05)

(*with* Jha, Suresh Mohan) Some properties of topological tensor products of quotient and product spaces. *Proc. Nat. Acad. Sci. India Sect. A* **42** (1972), 234–240. **49** #5763 46A05

On the completeness of a topological group of functions. *Collect. Math.* **24** (1973), 123–130. (Ky Fan) **48** #11975 46A30 (22A05)

Some results on the dual of $E \otimes_\varepsilon F$. *Progr. Math.* (*Allahabad*) **7** (1973), *no.* 1, 7–12. (D. J. H. Garling) **49** #5762 46A05

(*with* Prasad, Dwarika) On extension of continuity and application of countability axioms in topological tensor products. *Proc. Indian Acad. Sci. Sect. A* **82** (1975), *no.* 5, 176–183. (N. Tiţa) **52** #15039 46M05

Completeness of the topological groups $m_S(E,F)$. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 5, 564–567. (From the summary) **58** #28250 22A05

Jha, M. N. (*with* Shukla, R.) Unique convergence of sequences in $T_{1\frac{1}{2}}$-space. *Progr. Math.* (*Allahabad*) **9** (1975), *no.* 1, 23–28. (Frank Siwiec) **53** #9141 54D10

(*with* Shukla, R.) 0-sequence and unique convergence in a topological space. *Progr. Math.* (*Allahabad*) **9** (1975), *no.* 2, 9–12. (Ray Gazik) **53** #3974 54A20

Separation axioms between T_0 and T_1. *Progr. Math.* (*Allahabad*) **11** (1977), *no.* 1-2, 1–4. (C. E. Aull) **56** #16568 54D10

Jha, M. P. (*with* Tyagi, B. N.) On construction and analysis of a class of partially balanced asymmetrical factorial designs. *J. Indian Statist. Assoc.* **8** (1970), 37–42. **54** #3995 62K15

Jha, P. (*with* Chariar, V. R.) Isogonal rectilinear congruences. *Nanta Math.* **7** (1974), *no.* 2, 4–8. (R. Miron) **51** #11303 53A25

A four-vertices theorem for ruled surfaces. *Proc. Amer. Math. Soc.* **52** (1975), 343–344. (H. W. Guggenheimer) **51** #11292 53A05

(*with* Chariar, V. R.) Rectilinear congruences and the normal angle. *Progr. Math.* (*Allahabad*) **10** (1976), *no.* 2, 25–28. (J. Hoschek) **55** #3992 53A25

Jha, R. (*with* Mahalanabis, Amarendra K.) On the relative stability of discrete Lurie systems. *Internat. J. Control* (1) **14** (1971), 641–648. (Authors' summary) **47** #1515 93D05

Jha, S. N. A non-standard treatment of some aspects of two variables function theory. *Progr. Math.* (*Allahabad*) **11** (1977), *no.* 1-2, 49–57. (W. A. J. Luxemburg) **56** #8776 26A98 (02H25)

Jha, Suresh Mohan (*with* Jha, Kamal Kant) Some properties of topological tensor products of quotient and product spaces. *Proc. Nat. Acad. Sci. India Sect. A* **42** (1972), 234–240. **49** #5763 46A05

Jha, V. On tangentially transitive translation planes and related systems. *Geometriae Dedicata* **4** (1975), *no.* 2/3/4, 457–483. (T. G. Ostrom) **53** #3869 50D35

Jha, Vishnu Dayal A note on order statistics for discrete heterogeneous populations. *J. Indian Statist. Assoc.* **12** (1974), 21–30. (Herbert T. David) **53** #9507 62G30

Asymptotic distribution concerning discrete order statistics. *Math. Education* **9** (1975), *no.* 2, A29–A32. (E. H. Lehman) **52** #4491 62E20 (62G30)

Linear rank test of independence in the bivariate model of continuous and discrete distributions. *Sankhyā Ser. B* **39** (1977), *no.* 2, 151–159. (Author's summary) **58** #24703 62G10

Jhangiani, V. Geometric significance of the spinor covariant derivative. *Found. Phys.* **7** (1977), *no.* 1/2, 111–120. (Author's summary) **54** #12137 83.53

Jhaveri, Charu S. (*with* Willmore, T. J.) An extension of a result of Bang-Yen Chen. *Quart J. Math. Oxford Ser.* (2) **23** (1972), 319–323. (Bang-yen Chen) **47** #4158 53A10 (53C40)

Jhunjhunwala, N. (*with* Prasad, Jagdish) On approximation of continuous and differentiable functions by Fourier-Jacobi series. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **12(26)** (1971), 95–100. (J. Szabados) **46** #4082 42A08 (41A10, 42A56)

Jiang, Li Shang (*with* Ding, Xia Xi; Lin,Qun; Luo, Pei Zhu) The finite element method for fourth order nonlinear equations. (Chinese) *Acta Math. Sinica* **20** (1977), *no.* 2, 109–118. (Lu-San Chen) **58** #31908 65N30

Jiang, Sheng Some exact solutions of C. N. Yang's equation. (Chinese) *Kexue Tongbao* **21** (1976), *no.* 5, 228–230. (Takayuki Nôno) **54** #4527 83.53

Reduced spinor formalism by means of tetrad calculus with application to Yang's gravitational field equations. (Chinese. English summary) *Acta Phys. Sinica* **26** (1977), *no.* 3, 259–273. (Author's summary) **58** #25785 83.53 (53B15)

Jiang, Yuan Sheng (*with* Tang, Ao Chin) Graph theory of molecular orbitals. *Sci. Sinica* **19** (1976), *no.* 2, 207–226. (Authors' summary) **56** #2112 82.05

Jibladze, N. I. *See* **Džibladze, N. I.**

Jih, Rong Song An n-cube-filling curve. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 2, 333–334. (Morton Brown) **57** #13953 57A15 (54F25)

Jílek, M. On a non-homogeneous birth- and death-process (discrete time). (German summary) *Biometrische Z.* **15** (1973), 485–494. (Author's summary) **54** #8910 60J85

Jílek, Miloš Note on a branching process (contribution to a theory of the immune response). *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *pp.* 365–371. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (D. R. Grey) **51** #1989 60J80

A note on the generalized gamma distribution: the statistic $U=(X-Y)/(X+Y)$. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 309–316. *Reidel, Dordrecht*, 1977. (A. M. Mathai) **58** #7969 62E15

Jílovec, Stanislav On the experience problem. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 291–304. *Academia, Prague*, 1973. (H. E. Reinhardt) **50** #15026 62C05

A note on the characterization of consistently estimable functions. (Czech summary) *Apl. Mat.* **18** (1973), 161–166. (M. D. Perlman) **48** #1366 62E20 (62F10)

On the experience utilization in statistical decisions. *Kybernetika* (*Prague*) **9** (1973), 435–448. (Ja. Kogan (RŽMat **1974** #6 V171)) **51** #11744 62C10

See also **Selected translations in mathematical statistics and probability**, **49** #4730

Jimbo, Ichiro (*with* Tintner, Gerhard) An equilibrium model of economic growth. *Metroecon.* **22** (1970), 1–15. **45** #8233 90A15

Jimbō, Michio (*with* Miwa, Tetsuji; Ōshima, Toshio) Introduction to microlocal analysis. Proceedings of the Oji Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement*, 267–300. (P. Schapira) **56** #9598 58G05 (46F15, 58G15)

(*with* Sato, Mikio; Miwa, Tetsuji; Ōshima, Toshio) Holonomy structure of Landau singularities and Feynman integrals. Proceedings of the Oji Seminar on Algebraic

Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement*, 387–439. (C. S. Sharma) **58** #4099 81.58 (58G15)

(*with* Miwa, Tetsuji) Holonomy structure of Landau singularities. (Japanese) Various problems in algebraic analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 266 (1976), 75–90. (Masatsugu Minami) **58** #4032 81.32 (32C40, 58G05)

(*with* Sato, Mikio; Miwa, Tetsuji) Dimension formula for the Landau singularity. Various problems in algebraic analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 266 (1976), 91–107. (Authors' summary) **57** #8599 81.32 (32C40)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies on holonomic quantum fields. I. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 1, 6–10. (P. D. F. Ion) **58** #32623a 81.58 (15A66, 30A88, 35Q15, 58A15, 58G15, 82.58)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies on holonomic quantum fields. II. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 5, 147–152. (P. D. F. Ion) **58** #32623b 81.58 (15A66, 30A88, 35Q15, 58A15, 58G15, 82.58)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies on holonomic quantum fields. III. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 5, 153–158. (P. D. F. Ion) **58** #32623c 81.58 (15A66, 30A88, 35Q15, 58A15, 58G15, 82.58)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies on holonomic quantum fields. IV. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 6, 183–185. (P. D. F. Ion) **58** #32623d 82.58 (15A66, 30A88, 35Q15, 58A15, 58G15)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies on holonomic quantum fields. V. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 7, 219–224. (P. D. F. Ion) **58** #32623e 81.58 (15A66, 30A88, 35Q15, 58A15, 58G15, 82.58)

(*with* Miwa, Tetsuji) Holonomy construction of Landau singularities. (Japanese) *Sûgaku* **29** (1977), *no.* 3, 234–242. (N. Nakanishi) **58** #8899 81.35 (58G05)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies in holonomic quantum fields. (Japanese) Research on microlocal analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 295 (1977), 77–87. (H. Wakita) **58** #8963 81.58 (58G15)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies on holonomic quantum fields. VI. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 1, 1–5. (P. D. F. Ion) **58** #32623f 81.58 (15A66, 30A88, 35Q15, 58A15, 58G15, 82.58)

(*with* Sato, Mikio; Miwa, Tetsuji) Studies on holonomic quantum fields. VII. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 2, 36–41. (P. D. F. Ion) **58** #32623g 81.58 (15A66, 30A88, 35Q15, 58A15, 58G15, 82.58)

Jimbo, Toshiya (*with* Tsurumi, Kazuyuki; Izuchi, Keiji) Continuity of *H*-derivations on commutative Banach algebras. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **11**, 6–9 (1971). (B. E. Johnson) **46** #4203 46J05

On analytic structures. (Japanese) Function algebras and their applications. *Sûgaku* **28** (1976), *no.* 1, 17–25, 87–95. (Donna Kumagai) **58** #23608 46J10

Some conditions for Dirichlet algebras. *Bull. Nara Univ. Ed. Natur. Sci.* **26** (1977), *no.* 2, 15–18. (Balmohan V. Limaye) **58** #7094 46J10

Jimenez, Alberto J. (*with* Director, Stephen W.) New families of algorithms for solving nonlinear circuit equations. *IEEE Trans. Circuits and Systems* **CAS-25** (1978), *no.* 1, 1–7. (Authors' summary) **57** #14411 65H10 (94A20)

Jiménez, Angel E. (*with* Hajek, Darrell W.) A note on KC Wallman compactifications. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 176–178 (1977). (Richard A. Alò) **55** #1308 54D35

Jiménez, J. (*with* Whitham, Gerald B.) An averaged Lagrangian method for dissipative wavetrains. *Proc. Roy. Soc. London Ser. A* **349** (1976), *no.* 1658, 277–287. (B. Vujanović) **53** #9868 76.49 (70.49)

Jimenez, Luis R. (*with* Myung, Hyo Chul) Direct product decomposition of alternative rings. *Proc. Amer. Math. Soc.* **47** (1975), 53–60. (I. P. Šestakov) **50** #7273 17D05

gonzález Jiménez, Santos *See* **González Jiménez, Santos**

Jiménez Guerra, Pedro Sur une généralisation du théorème de Hahn-Banach. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 1087–1088. (Benno Fuchssteiner) **50** #14169 46A99

(*with* Rodríguez-Salinas, Baltasar) Radon spaces of type $(\mathcal{H})$. (Spanish) *Rev. Real Acad. Ci. Exact. Fís. Natur. Madrid* **69** (1975), *no.* 4, 761–774. (Author's review) **58** #28397 28A30 (46G15)

On the extension of additive functions on pre-ordered semigroups. (Spanish) *Rev. Mat. Hisp.-Amer.* (4) **37** (1977), *no.* 5, 155–165. (B. Rodríguez-Salinas) **57** #17208 46A99

Jimenez Pozo, Miguel A. Sur les opérateurs linéaires positifs et la méthode des fonctions tests. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 149–152. (M. W. Müller) **48** #11861 41A35 (47B37)

Jimi, Sakio (*with* Sugawara, Tamio) Reduced power operations on $H^*(BU(N), Z_p)$ $(p=3)$. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **26** (1972), *no.* 2, 285–291. (J. F. Adams) **53** #14489 55F40

Jinnah, M. I. Reflexive modules over regular local rings. *Arch. Math.* (*Basel*) **26** (1975), *no.* 4, 367–371. (W. V. Vasconcelos) **51** #12837 13H05

A note on *PG*-modules. *Math. Scand.* **37** (1975), *no.* 1, 27–28. (P. Samuel) **52** #8107 13C10

Jirásko, J. Generalized injectivity. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 4, 621–636. (John A. Beachy) **53** #3016 16A52

Jiřička, Josef The number of projective trees with a given number of vertices. *Prague Bull. Math. Linguist. No.* 24 (1975), 51–60. (G. Berman) **55** #5471 05C05 (68A30)

Jiřina, Marcel Some properties of nonlinear circuits and a physical interpretation of the Jacobian. (Czech. English summary) *Apl. Mat.* **18** (1973), 77–82. (Z. Vorel) **47** #5194 26A57 (94A20)

Jiřina, Miloslav Diffusion branching processes with several types of particles. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **18** (1971), 34–46. (P. Jagers) **45** #4514 60J80

Convergence in distribution of random measures. *Ann. Math. Statist.* **43** (1972), 1727–1731. (E. S. Boylan) **50** #14867 60B10

A theorem on breakage-mechanism-branching processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 179–187. (H. Hering) **52** #12111 60J85

On the asymptotic normality of Kendall's rank correlation statistic. *Ann. St* (1976), *no.* 1, 214–215. (Author's summary) **52** #9450 62E20

Extinction of non-homogeneous Galton-Watson processes. *J. Appl. Probab* (1976), *no.* 1, 132–137. (D. R. Grey) **52** #15711 60J80

See also **Dictionary: Czech-Russian, 50** #4202

Jirků, Petr Towards, an integrated theory of formal and natural languages. *Kyber* (*Prague*) **11** (1975), 91–100. (Flavio Previale) **54** #4912 02A05

Jirousek, Jaroslav (*with* Leon, Nicos) A powerful finite element for plate bending. *Comput. Methods Appl. Mech. Engrg.* **12** (1977), *no.* 1, 77–96. (Authors' sum **56** #17379 73.65

Jiroušek, Radim Heuristic methods of construction of sequential questionnaire. *Kybernetika* (*Prague*) **11** (1975), *no.* 4, 253–270. (M. Terrenoire) **53** #15559

Jiroušková, Marie Distribution of zeros of solutions of certain periodic differential equations. *Arch. Math.* (*Brno*) **13** (1977), *no.* 2, 97–103. (G. J. Butler) **58** #17 34C10

Jitapunkul, Somshai (*with* Sidériadès, Lefteri; Hayek, Alfred) Sur deux exemples numériques de récurrences conservatives du deuxième ordre. *C. R. Acad. Sci. Par A-B* **284** (1977), *no.* 4, A261–A264. (Authors' summary) **55** #2266 93D05

Jitsukawa, Yukio (*with* Nakano, Takeo; Endo, Mikihiko) Arithmetic in block desig *Comment. Math. Univ. St. Paul.* **24** (1975/76), *no.* 1, 27–46. (Sanpei Kage **56** #15457 05B05

Jittorntrum, Krisorn (*with* Osborne, Michael R.) Trajectory analysis and extrapolati barrier function methods. *J. Austral. Math. Soc. Ser. B* **20** (1977/78), *no.* 3, 352 (Shih Ping Han) **58** #26011 90C30

de Jiulio, S. (*with* Cioffi, G.; Costantini, E.) A new approach to the decompositi sequential systems. (French and German summaries) *Digital Process.* **3** (1977), 35–48. (Authors' summary) **58** #26597 94A25

Joachain, Charles J. (*with* Quigg, C.) Multiple scattering expansions in several pa dynamics. *Rev. Modern Phys.* **46** (1974), 279–324. (Not reviewed) 81.35

Joachim, Egon Projektive Darstellungen, zentral-zyklische Gruppenerweiterungen und Einbettungsprobleme in der Galoistheorie. *Bonn. Math. Schr. No.* 41 (1969), iv+6 (Editors) **45** #1883 12A55

Joanes, D. N. Sequential tests of composite hypotheses. *Biometrika* **59** (1972), 633- (W. Hoeffding) **48** #12754 (E **50** #15201) 62L10

(*with* Peers, H. W.) On the sampling properties of Bayesian point estimator *Amer. Statist. Assoc.* **69** (1974), 560–564. (Mir Ali) **50** #8817 62F15

Corrections and amendments: "Sequential tests of composite hypotheses" (Biometrika **59** (1972), 633–637). *Biometrika* **62** (1975), 221. (W. Hoeffding) **50** #1 62L10

Jobe, John Dendrites, dimension, and the inverse arc function. *Pacific J. Math.* **45** (1 245–256. (W. Kuperberg) **47** #7715 54F50

Wide tree-like spaces have a fixed point. *Fund. Math.* **89** (1975), *no.* 1, 51–60. (Vaughan, Jr.) **52** #4251 54F20

Jobert, Georges (*with* Cisternas, Armando) Problème inverse des foyers sismiques pou réseau local tridimensionnel. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* (1977), *no.* 5, B69–B72. (Authors' summary) **55** #2050 86.41

Jobin, Marie-Thérèse *See* **Kohler-Jobin, Marie-Thérèse**

Jocić, Ljubomir B. (*with* Ribbens-Pavella, Mania; Šiljak, Dragoslav D.) Multimac power systems: stability, decomposition, and aggregation. *IEEE Trans. Auton Control* **AC-23** (1978), *no.* 2, 325–332. (Authors' summary) **58** #15506 93D05

Jockusch, Carl G., Jr. Degrees in which the recursive sets are uniformly recursive. *Ca J. Math.* **24** (1972), 1092–1099. (R. Platek) **48** #83 02F30

Ramsey's theorem and recursion theory. *J. Symbolic Logic* **37** (1972), 268– (John W. Berry) **51** #12495 02F35 (02F50)

A reducibility arising from the Boone groups. *Math. Scand.* **31** (1972), 262– (1973). (J. L. Gersting) **48** #78 02F25 (02F47)

(*with* Soare, Robert I.) Degrees of members of Π_1^0 classes. *Pacific J. Math* (1972), 605–616. (M. Machtey) **46** #8827 02F40

(*with* Soare, Robert I.) Π_1^0 classes and degrees of theories. *Trans. Amer. Math.* **173** (1972), 33–56. (S. Feferman) **47** #4775 02F30 (02F35, 02G05)

Upward closure of bi-immune degrees. *Z. Math. Logik Grundlagen Math.* **18** (19 285–287. (J. L. Gersting) **46** #1574 02F20

Upward closure and cohesive degrees. *Israel J. Math.* **15** (1973), 332–335. (L. H **50** #76 02F30

An application of Σ_4^0 determinacy to the degrees of unsolvability. *J. Symbolic L* **38** (1973), 293–294. (S. K. Thomason) **48** #10786 02F30

(*with* Soare, Robert I.) Encodability of Kleene's *O*. *J. Symbolic Logic* **38** (19 437–440. (J. C. Owings, Jr.) **51** #97 02F30

(*with* Soare, Robert I.) Post's problem and his hypersimple set. *J. Symbolic Lo* **38** (1973), 446–452. (Manuel Lerman) **49** #2313 02F25

Π_1^0 classes and Boolean combinations of recursively enumerable sets. *J. Symb Logic* **39** (1974), 95–96. (Manuel Lerman) **49** #8834 02F25

Recursiveness of initial segments of Kleene's *O*. *Fund. Math.* **87** (1975), 161– (Zbl **338** #02024) **58** #189 02F43

(*with* Cohen, Paul F.) A lattice property of Post's simple set. *Illinois J. Math.* (1975), 450–453. (A. N. Dëgtev) **52** #10388 02F25

(*with* Simpson, Stephen G.) A degree-theoretic definition of the ramified analyt hierarchy. *Ann. Math. Logic* **10** (1976), *no.* 1, 1–32. (G. E. Sacks) **58** #10370 02F

(*with* Paterson, Michael S.) Completely autoreducible degrees. *Z. Math. Lo Grundlagen Math.* **22** (1976), *no.* 6, 571–575. (Manuel Lerman) **56** #107 02F30

Simple proofs of some theorems on high degrees of unsolvability. *Canad. J. Ma* **29** (1977), *no.* 5, 1072–1080. (Igor Lavrov) **57** #16023 02F30

(*with* Henson, C. Ward; Rubel, Lee A.; Takeuti, Gaisi) First order topolog *Dissertationes Math.* (*Rozprawy Mat.*) **143** (1977), 40 *pp.* (Frank Wattenberg) **55** #54 02H15 (54J05, 54H99)

(*with* Solovay, Robert M.) Fixed points of jump preserving automorphisms degrees. *Israel J. Math.* **26** (1977), *no.* 1, 91–94. (A. H. Lachlan) **55** #5422 02F

Jodeit, Max, Jr. (*with* Fabes, Eugene B.) Boundary value problems for second-ord parabolic equations. *Singular integrals* (*Proc. Sympos. Pure Math., Chicago, Ill.*, 196 *pp.* 82–105. *Amer. Math. Soc., Providence, R.I.*, 1967. (V. S. Rabinovič) **51** #13410 (E

51) 35K20 (47G05, 58G15)

(*with* Torchinsky, Alberto) Inequalities for Fourier transforms. *Studia Math.* **37** (1970/71), 245–276. (G. O. Okikiolu) **45** #9121 46E30 (42A68)

(*with* Fefferman, Charles L.; Perlman, Michael D.) A spherical surface measure inequality for convex sets. *Proc. Amer. Math. Soc.* **33** (1972), 114–119. (A. Florian) **45** #2577 52A40

An inequality for the indefinite integral of a function in L^q. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, VI. *Studia Math.* **44** (1972), 545–554. (R. Rao Chivukula) **49** #5805 46E30 (26A84)

(*with* Fabes, Eugene B.; Lewis, Jeff E.) On the spectra of a Hardy kernel. *J. Functional Analysis* **21** (1976), *no.* 2, 187–194. (G. O. Okikiolu) **52** #15114 47G05 (44A15)

(*with* Fink, A. M.) A generalization of the arithmetic-geometric means inequality. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 2, 255–261 (1977). (E. F. Beckenbach) **55** #595 26A86

(*with* Fabes, Eugene B.; Lewis, Jeff E.) Double layer potentials for domains with corners and edges. *Indiana Univ. Math. J.* **26** (1977), *no.* 1, 95–114. (David R. Adams) **55** #5879 (EA **55/56**) 31A25

(*with* Calderón, Alberto P.; Calderón, Calixto P.; Fabes, Eugene B.; Rivière, Néstor M.) Applications of the Cauchy integral on Lipschitz curves. *Bull. Amer. Math. Soc.* **84** (1978), *no.* 2, 287–290. (C. Tanaka) **57** #649 30A86 (44A25, 31B20)

Joel, Lambert S. The convex hull of the transposition matrices. *J. Res. Nat. Bur. Standards Sect. B* **78B** (1974), 137–138. (R. A. Brualdi) **50** #9916 15A51

(*with* Shier, Douglas R.; Stein, Marjorie L.) Planes, cubes and center-representable polytopes. *Amer. Math. Monthly* **84** (1977), *no.* 5, 360–363. (D. Barnette) **57** #10606 52A25

Joffe, Anatole (*with* Moncayo, Alberto) Random variables, trees, and branching random walks. *Advances in Math.* **10**, 401–416 (1973). (H. Kesten) **47** #7827 60J80

(*with* Moncayo, Alberto) On sums of independent random variables defined on a binary tree. *Bol. Soc. Mat. Mexicana* (2) **18** (1973), 50–54. (A. V. Nagaev) **49** #9906 60F05 (60J80)

(*with* Moncayo, Alberto) Asymptotic theorems for sums of independent random variables defined on a tree. *Bull. Amer. Math. Soc.* **79** (1973), 1220–1222. (F. Papangelou) **48** #9809 60F05

(*with* Lecam, L.; Neveu, Jacques) Sur la loi des grands nombres pour des variables aléatoires de Bernoulli attachées à un arbre dyadique. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A963–A964. (J. E. A. Dunnage) **49** #6318 60F05

On a set of almost deterministic k-independent random variables. *Ann. Probability* **2** (1974), *no.* 1, 161–162. (W. A. Woyczyński) **50** #8621 60A05

(*with* Fleischer, Isidore) Perturbation des produits infinis et applications. *J. Analyse Math.* **31** (1977), 69–75. (Bùi-Trong-Liêû) **58** #18741a 60J35 (40A20)

(*with* Fleischer, Isidore) Corrections to: "Perturbation des produits infinis et applications". *J. Analyse Math.* **32** (1977), 279. (Bùi-Trong-Liêû) **58** #18741b 60J35

Joffe, Ruth *See* **Proceedings: International Meeting of the Institute of Management Sciences**, **54** #2161 *and* **Proceedings: International Meeting of the Institute of Management Sciences**, **54** #2162

Jofre, Gustavo Avello Le module semi-bornologique associé à un module topologique. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 607–608. (H. Hogbe-Nlend) **49** #11191 46A09

Jogdeo, Kumar An inequality for a strict unimodal function with an application to a characterization of independence. *Sankhyā Ser. A* **32** (1970), 405–410. (Author's summary) **45** #1314 62H99

(*with* Dharmadhikari, S. W.) A characterization of convexity and central symmetry for planar polygonal sets. *Israel J. Math.* **15** (1973), 356–366. (Bernd Kind) **48** #12289 52A10

(*with* Dharmadhikari, S. W.) Some results on the kernel of a set. *J. Math. Anal. Appl.* **44** (1973), 187–191. (F. A. Valentine) **48** #7114 52A05

(*with* Dharmadhikari, S. W.) Convolutions of α-modal distributions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **30** (1974), 203–208. (Stephen James Wolfe) **51** #11618 60E05

(*with* Jain, Naresh C.; Stout, William F.) Upper and lower functions for martingales and mixing processes. *Ann. Probability* **3** (1975), 119–145. (M. Métivier) **51** #4372 60G45 (60B10, 60G10)

(*with* Molenaar, W.) Δ-monotone arrangements of real numbers. *J. Number Theory* **7** (1975), 28–32. (Michael Henle) **50** #12739 05A05

(*with* Patil, G. P.) Probability inequalities for certain multivariate discrete distribution. *Sankhyā Ser. B* **37** (1975), *no.* 2, 158–164. (Authors' summary) **58** #31579 62H05 (60E05)

(*with* Dharmadhikari, S. W.) On characterizations of unimodality of discrete distributions. *Ann. Inst. Statist. Math.* **28** (1976), *no.* 1, 9–18. (Stephen James Wolfe) **55** #11339 60E05

(*with* Dharmadhikari, S. W.) Multivariate unimodality. *Ann. Statist.* **4** (1976), *no.* 3, 607–613. (Rashid Ahmad) **54** #3799 60E05

Association and probability inequalities. *Ann. Statist.* **5** (1977), *no.* 3, 495–504. (Z. Šidák) **56** #7008 62H05 (26A86)

On a probability bound of Marshall and Olkin. *Ann. Statist.* **6** (1978), *no.* 1, 232–234. (Peter Flusser) **56** #16930 62H99 (26A86)

See also **Wollan, G. N.**, **46** #3249

Jogesh Babu, G. *See* **Babu, Gutti Jogesh**

Jõgi, A. (*with* Levin, M. I.) A certain special problem for a quadrature formula. (Russian. German summary) Mathematics and theoretical mechanics, VI. *Tallin. Polütehn. Inst. Toimetised Seer. A No.* 312 (1971), 89–93. (Walter Gautschi) **53** #11972 65D30

A generalization of some results on best quadrature formulas. (Russian. Estonian and German summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 358–364. (D. D. Stancu) **49** #5638 41A05 (65D30)

(*with* Levin, M. I.; Levina, M.) On the optimal cubature formulas. *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 1, 117–120. (See Zbl **303** #65024) 65D30

A certain problem of Kronrod and Levin for quadrature formulas. (Russian. English and loose Russian summaries) *Tallin. Polütehn. Inst. Toimetised No.* 373 (1975), 11–18. (D. D. Stancu) **54** #1554 65D30

Joglekar, Satish D. (*with* Lee, Benjamin W.) General theory of renormalization of gauge invariant operators. *Ann. Physics* **97** (1976), *no.* 1, 160–215. (Franco Strocchi) **55** #1980 81.47

Local operator products in gauge theories. I. *Ann. Physics* **108** (1977), *no.* 2, 233–287. (John McEwan) **58** #25588a 81.47

Local operator products in gauge theories. II. *Ann. Physics* **109** (1977), *no.* 1, 210–241. (John McEwan) **58** #25588b 81.47

Johannessen, Dag Magne (*with* Søhus, Trond Vincent) On unit fractions. (Norwegian. English summary) *Nordisk Mat. Tidskr.* **22** (1974), 103–107, 135. (E. Frank) **55** #252 10A30

Johannesson, Rolf On the error probability of general trellis codes with applications to sequential decoding. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 5, 609–611. (S. Guiau) **56** #15156 94A15

Johannson, Klaus Équivalences d'homotopie des variétés de dimension 3. *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 23, Ai, A1009–A1010. (H. B. Griffiths) **52** #11918 57A10

Johansen, Leif Simple and general nonsubstitution theorems for input-output models. *J. Econom. Theory* **5** (1972), *no.* 3, 383–394. (From the author's introduction) **56** #7842 90A15

Johansen, Peter (*with* Meiling, Erik) Free groups in Lindenmayer systems. *L systems* (*Third Open House, Comput. Sci. Dept., Aarhus Univ., Aarhus*, 1974), *pp.* 162–176, 327–338. *Lecture Notes in Computer Science, Vol.* 15, *Springer, Berlin*, 1974. (Hermann Walter) **54** #11858 68A30

Commutator calculus and L systems. *Automata, languages, development, pp.* 203–210. *North-Holland, Amsterdam*, 1976. (Juhani Karkumäki) **57** #8182 68A30

Johansen, Søren A representation theorem for a convex cone of quasi convex functions. *Math. Scand.* **30** (1972), 297–312. (Alexander M. Rubinov) **47** #5192 26A51 (62F10)

(*with* Goodman, Gerald S.) Kolmogorov's differential equations for non-stationary, countable state Markov processes with uniformly continuous transition probabilities. *Proc. Cambridge Philos. Soc.* **73** (1973), 119–138. (D. A. Darling) **46** #10080 60J35

A central limit theorem for finite semigroups and its application to the imbedding problem for finite state Markov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 171–190. (Terence P. Speed) **48** #9852 60J10 (60B15)

The bang-bang problem for stochastic matrices. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 191–195. (Terence P. Speed) **48** #9853 60J10 (60B15)

Some results on the imbedding problem for finite Markov chains. *J. London Math. Soc.* (2) **8** (1974), 345–351. (Terence P. Speed) **50** #11458 60J10

The extremal convex functions. *Math. Scand.* **34** (1974), 61–68. (H. W. Guggenheimer) **49** #11242 46E99 (26A51)

Homomorphisms and general exponential families. *Recent developments in statistics* (*Proc. European Meeting statisticians, Grenoble*, 1976), *pp.* 489–499. *North-Holland, Amsterdam*, 1977. (J. L. Soler) **57** #4383 62A99

Some remarks on M-ancillarity. *Scand. J. Statist.* **4** (1977), *no.* 4, 181–182. (R. J. Buehler) **57** #1719 62B10 (62A99)

See also **Bickel, Peter J.**, **55** #1610 *and* **Torgersen, Erik Nikolai**, **55** #9348

Johanson, Arnold A. A proof of Hume's separation thesis based on a formal system for descriptive and normative statements. *Theory and Decision* **3** (1973), *no.* 4, 339–350. (Douglas Walton) **55** #12451 02A05 (02C10)

(*with* Beehler, Jerry R.) Semigroups and the structure of categories. *Math. Slovaca* **26** (1976), *no.* 3, 207–216. (C. Năstăsescu) **57** #402 18B10 (20M99)

Johansson, B. G. On convergence of spectral sequences. *Math. Scand.* **31** (1972), 89–102. (S. Gitler) **48** #4078 18G40

Johansson, Ingebrigt *See* **Nemesszeghy, E. A.**, **56** #2791

Johansson, Ulf (*with* Ericson, Thomas) A general time-discrete equivalent to a time-continuous Gaussian channel. *IEEE Trans. Information Theory* **IT-20** (1974), 544–548. (Ezio M. Biglieri) **53** #15536 94A05

Johari, R. S. A theorem on the Hankel transform. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **16** (1973), 13–16. (R. S. Dahiya) **48** #6834 44A20

On a property of the Laplace transform. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **19** (1976), *no.* 4, 331–334. (Atuna Srivastava) **55** #8703 44A10

Johari, Shyam Asymptotic behaviour of the solution to a class of nonlinear Volterra integral equations. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 4, 390–409. (Robert L. Wheeler) **55** #13187 45D05

(*with* Sclove, Stanley L.) Partitioning a distribution. *Comm. Statist.–Theory Methods* **A5** (1976), *no.* 2, 133–147. (Authors' summary) **55** #1569 62E99 (62P15, 62B10)

John, C. W. *See* **Duvaut, Georges; et al.**, **58** #25191

John, Chester C., Jr. A theorem on free envelopes. *Semigroup Forum* **9** (1974/75), *no.* 1, 74–75. (P.-A. Grillet) **53** #664 20M10

John, Fritz Plane waves of finite amplitude. *Advances in differential and integral equations* (*Conf. Qualitative Theory of Nonlinear Differential and Integral Equations, Univ. Wisconsin. Madison, Wis.*, 1968; *in memoriam Rudolph E. Langer* (1894–1968)), *pp.* 14–19. *Studies in Appl. Math., No.* 5, *Soc. Indust. Appl. Math., Philadelphia, Pa.*, 1969. (Joseph J. Roseman) **51** #12078 73.35

★Partial differential equations. Applied Mathematical Sciences, Vol. 1. *Springer-Verlag, New York-Berlin*, 1971. viii+221 *pp.* (B. Hellwig) **46** #3960 35-01

Refined interior equations for thin elastic shells. *Comm. Pure Appl. Math.* **24** (1971), 583–615. (F. Odeh) **45** #1445 73.35

The transition from thin plate to membrane in the case of a plate under uniform tension. *Continuum mechanics and related problems of analysis* (*on the occasion of the eightieth birthday of Academician N. I. Mushelišvili*) (*Russian*), *pp.* 193–201. *Izdat. "Nauka", Moscow*, 1972. (R. J. Knops) **52** #2328 73.35

Bounds for deformations in terms of average strains. *Inequalities, III* (*Proc. Third Sympos., Univ. California, Los Angeles, Calif.*, 1969; *dedicated to the memory of Theodore S. Motzkin*), *pp.* 129–144. *Academic Press, New York*, 1972. (G. V. Welland) **49** #9131 26A60

Note on the paper "On quasi-isometric mappings. I". *Comm. Pure Appl. Math.* **25** (1972), 497. (Editors) **46** #715 47B99

Uniqueness of non-linear elastic equilibrium for prescribed boundary displacements and sufficiently small strains. *Comm. Pure Appl. Math.* **25** (1972), 617–634. (Joseph J. Roseman) **47** #3857 35Q99 (73.35)

Formation of singularities in one-dimensional nonlinear wave propagation. *Comm. Pure Appl. Math.* **27** (1974), 377–405. (E. D. Conway) **51** #6163 35L45

Functions whose gradients are bounded by the reciprocal of the distance to the boundary of the domain of definition. (Russian) Translated from the English by B. P. Panejah. Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ (1901–1973), I. *Uspehi Mat. Nauk* **29** (1974), *no.* 2(176), 166–171. (J. Albrycht) **53** #8340 26A12

★Partial differential equations. Second edition. Applied mathematical sciences, Vol. 1. *Springer-Verlag, New York-Heidelberg*, 1975. viii + 250 *pp.* (Editors) **50** #2655 35–02

A priori estimates, geometric effects and asymptotic behavior. *Bull. Amer. Math. Soc.* **81** (1975), *no.* 6, 1013–1023. (Clarence M. Ablow) **52** #6156 35B45 (35Q99)

The transition from thin plate to membrane in the equations of von Karman-Föppl. (Italian summary) Collection of articles dedicated to Mauro Picone on the occasion of his ninetieth birthday, II. *Rend. Mat.* (6) **8** (1975), *no.* 2, 619–632. (J. W. Craggs) **52** #16223 73.35

Wave propagation. *Trends in applications of pure mathematics to mechanics* (*Conf. Univ. Lecce, Lecce,* 1975), *pp.* 175–185. *Monographs and Studies in Math., Vol.* 2, *Pitman, London,* 1976. (H. Kumano-go) **58** #1680 35L45 (35Q99)

A criterion for univalency brought up to date. *Comm. Pure Appl. Math.* **29** (1976), *no.* 3, 293–295. (Paul Eenigenburg) **54** #10592 30A36

Delayed singularity formation in solutions of nonlinear wave equations in higher dimensions. *Comm. Pure Appl. Math.* **29** (1976), *no.* 6, 649–682. (Alan Jeffrey) **55** #8570 35L25

Delayed singularity formation for solutions of nonlinear partial differential equations in higher dimensions. *Proc. Nat. Acad. Sci. U.S.A.* **73** (1976), *no.* 2, 281–282. (Howard A. Levine) **52** #11343 35L60

Finite amplitude waves in a homogeneous isotropic elastic solid. *Comm. Pure Appl. Math.* **30** (1977), *no.* 4, 421–446. (J. Dunwoody) **56** #4334 73.35

Restrictions on the coefficients of hyperbolic systems of partial differential equations. *Proc. Nat. Acad. Sci. U.S.A.* **74** (1977), *no.* 10, 4150–4151. (R. Glassey) **56** #6130 35L55

See also **Tihonov, A. N.; et al., 56** #13604

John, J. A. (*with* Smith, T. M. F.) Two factor experiments in non-orthogonal designs. (French summary) Proceedings of the 38th Session of the International Statistical Institute (Washington, D.C., 1971), Vol. 2. *Bull. Inst. Internat. Statist.* **44** (1971), *no.* 2, 224–228. (D. V. Chopra) **52** #12251 62K15

(*with* Smith, T. M. F.) Two-factor experiments in non-orthogonal designs. *J. Roy. Statist. Soc. Ser. B* **34** (1972), 401–409. (H. L. Harter) **49** #6519 62K15

Factorial experiments in cyclic designs. *Ann. Statist.* **1** (1973), 188–194. (D. A. Sprott) **49** #10089 62K15

Generalized cyclic designs in factorial experiments. *Biometrika* **60** (1973), 55–63. (E. Seiden) **51** #4581 62K15

(*with* Cotter, Sarah C.; Smith, T. M. F.) Multi-factor experiments in non-orthogonal designs. *J. Roy. Statist. Soc. Ser. B* **35** (1973), 361–367. (C. G. Bhattacharya) **51** #7185 62K15

(*with* Smith, T. M. F.) Sum of squares in non-full rank general linear hypotheses. *J. Roy. Statist. Soc. Ser. B* **36** (1974), 107–108. (G. Manija) **50** #15176 62J05

(*with* Dean, A. M.) Single replicate factorial experiments in generalized cyclic designs. I. Symmetrical arrangements. *J. Roy. Statist. Soc. Ser. B* **37** (1975), 63–71. (U. B. Paik) **51** #4582 62K15

(*with* Dean, A. M.) Single replicate factorial experiments in generalized cyclic designs. II. Asymmetrical arrangements. *J. Roy. Statist. Soc. Ser. B* **37** (1975), 72–76. (U. B. Paik) **51** #4583 62K15

(*with* Lewis, S. M.) Testing main effects in fractions of asymmetrical factorial experiments. *Biometrika* **63** (1976), *no.* 3, 678–680. (M. N. Das) **57** #17978 62K15

(*with* Williams, E. R.; Patterson, H. D.) Resolvable designs with two replications. *J. Roy. Statist. Soc. Ser. B* **38** (1976), *no.* 3, 296–301. (Authors' summary) **58** #31643 62K10

(*with* Mitchell, Toby J.) Optimal incomplete block designs. *J. Roy. Statist. Soc. Ser. B* **39** (1977), *no.* 1, 39–43. (J. Kiefer) **58** #18933 62K05 (05B05)

John, Kamil Schwartz spaces consistent with a duality. *Comment. Math. Univ. Carolinae* **12** (1971), 15–17. (S. Heckscher) **45** #2438 46A20

A remark on Schwartz spaces consistent with a duality. *Comment. Math. Univ. Carolinae* **12** (1971), 533–536. (S. Heckscher) **45** #2439 46A20

(*with* Zizler, Václav) A renorming of dual spaces. *Israel J. Math.* **12** (1972), 331–336. (W. R. Transue) **49** #9592 46B05

(*with* Zizler, Václav) A note on renorming of dual spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 47–50. (J. Diestel) **47** #9246 46B05

Some remarks on compact maps in Banach spaces. *Czechoslovak Math. J.* **23(98)** (1973), 177–182. (Tosun Terzioğlu) **47** #5640 47B05

(*with* Zizler, Václav) Projections in dual weakly compactly generated Banach spaces. *Studia Math.* **49** (1973), 41–50. (G. J. O. Jameson) **49** #1071 46B05

(*with* Zizler, Václav) Duals of Banach spaces which admit nontrivial smooth functions. *Bull. Austral. Math. Soc.* **11** (1974), 161–166. (G. Marinescu) **53** #1225 46B10 (46G05)

(*with* Zizler, Václav) Some remarks on non-separable Banach spaces with Markuševič basis. *Comment. Math. Univ. Carolinae* **15** (1974), 679–691. (T. A. Cook) **51** #8796 46B15

(*with* Zizler, Václav) Smoothness and its equivalents in weakly compactly generated Banach spaces. *J. Functional Analysis* **15** (1974), 1–11. (T. Figiel) **54** #5807 46B05

(*with* Zizler, Václav) On the heredity of weak compact generating. *Israel J. Math.* **20** (1975), *no.* 3-4, 228–236. (A. J. Lazar) **52** #1269 46B10

(*with* Zizler, Václav) Markuševič bases in some dual spaces. *Proc. Amer. Math. Soc.* **50** (1975), 293–296. (William B. Johnson) **51** #6369 46B15

(*with* Zizler, Václav) Weak compact generating in duality. *Studia Math.* **54** (1975/76), *no.* 1, 1–20. (Y. Benyamini) **53** #8867 46B10

(*with* Zizler, Václav) A note on renorming of Banach spaces decomposab nto certain operator ranges. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 247–2 (M. I. Kadec) **54** #11032 46B05

(*with* Zizler, Václav) On extension of rotund norms. *Bull. Acad. Polon. S Ser Sci. Math. Astronom. Phys.* **24** (1976), *no.* 9, 705–707. (Roy M. Rakestraw) **55** # 46B05

(*with* Zizler, Václav) A note on strong differentiability spaces. *Comment. ath Univ. Carolinae* **17** (1976), *no.* 1, 127–134. (J. Diestel) **53** #6289 46B05 (58C

(*with* Zizler, Václav) Some notes on Markuševič bases in weakly compactly generated Banach spaces. *Compositio Math.* **35** (1977), *no.* 2, 113–123. (T. **57** #3832 46B15

(*with* Zizler, Václav) Gâteaux smooth partitions of unity on weakly com ctly generated Banach spaces. *Studia Math.* **60** (1977), *no.* 2, 131–135. (Sadayuki Yamamuro) **55** #11294 (EA **55/56**) 58C20

John, Oldřich (*with* Fučík, Svatopluk; Nečas, Jindřich) On the existence of Sch der bases in Sobolev spaces. *Comment. Math. Univ. Carolinae* **13** (1972), 163–1 (J Horváth) **46** #6011 46E35 (46B15)

(*with* Stará, Jana) Regularity results for non linear integro-differential opera in two dimensions. *Theory of nonlinear operators* (*Proc. Summer School, Neuendorf,*) *pp.* 117–123. *Schr. Zentralinst. Math. Mech.Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin,* 1974. (J. Frehse) **53** #3493 35J35 (47G05)

On the solution of the displacement boundary-value problem for elastic-in tic materials. (Czech summary) *Apl. Mat.* **19** (1974), 61–71. (Joseph J. Roseman) **49** #11920 73.35

(*with* Nečas, Jindřich) On the solvability of von Kármán equations. (Czech summary) *Apl. Mat.* **20** (1975), 48–62. (Clarence M. Ablow) **52** #1000 35J65

(*with* Naumann, J.) On regularity of variational solutions of the von Ká ár equations. *Math. Nachr.* **71** (1976), 23–36. (M. Schechter) **54** #3151 35J40

(*with* Kufner, Alois; Fučík, Svatopluk) ★Function spaces. Monographs and Textbooks on Mechanics of Solids and Fluids; Mechanics: Analysis. *Noordhoff International Publishing, Leyden*; *Academia, Prague*, 1977. xv + 454 *pp.* *ISBN* 90-286-0015-9 (Richard Bagby) **58** #2189 46Exx

On Signorini problem for von Kármán equations. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 1, 52–68. (Clarence M. Ablow) **56** #12 35J65

John, Peter W. M. Balanced saturated main effects plans for 2^n designs. (French summ y) Proceedings of the 39th Session of the International Statistical Institute (Vienna,). Vol. 1. *Bull. Inst. Internat. Statist.* **45** (1973), *no.* 1, 564–569. (D. V. Chopra) **51** #1 62K15

A balanced design for 18 varieties. *Technometrics* **15** (1973), 641–642. **48** #74 62K10

(*with* Hedayat, A.) Resistant and susceptible BIB designs. *Ann. Statist.* **2** (1), 148–158. (I. M. Chakravarti) **49** #10086 62K10

Isomorphic $L_2(7)$ designs. *Ann. Statist.* **3** (1975), 728–729. (Damaraju Raghav) **51** #9392 62K10 (05B05)

Inequalities for semiregular group divisible designs. *Ann. Statist.* **4** (1976), *n* 956–959. (S. S. Shrikhande) **54** #7280 05B05 (62K10)

Robustness of balanced incomplete block designs. *Ann. Statist.* **4** (1976), *n* 960–962. (A. Hedayat) **54** #14255 62K10

Series of semiregular group divisible designs. *Comm. Statist.—Theory Methods* **6** (1977), *no.* 14, 1385–1392. (A. K. Nigam) **58** #13534 62K10

Nonisomorphic difference sets for $V = 31$. *Sankhyā Ser. B* **39** (1977), *no.* 3, 292–293. (Author's summary) **58** #27551 05B05 (62K10)

A note on a finite population plan. *Ann. Statist.* **6** (1978), *no.* 3, 697–699. Vijayan) **57** #4392 62D05 (62K10)

See also **Optimizing methods in statistics, 48** #9900 *and* **Survey of statistical de and linear models, 51** #2039

John, R. W. Explizite Darstellungsformeln Greenscher Funktionen von kovarianten Wellengleichungen im schwachen Gravitationsfeld. I. Skalare D'Alembert-Gleichu (English summary) *Ann. Physik* (7) **29** (1973), *no.* 1, 15–26. (Kotik K. Lee) **52** #742 83.35

Explizite Darstellungsformeln Greenscher Funktionen von kovarianten Wellengleichungen im schwachen Gravitationsfeld. II. Linearisierte Einsteinsche Gravitationsgleichungen. (English summary) *Ann. Physik* (7) **29** (1973), *no.* 1, 27– (Kotik K. Lee) **52** #7429 83.35

Darstellungsformeln erster Näherung für Greensche Funktionen von Wellengleichungen in Riemannscher Raum-Zeit. (English summary) *Math. Nachr.* (1974), 109–129. (Author's summary) **58** #23089 35L05 (83.35)

Der geodätische Abstand in einer Riemannschen Raum-Zeit in zweiter nach-Minkowskischer Näherung. *Z. Angew. Math. Mech.* **54** (1974), 737–740. (RŽMat **1975** #6 A847) 83.53

st. John, Ralph C. *See* **St. John, Ralph C.**

John, Reinhard On classes of algebras definable by regular equations. *Colloq. Math.* (1976), *no.* 1, 17–21. (Manfred Armbrust) **54** #12604 08A15

A note on implicational subcategories. *Contributions to universal algebra* (*Coll József Attila Univ., Szeged,* 1975), *pp.* 213–222. *Colloq. Math. Soc. János Bolyai, Vol. North-Holland, Amsterdam,* 1977. (From the introduction) **58** #28119 18A20

Gültigkeitsbegriffe für Gleichungen in partiellen Algebren. *Math. Z.* **159** (1978), 1, 25–35. (Hartmut Höft) **57** #12348 08A25

John, S. A test of equality of block-diagonal covariance matrices and its role of unification. *J. Roy. Statist. Soc. Ser. B* **33** (1971), 301–306. (P. K. Sen) **47** #4392 62H15

The distribution of a statistic used for testing sphericity of normal distribution *Biometrika* **59** (1972), 169–173. (I. Olkin) **47** #1175 62H10

On inferring the probability of misclassification by the linear discriminant functio *Ann. Inst. Statist. Math.* **25** (1973), 363–372. (H. Chernoff) **50** #1418 62H30

Critical values for inference about normal dispersion. *Austral. J. Statist.* **15** (197

71–79. (I. I. Kotlarski) **51** #2095 62F05 (62Q05)

Acceptability and statistical inference. *Biometrika* **61** (1974), 285–290. (R. J. Buehler) **51** #7068 62A10

Median-unbiased most acceptable estimates of Poisson, binomial and negative-binomial distributions. *Comm. Statist.* **3** (1974), 1155–1159. (R. J. Buehler) **51** #4515 62F10

Fitting sampling distribution agreeing in support and moments and tables of critical values of sphericity criterion. *J. Multivariate Anal.* **6** (1976), *no.* 4, 601–607. (Dennis L. Young) **55** #6639 62E15 (62H10)

nen, Hans Best approximation on the unitary group. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf., Tihany*, 1970), *pp.* 295–303. *Colloq. Math. Soc. János Bolyai*, 5, *North-Holland, Amsterdam*, 1972. (D. L. Ragozin) **52** #14789 41A65

Sätze vom Jackson-Typ auf Darstellungsräumen kompakter, zusammenhängender Liegruppen. *Linear operators and approximation* (*Proc. Conf., Oberwolfach*, 1971), *pp.* 254–272. *Internat. Ser. Numer. Math., Vol.* 20, *Birkhäuser, Basel*, 1972. (W. Trebels) **51** #8711 41A65

Darstellungen von Liegruppen und Approximationsprozesse auf Banachräumen. *J. Reine Angew. Math.* **254** (1972), 160–187. (Walter Schempp) **46** #1964 22E30 (41A25)

Inequalities connected with the moduli of smoothness. *Mat. Vesnik* **9(24)** (1972), 289–303. (F. Deutsch) **48** #4214 26A15

(*with* Fehér, Franziska; Gaşpar, Dumitru) Normkonvergenz von Fourierreihen in rearrangement invarianten Banachräumen. (English summary) *J. Functional Analysis* **13** (1973), 417–434. (M. Cîrnu) **51** #1258 42A40 (46E30)

(*with* Bragard, G. K.) Saturation auf kompakten Gruppen und kompakten symmetrischen Räumen. *J. Reine Angew. Math.* **260** (1973), 200–213. (B. Dreseler) **48** #770 41A40

(*with* Fehér, Franziska; Gaşpar, Dumitru) Der Konjugiertenoperator auf rearrangement-invarianten Funktionenräumen. *Math. Z.* **134** (1973), 129–141. (A. C. Zaanen) **48** #11884 42A40 (46E30)

(*with* Gaşpar, Dumitru) Über eine Klasse rearrangement invarianter Banachräume. *Linear operators and approximation, II* (*Proc. Conf., Math. Res. Inst., Oberwolfach*, 1974), *pp.* 181–188. *Internat. Ser. Numer. Math., Vol.* 25, *Birkhäuser, Basel*, 1974. (A. C. Zaanen) **52** #3946 46E30

(*with* Scherer, K.) Direct and inverse theorems for best approximation by Λ-splines. *Spline functions* (*Proc. Internat. Sympos., Karlsruhe*, 1975), *pp.* 116–131. *Lecture Notes in Math., Vol.* 501, *Springer, Berlin*, 1976. (From the introduction) **58** #1860 41A15

(*with* Scherer, K.) On the equivalence of the *K*-functional and moduli of continuity and some applications. *Constructive theory of functions of several variables* (*Proc. Conf., Math. Res. Inst., Oberwolfach*, 1976), *pp.* 119–140. *Lecture Notes in Math., Vol.* 571, *Springer, Berlin*, 1977. (Lee L. Keener) **58** #7060 46E35 (46M35)

ns, Baxter Annihilator conditions in Noetherian rings. *J. Algebra* **49** (1977), *no.* 1, 222–224. (L. Bican) **56** #12061 16A46 (16A36, 16A34)

ns, K. A. (*with* Landsberg, P. T.) Ergodicity and the Lorentz transformation of time-based probabilities. *J. Phys. A* **3** (1970), 113–120. (S. V. Temko) **50** #3844 82.60

(*with* Landsberg, P. T.) Maximum entropy arguments in relativistic statistical mechanics. *J. Phys. A* **3** (1970), 121–127. (S. V. Temko) **50** #3845 82.60

ns, K. C. *See* **Instability of continuous systems**, **49** #10495

ns, L. E. (*with* Degance, A. E.) On the performance of closed heterogeneous chemical reaction systems: selectivity of complex chemical networks. *Chem. Engrg. J.* **12** (1976), *no.* 3, 165–191. (John J. Kozak) **56** #14184 80.34

(*with* Degance, A. E.) The stability of vector renewal equations pertaining to heterogeneous chemical reaction systems. *Quart. Appl. Math.* **34** (1976), *no.* 1, 69–83. (Authors' summary) **56** #7680 82.45

ns, M. Vernon (*with* Van Ryzin, John) Convergence rates for empirical Bayes two-action problems. I. Discrete case. *Ann. Math. Statist.* **42** (1971), 1521–1539. (R. H. Berk) **46** #2769a 62C25

(*with* Van Ryzin, John) Convergence rates for empirical Bayes two-action problems. II. Continuous case. *Ann. Math. Statist.* **43** (1972), 934–947. (R. H. Berk) **46** #2769b 62C25

Nonparametric estimation of location. *J. Amer. Statist. Assoc.* **69** (1974), 453–460. (V. J. Yohai) **50** #15119 62G05

See also **Bühlmann, Hans**, **53** #14832

ns, Peter B. A simple explicit and unconditionally stable numerical routine for the solution of the diffusion equation. *Internat. J. Numer. Methods Engrg.* **11** (1977), *no.* 8, 1307–1328. (Author's summary) **56** #10475 80.65

nsbråten, Håvard (*with* Jensen, Ronald Björn) ★A new construction of a non-constructible $\triangle_3{}^1$ subset of ω. Mathematics Preprint Series, No. 3 (1973). *Matematisk Institutt, Universitetet i Oslo, Oslo*, 1973. ii + 22 *pp.* (Editors) **52** #13382 02K05 (02K30)

(*with* Devlin, Keith J.) ★The Souslin problem. Lecture Notes in Mathematics, Vol. 405. *Springer-Verlag, Berlin-New York*, 1974. viii + 132 *pp.* (Thomas J. Jech) **52** #5416 02K05 (04A30)

(*with* Jensen, Ronald Björn) A new construction of a non-constructible Δ^1_3 subset of ω. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, IV. *Fund. Math.* **81** (1974), 279–290. (Keith Devlin) **54** #7253 02K05 (02K30)

hnsen, Erik (*with* Storer, Thomas) Combinatorial structures in loops. II. Commutative inverse property cyclic neofields of prime-power order. *Pacific J. Math.* **52** (1974), 115–127. (A. P. Street) **53** #12982 05B10 (12K05)

(*with* Storer, Thomas) Combinatorial structures in loops. III. Difference sets in special cyclic neofields. *J. Number Theory* **8** (1976), *no.* 1, 109–130. (A. P. Street) **53** #12983 05B10 (12K05)

See also **Operational Research**, **49** #12059

hnsen, Eugene C. (*with* Storer, Thomas) A special permutation matrix decomposition for combinatorial design incidence matrices. *J. Res. Nat. Bur. Standards Sect. B* **75B** (1971), 23–30. (R. A. Brualdi) **46** #8868 05B20

Essentially doubly stochastic matrices. I. Elements of the theory over arbitrary fields. *Linear Algebra and Appl.* **4** (1971), 255–282. (N. J. Pullman) **45** #3447 15A51

(*with* Storer, Thomas) Combinatorial structures in loops. I. Elements of the decomposition theory. *J. Combinatorial Theory Ser. A* **14** (1973), 149–166. (A. P. Street) **46** #8861 05B10 (05B05)

Essentially doubly stochastic matrices. IV. Extension of the theory over arbitrary fields including fields with an involution. *Linear and Multilinear Algebra* **1** (1973/74), 343–356. (N. J. Pullman) **50** #2212 15A51

Essentially doubly stochastic matrices. III. Products of elementary matrices. *Linear and Multilinear Algebra* **1** (1973), *no.* 1, 33–45. (N. J. Pullman) **48** #11166 15A51

Essentially doubly stochastic matrices. II. Canonical forms for row equivalence, equivalence, and a special case of congruence. *Linear Algebra and Appl.* **8** (1974), 121–127. (N. J. Pullman) **48** #11165 15A51

(*with* Storer, Thomas) Combinatorial structures in loops. IV. Steiner triple systems in neofields. *Math. Z.* **138** (1974), 1–14. (A. P. Street) **56** #5319 05B05

An inequality on the matrix spectral norm specifying Hadamard matrices. *Linear and Multilinear Algebra* **4** (1976/77), *no.* 4, 277–279. (J. Nieto) **56** #5602 15A42

Essentially stochastic matrices—factorizations into elementary and quasi-elementary matrices. *Linear Algebra and Appl.* **17** (1977), *no.* 1, 79–93. (N. J. Pullman) **58** #22124 15A51 (15A48)

Johnsen, John On the large sieve method in $\mathrm{GF}[q, x]$. *Mathematika* **18** (1971), 172–184. (H. L. Montgomery) **46** #1761 12C05 (10H30)

On the distribution of irregular primes. *J. Number Theory* **8** (1976), *no.* 4, 434–437. (H.-J. Kanold) **55** #5552 10H15 (12A75)

Johnsen, Karsten Endliche Gruppen mit nicht-elliptischer Spiegelungsgeometrie. *Geometriae Dedicata* **2** (1973), 51–55. (F. Bachmann) **49** #11371 50A15

(*with* Götzky, K. Martin) Eine Charakterisierung der endlichen Gruppen, welche bezüglich geeigneter Erzeugendensysteme Hjelmslevgruppen sind. *Geometriae Dedicata* **2** (1973), 375–377. (H. S. M. Coxeter) **50** #4771 20H15 (50A15)

Über 2-Gruppen, in denen jede abelsche Untergruppe von höchstens 2 Elementen erzeugt wird. *J. Algebra* **30** (1974), 31–36. (J. F. Humphreys) **49** #10784 20D99

Über einen Satz von Sylow. *Arch. Math.* (*Basel*) **26** (1975), 240–241. (A. Cronheim) **51** #8247 20D20 (50D20)

Endliche Gruppen mit nicht-elliptischer Spiegelungsgeometrie. II. *Geometriae Dedicata* **4** (1975), *no.* 2/3/4, 291–296. (F. Bachmann) **53** #6400 50A15 (20H15)

(*with* Götzky, K. Martin) Eine Charakterisierung einer Klasse involutorisch erzeugter Gruppen als Bewegungsgruppen metrischer Inzidenzstrukturen. *Geometriae Dedicata* **6** (1977), *no.* 4, 399–406. (K. Strambach) **57** #10568 50C25

(*with* Laue, Hartmut) Über endlich erzeugte Fittingklassen. *Arch. Math.* (*Basel*) **30** (1978), *no.* 4, 350 360. (Peter Hauck) **58** #11107 20D10

Johnsen, Th. L. *See* **Lunde Johnsen, Th.**

Johnsen, V. B. (*with* Kjeldsen, Kjell) Loop-free compositions of certain finite automata. *Information and Control* **22** (1973), 303–319. (I. M. Havel) **50** #6671 94A30

On the output structure of certain finite automata. *Information and Control* **25** (1974), 195–205. (R. N. Goss) **50** #6673 94A30

Johnson, A. A. The automorphisms of the unitary groups over infinite fields. *Amer. J. Math.* **95** (1973), 87–107. (D. G. James) **48** #4139 20G15

See also **Automorphisms of the classical groups**, **55** #267

Johnson, A. F. Small-amplitude vibrations in prestrained viscoelastic solids. With discussion. *Mechanics of visco-elastic media and bodies* (*Proc. IUTAM Sympos., Chalmers Univ. Tech., Göteborg*, 1974), *pp.* 58–73. *Springer, Berlin*, 1975. (Author's summary) **57** #18391 73.39

Johnson, A. I. (*with* Barney, J. R.) Numerical solution of large systems of stiff ordinary differential equations in a modular simulation framework. *Numerical methods for differential systems*, *pp.* 97–124. *Academic Press, New York*, 1976. (R. Leonard Brown) **56** #7209 65L05

Johnson, Arthur F. *See* **Survey of statistical design and linear models**, **51** #2039

Johnson, Barry Edward Continuity of operators commuting with quasi-nilpotent operators. Proceedings of an International Symposium on Operator Theory (Indiana Univ., Bloomington, Ind., 1970). *Indiana Univ. Math. J.* **20** (1971), *no.* 10, 913–915. (K. F. Klopfenstein) **53** #11405 47A65

Norms of derivations of $\mathfrak{L}(\mathfrak{X})$. *Pacific J. Math.* **38** (1971), 465–469. (B. R. Gelbaum) **46** #6087 47B47

★Cohomology in Banach algebras. Memoirs of the American Mathematical Society, No. 127. *American Mathematical Society, Providence, R.I.*, 1972. iii + 96 *pp.* (Alain Guichardet) **51** #11130 46M20 (46H25)

Approximate diagonals and cohomology of certain annihilator Banach algebras. *Amer. J. Math.* **94** (1972), 685–698. (R. H. Cox) **47** #5598 46H05 (46M20)

(*with* Kadison, Richard V.; Ringrose, John R.) Cohomology of operator algebras. III. Reduction to normal cohomology. *Bull. Soc. Math. France* **100** (1972), 73–96. (Joseph L. Taylor) **47** #7454 46L10 (46M20)

(*with* Parrott, S. K.) Operators commuting with a von Neumann algebra modulo the set of compact operators. *J. Functional Analysis* **11** (1972), 39–61. (Robert S. Doran) **49** #5869 46L10

(*with* Shields, Allen L.) Hyperinvariant subspaces for operators on the space of complex sequences. *Michigan Math. J.* **19** (1972), 189–191. (E. Berkson) **46** #4239 47A15

(*with* Hirschfeld, Rudolf A.) Spectral characterization of finite-dimensional algebras. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 19–23. (A. M. Sinclair) **46** #666 46H05

Automorphisms of commutative Banach algebras. *Proc. Amer. Math. Soc.* **40** (1973), 497–499. (R. B. Burckel) **47** #5601 46J05

Some examples in harmonic analysis. *Studia Math.* **48** (1973), 181–188. (James T. Burnham) **49** #3456 43A20

A class of II_1 factors without property P but with zero second cohomology. *Ark. Mat.* **12** (1974), 153–159. (Alain Guichardet) **51** #11126 46L10 (46M20)

Banach algebras: introductory course. *Algebras in analysis* (*Proc. Instructional Conf. and NATO Advanced Study Inst., Birmingham*, 1973), *pp.* 63–83. *Academic Press, London*, 1975. (D. W. Bailey) **55** #1069 46H05 (46J05)

Introduction to cohomology in Banach algebras. *Algebras in analysis* (*Proc.*

Instructional Conf. and NATO Advanced Study Inst., Birmingham, 1973), *pp.* 84–100. *Academic Press, London*, 1975. (R. J. Loy) **54** #5835 46H20 (46M20)

(*with* Williams, J. P.) The range of a normal derivation. *Pacific J. Math.* **58** (1975), *no.* 1, 105–122. (J. D. Gray) **52** #1390 47B15

(*with* Coffman, Charles V.; Schäffer, Juan Jorge) Addenda: "The structure of translation-invariant memories" (J. Differential Equations **16** (1974), 428–459). *J. Differential Equations* **20** (1976), *no.* 1, 270–281. (Russell C. Thompson) **55** #10800 34K05 (34G05)

Norming $C(U)$ and related algebras. *Trans. Amer. Math. Soc.* **220** (1976), 37–58. (G. R. Allan) **54** #3415 46J10 (02H25)

Stability of Banach algebras. *General topology and its relations to modern analysis and algebra, IV (Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part A, pp.* 109–114. *Lecture Notes in Math., Vol.* 609, *Springer, Berlin*, 1977. (M. Abel) **56** #16375 46H05

Perturbations of Banach algebras. *Proc. London Math. Soc.* (3) **34** (1977), *no.* 3, 439–458. (Z. Słodkowski) **56** #1094 46M20 (46H05)

Johnson, Bruce McK. On the admissible estimators for certain fixed sample binomial problems. *Ann. Math. Statist.* **42** (1971), 1579–1587. (From the author's introduction) **54** #6341 62C15

(*with* Gulati, Bodh Raj; Keohn, Uwe) On maximal t-linearly independent sets. *J. Combinatorial Theory Ser. A* **15** (1973), 45–53. (Stanley E. Payne) **47** #4823 05B25

Bounds on the variance of the U-statistic for symmetric distributions with shift alternatives. *Ann. Statist.* **3** (1975), *no.* 4, 955–958. (Rudolph J. Beran) **52** #6996 62G10 (62E15)

Johnson, Bruce R. (*with* Land, Charles E.; Joshi, V. M.) A note on two-sided confidence intervals for linear functions of the normal mean and variance. *Ann. Statist.* **1** (1973), 940–943. (I. M. Chakravarti) **49** #10030 62F25

An effective method for teaching the Lehmann-Scheffé technique for obtaining a minimal sufficient statistic. *Amer. Statist.* **28** (1974), 59–60. **49** #8150 62B05

(*with* Truax, Donald R.) Asymptotic behavior of Bayes tests and Bayes risk. *Ann. Statist.* **2** (1974), 278–294. (I. J. Good) **50** #15028 62C10

An inequality for conditional distributions. *Math. Mag.* **47** (1974), 281–283. (F. W. Steutel) **50** #11349 60A10

Generalized Lerch zeta function. *Pacific J. Math.* **53** (1974), 189–193. (T. M. Apostol) **50** #4508 10H10

Asymptotic behavior of Bayes procedures for testing $\theta < 0$ against $\theta > 0$ in exponential families. *Sankhyā Ser. A* **38** (1976), *no.* 2, 116–123. (D. R. Truax) **57** #14241 62F15 (62E20)

A direct proof of a property characteristic of the normal law. *Sankhyā Ser. B* **39** (1977), *no.* 3, 288–291. (Author's summary) **58** #31512 62E10

(*with* Truax, Donald R.) Asymptotic behavior of Bayes procedures for testing simple hypotheses in multiparameter exponential families. *Ann. Statist.* **6** (1978), *no.* 2, 346–361. (A. M. Kagan) **57** #17928 62F15

Johnson, C. D. Stabilization of linear dynamical systems with ouput feedback. *Proceedings of the IFAC Fifth World Congress (Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and nonlinear systems, Identification, differential games, discrete and stochastic systems, Paper No.* 29.3, 8 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 (1972). (G. N. Mil'šteĭn) **51** #15096 93D15

A unified canonical form for controllable and uncontrollable linear dynamical systems. *Internat. J. Control* (1) **13** (1971), 497–517. (E. Ar) **47** #1489 93B05 (65K05)

A minimax theory of Čebyšev control. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics (Tbilisi*, 1968), *Vol.* 1: *Optimal and adaptive systems (Russian), pp.* 140–159, 308. *Izdat. "Nauka", Moscow*, 1972. (J. M. Skowroński) **49** #1771 65K05

Comments on: "The output control of linear time-invariant multivariable systems with unmeasurable arbitrary disturbances" (IEEE Trans. Automatic Control **AC-17** (1972), 621–630) by Edward J. Davison. With reply by E. J. Davison. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 6, 836–839. **54** #12294 93C45

Accommodation of disturbances in optimal control problems. *Internat. J. Control* (1) **15** (1972), 209–231. (Bojan Popović) **47** #4688 (E **48** #1757) 93D99

Corrigendum: "Accommodation of disturbances in optimal control problems" (Internat. J. Control (1) **15** (1972), 209–231). *Internat. J. Control* (1) **17** (1973), 894. (Editors) **48** #1757 93C99

Stabilization of linear dynamical systems with respect to arbitrary linear subspaces. *J. Math. Anal. Appl.* **44** (1973), 175–186. (F. Odeh) **48** #8053 93D15

State over-description and uncontrollability of dynamical systems. I. Non-linear systems. *Internat. J. Control* (1) **19** (1974), 225–242. (T. Kaczorek) **49** #2141 93B05

State overdescription and uncontrollability of dynamical systems. II. Linear systems. *Internat. J. Control* **19** (1974), 1087–1100. (T. Kaczorek) **53** #5085 93B25

Algebraic solution of the servomechanism problem with external disturbances. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **96** (1974), 25–35. (Bojan Popović) **49** #2160 93C15

On observers for systems with unknown and inaccessible inputs. *Internat. J. Control* **21** (1975), 825–831. (D. J. Bell) **52** #10116 93B05

Theory of disturbance-accommodating controllers. *Control and dynamic systems, Advances in theory and applications, Vol.* 12, *pp.* 387–489. *Academic Press, New York*, 1976. (Stanislav K. Myškov) **54** #4755 (EA **54**) 93C05

See also **Francis, Bruce A.; et al., 58** #33277; **Davison, Edward J.; et al., 58** #33346 *and* **Bhattacharyya, S. P., 58** #33412

Johnson, C. P. *See* **Computational methods in nonlinear mechanics, 52** #4799

Johnson, C. Richard, Jr. (*with* Widrow, Bernard; McCool, John M.; Larimore, Michael G.) Stationary and nonstationary learning characteristics of the LMS adaptive filter. Special issue on adaptive systems. *Proc. IEEE* **64** (1976), *no.* 8, 1151–1162. (R. S. Bucy) **54** #9808 93E10

Johnson, C. S., Jr. On certain poset and semilattice homomorphisms. *Pacific J. Math.* **39** (1971), 703–715. (J. Kist) **46** #3380 06A10 (20M15)

Quasi-multiplicative maps on Baer semigroups. *Glasgow Math. J.* **13** (1972), 107–110. (G. B. Preston) **47** #8727 20M10

UIG Baer semigroups. *J. Natur. Sci. and Math.* **12** (1972), 287–295. (T. S. Blyth) **50** #10124 20M10

(*with* McMorris, F. R.) Completely cyclic injective semilattices. *Proc. Ame* *Soc.* **36** (1972), 385–388. (M. Kilp) **46** #9213 20M15 (06A20)

A characterization of injective S-systems over a semilattice. *J. Natur.* *Math.* **13** (1973), *no.* 2, 239–241. (G. Bruns) **52** #10519 06A20

(*with* McMorris, F. R.) Weakly self-injective semilattices. *Semigroup* (1973), *no.* 1, 3–11. (Albert Stralka) **51** #10178 06A20

(*with* McMorris, F. R.) Semigroups for which every S-system has the natur order. *Semigroup Forum* **8** (1974), *no.* 1, 51–55. (W. Wiley Williams) **51** # 20M99 (06A50)

(*with* McMorris, F. R.) Retractions and S-endomorphisms. *Semigroup* (1974/75), *no.* 1, 84–87. (G. Szász) **51** #8308 20M15

(*with* Estabrook, George F.; McMorris, F. R.) An idealized concept of cladistic character. *Math. Biosci.* **23** (1975), 263–272. (P. Suppes) **52** #16735

(*with* McMorris, F. R.) Nonsingular semilattices and semigroups. (Loose summary) *Czechoslovak Math. J.* **26(101)** (1976), *no.* 2, 280–282. (W. Wiley **53** #8293 20M10 (06A20)

(*with* Estabrook, George F.; McMorris, F. R.) An algebraic analysis of characters. *Discrete Math.* **16** (1976), *no.* 2, 141–147. (R. E. Peinado) **56** # 92A05

(*with* Estabrook, George F.; McMorris, F. R.) A mathematical foundation analysis of cladistic character compatibility. *Math. Biosci.* **29** (1976), *no.* 1-2, 1 (Authors' summary) **58** #33111 92A10

(*with* McMorris, F. R.) Commutative non-singular semigroups. *Canad. Ma* **20** (1977), *no.* 2, 263–265. (J. K. Luedeman) **56** #12151 20M10

(*with* McMorris, F. R.) Abian's order relation for semigroups. *Semigroup F* (1978), *no.* 2, 147–151. (Przemysław Kranz) **58** #5993 20M05

Johnson, Charles A. (*with* Klotz, Jerome H.) The atom probe and Markov chain s of clustering. *Technometrics* **16** (1974), 483–493. (I. Cuculescu) **51** #9401 6

Johnson, Charles R. A matrix theoretic construction of magic squares. *Amer.* *Monthly* **79** (1972), 1004–1006. (Morris Newman) **46** #3353 05B99

(*with* Newman, Morris) Triangles generated by powers of triplets on the unit *J. Res. Nat. Bur. Standards Sect. B* **77B** (1973), *no.* 3-4, 137–141. (W. W. **52** #10661 10M20

An inequality for matrices whose symmetric part is positive definite. *Linear* *and Appl.* **6** (1973), 13–18. (W. Ledermann) **47** #251 15A48

Hadamard products of matrices. *Linear and Multilinear Algebra* **1** (19 295–307. (Marvin Marcus) **50** #4628 15A42

A Geršgorin inclusion set for the field of values of a finite matrix. *Proc.* *Math. Soc.* **41** (1973), 57–60. (B. Levinger) **47** #6738 15A42

Sufficient conditions for D-stability. *J. Econom. Theory* **9** (1974), *no.* 1, (Author's summary) **57** #3169 15A48 (15A42)

Geršgorin sets and the field of values. *J. Math. Anal. Appl.* **45** (1974), 416– Levinger) **49** #9014 15A42

A Lyapunov theorem for angular cones. *J. Res. Nat. Bur. Standards Sect.* (1974), 7–10. (M. F. Smiley) **48** #11161 15A48

Second, third, and fourth order D-stability. *J. Res. Nat. Bur. Standards Sect.* (1974), 11–13. (W. Ledermann) **49** #5042 15A42

(*with* Freese, Ralph S.) Comments on the discrete matrix model of pop dynamics. *J. Res. Nat. Bur. Standards Sect. B* **78B** (1974), 73–78. (N. K. **50** #6549 92A15

A sufficient condition for matrix stability. *J. Res. Nat. Bur. Standards Sect.* (1974), 103–104. (George P. Barker) **50** #4611 15A18

Computation of the field of values of a 2×2 matrix. *J. Res. Nat. Bur. Sta* *Sect. B* **78B** (1974), 105–107. (J. Hurt) **50** #9910 15A42 (65F15)

(*with* Newman, Morris) How bad is the Hadamard determinantal bound? *Nat. Bur. Standards Sect. B* **78B** (1974), 167–169. (H. Ratschek) **50** #7211

The field of values and spectra of positive definite multiples. *J. Res. Na* *Standards Sect. B* **78B** (1974), 197–198. (R. Merris) **50** #13078 15A18

D-stability and real and complex quadratic forms. *Linear Algebra and* (1974), 89–94. (A. R. Amir-Moéz) **50** #4632 15A48

(*with* DePrima, Charles R.) The range of $A^{-1}A^{*}$ in GL(n, C). *Linear Algeb* *Appl.* **9** (1974), 209–222. (Eric Nordgren) **50** #14305 47A60 (15A57)

The Hadamard product of A and A^{*}. *Pacific J. Math.* **51** (1974), 477–481. (Marcus) **51** #556 15A42

A note on matrix solutions to $A = XY - YX$. *Proc. Amer. Math. Soc.* **42** (351–354. (Abraham Berman) **48** #11151 15A24

A characterization of the nonlinearity of D-stability. *J. Math. Econom.* **2** (197 1, 87–91. (A. R. Amir-Moéz) **52** #445 15A48

(*with* Newman, Morris) A condition for the diagonalizability of a parti matrix. *J. Res. Nat. Bur. Standards Sect. B* **79B** (1975), *no.* 1-2, 45–48. (C. F. Mo **52** #8156 15A21

Two submatrix properties of certain induced norms. *J. Res. Nat. Bur. Sta* *Sect. B* **79B** (1975), *no.* 3-4, 97–102. (François Robert) **55** #378 15A60

Numerical location of the field of values. Collection of articles dedicated to Taussky-Todd. *Linear and Multilinear Algebra* **3** (1975/76), *no.* 1/2, 9–14. (B. Lev **53** #2986 15A42

(*with* Ballantine, C. S.) Accretive matrix products. *Linear and Multilinear Alg* (1975/76), *no.* 3, 169–185. (Yik-Hoi Au-Yeung) **53** #489 15A48

Notes on nonnegative Hadamard functions. *Linear and Multilinear Alge* (1975/76), *no.* 3, 187–192. (R. C. Thompson) **53** #13276 15A48

Hadamard's inequality for matrices with positive-definite Hermitian compo *Michigan Math. J.* **22** (1975), *no.* 3, 225–228 (1976). (Emilie V. Haynsworth) **53** # 15A45

Powers of matrices with positive definite real part. *Proc. Amer. Math. So* (1975), 85–91. (Yik-Hoi Au-Yeung) **51** #5628 15A48

Inequalities for a complex matrix whose real part is positive definite. *Trans.* *Math. Soc.* **212** (1975), 149–154. (D. London) **54** #12809 15A45

A note on pairs of matrices with product zero. *J. Res. Nat. Bur. Standards Se* **80B** (1976), *no.* 3, 333–335. (D. J. Hartfiel) **56** #385 15A18 (*with* Kellogg, R. Bruce) An inequality for doubly stochastic matrices. *J. Res. Nat. Bur. Standards Sect. B* **80B** (1976), *no.* 4, 433–436. (D. London) **56** #392 15A51

(*with* Leighton, Frank Thomson) An efficient linear algebraic algorithm for the determination of isomorphism in pairs of undirected graphs. *J. Res. Nat. Bur. Standards Sect. B* **80B** (1976), *no.* 4, 447–483. (D. G. Corneil) **56** #17189 68A10 (94A20)

A local Lyapunov theorem and the stability of sums. Collection of articles dedicated to Olga Taussky Todd. *Linear Algebra and Appl.* **13** (1976), *no.* 1/2, 37–43. (Elwyn L. Jones) **55** #7521 93D05 (15A30)

Normality and the numerical range. *Linear Algebra and Appl.* **15** (1976), *no.* 1, 89–94. (Raphael Loewy) **57** #352 15A42

A Hadamard product involving M-matrices. *Linear and Multilinear Algebra* **4** (1976/77), *no.* 4, 261–264. (Thomas L. Markham) **55** #12750 15A45

Locally compatible generalized matrix norms. *Numer. Math.* **27** (1976/77), *no.* 4, 391–394. (J. D. P. Donnelly) **55** #11593 65F35

Functional characterizations of the field of values and the convex hull of the spectrum. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 2, 201–204 (1977). (D. J. Hartfiel) **55** #10479 15A15 (47A10)

Price stability in unions of markets. *Stability of dynamical systems, theory and applications* (*Proc. Regional Conf., Mississippi State Univ., Mississippi State, Miss.*, 1975), *pp.* 127–135. *Lecture Notes in Pure and Appl. Math., Vol.* 28, *Dekker, New York*, 1977. (From the introduction) **58** #32853 90A15

The inertia of a product of two Hermitian matrices. *J. Math. Anal. Appl.* **57** (1977), *no.* 1, 85–90. (Marvin Marcus) **55** #5665 15A42

Multiplicativity and compatibility of generalized matrix norms. *Linear Algebra and Appl.* **16** (1977), *no.* 1, 25–37. (François Robert) **57** #12564 15A60

An inclusion region for the field of values of a doubly stochastic matrix based on its graph. *Aequationes Math.* **17** (1978), *no.* 2-3, 305–310. (A. B. Stephens) **58** #10968 15A51

Numerical determination of the field of values of a general complex matrix. *SIAM J. Numer. Anal.* **15** (1978), *no.* 3, 595–602. (M. Lotkin) **57** #14388 65F35

See also **Shiue, Jau Shyong**, **53** #7998

hnson, Claes On the convergence of a mixed finite-element method for plate bending problems. *Numer. Math.* **21** (1973), 43–62. (M. Zlámal) **52** #9641 65N30 (65N35)

Estimates near plane portions of the boundary for discrete elliptic boundary problems. *Math. Comp.* **28** (1974), 909–935. (M. Zlámal) **50** #15381 65N15

On finite element methods for curved shells using flat elements. *Numerische Behandlung von Differentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1974), *pp.* 147–154. *Internat. Schriftenreihe Numer. Math., Band* 27, *Birkhäuser, Basel*, 1975. (Z. Kączkowski) **53** #12177 73.65

(*with* Thomée, Vidar) Error estimates for a finite element approximation of a minimal surface. *Math. Comp.* **29** (1975), 343–349. (Ju. K. Dem′janovič) **53** #4571 65N15

(*with* Mercier, Bertrand) Une méthode pour résoudre le problème de l'adaptation. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 6, Aiv, A371–A374. (S.-F. Sburlan) **57** #11273 73.49 (90C30)

Existence theorems for plasticity problems. *J. Math. Pures Appl.* (9) **55** (1976), *no.* 4, 431–444. (W. Kecs) **55** #11773 73.35

On finite element methods for plasticity problems. *Numer. Math.* **26** (1976), *no.* 1, 79–84. (M. N. L. Narasimhan) **55** #9569 65N30 (73.65)

A convergence estimate for an approximation of a parabolic variational inequality. *SIAM J. Numer. Anal.* **13** (1976), *no.* 4, 599–606. (Philip Brenner) **58** #3539 65N30 (49G99)

(*with* Brezzi, Franco; Mercier, Bertrand) Analysis of a mixed finite element method for elasto-plastic plates. *Math. Comp.* **31** (1977), *no.* 140, 809–817. (Georges A. Lebaud) **56** #1743 65N30

A mixed finite element method for plasticity problems with hardening. *SIAM J. Numer. Anal.* **14** (1977), *no.* 4, 575–583. (Ranbir S. Sandhu) **58** #8711 73.65

On plasticity with hardening. *J. Math. Anal. Appl.* **62** (1978), *no.* 2, 325–336. (W. Kecs) **58** #8653 73.35

(*with* Mercier, Bertrand) Some equilibrium finite element methods for two-dimensional elasticity problems. *Numer. Math.* **30** (1978), *no.* 1, 103–116. (William W. Hager) **58** #3856 73.35

An elasto-plastic contact problem. (French summary) *RAIRO Anal. Numér.* **12** (1978), *no.* 1, 59–74, iii. (Author's summary) **58** #14189 73.47 (65N30)

hnson, Coates R. Motion of particles in Einstein's relativistic field theory. I. Introduction and general theory. *Phys. Rev. D* (3) **4** (1971), 295–317. **51** #2584a 83.53

Motion of particles in Einstein's relativistic field theory. II. Application of general theory. *Phys. Rev. D* (3) **4** (1971), 318–339. (P. G. Bergmann) **51** #2584b 83.53

Motion of particles in Einstein's relativistic field theory. III. Coordinate conditions. *Phys. Rev. D* (3) **4** (1971), 3555–3558. (P. G. Bergmann) **54** #2077a 83.35

Motion of particles in Einstein's relativistic field theory. IV. Diffuse and localized electric charge. *Phys. Rev. D* (3) **5** (1972), 282–284. (P. G. Bergmann) **54** #2077b 83.35

Motion of particles in Einstein's relativistic field theory. V. Gravitation and the Lorentz-covariant procedure. *Phys. Rev. D* (3) **5** (1972), 1916–1925. (P. G. Bergmann) **54** #2077c 83.35

Motion of particles in Einstein's relativistic field theory. VI. Conservation laws and motion. *Phys. Rev. D* (3) **7** (1973), 2825–2837. (Author's summary) **52** #7430 83.35

Motion of particles in Einstein's relativistic field theory. VII. Charged particles and conservation laws. *Phys. Rev. D* (3) **7** (1973), 2838–2843. (Author's summary) **52** #7431 83.35

Electromagnetic interaction in the Bonnor-Moffat-Boal unified field theory. *Phys. Rev. D* (3) **12** (1975), *no.* 12, 3831–3834. (A. F. da F. Teixeira) **56** #4667 83.53

hnson, Colonel, Jr. Groups of singular matrices. *Math. Mag.* **49** (1976), *no.* 4, 205–207. (Carol Tretkoff) **53** #13436 20H20

hnson, D. G. (*with* Mandelkern, Mark) Separating chains in topological spaces. *J. London Math. Soc.* (2) **4** (1971/72), 510–512. (H. Tong) **47** #5818 54D15 (54D60)

(*with* Mandelkern, Mark) Functions with pseudocompact support. *General Topology and Appl.* **3** (1973), 331–338. (Andrew Adler) **48** #9644 54C40

hnson, D. J. (*with* Chalmers, Bruce L.; Metcalf, Frederic T.; Taylor, Gerald D.) Remarks on the rank of Hermite-Birkhoff interpolation. *SIAM J. Numer. Anal.* **11** (1974), 254–259. (John Todd) **50** #1464 65D05

Johnson, D. Randolph ★Bibliography of nonstandard analysis—June 1975. Lecture Notes in Mathematics, No. 3. *Department of Mathematics, University of Pittsburgh, Pittsburgh, Pa.*, 1975. 22 *pp.* (*unpaged*) (Editors) **52** #11 00A15 (02H25)

(*with* Mattson, Don A.) Some applications of non-standard analysis to proximity spaces. *Colloq. Math.* **34** (1975/76), *no.* 1, 17–24. (Labib Haddad) **53** #9154 54E05 (54J05, 02H25)

Johnson, D. T. (*with* Yu, Clement T.) On the complexity of finding the set of candidate keys for a given set of functional dependencies. *Information Processing Lett.* **5** (1976/77), *no.* 4, 100–101. (E. C. Posner) **54** #4215 68A50 (68A20)

Johnson, Dale M. Prelude to dimension theory: the geometrical investigations of Bernard Bolzano. *Arch. History Exact Sci.* **17** (1977), *no.* 3, 262–295. (Joseph W. Dauben) **56** #5162 01A55

The correspondence of Camille Jordan. *Historia Math.* **4** (1977), 210. (Editors) **55** #7714 01A75 (01A55, 01A70)

Johnson, Dallas E. (*with* Graybill, Franklin A.) An analysis of a two-way model with interaction and no replication. *J. Amer. Statist. Assoc.* **67** (1972), 862–868. (K. R. Shah) **53** #4397 62J10

A derivation of Scheffé's S-method by maximizing a quadratic form. *Amer. Statist.* **27** (1973), 27–29. **49** #8178 62J15

On the moments of the characteristic roots of a noncentral (2×2) Wishart matrix. *Austral. J. Statist.* **16** (1974), *no.* 3, 153–155 (1975). (Dennis L. Young) **52** #12208 62H10

(*with* Hegemann, Victor) Procedures to generate random matrices with noncentral distributions. *Comm. Statist.* **3** (1974), 691–699. (Authors' summary) **50** #11590 62E25 (62H10)

Some new multiple comparison procedures for the two-way AOV model with interaction. (French summary) *Biometrics* **32** (1976), *no.* 4, 929–934. (Maxwell W. Layard) **56** #4066 (E **57** #7898) 62J15

Corrections to: "Some new multiple comparison procedures for the two-way AOV model with interaction" (Biometrics **32** (1976), no. 4, 929–934). *Biometrics* **33** (1977), *no.* 4, 766. (Editors) **57** #7898 62J15

See also **Neudecker, Heinz**, **49** #8179

Johnson, Darell J. Jackson type theorems for approximation with side conditions. *J. Approximation Theory* **12** (1974), 213–229. (Mogens Esrom Larsen) **50** #10650 41A65

On the nontriviality of restricted range polynomial approximation. *SIAM J. Numer. Anal.* **12** (1975), 183–187. (Geneva G. Belford) **52** #1094 41A10

The trigonometric Hermite-Birkhoff interpolation problem. *Trans. Amer. Math. Soc.* **212** (1975), 365–374. (Author's summary) **54** #5712 42A12

Nonuniqueness of simultaneous approximation by trigonometric polynomials. *Approximation theory, II* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1976), *pp.* 411–415. *Academic Press, New York*, 1976. (J. S. Byrnes) **55** #8663 42A08

RRAS approximation of differentiable functions. *Theory of approximation, with applications* (*Proc. Conf., Univ. Calgary, Calgary, Alta.*, 1975; *dedicated to the memory of Eckard Schmidt*), *pp.* 171–179. *Academic Press, New York*, 1976. (G. D. Taylor) **54** #796 41A10

One-sided approximation with side conditions. *J. Approximation Theory* **16** (1976), *no.* 4, 366–371. (Eli Passow) **53** #6166 41A30

SAIN approximation in $C[a, b]$. *J. Approximation Theory* **17** (1976), *no.* 1, 14–34. (Joseph M. Lambert) **53** #8758 41A65

Restricted range approximation with side conditions. *J. Approximation Theory* **19** (1977), *no.* 4, 304–314. (G. D. Taylor) **55** #8618 41A10

Johnson, David Copeland (*with* Smith, Larry) On the relation of complex cobordism to connective K-theory. *Proc. Cambridge Philos. Soc.* **70** (1971), 19–22. (H. Suzuki) **45** #2696 55B15 (57D90)

On the reduction of complex bordism to unoriented bordism. *Proc. Amer. Math. Soc.* **39** (1973), 417–420. (Robert Wells) **48** #1214 55B20

(*with* Wilson, W. Stephen) Projective dimension and Brown-Peterson homology. *Topology* **12** (1973), 327–353. (A. Liulevicius) **48** #12576 57D90 (55B20)

A Stong-Hattori spectral sequence. *Trans. Amer. Math. Soc.* **179** (1973), 211–225. (A. Dold) **51** #4282 57D90 (55B20)

An infinite complex and the spectral sequences for complex cobordism and K-theory. *Proc. Amer. Math. Soc.* **44** (1974), 231–234. (P. S. Landweber) **48** #12506 55B20

(*with* Wilson, W. Stephen) *BP* operations and Morava's extraordinary K-theories. *Math. Z.* **144** (1975), *no.* 1, 55–75. (R. E. Stong) **51** #14025 55B20

(*with* Hansen, Idar) The primitive elements in $\mathrm{MU}_*K(Z/p, 1)$. *Math. Z.* **148** (1976), *no.* 2, 169–175. (R. M. Switzer) **53** #9258 57D90 (55G25)

(*with* Wilson, W. Stephen) The projective dimension of the complex bordism of Eilenberg-MacLane spaces. *Osaka J. Math.* **14** (1977), *no.* 3, 533–536. (V. P. Snaith) **57** #7584 55D20 (55B35)

Johnson, David E. (*with* Johnson, Johnny R.) ★Graph theory with engineering applications. *The Ronald Press Co., New York*, 1972. x+392 *pp.* (G. Chartrand) **49** #98 05Cxx (94A20)

Johnson, David L. Minimal permutation representations of finite groups. *Amer. J. Math.* **93** (1971), 857–866. (J. P. J. McDermott) **47** #5087 20C15

(*with* Cheng, David K.) Walsh transform of sampled time functions and the sampling principle. *Proc. IEEE* **61** (1973), 674–675. (L. L. Campbell) **49** #10428 94A05

(*with* Humphreys, J. F.) On Lagrangian groups. *Trans. Amer. Math. Soc.* **180** (1973), 291–300. (Sergei A. Syskin) **47** #6859 20D99

A note on the Fibonacci groups. *Israel J. Math.* **17** (1974), 277–282. (A. Peluso) **50** #10089 20F05

Some infinite Fibonacci groups. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 311–314. (Michael Anshel) **52** #8261 20F05

(*with* Wamsley, J. W.; Wright, David) The Fibonacci groups. *Proc. London Math. Soc.* (3) **29** (1974), 577–592. (N. S. Mendelsohn) **52** #5811 20F05

Extensions of Fibonacci groups. *Bull. London Math. Soc.* **7** (1975), 101–104. (A.

Peluso) **50** #10095 20F25

(*with* Mawdesley, H.) Some groups of Fibonacci type. *J. Austral. Math. Soc.* **20** (1975), *no.* 2, 199–204. (Charles C. Edmunds) **52** #8262 20F05

★Presentations of groups. London Mathematical Society Lecture Notes Series, No. 22. *Cambridge University Press, Cambridge-New York-Melbourne*, 1976. v+204 *pp.* (Thaddeus C. Hurley) **53** #623 20F05

A property of finite *p*-groups with trivial multiplicator. *Amer. J. Math.* **98** (1976), *no.* 1, 105–108. (W. J. Wong) **53** #603 20D15

A short proof of the uniqueness of Haar measure. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 250–251. (Paul Milnes) **53** #774 28A70 (43A05)

Inbreeding in populations with overlapping generations. *Genetics* **87** (1977), *no.* 3, 581–591. (R. M. Cormack) **57** #2638 92A10

(*with* Chalk, C. P.) The Fibonacci groups. II. *Proc. Roy. Soc. Edinburgh Sect. A* **77** (1977), *no.* 1–2, 79–86. (E. F. Robertson) **57** #3254 20F05

The modular group-ring of a finite *p*-group. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 1, 19–22. (D. B. Coleman) **56** #15744 20C05

Johnson, David Stifler Approximation algorithms for combinatorial problems. *Fifth Annual ACM Symposium on Theory of Computing (Austin, Tex.*, 1973), *pp.* 38–49. *Assoc. Comput. Mach., New York*, 1973. (Editors) **57** #1961 68A10 (68A20)

Worst case behavior of graph coloring algorithms. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing (Florida Atlantic Univ., Boca Raton, Fla.*, 1974), *pp.* 513–527. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.*, 1974. (D. L. Greenwell) **52** #10475 05C15

(*with* Garey, Michael R.; Stockmeyer, Larry J.) Some simplified *NP*-complete problems. *Sixth Annual ACM Symposium on Theory of Computing (Seattle, Wash.*, 1974), *pp.* 47–63. *Assoc. Comput. Mach., New York*, 1974. (Shimon Even) **54** #6549 68A20

Fast algorithms for bin packing. Thirteenth Annual IEEE Symposium on Switching and Automata Theory (Univ. Maryland, College Park, Md., 1972). *J. Comput. System Sci.* **8** (1974), 272–314. (C. L. Liu) **51** #9570 68A20

Approximation algorithms for combinatorial problems. Fifth Annual ACM Symposium on the Theory of Computing (Austin, Tex., 1973). *J. Comput. System Sci.* **9** (1974), 256–278. (A. V. Anīsīmov) **56** #7317 68A20 (65K05)

(*with* Demers, A.; Ullman, Jeffrey D.; Garey, Michael R.; Graham, Ronald L.) Worst-case performance bounds for simple one-dimensional packing algorithms. *SIAM J. Comput.* **3** (1974), 299–325. (W. Moser) **55** #7362 90B35

(*with* Garey, Michael R.) Complexity results for multiprocessor scheduling under resource constraints. *SIAM J. Comput.* **4** (1975), *no.* 4, 397–411. (Claude Benzaken) **53** #7119 68A20 (90B35)

(*with* Garey, Michael R.) Approximation algorithms for combinatorial problems: an annotated bibliography. *Algorithms and complexity (Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1976), *pp.* 41–52. *Academic Press, New York*, 1976. (C. L. Liu) **55** #9595 68A10 (68A20)

(*with* Garey, Michael R.; Graham, Ronald L.) Some NP-complete geometric problems. *Eighth Annual ACM Symposium on Theory of Computing (Hershey, Pa.*, 1976), *pp.* 10–22. *Assoc. Comput. Mach., New York*, 1976. (David Dobkin) **57** #8146 68A20

(*with* Garey, Michael R.; So, Hing C.) An application of graph coloring to printed circuit testing. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 10, 591–599. (Narsingh Deo) **57** #9320 94A20 (05C15)

(*with* Garey, Michael R.) The complexity of near-optimal graph coloring. *J. Assoc. Comp. Mach.* **23** (1976), *no.* 1, 43–49. (Narsingh Deo) **54** #14439 68A20 (05C15)

(*with* Garey, Michael R.) Scheduling tasks with nonuniform deadlines on two processors. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 3, 461–467. (Masafumi Sasaki) **54** #6929 90B35 (68A20)

(*with* Garey, Michael R.; Graham, Ronald L.; Yao, Andrew Chi Chih) Resource constrained scheduling as generalized bin packing. *J. Combinatorial Theory Ser. A* **21** (1976), *no.* 3, 257–298. (M. M. Sysło) **55** #7359 90B35 (05B40)

On property B_r. *J. Combinatorial Theory Ser. B* **20** (1976), *no.* 1, 64–66. (Author's summary) **52** #13400 05A05

(*with* Garey, Michael R.; Sethi, Ravi) The complexity of flowshop and jobshop scheduling. *Math. Oper. Res.* **1** (1976), *no.* 2, 117–129. (A. T. Amin) **54** #6930 90B35 (68A20)

(*with* Garey, Michael R.; Tarjan, Robert Endre) The planar Hamiltonian circuit problem is NP-complete. *SIAM J. Comput.* **5** (1976), *no.* 4, 704–714. (Andreas Blass) **56** #2867 05C35 (02G05)

(*with* Garey, Michael R.; Stockmeyer, Larry J.) Some simplified NP-complete graph problems. *Theoret. Comput. Sci.* **1** (1976), *no.* 3, 237–267. (Shimon Even) **53** #14978 68A20

(*with* Garey, Michael R.; Hwang, Frank Kwangming) Algorithms for a set partitioning problem arising in the design of multipurpose units. *IEEE Trans. Computers* **C-26** (1977), *no.* 4, 321–328. (Fabrizio Luccio) **56** #13760 68A10 (68A20, 90B99)

(*with* Brucker, Peter; Garey, Michael R.) Scheduling equal-length tasks under treelike precedence constraints to minimize maximum lateness. *Math. Oper. Res.* **2** (1977), *no.* 3, 275–284. (Kåre M. Mjelde) **56** #17781 90B35

(*with* Garey, Michael R.) The rectilinear Steiner tree problem is NP-complete. *SIAM J. Appl. Math.* **32** (1977), *no.* 4, 826–834. (Fan R. K. Chung) **56** #1796 68A20 (05C05)

(*with* Garey, Michael R.; Graham, Ronald L.) The complexity of computing Steiner minimal trees. *SIAM J. Appl. Math.* **32** (1977), *no.* 4, 835–859. (Fan R. K. Chung) **56** #1797 68A20 (05C05)

(*with* Garey, Michael R.) Two-processor scheduling with start-times and deadlines. *SIAM J. Comput.* **6** (1977), *no.* 3, 416–426. (Klaus Ecker) **58** #25930 90B35

(*with* Chvátal, Václav; Garey, Michael R.) Two results concerning multicoloring. Algorithmic aspects of combinatorics (Conf., Vancouver Island, B.C., 1976). *Ann. Discrete Math.* **2** (1978), 151–154. (Jean-Claude Fournier) **58** #16360 05C15

(*with* Garey, Michael R.; Preparata, Franco P.; Tarjan, Robert Endre) Triangulating a simple polygon. *Inform. Process. Lett.* **7** (1978), *no.* 4, 175–179. (G. Berman) **58** #271 05A99 (52A25, 57C15, 68A10)

(*with* Garey, Michael R.) "Strong" NP-completeness results: motivation, e
and implications. *J. Assoc. Comput. Mach.* **25** (1978), *no.* 3, 499–508. (Pavel
57 #18221 68A20

(*with* Boyce, William M.; Garey, Michael R.) A note on bisecting m
spanning trees. *Networks* **8** (1978), *no.* 3, 187–192. (Fan R. K. Chung) **58** #
05C35

(*with* Garey, Michael R.; Graham, Ronald L.) Performance guarantees for
scheduling algorithms. *Operations Res.* **26** (1978), *no.* 1, 3–21. (Jan Weglarz) **5**
90B35

(*with* Garey, Michael R.; Graham, Ronald L.; Knuth, Donald E.) Co
results for bandwidth minimization. *SIAM J. Appl. Math.* **34** (1978), *no.* 3, 477–
Dörfler) **57** #18220 68A20 (05C99)

(*with* Coffman, Edward G., Jr.; Garey, Michael R.) An application of bin-
to multiprocessor scheduling. *SIAM J. Comput.* **7** (1978), *no.* 1, 1–17. (Jacek Bł
57 #9036 90B35

(*with* Preparata, Franco P.) The densest hemisphere problem. *Theoret. Com*
6 (1978), *no.* 1, 93–107. (M. Tetruašvili) **57** #4599 68A10 (52A45, 68A20)

Johnson, Dennis L. The diophantine problem $Y^2 - X^3 = A$ in a polynomial ring.
Math. **43** (1972), 151–155. (B. Gordon) **47** #4929 10B15 (12A20, 14H30)

Johnson, Diane (*with* Mendelsohn, N. S.) Extended triple systems. *Aequationes*
(1972), 291–298. (E. F. Assmus, Jr.) **47** #3211 05B30

A (2, 11) combinatorial groupoid. *Discrete Math.* **19** (1977), *no.* 3, 265–271
(Charles C. Lindner) **57** #3294 20N05

Johnson, Donald B. (*with* Wall, Charles R.; Crews, Phillip L.) Density bounds for
of divisors function. *Math. Comp.* **26** (1972), 773–777. (T. M. Apostol) **48** #60
#286) 10H25 (10L10)

A note on Dijkstra's shortest path algorithm. *J. Assoc. Comput. Mach.* **20**
385–388. (Author's summary) **48** #12892 68A20

Finding all the elementary circuits of a directed graph. *SIAM J. Comput.* **4**
77–84. (Herbert J. Bernstein) **53** #2010 68A10 (05C35)

(*with* Bruno, John; Coffman, Edward G., Jr.) On batch scheduling of jo
stochastic service times and cost structures on a single server. *J. Comput. System*
(1976), *no.* 3, 319–335. (Authors' summary) **55** #9908 90B15

(*with* Sethi, Ravi) A characterization of $LL(1)$ grammars. *Nordisk Tidskr. Informationsbehandling (BIT)* **16** (1976), *no.* 3, 275–280. (Daniel J. Rosenkrantz) **55** #11728 68A30

(*with* Coffman, Edward G., Jr.; Cody, R. A.) Analysis of a bin-packing al
for reducing access times on drum-like storage devices. *Found. Control Engrg.* **2**
no. 3, 119–130. (C. L. Liu) **57** #15390 90B35 (68A10, 68A50)

Efficient algorithms for shortest paths in sparse networks. *J. Assoc. Comput*
24 (1977), *no.* 1, 1–13. (Author's summary) **56** #8011 90C35

(*with* Coffman, Edward G., Jr.; Leung, Joseph Y.-T.) An efficient algori
allocating paged, drum-like storage. *BIT* **18** (1978), *no.* 1, 52–66. (S. Zlobec) **58**
68A50 (68A20, 90B99)

(*with* Mizoguchi, Tetsuo) Selecting the Kth element in $X + Y$ and $X_1 + X_2 + \cdots + X_m$. *SIAM J. Comput.* **7** (1978), *no.* 2, 147–153. (Harold N.
58 #19330 68A10 (68A20)

See also **Pajunen, Seppo**, **55** #286

Johnson, Dudley Paul Hitting time distributions for general stochastic processes.
Math. Statist. **43** (1972), 1716–1718. (D. L. Burkholder) **51** #6978 60G99 (6

Gaussian processes with Markovian covariances. *Canad. Math. Bull.* **17** (19
3, 413–415. (Petr Mandl) **51** #14238 60G15

Representations and classifications of stochastic processes. *Trans. Amer. Ma*
188 (1974), 179–197. (B. L. S. Prakasa Rao) **48** #9823 60G05

Johnson, E. A. (*with* Abbass, A. S.; Martin, R.) Calculation of the transport coef
for a dilute simple gas using an iterative solution of the Boltzmann equation. *J.*
11 (1978), *no.* 3, 633–645. (Authors' summary) **57** #2381 82.60

Johnson, E. W. (*with* Johnson, Johnny A.; Lediaev, J. P.) Structure and emb
theorems for unique normal decomposition lattices. *Fund. Math.* **70** (1971),
245–251. (K. P. Bogart) **45** #124 06A20 (13A15)

(*with* Lediaev, J. P.) Structure of Noether lattices with join-principal m
elements. *Pacific J. Math.* **37** (1971), 101–108. (L. Beran) **46** #7108 06A35 (

(*with* Lediaev, J. P.) Join-principal elements in Noether lattices. *Proc. Amer.*
Soc. **36** (1972), 73–78. (J. A. Johnson) **46** #5301 13C05

(*with* Johnson, Johnny A.) Corrigendum: "M-primary elements of a local N
lattice". *Canad. J. Math.* **25** (1973), 448. (Editors) **47** #1694 06A20

(*with* Detlefsen, Michael E.) Prime sequences and distributivity in local N
lattices. *Fund. Math.* **86** (1974), 149–156. (K. P. Bogart) **54** #2555 06A20 (1

(*with* Anderson, Daniel) Weak join-principal element lattices. *Algebra Univer*
(1976), *no.* 3, 377–381. (K. P. Bogart) **55** #208 06A20

(*with* Anderson, Daniel) Arithmetically embeddable local Noether lattices. *Michigan Math. J.* **23** (1976), *no.* 2, 177–184. (Johnny A. Johnson) **54** #191
(13C05)

Join-principal element lattices. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 20
(Daniel D. Anderson) **53** #7873 06A20

Johnson, Edward R. (*with* Parnes, Raymond) An integral representation of the Dirac
function for axisymmetric boundary value problems. *SIAM J. Appl. Math.* **24** (
539–544. (Brij Mohan) **47** #5329 33A70 (44A40)

(*with* Parnes, Raymond) Propagation of axisymmetric waves in an elastic half-
containing a cylindrical inclusion. I. Formulation and general integral solution.
J. Mech. Appl. Math. **30** (1977), *no.* 3, 235–253. (H. R. Aggarwal) **58** #32257a

(*with* Parnes, Raymond) Propagation of axisymmetric waves in an elastic half-
containing a cylindrical inclusion. II. Analysis of singularities, behavior at wave
and numerical results. *Quart. J. Mech. Appl. Math.* **30** (1977), *no.* 3, 255–268. (
Aggarwal) **58** #32257b 73.44

Trapped vortices in rotating flow. *J. Fluid Mech.* **86** (1978), *no.* 2, 209
(Author's summary) **58** #19709 76.35

Johnson, Ellis L. (*with* Gomory, Ralph E.) Some continuous functions related to c
polyhedra. *Math. Programming* **3** (1972), 23–85. (J. Piehler (Zbl **246** #90029)) **57** #18844 90C99

(*with* Gomory, Ralph E.) Some continuous functions related to corner polyhedra. II. *Math. Programming* **3** (1972), 359–389. (J. Piehler (Zbl **254** #90036)) **57** #18845 90C99

(*with* Gomory, Ralph E.) The group problems and subadditive functions. *Mathematical programming* (*Proc. Advanced Sem., Univ. Wisconsin, Madison, Wis.*, 1972), *pp.* 157–184. *Math. Res. Center Publ., No.* 30, *Academic Press, New York*, 1973. (Csaba Fabian) **52** #5002 90C10

Cyclic groups, cutting planes, shortest paths. *Mathematical programming* (*Proc. Advanced Sem., Univ. Wisconsin, Madison, Wis.*, 1972), *pp.* 185–211. *Math. Res. Center Publ., No.* 30, *Academic Press, New York*, 1973. (Zbl **274** #90031) **58** #25979 90C10

(*with* Crowder, Harlan P.) Use of cyclic group methods in branch and bound. *Mathematical programming* (*Proc. Advanced Sem., Univ. Wisconsin, Madison, Wis.*, 1972), *pp.* 213–226. *Math. Res. Center Publ., No.* 30, *Academic Press, New York*, 1973. (Authors' summary) **56** #9985 65K05 (90C10)

(*with* Edmonds, Jack) Matching, Euler tours and the Chinese postman. *Math. Programming* **5** (1973), 88–124. (A. Mowshowitz) **48** #168 05C35

(*with* Spielberg, Kurt) Inequalities in branch and bound programming. *Optimization methods for resource allocation* (*Proc. NATO Conf., Elsinore*, 1971), *pp.* 371–399. *English Universities Press, London*, 1974. (E. M. L. Beale) **51** #12323 90C05

(*with* Hammer, Peter L.; Peled, Uri N.) Regular 0-1 programs. Colloque sur la Programmation Mathématique (Brussels, 1974). *Cahiers Centre Études Recherche Opér.* **16** (1974), 267–276. (Authors' summary) **56** #10976 90C30

(*with* Burdet, Claude-Alain) A subadditive approach to the group problem of integer programming. Approaches to integer programming. *Math. Programming Stud. No.* 2 (1974), 51–71. (Csaba Fabian) **56** #2363 90C10

On the group problem for mixed integer programming. Approaches to integer programming. *Math. Programming Stud. No.* 2 (1974), 137–179. (Author's summary) **57** #15431 90C10

On cut-set integer polyhedra. Colloque sur la Théorie des Graphes (Paris, 1974). *Cahiers Centre Études Recherche Opér.* **17** (1975), *no.* 2-4, 235–251. (Robert E. Bixby) **53** #10638 05C20 (90C10)

(*with* Hammer, Peter L.; Peled, Uri N.) Facets of regular 0–1 polytopes. *Math. Programming* **8** (1975), 179–206. (Csaba Fabian) **52** #5005 90C10

Faces of polyhedra of mixed integer programming problems. *Symposia Mathematica, Vol. XIX* (*Convegno sulla Programmazione Matematica e sue Applicazioni, INDAM, Roma*, 1974), *pp.* 289–299. *Academic Press, London*, 1976. (Robert G. Jeroslow) **56** #2369 90C10

(*with* Berge, Claude) Coloring the edges of a hypergraph and linear programming techniques. *Studies in integer programming* (*Proc. Workshop, Bonn*, 1975), *pp.* 65–78. *Ann. of Discrete Math., Vol.* 1, *North-Holland, Amsterdam*, 1977. (A. Gewirtz) **58** #16406 05C99 (90Cxx)

(*with* Burdet, Claude-Alain) A subadditive approach to solve linear integer programs. *Studies in integer programming* (*Proc. Workship, Bonn*, 1975), *pp.* 117–143. *Ann. of Discrete Math., Vol.* 1, *North-Holland, Amsterdam*, 1977. (Leon Cooper) **56** #10948 90C10

(*with* Hammer, Peter L.; Peled, Uri N.) The role of master polytopes in the unit cube. *SIAM J. Appl. Math.* **32** (1977), *no.* 4, 711–716. (F. Giannessi) **58** #9234 90C10 (90C25)

On the edge-coloring property for the closure of the complete hypergraphs. Algorithmic aspects of combinatorics (Conf., Vancouver Island, B.C., 1976). *Ann. Discrete Math.* **2** (1978), 161–171. (Author's summary) **58** #16364 05C15

See also **Studies in integer programming**, **56** #2376 *and* **Handbook: Operations research**, **57** #15360

hnson, Ernest F. (*with* Seborg, Dale E.) Construction of regions of stability for non-linear systems containing time delays. *Internat. J. Control* (1) **12** (1970), 961–976. (H. T. Banks) **45** #3896 34K15 (93D99)

hnson, F. A. Elastic constants. I. *Proc. Roy. Soc. London Ser. A* **357** (1977), *no.* 1690, 289–295. (See Zbl **365** #73037) 73.53

Elastic constants. II. *Proc. Roy. Soc. London Ser. A* **357** (1977), *no.* 1690, 297–307. (See Zbl **365** #73038) 73.53

Elastic constants. III. *Proc. Roy. Soc. London Ser. A* **357** (1977), *no.* 1690, 309–321. (See Zbl **365** #73039) 73.53

hnson, F. E. A. (*with* Wall, C. T. C.) On groups satisfying Poincaré duality. *Ann. of Math.* (2) **96** (1972), 592–598. (H. Wada) **47** #358 20J05

Lefschetz duality and topological tubular neighbourhoods. *Trans. Amer. Math. Soc.* **172** (1972), 95–110. (C. L. Seebeck, III) **46** #9990 57A45 (57A35)

Manifolds of homotopy type $K(\pi, 1)$. II. *Proc. Cambridge Philos. Soc.* **75** (1974), 165–173. (K. W. Kwun) **48** #12539 57A15

On the first end invariant of an exact sequence. *Mathematika* **22** (1975), *no.* 1, 60–70. (Edward M. Bloomberg) **55** #515 20F25 (55A05)

(*with* Auslander, Louis) On a conjecture of C. T. C. Wall. *J. London Math. Soc.* (2) **14** (1976), *no.* 2, 331–332. (R. K. Lashof) **54** #11341 57D15 (22E40, 22E25)

A triangulation criterion. *Mathematika* **25** (1978), *no.* 1, 110–114. (Götz Brunner) **58** #18470 57C05 (57C15)

hnson, Frederic A. A natural deduction relevance logic. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **6** (1977), *no.* 4, 164–170. (David Makinson) **58** #146 02C10

hnson, G. D. Superadditivity intervals and Boas' test. *Pacific J. Math.* **43** (1972), 381–385. (Roman Ger) **49** #5259 26A51

(*with* Gragg, William B.) The Laurent-Padé table. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974), *pp.* 632–637. *North-Holland, Amsterdam*, 1974. (Geneva G. Belford) **53** #14862 65D15 (41–XX)

(*with* Thompson, H. E.) Optimality of myopic inventory policies for certain dependent demand processes. *Management Sci.* **21** (1974/75), *no.* 11, 1303–1307. (C. W. J. Granger) **52** #16558 90B05

hnson, George W. A bounded nonoscillatory solution of an even order linear differential equation. *J. Differential Equations* **15** (1974), 172–177. (Jerry Ridenhour) **48** #6543 34C10

The kth conjugate point function for an even order linear differential equation. *Proc. Amer. Math. Soc.* **42** (1974), 563–568. (Z. Nehari) **48** #11665 34C10

Conjugate point properties for an even order linear differential equation. *Proc. Amer. Math. Soc.* **45** (1974), 371–376. (D. Hinton) **50** #684 34C10

The zeros of solutions of an even order quasi-differential equation. *J. Analyse Math.* **28** (1975), 123–137. (See Zbl **351** #34018) 34C10

The zeros of solutions of a linear quasi-differential equation. *J. Analyse Math.* **28** (1975), 255–261. (See Zbl **348** #34024) 34C10

Johnson, Gerald W. Integral representation of certain linear operators. *Rev. Roumaine Math. Pures Appl.* **15** (1970), 1209–1227. (Editors) **56** #6454 47B37

(*with* Skoug, David) A Banach algebra of Feynman integrable functionals with application to an integral equation formally equivalent to Schroedinger's equation. *J. Functional Analysis* **12** (1973), 129–152. (A. C. Zaanen) **50** #570 28A40

(*with* Skoug, David) Feynman integrals of non-factorable finite-dimensional functionals. *Pacific J. Math.* **45** (1973), 257–267. (M. Schilder) **47** #8805 28A40

(*with* Woodward, Gordon S.) On p-Sidon sets. *Indiana Univ. Math. J.* **24** (1974/75), 161–167. (K. A. Ross) **50** #2821 43A46

(*with* Skoug, David) Cameron and Storvick's function space integral for certain Banach spaces of functionals. *J. London Math. Soc.* (2) **9** (1974/75), 103–117. (Tack-Wang Lee) **51** #845 28A40

(*with* Skoug, David) A function space integral for a Banach space of functionals on Wiener space. *Proc. Amer. Math. Soc.* **43** (1974), 141–148. (M. Schilder) **49** #5288 28A40 (46G10)

(*with* Skoug, David) Cameron and Storvick's function space integral for a Banach space of functionals generated by finite-dimensional functionals. *Ann. Mat. Pura Appl.* (4) **104** (1975), 67–83. (Robert Cameron) **52** #14220 28A40

(*with* Skoug, David) The Cameron-Storvick function space integral: the L_1 theory. *J. Math. Anal. Appl.* **50** (1975), 647–667. (M. Schilder) **51** #10568 28A40

(*with* Skoug, David) The Cameron-Storvick function space integral: an $L(L_p, L_{p'})$ theory. *Nagoya Math. J.* **60** (1976), 93–137. (Robert Cameron) **53** #11011 81.28 (28A40)

Theorems on lacunary sets, especially p-Sidon sets. *Studia Math.* **58** (1976), *no.* 3, 209–221. (K. A. Ross) **55** #988 43A46 (42A44)

(*with* Petersen, Loren V.) A note on Banach spaces without the approximation property. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 3, 579–589. (W. J. Davis) **58** #2181 46B15 (46A45)

Johnson, Gordon G. An arc and a cube. *Bol. Soc. Mat. Mexicana* (2) **16** (1971), 52–53. (S. A. Naimpally) **48** #1147 54C35

Conjugates of differentiable flows. *J. Austral. Math. Soc.* **14** (1972), 375–378. (W. R. Utz) **47** #2576 54H20

Fixed points by mean value iterations. *Proc. Amer. Math. Soc.* **34** (1972), 193–194. (S. Fučík) **45** #1006 47H10

Arcs and bases. *Publ. Math. Debrecen* **19** (1972), 165–167 (1973). (Carl Pearcy) **50** #8022 46B15

Moment sequences in Hilbert space. *Pacific J. Math.* **46** (1973), 201–207. (R. A. Horn) **48** #2689 44A50

Inner products characterized by difference equations. *Proc. Amer. Math. Soc.* **37** (1973), 535–536. (L. Losonczi) **47** #785 46C05

An example in fixed point theory. *Proc. Amer. Math. Soc.* **44** (1974), 511–514. (J. E. Keesling) **51** #4199 54H25

Johnson, Guy (*with* Gustafson, Karl) On the absolutely continuous subspace of a self-adjoint operator. *Helv. Phys. Acta* **47** (1974), 163–166. (T. Kato) **50** #8143 47B15

Johnson, H. L. An integral equation formulation of a mixed boundary value problem on a sphere. *SIAM J. Math. Anal.* **6** (1975), 417–426. (M. Schechter) **51** #8612 35J05

On a mixed boundary value problem for the reduced wave equation on a sphere. *SIAM J. Math. Anal.* **8** (1977), *no.* 1, 1–15. (M. Schechter) **56** #838 35J05

Johnson, Harold H. Conditions for isomorphism in partial differential equations. *Pacific J. Math.* **39** (1971), 401–406. (H. Osborn) **46** #3972 35G05

(*with* Osaka, J.) An isoperimetric inequality for polyhedra. *Amer. Math. Monthly* **81** (1974), 58–61. (G. D. Chakerian) **49** #3698 52A40

An application of the maximum principle to the geometry of plane curves. *Proc. Amer. Math. Soc.* **44** (1974), 432–435. (E. Baiada) **50** #1128 52A40 (49B10)

(*with* Alonso-Concheiro, A.) Decoupling a subclass of linear systems by output feedback. *Automat. Control Theory Appl.* **3** (1975), 20–22. (Luciano Pandolfi) **52** #10136 93C05

(*with* Alonso-Concheiro, A.) Realization of the set of decoupling invariants. *IEEE Trans. Automatic Control* **AC-20** (1975), 150–151. (V. M. Popov) **55** #2217 93B20

(*with* Chakerian, Gulbank D.; Vogt, A.) A geometric inequality for plane curves with restricted curvature. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 122–126. (C. M. Petty) **53** #6427 52A40

Johnson, Ivan L., Jr. (*with* Kelley, Henry J.; Lefton, Leon) Variable-metric algorithm employing linear and quadratic penalties. *AIAA J.* **14** (1976), *no.* 4, 427–430. (Authors' summary) **56** #13627 65K05

Johnson, J. H. The q-analysis of road intersections. *Internat. J. Man-Mach. Stud.* **8** (1976), *no.* 5, 531–548. (Not reviewed) 90B20

(*with* Blair, J. M.; Edwards, C. A.) Rational Chebyshev approximations for the inverse of the error function. *Math. Comp.* **30** (1976), *no.* 136, *loose microfiche suppl.*, 7–68. (Editors) **55** #9479 65A05 (65D20, 33A20)

(*with* Blair, J. M.; Edwards, C. A.) Rational Chebyshev approximations for the inverse of the error function. *Math. Comp.* **30** (1976), *no.* 136, 827–830. (Authors' summary) **54** #9047 65D20 (33A20)

(*with* Blair, J. M.; Edwards, C. A.) Rational Chebyshev approximations for the Bickley functions $Ki_n(x)$. *Math. Comp.* **32** (1978), *no.* 143, 876–886. (H. Hochstadt) **57** #10999 65D20

Johnson, J. L. (*with* Jardin, S. C.; Greene, John M.; Grimm, R. C.) Dynamical grid method for time-dependent simulations of axisymmetric instabilities in tokamaks. *J. Comput. Phys.* **29** (1978), *no.* 1, 101–126. (Authors' summary) **58** #25719 82.65

Johnson, J. Peter (*with* Fairweather, Graeme) On the extrapolation of Galerkin methods for parabolic problems. *Numer. Math.* **23** (1974/75), 269–287. (Alfred R. Mitchell) **51** #9522 65N30 (*with* Dupont, Todd; Fairweather, Graeme) Three-level Galerkin methods for parabolic equations. *SIAM J. Numer. Anal.* **11** (1974), 392–410. (G. H. Meyer) **53** #7071 65N30

(*with* Bancroft, T. A.; Han, Chien Pai) A pooling methodology for regressions in prediction. (French summary) *Biometrics* **33** (1977), *no.* 1, 57–67. (H. Toutenberg) **56** #4063 62J05

See also **Mathematical foundations of the finite element method with applications to partial differential equations, 49** #11824

Johnson, James J. The permanent function and the problem of Montmort. *Math. Mag.* **46** (1973), 80–83. (R. W. Robinson) **47** #1629 05A15

Bounds for certain permanents and determinants. *Linear Algebra and Appl.* **8** (1974), 57–64. (D. London) **48** #8524 15A15

On partially non-positive matrices. *Linear Algebra and Appl.* **8** (1974), 185–187. (J. Dias da Silva) **49** #7275 15A18

Johnson, James S. Triples for classes which are not varieties. *Algebra Universalis* **2** (1972), 3–6. (V. Căzănescu) **51** #7996 08A15 (02J15, 20K10)

(*with* Comer, Stephen D.) The standard semigroup of operators of a variety. *Algebra Universalis* **2** (1972), 77–79. (W. Taylor) **46** #7127 08A25

Axiom systems for first order logic with finitely many variables. *J. Symbolic Logic* **38** (1973), 576–578. (D. Monk) **49** #8847 02G15 (02B10)

Johnson, Jerry A. Extreme points in tensor products and a theorem of de Leeuw. *Studia Math.* **37** (1970/71), 159–162. (J. R. Holub) **45** #9104 46B05 (46M05)

Banach spaces of Lipschitz functions and vector-valued Lipschitz functions. *Trans. Amer. Math. Soc.* **148** (1970), 147–169. (Editors) **54** #3379 46E15

Lipschitz function spaces for arbitrary metrics. *Bull. Amer. Math. Soc.* **78** (1972), 702–705. (R. B. Fraser, Jr.) **46** #650 46E10

A remark on a theorem of Caradus. *Bull. Austral. Math. Soc.* **6** (1972), 355–356. (Editors) **46** #4168 46B05

A note on extreme and exposed points in $C^n(I)$. *Math. Ann.* **195** (1972), 95–102. (K. Sundaresan) **45** #873 46E15

Lipschitz spaces. *Pacific J. Math.* **51** (1974), 177–186. (A. S. Gleit) **49** #11228 46E15

Extreme measurable selections. *Proc. Amer. Math. Soc.* **44** (1974), 107–112. (K. Sundaresan) **49** #5818 46E40 (28A45)

A note on Banach spaces of Lipschitz functions. *Pacific J. Math.* **58** (1975), *no.* 2, 475–482. (R. B. Fraser, Jr.) **52** #6392 46E15

(*with* Wolfe, John C.) Norm attaining operators on $C(S)$ spaces. *Banach spaces of analytic functions (Proc. Pelczynski Conf., Kent State Univ., Kent, Ohio, 1976), pp.* 41–43. *Lecture Notes in Math., Vol.* 604, *Springer, Berlin,* 1977. (J. J. Uhl, Jr.) **56** #12966 47B37

Johnson, Jerry D. *See* **Survey of statistical design and linear models, 51** #2039

Johnson, Jimmie Lee The uniform continuity of certain translation semigroups. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 2, 197–203. (J. W. Neuberger) **58** #23750 47D05 (47A15)

Johnson, Johnny A. (*with* Johnson, E. W.; Lediaev, J. P.) Structure and embedding theorems for unique normal decomposition lattices. *Fund. Math.* **70** (1971), *no.* 3, 245–251. (K. P. Bogart) **45** #124 06A20 (13A15)

Noetherian lattice modules and semi-local completions. *Fund. Math.* **73** (1971/72), *no.* 2, 93–103. (K. P. Bogart) **47** #83 06A20 (13C99)

Union conditions in Noether lattices. *Proc. Amer. Math. Soc.* **31** (1972), 391–394. (T. S. Blyth) **45** #3261 06A20

(*with* Johnson, E. W.) Corrigendum: "*M*-primary elements of a local Noether lattice". *Canad. J. Math.* **25** (1973), 448. (Editors) **47** #1694 06A20

A note on local Noether lattices. *Colloq. Math.* **27** (1973), 223–225. (R. P. Dilworth) **48** #3819 06A20 (13E05)

A note on regular local Noether lattices. *Glasgow Math. J.* **15** (1974), 159–161. (Daniel D. Anderson) **51** #477 13C99

Quasi-complete ideal lattices. *Colloq. Math.* **33** (1975), *no.* 1, 59–62. (L. J. Ratliff, Jr.) **52** #8116 13H99

Finite dimensional completions in Noether lattices. *Fund. Math.* **87** (1975), 169–182. (R. P. Dilworth) **51** #10179 06A20 (13E05)

Semi-local lattices. *Fund. Math.* **90** (1975), *no.* 1, 11–15. (M. Nagata) **53** #8034 13A15 (06A20)

(*with* Hausen, Jutta) A non-commutative minimally non-Noetherian ring. *Math. Scand.* **36** (1975), *no.* 2, 313–316. (S. Williamson) **52** #488 16A46

A note on Noether lattices in which each element is primary. *Acta Math. Acad. Sci. Hungar.* **27** (1976), *no.* 1-2, 29–31. (M. B. Boisen, Jr.) **54** #5220 13E99

A note on semilocal rings. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 2, 469–470. (L. J. Ratliff, Jr.) **53** #389 13C05 (06A20)

(*with* Hausen, Jutta) Abelian groups with many automorphisms. *Rend. Sem. Mat. Univ. Padova* **55** (1976), 1–5. (K. Faltings) **57** #6229 20K30

Maximal elements and completions of Noether lattices. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 1-2, 33–43. (Daniel D. Anderson) **57** #16150 06A20

(*with* Hausen, Jutta) Characterization of the primary abelian groups, bounded modulo the divisible subgroup, by the radical of their endomorphism rings. *Arch. Math. (Basel)* **29** (1977), *no.* 6, 566–570. (Wolfgang Liebert) **57** #6231 20K30

(*with* Rodriguez, Dennis M.) A note on random time changes. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no.* 1, 131–135. (Martin Jacobsen) **55** #6590 60J65

Completeness in semi-local ideal lattices. (Loose Russian summary) *Czechoslovak Math. J.* **27(102)** (1977), *no.* 3, 378–387. (Chin-Pi Lu) **56** #11991 13J10 (13H99)

A note on regular local Noether lattices. II. *Glasgow Math. J.* **18** (1977), *no.* 2, 157–159. (Daniel D. Anderson) **56** #2890 06A23 (13H99)

Quasi-completeness in local rings. *Math. Japon.* **22** (1977), *no.* 2, 183–184. (M. Nagata) **57** #6005 13H99

(*with* Hausen, Jutta) Ideals and radicals of some endomorphism rings. *Pacific J. Math.* **74** (1978), *no.* 2, 365–372. (S. S. Page) **58** #771 16A21 (20K30)

Johnson, Johnny R. (*with* Johnson, David E.) ★Graph theory with engineering applications. *The Ronald Press Co., New York,* 1972. x+392 *pp.* (G. Chartrand) **49** #98 05Cxx (94A20)

Johnson, Jon L. (*with* Costa, Douglas L.) Inert extensions of Krull domains. *Pro* *Math. Soc.* **59** (1976), *no.* 2, 189–194. (John David) **54** #300 13F05

(*with* Matijevic, Jacob R.) Krull dimension in graded rings. *Comm. A* (1977), *no.* 3, 319–329. (J. W. Brewer) **55** #2875 13E99

Johnson, Joseph Extensions of differential modules over formal power series rings. *J. Math.* **93** (1971), 731–741. (C. M. Knighten) **45** #3379 12H05

Some homological properties of Spencer's cohomology theory. *J. Differentia* *Geometry* **5** (1971), 341–351. (Y. Tomonaga (Zbl **233** #58002)) **48** #9779 (12H05)

Kähler differentials and differential algebra in arbitrary characteristic. *Tran* *Math. Soc.* **192** (1974), 201–208. (Jerald Kovacic) **49** #263 12H05

A notion of regularity for differential local algebras. *Contributions to* (*collection of papers dedicated to Ellis Kolchin*), *pp.* 211–232. *Academic Press, Ne* 1977. (Author's introduction) **58** #16619 12H05

Systems of *n* partial differential equations in *n* unknown functions: the conje M. Janet. *Trans. Amer. Math. Soc.* **242** (1978), 329–334. (K. Okugawa) **58** # 12H05 (58H05)

Johnson, Joseph E. Proper-time quantum mechanics. II. *Phys. Rev. D* (3) 1735–1747. (J.-P. Antoine) **48** #13031 81.22

(*with* Chang, K. K.) Exact diagonalization of the Dirac Hamiltonian in an field. *Phys. Rev. D* (3) **10** (1974), 2421–2427. (Authors' summary) **53** #10003

Johnson, K. (*with* Chodos, Alan; Jaffe, R. L.; Thorn, C. B.; Weisskopf, V. extended model of hadrons. *Phys. Rev. D* (3) **9** (1974), *no.* 12, 3471–3495. (summary) **57** #11452 81.35

Johnson, K. (*with* Dimsdale, Bernard) Multiconic surfaces. *IBM J. Res. Dev* (1975), *no.* 6, 523–529. (J. Buchanan) **52** #12293 65D10

(*with* Chadwick, Richard S.; Inselberg, Alfred) Mathematical model of the II. Results and conclusions. *SIAM J. Appl. Math.* **30** (1976), *no.* 1, 164–179 Cowan) **52** #16694 92A05

degraft-Johnson, K. T. *See* **deGraft-Johnson, K. T.**

Johnson, K. W. A computer calculation of homology in varieties of groups. *J.* *Math. Soc.* (2) **8** (1974), 247–252. (I. D. Macdonald) **53** #589 20–04

Varietal generalisations of Schur multipliers, stem extensions and stem co *Reine Angew. Math.* **270** (1974), 169–183. (I. D. Macdonald) **53** #646 20J0

(*with* Sharma, Bhagirath Lal) A variety of loops. *Ann. Soc. Sci. Bruxelles S* (1978), *no.* 1-2, 25–41. (Ján Duplák) **58** #16930 20N05

(*with* Sharma, Bhagirath Lal) Construction of commutative weak inverse loops of most orders. *Comm. Algebra* **6** (1978), *no.* 11, 1157–1168. (Ján **58** #972 20N05

Johnson, Kenneth D. Spectrum and semigroups of elliptic operators on homo spaces. *J. Differential Geometry* **5** (1971), 517–522. (N. Shimakura) **46** #4570 58G99 (22E45, 35P05, 43A85)

(*with* Wallach, Nolan R.) Composition series and intertwining operators spherical principal series. *Bull. Amer. Math. Soc.* **78** (1972), 1053–1059. Sugiura) **46** #9238 22E45

On an exceptional series of representations. *Harmonic analysis on homo* *spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown,* 1972), *pp.* 275–280. *Amer. Math. Soc., Providence, R.I.,* 1973. (Mitsuo Sugiura) **49** #5233 22E45

Functional analysis on SU(1, 1). *Advances in Math.* **14** (1974), 346–364. Trombi) **51** #5849 22E30 (43A80)

Differential equations and an analog of the Paley-Wiener theorem fo semisimple Lie groups. *Nagoya Math. J.* **64** (1976), 17–29. (Editors) **58** # 22E45

Partial differential equations on semisimple Lie groups. *Proc. Amer. Math.* (1976), 289–295 (1977). (G. L. Litvinov) **54** #12974 22E30 (43A85)

Composition series and intertwining operators for the spherical principal se *Trans. Amer. Math. Soc.* **215** (1976), 269–283. (Mitsuo Sugiura) **52** #5882 (43A80)

Remarks on a theorem of Koranyi and Malliavin on the Siegel upper half rank two. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 2, 351–356. (A. Korányi) **57** # 22E30 (32M15)

(*with* Wallach, Nolan R.) Composition series and intertwining operators spherical principal series. I. *Trans. Amer. Math. Soc.* **229** (1977), 137–173. (Sugiura) **56** #5794 22E45

Johnson, Kent W. Immersion and embedding of projective varieties. *Acta Ma* (1978), *no.* 1–2, 49–74. (Robert Speiser) **57** #3120 14C15 (14E25)

Johnson, L. Ensign Control and controllability in compartmental systems. *Math. Bi* (1976), *no.* 1-2, 181–190. (Author's summary) **58** #33089 92A05

Johnson, Larry S. (*with* Varineau, Verne J.) On quasi-conjugate *n*-tuples of matri *Combinatorial Theory Ser. A* **12** (1972), 1–13. (M. Pearl) **45** #282 15A21 (0

Johnson, Lee W. (*with* Riess, R. Dean) Minimal quadratures for functions of lo continuity. *Math. Comp.* **25** (1971), 831–835. (Walter Gautschi) **45** #7989

(*with* Riess, R. Dean) Error estimates for Clenshaw-Curtis quadrature. *Math.* **18** (1971/72), 345–353. (C. W. Clenshaw) **46** #4685 65D30

(*with* Riess, R. Dean) Estimates for $E_n(x^{n+2m})$. *Aequationes Math.* **8** (1972), 258–262. (E. W. Cheney) **48** #4590 41A50

(*with* Brown, Ezra) A class of planar four-colorable graphs. *Israel J. M* (1972), 53–56. (H. V. Kronk) **45** #3247 05C15

Approximating the best approximation operator. Collection of articles dedic J. L. Walsh on his 75th birthday, VIII. *J. Approximation Theory* **6** (1972), 36 (Hans-Jürgen Albrand) **49** #7670 41A50

Minimal *H*-sets and unicity of best approximations. *J. Approximation Th* (1973), 352–354. (William Hintzman) **50** #5305 41A50

(*with* Riess, R. Dean) An error analysis for numerical differentiation. *J. Inst.* *Appl.* **11** (1973), 115–120. (D. D. Stancu) **49** #8281 65D25

Upper bounds for vertex degrees of planar 5-chromatic graphs. *Trans. Amer.* *Soc.* **181** (1973), 53–59. (R. E. Greenwood) **48** #147 05C15

(*with* Riess, R. Dean) On the determination of quadrature formulae of degree of precision for approximating Fourier coefficients. *J. Inst. Math. A*

(1974), 345–351. (B. Bojanov) **49** #11780 65D30

(*with* Riess, R. Dean) Errors in interpolating functions at the zeros of $T_{n+1}(x)$. *SIAM J. Numer. Anal.* **11** (1974), 244–253. (C. Micchelli) **50** #5291 41A25 (65D15)

Comparisons between best polynomial approximations and interpolating polynomials. *Aequationes Math.* **12** (1975), *no.* 2/3, 152–155. (John A. Roulier) **52** #1098 41A25 (41A10)

(*with* Shaw, John K.; Riess, R. Dean) Accelerating convergence of eigenfunction expansions. *Math. Comp.* **30** (1976), *no.* 135, 469–477. (W. Niethammer) **54** #6445 65B99 (42A60)

(*with* Riess, R. Dean) ★Numerical analysis. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1977. xi + 370 *pp. ISBN* 0-201-03442-5 (P. Jambor) **58** #13598 65–01

Stochastic parameter regression: an annotated bibliography. (French summary) *Internat. Statist. Rev.* **45** (1977), *no.* 3, 257–272. (Susan D. Horn) **57** #7889 62J05

(*with* Riess, R. Dean) Closed-form representations for errors of cubic spline approximations on equally spaced knots. *J. Inst. Math. Appl.* **21** (1978), *no.* 3, 345–351. (Ian Gladwell) **57** #14333 65D05 (65D15)

nson, Leonard G. Plausibility plus probability: Bayesian statistics. *Indust. Math.* **22** (1972), 99–103. **47** #9748 62A15

nson, LeRoy F. Determining cliques of a graph. *Proceedings of the Fifth Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1975), *pp.* 429–437. *Congressus Numerantium, No. XVI, Utilitas Math. Publ., Winnipeg, Man.*, 1976. (Narsingh Deo) **53** #13044 05C99 (68A10)

nson, Lloyd E. (*with* Klink, William H.) Multiparticle partial-wave amplitudes and inelastic unitarity. IV. A scattering model with production and its characteristic operator function. *Phys. Rev. D* (3) **9** (1974), 1057–1064. (Authors' summary) **52** #9904 81.47

nson, M. Static black holes in Brans-Dicke theory are Schwarzschild. *Lett. Nuovo Cimento* (2) **4** (1972), 323–327. **53** #10138 83.53

nson, M. P. (*with* Broyden, C. G.) A class of rank-1 optimization algorithms. *Numerical methods for non-linear optimization* (*Conf., Univ. Dundee, Dundee*, 1971), *pp.* 35–38. *Academic Press, London*, 1972. (Claude Carasso) **52** #2198 65K05

knell-Johnson, Marjorie *See* **Bicknell-Johnson, Marjorie**

nson, Marjory J. Near-rings with identities on dihedral groups. *Proc. Edinburgh Math. Soc.* (2) **18** (1972/73), 219–228. (J. R. Clay) **47** #5058 16A76

Right ideals and right submodules of transformation near-rings. *J. Algebra* **24** (1973), 386–391. (G. Betsch) **47** #3459 16A76

Radicals of endomorphism near-rings. *Rocky Mountain J. Math.* **3** (1973), 1–7. (John D. P. Meldrum) **48** #4056 16A76

Maximal right ideals of transformation near-rings. *J. Austral. Math. Soc.* **19** (1975), *part* 4, 410–412. (R. Gorton) **51** #8183 16A76

Radicals of regular near-rings. *Monatsh. Math.* **80** (1975), *no.* 4, 331–341. (Steve Ligh) **53** #5675 16A76

nson, Nancy Rice theorems for S_n^{-1} sets. *Canad. J. Math.* **29** (1977), *no.* 4, 794–805. (Manuel Lerman) **55** #12493 02F35 (02F25)

nson, Norman J. (*with* Lange, Kenneth) Renewal processes with random numbers of delays: application to a conception and birth model. *J. Appl. Probability* **15** (1978), *no.* 2, 209–224. (W. A. O'N. Waugh) **58** #7897 60K05 (92A15)

nson, Norman L. Statistics. *Visiting scholars' lectures* (*Texas Tech Univ., Lubbock, Tex.*, 1970/71), *pp.* 71–106. *Math. Ser., No. 9, Texas Tech Press, Texas Tech Univ., Lubbock, Tex.*, 1971. (Andre Laurent) **51** #2032 62–01

(*with* Simons, Gordon) On the convergence of binomial to Poisson distributions. *Ann. Math. Statist.* **42** (1971), 1735–1736. (E. Lukacs) **49** #9910 60F05

(*with* Kotz, Samuel) ★Distributions in statistics: continuous multivariate distributions. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, Inc., New York-London-Sydney*, 1972. xiv + 333 *pp.* (B. K. Ghosh) **54** #6378 62H10 (62E15, 60E05)

Inferences on sample size: sequences of samples. *Trabajos Estadíst.* **23** (1972), *no.* 1-2, 85–110. (E. S. Keeping) **48** #9935 62F10

(*with* Kotz, Samuel) Extended and multivariate Tukey lambda distributions. *Biometrika* **60** (1973), 655–661. (E. S. Keeping) **49** #1678 62H05

Some simple tests of mixtures with symmetrical components. *Comm. Statist.* **1** (1973), 17–25. (S. Kotz) **47** #4373 62F05

Extensions and corrections to: "Tables to facilitate fitting S_U frequency curves" (Biometrika **52** (1965), 547–558). *Biometrika* **61** (1974), 203–205. (Author's summary) **49** #6539 62Q05

(*with* Kotz, Samuel) A characterization of exponential distributions by a waiting time property. *Comm. Statist.* **3** (1974), 257–258. (D. S. Tracy) **49** #10001 62E10

(*with* Kotz, Samuel) On some generalized Farlie-Gumbel-Morgenstern distributions. *Comm. Statist.* **4** (1975), 415–427. (I. Olkin) **51** #9357 62H05

(*with* Kotz, Samuel) A vector multivariate hazard rate. *J. Multivariate Anal.* **5** (1975), 53–66. (Henry W. Block) **51** #2153 (E **53** #9509) 62H05

(*with* Kotz, Samuel) Erratum: "A vector multivariate hazard rate" (J. Multivariate Anal. **5** (1975), 53–66). *J. Multivariate Anal.* **5** (1975), *no.* 4, 498. (Henry W. Block) **53** #9509 62H05

Letter to the editor on: "A note on the estimation of $\Pr\{Y<X\}$ in the exponential case" (Technometrics **16** (1974), 625) by H. Tong. With a reply by Tong. *Technometrics* **17** (1975), *no.* 3, 393. (Editors) **51** #7111 62F10

(*with* Kotz, Samuel) Two variants of Pólya's urn models (towards a rapprochement between combinatorics and probability theory). *Amer. Statist.* **30** (1976), *no.* 4, 186–188. (S. G. Mohanty) **56** #9623 60C05

(*with* Kotz, Samuel) On a multivariate generalized occupancy model. *J. Appl. Probability* **13** (1976), *no.* 2, 392–399. (Authors' summary) **55** #11331 60C05 (62H05)

(*with* Leone, Fred C.) ★Statistics and experimental design in engineering and the physical sciences. Vol. I. Second edition. A Wiley Publication in Applied Statistics. *John Wiley & Sons, New York-London-Sydney*, 1977. xiv + 601 *pp.* (Editors) **54** #11585 62–01

(*with* Leone, Fred C.) ★Statistics and experimental design in engineering and the physical sciences. Vol. II. Second edition. A Wiley Publication in Applied Statistics. *John Wiley & Sons, New York-London-Sydney*, 1977. *pp.* i–xiv + 593–1082 + i–viii. (Editors) **57** #17898 62–01

(*with* Kotz, Samuel) ★Urn models and their application. An approach to modern discrete probability theory. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney*, 1977. xiii + 402 *pp.* (C. J. Park) **58** #7773 60C05 (60E05, 62E15)

The study of possibly incomplete samples. *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 59–73. *Editura Acad. R.S.R., Bucharest*, 1977. (A. C. Cohen) **57** #1738 62F05

(*with* Kotz, Samuel) Propriétés de dépendance des distributions itérées, généralisées à deux variables Farlie-Gumbel-Morgenstern. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 4, A277–A280. (Authors' summary) **57** #1767 62H20

(*with* Kotz, Samuel) On some generalized Farlie-Gumbel-Morgenstern distributions. II. Regression, correlation and further generalizations. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 6, 485–496. (I. Olkin) **55** #11500 62H10

See also **Proceedings: Session of the International Statistical Institute, 49** #8144; **Gray, H. L.; et al., 49** #10019 *and* **Pearson, Karl, 50** #6099

Johnson, Norman L. Affine planes of order 25. *Arch. Math.* (*Basel*) **23** (1972), 104–109. (F. Wilke) **47** #2480 50D05

A characterization of generalized Hall planes. *Bull. Austral. Math. Soc.* **6** (1972), 61–67. (M. J. Kallaher) **45** #5861 50D05

Homomorphisms of free planes. *Math. Z.* **125** (1972), 255–263. (E. Glock) **45** #5862 50D35

Derivation in infinite planes. *Pacific J. Math.* **43** (1972), 387–402. (M. J. Kallaher) **48** #7107 50D35

Semi-translation planes derived from dual translation planes. *Proceedings of the International Conference Projective Planes* (*Washington State Univ., Pullman, Wash.*, 1973), *pp.* 115–120. *Washington State Univ. Press, Pullman, Wash.*, 1973. (D. A. Foulser) **52** #1514 50D35 (05B25)

A class of translation planes admitting homologies with affine axes. *Arch. Math.* (*Basel*) **24** (1973), 105–112. (T. G. Ostrom) **47** #4130 50D35

Collineation groups of derived semifield planes. *Arch. Math.* (*Basel*) **24** (1973), 429–433. (D. A. Foulser) **49** #6023 50D35

Semi-translation planes of class $1-3a$. (Italian summary) *Boll. Un. Mat. Ital.* (4) **7** (1973), 359–376. (Jane W. Di Paola) **48** #12279 50D35

A note on generalized Hall planes. *Bull. Austral. Math. Soc.* **8** (1973), 151–153. (T. G. Ostrom) **47** #5714 50D30

(*with* Ostrom, Theodore G.) Translation planes with several homology or elation groups of order 3. *Geometriae Dedicata* **2** (1973), 65–81. (J. L. Zemmer) **48** #1033 50D35

(*with* Kallaher, Michael J.) Transitive collineation groups on affine planes. *Math. Z.* **135** (1973/74), 149–164. (E. J. F. Primrose) **49** #3653 50A15

(*with* Seydel, Robert E.) A class of translation planes of order 3^6. *Math. Z.* **135** (1973/74), 271–278. (M. J. Kallaher) **49** #1319 50D30

Collineation groups of derived semifield planes. II. *Arch. Math.* (*Basel*) **25** (1974), 400–404. (D. A. Foulser) **51** #8949a 50D35 (05B25, 20D35)

(*with* Piper, Fred C.) On planes of Lenz-Barlotti class II–1. *Bull. London Math. Soc.* **6** (1974), 152–154. (T. G. Ostrom) **51** #1599 50D35

Collineation groups of derived semifield planes. III. *Arch. Math.* (*Basel*) **26** (1975), 101–106. (D. A. Foulser) **51** #8949b (E **57** #3987) 50D35 (05B25, 20D35)

The translation planes of Bruck type {1}. *Arch. Math.* (*Basel*) **26** (1975), *no.* 5, 554–560. (T. G. Ostrom) **52** #4112 50D35

Distortion and generalized Hall Planes. *Geometriae Dedicata* **4** (1975), *no.* 2/3/4, 437–456. (L. A. Rosati) **54** #13717 50D35

Regularity derived planes. *Math. Z.* **145** (1975), *no.* 3, 201–210. (M. J. Kallaher) **52** #11728 50D35

Correction to: "Collineation groups of derived semifield planes, III" (Arch. Math. (Basel) **26** (1975), 101–106). *Arch. Math.* (*Basel*) **27** (1976), *no.* 3, 335–336. (D. A. Foulser) **57** #3987 50D35 (05B25, 20B25)

(*with* Kallaher, Michael J.) On translation planes with affine central collineations. II. *Canad. J. Math.* **28** (1976), *no.* 1, 116–129. (G. Pickert) **53** #3870 50D35

(*with* Ostrom, Theodore G.) Tangentially transitive planes of order 16. *J. Geometry* **10** (1977), *no.* 1-2, 146–163. (J. Yaqub) **58** #18118 50D35

(*with* Rahilly, Alan) On elations of derived semifield planes. *Proc. London Math. Soc.* (3) **35** (1977), *no.* 1, 76–88. (C. Hering) **58** #18119 50D35

A note on the derived semifield planes of order 16. *Aequationes Math.* **18** (1978), *no.* 1-2, 103–111. (T. G. Ostrom) **58** #23997 50D35

On central collineations of derived semifield planes. *J. Geom.* **11** (1978), *no.* 2, 139–149. (Stanley E. Payne) **58** #18120 50D35

Johnson, Olin (*with* Bosarge, W. E., Jr.; Smith, C. L.) A direct method approximation to the linear parabolic regulator problem over multivariate spline bases. *SIAM J. Numer. Anal.* **10** (1973), 35–49. (D. H. Chyung) **47** #5694 49D05 (65K05)

(*with* Bosarge, W. E., Jr.; McKnight, R. S.; Timlake, W. P.) The Ritz-Galerkin procedure for nonlinear control problems. *SIAM J. Numer. Anal.* **10** (1973), 94–111. (Paul Binding) **47** #9827 49G10

(*with* El-Asfouri, Souhail; McInnis, Bayliss) On the problem of minimizing the volume of a vibrating cantilever. *Quart. Appl. Math.* **34** (1976/77), *no.* 2, 203–206. (Authors' introduction) **56** #7438 73.49

Johnson, P. (*with* Sklar, Abe) Recurrence and dispersion under iteration of Čebyšev polynomials. *J. Math. Anal. Appl.* **54** (1976), *no.* 3, 752–771. (R. L. Adler) **54** #2913 28A65 (41A10)

Johnson, Peter D., Jr. An algebraic definition of fractional differentiation. *Fractional calculus and its applications* (*Proc. Internat. Conf., Univ. New Haven, West Haven, Conn.*, 1974), *pp.* 226–231. *Lecture Notes in Math., Vol.* 457, *Springer, Berlin*, 1975. (Author's summary) **57** #16489 26A33

(*with* Greenwell, Donald) Functions that preserve unit distance. *Math. Mag.* **49** (1976), *no.* 2, 74–79. (S. R. Mandan) **52** #15247 52A50

(*with* Mohapatra, R. N.) A Hardy-Davies-Petersen inequality for a class of matrices. *Canad. J. Math.* **30** (1978), *no.* 3, 458–465. (G. M. Petersen) **57** #9928 26A86

Johnson, Porter W. Regge trajectories at high energies for a class of analytic potentials. *J. Mathematical Phys.* **12** (1971), 1610–1616. (S. Aramaki) **45** #1497 81.30

(*with* Atkinson, D.; Warnock, Robert L.) Determination of the scattering amplitude from the differential cross-section and unitarity. *Comm. Math. Phys.* **28** (1972), 133–158. (A. Corciovei) **48** #7828 81.45

(*with* Atkinson, D.; Warnock, Robert L.) Construction of analytic, unitary scattering amplitudes from a given differential cross-section: a refined analysis. *Comm. Math. Phys.* **33** (1973), 221–242. (P. Achuthan) **49** #6813 81.30

(*with* Bart, George R.; Warnock, Robert L.) Continuum ambiguity in the construction of unitary analytic amplitudes from fixed-energy-scattering data. *J. Mathematical Phys.* **14** (1973), 1558–1565. (G. P. Bava) **51** #9682 81.30

(*with* Bart, George R.; Warnock, Robert L.) Unitary amplitudes with cut-plane analyticity from given scattering data. *Nuclear Phys.* **B72** (1974), 329–358. (Authors' summary) **50** #9211 81.30

(*with* Warnock, Robert L.) Marginally singular integral equation with divided-difference kernel: a problem in N/D theory. *J. Mathematical Phys.* **16** (1975), *no.* 9, 1880–1885. (Klaus Deimling) **57** #3777 45E99

(*with* Frederiksen, Jørgen S.; Warnock, Robert L.) Regge amplitudes through solution of *S*-matrix equations. *J. Mathematical Phys.* **16** (1975), *no.* 9, 1886–1900. (N. Nakanishi) **52** #2456 81.45

(*with* Atkinson, Daniel A.; Kaekebeke, M.; Frederiksen, Jørgen S.) Sommerfeld-Watson representation for double-spectral functions. III. Crossing symmetric pion-pion scattering amplitude with Regge poles. *Comm. Math. Phys.* **51** (1976), *no.* 1, 67–84. (K. T. Mahanthappa) **56** #4471c 81.30

(*with* Warnock, Robert L.) Dynamical equations for a Regge theory with crossing symmetry and unitarity. I. Introduction, and the case of weak coupling. *Phys. Rev. D* (3) **15** (1977), *no.* 8, 2354–2365. (G. R. Allcock) **57** #8598a 81.32 (81.45)

(*with* Warnock, Robert L.) Dynamical equations for a Regge theory with crossing symmetry and unitarity. II. The case of strong coupling, and elimination of ghost poles. *Phys. Rev. D* (3) **15** (1977), *no.* 8, 2366–2385. (G. R. Allcock) **57** #8598b 81.32 (81.45)

Johnson, R. A. *See* **Notes and comments from Math. Mag., 52 #3**

Johnson, R. C. Interpolation by local space curves. *J. Comput. Appl. Math.* **3** (1977), *no.* 2, 79–84. (Siegfried Filippi) **56** #1667 65D10

Partial wave expansions for arbitrary spin and the role of non-central forces. *Nuclear Phys. A* **293** (1977), *no.* 1-2, 92–108. (Author's summary) **58** #19968 81.35

Johnson, R. H. A new class of enumeration problems. *Czechoslovak Math. J.* **24(99)** (1974), 573–583. (N. J. A. Sloane) **50** #9683 05C30

The diameter and radius of simple graphs. *J. Combinatorial Theory Ser. B* **17** (1974), 188–198. (M. Behzad) **51** #2995 05C99

A note on applying a theorem of Tutte to graphical sequences. *J. Combinatorial Theory Ser. B* **18** (1975), 42–45. (R. C. Read) **51** #2996 05C99

Simple separable graphs. *Pacific J. Math.* **56** (1975), *no.* 1, 143–158. (B. Manvel) **51** #10163 05C99

Simple directed trees. *Discrete Math.* **14** (1976), *no.* 3, 257–264. (D. J. Kleitman) **58** #10540 05C05

The frequency partitions of trees. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 419–422. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (Linda Lesniak-Foster) **58** #21739 05C05 (05C35)

Johnson, R. L. (*with* Fabes, Eugene B.; Neri, Umberto) Green's formula and a characterization of the harmonic functions with BMO traces. (Italian summary) *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **21** (1975), 147–157. (See Zbl **336** #31003) 31B05 (42A92, 46E15)

(*with* Fabes, Eugene B.; Neri, Umberto) Spaces of harmonic functions representable by Poisson integrals of functions in BMO and $\mathcal{L}_{p,\lambda}$. *Indiana Univ. Math. J.* **25** (1976), *no.* 2, 159–170. (Alberto Torchinsky) **52** #14976 46E35 (31B05)

Johnson, R. S. On an asymptotic solution of the Korteweg-de Vries equation with slowly varying coefficients. *J. Fluid Mech.* **60** (1973), 813–824. (L. A. Mysak) **48** #7763 76.35

On the development of a solitary wave moving over an uneven bottom. *Proc. Cambridge Philos. Soc.* **73** (1973), 183–203. (L. M. Hocking) **47** #1372 76.35

On the modulation of water waves in the neighbourhood of $kh \approx 1.363$. *Proc. Roy. Soc. London Ser. A* **357** (1977), *no.* 1689, 131–141. (F. Ursell) **57** #18469 76.41

On the growth of an initially small gas bubble in an oversaturated liquid-gas solution. *Quart. J. Mech. Appl. Math.* **30** (1977), *no.* 3, 303–318. (From the author's summary) **56** #14090 76.41

On the propagation of long waves on the surface of helium II: linearized theory. *Proc. Roy. Soc. London Ser. A* **362** (1978), *no.* 1708, 97–111. (Author's summary) **58** #20070 82.35

See also **Nonlinear wave motion, 49 #790**

Johnson, R. Warren Presentations of solvmanifolds. *Amer. J. Math.* **94** (1972), 82–102. (H. Scheerer) **46** #907 22E25 (57E20)

Homogeneous Lie algebras and expanding automorphisms. *Proc. Amer. Math. Soc.* **48** (1975), 292–296. (Bernard Kolman) **51** #10417 17B40

Johnson, Raymond Representation theorems for the heat equation. *Proc. London Math. Soc.* (3) **24** (1972), 367–384. (W. F. Ames) **45** #739 35K05

Corrigendum: "Representation theorems and Fatou theorems for second-order linear parabolic partial differential equations". *Proc. London Math. Soc.* (3) **25** (1972), 192. (V. G. Sigillito) **46** #3991 35K10

Temperatures, Riesz potentials, and the Lipschitz spaces of Herz. *Proc. London Math. Soc.* (3) **27** (1973), 290–316. (David R. Adams) **51** #11091 46E35 (35C15)

Lipschitz spaces, Littlewood-Paley spaces, and convoluteurs. *Proc. London Math. Soc.* (3) **29** (1974), 127–141. (J. H. Hedlund) **50** #8052 46E35 (42A18)

Convoluteurs of H^p spaces. *Bull. Amer. Math. Soc.* **81** (1975), 711–714. (J. Peetre) **51** #6283 42A92 (46E35)

(*with* Chabrowski, Jan) Backwards uniqueness in time for solutions of possibly degenerate equations of parabolic type. *J. Differential Equations* **22** (1976), *no.* 1, 209–226. (V. G. Sigillito) **55** #3545 35K99

elandt-Johnson, Regina C. *See* **Elandt-Johnson, Regina C.**

Johnson, Richard A. (*with* Mehrotra, Kishan G.) Some *c*-sample nonparametric ordered alternatives. *J. Indian Statist. Assoc.* **9** (1971), 8–23. (Rudolph J. **51** #11805 62G10

(*with* Roussas, George G.) Applications of contiguity to multiparameter hypotheses testing. *Proceedings of the Sixth Berkeley Symposium on Math Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. I: of statistics, pp.* 195–226. *Univ. California Press, Berkeley, Calif.*, 1972. (B. L. S. Rao) **53** #6932 62M05

(*with* Mehrotra, Kishan G.) Locally most powerful rank tests for the two problem with censored data. *Ann. Math. Statist.* **43** (1972), 823–831. (B. I. **47** #2728 62G10

(*with* Mehrotra, Kishan G.) Nonparametric tests for ordered alternative bivariate case. *J. Multivariate Anal.* **2** (1972), 219–229. (Authors' summary) 62H15 (62G10)

(*with* Bhattacharyya, G. K.) On a test of independence in a bivariate exp distribution. *J. Amer. Statist. Assoc.* **68** (1973), 704–706. (D. G. Kabe) **50** # 62H15

Some optimality results for one and two sample procedures based on the sm order statistics. *Reliability and biometry: statistical analysis of lifelength* (*Proc Florida State Univ., Tallahassee, Fla.*, 1973), *pp.* 459–493. *Soc. Indust. Appl Philadelphia, Pa.*, 1974. (J. V. Deshpande) **50** #3446 62G10

Asymptotic results for inference procedures based on the *r* smallest obser *Ann. Statist.* **2** (1974), 1138–1151. (A. N. Philippou) **54** #6354 62F05 (62F10 62E20)

(*with* Bhattacharyya, G. K.) Estimation of reliability in a multicomponent stress-strength model. *J. Amer. Statist. Assoc.* **69** (1974), 966–970. (K. Sarkadi) **56** #1639 62N05

(*with* Bagshaw, Michael) The effect of serial correlation on the perform cusum tests. *Technometrics* **16** (1974), 103–112. (G. Roussas) **49** #4137 62

(*with* Bhattacharyya, G. K.) Stress-strength models for system reliability. *R and fault tree analysis* (*Conf., Univ. California, Berkeley, Calif.*, 1974), *pp.* 509–5 *Indust. Appl. Math., Philadelphia, Pa.*, 1975. (S. Blumenthal) **56** #4092 62N

(*with* Bagshaw, Michael) Sequential detection of a drift change in a Wiener *Comm. Statist.* **4** (1975), *no.* 8, 787–796. (Adhir K. Basu) **53** #6925 62L10 (

(*with* Bagshaw, Michael) The influence of reference values and estimated on the ARL of cusum tests. *J. Roy. Statist. Soc. Ser. B* **37** (1975), *no.* 3, 413– Uhlmann) **52** #15922 62N10 (62F05)

(*with* Bagshaw, Michael) The effect of serial correlation on the perform cusum tests. II. *Technometrics* **17** (1975), 73–80. (G. Roussas) **51** #9304 62

(*with* Mehrotra, Kishan G.) Asymptotic sufficiency and asymptotically most powerful tests for the two sample censored situation. *Ann. Statist.* **4** (1976) 589–596. (G. Roussas) **53** #11870 62G10

(*with* Hudlet, Raul) Linear discrimination and some further results on be dimensional representations. *Classification and clustering* (*Proc. Adv. Sem., Univ Wisconsin, Madison, Wis.*, 1976), *pp.* 371–394. *Math. Res. Center Publ., No.* 37, *A Press, New York*, 1977. (Anant M. Kshirsagar) **57** #17955 62H30

(*with* Bhattacharyya, G. K.; Mehrotra, Kishan G.) On the completeness of sufficient statistics with censored observations. *Ann. Statist.* **5** (1977), *no.* 3, 547– K. Ghosh) **55** #9345 62B05 (62N05)

(*with* Bhattacharyya, G. K.) Estimation of a system reliability by nonpar techniques. *Bull. Soc. Math. Grèce* (*N.S.*) **18** (1977), *no.* 1, 94–105. (From the introduction) **58** #31676 62N05 (62G05)

(*with* Mehrotra, Kishan G.; Bhattacharyya, G. K.) Locally most powerf tests for multiple-censored data. *Comm. Statist.–Theory Methods* **A6** (1977) 459–469. (S. K. Katti) **55** #9400 62G10

(*with* Bagshaw, Michael) Sequential procedures for detecting parameter cha a time-series model. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 359, 593–597. (D. S. **56** #7068 62M10 (62L10)

(*with* Wehrly, Thomas) Measures and models for angular correlation and angular-linear correlation. *J. Roy. Statist. Soc. Ser. B* **39** (1977), *no.* 2, 222–22 Rao) **58** #13512 62H20

Johnson, Robert L. (*with* Zehna, Peter W.) ★Elements of set theory. Second *Allyn and Bacon, Inc., Boston, Mass.*, 1972. ix + 197 *pp.* (See Zbl **233** #04001)

Johnson, Robert P. (*with* Hsia, John S.) Round and group quadratic forms over fields. The arithmetical theory of quadratic forms, I (Proc. Conf., Louisiana State Baton Rouge, La., 1972; dedicated to Louis Joel Mordell). *J. Number Theory* **5** 356–366. (T.-Y. Lam) **48** #2073 10C05 (12A95)

(*with* Hsia, John S.) Round and Pfister forms over $R(t)$. *Pacific J. Math.* **49** 101–108. (E. Hornix) **51** #8031 10C05 (15A63)

(*with* Hsia, John S.) On the representation in sums of squares for definite fu in one variable over an algebraic number field. *Amer. J. Math.* **96** (1974), 448– W. S. Cassels) **50** #12917 10B35 (12D15)

Johnson, Russell A. Disintegration of measures on compact transformation groups *Amer. Math. Soc.* **82** (1976), *no.* 6, 919–920. (R. Ellis) **54** #10552 28A50 (28A65)

Representations of compact groups on topological vector spaces: some re *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 131–136 (1977). (J. Szmidt) **55** # 22C05 (22D12)

The measure-theoretic structure group is not invariant. *Illinois J. Math.* **21** *no.* 1, 178–184. (M. Shmuel Glasner) **55** #6395 54H20

The bundle boundary in some special cases. *J. Mathematical Phys.* **18** (1977 898–902. (F. J. Flaherty) **56** #6578 53C50 (83.53)

Disintegration of measures on compact transformation groups. *Trans. Amer. Soc.* **233** (1977), 249–264. (D. Newton) **56** #3243 28A50

Existence of a strong lifting commuting with a compact group of transform *Pacific J. Math.* **76** (1978), *no.* 1, 69–81. (R. Ellis) **58** #1084 28A65 (22D40)

Johnson, S. C. On the problem of recognizing zero. *J. Assoc. Comput. Mach.* **18** 559–565. (Author's summary) **45** #4580 68A15

(*with* Gentleman, W. Morven) Analysis of algorithms, a case study: determin polynomials. *Fifth Annual ACM Symposium on Theory of Computing* (*Austin

1973), *pp.* 135–141. *Assoc. Comput. Mach., New York,* 1973. (Authors' summary) **55** #6933 68A10

(*with* Gentleman, W. Morven) The evaluation of determinants by expansion by minors and the general problem of substitution. *Complexity of computation* (*Proc. SIAM-AMS Sympos., New York,* 1973), *pp.* 127–133. *SIAM-AMS Proc., Vol. VII, Amer. Math. Soc., Providence, R.I.,* 1974. (Editors) **50** #9048 68A20

(*with* Gentleman, W. Morven) The evaluation of determinants by expansion by minors and the general problem of substitution. *Math. Comp.* **28** (1974), 543–548. (P. J. Weinberger) **51** #9569 68A20

(*with* Aho, Alfred V.) Optimal code generation for expression trees. *Seventh Annual ACM Symposium on Theory of Computing* (*Albuquerque, N. M.,* 1975), *pp.* 207–217. *Assoc. Comput. Mach., New York,* 1975. (Johnson M. Hart) **55** #11686 68A10 (68A20)

(*with* Aho, Alfred V.; Ullman, Jeffrey D.) Deterministic parsing of ambiguous grammars. *Comm. ACM* **18** (1975), *no.* 8, 441–452. (S. Ginsburg) **51** #12033 68A25

(*with* Gentleman, W. Morven) Analysis of algorithms, a case study: determinants of matrices with polynomial entries. *ACM Trans. Math. Software* **2** (1976), *no.* 3, 232–241. (K. Moszyński) **54** #1575 65F30

(*with* Aho, Alfred V.) Optimal code generation for expression trees. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 3, 488–501. (A. D. Booth) **53** #9702 68A10

(*with* Aho, Alfred V.; Ullman, Jeffrey D.) Code generation for expressions with common subexpressions. Papers from the Third ACM Symposium on Principles of Programming Languages (Atlanta, Ga., 1976). *J. Assoc. Comput. Mach.* **24** (1977), *no.* 1, 146–160. (Immo O. Kerner) **58** #3664 68A20

son, Selmer M. On upper bounds for unrestricted binary error-correcting codes. *IEEE Trans. Information Theory* **IT-17** (1971), 466–478. (L. D. Rudolph) **49** #2195 94A10

Upper bounds for constant weight error correcting codes. *Discrete Math.* **3** (1972), 109–124. (N. J. A. Sloane) **51** #15167 94A10

A new lower bound for coverings by rook domains. *Utilitas Math.* **1** (1972), 121–140. (H. B. Mann) **46** #3350 05B40

son, Stan R. (*with* Reimer, Steven C.; Rothrock, Thomas P.) Principal components and the problem of multicollinearity. *Metroecon.* **25** (1973), 306–317. (G. Tintner) **51** #14505 62P20

(*with* Rausser, Gordon C.) Discrete variations across subsets of parameters in imultaneous equations models. *Metroecon.* **26** (1974), *no.* 1-3, 226–244. (Takeshi Amemiya) **52** #12285 62P20

(*with* Hill, R. Carter; Fomby, Thomas B.) Component selection norms for principal components regression. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 4, 309–334. (C. W. Chen) **55** #11508 62J05 (62H25)

(*with* Fomby, Thomas B.; Hill, R. Carter) An optimal property of principal components in the context of restricted least squares. *J. Amer. Statist. Assoc.* **73** (1978), *no.* 361, 191–193. (C. W. Chen) **58** #18920 62J05 (62H25)

son, Timothy L. Minimum-energy terminal state control of first order linear hyperbolic systems in one spatial variable using the method of characteristics. *SIAM J. Control* **11** (1973), 119–129. (D. L. Russell) **49** #2164 93C20

(*with* Athans, Michael) A minimum principle for smooth first-order distributed systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 136–139. (Authors' summary) **54** #11143 49B25

(*with* Martin, David N.) Stability criteria for discrete-time systems with colored multiplicative noise. *Proceedings of the IEEE Conference on Decision and Control ncluding the 14th Symposium on Adaptive Processes* (*Houston, Tex.,* 1975), *pp.* 169–175. *nst. Electr. Electron. Engrs., New York,* 1975. (Authors' summary) **56** #15070 3E15

Some properties of extremal solutions of zero-sum differential games. *IEEE Trans. Automatic Control* **AC-20** (1975), 575–577. (I. V. Beiko) **52** #2620 90D25

(*with* Blanvillain, P.) Invariants of optimal minimal-order observer-based ompensators. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.,* 1976), *pp.* 186–191. *Inst. Electr. Electron. Engrs., New York,* 1976. (Authors' summary) **58** #9482 93B05

(*with* Platzman, Loren) A linear-quadratic-Gaussian control problem with nnovations-feedthrough solution. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 5, 21–725. (V. N. Igolkin) **54** #9819 93E20

(*with* Vinter, Richard B.) Optimal control of nonsymmetric hyperbolic systems in n ariables on the half-space. *SIAM J. Control Optimization* **15** (1977), *no.* 1, 129–143. Authors' summary) **56** #14950 93C20

son, W. B. (*with* Lindenstrauss, Joram) Some remarks on weakly compactly generated anach spaces. *Israel J. Math.* **17** (1974), 219–230. (T. Figiel) **54** #5808 46B05

son, W. E. (*with* Petty, Clinton M.) Properties of solutions of $u''+c(t)f(u)h(u')=0$ ith explicit initial conditions. *SIAM J. Math. Anal.* **4** (1973), 269–282. (T. A. Burton) **9** #725 34C10

son, Wells On the vanishing of the Iwasawa invariant μ_p for $p<8000$. *Math. Comp.* **27** 1973), 387–396. (T. Metsänkylä) **52** #5621 12A35 (10A40)

(*with* Silver, M.) A model for permutations. *Amer. Math. Monthly* **81** (1974), 03–506. (E. A. Bertram) **50** #2318 20B05

Irregular prime divisors of the Bernoulli numbers. *Math. Comp.* **28** (1974), 653–657. T. Metsänkylä) **50** #229 10A40 (12A35, 12A50)

p-adic proofs of congruences for the Bernoulli numbers. *J. Number Theory* **7** 1975), 251–265. (T. Metsänkylä) **51** #12687 10A40 (12A35)

Irregular primes and cyclotomic invariants. Collection of articles dedicated to errick Henry Lehmer on the occasion of his seventieth birthday. *Math. Comp.* **29** 1975), 113–120. (T. Metsänkylä) **51** #12781 12A35 (10A40, 10B15)

On the nonvanishing of Fermat quotients (mod p). *J. Reine Angew. Math.* **292** 977), 196–200. (Graham Lord) **56** #8489 10B15 (10A30)

On congruences related to the first case of Fermat's last theorem. *Math. Comp.* **31** 977), *no.* 138, 519–526. (J. M. Gandhi) **56** #5423 10B15 (10A10)

(*with* Mitchell, Kevin J.) Symmetries for sums of the Legendre symbol. *Pacific J. Math.* **69** (1977), *no.* 1, 117–124. (Bruce C. Berndt) **55** #7899 10A20

On the p-divisibility of the Fermat quotients. *Math. Comp.* **32** (1978), *no.* 141, 97–301. (K. S. Williams) **57** #3053 10A10 (10A30)

Johnson, William B. A universal non-compact operator. *Colloq. Math.* **23** (1971), 267–268. (E. O. Thorp) **46** #702 47A65

Finite-dimensional Schauder decompositions in certain Fréchet spaces. *Colloq. Math.* **23** (1971), 269–272. (W. H. Ruckle) **46** #2387 46A35

(*with* Shive, Robert A., Jr.) Linear contraction mappings. *Portugal. Math.* **30** (1971), 41–44. (A. Alexiewicz) **46** #4152 46A30 (47A99)

A complementary universal conjugate Banach space and its relation to the approximation problem. Proceedings of the International Symposium on Partial Differential Equations and the Geometry of Normed Linear Spaces (Jerusalem, 1972). *Israel J. Math.* **13** (1972), 301–310 (1973). (T. Figiel) **48** #4700 46B15

(*with* Zippin, M.) On subspaces of quotients of $(\sum G_n)_{l_p}$ and $(\sum G_n)_{c_0}$. Proceedings of the International Symposium on Partial Differential Equations and the Geometry of Normed Linear Spaces (Jerusalem, 1972). *Israel J. Math.* **13** (1972), 311–316 (1973). (J. A. Van Casteren) **48** #9358 46B15

(*with* Rosenthal, Haskell P.) On ω^*-basic sequences and their applications to the study of Banach spaces. *Studia Math.* **43** (1972), 77–92. (Ivan Singer) **46** #9696 46B15

Operator and dual operator bases in linear topological spaces. *Trans. Amer. Math. Soc.* **166** (1972), 387–400. (E. Dubinsky) **45** #5702 46A15

(*with* Davis, William J.) Basic sequences and norming subspaces in non-quasi-reflexive Banach spaces. *Israel J. Math.* **14** (1973), 353–367. (E. Dubinsky) **48** #843 46B15

(*with* Zippin, M.) Separable L_1 preduals are quotients of $C(\Delta)$. *Israel J. Math.* **16** (1973), 198–202. (A. J. Lazar) **49** #3509 46B99

On quasi-complements. *Pacific J. Math.* **48** (1973), 113–118. (G. J. O. Jameson) **49** #1077 46B15

(*with* Davis, William J.) A renorming of nonreflexive Banach spaces. *Proc. Amer. Math. Soc.* **37** (1973), 486–488. (Ivan Singer) **46** #9693 46B05

(*with* Figiel, T.) The approximation property does not imply the bounded approximation property. *Proc. Amer. Math. Soc.* **41** (1973), 197–200. (R. C. James) **49** #5782 46B05 (47B10)

(*with* Davis, William J.) On the existence of fundamental and total bounded biorthogonal systems in Banach spaces. *Studia Math.* **45** (1973), 173–179. (W. H. Ruckle) **48** #9356 46B15

(*with* Odell, E.) Subspaces of L_p which embed into l_p. *Compositio Math.* **28** (1974), 37–49. (E. Dubinsky) **50** #5424 46B05

(*with* Figiel, T.) A uniformly convex Banach space which contains no l_p. *Compositio Math.* **29** (1974), 179–190. (A. Pełczyński) **50** #8011 46B05

(*with* Zippin, M.) Subspaces and quotient spaces of $(\sum G_n)_{l_p}$ and $(\sum G_n)_{c_0}$. *Israel J. Math.* **17** (1974), 50–55. (C. Bessaga) **50** #10762 46B05

(*with* Davis, William J.; Figiel, T.; Pełczyński, A.) Factoring weakly compact operators. *J. Functional Analysis* **17** (1974), 311–327. (G. J. O. Jameson) **50** #8010 46B05

(*with* Davis, William J.) Compact, nonnuclear operators. *Studia Math.* **51** (1974), 81–85. (R. C. James) **50** #5514 47B10

On finite dimensional subspaces of Banach spaces with local unconditional structure. *Studia Math.* **51** (1974), 225–240. (G. J. O. Jameson) **50** #10772 46B15

(*with* Tzafriri, Lior) On the local structure of subspaces of Banach lattices. *Israel J. Math.* **20** (1975), *no.* 3-4, 292–299. (D. Dacunha-Castelle) **54** #8224 46A40

(*with* Figiel, T.; Tzafriri, Lior) On Banach lattices and spaces having local unconditional structure, with applications to Lorentz function spaces. Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, IV. *J. Approximation Theory* **13** (1975), 395–412. (J. F. Smith) **51** #3866 46B05 (46A40, 46E30)

Operators into L_p which factor through 1_p. *J. London Math. Soc.* (2) **14** (1976), *no.* 2, 333–339. (Hong W. Kim) **54** #13621 47B37

(*with* Davis, William J.; Lindenstrauss, Joram) The l_1^n problem and degrees of non-reflexivity. *Studia Math.* **55** (1976), *no.* 2, 123–139. (Ronald E. Harrell) **56** #16329 46B10

A reflexive Banach space which is not sufficiently Euclidean. *Studia Math.* **55** (1976), *no.* 2, 201–205. (Ronald E. Harrell) **55** #3761 46B15

(*with* Szankowski, Andrzej) Complementably universal Banach spaces. *Studia Math.* **58** (1976), *no.* 1, 91–97. (M. I. Kadec) **54** #13536 46B05

(*with* Davis, William J.) Weakly convergent sequences of Banach space valued random variables. *Banach spaces of analytic functions* (*Proc. Pelczynski Conf., Kent State Univ., Kent, Ohio,* 1976), *pp.* 29–31. *Lecture Notes in Math., Vol.* 604, *Springer, Berlin,* 1977. (S. D. Chatterji) **56** #16370 46G10 (60B99)

On quotients of L_p which are quotients of l_p. *Compositio Math.* **34** (1977), *no.* 1, 69–89. (Bernd Rosenberger) **56** #12844 46B05

(*with* Tzafriri, Lior) Some more Banach spaces which do not have local unconditional structure. *Houston J. Math.* **3** (1977), *no.* 1, 55–60. (T. Figiel) **55** #3758 46B10

(*with* Bennett, Grahame; Dor, Leonard E.; Goodman, V.; Newman, Charles M.) On uncomplemented subspaces of L_p, $1<p<2$. *Israel J. Math.* **26** (1977), *no.* 2, 178–187. (H. E. Lacey) **55** #8778 46E30 (46B05)

(*with* Hagler, James) On Banach spaces whose dual balls are not weak* sequentially compact. *Israel J. Math.* **28** (1977), *no.* 4, 325–330. (Richard Haydon) **58** #2173 46B10

Johnsonbaugh, R. F. Another proof of an estimate for e. *Amer. Math. Monthly* **81** (1974), 1011–1012. (Editors) **50** #2407 26–01

Johnsonbaugh, Richard A subset of the plane with a unique covering space is simply connected. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 4, 453–455. (A. H. Copeland, Jr.) **51** #14016 55A10

Homotopy theory in terms of covering spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 11, 1011–1017. (Brayton Gray) **54** #13903 55D05

Spaces and algebras of vector-valued differentiable functions. *Comment. Math. Prace Mat.* **20** (1977/78), *no.* 1, 79–85. (G. Marinescu) **57** #1096 46E10 (46F05)

Compact and connected spaces. *Math. Mag.* **50** (1977), *no.* 1, 24–25. (G. H. M. Thomas) **54** #13846 54D20

Multiplicative metrics: Comment on “A multiplicative metric” (Math. Mag. **49** (1976), no. 4, 203–205), by Doris J. Schattschneider. With a reply by D. Schattschneider. *Math. Mag.* **50** (1977), *no.* 1, 55–56. (J. E. Brothers) **54** #11289 54E35

See also **Gilmer, Robert; et al., 48** #5755

Johnston, D. S. (*with* Richardson, R. W., Jr.) Conjugacy classes in parabolic subgroups of semisimple algebraic groups. II. *Bull. London Math. Soc.* **9** (1977), *no.* 3, 245–250. (S. I. Gel′fand) **58** #917 20G15

Johnston, Daniel B. (*with* McLean, Michael J.) An algorithm for finding the shortest terminal strings which can be produced from non-terminals in context-free grammars. *Combinatorial mathematics, III* (*Proc. Third Australian Conf., Univ. Queensland, St. Lucia*, 1974), *pp.* 180–196. *Lecture Notes in Math., Vol.* 452, *Springer, Berlin*, 1975. (Derick Wood) **51** #9586 68A30

Johnston, George L. Integral representations of particular integrals of a class of inhomogeneous linear ordinary differential equations. *J. Mathematical Phys.* **19** (1978), *no.* 3, 635–641. (D. A. Lutz) **58** #11577 34A30

Johnston, H. C. (*with* Hoare, C. A. R.) Matrix reduction—an efficient method. *Comm. ACM* **18** (1975), 141–150. (P. Brock) **52** #2203 65K05

Cliques of a graph–variations on the Bron-Kerbosch algorithm. *Internat. J. Comput. Information Sci.* **5** (1976), *no.* 3, 209–238. (A. K. Dewdney) **54** #11838 68A10 (05Cxx)

Johnston, H. N. A note on the estimation and prediction inefficiency of “dynamic” estimators. *Internat. Econom. Rev.* **15** (1974), 251–255. (Jacob Paroush) **55** #7314 90A15

Johnston, J. B. (*with* Berry, Daniel M.; Chirica, Laurian M.; Martin, David F.; Sorkin, A.) Time required for reference count management in retention block-structured languages. I. *Internat. J. Comput. Information Sci.* **7** (1978), *no.* 1, 11–64. (From the summary) **58** #13836 68A05

Johnston, Katherine G. Congruence lattices of Rees matrix semigroups. *Semigroup Forum* **15** (1977/78), *no.* 3, 247–261. (T. S. Blyth) **57** #6260 20M20

Johnston, Peter T. The stable group of homotopy equivalences. *Quart. J. Math. Oxford Ser.* (2) **23** (1972), 213–219. (M. Arkowitz) **46** #9973 55E05

Johnston, R. H. W. *See* **Operational Research, 49** #12059

Johnston, R. L. Gerschgorin theorems for partitioned matrices. *Linear Algebra and Appl.* **4** (1971), 205–220. (M. F. Smiley) **45** #1947 15A42

(*with* Pal, S. K.) The numerical solution of hyperbolic systems using bicharacteristics. *Math. Comp.* **26** (1972), 377–392. (R. Ansorge) **46** #4758 65P05

(*with* Olesky, D. D.) On the computation of inclusion regions for partitioned matrices. *Numer. Math.* **19** (1972), 238–247. (F. Szidarovszky) **46** #4700 65F15

(*with* Pal, S. K.) Numercial solution of Lundquist equations of magnetohydrodynamics. *Math. Comp.* **28** (1974), 33–44. (Authors’ summary) **48** #7783 76.65

(*with* Olesky, D. D.) Best pseudo-isolated Gerschgorin disks for eigenvalues. *Linear Algebra and Appl.* **10** (1975), 55–67. (Alan L. Andrew) **51** #12893 15A42

(*with* Mathon, Rudolf) The approximate solution of elliptic boundary-value problems by fundamental solutions. *SIAM J. Numer. Anal.* **14** (1977), *no.* 4, 638–650. (T. Miyoshi) **58** #25006 65N30

Johnston, Shayne Oscillation-center formulation of the classical theory of induced scattering in plasma. *Phys. Fluids* **19** (1976), *no.* 1, 93–107. (R. R. Gold) **52** #9802 76.47

(*with* Kaufman, Allan N.) Lie-operator approach to mode coupling in nonuniform plasma. *Phys. Rev. Lett.* **40** (1978), *no.* 19, 1266–1269. (Ian Lerche) **58** #14832 82.49

Johnstone, Peter T. The associated sheaf functor in an elementary topos. *J. Pure Appl. Algebra* **4** (1974), 231–242. (A. Preller) **50** #10002 18A15

Internal categories and classification theorems. *Model theory and topoi* (*Conf., Bangor*, 1973), *pp.* 103–113. *Lecture Notes in Math., Vol.* 445, *Springer, Berlin*, 1975. (Radu Diaconescu) **53** #581 18C10 (02H15)

Adjoint lifting theorems for categories of algebras. *Bull. London Math. Soc.* **7** (1975), *no.* 3, 294–297. (C. J. Mikkelsen) **52** #10845 18C10 (02D99)

★Topos theory. London Mathematical Society Monographs, Vol. 10. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1977. xxiii + 367 *pp.* *ISBN* 0-12-387850-0 (Marta C. Bunge) **57** #9791 18B99 (02K10, 18A15, 18C99)

Rings, fields, and spectra. *J. Algebra* **49** (1977), *no.* 1, 238–260. (Gavin Wraith) **56** #8335 02E05 (18F10, 02H15, 13L05)

A note on complete semilattices. *Algebra Universalis* **8** (1978), *no.* 2, 260–261. (Dana May Latch) **57** #3017 06A20 (18B99, 06A23)

See also **Indexed categories and their applications, 58** #16816

Johri, A. K. Unsteady flow of viscoelastic Rivlin-Ericksen fluids through circular and co-axial circular ducts under radial magnetic field with toroidal pressure gradient. *Acta Ci. Indica* **3**, *no.* 2, 167–172 (1977). (P. D. S. Verma) **57** #2111 73.35

Unsteady channel flow of an elastico-viscous liquid. *Indian J. Pure Appl. Math.* **9** (1978), *no.* 5, 481–489. (Author’s summary) **58** #19771 76.44

Johri, R. S. Some infinite integrals involving Bessel functions. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **17** (1974), *no.* 4, 293–296. (Brij Mohan) **54** #10707 33A40

Johri, V. B. *See* **Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi’s seventieth birthday, 48** #15

Jôichi, Atsuo On fully-completeness in topological vector spaces. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 7 (1974), 59–64. (Harold H. McFaden) **49** #5766 46A30

(λ, μ)-absolutely summing operators. *Hiroshima Math. J.* **5** (1975), *no.* 3, 395–406. (M. S. Ramanujan) **52** #15073 47B10

Balanced sets in countably *A*-ultrabarrelled spaces. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 9 (1975), 19–27. (S. O. Iyahen) **53** #6270 46A07

(Z, λ)-nuclear mappings and *Z*-nuclear spaces. *Hiroshima Math. J.* **7** (1977), *no.* 1, 33–59. (N. Tiţa) **56** #3614 46A45 (47B10)

$(Z; \lambda, \mu)$-absolutely summing operators. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 11 (1977), 19–32. (M. S. Ramanujan) **57** #13556 47B10 (46A45)

Joichi, J. T. (*with* Goldman, Jay R.; White, Dennis E.) Rook theory. I. Rook equivalence of Ferrers boards. *Proc. Amer. Math. Soc.* **52** (1975), 485–492. (Dominiqu **55** #2590 05A15

(*with* Goldman, Jay R.; White, Dennis E.) Rook theory. V. Rook pol Möbius inversion and the umbral calculus. *J. Combinatorial Theory Ser. A* *no.* 2, 230–239. (Dominique Foata) **55** #2591b 05A15 (05C99)

(*with* Goldman, Jay R.; Reiner, David L.; White, Dennis E.) Rook t Boards of binomial type. *SIAM J. Appl. Math.* **31** (1976), *no.* 4, 618–633. (D Foata) **55** #2591a 05A15

(*with* Goldman, Jay R.; White, Dennis E.) Rook theory. IV. Orthogonal of Rook polynomials. *Studies in Appl. Math.* **56** (1976/77), *no.* 3, 267–272. summary) **58** #27526b 05A15 (33A65)

(*with* Goldman, Jay R.; White, Dennis E.) Rook theory. III. Rook polyno the chromatic structure of graphs. *J. Combin. Theory Ser. B* **25** (1978), *no.* 2, (Authors’ summary) **58** #27526a 05A15 (05C15, 33A65)

Joiner, Brian L. *See* **Survey of statistical design and linear models, 51** #2039 *an* **index to statistics, 58** #3134

Joiner, Charles On Urysohn’s universal separable metric space. *Fund. Math.* **73** (*no.* 1, 51–58. (C. R. Borges) **45** #2659 54E35

Free topological groups and dimension. *Trans. Amer. Math. Soc.* **22** 401–418. (S. A. Morris) **54** #448 22A05 (54F45)

Joiner, Harry F., II Summation and uncountable bi-orthogonal systems in local spaces. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 1–10. (Robert Knowles) 46A35

Joiner, J. *See* **Survey of statistical design and linear models, 51** #2039

Joiner, J. R. (*with* Federer, Walter T.; Raghavarao, D.) Construction of orthogo 1 balanced incomplete block designs—a new technique. *Utilitas Math.* 161–166. (J. F. Lawless) **49** #10568 05B05

Joja, Athanase ★Recherches logiques. *Éditions de l’Académie de la République de Roumanie, Bucharest*, 1971. 546 *pp.* (Table of contents) **46** #6987 02A0

Descartes et le modèle mathémathique. *An. Univ. Bucureşti Acta Logica* 5–27. (P. Bockstaele) **48** #5795 01A45

La doctrine de l’universel chez Aristote. *Logic, methodology and phil science, IV* (*Proc. Fourth Internat. Congr., Bucharest*, 1971), *pp.* 905–919. *Studie and Foundations of Math., Vol.* 74, *North-Holland, Amsterdam*, 1973. (J. Corc W. Ebersberger) **56** #5192 02–03 (01A20)

Prolégomènes au statut des entités abstraites. *Noesis, I* (*Travaux Colloq Roumain d’Histoire Philos. Sci., Bucharest*, 1972), *pp.* 17–64. *Acad. R.S.R.,* 1973. (Editors) **58** #4769 00A25

Apophantic logic and symbolic logic. (Romanian. French summary) *Pr logic, Vol. VI* (*Romanian*), *pp.* 7–33. *Editura Acad. R.S.R., Bucharest*, 1975. summary) **57** #2865 02A05

★Recherches logiques. II. Établi par Crizantema Joja. Avec une pr Stéphane Milcou. *Editura Academiei Republicii Socialiste România, Bucharest,* *pp.* (Editors) **55** #10220 02A05 (00A25, 01A75)

See also **Recherches sur la philosophie des sciences, 52** #7764 *and* **Logic, methodology and philosophy of science, 55** #7657

Joja, Crizantema Noétique de la signification et de la constructivité. *An. Univ. Acta Logica* **14** (1971), 35–40. (J. R. Moschovakis) **48** #8194 (EA **51**) 02

The foundations of the logic of research. (Romanian) *Problems of logic* (*Romanian*), *pp.* 91–110. *Editura Acad. R.S.R., Bucharest*, 1973. (Editors) **57** 02A05

See also **Joja, Athanase, 55** #10220

Jokk, H. The convergence of difference methods for second order ordinary di equations. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 31–36. (J. Mikliček) **49** #8370 65L10

The convergence of difference methods for second order ordinary di equations on a nonuniform grid. (Russian. Estonian and English summaries) *E Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 227–232. (E. L. Albasiny) **49** 65L10

Results of an investigation of the convergence of difference methods fo order nonlinear differential equations on a nonuniform grid. (Russian) *Eesti N Akad. Toimetised Füüs.-Mat.* **23** (1974), 86–88. (H. Shintani) **49** #8371 65

Jolicoeur, Pierre *See* **Multivariate statistical methods: among-groups covariation, 51** #14407 *and* **Multivariate statistical methods: within-groups covariation, 52**

Jolivaldt, Philippe *See* **Théorie de la robustesse et estimation d’un paramètre, 57** #

Jolivet, André (*with* Barthélemy, Marie-Claire) Sur la diffusion relativiste des par spin. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1078–A1081. (G. R. **45** #1499 81.31

(*with* Barthélemy, Marie-Claire) Amplitude de diffusion des particules $\hbar/2, \hbar, 3\hbar/2, 2\hbar$. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1469–A1472 Allcock) **45** #8169 81.35

Sur la caractérisation d’une classe d’équations d’ondes linéaires de forme convariante par rapport au groupe de Lorentz orthochrone. *Ann. Inst. H. Poinc A* **22** (1975), *no.* 4, 305–315. (Pierre Hillion) **52** #2506 83.35

Jolivet, Jean Vues médiévales sur les paronymes. Collection of articles dedicate memory of Martin Grabmann. *Rev. Internat. Philos.* **29** (1975), *no.* 3, 222–242. Sirridge) **56** #70 02–03 (01A35)

Jolivet, Jean-Loup Joint d’une famille de graphes simples. Colloque sur la Thé Graphes (Brussels, 1973). *Cahiers Centre Études Recherche Opér.* **15** (1973), (László Lovász) **50** #1969 05C35

Sur le joint d’une famille de graphes. *Discrete Math.* **5** (1973), 145– Dörfler) **47** #3253 05C99

Hamiltonian pseudo-cycles in graphs. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Uni Raton, Fla.*, 1974), *pp.* 529–533. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.*, 1974. (Rudolf Halin) **51** #264 05C35

Indice de partition en chaînes d’un graphe simple et pseudo-cycles hamilton *R. Acad. Sci. Paris Sér. A* **279** (1974), 479–481. (Jean-Claude Bermond) **53** # 05C35

The join of a family of graphs. *Infinite and finite sets* (*Colloq., Keszthely* *dedicated to P. Erdős on his 60th birthday), Vol. II, pp.* 935–938. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam,* 1975. (László Lovász) **51** #12618 05C99

(*with* Bories, Francette) On complete colorings of graphs. *Recent advances in graph theory (Proc. Second Czechoslovak Sympos., Prague,* 1974), *pp.* 75–87. *Academia, Prague,* 1975. (D. P. Geller) **52** #5463 05C15

Graphes parfaits pour une propriété *P*. Colloque sur la Théorie des Graphes (Paris, 1974). *Cahiers Centre Études Recherche Opér.* **17** (1975), *no.* 2-4, 253–256. (E. Olaru) 53 #7841 05C15

(*with* Bories, Francette) The achromatic number of a hypergraph. *Proceedings of he Fifth British Combinatorial Conference (Univ. Aberdeen, Aberdeen,* 1975), *pp.* 91–100. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.,* 1976. (Jean-Claude Fournier) **53** #10631 05C15

(*with* Fouquet, J.-L.) Hypohamiltonian oriented graphs. *Cahiers Centre Études Rech. Opér.* **20** (1978), *no.* 2, 171–181. (R. Balakrishnan) **58** #16373 05C20

nsten, Ralph W. A note on the Egyptian problem. *Proceedings of the Seventh Southeastern Conference on Combinatorics, Graph Theory, and Computing (Louisiana State Univ., Baton Rouge, La.,* 1976), *pp.* 351–364. *Congressus Numerantium, No. XVII, Utilitas Math., Winnipeg, Man.,* 1976. (S. P. Mohanty) **55** #2746 10B20 (10A30)

ffe, I. T. Discarding variables in a principal component analysis. I. Artificial data. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **21** (1972), 160–173. (P. Fortunati) **46** #10132 52H25

Cluster analysis as a multiple comparison method. *Applied statistics (Proc. Conf., Dalhousie Univ., Halifax, N. S.,* 1974), *pp.* 159–168. *North-Holland, Amsterdam,* 1975. Maxwell W. Layard) **53** #9534 62J15

See also **Wynn, Henry P.; et al., 47** #9765 *and* **O'Neill, R.; et al., 47** #9785

Ghyslaine (*with* Kernevez, Jean-Pierre; Bunow, Barry; Duban, Marie-Claude; Thomas, Daniel) Structuration en espace spontanée à l'intérieur d'une membrane nonoenzymatique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 3, A195–A198. (Authors' summary) **55** #14259 92A05

Jean-Luc Utilisation des fonctions spline pour le lissage. *Actes du Cinquième Congrès le l'AFIRO (Lille,* 1966), *pp.* 349–352. *Assoc. Française Informat. Recherches Opérationnelles [AFIRO], Paris,* 1966. (Marc Atteia) **54** #8090 41A15

(*with* Laurent, Pierre-Jean) Stability and duality in convex minimization problems. *Rev. Française Informat. Recherche Opérationnelle* **5** (1971), *Sér.* R-2, 3–42. (J. Stoer) 7 #8114 90C25

Une famille de topologies sur l'ensemble des fonctions convexes pour lesquelles la olarité est bicontinue. *Publ. Math. Univ. Bordeaux Année I* (1972/73), *no.* 1, *Exp. No.* , 34 *pp.* (Zbl **282** #46005) **58** #30046 46A99 (46G99)

Une famille de topologies sur l'ensemble des fonctions convexes pour lesquelles la olarité est bicontinue. *J. Math. Pures Appl.* (9) **52** (1973), 421–441 (1974). (A. D. Ioffe) 8 #17826 46E99 (49A50)

(*with* Mosco, Umberto) Sur les inéquations quasi-variationnelles. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 499–502. (R. Temam) **50** #14415 49A30

(*with* Mosco, Umberto; Troianiello, Giovanni Maria) Un résultat de régularité our une inéquation quasivariationnelle intervenant dans un problème de contrôle mpulsionnel. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 937–940. (A. Friedman) 0 #10952 49A20 (35J20)

(*with* Mosco, Umberto) Remarques sur les inéquations quasi-variationnelles. *Control theory, numerical methods and computer systems modelling (Internat. Sympos., RIA LABORIA, Rocquencourt,* 1974), *pp.* 625–642. *Lecture Notes in Econom. and Math. Systems, Vol.* 107, *Springer, Berlin,* 1975. (R. Temam) **51** #13814 49A25

(*with* Hanouzet, Bernard) Méthodes d'ordre dans l'interprétation de certaines néquations variationnelles et applications. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 11, Ai, A373–A376. (R. Temam) **52** #3720 35J20

(*with* Hanouzet, Bernard) Un résultat de régularité pour une inéquation uasi-variationnelle du type de Neumann intervenant dans un problème de contrôle mpulsionnel. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 19, *A*i, 1799–*A*800. (A. Friedman) **53** #8993 49A20 (93C20)

(*with* Hanouzet, Bernard) Formule de Green liée à l'ordre de $H^1(\Omega)$. Applications u problème d'obstacle. *Journées: Équations aux Dérivées Partielles de Rennes* (1975), o. 207–214. *Astérisque, No.* 34-35, *Soc. Math. France, Paris,* 1976. (B. Hellwig) 8 #11873 35J15

(*with* Charrier, Pierre; Hanouzet, Bernard) Sous-solutions pour un problème nilatéral d'évolution: caractérisation et régularité. *Séminaire Goulaouic-Schwartz* 1975/1976), *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 20, 10 *pp. Centre Math., École Polytech., Palaiseau,* 1976. (Zbl **338** #35056) **58** #17515 35K15

(*with* Charrier, Pierre; Hanouzet, Bernard) Estimation pour la sous-solution naximum d'un problème unilatéral d'évolution. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 8, Aii, A591–A593. (Giovanni Troianiello) **55** #6018 5K60 (49A20)

(*with* de Thelin, François) Convergence of convex integrals in $\mathcal{L}^p$ spaces. *J. Math. nal. Appl.* **54** (1976), *no.* 1, 230–244. (J. Lukeš) **54** #1049 49A50

(*with* Charrier, Pierre; Hanouzet, Bernard) Estimation and regularity for the naximum lower solution of a unilateral problem. *Convex analysis and its applications Proc. Conf., Muret-le-Quaire,* 1976), *pp.* 61–65. *Lecture Notes in Econom. and Math. ystems, Vol.* 144, *Springer, Berlin,* 1977. (Marc Atteia) **58** #9662 93E10

(*with* Mosco, Umberto; Troianiello, Giovanni Maria) On the regular solution of a uasi-variational inequality connected to a problem of stochastic impulse control. *J. Math. Anal. Appl.* **61** (1977), *no.* 2, 357–369. (V. N. Igolkin) **58** #12576 49A20 5J99)

(*with* Hanouzet, Bernard) Un résultat de régularité pour une inéquation quasi ariationnelle du type de Neumann intervenant dans un problème de contrôle npulsionnel. *J. Math. Pures Appl.* (9) **56** (1977), *no.* 3, 327–337. (Lucio Boccardo) 3 #30596 49A20

Jean-René Théorème des deux carrés dans un anneau de polynômes. *Colloque de héorie des Nombres (Univ. Bordeaux, Bordeaux,* 1969), *pp.* 113–117. *Bull. Soc. Math. rance, Mém.* 25, *Soc. Math. France, Paris,* 1971. (J. W. S. Cassels) **52** #5565 10B25

Démonstration cyclotomique de la loi de réciprocité cubique. *Bull. Sci. Math.* (2) **96** 972), 273–278. (Stephen V. Ullom) **48** #2109 12A35 (10G05)

(*with* Tena Ayuso, Juan) Sous-groupes rationnels et points rationnels d'ordre fini sur certaines courbes elliptiques. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A241–A243. (Ş. A. Basarab) **47** #1811 14G05 (14K15)

(*with* Tena Ayuso, Juan) Rationalité des points paraboliques de $\Gamma_0(N)$. Application aux courbes elliptiques sur **Q**. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A487–A490. (Ş. A. Basarab) **47** #1812 14G05 (14K15)

Équations et variétés algébriques sur un corps fini. *Enseignement Math.* (2) **19** (1973), 1–117. (J. W. S. Cassels) **48** #6065 12C15 (14G13, 10B99)

Suites périodiques, linéarité et inégalité de Pólya. (English summary) *Bull. Sci. Math.* (2) **102** (1978), *no.* 1, 3–13. (R. W. K. Odoni) **58** #5545 10G05

Jonah, D. A. The analytical evaluation of the first-order density cluster integral in the radial distribution function. *Proc. Roy. Soc. London Ser. A* **320** (1970), 323–348. (G. Stell) **54** #4497 82.65

Jonah, David (*with* Konvisser, Marc W.) Some non-abelian *p*-groups with abelian automorphism groups. *Arch. Math. (Basel)* **26** (1975), 131–133. (H. Heineken) **51** #3301 20D45

(*with* Konvisser, Marc W.) Counting abelian subgroups of *p*-groups. A projective approach. *J. Algebra* **34** (1975), 309–330. (Donald E. Taylor) **51** #8243 20D15

(*with* Konvisser, Marc W.) Abelian subgroups of *p*-groups, an algebraic approach. *J. Algebra* **34** (1975), 386–402. (F. Pickel) **51** #5753 20D15

(*with* Schreiber, Bertram M.) Transitive affine transformations on groups. *Pacific J. Math.* **58** (1975), *no.* 2, 483–509. (L. Dornhoff) **52** #8265 20F15

Jona-Lasinio, Giovanni (*with* Dahmen, H. D.; Tarski, Jan) The method of characteristics for functional-derivative equations. (Italian and Russian summaries) *Nuovo Cimento A* (11) **10A** (1972), 513–520. (L. S. Schulman) **47** #2942 81.35

Critical behaviour of stationary random fields. *International Symposium on Mathematical Problems in Theoretical Physics (Kyoto Univ., Kyoto,* 1975), *pp.* 326–329. *Lecture Notes in Phys.,* 39. *Springer, Berlin,* 1975. (Editors) **58** #32700 82.60 (60K35)

(*with* Gallavotti, Giovanni) Limit theorems for multidimensional Markov processes. *Comm. Math. Phys.* **41** (1975), 301–307. (Nathaniel Friedman) **51** #5889 28A65

The renormalization group: a probabilistic view. (Italian and Russian summaries) *Nuovo Cimento B* (11) **26** (1975), 99–119. (Hermann Rost) **51** #4908 81.60

Critical behaviour in terms of probabilistic concepts. (French summary) *Les méthodes mathématiques de la théorie quantique des champs (Colloq. Internat. CNRS, No.* 248, *Marseille,* 1975), *pp.* 207–222. *Éditions Centre Nat. Recherche Sci., Paris,* 1976. (Author's summary) **57** #18686 82.60 (60K99)

Critical behaviour of stationary random fields. *Statistical physics (Proc. IUPAP Internat. Conf. Statist. Phys., Budapest,* 1975), *pp.* 211–218. *North-Holland, Amsterdam,* 1976. (Nina B. Maslova) **58** #4135 82.60 (60K35)

Probabilistic approach to critical behavior. *New developments in quantum field theory and statistical mechanics (Proc. Cargèse Summer Inst., Cargèse,* 1976), *pp.* 419–446. *NATO Adv. Study Inst. Ser., Ser. B: Physics,* 26. *Plenum, New York,* 1977. (From the text) **58** #32701 82.60 (60K35)

(*with* Benettin, Giancarlo; Di Castro, C.; Peliti, L.; Stella, A. L.) On the equivalence of different renormalization groups. *New developments in quantum field theory and statistical mechanics (Proc. Cargèse Summer Inst., Cargèse,* 1976), *pp.* 447–468. *NATO Adv. Study Inst. Ser., Ser. B: Physics,* 26. *Plenum, New York,* 1977. (From the introduction) **58** #32494 81.22

See also **Phase transitions and critical phenomena, 57** #18519 *and* **Mathematical problems in theoretical physics, 58** #20929

Jonas, Peter Zur Existenz beschränkter homöomorpher Lösungen der Beltramigleichung mit Entartung an Rande. *Beiträge zur komplexen Analysis und deren Anwendungen in der Differentialgeometrie, pp.* 43–52. *Schr. Zentralinst. Math. Mech. Akad. Wissensch. DDR, Heft* 18, *Akademie-Verlag, Berlin,* 1974. (G. Schober) **53** #5862 30A60

Über die Erhaltung der Stabilität *J*-positiver Operatoren bei *J*-positiven und *J*-negativen Störungen. *Math. Nachr.* **65** (1975), 211–218. (M. Rosenblum) **53** #3786 47B50

Jonassen, Arne T. (*with* Knuth, Donald E.) A trivial algorithm whose analysis isn't. *J. Comput. System Sci.* **16** (1978), *no.* 3, 301–322. (A. D. Booth) **57** #18208 68A10 (68A50)

Jonckheere, Edmond A. (*with* Silverman, Leonard M.) The general discrete-time linear-quadratic control problem. *Proceedings of the* 1977 *IEEE Conference on Decision and Control (New Orleans, La.,* 1977), *Vol.* 1, *pp.* 1239–1244. *Inst. Electrical Electron. Engrs., New York,* 1977. (Authors' summary) **58** #20708 93C55

Jonckheere, R. E. Determination of the period of nonlinear oscillations by means of Chebyshev polynomials. (German and Russian summaries) *Z. Angew. Math. Mech.* **51** (1971), 389–393. (W. Liniger) **45** #1397 65L05

Jończyk, Barbara On sequences of differentiable functions. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódz. No.* 186 *Mat. No.* 5 (1974), 13–20. (K. M. Garg) **52** #674 26A24

On quasi-uniform convergence. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódz. No.* 245 *Mat. No.* 8 (1976), 11–16. (R. G. Bartle) **55** #582 26A15 (54C30)

(*with* Kłosińska, Wiktoria) On uniform convergence of the sequence of the functions with plurality of variables. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódź. No.* 245 *Mat. No.* 8 (1976), 17–23. **58** #28395 28A20

Jøndrup, Søren On finitely generated flat modules. III. *Math. Scand.* **29** (1971), 206–210 (1972). (S. Elliger) **47** #1870 16A50

Rings in which pure ideals are generated by idempotents. *Math. Scand.* **30** (1972), 177–185. (Victor Camillo) **52** #5733 16A48

(*with* Jensen, Christian U.) Centres and fixed-point rings of Artinian rings. *Math. Z.* **130** (1973), 189–197. (G. Michler) **47** #6769 16A46

Groups acting on rings. *J. London Math. Soc.* (2) **8** (1974), 483–486. (E. A. Rutter) **49** #10679 13C10

(*with* Trosborg, P. J.) A remark on pure ideals and projective modules. *Math. Scand.* **35** (1974), 16–20. (E. A. Rutter) **52** #497 16A50

(*with* Small, Lance W.) Power series over coherent rings. *Math. Scand.* **35** (1974), 21–24. (J. T. Arnold) **50** #13018 13J05

Projective modules. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 217–221. (Daniel Lazard) **54** #7546 16A50

The centre of a right hereditary ring. *J. London Math. Soc.* (2) **15** (1977), *no.* 2, 211–212. (J. C. Robson) **56** #412 16A48

Jones, A. F. (*with* Misell, D. L.) The problem of error in deconvolution. *J. Phys. A* **3** (1970), 462–472. (J. Kofroň) **49** #8296 65D99

Jones, A. S. An elementary theorem for simple polygons. *Math. Gaz.* **59** (1975), *no.* 410, 266–268. (Editors) **58** #7357 50B05

Jones, Anita K. (*with* Lipton, Richard J.; Snyder, Lawrence) A linear time algorithm for deciding security. *17th Annual Symposium on Foundations of Computer Science* (*Houston, Tex.*, 1976), *pp.* 33–41. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (From the introduction) **58** #32034 68A10

See also **Foundations of secure computation**, **58** #19281

Jones, Antony J. Cyclic overlattices. II. Diophantine approximation and sums of roots of unity. *Acta Arith.* **18** (1971), 93–103. (V. C. Dumir) **45** #5087 10F99 (12A35)

Cyclic overlattices III, IV. *J. Number Theory* **7** (1975), *no.* 3, 267–282; *ibid.* **7** (1975), *no.* 3, 283–292. (Peter Gruber) **55** #10396 10E05 (10F15)

(*with* Conway, John Horton) Trigonometric Diophantine equations (On vanishing sums of roots of unity). *Acta Arith.* **30** (1976), *no.* 3, 229–240. (E. L. Cohen) **54** #10141 10B25 (10G05)

Jones, B. Extrapolation for higher orders of convergence. *J. Inst. Math. Appl.* **17** (1976), *no.* 1, 27–36. (Thomas A. Atchison) **53** #1902 65B05

Jones, B. Frank, Jr. Lipschitz spaces and the heat equation. *J. Math. Mech.* **18** (1968/69), 379–409. (RŽMat **1970** #2 B446) **58** #23543 46E35 (35K05)

(*with* Tu, C. C.) On the existence of kernel functions for the heat equation. *Indiana Univ. Math. J.* **21** (1971/72), 857–876. (J. R. Cannon) **45** #3970 35K05

(*with* Fabes, Eugene B.; Rivière, Néstor M.) The initial value problem for the Navier-Stokes equations with data in L^p. *Arch. Rational Mech. Anal.* **45** (1972), 222–240. (D. R. Smith) **47** #5463 35Q15

(*with* Kemper, John T.) The local character of kernel functions in axiomatic potential theory. *Comm. Pure Appl. Math.* **27** (1974), 135–142. (Francis Hirsch) **51** #8447 31D05

An approximation theorem of Runge type for the heat equation. *Proc. Amer. Math. Soc.* **52** (1975), 289–292. (J. R. Cannon) **52** #8654 35K05

A fundamental solution for the heat equation which is supported in a strip. *J. Math. Anal. Appl.* **60** (1977), *no.* 2, 314–324. (Mario Primicerio) **56** #9070 35K05

Jones, B. L. Analysis of Eigen's equations for selection of biological molecules with fluctuating mutation rates. *Bull. Math. Biology* **39** (1977), *no.* 3, 311–316. (J. P. Kernevez) **58** #20561 92A05

Jones, Bernard J. T. The origin of galaxies: a review of recent theoretical developments and their confrontation with observation. *Rev. Modern Phys.* **48** (1976), *no.* 1, 107–149. (George Contopoulos) **55** #11913 85.00

Jones, Burton W. ★Teoría de los números. (Spanish) [The theory of numbers] Translated from the English by Federico Galván Anaya. Technical revision by Emilio Lluis Riera. Literary revision by Federico Galván Govea. *Editorial F. Trillas, S. A., Mexico City*, 1969. 152 *pp.* (Editors) **46** #5219 10–01

★Linear algebra. *Holden-Day, Inc., San Francisco-Düsseldorf-Johannesburg*, 1973. *xi*+315 *pp.* (R. Merris) **51** #10363 15–01

Quasi-genera of quadratic forms. Collection of articles dedicated to the memory of Abraham Adrian Albert. *Scripta Math.* **29** *no.* 3-4, 359–370 (1973). (Bart Rice) **54** #12645 10C05

★An introduction to modern algebra. *Macmillan Publishing Co., Inc., New York; Collier Macmillan Publishers, London*, 1975. xiii+366 *pp.* (H. W. Brinkmann) **51** #5221 00A05

A variation on a problem of Davenport and Diophantus. *Quart. J. Math. Oxford* (2) **27** (1976), *no.* 107, 349–353. (Philip A. Leonard) **58** #575 10M05

Quasi-genera of quadratic forms. *J. Number Theory* **9** (1977), *no.* 4, 393–412. (Craig Cordes) **56** #11897 10C05

See also **Proceedings: Number Theory Conference**, **50** #4457

Jones, Bush Relating and approximating discrete probability distributions with component distributions. *Information Sci.* **6** (1973), 143–150. (Author's summary) **48** #3157 62E10 (94A05)

A heuristic for root isolation. *Internat. J. Numer. Methods Engrg.* **11** (1977), *no.* 3, 598–603. (Derek W. Arthur) **55** #4650 65H05

Jones, Byron An algorithm for deriving optimal block designs. *Technometrics* **18** (1976), *no.* 4, 451–458. (Author's summary) **58** #31629 62K05

Jones, C. B. (*with* Lucas, Peter) Proving correctness of implementation techniques. *Symposium on Semantics of Algorithmic Languages*, *pp.* 178–211. *Lecture Notes in Math., Vol.* 188, *Springer, Berlin*, 1971. (H. R. Strong) **46** #5078 94A30 (68A05)

Formal definition in program development. *Programming methodology* (*4th Informatik Sympos., Wildbad*, 1974), *pp.* 387–443. *Lecture Notes in Comput. Sci., Vol.* 23, *Springer, Berlin*, 1975. (Author's summary) **55** #13856 68A05

Program specifications and formal development. *International Computing Symposium* 1977 (*Liège*, 1977), *pp.* 537–553. *North-Holland, Amsterdam*, 1977. (Giorgio Levi) **58** #13855 68A05

Jones, C. E. (*with* Campbell, William B.; Finkler, P.; Misheloff, M. N.) Path integrals with arbitrary generators and the eigenfunction problem. *Ann. Physics* **96** (1976), *no.* 2, 286–302. (L. S. Schulman) **55** #7195 81.47

(*with* Campbell, William B.; Finkler, P.; Misheloff, M. N.) Path integral formulation for eigenfunctions. (Italian and Russian summaries) *Nuovo Cimento B* (11) **31** (1976), *no.* 2, 219–224. (David Pearson) **54** #9438 81.47

Jones, C. L. *See* **Analysis of survey data**, **58** #13415

Jones, Charles A. (*with* Lahr, Charles Dwight) Weak and norm approximate identities are different. *Pacific J. Math.* **72** (1977), *no.* 1, 99–104. (Colin C. Graham) **56** #6282 43A10

Jones, Charles V. A missing table in C. S. Peirce's *New elements of mathematics, Vol. 1*. *Historia Math.* **4** (1977), *no.* 4, 441–442. (Joseph W. Dauben) **58** #21213 01A55 (01A75)

(*with* Drake, Stillman; Coxeter, Harold Scott MacDonald; Tropp, Henry S.; Scriba, Christoph J.; Sinclair, B.; Mahoney, Michael Sean; Struik, Dirk J.) A memorial tribute to Kenneth O. May. *Historia Math.* **5** (1978), *no.* 1, 3–12. (Editors) **56** #15322 01A70

vere-Jones, D. *See* **Vere-Jones, D.**

Jones, D. A. (*with* Evans, I. G.; Owen, Roger J.) Relative frequency interp Bayesian predictive distributions. *Amer. Statist.* **30** (1976), *no.* 3, 145. (Duncan) **56** #3991 62A15

Nonlinear autoregressive processes. *Proc. Roy. Soc. London Ser. A* **360** 1700, 71–95. (S. M. Pandit) **58** #18970 62M10

Jones, D. E. (*with* Cohen, A. M.; Cutts, J. F.; Fielder, R.; Ribbans, J.; ★Numerical analysis. *McGraw-Hill, London-New York*, 1973. xiii+341 *pp* **50** #11697 65–01

(*with* Cohen, A. M.; Cutts, J. F.; Fielder, R.; Ribbans, J.; Stuart, E.) ★Numerical analysis. *Halsted Press* [*John Wiley and Sons*], *New York*, 1973 *pp.* (Editors) **50** #11698 65–01

(*with* Cohen, A. M.) A technique for the solution of eigenvalue problem *Math. Appl.* **20** (1977), *no.* 1, 1–7. (K. Najzar) **56** #7222 65L15

Jones, D. J. (*with* South, J. C., Jr.; Klunker, E. B.) On the numerical solution partial differential equations by the method of lines. *J. Computational Phys* 496–527. (P. G. Ciarlet) **46** #2899 65N99

Jones, D. L. (*with* Evans, F. J.) A classification of physical variables and its app variational methods. *J. Franklin Inst.* **291** (1971), 449–467. (D. F. Lawden) 49H05 (70.49, 76.49, 93C20)

(*with* Evans, F. J.) Variational analysis of electrical networks. *J. Frankli* (1973), 9–23. (D. F. Lawden) **49** #3643 49C99 (94A20)

Jones, D. M. (*with* Gittins, John) A dynamic allocation index for the sequential experiments. *Progress in statistics* (*European Meeting Statisticians, Budapest,* 241–266. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amster* (Thomas A. Kelley) **51** #7187 62L05

(*with* Carroll, B. D.; Shah, H. G.) An examination of algebraic test methods for multiple faults. *IEEE Trans. Computers* **C-23** (1974), *no.* 7, (Jürgen Dassow) **52** #12990 94A20

Jones, D. S. A modified Hilbert transform. *Proc. Roy. Soc. Edinburgh S* (1970/71), 45–76. (D. Myers) **45** #824 44A15 (45E05)

A uniform asymptotic expansion for a certain double integral. *Proc.* *Edinburgh Sect. A* **69** (1970/71), 205–226. (D. F. Shea) **45** #7362 41A60

(*with* Morgan, J. D.) The instability of a vortex sheet on a subsonic stre acoustic radiation. *Proc. Cambridge Philos. Soc.* **72** (1972), *no.* 3, 465–488. summary) **54** #1845 76.35

Asymptotic behaviour of an aperture integral. *Proc. Roy. Soc. Edinburgh* *part* 1, 9–29 (1972). (D. B. Hunter) **48** #9207 41A60 (65D99)

Asymptotic behavior of integrals. *SIAM Rev.* **14** (1972), 286–317. (A **51** #8706 41A60

The variable metric algorithm for non-definite quadratic functions. *J. I* *Appl.* **12** (1973), 63–71. (Gerard G. L. Meyer) **49** #8350 65K05

The reflexion of an acoustic pulse by a plane vortex sheet. *Proc. Cambri* *Soc.* **74** (1973), *no.* 2, 349–364. (R. K. Gupta) **53** #4718 76.35

Truncation error in the solution of integral equations. *Proc. Roy. Soc.* *Sect. A* **71**, *part* 3, 263–273 (1973). (P. M. Anselone) **48** #10167 65R05

The convolution of generalized functions. *Quart. J. Math. Oxford Ser.* (2) 145–163. (Z. Ditzian) **49** #1100 46F10

Double knife-edge diffraction and ray theory. *Quart. J. Mech. Appl.* (1973), 1–18. (M. G. F. Boella) **49** #6785 78.41

(*with* Morgan, J. D.) A linear model of a finite amplitude Helmholtz ir *Proc. Roy. Soc.* (*London*) *Ser. A* **338** (1974), 17–41. (S. H. Lam) **50** #1624

Integral equations for the exterior acoustic problem. *Quart. J. Mech. Appl.* (1974), 129–142. (R. R. Gold) **49** #4427 76.45

The scattering of sound by a vortex sheet. *J. Inst. Math. Appl.* **15** (197 (John Asvestas) **51** #9645 76.35

The effect of radiation due to a moving source on a vortex sheet. *Proc.* *Edinburgh Sect. A* **72**, *no.* 3, 195–205 (1975). (Maurice Bouix) **52** #2375 7

Scattering of sound by a lifting boundary. *Quart. J. Mech. Appl. Math.* *no.* 4, 429–455. (W. R. Sears) **58** #14277 76.35

The scattering of sound by a simple shear layer. *Philos. Trans. Roy. So* *Ser. A* **284** (1977), *no.* 1323, 287–328. (Norman Bleistein) **55** #13943 76.3

(*with* Everitt, William N.) On an integral inequality. *Proc. Roy. Soc. Lond* **357** (1977), *no.* 1690, 271–288. (Authors' summary) **56** #8769 26A84 (34B

Acoustics of a splitter plate. *J. Inst. Math. Appl.* **21** (1978), *no.* 2, 197–209. summary) **57** #14851 76.35

Jones, Dixon A double butterfly theorem. *Math. Mag.* **49** (1976), *no.* 2, 86–87. **53** #1385 50B05

Jones, Dixon D. The application of catastrophe theory to ecological systems. *New directions in the analysis of ecological systems* (*Proc. Conf., Utah State Univ Utah*, 1975), *Part* 2, *pp.* 133–148. *Simulation Councils Proc. Ser., Vol.* 5, *N* *Comput. Simulation, La Jolla, Calif.*, 1977. (Shigehiro Ushiki) **58** #26166 (58C15)

Jones, Donald A. (*with* Gerber, Hans U.) Credibility formulae with geometric *Proceedings of the Annual Meeting of the American Statistical Association, Bus* *Economic Statistics Section* (*New York*, 1973), *pp.* 229–230. *Amer. Statis* *Washington, D.C.*, 1974. (Jacques Janssen) **50** #15237 62P05

(*with* Gerber, Hans U.) Dividend formulas in group insurance. With disc James C. Hickman and John A. Mereu and a reply by the authors. *Soc. Actua* **26** (1974), 77–93. (Jacques Janssen) **51** #7219 62P05

(*with* Gerber, Hans U.) Credibility formulas of the updating type. With a discussion by James C. Hickman and Robert D. Miller. *Credibility: theory and applications* (*Proc. Berkeley Actuar. Res. Conf., Univ. California, Berkeley, Cal* *dedicated to Edward A. Lew*), *pp.* 89–109. *Academic Press, New York*, 1975. Taylor) **53** #14833 62P05

Jones, Douglas H. (*with* Coopersmith, Lewis) A ratio estimator of the total of a subpopulation. *Comm. Statist.—Theory Methods* **A5** (1976), *no.* 3, 251–260 Bellhouse) **54** #8941 62D05

The L_2 norm of the approximation error for Bernstein polynomials. *J. Approximation Theory* **18** (1976), *no.* 4, 307–315. (W. Hoeffding) **54** #13405

s, E. E. The torsional rigidity of anisotropic prisms. *J. Engrg. Math.* **9** (1975), 39–51. (René Hayart) **53** #15064 73.49

s, E. L. A reformulation of the algebraic Riccati equation problem. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 1, 113–114. (W. M. Wonham) **52** #16772 93C99

s, E. Sharon A generalization of the two-vertex theorem for space curves. *J. Differential Geometry* **10** (1975), 1–10. (O. Giering) **51** #6680 53C75

s, Edward R. Letter to the editor on the paper "On minimum-point second order designs" (Technometrics **16** (1974), 613–616) by M. J. Box and N. R. Draper. *Technometrics* **17** (1975), 282. (K. R. Shah) **52** #2063 62K05

Fixed-size rectangular confidence regions. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 3, 251–264. (B. K. Ghosh) **56** #9856 62L12

s, F. Burton Homogeneous plane continua. *Proceedings of the Auburn Topology Conference (Auburn Univ., Auburn, Ala.,* 1969; *dedicated to F. Burton Jones on the occasion of his* 60*th birthday*), *pp.* 46–56. *Auburn Univ., Auburn, Ala.*, 1969. (Eldon J. Vought) **52** #11862 54F20

On fake Souslin trees. *Duke Math. J.* **36** (1969), 571–573. (A. El′kin (RŽMat **1970** #5 A407)) **57** #122 04A20 (54F05)

Dedication. *Topology Conference* (*Proc. General Topology Conf., Emory Univ., Atlanta, Ga.*, 1970), *pp.* iv-x. *Dept. Math., Emory Univ., Atlanta, Ga.*, 1970. (Editors) **49** #7089 01A70

Tall trees and inverse limits. *Proceedings of the University of Houston Point Set Topology Conference* (*Houston, Tex.*, 1971), *pp.* 143–157. *Univ. Houston, Houston, Tex.*, 1971. (J. Mioduszewski) **52** #15333 54A25 (54B25)

The utility of empty inverse limits. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 223–228. *Academia, Prague*, 1972. (J. Mioduszewski) **50** #8414 54B25

Aposyndesis revisited. *Proceedings of the University of Oklahoma Topology Conference* (*Univ. Oklahoma, Norman, Okla.*, 1972), *pp.* 64–78. *Univ. of Oklahoma, Norman, Okla.*, 1972. (Eldon J. Vought) **51** #1770 54F20

Homogeneous continua. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 129–131. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (C. E. Burgess) **48** #12477 54F20

Constructing non-completely regular spaces. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 132–135. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (I. Juhász) **49** #7978 54D15

Aposyndetic continua. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 437–447. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (Eldon J. Vought) **51** #1769 54F20

Hereditarily separable, non-completely regular spaces. *Topology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.*, 1973), *pp.* 149–152. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin*, 1974. (Ronald F. Levy) **54** #1165 54D15

Connected simple graphs and a selection problem. *Czechoslovak Math. J.* **25(100)** (1975), 300–301. (A. M. Bruckner) **51** #5859 26A15

Use of a new technique in homogeneous continua. *Houston J. Math.* **1** (1975), *no.* 1, 57–61. (James T. Rogers, Jr.) **52** #6678 54F20

The Moore method. *Amer. Math. Monthly* **84** (1977), *no.* 4, 273–278. (Editors) **55** #25 00A25 (01A70)

See also **Topology Conference**, **48** #9631; **McAuley, Louis F.**, **51** #5240 *and* **Bibliography: Jones, F. Burton**, **51** #5241

es, G. M. (*with* Kapadia, C. H.; Owen, Donald B.; Bland, R. P.) On the distributions of the quasi-range and midrange for samples from a normal population. *Trabajos Estadíst.* **24** (1973), *no.* 1-2, 115–121. (P. K. Sen) **50** #6020 62E15

es, G. Stephen Basic frequency periodic motions in noncompact dynamical processes. *Delay and functional differential equations and their applications* (*Proc. Conf., Park City, Utah*, 1972), *pp.* 185–196. *Academic Press, New York*, 1972. (Jean Mawhin) **52** #11212 34C35 (34K15)

Stability of compactness for functional differential equations. *Ordinary differential equations* (*Proc. NRL-MRC Conf., Math. Res. Center, Naval Res. Lab., Washington, D. C.*, 1971), *pp.* 433–458. *Academic Press, New York*, 1972. (J. K. Hale) **55** #13042 34K15 (47H10)

Asymptotic fixed point theory. *Symposium on Infinite-Dimensional Topology* (*Louisiana State Univ., Baton Rouge, La.*, 1967), *pp.* 177–184. *Ann. of Math. Studies, No.* 69, *Princeton Univ. Press, Princeton, N. J.*, 1972. (Eugene Allgower) **53** #11438 47H10

A functional approach to fixed-point analysis of noncompact operators. *Math. Systems Theory* **6** (1972/73), 375–382. (Jean Mawhin) **51** #1501 47H10

es, G. T. Projective pseudo-complemented semilattices. *Pacific J. Math.* **52** (1974), 443–456. (T. S. Fofanova) **50** #9722 06A25

es, Gareth A. Regular subgroups of uniprimitive permutation groups of degree p^3, where p is prime. *Quart. J. Math. Oxford Ser.* (2) **23** (1972), 325–336. (David R. Mason) **52** #541 20B15

Varieties and simple groups. Collection of articles dedicated to the memory of Hanna Neumann, VI. *J. Austral. Math. Soc.* **17** (1974), 163–173. (H. Heineken) **49** #9081 20E10

The Sylow p-subgroups of simply primitive groups of degree p^3, where p is prime. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 110, 177–189. (Fletcher Gross) **58** #28151a 20B15

Corrigendum: "The Sylow p-subgroups of simply primitive groups of degree p^3, where p is prime" (Quart. J. Math. Oxford Ser. (2) **28** (1977), no. 110, 177–189). *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 112, 509. (Fletcher Gross) **58** #28151b 20B15

(*with* Singerman, David) Theory of maps on orientable surfaces. *Proc. London Math. Soc.* (3) **37** (1978), *no.* 2, 273–307. (M. L. Marx) **58** #21744 05C10 (30A46, 55A10)

es, Gary D. The embedding of homeomorphisms of the plane in continuous flows. *Pacific J. Math.* **41** (1972), 421–436. (W. J. Gray) **46** #4512 54H20

A property of $y'''+p(x)y'+\frac{1}{2}p'(x)y=0$. *Proc. Amer. Math. Soc.* **33** (1972), 420–422. (T. A. Burton) **45** #2249 34C10

An asymptotic property of solutions of $y'''+py'+qy=0$. *Pacific J. Math.* **47** (1973), 135–138. (J. W. Heidel) **48** #4410 34C10

Oscillation properties of third order differential equations. *Rocky Mountain J. Math.* **3** (1973), 507–513. (D. V. V. Wend) **50** #7669 34C10

Oscillation properties of $y''+p(x)y=f(x)$. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 5, 337–341 (1975). (B. S. Lalli) **53** #11151 34C10

Properties of solutions of a class of third-order differential equations. *J. Math. Anal. Appl.* **48** (1974), 165–169. (S. Ahmad) **50** #5095 34C10

Oscillatory behavior of third order differential equations. *Proc. Amer. Math. Soc.* **43** (1974), 133–136. (S. Ahmad) **48** #11666 34C10

(*with* Rankin, Samuel M., III) Oscillation of a forced nonlinear second order differential equation. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **59** (1975), *no.* 6, 702–705 (1976). (V. Šeda) **58** #1389 34C15

(*with* Heidel, J. W.) Asymptotic characterization of solutions of a boundary value problem arising in fluid mechanics. *Z. Angew. Math. Mech.* **55** (1975), 191–192. (I. Kiguradze) **52** #11176 34B15

(*with* Rankin, Samuel M., III) Oscillation properties of certain self-adjoint differential equations of the fourth order. *Pacific J. Math.* **63** (1976), *no.* 1, 179–184. (S. Ahmad) **53** #11152 34C10

Oscillation criteria for third order differential equations. *SIAM J. Math. Anal.* **7** (1976), *no.* 1, 13–15. (Krishna M. Das) **52** #14465 34C10

Bôcher-Osgood type theorems for third order differential equations. *Nonlinear systems and applications* (*Proc. Internat. Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp.* 573–575. *Academic Press, New York*, 1977. (R. K. Miller) **56** #6014 34C10

Jones, H. F. *See* **Nonpolynomial Lagrangians, renormalisation and gravity**, **52** #9853

Jones, H. T. (*with* Specht, E. J.) Compactness of the Neumann-Poincaré operator. *Trans. Amer. Math. Soc.* **140** (1969), 353–366. (F. Smithies) **53** #5903 31A15 (47G05)

(*with* Specht, E. J.) An integral equation arising in potential theory. *Proc. Amer. Math. Soc.* **38** (1973), 349–354. (R. P. Srivastav) **47** #3693 31A25

Jones, H. W. A seventeenth-century geometrical debate. *Ann. of Sci.* **31** (1974), 307–333. (A. G. Molland) **57** #2831 01A45

Leibniz' cosmology and Thomas White's *Euclides physicus*. *Arch. Internat. Histoire Sci.* **25** (1975), *no.* 97, 277–303. (Eberhard Knobloch) **56** #8286 01A45

Jones, Harold L. (*with* Willsky, Alan S.) A generalized likelihood ratio approach to the detection and estimation of jumps in linear systems. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 1, 108–112. (D. D. Sworder) **52** #16809 93E10

Jones, Howard L. Jackknife estimation of functions of stratum means. *Biometrika* **61** (1974), 343–348. (Pramod K. Pathak) **52** #15765 62D05

Jones, J. M. Tyrer Direct products and the Hopf property. Collection of articles dedicated to the memory of Hanna Neumann, VI. *J. Austral. Math. Soc.* **17** (1974), 174–196. (J. Wiegold) **50** #2348 20F25

Jones, J. P. (*with* Toporowski, S.) Irrational numbers. *Amer. Math. Monthly* **80** (1973), 423–424. (Editors) **47** #3325 10F35

Jones, James P. Recursive undecidability—an exposition. *Amer. Math. Monthly* **81** (1974), 724–738. (D. Rödding) **50** #9568 02G05 (02F15, 02F47)

Formula for the Nth prime number. *Canad. Math. Bull.* **18** (1975), *no.* 3, 433–434. (Editors) **57** #9641 10A25 (02F20)

Diophantine representation of the Fibonacci numbers. *Fibonacci Quart.* **13** (1975), 84–88. (Paul Hartung) **52** #3035 10A35

(*with* Sato, Daihachiro; Wada, Hideo; Wiens, Douglas) Diophantine representation of the set of prime numbers. *Amer. Math. Monthly* **83** (1976), *no.* 6, 449–464. (B. H. Mayoh) **54** #2615 10M05 (10B15, 02F99)

Diophantine representation of the Lucas numbers. *Fibonacci Quart.* **14** (1976), *no.* 2, 134. (Donald W. Robinson) **53** #2818 10A35

Three universal representations of recursively enumerable sets. *J. Symbolic Logic* **43** (1978), *no.* 2, 335–351. (Roman Murawski) **58** #16226 02F25 (10B99)

Jones, Janet E. The cosmological effects of generalized field equations in relativity. *Proc. Roy. Soc.* (*London*) *Ser. A* **340** (1974), 263–286. (P. C. Vaidya) **50** #3851 83.35

Jones, John (*with* Rees, Elmer) A note on the Kervaire invariant. *Bull. London Math. Soc.* **7** (1975), *no.* 3, 279–282. (Edgar H. Brown, Jr.) **52** #6759 57D90

Jones, John Rees Curve following in n-dimensional Euclidean space. *Simulation* **21** (1973), *no.* 5, 145–149. (Author's summary) **56** #7275 65S05

Jones, John, Jr. On the stability of second order differential equations. *Portugal. Math.* **29** (1970), 81–86. (N. P. Bhatia) **45** #670 34D99

On oscillatory solutions of second order differential systems. *Portugal. Math.* **29** (1970), 125–133. (R. Tonkov (RŽMat **1972** #1 B297)) **48** #2490 34C10

Solution of certain matrix equations. *Proc. Amer. Math. Soc.* **31** (1972), 333–339. (A. Ben-Israel) **45** #1945 15A24

On the asymptotic behavior of solutions of the differential equation $[r(x)y'(x)]'+p(x)y(x)=0$. *Rend. Circ. Mat. Palermo* (2) **21** (1972), 168–172. (R. E. O'Malley, Jr.) **48** #2491 34C10

Explicit solutions of the matrix equation $AX-XB=C$. *Rend. Circ. Mat. Palermo* (2) **23** (1974), *no.* 2-3, 245–257 (1975). (James R. Wall) **53** #2983 15A24

sparck Jones, Karen *See* **Sparck Jones, Karen**

Jones, Lee Kenneth An elementary lemma on sequences of integers and its applications to functional analysis. *Math. Z.* **126** (1972), 299–307. (W. Krieger) **47** #5626 47A35 (28A65)

A short proof of Sucheston's characterization of mixing. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 83–84. (L. Sucheston) **47** #6997 28A65 (60F20)

A generalization of the mean ergodic theorem in Banach spaces. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **27** (1973), 105–107. (Karl Petersen) **51** #1434 47A35 (28A65)

(*with* Krengel, Ulrich) On transformations without finite invariant measure. *Advances in Math.* **12** (1974), 275–295. (R. V. Chacon) **49** #5300 28A65

Sur une loi de probabilité conditionelle de Kleitman. *Discrete Math.* **15** (1976), *no.* 1, 107–108. (Bhagwandas) **53** #12970 05A20 (60C05)

(*with* Lin, Michael) Ergodic theorems of weak mixing type. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 50–52. (R. J. Nagel) **53** #8929 47A35

A note on the traveling salesman problem. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 220–222. (J. A. Bondy) **55** #10318 05C35

On the distribution of sums of vectors. *SIAM J. Appl. Math.* **34** (1978), *no.* 1, 1–6. (H. Heyer) **58** #18638 60B05

Jones, Leslie P. The signature of symplectic manifolds. *Trans. Amer. Math. Soc.* **240** (1978), 253–262. (J. W. Vick) **58** #13089 57D90

Jones, Lloyd Collester ★The stupid ridiculous oversight $YX^p=\sum_{n=0}^{n=\infty}[n-\underline{p}/(n-p)!]X^n\equiv[\underline{n-p}/(n-p)!]$. *Lloyd C. Jones, Iowa City, Iowa,* 1978. 274 *pp.* (*errata insert*) (R. G. Bartle) **58** #22724 34A25

Jones, Lowell Edwin The converse to the fixed point theorem of P. A. Smith. I. *Ann. of Math.* (2) **94** (1971), 52–68. (D. G. Bourgin) **45** #4427 57E30 (55C35)

The converse to the fixed point theorem of P. A. Smith. *Bull. Amer. Math. Soc.* **78** (1972), 234–235. (Perrin Wright) **45** #1159 55C35 (57C99)

Three characteristic classes measuring the obstruction to PL local unknotedness. *Bull. Amer. Math. Soc.* **78** (1972), 979–980. (Shin'ichi Suzuki) **46** #6368 57C35

The converse to the fixed point theorem of P. A. Smith. II. *Indiana Univ. Math. J.* **22** (1972/73), 309–325. (D. G. Bourgin) **49** #4010 (E **54** #8686) 57E30 (55C20)

Patch spaces: a geometric representation for Poincaré spaces. *Ann. of Math.* (2) **97** (1973), 306–343. (Yuen-Fat Wong) **47** #4269 (E **52** #11930) 57B10

Combinatorial symmetries of the *m*-disc. I. *Bull. Amer. Math. Soc.* **79** (1973), 167–169. (Perrin Wright) **46** #8215 55C35

Topological invariance of certain combinatorial characteristic classes. *Bull. Amer. Math. Soc.* **79** (1973), 981–983. (S. Gitler) **49** #11523 57C25 (57D20)

Erratum: "The converse to the fixed point theorem of P. A. Smith. II" (Indiana Univ. Math. J. **22** (1972/73), 309–325). *Indiana Univ. Math. J.* **24** (1974/75), 1001–1003. (R. Schultz) **54** #8686 57E25

Corrections for: "Patch spaces: a geometric representation for Poincaré spaces" (Ann. of Math. (2) **97** (1973), 306–343). *Ann. of Math.* (2) **102** (1975), *no.* 1, 183–185. (Yuen-Fat Wong) **52** #11930 57B10

(*with* Farrell, F. Thomas) Markov cell structures. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 4, 739–740. (M. Eisenberg) **55** #9165 58F15

(*with* Farrell, F. Thomas) Examples of expanding endomorphisms on exotic tori. *Invent. Math.* **45** (1978), *no.* 2, 175–179. (M. C. Irwin) **57** #14056 58F15 (57D50)

Jones, M. On the use of the Breit-Pauli approximation in the study of relativistic effects in electron-atom scattering. *Philos. Trans. Roy. Soc. London Ser. A* **277** (1974/75), 587–622. (P. Achuthan) **51** #2536 81.47

Jones, M. E. (*with* Arthurs, A. M.) On variational principles for linear initial value problems. *J. Math. Anal. Appl.* **54** (1976), *no.* 3, 840–845. (D. K. Hughes) **53** #8540 34A30

(*with* Arthurs, A. M.) Variational principles for linear mixed boundary value problems. *J. Math. Anal. Appl.* **57** (1977), *no.* 1, 76–84. (K. Najzar) **58** #30688 49H05 (47A50)

Jones, M. N. Group-theoretical methods in geophysics. *Proc. Roy. Soc. London Ser. A* **348** (1976), *no.* 1652, 81–93. (C. O. Horgan) **53** #7368 86.22

Jones, Michael R. Multiplicators of *p*-groups. *Math. Z.* **127** (1972), 165–166. (B. Chang) **47** #6851 20D15

(*with* Wiegold, James) A subgroup theorem for multipliers. *J. London Math. Soc.* (2) **6** (1973), 738. (K. W. Gruenberg) **48** #6273 20J05

Some inequalities for the multiplicator of a finite group. *Proc. Amer. Math. Soc.* **39** (1973), 450–456. (Peter M. Neumann) **47** #3524 20D30

(*with* Wiegold, James) Isoclinisms and covering groups. *Bull. Austral. Math. Soc.* **11** (1974), 71–76. (J. L. Alperin) **50** #2335 20D99

(*with* Beyl, F. Rudolf) Addendum: "The Schur multiplicator of metacyclic groups" (Proc. Amer. Math. Soc. **40** (1973), 413–418) by F. R. Beyl. *Proc. Amer. Math. Soc.* **43** (1974), 251–252. (U. Stammbach) **49** #9068 20C25

Some inequalities for the multiplicator of a finite group. II. *Proc. Amer. Math. Soc.* **45** (1974), 167–172. (Peter M. Neumann) **50** #4741 20D15 (20J05)

A property of finite *p*-groups with trivial multiplicator. *Trans. Amer. Math. Soc.* **210** (1975), 179–183. (D. L. Johnson) **56** #3120 20D15

Jones, Neil D. ★Computability theory: an introduction. ACM Monograph Series. *Academic Press, New York-London,* 1973. xiv + 154 *pp.* (A. L. Selman) **51** #88 02F15 (02Exx, 68A25)

(*with* Laaser, William T.) Complete problems for deterministic polynomial time. *Sixth Annual ACM Symposium on Theory of Computing (Seattle, Wash., 1974), pp.* 40–46. *Assoc. Comput. Mach., New York,* 1974. (D. Grigor'ev) **55** #11706 68A20

(*with* Selman, Alan L.) Turing machines and the spectra of first-order formulas. *J. Symbolic Logic* **39** (1974), 139–150. (Robert M. Baer) **58** #5164 02G20 (02F10, 68A20, 68A25)

Space-bounded reducibility among combinatorial problems. *J. Comput. System Sci.* **11** (1975), *no.* 1, 68–85. (Ronald V. Book) **53** #2020 (E **58** #13929) 68A20

(*with* Lien, Y. Edmund; Laaser, William T.) New problems complete for nondeterministic log space. *Math. Systems Theory* **10** (1976), *no.* 1, 1–17. (Thomas G. Szymanski) **56** #1799 68A20

(*with* Laaser, William T.) Complete problems for deterministic polynomial time. *Theoret. Comput. Sci.* **3** (1976), *no.* 1, 105–117 (1977). (Forbes D. Lewis) **56** #13781 68A20

(*with* Skyum, Sven) Complexity of some problems concerning L systems (preliminary report). *Automata, languages and programming (Fourth Colloq., Univ. Turku, Turku,* 1977), *pp.* 301–308. *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin,* 1977. (Kurt Mehlhorn) **58** #8524 68A30 (68A20)

(*with* Skyum, Sven) Recognition of deterministic ET0L languages in logarithmic space. *Information and Control* **35** (1977), *no.* 3, 177–181. (Jan van Leeuwen) **57** #4619 68A20 (68A30)

A note on linear time simulation of deterministic two-way pushdown automata. *Information Processing Lett.* **6** (1977), *no.* 4, 110–112. (Kenneth B. Salomon) **56** #1809 68A25

(*with* Muchnick, Steven S.) Even simple programs are hard to analyze. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 2, 338–350. (Kurt Mehlhorn) **57** #8148 68A20 (68A05, 94A25)

Corrigendum: "Space-bounded reducibility among combinatorial problems" (J. Comput. System Sci. **11** (1975), no. 1, 68–85). *J. Comput. System Sci.* **15** (1977), *no.* 2, 241. (Editors) **58** #13929 68A20

Corrigendum: "Context free languages and rudimentary attributes" (Math Theory **3** (1969), no. 2, 102–109). *Math. Systems Theory* **11** (1977/78), *no.* 4, (Editors) **58** #32100 68A30 (94A30)

(*with* Landweber, Lawrence H.; Lien, Y. Edmund) Complexity of some in Petri nets. *Theoret. Comput. Sci.* **4** (1977), *no.* 3, 277–299. (Edward L. R **56** #13782 68A20

(*with* Muchnick, Steven S.) The complexity of finite memory programs wit recursion. *J. Assoc. Comput. Mach.* **25** (1978), *no.* 2, 312–321. (Kurt M **58** #8444 68A05 (68A20)

Jones, P. R. The lattice of inverse subsemigroups of a reduced inverse semigroup. *Math. J.* **17** (1976), *no.* 2, 161–172. (D. B. McAlister) **53** #13447 20M10

A basis theorem for free inverse semigroups. *J. Algebra* **49** (1977), *no.* 1, (T. E. Hall) **57** #6238 20M05

Basis properties for inverse semigroups. *J. Algebra* **50** (1978), *no.* 1, 135–1 M. Howie) **57** #6239 20M05

Jones, P. W. The two-armed bandit. *Biometrika* **62** (1975), *no.* 2, 523–524. Schmitz) **51** #14459 62L05

(*with* Ashour, S. K.) Bayesian estimation of the parameters of the mixed exponential distribution from censored samples. (German summary) *Biometris* (1976), *no.* 8, 633–637. (G. S. Lingappaiah) **56** #1563 62F15 (62N05)

Bayes sequential estimation of multinomial parameters. (German and Frenc summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 1, 123–127. (Joseph A **53** #14817 62L12 (62F15)

Some results for the two armed bandit problem. (German and French sum *Math. Operationsforsch. Statist.* **7** (1976), *no.* 3, 471–475. (K. Hinderer) **56** # 90C40 (62L05)

Jones, Phillip S. (*with* Bunt, Lucas N. H.; Bedient, Jack D.) ★The historical elementary mathematics. *Prentice-Hall, Inc., Englewood Cliffs, N.J.,* 1976. xii (Richard L. Francis) **57** #2814 01A05 (00A05)

Louis Charles Karpinski, historian of mathematics and cartography. *Histor* **3** (1976), *no.* 2, 185–202. (Richard L. Francis) **58** #27112 01A70

See also **Proceedings: American Academy Workshop on the Evolution of Mathematics, 52** #13120

Jones, R. (*with* Xenophontos, J.) An iterative finite element method using the Kan technique. (German summary) *Acta Mech.* **26** (1977), *no.* 1-4, 91–101. (S. A. **58** #25384 76.65 (65K05)

hughes-Jones, R. *See* **Hughes-Jones, R.**

Jones, R. G. (*with* Scott, Alastair; Smith, T. M. F.) The application of time series to the analysis of repeated surveys. *Internat. Statist. Rev.* **45** (1977), *no.* 1 (Kenneth R. W. Brewer) **55** #11457 62D05 (62M10)

Jones, R. P. (*with* Owens, D. H.) Iterative solution of constrained differential/a systems. *Internat. J. Control* **27** (1978), *no.* 6, 957–974. (Gene A. Kemper) **58** # 65L99

Jones, R. S. (*with* Lockyer, P.) Flow of a non-Newtonian fluid in a convergent (French summary) *J. Mécanique* **16** (1977), *no.* 3, 461–466. (Authors' summary) **56** #14091 76.41

Jones, Ralph (*with* Scott, Brian M.) Metric rigidity in E^n. *Proc. Amer. Math.* (1975), *no.* 1, 219–222. (L. Janos) **51** #13993 54E40

Jones, Raymund C. (*with* Kosterlitz, J. M.; Thouless, D. J.) The eigenvalue spectr large symmetric random matrix with a finite mean. *J. Phys. A* **11** (1978) L45–L48. (Ludwig Arnold) **58** #14747 81.60

Jones, Rhys Price Hereditary properties and *P*-chromatic numbers. *Combinatoric British Combinatorial Conf., Univ. Coll. Wales, Aberystwyth,* 1973), *pp.* 83–88. *Math. Soc. Lecture Note Ser., No.* 13, *Cambridge Univ. Press, London,* 1974. (R. C **52** #5464 05C15

Brooks' theorem for hypergraphs. *Proceedings of the Fifth British Comb Conference (Univ. Aberdeen, Aberdeen,* 1975), *pp.* 379–384. *Congressus Numeranti XV, Utilitas Math., Winnipeg, Man.,* 1976. (Jean-Claude Fournier) **53** #7842

(*with* Hilton, A. J. W.) Further remarks on partitioning the edges of a gr *Combinatorial Theory Ser. B* **24** (1978), *no.* 2, 249–250. (Authors' summary) **58** 05C99

Jones, Richard A. Approximate decoupling of multivariable control systems by line variable feedback. *Internat. J. Systems Sci.* **5** (1974), 323–328. (Bojan Popović) **49** #6963 93B10

Jones, Richard H. Spectrum estimation with missing observations. *Ann. Inst. Statist* **23** (1971), 387–398. (P. H. Diananda) **48** #1409 62M15

Jones, Richard M. (*with* Hammer, Preston C.) Connected sets: Bases and metrics. *Systems Theory* **5** (1971), 281–288. (Roman Duda) **45** #5966 54D05

Jones, Robert A. Comparison theorems for matrix Riccati equations. *SIAM J. Appl* **29** (1975), 77–90. (H. A. DeKleine) **51** #8548 34C10

Jones, Robert B. (*with* Haight, Frank A.) A probabilistic treatment of qualitative da special reference to word association tests. *J. Mathematical Psychology* **11** 237–244. (M. Iosifescu) **50** #4001 92A25

Baxter's method for *XXZ* model. *J. Phys. A* **7** (1974), 495–504. (Author's sur **50** #15760 82.15

(*with* Rai Chaudhuri, D.) Unstable singularities in the σ model. *J. Phys. A* **9** *no.* 8, 1349–1357. (J. S. Joel) **57** #18639 81.58 (58C25)

Time dependent compressible flow about a spherically symmetric poly solution. *Phys. A* **94** (1978), *no.* 2, 271–286. (Author's summary) **58** #25332 (35Q10)

See also **Critical phenomena, 56** #10632

Jones, Robert T. (*with* Peterson, Bruce B.) Almost congruent triangles. *Math. M* (1974), 180–189. (L. M. Kelly) **49** #11375 50B10

See also **Collected works: Jones, Robert T., 53** #84 *and* **Notes and comment Math. Mag., 54** #12422

Jones, Roger L. (*with* Parry, William) Compact abelian group extensions of dyn systems. II. *Compositio Math.* **25** (1972), 135–147. (E. Thoma) **49** #3083 28A

The ergodic maximal function with cancellation. *Ann. Probability* **4** (1976), 91–97. (Nathaniel Friedman) **53** #769 28A65

Inequalities for the ergodic maximal function. *Studia Math.* **60** (1977), *no.* 2, 111–129. (D. L. Burkholder) **55** #3215 28A65 (44A25)

es, **Ronald W.** Income distribution and effective protection in a multicommodity trade model. *J. Econom. Theory* **11** (1975), *no.* 1, 1–15. (Alberto Chilosi) **53** #12529 90A15

es, **S. E.** (*with* Atanacković, T. M.) A generalized variational formulation. *J. Math. Anal. Appl.* **48** (1974), 672–679. (Clarence M. Ablow) **50** #7763 35A15 (35Q99)

(*with* Robe, T. R.) A numerical method for establishing Liapunov stability of linear second order non-autonomous dynamical systems. *J. Inst. Math. Appl.* **16** (1975), *no.* 1, 109–120. (I. Norman Katz) **52** #7144 65L99 (34D20)

es, **S. T.** (*with* Moore, R. E.) Safe starting regions for iterative methods. *SIAM J. Numer. Anal.* **14** (1977), *no.* 6, 1051–1065. (W. C. Rheinboldt) **57** #7985 65H10

es, **V. F. R.** Quantum mechanics over fields of non-zero characteristic. *Lett. Math. Phys.* **1** (1975/76), *no.* 2, 99–103. (E. G. Beltrametti) **54** #6708 81.00

es, **Vaughan** Sur la conjugaison de sous-facteurs de facteurs de type II_1. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 11, A597–A598. (Author's summary) **55** #3808 46L10

es, **W. E.** (*with* Smith, W.) Entropy, information flow and variance in regulatory control systems. *Internat. J. Control* **24** (1976), *no.* 2, 239–246. (Tamer Basar) **54** #2334 94A15 (93E20)

es, **W. R.** (*with* Landau, M. D.) One-sided limits and integrability. *Math. Mag.* **45** (1972), 19–21. (From the introduction) **45** #6991 26A42

es, **Wayne** (*with* Parshall, Brian) On the 1-cohomology of finite groups of Lie type. *Proceedings of the Conference on Finite Groups* (*Univ. Utah, Park City, Utah,* 1975), *pp.* 313–328. *Academic Press, New York,* 1976. (S. I. Gel′fand) **53** #8272 20G10

An algorithm for generating dominant weights. *Comm. Algebra* **5** (1977), *no.* 7, 759–771. (Larry C. Grove) **56** #8711 20G15

es, **William B.** (*with* Thron, W. J.) A posteriori bounds for the truncation error of continued fractions. *SIAM J. Numer. Anal.* **8** (1971), 693–705. (Y. L. Luke) **45** #4602 65D99

(*with* Field, David A.) A priori estimates for truncation error of continued fractions $K(1/b_n)$. *Numer. Math.* **19** (1972), 283–302. (E. P. Merkes) **47** #2799 65D99

(*with* Snell, R. I.) Sequences of convergence regions for continued fractions $K(a_n/1)$. *Trans. Amer. Math. Soc.* **170** (1972), 483–497. (A. Magnus) **47** #3656 30A22

(*with* Thron, W. J.) Numerical stability in evaluating continued fractions. *Math. Comp.* **28** (1974), 795–810. (N. N. Abdelmalek) **51** #9465 65G05

Analysis of truncation error of approximations based on the Padé table and continued fractions. Proceedings of the International Conference on Padé Approximants, Continued Fractions and Related Topics (Univ. Colorado, Boulder, Colo., 1972; dedicated to the memory of H. S. Wall). *Rocky Mountain J. Math.* **4** (1974), 241–250. (J. W. Jerome) **49** #6551 65D15

(*with* Thron, W. J.) On convergence of Padé approximants. *SIAM J. Math. Anal.* **6** (1975), 9–16. (A. Edrei) **51** #10641 30A82

(*with* Gallucci, Michael A.) Rational approximations corresponding to Newton series (Newton-Padé approximants). *J. Approximation Theory* **17** (1976), *no.* 4, 366–392. (E. W. Cheney) **54** #13400 41A20

(*with* Thron, W. J.) Truncation error analysis by means of approximant systems and inclusion regions. *Numer. Math.* **26** (1976), *no.* 2, 117–154. (N. N. Abdelmalek) **55** #9500 65D99

Multiple-point Padé tables. *Padé and rational approximation* (*Proc. Internat. Sympos., Univ. South Florida, Tampa, Fla.,* 1976), *pp.* 163–171. *Academic Press, New York,* 1977. (Editors) **58** #29629 41A20

(*with* Magnus, Arne) Application of Stieltjes fractions to birth-death processes. *Padé and rational approximation* (*Proc. Internat. Sympos., Univ. South Florida, Tampa, Fla.,* 1976), *pp.* 173–179. *Academic Press, New York,* 1977. (C. Dierieck) **58** #6806 40A15 (60J80)

(*with* Thron, W. J.) Two-point Padé tables and T-fractions. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 3, 388–390. (B. D. Donevski) **56** #5853 30A22

See also **Proceedings: International Conference on Padé Approximants, Continued Fractions and Related Topics**, **48** #5775

Jong, J. L. *See* **Numerische Methoden bei Optimierungsaufgaben**, **50** #3568

g, J. M. (*with* Nachbar, W.) Quadratic eigenvalue problems from a nonlinear structural analysis. Collection of articles dedicated to William Prager on the occasion of his seventieth birthday. *SIAM J. Appl. Math.* **25** (1973), 539–555. (W. E. Boyce) **50** #11953 73.49

Jong, J. R. *See* **Haller-Wedel, Ernst**, **57** #17897

g, Jae Bu *See* **Chŏng, Chae Pu**

Jong, Lieuwe Sytse ★Numerical aspects of realization algorithms in linear systems theory. Doctoral dissertation, Technische Hogeschool Eindhoven. With a Dutch summary. *Technische Hogeschool Eindhoven, Eindhoven,* 1975. 159 *pp.* (From the author's introduction) **56** #17959 93B15

Towards a formal definition of numerical stability. *Numer. Math.* **28** (1977), *no.* 2, 211–219. (J. Stoer) **56** #9954 65G05

Numerical aspects of recursive realization algorithms. *SIAM J. Control Optim.* **16** (1978), *no.* 4, 646–659. (Bradley W. Dickinson) **58** #15391 93B15

g, Mark T. (*with* Shanmugam, K. Sam) Identification of nonlinear systems in frequency domain. *IEEE Trans. Aerospace and Electron. Systems* **AES-11** (1975), *no.* 6, 1218–1225. (R. Leonard Brown) **52** #10124 93B10

(*with* Shanmugam, K. Sam) Determination of a transfer function from amplitude frequency response data. *Internat. J. Control* **25** (1977), *no.* 6, 941–948. (Edward W. Kamen) **56** #14904 93B30

Jong, Piet The recursive fitting of autoregressions. *Biometrika* **63** (1976), *no.* 3, 525–530. (Raúl Pedro Mentz) **57** #17992 62M10

The fast Fourier transform spectral estimator. *J. Roy. Statist. Soc. Ser. B* **39** (1977), *no.* 3, 327–330. (Author's summary) **58** #13575 62M15

g, Wei Cherng (*with* Lin, Jer San; Chen, Lu San) On the Cauchy problem of some second order non-linear ordinary differential equations. *Formosan Sci.* **27** (1973), 1–10. (W. Wasow) **49** #760 34E15 (34A25)

Jonge, Ep A pair of mutually associated Banach function spaces. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 148–156. (D. J. H. Garling) **50** #10796 46E30

The triangle equality for positive singular functionals on some classes of normed Köthe spaces. I. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), 47–57. (G. Silverman) **51** #13632 46A40 (46E30)

The triangle equality for positive singular functionals on some classes of normed Köthe spaces. II. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), 58–69. (G. Silverman) **51** #13633 46A40 (46E30)

(*with* Zaanen, A. C.) The semi-M property for normed Riesz spaces. *Measure theory* (*Proc. Conf., Oberwolfach,* 1975), *pp.* 299–302. *Lecture Notes in Math., Vol.* 541, *Springer, Berlin,* 1976. (M. M. Rao) **58** #30121 46E30

Representation of linear functionals on a class of normed Köthe spaces. *J. Functional Analysis* **23** (1976), *no.* 2, 119–134. (G. Silverman) **54** #11045 46E30 (46A40)

Spaces of vector-valued measurable functions. *Math. Z.* **149** (1976), *no.* 2, 97–107. (Author's review (Zbl **325** #46053)) **58** #30158 46E40

(*with* van Rooij, Arnoud) ★Introduction to Riesz spaces. Mathematical Centre Tracts, No. 78. *Mathematisch Centrum, Amsterdam,* 1977. ix + 229 *pp.* *ISBN* 90-6196-133-5 (Rosalind Reichard) **57** #13439 46A40

The semi-M property for normed Riesz spaces. *Compositio Math.* **34** (1977), *no.* 2, 147–172. (M. M. Rao) **56** #6334 46A40 (46E30)

kiewiet de Jonge, Joost H. *See* **Kiewiet de Jonge, Joost H.**

Jongen, H. Th. (*with* Hettich, Rainer P.) Semi-infinite programming: conditions of optimality and applications. *Optimization techniques* (*Proc.* 8*th IFIP Conf., Würzburg,* 1977), *Part* 2, *pp.* 1–11. *Lecture Notes in Control and Information Sci., Vol.* 7, *Springer, Berlin,* 1978. (M. A. Wolfe) **58** #15179 90C30

Jongen, Hubertus Th. Zur Geometrie endlichdimensionaler nichtkonvexer Optimierungsaufgaben. (English summary) *Numerische Methoden bei Optimierungsaufgaben, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach,* 1976), *pp.* 111–136. *Internat. Ser. Numer. Math., Vol.* 36, *Birkhäuser, Basel,* 1977. (Ju. G. Borisovič) **57** #4236 58E15 (58F10)

de Jongh, D. C. J. The generalization of a covariant divergence theorem. (Afrikaans summary) *Tydskr. Natuurwetenskap.* **14** (1974), *no.* 4, 126–136. (J. D. Logan) **52** #2508 83.49

de Jongh, D. H. J. (*with* Gabbay, Dov M.) A sequence of decidable finitely axiomatizable intermediate logics with the disjunction property. *J. Symbolic Logic* **39** (1974), 67–78. (Kit Fine) **51** #10038 02C15 (02G15)

(*with* Smoryński, C. A.) Kripke models and the intuitionistic theory of species. *Ann. Math. Logic* **9** (1976), *no.* 1-2, 157–186. (Dirk van Dalen) **53** #5266 02C15

(*with* Parikh, Rohit) Well-partial orderings and hierarchies. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no.* 3, 195–207. (S. S. Wainer) **56** #5371 06A10 (02F35, 04A10)

de Jonghe, Ignatius *See* **Bockstaele, Paul P.**, **58** #26864

Jongmans, F. Propos divers sur l'optimisation. (English summary) *Bull. Soc. Roy. Sci. Liège* **40** (1971), 438–447. (A. Dinghas) **47** #922 49A99 (52A40)

(*with* Bair, Jacques) La séparation vraie dans un espace vectoriel. (English summary) *Bull. Soc. Roy. Sci. Liège* **41** (1972), 163–170. (E. J. Barbeau) **46** #7850 46A99

Une propriété des demi-variétés marginales d'un ensemble convexe. (English summary) *Bull. Soc. Roy. Sci. Liège* **42** (1973), 21–22. (C. M. Petty) **47** #9422 52A20

Sur les complications d'une loi de simplification dans les espaces vectoriels. *Bull. Soc. Roy. Sci. Liège* **42** (1973), 529–534. (John N. McDonald) **49** #9587 46A99

(*with* Bair, Jacques) De frictions internes en incidents de frontière. (English summary) *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 1-2, 63–71. (J. P. R. Christensen) **52** #14918a (E **52** #14918b) 46A99 (52A05)

(*with* Bair, Jacques) Errata: "De frictions internes en incidents de frontière"(Bull. Soc. Roy. Sci. Liège **44** (1975), no. 1-2, 63–71). *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 3-4, 1 *loose p.* (J. P. R. Christensen) **52** #14918b 46A99 (52A05)

(*with* Bair, Jacques) De l'art d'ériger sans péril des séparations branlantes. (English summary) *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 5-6, 354–362. (J. P. R. Christensen) **52** #9078 52A05 (46A99)

(*with* Bair, Jacques; Vangeldère, J.) Avatars et prospérité du théorème de Hahn-Banach. (English summary) *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 9-10, 562–568. (J. P. R. Christensen) **52** #14920 46A99

Réflexions sur l'art de sauver la face. (English summary) *Bull. Soc. Roy. Sci. Liège* **45** (1976), *no.* 9-10, 294–306. (L. A. Santaló) **56** #1200 52A05 (46A99)

(*with* Bair, Jacques) Sur les graves questions qui naissent quand la décomposition des ensembles atteint un stade avancé. (English summary) *Bull. Soc. Roy. Sci. Liège* **46** (1977), *no.* 1–2, 12–26. (Jacques Dubois) **57** #10592 52A05

(*with* Bair, Jacques; Fourneau, René) Vers la domestication de l'extrémisme. *Bull. Soc. Roy. Sci. Liège* **46** (1977), *no.* 3–4, 126–132. (G. Coquet) **57** #3998 52A05

Joni, S. A. (*with* Garsia, Adriano M.) A new expression for umbral operators and power series inversion. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 1, 179–185. (R. C. Mullin) **56** #2838 05A10 (40A99)

(*with* Garsia, Adriano M.) Higher dimensional polynomials of binomial type and formal power series inversion. *Comm. Algebra* **6** (1978), *no.* 12, 1187–1215. (R. C. Mullin) **58** #10484 05A99 (13J05)

Lagrange inversion in higher dimensions and umbral operators. *Linear and Multilinear Algebra* **6** (1978/79), *no.* 2, 111–122. (R. C. Mullin) **58** #10485 05A99

Jonins, G. (*with* Brezgunova, N. M.) A single-server system with repeated demands in the case of Γ-distribution of the queueing time. (Russian. Latvian and English summaries) *Latvian mathematical yearbook,* 11 (*Russian*), *pp.* 65–71. *Izdat. "Zinatne", Riga,* 1972. (G. Arsenišvili) **49** #11659 60K25

(*with* Ionin, L. L.) Determination of the variance of an estimate of the probability of a state with respect to time for an infinite complex. (Russian) *Problems on the distribution of information* (*Russian*), *pp.* 172–177, 197. *Izdat. "Nauka", Moscow,* 1973. (Authors' summary) **51** #15190 94A15

(*with* Sedols, J.) An investigation of a full-availability circuit with repeated calls and advanced service. (Russian) *Methods of teletraffic theory in information distribution* *systems* (*Russian*), *pp*. 75–84. *Izdat*. "*Nauka*", *Moscow*, 1975. (Editors) **56** #10892 90B25

See also **Mathematical modeling**, **57** #18174

Jonker, Leo B. Hypersurfaces of nonnegative curvature in a Hilbert space. *Trans. Amer. Math. Soc*. **169** (1972), 461–474. (M. do Carmo) **46** #6391 58B20

(*with* Norman, R. D.) Locally convex hypersurfaces. *Canad. J. Math*. **25** (1973), 531–538. (E. C. Turner) **47** #7670 53C45

Immersions with semi-definite second fundamental forms. *Canad. J. Math*. **27** (1975), *no*. 3, 610–617. (C. S. Weaver) **53** #11542 53C40

(*with* Taylor, Peter D.) Evolutionarily stable strategies and game dynamics. *Math. Biosci*. **40** (1978), *no*. 1-2, 145–156. (Daniel P. Maki) **58** #9351 90D45 (58F10, 92A15)

Jonnada, R. K. (*with* Ku, Y. H.) Bifurcation theorems and limit cycles in nonlinear systems. I, II. *J. Franklin Inst*. **292** (1971), 19–33; *ibid*. **292** (1971), 293–302. (R. F. Matlak) **50** #10427 34C05

(*with* Weygandt, C. N.) A numerical method for the location of limit cycles of higher-order nonlinear autonomous systems. *J. Franklin Inst*. **292** (1971), 333–355. (F. Odeh) **47** #9842 65L99 (34C05)

Jönrup, Hans (*with* Rennermalm, Bo) Regression analysis in samples from finite populations. *Scand. J. Statist*. **3** (1976), *no*. 1, 33–36. (I. Guttman) **53** #1864 62J05 (62D05)

Jónsdóttir, K. H. Ideal compactifications in uniquely divisible semigroups. *Semigroup Forum* **14** (1977), *no*. 4, 355–374. (Douglass L. Grant) **57** #514 22A15

Kernel compactifications of uniquely divisible semigroups. *Semigroup Forum* **15** (1977/78), *no*. 3, 269–279. (M. Friedberg) **57** #12761 22A15

Jónsson, Bjarni On the residuation in the lattice of group varieties. *Sci. Islandica* **1** (1968), 14–15. (Not reviewed) 20E10

Relatively free products of lattices. *Algebra Universalis* **1** (1971/72), 362–373. (R. P. Dilworth) **46** #106 06A20

★Topics in universal algebra. Lecture Notes in Mathematics, Vol. 250. *Springer-Verlag, Berlin-New York*, 1972. vi+220 *pp*. (Joel Berman) **49** #10625 08A25

The class of Arguesian lattices is self-dual. *Algebra Universalis* **2** (1972), 396. (R. P. Dilworth) **47** #4873 06A20

(*with* Grätzer, George; Lakser, H.) The amalgamation property in equational classes of modular lattices. *Pacific J. Math*. **45** (1973), 507–524. (Joel Berman) **51** #3014 06A30

Some recent trends in general algebra. *Proceedings of the Tarski Symposium* (*Proc. Sympos. Pure Math., Vol. XXV, Univ. California, Berkeley, Calif*., 1971), *pp*. 1–19. *Amer. Math. Soc., Providence, R.I*., 1974. (B. M. Schein (Šaĭn)) **51** #7988 08–02 (02–02)

Sums of finitely based lattice varieties. *Advances in Math*. **14** (1974), 454–468. (Joel Berman) **50** #6937 06A20

(*with* Nelson, Evelyn) Relatively free products in regular varieties. *Algebra Universalis* **4** (1974), 14–19. (V. Căzănescu) **50** #12856 08A10

(*with* Whaley, T. P.) Congruence relations and multiplicity types of algebras. *Pacific J. Math*. **50** (1974), 505–520. (M. Gould) **49** #8918 08A25

Varieties of algebras and their congruence varieties. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C*., 1974), *Vol*. 1, *pp*. 315–320. *Canad. Math. Congress, Montreal, Que*., 1975. (William A. Lampe) **55** #241 08A15

(*with* McNulty, George F.; Quackenbush, Robert W.) The ascending and descending varietal chains of a variety. *Canad. J. Math*. **27** (1975), 25–31. (V. Căzănescu) **50** #12860 08A15

Identities in congruence varieties. *Lattice theory* (*Proc. Colloq., Szeged*, 1974), *pp*. 195–205. *Colloq. Math. Soc. János Bolyai, Vol*. 14, *North-Holland, Amsterdam*, 1976. (Evelyn Nelson) **55** #12599 08A15

(*with* Freese, Ralph S.) Congruence modularity implies the Arguesian identity. *Algebra Universalis* **6** (1976), *no*. 2, 225–228. (M. E. Adams) **57** #12340 08A15

(*with* Olin, Philip) Elementary equivalence and relatively free products of lattices. *Algebra Universalis* **6** (1976), *no*. 3, 313–325. (Evelyn Nelson) **55** #215 06A20

(*with* Nation, J. B.) A report on sublattices of a free lattice. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp*. 223–257. *Colloq. Math. Soc. János Bolyai, Vol*. 17, *North-Holland, Amsterdam*, 1977. (Ralph Freese) **57** #12310 06A20

The variety covering the variety of all modular lattices. *Math. Scand*. **41** (1977), *no*. 1, 5–14. (E. T. Schmidt) **57** #3025 06A30

(*with* Rival, Ivan) Critical edges in subdirectly irreducible lattices. *Proc. Amer. Math. Soc*. **66** (1977), *no*. 2, 194–196. (R. P. Dilworth) **56** #8445 06A20

(*with* Duffus, Dwight; Rival, Ivan) Structure results for function lattices. *Canad. J. Math*. **30** (1978), *no*. 2, 392–400. (R. W. Quackenbush) **57** #12309 06A20

Jonsson, I. G. (*with* Brink-Kjaer, O.; Thomas, Glânffrwd P.) Wave action and set-down for waves on a shear current. *J. Fluid Mech*. **87** (1978), *no*. 3, 401–416. (From the introduction) **58** #19710 76.35

Jönsson, Ingemar On certain primes of Mersenne-type. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 117–118. (M. S. Cheema) **47** #120 10A25

Jónsson, Wilbur On the Mathieu groups $\mathbf{M}_{22}$, $\mathbf{M}_{23}$, $\mathbf{M}_{24}$ and the uniqueness of the associated Steiner systems. *Math. Z*. **125** (1972), 193–214. (H. Salzmann) **45** #4264 50D30

The (56, 11, 2) design of Hall, Lane, and Wales. *J. Combinatorial Theory Ser. A* **14** (1973), 113–118. (K. Vijayan) **46** #7050 05B05 (20H15)

(*with* McKay, John) More about the Mathieu group M_{22}. *Canad. J. Math*. **38** (1976), *no*. 5, 929–937. (Francis Buekenhout) **55** #139 05B25 (20D05)

Jonušauskas, A. Smooth partitions of unity on Hilbert manifolds. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb*. **13** (1973), *no*. 4, 107–116, 219–220. (M. Craioveanu) **50** #8592 58B10 (58C99)

Joó, István Stable interpolation on an infinite interval. *Acta Math. Acad. Sci. Hungar*. **25** (1974), 147–157. (J. Prasad) **52** #8723 41A05

On interpolation on the roots of Jacobi polynomials. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math*. **17** (1974), 119–124 (1975). (R. Franke) **52** #3796 41A05

Interpolation on the roots of Laguerre polynomials. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math*. **17** (1974), 183–188 (1975). (R. Franke) **52** #3797 41A05

An interpolation-theoretical characterization of the classical orthogonal polynomials. *Acta Math. Acad. Sci. Hungar*. **26** (1975), 163–169. (J. Prasad) 41A05

On positive linear interpolation operators. (Russian summary) *Anal. Math*. *no*. 4, 273–281. (Helmut Brass) **53** #3546 41A05

A remark on convergence systems in measure. *Acta Sci. Math*. (*Szeged*) *no*. 3-4, 301–303. (Harry I. Miller) **55** #8289 28A20

(*with* Tandori, Károly) A remark on convergence of orthogonal series. *Math*. (*Szeged*) **38** (1976), *no*. 3-4, 305–309. (Harry I. Miller) **55** #8290 (42A56)

(*with* Alexits, Gyorgy; Tandori, Károly) On summability of orthogona *Acta Math. Acad. Sci. Hungar*. **29** (1977), *no*. 1–2, 201–205. (F. Móricz) **55** 42A60

On almost everywhere *T*-convergence systems. *Acta Math. Acad. Sci. Hu* (1977), *no*. 3-4, 321–327. (Amnon Jakimovski) **58** #12073 40D15

On stable interpolation. (Hungarian. English summary) *Magyar Tud. Ak Fiz. Oszt. Közl*. **23** (1977), *no*. 3–4, 329–363. (Paul Nevai) **56** #925 41A05

On signum type orthonormal systems. (Russian summary) *Anal. Math*. **4** 1, 17–26. (L. Leindler) **58** #1997 42A60

Joos, G. ★Höhere Mathematik für den Praktiker. Zwölfte neubearbeitete Auf Egon W. Richter. *Johann Ambrosius Barth, Leipzig*, 1978. 499 *pp*. (Editors) **58** 00A05 (69.00)

Joos, H. *See* **Concepts in hadron physics**, **48** #1596

Jooste, T. *See* **Stellenbosch Algebra Research Group**, **58** #5656

Jora, Boris A useful transformation in the synthesis of adaptive observers. *IEE Automatic Control* **AC-21** (1976), *no*. 3, 417–419. (David L. Elliott) **53** #15455 93B30

Asymptotic stability conditions for an adaptive observer. (Romanian. Englis summary) *Bul. Inst. Politehn. Bucureşti Ser. Electrotehn*. **40** (1978), *no*. 1, (Author's summary) **58** #26342 93C40 (93D99)

Jordan, B. W. (*with* Halkin, Hubert; Polak, Elijah; Rosen, J. B.) Theory of discrete time systems. *Automatic and remote control III* (*Proc. Third Congr. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol*. 1, *p*. 53, *Paper* 28B, 7 *Mech. Engrs., London*, 1967. (F. M. Kirillova) **52** #5127 93C55

See also **Proceedings: International Congress of the International Feder Automatic Control (IFAC)**, **51** #12360c

Jordan, B. W., Jr. (*with* Masson, Gerald M.) Generalized multi-stage connection n *Networks* **2** (1972), 191–209. (Authors' summary) **57** #5467 94A20

Jordan, C. W. *See* **Boehm, Carl; et al.**, **54** #9026b

Jordan, Camilla R. The Jacobson radical of the group ring of a generalised free pro *London Math. Soc*. (2) **11** (1975), *no*. 3, 369–376. (D. Kreiling) **54** #7528

(*with* Jordan, D. A.) A note on semiprimitivity of Ore extensions. *Comm. A* (1976), *no*. 7, 647–656. (M. A. Rauf Qureshi) **53** #8116 16A20

(*with* Jordan, D. A.) Lie rings of derivations of associative rings. *J. Londo Soc*. (2) **17** (1978), *no*. 1, 33–41. (A. Kuškulejs) **57** #12609 16A68

(*with* Jordan, D. A.) The Lie structure of a commutative ring with a deriva *London Math. Soc*. (2) **18** (1978), *no*. 1, 39–49. (S. Yuan) **58** #28102 17B60

Jordan, Camille *See* **Johnson, Dale M.**, **55** #7714

Jordan, Charles ★Chapters on the classical calculus of probability. Translate Medgyessy. With a short biography by B. Gyires and a bibliography compile Takács. Disquisitiones Mathematicae Hungaricae, No. 4. *Akadémiai Kiadó, B* 1972. xxviii+619 *pp*. (L. Takács) **52** #9306 60–03 (60C05, 60D05)

See also **Gyires, Béla**, **57** #12118

Jordan, D. A. Noetherian Ore extensions and Jacobson rings. *J. London Math. Soc* (1975), 281–291. (Kazuo Kishimoto) **52** #10816 16A72

(*with* Jordan, Camilla R.) A note on semiprimitivity of Ore extensions. *Algebra* **4** (1976), *no*. 7, 647–656. (M. A. Rauf Qureshi) **53** #8116 16A20

Primitive Ore extensions. *Glasgow Math. J*. **18** (1977), *no*. 1, 93–97. (Ju. N. M **55** #389 16A20

(*with* Jordan, Camilla R.) Lie rings of derivations of associative rings. *J. Math. Soc*. (2) **17** (1978), *no*. 1, 33–41. (A. Kuškulejs) **57** #12609 16A68

(*with* Jordan, Camilla R.) The Lie structure of a commutative ring with a derivation. *J. London Math. Soc*. (2) **18** (1978), *no*. 1, 39–49. (S. Yuan) **58** #2 17B60

Simple Lie rings of derivations of commutative rings. *J. London Math. Soc*. (1978), *no*. 3, 443–448. (Joseph C. Ferrar) **58** #22208 17B60

Jordan, D. M. (*with* Porteous, Hugh L.) A map of sources, sinks and saddles. *Amer. Monthly* **79** (1972), 587–596. (N. P. Bhatia) **47** #2126 34C05 (34C35)

Jordan, D. W. (*with* Smith, Peter) On the asymptotic expansion of a class of real int *Math. Nachr*. **57** (1973), 201–207. (L. Berg) **48** #4594 41A60

Jordan, David (*with* Merriam, Charles W., III) Synthesis of transfer function mat control. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Ed feedback, regulators, linear and non-linear systems*; *Identification, differential discrete and stochastic systems, Paper No*. 35.5, 6 *pp*. *Internat. Fed. Automat. Düsseldorf*, 1971 (1972). (Editors) **56** #11153 93B15

(*with* Sridhar, Banavar) An efficient algorithm for calculation of the Luen canonical form. *IEEE Trans. Automatic Control* **AC-18** (1973), *no*. 3, 292–295. (Authors' summary) **55** #14291 93B10

(*with* Godbout, Louis F., Jr.) On state equation descriptions of linear diffe systems. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **97** *no*. 4, 333–344. (Charles R. Johnson) **53** #5069 93A10

(*with* Godbout, Louis F., Jr.) A structural analysis of the characteristic equat an output feedback system. *Proceedings of the IEEE Conference on Decision and and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla*., 1976), *pp*. 886 *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #17963 93B25

Jordan, Dominic William (*with* Smith, Peter) ★Nonlinear ordinary differential equa Oxford Applied Mathematics and Computing Science Series. *Clarendon Press, O* 1977. v+360 *pp*. *ISBN* 0-19-859620-0 (V. Lakshmikantham) **57** #16750 34–0

Jordan, G. S. (*with* Wheeler, Robert L.) On the asymptotic behavior of perturbed Vo integral equations. *SIAM J. Math. Anal.* **5** (1974), 273–277. (J. Kaplan) **49** #7720 45M05

Regularly varying functions and convolutions with real kernels. *Trans. Amer. Math. Soc.* **194** (1974), 177–194. (D. F. Shea) **49** #7642 40E05 (30A64)

(*with* Wheeler, Robert L.) Linear integral equations with asymptotically almost periodic solutions. *J. Math. Anal. Appl.* **52** (1975), *no.* 3, 454–464. (I. Fenyő) **53** #14061 45M05

(*with* Wheeler, Robert L.) Asymptotic behavior of unbounded solutions of linear Volterra integral equations. *J. Math. Anal. Appl.* **55** (1976), *no.* 3, 596–915. (C. Corduneanu) **54** #13511 45M05

A convolution relation with remainder estimate. *J. Reine Angew. Math.* **283/284** (1976), 287–293. (D. F. Shea) **57** #3758 44A35

(*with* Wheeler, Robert L.) A generalization of the Wiener-Lévy theorem applicable to some Volterra equations. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 109–114. (K. N. Srivastava) **53** #8819 45D05

dan, Harry F. (*with* Wood, David C. M.) On the distribution of sums of successive bits of shift-register sequences. *IEEE Trans. Computers* **C-22** (1973), 400–408. (H. D. Block) **51** #12441 94A25

dan, I. B. (*with* Mouftah, H. T.) A design technique for an integrable ternary arithmetic unit. *Proceedings of the* 1975 *International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.*, 1975), *pp.* 359–372. *IEEE Comput. Soc., Long Beach, Calif.*, 1975. (Authors' summary) **58** #9867 94A20

dan, J. S. Information and shadow prices for the constrained concave team problem. *J. Math. Econom.* **2** (1975), *no.* 3, 371–393. (Alexander M. Rubinov) **53** #4910 90A05

Temporary competitive equilibrium and the existence of self-fulfilling expectations. *J. Econom. Theory* **12** (1976), *no.* 3, 455–471. (Amoz Kats) **55** #7315 90A15

The continuity of optimal dynamic decision rules. *Econometrica* **45** (1977), *no.* 6, 1365–1376. (Amoz Kats) **56** #14797 90D35 (90A05)

Expectations equilibrium and informational efficiency for stochastic environments. *J. Econom. Theory* **16** (1977), *no.* 2, 354–372. (Author's review) **58** #25861 90A05

dan, James H. (*with* Schneider, D. G.) Covering classes of residues in $Z(\sqrt{-2})$. *Math. Mag.* **44** (1971), 257–261. (J. D. Swift) **46** #3483 12A15

(*with* Bergum, Gerald E.) The distribution of quadratic residues in fields of order p^2. *Math. Mag.* **45** (1972), 194–200. (R. A. Good) **48** #3848 10A10 (10H35)

(*with* Rabung, John R.) Local distribution of Gaussian primes. *J. Number Theory* **8** (1976), *no.* 1, 43–51. (D. Rearick) **53** #7970 10H15

See also **Wollan, G. N., 45 #1; Proceedings: Washington State University Conference on Number Theory, 47** #4904; **Notes and comments from Math. Mag., 48** #5774 *and* **Proceedings: Number Theory Conference, 50** #4457

dan, Karoly *See* **Jordan, Charles**

dan, Kathleen B. (*with* Antman, Stuart S.) Qualitative aspects of the spatial deformation of non-linearly elastic rods. *Proc. Roy. Soc. Edinburgh Sect. A* **73** (1975), 85–105. (R. L. Fosdick) **53** #12151 73.35

dan, Leon (*with* Kempthorne, Oscar) Minaverage bias estimable designs. *Estadística* **31** (1977), *no.* 116, 66–79. (D. V. Chopra) **57** #1783 62K05

Optimal designs for polynomial fitting. *Estadística* **31** (1977), *no.* 118, 385–394. (B. L. Granovskiĭ) **58** #24771 62K05

dan, Mary Joel Period H-semigroups and t-semisimple periodic H-semigroups. *Pacific J. Math.* **41** (1972), 437–446. (G. J. Lallement) **46** #5498 20M10

dan, P. F. Infinite sums of psi functions. *Bull. Amer. Math. Soc.* **79** (1973), 681–683. (S. Saran) **49** #672 33A70

dan, Pascual (*with* Matsushita, S.) Zur Theorie der Lie-Tripel-Algebren. *Akad. Wiss. Lit. Mainz Abh. Math.-Natur. Kl.* **1967**, *no.* 7, 14 *pp.* (E. Kuz'min (RŽMat **1969** #4 A235)) **46** #1861 17B05

(*with* Matsushita, S.; Rühaak, H.) Über nichtassoziative Algebren. *Akad. Wiss. Lit. Mainz Abh. Math.-Natur. Kl.* **1968**, *no.* 5, 19 *pp.* (Authors' introduction) **46** #5405 17B05

(*with* Rühaak, H.) Über einen Zusammenhang der Lie-Tripel-Algebren mit den Osborn-Algebren. *Akad. Wiss. Lit. Mainz Abh. Math.-Natur. Kl.* **1969**, *no.* 3, 8 *pp.* (I. Stewart) **46** #9130 17A30

Zur Frage einer physikalischen Verwendbarkeit nichtassoziativer Algebren. (English summary) *Z. Physik* **229** (1969), 193–198. (C. Tsai) **48** #8583 17B05

Remarks about Dirac's idea of cosmological variation of so called "constants of nature". *Differential geometical methods in mathematical physics* (*Proc. Sympos., Univ. Bonn, Bonn*, 1975), *pp.* 573–576. *Lecture Notes in Math., Vol.* 570, *Springer, Berlin*, 1977. (Kishin Mariwalla) **58** #8854 81.00 (83.00)

See also **Jahresfeier: Geburt von Nicolaus Copernicus, 48** #29

dan, Steven L. Three invariants for complex manifolds. *Duke Math. J.* **40** (1973), 925–936. (R. Osserman) **48** #8855 32H15 (30A48, 32C10)

(*with* Berman, Joel D.) The Kuratowski closure-complement problem. *Amer. Math. Monthly* **82** (1975), *no.* 8, 841–842. (Anthony D'Aristotle) **52** #9142 54A05

Estimating the harmonic length of cycles on a Riemann surface. (Italian summary) *Rend. Mat.* (6) **8** (1975), *no.* 4, 925–933 (1976). (Lung Ock Chung) **54** #5460 30A52

(*with* Kauffman, Louis H.) Differential geometry of the torus and torus knots. *Delta* (*Waukesha*) **6** (1976), *no.* 1, 1–15. (T. Banchoff) **54** #1126 53C20 (57C45)

dan, Thomas F. Lorentz-invariant Newtonian mechanics for two particles. *Phys. Rev. D* (3) **11** (1975), 2807–2815. (Author's summary) **56** #10261 70.53

Lorentz-invariant Newtonian mechanics for three or more particles. *Phys. Rev. D* (3) **11** (1975), 3035–3036. (Author's summary) **56** #13874 70.53

Conditions on wave functions derived from operator domains. *Amer. J. Phys.* **44** (1976), *no.* 6, 567–570. (Author's summary) **56** #10538 81.35

Identification of the velocity operator for an irreducible unitary representation of the Poincaré group. *J. Mathematical Phys.* **18** (1977), *no.* 4, 608–610. (Nigel B. Backhouse) **57** #2233a 81.22

Identification of the velocity operator in an irreducible unitary representation of the Poincaré group for imaginary mass or zero mass and variable helicity. *J. Mathematical Phys.* **19** (1978), *no.* 1, 247–248. (Nigel B. Backhouse) **57** #2233b 81.22

Simple proof of no position operator for quanta with zero mass and nonzero helicity. *J. Mathematical Phys.* **19** (1978), *no.* 6, 1382–1385. (Author's summary) **58** #14506 81.22

Jordan-Engeln, Gisela (*with* Reutter, Fritz) ★Numerische Mathematik für Ingenieure. B.I.-Hochschultaschenbücher, Band 104. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1973. xiii + 352 *pp.* (Editors) **50** #11701 65–01

(*with* Reutter, Fritz) ★Formelsammlung zur Numerischen Mathematik. Anhang: Fortran IV-Programme von Dieter Axmacher, Werner Glasmacher und Dietmar Sommer. B. I. Hochschultaschenbücher, Band 106. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1974. xiii + 303 *pp.* (*loose errata*) (Editors) **50** #11702 65–01

Joreskog, K. C. (*with* Werts, C. E.; Rock, D. A.; Linn, R. L.) Testing the equality of partial correlations. Note to: "Partial correlation in terms of path coefficients" (Amer. Statist. **29** (1975), 89–90) by C. C. Li, S. Mazumdar and B. Raja Rao. *Amer. Statist.* **30** (1976), *no.* 2, 101–102. (Lawrence S. Mayer) **53** #11886b 62H20

Jöreskog, Karl G. (*with* Goldberger, Arthur S.) Factor analysis by generalized least squares. *Psychometrika* **37** (1972), 243–260. (M. Atiqullah) **47** #2753 62H25

Analysis of covariance structures. *Multivariate analysis, III* (*Proc. Third Internat. Sympos., Wright State Univ., Dayton, Ohio*, 1972), *pp.* 263–285. *Academic Press, New York*, 1973. (I. Olkin) **52** #7007 62H05

Analyzing psychological data by structural analysis of covariance matrices. *Contemporary developments in mathematical psychology, Vol. II: Measurement, psychophysics, and neural information processing* (*Proc. Sympos., Univ. Michigan, Ann Arbor, Mich.*, 1972), *pp.* 1–56. *Freeman, San Francisco, Calif.*, 1974. (C. W. Chen) **50** #11687 62P15

(*with* Goldberger, Arthur S.) Estimation of a model with multiple indicators and multiple causes of a single latent variable. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 351, *part* 1, 631–639. (C. W. Chen) **52** #15855 62H25 (62P15)

Structural equation models in the social sciences: specification, estimation and testing. *Applications of statistics* (*Proc. Sympos., Wright State Univ., Dayton, Ohio*, 1976), *pp.* 265–287. *North-Holland, Amsterdam*, 1977. (C. W. Chen) **58** #8117 62P15

petrola de melo Jorge, Luquesio *See* **Petrola de Melo Jorge, Luquesio**

Jörgens, Konrad ★Lineare Integraloperatoren. Mathematische Leitfäden. *B. G. Teubner Stuttgart*, 1970. 224 *pp.* (H. R. Dowson (Zbl **207**, 446)) **57** #1036 45–02 (47–02)

Perturbations of the Dirac operator. *Conference on the Theory of Ordinary and Partial Differential Equations* (*Univ. Dundee, Dundee*, 1972), *pp.* 87–102. *Lecture Notes in Math., Vol.* 280, *Springer, Berlin*, 1972. (Teruo Ikebe) **54** #8047 35P25 (47F05)

(*with* Weidmann, Joachim) ★Spectral properties of Hamiltonian operators. Lecture Notes in Mathematics, Vol. 313. *Springer-Verlag, Berlin-New York*, 1973. iii + 140. (Zbl **248** #35002) **58** #11990 35P05 (81.35)

(*with* Weidmann, Joachim) Zur Existenz der Wellenoperatoren. *Math. Z.* **131** (1973), 141–151. (J. S. Howland) **48** #731 35P25 (47A40)

(*with* Rellich, Franz) ★Eigenwerttheorie gewöhnlicher Differentialgleichungen. Überarbeitete und ergänzte Fassung der Vorlesungsausarbeitung "Eigenwerttheorie partieller Differentialgleichungen, Teil 1" von Franz Rellich (Wintersemester 1952/53). Bearbeitet von J. Weidmann. Hochschultext. *Springer-Verlag, Berlin-New York*, 1976. ix + 227 *pp.* (R. C. Gilbert) **58** #17292 34B20 (47E05)

(*with* Weidmann, Joachim) ★Спектральные свойства гамильтоновых операторов. (Russian) [Spectral properties of Hamiltonian operators] With a supplement "The discrete spectrum of n-particle Hamiltonians" (Russian) by M. A. Antonec, G. M. Žislin and I. A. Šereševskiĭ. Translated from the English by G. M. Žislin. *Izdat. "Mir", Moscow*, 1976. 152 *pp.* (Editors) **58** #29409 35P05 (81.35)

See also **Spectral theory and differential equations, 51** #3589 *and* **Köthe, Gottfried, 58** #10186

Jørgensen, A. E. (*with* Kliem, Wolfhard) About the torques of fictitious forces. *Z. Angew. Math. Mech.* **55** (1975), *no.* 9, 534–535. (N. D. Sengupta) **52** #7246 70.34

Jørgensen, Erik The central limit problem for geodesic random walks. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **32** (1975), 1–64. (Mark Pinsky) **53** #4256 60J60 (58G99, 60B10)

hoffmann-Jørgensen, Jørgen *See* **Hoffmann-Jørgensen, Jørgen**

Jorgensen, Murray (*with* Adler, Andrew) Descendingly incomplete ultrafilters and the cardinality of ultrapowers. *Canad. J. Math.* **24** (1972), 830–834. (N. H. Williams) **46** #8829 02H10

Regular ultrafilters and long ultrapowers. *Canad. Math. Bull.* **18** (1975), *no.* 1, 41–43. (Andrew Adler) **52** #13374 02H13

Jørgensen, Niels Therkel (*with* Moesgaard, Kristian Peder) Peder Horrebow's formulation of the so-called Mayer formula. *Centaurus* **17** (1972), *no.* 4, 276–279. (Author's review (K. P. M.)) **58** #21174 01A50

Peder Horrebow's solution of the Kepler-problem. *Centaurus* **18** (1973/74), 173–183. (Peeter Müürsepp) **58** #26966 01A50

On the moon's elliptic inequality, evection, and variation and Horrox's "new theory of the moon". *Centaurus* **18** (1973/74), 316–318. (William R. Shea) **58** #21134 01A45

Jørgensen, Palle E. T. Representations of differential operators on a Lie group. *J. Functional Analysis* **20** (1975), *no.* 2, 105–135. (Michel Duflo) **52** #4350 58G99 (17B35, 22E45)

Perturbation and analytic continuation of group representations. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 6, 921–924. (S. Sankaran) **57** #16473 22E45

Approximately reducing subspaces for unbounded linear operators. *J. Functional Analysis* **23** (1976), *no.* 4, 392–414. (W. Timmermann) **54** #11107 47D05

Trace states and KMS states for approximately inner dynamical one-parameter groups of *-automorphisms. *Comm. Math. Phys.* **53** (1977), *no.* 2, 135–142. (C. Martin Edwards) **55** #7190 81.46 (46L05)

Approximately invariant subspaces for unbounded linear operators. II. *Math. Ann.* **227** (1977), *no.* 2, 177–182. (W. Timmermann) **55** #11097 47B44 (47A15)

Distribution representations of Lie groups. *J. Math. Anal. Appl.* **65** (1978), *no.* 1, 1–19. (A. J. Coleman) **58** #1026 22E45 (46F10, 81.22)

On one-parameter groups of automorphisms, and extensions of symmetric operators associated with unbounded derivations in operator algebras. *Tôhoku Math. J.* (2) **30** (1978), *no.* 2, 277–305. (Ola Bratteli) **58** #2323 46L05 (82.46)

Jørgensen, Troels On cyclic groups of Möbius transformations. *Math. Scand.* **33** (1973), 250–260 (1974). (I. Kra) **50** #601 30A58 (20H10)

Some remarks on Kleinian groups. *Math. Scand.* **34** (1974), 101–108. (J. Lehner) **51** #5921 30A58 (20H10)

(*with* Kiikka, Maire) Some extreme discrete groups. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **1** (1975), *no.* 2, 245–248. (L. Greenberg) **53** #3296 30A58 (20H10)

(*with* Beardon, Alan F.) Fundamental domains for finitely generated Kleinian groups. Collection of articles dedicated to Werner Fenchel on his 70th birthday. *Math. Scand.* **36** (1975), 21–26. (V. Chuckrow) **52** #8416 30A58

On discrete groups of Möbius transformations. *Amer. J. Math.* **98** (1976), *no.* 3, 739–749. (V. Chuckrow) **55** #658 30A58

Compact 3-manifolds of constant negative curvature fibering over the circle. *Ann. Math.* (2) **106** (1977), *no.* 1, 61–72. (Robert Riley) **56** #8840 30A58 (57A10, 55A05)

A note on subgroups of $SL(2, \mathbf{C})$. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 110, 209–211. (L. Alayne Parson) **56** #3186 22E40 (10D05, 30A58)

Jorgenson, D. (*with* Brundy, J.) Estimation of a system of regression equations by the method of instrumental variables. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 679–700. (H. Toutenburg) **49** #8234 62J99 (90A15)

Jorgenson, Dale W. (*with* Lau, Lawrence J.) Duality and differentiability in production. *J. Econom. Theory* **9** (1974), *no.* 1, 23–42. (Ronald W. Shephard) **58** #9140 90A15 (90B30)

Joris, Henri (*with* Chandrasekharan, Komaravolu) Sur l'unicité de l'équation fonctionnelle satisfaite par des séries de Dirichlet. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A497–A499. (E. Hille) **46** #5595 30A16

Ω-Sätze für zwei arithmetische Funktionen. *Comment. Math. Helv.* **47** (1972), 220–248. (J. B. Kelly) **47** #8488 12A70 (10H10)

(*with* Chandrasekharan, Komaravolu) Dirichlet series with functional equations and related arithmetical identities. Collection of articles dedicated to Carl Ludwig Siegel on the occasion of his seventy-fifth birthday, II. *Acta Arith.* **24** (1973), 165–191. (J. Knopfmacher) **48** #11004 10H05

Ω-Sätze für gewisse multiplikative arithmetische Funktionen. *Comment. Math. Helv.* **48** (1973), 409–435. (H. G. Diamond) **50** #255 10H25 (10K30)

An Ω-result for the coefficients of cusp forms. *Mathematika* **22** (1975), *no.* 1, 12–19. (R. A. Rankin) **54** #7383 10D15

On the evaluation of Gaussian sums for non-primitive Dirichlet characters. *Enseignement Math.* (2) **23** (1977), *no.* 1–2, 13–18. (T. M. Apostol) **56** #279 10G05

Jörn, E. (*with* Hoffmann, K.-H.; Schäfer, Eugen; Weber, H.) Ein Approximationssatz und seine Anwendung in der Kontrolltheorie. *Optimization and optimal control* (*Proc. Conf., Oberwolfach*, 1974), *pp.* 150–157. *Lecture Notes in Math., Vol.* 477, *Springer, Berlin*, 1975. (Editors) **58** #2554 49C05

Jorna, S. (*with* Springer, C.) Derivation of Green-type, transitional and uniform asymptotic expansions from differential equations. V. Angular oblate spheroidal wavefunctions $\overline{ps}{}_n^r(\eta,h)$ and $\overline{qs}{}_n^r(\eta,h)$ for large h. *Proc. Roy. Soc. London Ser. A* **321** (1971), *no.* 1547, 545–555. (Authors' summary) **53** #8524 33A55

Expansions for simple cubic lattice Green's functions. *J. Mathematical Phys.* **16** (1975), *no.* 11, 2333–2338. (Author's summary) **54** #4451 82.33

Jorné, Jacob (*with* Carmi, Shlomo) Liapunov stability of the diffusive Lotka-Volterra equations. *Math. Biosci.* **37** (1977), *no.* 1-2, 51–61. (Authors' summary) **58** #33149 92A15 (34D20)

Jorre, R. P. *See* **Symposia: Probability and Applications**, **52** #12020

Josefson, Bengt A counterexample in the Levi problem. *Proceedings on Infinite Dimensional Holomorphy* (*Internat. Conf., Univ. Kentucky, Lexington, Ky.*, 1973), *pp.* 168–177. *Lecture Notes in Math., Vol.* 364, *Springer, Berlin*, 1974. (Lawrence Gruman) **52** #14384 32F15 (46G20)

Weak sequential convergence in the dual of a Banach space does not imply norm convergence. *Ark. Mat.* **13** (1975), 79–89. (T. Figiel) **51** #11067 46B05 (46G20)

Weak sequential convergence in the dual of a Banach space does not imply norm convergence. *Bull. Amer. Math. Soc.* **81** (1975), 166–168. (G. Coeuré) **51** #6371 46B99

Some remarks on Banach valued polynomials on $C_0(A)$. *Infinite dimensional holomorphy and applications* (*Proc. Internat. Sympos., Univ. Estadual de Campinas, São Paulo*, 1975), *pp.* 231–238. *North-Holland Math. Studies, Vol.* 12; *Notas de Mat., No.* 54, *North-Holland, Amsterdam*, 1977. (S. Dineen) **58** #23590 46G20 (32D05, 58C10)

On the equivalence between locally polar and globally polar sets for plurisubharmonic functions on $\mathbf{C}^n$. *Ark. Mat.* **16** (1978), *no.* 1, 109–115. (Eric Bedford) **58** #28669 32F05

Joseph, Anthony Derivations of Lie brackets and canonical quantisation. *Comm. Math. Phys.* **17** (1970), 210–232. (R. Arens) **45** #3015 81.46

(*with* Sullivan, Wayne G.) A commutant property of symmetric ternary algebras. *Proc. Cambridge Philos. Soc.* **70** (1971), 1–4. (J. D. Stein, Jr.) **45** #4165 46L99 (47B99)

Gel'fand-Kirillov dimension for algebras associated with the Weyl algebra. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **17** (1972), 325–336. (Bernard Kolman) **49** #2868 17B60

Commuting polynomials in quantum canonical operators and realizations of Lie algebras. *J. Mathematical Phys.* **13** (1972), 351–357. (R. Mirman) **45** #6292 81.22

Realizations in classical and quantum mechanics. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Théor., Marseille*, 1974), *Vol.* 1, *pp.* 227–236. *Centre Nat. Recherche Sci., Centre Phys. Théor., Marseille*, 1974. (J. S. Joel) **57** #10733 58F05 (17B35, 81.58)

Minimal realizations and spectrum generating algebras. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Théor. Marseille*, 1974), *Vol.* 1, *pp.* 296–317. *Centre Nat. Recherche Sci., Centre Phys. Théor., Marseille*, 1974. (A. U. Klimyk) **56** #10484 81.17 (17B10)

Infinite dimensional Lie algebras in mathematics and physics. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Théor., Marseille*, 1974), *Vol.* 2, *pp.* 582–665. *Centre Nat. Recherche Sci., Centre Phys. Théor., Marseille*, 1974. (J. S. Joel) **57** #4267 58H05 (17B65)

Symplectic structure in the enveloping algebra of a Lie algebra. (French summary) *Bull. Soc. Math. France* **102** (1974), 75–83. (Nicole Conze) **50** #4678 17B35

Minimal realizations and spectrum generating algebras. *Comm. Math. Phys.* **36** (1974), 325–338. (F. W. Lemire) **49** #6795 81.17

Proof of the Gelfand-Kirillov conjecture for solvable Lie algebras. *Proc.* *Math. Soc.* **45** (1974), 1–10. (N. N. Šapovalov) **52** #522 17B35

A characterization theorem for realizations of sl(2). *Proc. Cambridge Philos.* (1974), 119–131. (F. W. Lemire) **48** #8581 17A99

The Weyl algebra—semisimple and nilpotent elements. *Amer. J. Math.* **97** *no.* 3, 597–615. (Nicole Conze Berline) **52** #520 17B30

Sur les vecteurs de plus haut poids dans l'algèbre enveloppante d'une algèbre semi-simple complexe. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** *no.* 20, Aii, A835–A837. (N. N. Šapovalov) **52** #8207 17B20

The algebraic method in representation theory (enveloping algebras). *Group theoretical methods in physics* (*Fourth Internat. Colloq., Nijmegen*, 1975), *pp.* *Lecture Notes in Phys., Vol.* 50, *Springer, Berlin*, 1976. (N. N. Šapovalov) **58** 17B35 (17B10)

The minimal orbit in a simple Lie algebra and its associated maximal ideal. *Sci. École Norm. Sup.* (4) **9** (1976), *no.* 1, 1–29. (S. I. Gel'fand) **53** #8168 (22E45, 58F05)

A wild automorphism of Usl(2). *Math. Proc. Cambridge Philos. Soc.* **80** (197 1, 61–65. (Author's summary) **55** #5702 16A72

A characteristic variety for the primitive spectrum of a semisimple Lie al *Non-commutative harmonic analysis* (*Actes Colloq., Marseille-Luminy*, 1976), *pp.* 102–118. *Lecture Notes in Math., Vol.* 587, *Springer, Berlin*, 1977. (Jouko Micke **56** #8645 17B20 (22E45)

A generalization of the Gelfand-Kirillov conjecture. *Amer. J. Math.* **99** (197 6, 1151–1165. (Jouko Mickelsson) **57** #391 17B35

Second commutant theorems in enveloping algebras. *Amer. J. Math.* **99** (197 6, 1167–1192. (N. N. Šapovalov) **57** #6126 17B35

On the annihilators of the simple subquotients of the principal series. *An* *École Norm. Sup.* (4) **10** (1977), *no.* 4, 419–439. (Jouko Mickelsson) **58** #809 (22E45)

Sur la classification des idéaux primitifs dans l'algèbre enveloppante d'une a de Lie réductive. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), A425–A427. (Author's summary) **55** #438 17B35

A generalization of Quillen's lemma and its application to the Weyl algebras. *J. Math.* **28** (1977), *no.* 3, 177–192. (Author's review) **58** #28097 17B35 (16A

A preparation theorem for the prime spectrum of a semisimple Lie algeb *Algebra* **48** (1977), *no.* 2, 241–289. (Gordon E. Brown) **56** #12082 17B20

Sur la classification des idéaux primitifs dans l'algèbre enveloppante de sl(n + (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 5, A303– (Author's summary) **58** #22203 17B35

Gel'fand-Kirillov dimension for the annihilators of simple quotients of modules. *J. London Math. Soc.* (2) **18** (1978), *no.* 1, 50–60. (Marie-Paule Mal **58** #22202 17B35

Joseph, Daniel D. On the place of energy methods in a global theory of hydrody stability. *Instability of continuous systems* (*IUTAM Sympos., Herrenalb*, 196 132–142. *Springer, Berlin*, 1971. (Wei Lai) **53** #2134 76.49

(*with* Hung, W.) Contributions to the nonlinear theory of stability of viscous f pipes and between rotating cylinders. *Arch. Rational Mech. Anal.* **44** (1971/72), (M. G. Hall) **50** #3745 76.35

Stability of convection in containers of arbitrary shape. *J. Fluid Mech.* **47** (257–282. (E. G. Broadbent) **46** #6702 76.35

(*with* Sattinger, David H.) Bifurcating time periodic solutions and their stab *Arch. Rational Mech. Anal.* **45** (1972), 79–109. (V. Judovič (RŽMat **1973** #1 **52** #8682 35Q10

(*with* Lundgren, T. S.) Quasilinear Dirichlet problems driven by positive sou *Arch. Rational Mech. Anal.* **49** (1972/73), 241–269. (Jean Mawhin) **49** #5452

(*with* Fosdick, Roger L.) The free surface on a liquid between cylinders rotat different speeds. I. *Arch. Rational Mech. Anal.* **49** (1972/73), 321–380. (M. G. **50** #6299 76.35

(*with* Beavers, Gordon S.; Fosdick, Roger L.) The free surface on a liquid be cylinders rotating at different speeds. II. *Arch. Rational Mech. Anal.* **49** (1972 381–401. (M. G. Hall) **50** #6300 76.35

Domain perturbations: the higher order theory of infinitesimal water waves. *Rational Mech. Anal.* **51** (1973), 295–303. (L. A. Mysak) **49** #4414 76.35

Repeated supercritical branching of solutions arising in the variational theo turbulence. *Arch. Rational Mech. Anal.* **53** (1973/74), *no.* 2, 101–130. (Fron summary) **58** #19777 76.49

Slow motion and viscometric motion; stability and bifurcation of the rest state simple fluid. *Arch. Rational Mech. Anal.* **56** (1974/75), 99–157. (T. W. Ting) **50** # 76.35

(*with* Chen, T. S.) Friction factors in the theory of bifurcating Poiseuille through annular ducts. *J. Fluid Mech.* **66** (1974), *no.* 1, 189–207. (R. K. G **54** #4294 76.35

(*with* Nield, D. A.) Stability of bifurcating time-periodic and steady solutio arbitrary amplitude. *Arch. Rational Mech. Anal.* **58** (1975), *no.* 4, 369–380. (R. Ka **57** #17415 47H15 (34G05)

(*with* Sturges, Leroy D.) Slow motion and viscometric motion. V. The free su on a simple fluid flowing down a tilted trough. *Arch. Rational Mech. Anal.* **59** (1 *no.* 4, 359–387. (T. W. Ting) **54** #6676 76.41

(*with* Sturges, Leroy D.) The free surface on a liquid filling a trench heated fro side. *J. Fluid Mech.* **69** (1975), *no.* 3, 565–589. (A. C. Srivastava) **52** #16263

★Stability of fluid motions. I. Springer Tracts in Natural Philosophy, Vol *Springer-Verlag, Berlin-New York*, 1976. xiii+282 *pp.* (E. Zeidler) **56** #7452 (35Q99)

Factorization theorems for the stability of bifurcating solutions. *Turbulence* *Navier-Stokes equations* (*Proc. Conf., Univ. Paris-Sud, Orsay*, 1975), *pp.* 85–93. *Le* *Notes in Math., Vol.* 565, *Springer, Berlin*, 1976. (Editors) **58** #31192 58E05 (34 47H15, 58F10)

The bifurcation of T-periodic solutions into nT-periodic solutions and tori. *Synergetics* (*Proc. Internat. Workshop, Garmisch-Partenkirchen*, 1977), *pp.* 39–50.

Springer, Berlin, 1977. (Editors) **58** #22807 34C25 (58F10)

(*with* Sturges, Leroy D.) The free surface on a simple fluid between cylinders undergoing torsional oscillations. III. Oscillating planes. *Arch. Rational Mech. Anal.* **64** (1977), *no.* 3, 245–267. (From the introduction) **58** #14300 76.35

Factorization theorems, stability and repeated bifurcation. *Arch. Rational. Mech. Anal.* **66** (1977), *no.* 2, 99–118. (B. V. Loginov) **58** #17337 34C25 (58F10)

(*with* Iooss, Gérard) Bifurcation and stability of nT-periodic solutions branching from T-periodic solutions at points of resonance. *Arch. Rational. Mech. Anal.* **66** (1977), *no.* 2, 135–172. (B. V. Loginov) **58** #18582 58F10 (34C25)

Rotating simple fluids. *Arch. Rational Mech. Anal.* **66** (1977), *no.* 4, 311–344. (Marshall Slemrod) **56** #17418 76.35

The convergence of biorthogonal series for biharmonic and Stokes flow edge problems. *SIAM J. Appl. Math.* **33** (1977), *no.* 2, 337–347. (Peter J. Chen) **56** #1880 73.35

(*with* Sturges, Leroy D.) The convergence of biorthogonal series for biharmonic and Stokes flow edge problems. II. *SIAM J. Appl. Math.* **34** (1978), *no.* 1, 7–26. (Peter J. Chen) **57** #14765 73.40

See also **Nonlinear problems in the physical sciences and biology**, **51** #7766

eph, G. (*with* Giles, J. R.) The numerical ranges of unbounded operators. *Bull. Austral. Math. Soc.* **11** (1974), 31–36. (S. R. Caradus) **51** #6449 47A10

(*with* Giles, J. R.; Koehler, Donald O.; Sims, Brailey) On numerical ranges of operators on locally convex spaces. *J. Austral. Math. Soc. Ser. A* **20** (1975), *no.* 4, 468–482. (John Duncan) **52** #6459 47A10

eph, Gerard A. Multiplicative functionals and a class of topological algebras. *Bull. Austral. Math. Soc.* **17** (1977), *no.* 3, 391–399. (Z. Słodkowski) **58** #12370 46H05

Boundedness and completeness in locally convex spaces and algebras. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 1, 50–63. (Author's summary) **58** #23602 46H99 (46A05, 46L99)

eph, J. On easily diagnosable sequential machines. *IEEE Trans. Computers* **C-27** (1978), *no.* 2, 159–162. (A. T. Amin) **57** #9346 94A25

eph, James E. (*with* Espelie, M. Solveig) A characterization of continuous closed real functions. *Math. Mag.* **45** (1972), 200–201. (F. Brooks) **47** #2009 26A15

On a characterization of compactness for T_1 spaces. *Amer. Math. Monthly* **83** (1976), *no.* 9, 728–729. (M. G. Murdeshwar) **54** #8571 54D30

Characterizations of nearly-compact spaces. (French summary) *Boll. Un. Mat. Ital. B* (5) **13** (1976), *no.* 2, 311–321. (R. M. Stephenson, Jr.) **56** #3796a 54D30

Characterizations of nearly-compact spaces. II. (French summary) *Boll. Un. Mat. Ital. B* (5) **13** (1976), *no.* 3, 601–606. (R. M. Stephenson, Jr.) **56** #3796b 54D30

Characterizations of maximal topologies. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 3, 334–336. (H. E. Stone) **54** #1145 54A10 (54D25)

(*with* Butcher, George H.) Characterizations of a generalized notion of compactness. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 3, 380–382. (J. E. Vaughan) **55** #11208 54D30

Spaces in which compact sets are closed. *Math. Mag.* **49** (1976), *no.* 2, 90. (G. L. Cain, Jr.) **52** #11817 54C10

(*with* Espelie, M. Solveig) Compact subsets of the Sorgenfrey line. *Math. Mag.* **49** (1976), *no.* 5, 250–251. (J. G. Ceder) **54** #6082 54D20

On H-closed spaces. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 223–226. (R. M. Stephenson, Jr.) **52** #15368 54D25

On H-closed and minimal Hausdorff spaces. *Proc. Amer. Math. Soc.* **60** (1976), 321–326 (1977). (Jack R. Porter) **54** #13852 54D25

Characterizations of minimal Hausdorff spaces. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 145–148 (1977). (R. M. Stephenson, Jr.) **54** #13853 54D25

On minimal Hausdorff spaces. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 4, 476–480. (M. G. Murdeshwar) **58** #2711 54D10

More characterizations of H-closed spaces. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 1, 160–164. (R. M. Stephenson, Jr.) **55** #11206 54D25

On Urysohn-closed and minimal Urysohn spaces. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 2, 235–242. (M. G. Murdeshwar) **58** #7553 54D15

Regularity, normality and multifunctions. *Proc. Amer. Math. Soc.* **70** (1978), *no.* 2, 203–206. (R. E. Smithson) **57** #13845 54D10

eph, K. Babu The Dirac-Schwinger covariance condition in classical field theory. *Pramāṇa* **9** (1977), *no.* 2, 103–109. (Not reviewed) 81.34

eph, R. I. Relation of the thermodynamic properties of a closed chain of classical spins with arbitrary isotropic nearest-neighbor exchange to the nearest-neighbor spin-correlation functions. *Phys. Rev. B* (3) **12** (1975), *no.* 11, 5338–5339. (M. Lawrence Glasser) **52** #16421 82.33

Single-particle analog of the Schrödinger exchange operator. *Phys. Rev. B* (3) **13** (1976), *no.* 9, 4042–4045. (Marcel Coz) **53** #10004 81.47

Multi-soliton-like solutions to the Benjamin-Ono equation. *J. Mathematical Phys.* **18** (1977), *no.* 12, 2251–2258. (Author's summary) **56** #10398 76.45 (45K05)

Solitary waves in a finite depth fluid. *J. Phys. A* **10** (1977), *no.* 12, 225–227. (Author's summary) **56** #14056 76.35

ephson, William Coallocation between lattices with applications to measure extensions. *Pacific J. Math.* **75** (1978), *no.* 1, 149–163. (Robert F. Wheeler) **58** #11303 28A10

hi, A. D. Hyponormal polynomials of monotone shifts. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 6, 681–686. (P. A. Fillmore) **56** #9309 47B20

hi, A. W. ★Matrices and tensors in physics. *Halsted Press* [*John Wiley & Sons*], *New York-London-Sydney*, 1975. xi + 251 *pp.* (C. W. Kilmister) **55** #10477 15-01 (69.00)

★Elements of group theory for physicists. Second edition. *Halsted Press* [*John Wiley & Sons*], *New York-London-Sydney*, 1977. xiii + 324 *pp.* (Philip Huddleston) **55** #10556 20C35 (22E70)

hi, Aravind K. (*with* Kosaraju, S. Rao; Yamada, Hisao M.) String adjunct grammars. I. Local and distributed adjunction. *Information and Control* **21** (1972), 93–116. (I. M. Havel) **49** #4319 68A30

(*with* Kosaraju, S. Rao; Yamada, Hisao M.) String adjunct grammars. II. Equational representation, null symbols, and linguistic relevance. *Information and Control* **21** (1972), 235–260. (I. M. Havel) **49** #4320 68A30

(*with* Levy, Leon S.) Some results in tree automata. *Math. Systems Theory* **6** (1972/73), 334–342. (Eugene S. Santos) **47** #10161 94A30

(*with* Levy, Leon S.; Takahashi, Masako) A tree generating system. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 453–465. *North-Holland, Amsterdam*, 1973. (Derick Wood) **52** #12424 68A30

(*with* Levy, Leon S.) Local transformations. *Information processing* 74 (*Proc. IFIP Congr., Stockholm*, 1974), *pp.* 921–923. *North-Holland, Amsterdam*, 1974. (Authors' summary) **58** #3729 68A30

(*with* Levy, Leon S.; Takahashi, Masako) Tree adjunct grammars. *J. Comput. System Sci.* **10** (1975), 136–163. (Miroslav Hladký) **50** #15452 68A30

(*with* Levy, Leon S.) Constraints on structural descriptions: local transformations. *SIAM J. Comput.* **6** (1977), *no.* 2, 272–284. (Robert L. Cannon, Jr.) **58** #3730 68A30

See also **Semantics and communication**, **49** #4731

Joshi, B. K. On a convolution integral equation. *Vikram* **16** (1972), *no.* 1-3, 51–53. (Gerald G. Bilodeau) **57** #1038 45E10 (44A15)

An integral equation involving Whittaker's function. *Math. Student* **41** (1973), *no.* 3-4, 407–408 (1974). (K. N. Srivastava) **52** #1221 45H05

Inversion of an integral equation with Whittaker's function as its kernel. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **16** (1973), 199–201. (C. M. Joshi) **49** #9567 45H05

The inversion of a convolution transform. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 10, 933–935. (E. Gesztelyi) **57** #10373 44A05

Inversion of a convolution transform involving generalized Bateman's function. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 12, 1081–1084. (Author's summary) **57** #13394 44A20

On an inversion integral involving generalised Bateman function. *Math. Student* **42** (1974), 183–184 (1975). (S. P. Goyal) **53** #6249 44A15

An integral equation involving Rice's polynomial. *Proc. Nat. Acad. Sci. India Sect. A* **44** (1974), *no.* 4, 254–256. (K. N. Srivastava) **52** #8834 45H05

Two theorems on an integral equation. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **17** (1974), 61–63. (K. M. Saksena) **50** #14117 45H05

Some relations between different convolution transforms of a generalized Bateman function. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **18** (1975), *no.* 2, 95–100. (K. M. Saksena) **52** #8814 44A20 (44A35)

On the inversion of an integral equation involving a generalized Bateman function. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **18** (1975), *no.* 4, 319–323. (C. M. Joshi) **54** #5764 45H05

(*with* Dixit, L. A.) An integral equation involving the generalised Bateman function. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **19** (1976), *no.* 3, 201–204. (J. P. Singhal) **55** #10981 45H05

Joshi, C. M. A note on a hypergeometric transformation associated with Appell's function F_4. *Ganita* **22** (1971), *no.* 1, 7–10. (B. S. Tavathia) **45** #7117 33A30

(*with* Singhal, J. P.) Some polynomials associated with the generalized Hermite polynomials. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **6(26)** (1971), 25–33. (K. N. Srivastava) **45** #7136 33A65

An operational formula involving the associated ultraspherical polynomials. *Portugal. Math.* **30** (1971), 1–9. (B. M. Agrawal) **46** #3860 33A65

(*with* McDonald, J. B.) Some finite summation theorems and an asymptotic expansion for the generalized hypergeometric series. *J. Math. Anal. Appl.* **40** (1972), 278–285. (R. G. Buschman) **47** #3716 33A30

On some properties of a class of polynomials unifying the generalized Hermite and Laguerre polynomials. *Matematica* (*Cluj*) **14(37)** (1972), 219–232. (V. L. Deshpande) **50** #5058 33A65

(*with* Singhal, J. P.) Operational formulas associated with a class of polynomials unifying the generalized Hermite and Laguerre polynomials. *Riv. Mat. Univ. Parma* (3) **1** (1972), 279–286. (S. K. Chatterjea) **51** #5999 33A65

(*with* Singhal, J. P.) Some polynomials associated with the generalized Hermite polynomials. *J. Approximation Theory* **7** (1973), 113–121. (K. N. Srivastava) **49** #5428 33A65

(*with* Srivastava, Hari M.) Integral representation for the product of a class of generalized hypergeometric polynomials. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **60** (1974), 919–926. (R. S. Dahiya) **50** #7608 33A30

(*with* Prajapat, M. L.) On generating functions for generalized Hermite, Laguerre and Bessel polynomials. *Mathematica* (*Cluj*) **16(39)** (1974), *no.* 2, 269–274 (1977). (Authors' summary) **58** #28731 33A65

(*with* Prajapat, M. L.) On some properties of a class of polynomials unifying the generalized Hermite, Laguerre and Bessel polynomials. II. *Proc. Nat. Acad. Sci. India Sect. A* **44** (1974), *no.* 4, 311–318. (V. L. Deshpande) **56** #3382 33A65

(*with* Prajapat, M. L.) Triple integral transformations of certain generalized hypergeometric functions. *Jñānabha Sect. A* **5** (1975), 161–176. (From the introduction) **57** #16743 33A65

(*with* Prajapat, M. L.) The operator $T_{k,q}$ and a generalization of certain classical polynomials. *Kyungpook Math. J.* **15** (1975), *no.* 2, 191–199. (W. A. Al-Salam) **53** #908 33A65

(*with* Prajapat, M. L.) On a generalized H-function transform. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 2, 131–135. (B. D. Agrawal) **54** #8183 44A30

(*with* Prajapat, M. L.) A triple integral transformation and its applications to generating functions. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no.* 2, 264–274. (P. N. Rathie) **56** #9190 44A20 (33A30)

(*with* Prajapat, M. L.) On some results concerning generalised H-function of two variables. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 1, 103–116. (R. G. Buschman) **56** #12351 33A35

(*with* Prajapat, M. L.) Some results concerning generalized Hermite polynomials. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no.* 3, 208–217. (Y. L. Luke) **55** #10749 33A65

Joshi, D. D. On the estimation of contrasts in linear estimation. *Calcutta Statist. Assoc. Bull.* **22** (1973), 111–113. (R. Pfaffenberger) **51** #4567 62J05

Joshi, D. G. Resultant of kernels in two types of transformations. *Proc. Nat. Acad. Sci. India Sect. A* **40** (1970), 73–84. (E. L. Koh) **46** #4116 44A15

On chain transforms. *Math. Student* **40A** (1972), 67–73. (C. Fox) **48** #9275 44A05

Transform of a product and Parseval relations. *Ganita* **25** (1974), *no.* 1, 55–60. (R. S. Dahiya) **54** #3307 44A05

Joshi, G. C. (*with* Pagnamenta, Antonio) Unitarity and Regge branch points. *Austral. J. Phys.* **27** (1974), 745–749. (Authors' summary) **53** #9930 81.30

Joshi, Kapil D. Characterizing plane ANR's by existence of local means. *Colloq. Math.* **28** (1973), 41–46, 162. (B. J. Ball) **48** #3021 54F40 (54C55)

A non-symmetric generalization of the Borsuk-Ulam theorem. *Fund. Math.* **80** (1973), *no.* 1, 13–33. (L. Górniewicz) **48** #5060 55C35

Infinite dimensional non-symmetric Borsuk-Ulam theorem. *Fund. Math.* **89** (1975), *no.* 1, 45–50. (C. Bessaga) **52** #4299 57A17 (58B15)

Non-symmetric generalizations of theorems of Dyson and Livesay. *Fund. Math.* **90** (1975), *no.* 1, 35–43. (Gilles Fournier) **53** #14476 55C20 (54H20)

Joshi, Mohan Existence theorem for a generalized Hammerstein type equation. *Comment. Math. Univ. Carolinae* **15** (1974), 283–291. (C. P. Gupta) **50** #1067 47H15

A note on divergence-like 2-point boundary value problems. *Proc. Amer. Math. Soc.* **42** (1974), 547–550. (L. Erbe) **48** #6525 34B15

Existence theorems for a variant of Hammerstein's integral equation. *Comment. Math. Univ. Carolinae* **16** (1975), 255–271. (C. P. Gupta) **52** #1421 47G05 (45G99)

Existence theorems for Urysohn's integral equation. *Proc. Amer. Math. Soc.* **49** (1975), 387–392. (Jagdish Chandra) **51** #6322 45G99

An existence theorem for an integro-differential equation. *J. Math. Anal. Appl.* **62** (1978), *no.* 1, 114–124. (C. P. Gupta) **58** #23448 45K05 (47H05)

Joshi, N. E. (*with* Deshpande, M. V.) On compactness of tensor product of semi-groups of linear operators. *J. Mathematical and Physical Sci.* **5** (1971), 271–274. (G. Da Prato) **46** #716 47D05

(*with* Deshpande, M. V.) Collectively compact and semi-compact sets of linear operators in topological vector spaces. *Pacific J. Math.* **43** (1972), 317–326. (T. W. Palmer) **48** #2828 47B99

(*with* Hunnargikar, Ranjana; Mirashi, Manik) Totally bounded sets in bornology. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 3, 231–241. (H. Hogbe-Nlend) **54** #11016 46A09

Joshi, Prakash C. Some slippage tests of mean for a single outlier in linear regression. *Biometrika* **59** (1972), 109–120. (I. Guttman) **47** #1209 62J05

Two identities involving order statistics. *Biometrika* **60** (1973), 428–429. **47** #9771 62G30

Some distribution theory results for a regression model. *Ann. Inst. Statist. Math.* **27** (1975), *no.* 2, 309–317. (T. D. Dwivedi) **53** #14803 62J05

Calculation of moments in the harmonic oscillator basis. *J. Mathematical Phys.* **16** (1975), 389–390. **52** #4872 81.33

Detection of outliers in linear regression. *Gujarat Statist. Rev.* **4** (1977), *no.* 1, 1–16. (I. Guttman) **56** #1601 62J05

Joshi, R. L. Non-static spherically symmetric metric of space-time manifold. *Vidya B* **19** (1976), *no.* 1, 57–64. (Author's summary) **58** #4171 83.53 (53C50)

Joshi, S. C. Nicolaus Copernicus and the *Commentariolus*. With discussion by U. K. Bose and E. K. Kharadze. Proceedings of the Symposium on Copernicus and Astronomy (New Delhi, 1973). *Indian J. History Sci.* **9** (1974), *no.* 1, 14–24, 140 (1975). (Editors) **58** #26847 01A40

Joshi, S. R. (*with* Shendge, G. R.) A note on hyperbolic functions. *Math. Student* **43** (1975), 55–57 (1976). (H. Hochstadt) **55** #12961 33A10 (34B99, 26A09)

Joshi, S. W. (*with* Patil, G. P.) Certain structural properties of the sum-symmetric power series distributions. *Sankhyā Ser. A* **33** (1971), 175–184. (M. L. Tiku) **50** #8783 62E10

(*with* Patil, G. P.) Sum-symmetric power series distributions and minimum variance unbiased estimation. *Sankhyā Ser. A* **34** (1972), 377–386. (Ramesh C. Gupta) **49** #10021 62F10

(*with* Park, C. J.) Minimum variance unbiased estimation for truncated power series distribution. *Sankhyā Ser. A* **36** (1974), *no.* 3, 305–314. (I. Guttman) **52** #6979 62F10

Integral expressions for the tail probabilities of the power series distributions. *Sankhyā Ser. B* **36** (1974), *no.* 4, 462–465. (J. K. Ord) **53** #14753 62E15

(*with* Patil, G. P.) Sum-symmetric power series distributions and minimum variance unbiased estimation. (Russian summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 615–622. (Mir Ali) **51** #9321 62F10

Integral expressions for tail probabilities of the negative multinomial distribution. *Ann. Inst. Statist. Math.* **27** (1975), 95–97. (Ramesh C. Srivastava) **53** #11842 62E15

Joshi, Suneeta (*with* Sathe, Y. S.) On estimating the positive mean of a normal distribution with known coefficient of variation. *Sankhyā Ser. B* **38** (1976), *no.* 1, 62–67. (Authors' summary) **58** #31544 62F10

Joshi, Suresh M. On optimal control of linear systems in the presence of multiplicative noise. *IEEE Trans. Aerospace and Electron. Systems* **AES-12** (1976), *no.* 1, 80–84. (D. D. Sworder) **52** #16815 93E20

Joshi, V. G. (*with* Desai, Rashmi C.) Minimal order minimum time function observer for a discrete system. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras,* 1976), *Vol.* 3, *pp.* 740–744. *Hemisphere, Washington, D.C.,* 1977. (Author's summary) **58** #15370 93B05

Joshi, V. M. Asymptotic risk of maximum likelihood estimates. *J. Indian Statist. Assoc.* **6** (1968), 31–42. (M. Stone) **51** #4516 62F10

The sample mean as a unique minimax estimate of the mean of a normal population with a generalized loss function. *J. Indian Statist. Assoc.* **6** (1968), 57–66. (A. D. McLaren) **48** #12668 62C15

Admissibility of confidence intervals. *J. Indian Statist. Assoc.* **6** (1968), 127–134. (M. Stone) **51** #4482 62C15

A minimax property of the invariant confidence sets for a multivariate polulation. *J. Indian Statist. Assoc.* **8** (1970), 55–62. (D. V. Lindley) **50** #15033 62C15 (62F25)

Hyperadmissibility of estimators for finite populations. *Ann. Math. Statist.* **42** (1971), 680–690. (M. Stone) **45** #9411 62C15

Inadmissibility of the usual confidence sets for a class of multivariate populations. *J. Indian Statist. Assoc.* **9** (1971), 24–29. (D. V. Lindley) **50** #15034 62C15 (62F25)

A note on hyperadmissibility of estimators for finite populations. *Ann. Math. Statist.* **43** (1972), 1323–1328. (P. K. Bhattacharya) **47** #1170 62D05 (62F10)

(*with* Land, Charles E.; Johnson, Bruce R.) A note on two-sided confidence intervals for linear functions of the normal mean and variance. *Ann. Statist.* **1** (3). 940–943. (I. M. Chakravarti) **49** #10030 62F25

A note on the incompatibility of one-sided Bayes and frequency confidence intervals. *J. Roy. Statist. Soc. Ser. B* **36** (1974), 237–242. (I. J. Good) **50** #15 62F15

A new bound for standard *p*-functions. *Ann. Probability* **3** (1975), 346–352. (id S. Griffeath) **51** #4399 60J10 (60K05)

A conjecture of Berry regarding a Bernoulli two-armed bandit. *Ann. Sta* 3 (1975), 189–202. (P. K. Sen) **50** #11667 62L15

Strong admissibility of a set of confidence intervals for the mean of a ite population. *Ann. Statist.* **3** (1975), 483–488. (R. H. Farrell) **51** #11793 25 (62D05)

On the minimax estimation of a random probability with known first *N* mom ts. *Ann. Statist.* **3** (1975), 680–687. (M. Skibinsky) **52** #1960 62C10

Confidence intervals for linear functions of the normal parameters. *Ann. Sta* . 4 (1976), *no.* 2, 413–418. (T. D. Dwivedi) **53** #14775 62F25

On the attainment of the Cramér-Rao lower bound. *Ann. Statist.* **4** (1976), 5. 998–1002. (R. A. Wijsman) **54** #1453 62F10 (62E10)

A note on Birnbaum's theory of the likelihood principle. *J. Amer. Statist. Ass* 71 (1976), *no.* 354, 345–346. (A. P. Dawid) **53** #14736 62A10

An improved upper bound for standard *p*-functions. *Ann. Probability* **5** (197 *no* 6, 999–1003. (John G. Basterfield) **56** #3954 60J25 (60K05)

A note on estimators in finite populations. *Ann. Statist.* **5** (1977), *no.* 5, 1051– 3. (David Bellhouse) **56** #16862 62D05

First-passage percolation on the plane square lattice. *Sankhyā Ser. A* **39** (197 *no.* 2, 206–209. (R. T. Smythe) **58** #7929 60K35 (94A20)

An upper bound for exponentially starting standard *p*-functions. *Sankhyā Ser.* 39 (1977), *no.* 4, 334–340. (John G. Basterfield) **58** #31438 60K15 (60K05)

See also **Godambe, V. P.; et al., 50** #15043

Joshi, V. N. (*with* Tewarson, Reginald P.) On solving ill-conditoned systems of ar equations. *Trans. New York Acad. Sci.* (2) **34** (1972), 565–571. (N. Gastinel) **51** # 2 15A12

On the class of matrices which are convergent for a given matrix. *Studia Sci.* *th. Hungar.* **8** (1973), 447–456. (James Howland) **50** #6128 65F10

Remarks on iterative methods for computing the generalised inverse. *Studi ci Math. Hungar.* **8** (1973), 457–461. (James Howland) **50** #6133 65F20 (15A09

Joshi, V. S. A note on self-numbers. Volume dedicated to the memory of V. Ramas m Aiyar. *Math. Student* **39** (1971), 327–328 (1972). (G. Greaves) **48** #8371 10A4

On the order of some error functions related to *k*-free integers. *Proc. Amer.* *th. Soc.* **35** (1972), 325–332. (M. C. Wunderlich) **49** #2608 (E **52** #10625) 10H2

Erratum to: "On the order of some error functions related to *k*-free integers" c. Amer. Math. Soc. **35** (1972), 325–332). *Proc. Amer. Math. Soc.* **51** (1975), 251–25 M C. Wunderlich) **52** #10625 10H25

Joslin, T. (*with* McKee, S.) A mildly non-linear system of parabolic differential equa ns arising from mass transfer with chemical reaction in electrochemistry. *J. Inst.* *h. Appl.* **15** (1975), 373–383. (Authors' summary) **56** #4450 80.65

Josselson, Harry H. *See* **Advances in computers, 50** #3629

Josselson, R. (*with* Akhtarzad, Y.) Comments on "An extended MKY lemma a its application" (IEEE Trans. Automatic Control **AC-16** (1971), 366–367) by S. Purkayastha and A. K. Mahalanabis. *IEEE Trans. Automatic Control* **AC-17** (197 o. 4, 578. (Editors) **53** #10417 93D99

(*with* Raju, G. V. S.) Absolute stability of control systems with many secto d slope-restricted non-linearities. *Internat. J. Control* **19** (1974), 609–614. (Eliahu I. y) **54** #2294 93D10

Josson, L. (*with* Noldus, Erik J. L.; Galle, A.) The computation of stability regior or systems with many singular points. *Internat. J. Control* (1) **17** (1973), 641–652. (Au s' summary) **51** #15093 93D05

Jothilingam, P. A note on *M*-sequences. *J. Indian Math. Soc.* (*N.S.*) **34** (1970), 1 24 (1971). (D. Kirby) **45** #249 13D99

A note on Gorenstein rings. *Arch. Math.* (*Basel*) **23** (1972), 398–402. (L. J. R f. Jr.) **47** #3385 13H10

A note on *M*-sequences. II. *J. Indian Math. Soc.* (*N.S.*) **37** (1973), 359–360 (1). (D. Kirby) **50** #13009 13D99

A note on a theorem of M. Auslander. *J. London Math. Soc.* (2) **9** (1974), 302–304. (M. Nagata) **52** #374 13C10

A note on grade. *Nagoya Math. J.* **59** (1975), 149–152. (Chr. U. Jensen) **52** #1 2 13C10

See also **Kneser, Martin, 49** #5195

Jotov, Ognjan Differentials of the group operation of GL($n;R$). (Macedonian. En h summary) *Bull. Soc. Math. Phys. Macédoine* **23** (1972), 37–44 (1973). (Gr. Stan) **49** #3775 53C30

Induced actions of GL ($n;R$) and $L(M)$. *Bull. Soc. Math. Phys. Macédoir* 3 (1972), 45–51 (1973). (Gr. Stanilov) **50** #3140 (EA **51**) 53C05

Jou, S. S. (*with* Kurepa, Svetozar) Some properties of almost open sets in topolo al groups and application. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1), 189–200. (J. Gil de Lamadrid) **48** #6312 22A10

Transformations of measurable sets. (Serbo-Croatian summary) *Glasnik Mat.* *III* **8(28)** (1973), 81–84. (A. Precupanu) **47** #9167 43A05

Convex functions on topological groups. (Serbo-Croatian summary) *Glasnik* *Ser. III* **8(28)** (1973), 175–178. (J. H. B. Kemperman) **51** #6205 39A40

(*with* Baker, John A.) On transformations of measurable sets in locally com t topological groups. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1 35–41. (F. Cunningham, Jr.) **50** #13366 22D05

On a functional inequality. *Kyungpook Math. J.* **15** (1975), 73–77. (L. Loso) **51** #10942 39A40

Transformations of measurable sets by automorphism groups. *Publ. Inst. M* (*Beograd*) (*N.S.*) **19(33)** (1975), 77–80. (I. Glicksberg) **53** #1160 43A05 (28A7

Jouanolou, Jean-Pierre Riemann-Roch sans dénominateurs. *Invent. Math.* **11** (1970), 15–26. (Manfred Herrmann) **48** #11115 14F20

Comparaison des K-théories algébrique et topologique de quelques variétés algébriques. *C. R. Acad. Sci. Paris Sér. A-B* **272** (1971), A1373–A1375. (R. L. Knighten) **45** #1930 14F15 (55B15)

Une suite exacte de Mayer-Vietoris en K-théorie algébrique. *Algebraic K-theory, I: Higher K-theories (Proc. Conf., Battelle Memorial Inst., Seattle, Wash.*, 1972), *pp.* 293–316. *Lecture Notes in Math., Vol.* 341, *Springer, Berlin*, 1973. (Manuel Ojanguren) **53** #13231 14F15

Quelques calculs en K-théorie des schémas. *Algebraic K-theory, I: Higher K-theories (Proc. Conf. Seattle Res. Center, Battelle Memorial Inst.*, 1972), *pp.* 317–335. *Lecture Notes in Math., Vol.* 341, *Springer, Berlin*, 1973. (R. T. Hoobler) **54** #5239 14F10 (18F25)

(*with* Gérard, Raymond) Étude de l'existence de variétés intégrales compactes de certains systèmes de Pfaff. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A167–A169. (F. J. Echarte Reula) **48** #2416 32C25 (57D30, 58A15)

(*with* Gérard, Raymond) Étude de l'existence de feuilles compactes pour certains feuilletages analytiques complexes. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A311–A314. (F. J. Echarte Reula) **48** #11561 32C25 (32E10, 34A20, 57D30)

Hypersurfaces solutions d'une équation de Pfaff analytique. *Math. Ann.* **232** (1978), *no.* 3, 239–245. (H. Cartan) **58** #1274 32J25

Une preuve élémentaire d'un théorème de Thurston. *Topology* **17** (1978), *no.* 1, 109–110. (Ulrich Koschorke) **58** #2836 57D30 (58D05)

bert, Gérard (*with* Moussu, Robert; Tischler, David) Sur les classes caractéristiques des feuilletages produits. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A171–A174. (J. M. Boardman) **50** #5817 57D30

(*with* Guelorget, Suzanne) Algèbre de Weil et classes caractéristiques d'un feuilletage. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A11–A14. (P. Molino) **49** #11526 57D20 (57D30)

See also **Differential topology and geometry, 51** #14055

bert, Gerhard Explicit difference approximations of the one-dimensional diffusion equation, using a smoothing technique. (German summary) *Numer. Math.* **17** (1971), 409–430. (D. M. Young, Jr.) **47** #2831 65M10

Explicit difference approximations of Du Fort-Frankel type of the one-dimensional diffusion equation. (German summary) *Numer. Math.* **18** (1971/72), 18–25. (D. M. Young, Jr.) **47** #2832 65M10

A stable explicit difference approximation of the one-dimensional diffusion equation. (German summary) *Computing (Arch. Elektron. Rechnen)* **11** (1973), *no.* 4, 315–325. (H. J. Stetter) **52** #4655 65N05

Explicit difference methods for the solution of the equation of a vibrating rod. *Numerische Behandlung von Differentialgleichungen, Band* 2 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1975), *pp.* 91–104. *Internat. Ser. Numer. Math., Vol.* 31, *Birkhäuser, Basel*, 1976. (Author's summary) **58** #25302 73.65 (65N05, 65P05)

ulain, C. *See* **Séminaire: Algèbre Non Commutative, 48** #5781

ulain, Claude (*with* Lesieur, Léonce; Meyer, Yves; Lefebvre, Jean) ★Algèbre générale. Collection U, Série "Mathématiques". *Librairie Armand Colin, Paris*, 1975. viii + 243 *pp.* (Paolo Maroscia) **55** #7646 00A05

ule, James Prescott *See* **Fox, Robert, 52** #13154

urdain, G. (*with* Lacoume, J. L.) Review of methods for description of random transmission channels: applications to identification and optimisation of detection and transmission processes. *Communication systems and random process theory (Proc. 2nd NATO Advanced Study Inst., Darlington*, 1977), *pp.* 371–402. *NATO Advanced Study Inst. Ser., Ser. E: Appl. Sci., No.* 25, *Sijthoff & Noordhoff, Alphen aan den Rijn*, 1978. (Authors' summary) **58** #20761 94A05 (93E10)

urdain, Geneviève (*with* Jourdain, Jean-Yves; de Lustrac, Jacques) Étude de l'estimation d'une fonction aléatoire gaussienne à une date repérée par rapport à un passage par un extremum du processus—application à la prédiction. *Ann. Télécommum.* **30** (1975), *no.* 1-2, 38–50. (Editors) **51** #15110 93E10

urdain, Jean-Yves (*with* Jourdain, Geneviève; de Lustrac, Jacques) Étude de l'estimation d'une fonction aléatoire gaussienne à une date repérée par rapport à un passage par un extremum du processus—application à la prédiction. *Ann. Télécommum.* **30** (1975), *no.* 1-2, 38–50. (Editors) **51** #15110 93E10

urdain, Philip *See* **Grattan-Guinness, Ivor, 53** #2613; **Grattan-Guinness, Ivor, 57** #37 *and* **Grattan-Guinness, Ivor, 58** #10126

uris, G. M. (*with* Pillai, K. C. S.) An approximation to the distribution of the largest root of a matrix in the complex Gaussian case. *Ann. Inst. Statist. Math. Suppl. No.* 7 (1972), 61–70. (C. G. Khatri) **48** #12728 62H10

urlin, Michel (*with* Dazord, Jean) Sur quelques classes d'espaces localement convexes. *Publ. Dép. Math. (Lyon)* **8** (1971), *no.* 2, 39–69. (E. Dubinsky) **49** #1047 46A05

(*with* Dazord, Jean) Sur les précompacts d'un espace localement convexe. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A463–A466. (I. Namioka) **47** #751 46A05

(*with* Dazord, Jean) Sur les précompacts d'un espace localement convexe. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A550–A553. (I. Namioka) **47** #752 46A05

(*with* Dazord, Jean) Fonctions mesurables et convergence en mesure. *Publ. Dép. Math. (Lyon)* **9** (1972), *no.* 1, 87–98. (W. A. J. Luxemburg) **48** #4257 28A32

(*with* Dazord, Jean) Une topologie mixte sur l'espace L^∞. *Publ. Dép. Math. (Lyon)* **11** (1974), *no.* 2, 1–18. (M. Valdivia) **50** #14192 46E30 (46A20)

urnel, A. G. Kriging in terms of projections. *J. Internat. Assoc. Mathematical Geol.* **9** (1977), *no.* 6, 563–586. (Author's summary) **56** #14541 86.62

uron, Claude Sur l'approximation des solutions généralisées du problème des surfaces minimales. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 599–602. (David Kinderlehrer) **49** #7892 49F10

Résolution numérique du problème des surfaces minima. *Arch Rational Mech. Anal.* **59** (1975), *no.* 4, 311–341. (Ivar Ekeland) **53** #9682 65N99 (49F10)

Étude des conditions nécessaires d'optimalités pour un problème d'optimisation non convexe. *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 23, Aii, A1031–A1034. (A. Friedman) **52** #9038 49B25

oussen, Jakob On projectivities in finite nearfield planes. *Atti del Convegno di Geometria Combinatoria e sue Applicazioni (Univ. Perugia, Perugia*, 1970), *pp.* 297–299. *Ist. Mat., Univ. Perugia, Perugia*, 1971. (A. Barlotti) **50** #3107 50D35

Zum Transitivitätsverhalten der Projektionsgruppen endlicher Fastkörperebenen. *Abh. Math. Sem. Univ. Hamburg* **35** (1971), 230–241. (M. J. Kallaher) **45** #5863 50D35

Jouvet, B. The renormalization group and its relativity principle. (Italian summary) *Nuovo Cimento A* (11) **23** (1974), 521–549. (Gheorghe Nenciu) **54** #6771 81.47

Jovanović, Aleksandar A remark on filter regularity. *Publ. Inst. Math. (Beograd) (N.S.)* **22(36)** (1977), 115–117. (Editors) **58** #16310 04A20 (02K25)

Continuum problem at measurable cardinals. Set theory, Foundations of mathematics (Proc. Sympos., Belgrade, 1977). *Zb. Rad. Math. Inst. Beograd (N.S.)* **2(10)** (1977), 57–62. (Editors) **58** #16298 02K25

Jovanović, Antonije D. (*with* Chobeljich, Srdjan N.) Fast algorithm for finding a forest of a linear graph. *Electron. Lett.* **9** (1973), 504–505. (Authors' summary) **57** #18209 68A10

Jovanović, Boško Un procédé itératif avec l'opérateur modifié et les problèmes d'approximation. *Mat. Vesnik* **9(24)** (1972), 45–48. (J. R. Rice) **48** #4851 47H10 (65J05)

Un procédé itératif pour la factorisation des polynomes trigonométriques. *Mat. Vesnik* **10(25)** (1973), 21–28. (H. H. Goldstine) **48** #5366 65H05

The Fedorenko-Bahvalov method for the solution of the difference Poisson equation in a cylindrical coordinate system. (Russian) *Publ. Inst. Math. (Beograd) (N.S.)* **20(34)** (1976), 145–160. (E. G. D'jakonov) **58** #31895 65N20

Jovanović, Božidar D. ★Amortizovane oscilacije jednog specijalnog oscilatornog sistema sa dinamičkim i mešovitim vezama. (Serbo-Croatian) [Damped oscillations of a certain special oscillatory system with dynamical and mixed constraints] With an English summary. Doctoral dissertation, University of Belgrade. *Prirodno Matematički Fakultet, Univerzitet u Beogradu, Belgrade*, 1973. ii + 121 *pp.* (14 *inserts*) (Djordje Djukic) **53** #12133 70.34

Jovanović, Mirko S. Some inequalities involving elements of a triangle and a polygon. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357-380 (1971), 81–85. (C. M. Petty) **45** #5876 52A40

Inequalities for the triangle. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 155–157. (F. Brooks) **48** #4894 50B15

(*with* Bottema, Oene) On the ratio $m_a m_b m_c / abc$ for the triangle ABC. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 197–199. (J. F. Rigby) **48** #12238 50B15

A polynomial inequality. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 461-497 (1974), 193–194. (Victor I. Levin) **51** #833 26A75

Some inequalities for triangle elements. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 498-541 (1975), 171–178. (O. Bottema) **52** #4133 52A40

Jovanović, Savo M. Numerical analysis of the solution of Bessel's differential equation. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 410-411 (1972), 37–49. (F. Götze) **48** #7545 65D20 (33A40)

Jovanovich, Antonije D. *See* **Jovanović, Antonije D.**

Jovine, R. Tecniche Monte Carlo per un metodo di determinazione della probabilità di mancanza di potenza erogata in una rete di centrali elettriche. (English summary) *Calcolo* **8** (1971), 33–47. (Author's summary) **46** #2814 65C05

Jowett, J. (*with* Vere-Jones, D.) The prediction of stationary point processes. *Stochastic point processes: statistical analysis, theory, and applications (Conf., IBM Res. Center, Yorktown Heights, N.Y.*, 1971), *pp.* 405–435. *Wiley-Interscience, New York*, 1972. (Alan G. Hawkes) **51** #11648 60G25

Joyce, Alice (*with* Joyce, W. B.) Descartes, Newton, and Snell's law. *J. Opt. Soc. Amer.* **66** (1976), *no.* 1, 1–8. (M. Kline) **53** #12830 01A45 (78.01)

Joyce, D. C. Survey of extrapolation processes in numerical analysis. *SIAM Rev.* **13** (1971), 435–490. (V. Pereyra) **46** #6555 65–03 (65B05)

★Numerical analysis—mathematics or computer science? Paper presented at 8th New Zealand Mathematics Colloquium, Waikato University, Hamilton, May 1973. Occasional Publications in Mathematics, No. 1. *Department of Mathematics, Massey University, Palmerston North*, 1976. 7 *pp.* (George Marsaglia) **58** #8126 65–01 (00A05)

Joyce, G. S. Exact results for a body-centered cubic lattice Green's function with applications in lattice statistics. I. *J. Mathematical Phys.* **12** (1971), 1390–1414. (T. Arai) **45** #4781 82.35

On the simple cubic lattice Green function. *Philos. Trans. Roy. Soc. London Ser. A* **273** (1973), *no.* 1236, 583–610. (Zbl **267** #33009) **58** #28708 33A10

Joyce, Glenn (*with* Montgomery, David; Turner, Leaf) Fokker-Planck equation for a plasma in a magnetic field. *Phys. Fluids* **17** (1974), 954–960. (W. H. Schoendorf) **49** #10307 82.45

(*with* Montgomery, David) Statistical mechanics of "negative temperature" states. *Phys. Fluids* **17** (1974), 1139–1145. (Authors' summary) **52** #4912 82.60

Joyce, W. B. (*with* Bertram, W. J.) Linearized dispersion relation and Green's function for discrete-charge-transfer devices with incomplete transfer. *Bell System Tech. J.* **50** (1971), 1741–1759. (C. Mohan) **46** #3204 94A05

(*with* Joyce, Alice) Descartes, Newton, and Snell's law. *J. Opt. Soc. Amer.* **66** (1976), *no.* 1, 1–8. (M. Kline) **53** #12830 01A45 (78.01)

Joyner, William M., Jr. Automatic theorem-proving and the decision problem. *14th Annual IEEE Symposium on Switching and Automata Theory (Univ. Iowa, Iowa City, Iowa*, 1973), *pp.* 159–166. *IEEE Comput. Soc., Northridge, Calif.*, 1973. (Author's summary) **55** #6989 68A40 (02G05)

(*with* Birman, Alexander) A problem-reduction approach to proving simulation between programs. *IEEE Trans. Software Engrg.* **SE-2** (1976), *no.* 2, 87–96. (Norihisa Suzuki) **54** #14423 68A05

Resolution strategies as decision procedures. *J. Assoc. Comput. Math.* **23** (1976), *no.* 3, 398–417. (Curt Christian) **53** #15007 68A40 (02D99, 02G05)

Józefiak, Tadeusz Tate resolutions for commutative graded algebras over a local ring. *Fund. Math.* **74** (1972), *no.* 3, 209–231. (S. Greco) **46** #163 13D99

The career of the Hilbert theorem on syzygies. (Polish) *Wiadom. Mat.* (2) **14** (1972), 39–49. (Editors) **56** #15731 18G25

A homological characterization of graded complete intersections. *Report of the Algebra Group, pp.* 265–276. *Queen's Papers in Pure and Appl. Math, No.* 36, *Queen's Univ., Kingston, Ont.*, 1973. (Chr. U. Jensen) **52** #5650 13D99

Realization of Hurwitz-Radon matrices. *Report of the Algebra Group, pp.* 346–351.

Queen's Papers in Pure and Appl. Math., No. 36, *Queen's Univ., Kingston, Ont.*, 1973. (Richard Elman) **51** #568 15A63

Another proof of the vanishing theorem in the André-Quillen homology theory. *Rings, modules and radicals (Proc. Colloq., Keszthely*, 1971), *pp*. 227–236. *Colloq. Math. Soc. János Bolyai, Vol.* 6, *North-Holland, Amsterdam*, 1973. (T. Albu) **50** #449 18H20

A simple proof of the structure theorem for perfect ideals of depth 2. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no*. 11, 1149–1151. (Daniel D. Anderson) **52** #13790 13C05

A homological characterization of graded complete intersections. II. *Fund. Math.* **93** (1976), *no*. 2, 109–114. (W. V. Vasconcelos) **55** #3036 18H20

The André-Quillen homology of commutative graded algebras. *Fund. Math.* **93** (1976), *no*. 2, 115–129. (T. Albu) **55** #464 18H15

A homological characterization of graded complete intersections. I. *J. Pure Appl. Algebra* **8** (1976), *no*. 2, 143–148. (W. V. Vasconcelos) **53** #10783 13D99 (14M10)

(*with* Pragacz, Piotr) Syzygies de pfaffiens. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no*. 2, A89–A91. (Authors' summary) **58** #10894 14C20

See also **Kargapolov, M. I.; et al., 56 #3097** *and* **Efimov, N. V.; et al., 57 #3149**

Józsa, S. (*with* Szemerédi, Endre) The number of unit distance on the plane. *Infinite and finite sets (Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday), Vol. II, pp*. 939–950. *Colloq. Math. Soc. Janos Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (N. G. de Bruijn) **52** #10624 10H25

Józsa, Sándor Geometrical procedure to control the estimatibility of the parameters in linear regression model. (German summary) *Biometrische Z.* **14** (1972), *no*. 1, 1–7. (Farhad Mehran) **55** #1644 62J05

A statistical exposition of the dyad method. (Hungarian. English and Russian summaries) *Szigma—Mat.-Közgazdasági Folyóirat* **6** (1973), 63–72. (M. Csorgo) **50** #3426 62F10

Ju, Frederick D. (*with* Hsu, Y. C.; Wang, W. J.) A couple-stresses elastic solution of an infinite tension plate bounded by an elliptical hole. *J. Math. Anal. Appl.* **40** (1972), 708–722. (S. Drobot) **48** #1568 73.35

(*with* Browning, Richard V.) Stress singularities at an elastic crack with arbitrary surface loads, including possible fracture mechanics applications. *J. Math. Anal. Appl.* **58** (1977), *no*. 3, 482–496. (M. Mişicu) **55** #11770 73.30

Juan, Jorge *See* **Collection: Juan, Jorge, 53 #12832**

Juberev, N. N. The stability of a difference scheme that approximates the periodic boundary value problem of a differential equation. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no*. 3(130), 107–111. (J. Miklíček) **47** #7918 65L10

(*with* Derr, V. Ja.) Two-sided difference schemes for the Sturm-Liouville problem. (Russian) *Differencial'nye Uravnenija* **10** (1974), 221–230, 370. (K. Moszyński) **49** #11814 65L10

Juberg, R. K. On the boundedness of certain singular integral operators. *Hilbert space operators and operator algebras (Proc. Internat. Conf., Tihany*, 1970), *pp*. 305–318. *Colloq. Math. Soc. János Bolyai, Vol.* 5, *North-Holland, Amsterdam*, 1972. (Kevin Clancey) **50** #14374 47G05

Finite Hilbert transforms in L^p. *Bull. Amer. Math. Soc.* **78** (1972), 435–438. (S. G. Samko) **45** #982 47G05 (45E99)

(*with* Karamardian, Stepan) On variational type inequalities. (Italian summary) *Boll. Un. Mat. Ital.* (4) **7** (1973), 336–338. (P. M. Fitzpatrick) **48** #12175 47H10

The spectra for operators of a basic collection. *Bull. Amer. Math. Soc.* **79** (1973), 821–824. (S. G. Samko) **48** #4840 47G05

The measure of non-compactness in L^p for a class of integral operators. *Indiana Univ. Math. J.* **23** (1973/74), 925–936. (S. D. Riemenschneider) **49** #5944 47G05

Measure of non-compactness and interpolation of compactness for a class of integral transformations. *Duke Math. J.* **41** (1974), 511–525. (T. Andô) **50** #1055 47G05

Jubi, È. *See* **Übi, E.**

Jubien, Michael Ontology and mathematical truth. *Noûs* **11** (1977), *no*. 2, 133–150. (Jan Berg) **57** #16 00A25

Jucan, Toader Opérateurs pseudo-différentiels partiellement pseudolocaux et partiellement hypoelliptiques. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **15** (1969), 95–106. (From the author's introduction) **54** #703 35H05 (47G05)

Opérateurs pseudo-différentiels fortement partiellement pseudo-locaux. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **17** (1971), 367–373. (H. Goldschmidt) **47** #7525 35S05 (47G05)

Opérateurs intégraux Fourier non-linéaires. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **19** (1973), 133–138. (William Margulies) **48** #12164 47G05 (35S99)

Opérateurs pseudo-différentiels partiellement forts pseudo-locaux et partiellement forts hypoelliptiques. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no*. 2, 108–115. (H. Kumano-go) **55** #6001 35H05 (35S05)

On the global pseudolocality of pseudo-differential operators. *An. Ştiinţ. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **23** (1977), *no*. 2, 315–319. (Monty Strauss) **58** #17972 47G05 (35H05)

(*with* Gottlieb, J.; Vescan, R. T.; Iacob, F.) On a class of Fourier-type integral transforms. *An. Ştiinţ. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat. (N.S.)* **23** (1977), *no*. 2, 391–402. (N. D. Sengupta (Zbl **382** #47027)) **58** #23770 47G05

Juchnowski, Igor Rafailowitsch *See* **Juhnovskiĭ, I. R.**

Jucis, A.-A. A. *See* **Jucys, A.-A. A.**

Jucis, A. P. *See* **Jucys, A. P.**

Jucovič, Ernest On a problem in map colouring. *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 225–227; *errata, ibid.* **20** (1970), 224. (Ruth Bari) **49** #10590 05C15

Raumansprüchliche Kreispackungen in der euklidischen Ebene. (Loose English summary) *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 3–10. (A. Florian) **46** #9867 52A45

(*with* Jendrol', Stanislav) On a conjecture by B. Grünbaum. *Discrete Math.* **2** (1972), 35–49. (W. J. Firey) **46** #1641 05C30 (52A25)

From the combinatorial geometry of polytopes. (Slovak) *Pokroky Mat. Fyz. Astronom.* **17** (1972), 24–29. (Editors) **58** #7395 52A25

(*with* Jendrol', Stanislav) On the toroidal analogue of Eberhard's theorem. *Proc. London Math. Soc.* (3) **25** (1972), 385–398. (H. Sachs) **46** #7083 05C30 (52A

(*with* Trenkler, Marián) On 4-valent graphs imbedded in orientable 2-mani ls. *Studia Sci. Math. Hungar.* **7** (1972), 225–232. (T. A. Brown) **47** #1652 05C1

Analogues of Eberhard's theorem for 4-valent 3-polytopes with involutory automorphisms. *Discrete Math.* **6** (1973), 249–254. (D. Barnette) **48** #9556 25

(*with* Walther, Hansjoachim) Über längste Kreise in flächenregulären Polyedergraphen. (Loose English summary) *Mat. Časopis Sloven. Akad. Vied* **23** (3), 164–169. (W. G. Brown) **49** #138 05C35 (52A25)

(*with* Trenkler, Marián) A theorem on the structure of cell-decompositio of orientable 2-manifolds. *Mathematika* **20** (1973), 63–82. (T. Zamfirescu) **49** #8 05C99 (55A20, 57A05)

On the face vector of a 4-valent 3-polytope. *Studia Sci. Math. Hungar.* **8** (3), 53–57. (Joseph Zaks) **48** #12304 52A25

(*with* Olejník, František) On chromatic and achromatic numbers of uniform hypergraphs. *Časopis Pěst. Mat.* **99** (1974), 123–130. (J. L. Jolivet) **52** #2941 15

(*with* Grünbaum, Branko) On non-inscribable polytopes. *Czechoslovak Ma J.* **24(99)** (1974), 424 -429. (G. T. Sallee) **50** #1125 52A25

Strengthening of a theorem about 3-polytopes. *Geometriae Dedicata* **3** ( ). 233–237. (D. Barnette) **50** #1126 52A25

On face-vectors and vertex-vectors of cell-decompositions of orientable 2-mani ls. *Math. Nachr.* **73** (1976), 285–295. (H. E. Debrunner) **55** #5478 05C30 (57C05

Remarks on the third part of Hilbert's 18th problem. (Slovak) *Pokroky Mat Astronom.* **21** (1976), *no*. 6, 335–338. (Editors) **58** #7403 52A45

(*with* Horňák, Mirko) Nearly regular cell-decompositions of orientable 2-man ds with at most two exceptional cells. (Russian summary) *Math. Slovaca* **27** (1977), 1, 73–89. (Perrin Wright) **57** #1496 57A05

Jucys, A.-A. A. (*with* Ališauskas, S.; Jucys, A. P.) On the symmetric tensor operat of the unitary groups. *J. Mathematical Phys.* **13** (1972), 1329–1333. (J.-P. Antoine) **47** #2926 81.22

Symmetric polynomials and the center of the symmetric group ring. *Rep. Mathematical Phys.* **5** (1974), *no*. 1, 107–112. (P. Rudra) **54** #7597 20C05 (81.

The number of distinct Latin squares as a group-theoretical constant. *J. Combinatorial Theory Ser. A* **20** (1976), *no*. 3, 265–272. (David A. Drake) **54** #72 05B15

The number of symmetric nonnegative integer matrices with given sums o e elements in the rows. (Russian. Lithuanian and English summaries) *Litovsk. Mat b.* **17** (1977), *no*. 1, 205–208, 215. (Author's summary) **58** #5887 20C30 (05A15)

Jucys, A. P. (*with* Ališauskas, S.; Vanagas, V. V.) The connection between isos r multipliers and transformation matrices of representations of unitary groups. *Akad. Nauk SSSR* **197** (1971), 804–805 (*Russian*); *translated as Soviet Physics Dok* 6 (1971), 289–290. (T. O. Philips) **47** #5178 22E45 (81.22)

(*with* Ališauskas, S.; Jucys, A.-A. A.) On the symmetric tensor operators o e unitary groups. *J. Mathematical Phys.* **13** (1972), 1329–1333. (J.-P. Antoine) **47** # 6 81.22

(*with* Savukynas, A. J.) ★Математические основы теории атома. (Russian) [Mathematical foundations of the theory of the atom] Lithuanian and English summaries. *Izdat. "Mintis", Vilnius*, 1973. 479 *pp*. (From the authors' summary) **54** #4427 81.47 (81.22)

The modern theory of the atom, and its further development. (Russian. Lithua n and English summaries) *Litovsk. Fiz. Sb.* **14** (1974), *no*. 3, 417–430, 531. (Aut s summary) **58** #8972 82.00

(*with* Ališauskas, S.) On the representation of finite transformations of O_2 in e canonical basis of the group O_n. *Rep. Mathematical Phys.* **5** (1974), *no*. 1, 7–16. (Jac s P. Leveille) **54** #1911 81.22

(*with* Savukynas, A. J.) Errata: *Mathematical foundations of the theory of the* (Izdat. "Mintis", Vilnius, 1973). (Russian) *Litovsk. Fiz. Sb.* **15** (1975), *no*. 5, (Editors) **55** #1981 81.47

(*with* Bandzaitis, A. A.) ★Теория момента количества движения в кванто механике. (Russian) [Theory of angular momentum in quantum mechanics] Lithuanian and English summaries. Second edition, revised and augmented. *Iz "Mokslas", Vilnius*, 1977. 471 *pp*. (*loose errata*) (Woodford W. Zachary) **58** #40 81.00

See also **Problems in theoretical physics, 50 #12007; Obituary: Jucys, A., 55** *and* **Bibliography: Jucys, A., 58 #99**

prophatius Judaeus *See* **Prophatius Judaeus**

Judaev, A. V. (*with* Čuročkina, G. G.; Sergeev, V. I.) An algorithm for the comp search of the optimal tolerances on the parameters of a quadripole with the use adjustable elements. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no*. 1, 46–51. (Auth summary) **46** #1462 94A20

Judaev, G. S. The exponential stability of the solutions of differential equations retarded argument. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no*. 10(1 101–105. (R. D. Driver) **46** #487 34K20

Certain questions of the instability of systems with aftereffect. (Russian) *Differencial'nye Uravnenija* **8** (1972), 633–638. (S. R. Bernfeld) **46** #486 34 (34K20)

Certain particular cases of stability in the first approximation of systems delays. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no*. 2(129), 116–118. Baĭnov) **47** #7181 34K20

(*with* Silakov, V. P.) The stability of difference systems with respect to part of variables. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no*. 5, 909–913, 949–950. M. Sheffer) **51** #13505 39A30

On the question of stability with respect to part of the variables. (Russia *Differencial'nye Uravnenija* **11** (1975), *no*. 6, 1023–1029, 1149. (C. Olech) **53** #1117 34D20

The conditional stability of countable systems of differential equations. (Russia *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 5(156), 87–92. (Š. Schwabik) **52** #112 34K20

(*with* Silakov, V. P.) On the stability of difference schemes. (Russian) *Izv. Vy Učebn. Zaved. Matematika* **1977**, *no*. 2 (177), 111–115. (Wolfgang Hahn) **58** #1785 39A10 (65Q05, 93Dxx)

On stability of stochastic differential equations. *Prikl. Mat. Meh.* **41** (1977), *no.* 3, 430–435 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 3, 427–433 (1978). (Ĭ. M. Stojanov) **58** #9694 93E15

dakov, A. G. (*with* Pavlov, A. A.; Belikov, S. A.) An algorithm for the control of a stable dynamical object. (Russian) *Èlektronika i Modelirovanie Vyp.* 11 (1976), 87–90, 131. (Authors' summary) **58** #4528 93C50

dakov, N. V. The solvability of the problem of the motion of a rigid body in a viscous incompressible fluid. (Russian) *Dinamika Splošn. Sredy Vyp.* 18 *Dinamika Židkost. so Svobod. Granicami* (1974), 249–253, 255. (M. Yanowitch) **57** #4733 70.41

Smoothness of the solutions of a certain problem for the Navier-Stokes equations. (Russian) *Dinamika Splošn. Sredy Vyp.* 26 *Kraevye Zadači Vyroždajuščih. Uravn. Gidrodinamiki* (1976), 154–159, 164. (J. W. Thomas) **58** #17595 35Q10

danina, A. B. (*with* Berman, S. D.) Codes with generalized majority decoding and convolution codes. (Russian) *Problemy Peredači Informacii* **6** (1970), *no.* 1, 6–19. (A. A. Mullin) **48** #10633 94A10

Tensorial generalizations of radical codes. (Russian) *Numerical mathematics and computer technology, No. III* (*Russian*), *pp.* 126–128. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1972. (J. S. Joel) **56** #11513 94A10 (12C05)

(*with* Berman, S. D.) Irreducible configurations of minimum-weight elements in the Reed-Muller second-order codes. *Second International Symposium on Information Theory* (*Tsahkadsor*, 1971), *pp.* 151–168. *Akadémiai Kiadó, Budapest*, 1973. (See Zbl **276** #94003) 94A10

See also **Symposium: Information Theory**, **50** #9416

dd, B. R. Lie groups in atomic and molecular spectroscopy. Lie algebras: applications and computational methods (Conf., Drexel Univ., Philadelphia, Pa., 1972). *SIAM J. Appl. Math.* **25** (1973), 186–192. (Editors) **48** #1601 81.22

Selection rules for G_2 vectors in the atomic f shell. *Comm. Math. Phys.* **36** (1974), 157–170. (R. Mirman) **51** #2505 81.22

(*with* Miller, Willard, Jr.; Patera, Jiri; Winternitz, P.) Complete sets of commuting operators and $O(3)$ scalars in the enveloping algebra of $SU(3)$. *J. Mathematical Phys.* **15** (1974), 1787–1799. (U. Cattaneo) **54** #1924 81.22 (20G05)

(*with* Dunlap, Brett I.) Novel identities for simple n-j symbols. *J. Mathematical Phys.* **16** (1975), 318–319. (M. J. Westwater) **54** #1919 81.22

Modifications of Coulombic interactions by polarizable atoms. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 3, 535–539. (Cataldo Agostinelli) **55** #7176 81.35

See also **Lie algebras: applications and computational methods**, **50** #7269

dd, F. F. (*with* Call, E. S.) Surface fitting by separation. *J. Approximation Theory* **12** (1974), 283–290. (C. W. Clenshaw) **50** #15266 65D10

Error bounds for approximate analysis of self-oscillations in autonomous relay control systems. *Internat. J. Control* **25** (1977), *no.* 4, 557–574. (G. Bojadžiev) **57** #2689 93C99

dd, J. S. (*with* Williams, H. C.) Determination of the primality of N by using factors of $N^2 \pm 1$. *Math. Comp.* **30** (1976), *no.* 133, 157–172. (Graham Lord) **53** #257 10A25

(*with* Williams, H. C.) Some algorithms for prime testing using generalized Lehmer functions. *Math. Comp.* **30** (1976), *no.* 136, 867–886. (D. H. Lehmer) **54** #2574 10A25 (10–04)

delman, M. (*with* Jacobson, David H.) The effect of data grid size on certain interpolation methods for unconstrained function minimization. *Comput. Math. Appl.* **3** (1977), *no.* 3, 175–182. (Norihiko Adachi) **57** #4474 65D05 (65K05)

denkov, V. A. ★Таблица значений функции плотности нормального распределения и ее первых шести производных. (Russian) [A table of the values of the normal distribution density function and its first six derivatives] *Leningrad. Lesotehn. Akad., Leningrad*, 1970. 88 *pp.* (Author's summary) **54** #4055 65A05

dge, George G. (*with* Yancey, T. A.; Bock, Mary Ellen) Wallace's weak mean square error criterion for testing linear restrictions in regression: a tighter bound. *Econometrica* **41** (1973), 1203–1206. (From the text) **58** #8048 62J05 (62P20)

(*with* Bock, Mary Ellen; Yancey, T. A.) The statistical consequences of preliminary test estimators in regression. *J. Amer. Statist. Assoc.* **68** (1973), 109–116. (Arthur Cohen) **53** #1859 62J05

(*with* Yancey, T. A.; Bock, Mary Ellen) A mean square error test when stochastic restrictions are used in regression. *Comm. Statist.* **3** (1974), 755–768. (R. Pfaffenberger) **51** #2180 62J05

(*with* Bock, Mary Ellen) A comparison of traditional and Stein-rule estimators under weighted squared error loss. *Internat. Econom. Rev.* **17** (1976), *no.* 1, 234–240. (Lennart Bondesson) **53** #14768 62F10

(*with* Lee, Tsoung Chao; Zellner, Arnold) ★Estimating the parameters of the Markov probability model from aggregate time series data. Second, revised edition. Contributions to Economic Analysis, Vol. 65. *North-Holland Publishing Co., Amsterdam-New York-Oxford*, 1977. 260 *pp.* *ISBN* 0-7204-3163-8 (Editors) **58** #24822 62P20 (62M05)

(*with* Bock, Mary Ellen) ★The statistical implications of pre-test and Stein-rule estimators in econometrics. Studies in Mathematical and Managerial Economics, Vol. 25. *North-Holland Publishing Co., Amsterdam-New York-Oxford*, 1978. xvi+340 *pp.* *ISBN* 0-7204-0729-X (Stanley L. Sclove) **58** #3217 62J05 (62F10, 62P20)

dickaja, P. I. The asymptotic behavior of the maximum of a Gaussian field. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 3 (1970), 240–247. (V. Fabian) **45** #6110 62E20

Asymptotic inequalities for maxima of scalar and vector normal random fields. *Dokl. Akad. Nauk SSSR* **199** (1971), 1257–1259 (*Russian*); *translated as Soviet Math. Dokl.* **12** (1971), 1289–1292. (M. Csorgo) **46** #10057 60G15

Asymptotic inequalities for the maxima of nondifferentiable normal fields. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 6 (1972), 133–141. (A. I. Ponomarenko) **46** #8288 60G15

Ø some properties of the trajectories of Gaussian fields defined on metric spaces. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 13 (1975), 151–159, 165. (R. M. Dudley) **54** #1357 60G15

dic'kiĭ, Ja. A. (*with* Ēžov, Ī. Ī.) The constructive formation of a Markov trajectory. (Ukrainian. Russian and English summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 14 (1972), 15–18, 147. (Authors' summary) **56** #9697 60J10 (60K15)

Judickiĭ, M. I. Optimal design of regression experiments in the presence of random errors in the levels of factors. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp.* 251–271. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Author's introduction) **55** #6723 62K05

Asymptotically optimal methods for the design of experiments in the case of polynomial regression with correlated observations. (Russian) *Theory of random processes, Questions of statistics and control* (*Russian*), *pp.* 262–271. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1974. (Andrej Pázman) **57** #17973 62K05

Design of experiments for the estimation of parameters in regression models with correlated observation errors. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 11 (1974), 169–176, 182. (Andrej Pázman) **53** #6917 62K05

Properties of the least squares estimator for a class of regression models. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 17 (1977), 153–162, 166. (Jiří Anděl) **56** #7069 62M10

(*with* Dorogovcev, A. Ja.) Models with random errors in variables. Estimation of parameters and design of experiments. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 19 (1978), 51–57, 157. (Valery Fedorov) **58** #24767 62K05

Judickiĭ, S. A. A method of description of asynchronous discrete control devices. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 4, 126–131 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 4, 647–653. (Author's summary) **56** #11190 93B99 (94A30)

Judin, A. A. (*with* Moskvin, D. A.; Postnikova, L. P.) An arithmetical method of obtaining local limit theorems for lattice random variables. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **15** (1970), 86–96. (Harry I. Cohn) **46** #942 60K99 (10K35)

(*with* Freĭman, G. A.) The general principles of additive number theory. (Russian) *Number-theoretic studies in the Markov spectrum and in the structural theory of set addition* (*Russian*), *pp.* 135–147. *Kalinin. Gos. Univ., Moscow*, 1973. (Ekkehard Krätzel) **55** #7966 10J99 (10C05)

(*with* Moskvin, D. A.; Freĭman, G. A.) Inverse problems of additive number theory and local limit theorems for lattice random variables. (Russian) *Number-theoretic studies in the Markov spectrum and in the structural theory of set addition* (*Russian*), *pp.* 148–162. *Kalinin. Gos. Univ., Moscow*, 1973. (Ekkehard Krätzel) **55** #7967 10J99

The measure of the large values of the modulus of a trigonometric sum. (Russian) *Number-theoretic studies in the Markov spectrum and in the structural theory of set addition* (*Russian*), *pp.* 163–171. *Kalinin. Gos. Univ., Moscow*, 1973. (Ekkehard Krätzel) **55** #7941 10G05

(*with* Levin, B. V.) Local limit theorems for additive arithmetic functions. (Russian) *Acta Arith.* **22** (1973), 233–247. (J. Kubilius) **48** #6049 10K20

(*with* Moskvin, D. A.; Freĭman, G. A.) Structural theory of set summation, and local limit theorems for independent lattice random variables. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 52–62. (J. Galambos) **48** #12628 60F05

(*with* Judin, V. A.) Discrete imbedding theorems and Lebesgue constants. (Russian) *Mat. Zametki* **22** (1977), *no.* 3, 381–394. (O. John) **57** #7143 46E35 (42A92)

(*with* Postnikova, L. P.) The concentration function. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 2, 371–375. (Constantin Târcolea) **55** #13533 60E05 (60F05)

(*with* Postnikova, L. P.) An analytic method for estimates of the concentration function. (Russian) Analytic number theory, mathematical analysis and their applications (dedicated to I. M. Vinogradov on his 85th birthday). *Trudy Mat. Inst. Steklov.* **143** (1977), 143–151, 210. (H. J. Godwin) **57** #14102 60E05

(*with* Postnikova, L. P.) A sharpened form of an inequality for the concentration function. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 2, 376–379. (Š. A. Ismatullaev) **58** #24536 60G50

Judin, A. D. Duality in multistage stochastic programming. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 6, 24–31 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 6, 908–915. (A. I. Şchiop) **51** #9806 90C15

A stochastic variant model for the development of a plan for the functioning of a production cooperative. (Russian) *Èkonom. i Mat. Metody* **10** (1974), *no.* 6, 1178–1185. (RŽMat **1975** #3 V684) **57** #9033 90B30

Descent along coordinates in infinite-dimensional convex programming problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 1, 34–42, 234 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 29–38. (Peter Kall) **53** #10295 90C15 (90C30)

Judin, D. B. (*with* Gol′šteĭn, E. G.) ★Новые направления в линейном программировании. (Russian) [New trends in linear programming] *Izdat. "Sovet. Radio", Moscow*, 1966. 524 *pp.* (Editors) **50** #9345 90Cxx

(*with* Gol′šteĭn, E. G.) ★Линейное программирование. Теория, методы и приложения. (Russian) [Linear programming. Theory, methods and application] *Izdat. "Nauka", Moscow*, 1969. 424 *pp.* (Editors) **53** #15346 90C05

Multistage planning under conditions of incomplete information. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 17–29 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 953–964. (Stratton C. Jaquette) **52** #12801 90C47 (93E99)

(*with* Gol′šteĭn, E. G.) ★Problèmes particuliers de la programmation linéaire. Traduit du russe par V. Polonski. *Éditions Mir, Moscow*, 1973. 560 *pp.* (Editors) **50** #9346 90Cxx

Multistage stochastic programming problems. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 545–548. (A. Prékopa) **54** #6950 90C15

Methods of construction of decision rules of multistage stochastic programming problems. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 779–782. (B. Bereanu) **48** #7973 90C15

(*with* Coĭ, È. V.) A priori decision rules in multistage stochastic programming problems. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 947–961. (A. Aganbegjan) **49** #4567 90C15

★Математические методы управления в условиях неполной информации. (Russian) [Mathematical methods for control under conditions of incomplete information] Задачи и методы стохастического программирования. [Problems and methods of stochastic programming] *"Sovetskoe Radio", Moscow*, 1974. 399 *pp.* (B. Bereanu) **55** #5205 90C15 (93E10) (*with* Gorjaško, A. P.) Control problems and complexity theory. I. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 3, 34–53 (*Russian*); *translated as Engrg. Cybernet.* **12** (1974), *no.* 3, 10–24. (Roger Brockett) **52** #7199a 68A20 (93C99, 94A15)

(*with* Coĭ, È. V.) Integer-valued stochastic programming. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 1, 3–11, 234 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 1–8. (E. G. Gol'šteĭn) **53** #10288 90C10 (90C15)

(*with* Gorjaško, A. P.) Control problems and complexity theory. II. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 2, 3–19 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 2, 1–13. (Roger Brockett) **52** #7199b 68A20

(*with* Coĭ, È. V.) A qualitative study of certain classes of stochastic problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 2, 73–77. (I. V. Evstigneev) **54** #4651 90C15

(*with* Nemirovskiĭ, A. S.) Estimation of the informational complexity of mathematical programming problems. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 1, 128–142. (Joachim Hirche) **56** #8004 90C30

(*with* Nemirovskiĭ, A. S.) Informational complexity and effective methods for the solution of convex extremal problems. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 2, 357–369. (Andrzej Gościński) **56** #10965 90C25

(*with* Nemirovskiĭ, A. S.) Optimization methods adapting to the problem of "significant" dimension. *Avtomat. i Telemeh.* **1977**, *no.* 4, 75–87 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 4, *part* 1, 513–524. (Vincenţiu Dumitru) **58** #15164 90C25

(*with* Nemirovskiĭ, A. S.) Informational complexity of strict convex programming. (Russian) *Èkonom. i Mat. Metody* **13** (1977), *no.* 3, 550–559. (G. D. Maĭstrovskiĭ) **56** #7990 90C25

(*with* Nemirovskiĭ, A. S.) The effectiveness of random search in control problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 3, 3–17, 219 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 3, 1–14 (1978). (See RŽMat **1977** #12 V416) 93E20 (90B40)

(*with* Nemirovskiĭ, A. S.) Cesàro convergence of the gradient method for the approximation of saddle points of convex-concave functions. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 5, 1056–1059. (A. B. Pevnyĭ) **58** #2560 49D05

See also **Theory of oscillations, applied mathematics and cybernetics**, **47** #4599; **Korbut, A. A.; et al.**, **49** #12083; **Wasan, M. T.**, **50** #3496 *and* **Tanaev, V. S.; et al.**, **58** #32904

Judin, Ju. V. (*with* Grigorenko, Ju. I.; Zykov, L. P.; Mozgalevskiĭ, A. V.) A certain method of increasing the reliability of multi-stage linear filters. (Russian) *Točn. i Nadežn. Kibernet. Sistem Vyp.* 1 (1973), 99–103, 135. (Authors' summary) **57** #11912 94A05 (94A10)

Judin, M. D. Generalization of the Lévy-Hinčin and Kolmogorov formulas to sums of $f(n)$-dependent variables. (Russian) Logic, algebra and numerical analysis, Vol. 2, no. 2. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **125** (1973), 191–204. (B. S. Nahapetjan) **58** #18673 60F05 (60E05)

The limit distributions of sums of random variables that satisfy a mixing condition. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 3(130), 112–118. (P. Révész) **47** #5924 60F05

A generalization of the Lévy-Hinčin formula to sums of variables that satisfy a mixing condition. (Russian) *Random processes and statistical inference, No.* 5 (*Russian*), *pp.* 187–198, 205–206. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1975. (G. K. Eagleson) **53** #14600 60F05

Limit laws for sums of weakly dependent variables with finite variance. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 5(156), 113–114. (G. K. Eagleson) **52** #15614 60F05

Application of the generalized Lévy-Hinčin formula to sums of normed variables. (Russian) *Limit theorems and mathematical statistics* (*Russian*), *pp.* 177–181, 191. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1976. (F. N. Galstjan) **55** #11344 60F05

The solution of the central limit problem of probability theory for sums of $f(n)$-dependent variables. (Russian) *Rev. Roumaine Math. Pures Appl.* **21** (1976), *no.* 10, 1335–1346. (Dominik Szynal) **55** #4347 60F05

See also **Selected translations in mathematical statistics and probability**, **48** #1276

Judin, M. S. Approximation on the boundary for an equation of meteorology. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), *no.* 2, 130–134. (RŽMat **1976** #3 B1037) **58** #32836 86.65

Judin, V. A. Approximation of functions of several variables by their Fejér sums. (Russian) *Mat. Zametki* **13** (1973), 817–828. (S. Aljančić) **48** #2659 42A92

Behavior of Lebesgue constants. (Russian) *Mat. Zametki* **17** (1975), 401–405. (W. C. Connett) **54** #5739 42A92

A multidimensional Jackson theorem. (Russian) Presented at the International Conference on the Theory of Approximation of Functions, held at Kaluga, July 24–28, 1975. *Mat. Zametki* **20** (1976), *no.* 3, 439–444. (O. D. Gabisonija) **56** #949 42A08 (42A92)

(*with* Judin, A. A.) Discrete imbedding theorems and Lebesgue constants. (Russian) *Mat. Zametki* **22** (1977), *no.* 3, 381–394. (O. John) **57** #7143 46E35 (42A92)

Judin, V. M. (*with* Griščuk, L. P.; Doroškevič, A. G.) Long gravitational waves in a closed universe. *Ž. Èksper. Teoret. Fiz.* **69** (1975), *no.* 6, 1857–1871 (*Russian. English summary*); *translated as Soviet Physics JETP* **42** (1975), *no.* 6, 943–949. (Shin-ichi Kitamura) **54** #9574 83.53

Judin, V. V. (*with* Eršov, A. D.) A quasistochastic semigroup as a generalized group. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1970**, *no.* 6, 49–53. (H. S. Green) **47** #6251 83.20 (20M20)

The relation between the Lorentz group and a relativistic semigroup. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1970**, *no.* 11, 131–132. (H. S. Green) **47** #6212 81.22

The relativistic semigroup, the Lorentz group, and tachyons. I. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 5, 85–88. (A. U. Klimyk) **57** #15181a 83.22

The relativistic semigroup, the Lorentz group, and tachyons. II. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 5, 89–93. (A. U. Klimyk) **57** #15181b 83.22

Judina, A. S. (*with* Kuznecov, P. I.) Asymptotic representation of Lommel functions of two real variables. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1024–1026. (B. S. Popov) **45** #2224 33A40

(*with* Kuznecov, P. I.) Integral representations and asymptotic expansions of an incomplete probability integral. (Russian) *Mat. Zametki* **12** (1972), 213–220. (Penkov) **48** #6781 41A60

(*with* Kuznecov, P. I.) Certain properties of the zeros of cylindrical functions o real variables. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 739–746. (E. Riek **46** #5695 33A40

(*with* Kuznecov, P. I.) Certain asymptotic expansions for an incomplete proba integral. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 367 (R. Cuppens) **47** #7851 62E20 (60E05)

Judina, G. E. (*with* Litver, E. L.) Primitive roots for the first million primes and powers. (Russian) *Mathematical analysis and its applications, Vol. III* (*Russian* 106–109. *Izdat. Rostov. Univ., Rostov-on-Don*, 1971. (J. B. Roberts) **49** #4915 10A10 (10–04)

Judkevič, M. L. (*with* Gafijatullin, R. H.; Karetnyĭ, O. Ja.) Strengthening of the frequ criterion for stability of pulse width and pulse frequency modulation systems. *Avto i Telemeh.* **1975**, *no.* 6, 174–175 (*Russian. English summary*); *translated as Auto Remote Control* **36** (1975), *no.* 6, *part* 2, 1038–1040. (Peter A. Cook) **52** #129 93D99

(*with* Karetnyĭ, O. Ja.; Gafijatullin, R. H.) On the problem of the analys control systems that contain two automatic impulse elements. (Russian) *Izv.* *Učebn. Zaved. Èlektromehanika* **1975**, *no.* 8, 867–870, 907. (J. S. Joel) **57** #26 93D05

(*with* Karetnyĭ, O. Ja.) Stability of systems with combined pulse modulat *Avtomat. i Telemeh.* **1977**, *no.* 4, 43–48 (*Russian. English summary*); *translate Automat. Remote Control* **38** (1977), *no.* 4, *part* 1, 487–491. (A. S. C. Sinha) **58** #1 93D15

Judkin, Ju. P. (*with* Bolotin, N. K.) Integral equations for equilibrium distribution functions. (Russian. English summary) *Teoret. Mat. Fiz.* **21** (1974), 146–152. (Aut summary) **57** #4935 82.45

Judov, A. A. *G*-spaces that are generated by a homogeneous quotient space. (Russ *Vestnik Beloruss. Gos. Univ. Ser. I* **1975**, *no.* 2, 27–31, 100. (Rolf Sulanke) **52** #15 53C30

Subgroups of the group of motions of a four-dimensional pseudo-Euclidean spa zero signature. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 1, 16–21, 92 K. Guc) **57** #1260 50C25

Judovič, V. I. A remark on stationary solutions of the Navier-Stokes equations. (Russ *Mathematical analysis and its applications* (*Russian*), *pp.* 190–194. *Izdat. Rostov. U Rostov-on-Don*, 1969. (Hiroshi Fujita) **45** #744 35Q10

An example of a selfoscillating solution of a second order parabolic equa (Russian) *Mathematical analysis and its applications, Vol. II* (*Russian*), *pp.* 112– *Izdat. Rostov. Univ., Rostov-on-Don*, 1970. (V. Komkov) **56** #9053 35B05 (35

(*with* Markman, G. S.) On the stability of compressed bars. *Prikl. Mat. Me* (1970), 877–884 (*Russian*); *translated as J. Appl. Math. Mech.* **34** (1970), 836–843 (1 (I. M. Longman) **46** #6685 73.35 (73.45)

A certain projection operator of the dynamics of a viscous incompressible f (Russian) *Mathematical analysis and its applications, Vol. III* (*Russian*), *pp.* 31–36. *I Rostov. Univ., Rostov-on-Don*, 1971. (J. W. Thomas) **52** #1061 35Q99

(*with* Markman, G. S.) The conditions for instability of purely rotational peri flows of an ideal fluid. (Russian) *Mathematical analysis and its applications, Vol.* (*Russian*), *pp.* 59–69. *Izdat. Rostov. Univ., Rostov-on-Don*, 1971. (Şt. I. Gheorg **51** #9657 76.47

The onset of auto-oscillations in a fluid. *Prikl. Mat. Meh.* **35** (1971), 638– (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 587–603 (1972). (J. P. Guir **52** #2395 76.46

(*with* Ustinov, Ju. A.) On the completeness of a system of elementary solution the biharmonic equation in a semi-strip. *Prikl. Mat. Meh.* **37** (1973), 706–714 (*Russi translated as J. Appl. Math. Mech.* **37** (1973), 665–674. (William Margulies) **52** #86 35J40

(*with* Esipov, A. A.) Limit behavior of the eigenvalues of boundary value probl in unboundedly expanding domains. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (19 421–432, 532. (V. Komkov) **48** #2585 35P15

The loss of smoothness of the solutions of Euler equations with time. (Russi *Dinamika Splošn. Sredy Vyp.* 16 *Nestacionarnye Problemy Gidrodinamiki* (1974), 71– 121. (Author's summary) **56** #12670 35Q99 (76.35)

(*with* Ovčinnikova, S. N.) Stability and bifurcation of Couette flow in the case narrow gap between rotating cylinders. *Prikl. Mat. Meh.* **38** (1974), *no.* 6, 1025–1 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), *no.* 6, 972–977 (1975). (L. Mysak) **52** #2382 76.35

(*with* Esipov, A. A.) Asymptotic behavior of the eigenvalues of the first bound value problem for an ordinary differential equation on a long interval. (Russian) *Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 342–349, 532. (Stefan Balint) **50** #5086 34B2

(*with* Barkovskiĭ, Ju. S.) Spectral properties of finite-dimensional operators and problem of moments. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy* *Estestv. Nauk.* **1975**, *no.* 4, 49–53, 117. (P. R. Halmos) **56** #9305 47A99

Judrups, O. M. Comparison of equivalences of dynamical systems on the plane. (Russia *Differencial'nye Uravnenija* **12** (1976), *no.* 7, 1247–1255, 1342. (B. A. Ščerbakov) **56** #3414 34C35 (54H20)

Minimal systems on the plane. (Russian) *Latviĭk. Mat. Ežegodnik Vyp.* 20 (19 133–137, 214. (Milan Medved') **56** #6754 58F99 (34C35)

Homotopy nonequivalence of systems with identical phase diagrams. (Russia *Latviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 233–235, 248. (A. Morimoto) **56** #388 58F10

Continual equivalence of dynamical systems. (Russian) *Latviĭsk. Mat. Ežegod Vyp.* 20 (1976), 138–140, 214. (Milan Medved') **56** #6744 58F10

A property of continuous mappings of dynamical systems. (Russian) *Latviĭsk. M Ežegodnik Vyp.* 21 (1977), 113–115, 236. (Ju. E. Gliklih) **57** #14062 58F99

Continual equivalence of dynamical systems on the sphere. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 4, 753–754, 768. (O. Hájek) **58** #2761 54H20 (34C35)

Juel, H. (*with* Love, Robert F.) An efficient computational procedure for solving t multi-facility rectilinear facilities location problem. *Operational Res. Quart.* **27** (197 *no*. 3, *part* 2, 697–703. (Authors' summary) **55** #12039 90B40

ufa, V. M. (*with* Brjabrin, V. M.) Designing syntactic analyzers for conversation systems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 172–186, 269. (Authors' summary) **49** #1831 68A30

ufat, Ja. G. (*with* Agibalov, G. P.) Simple experiments for linear initial automata. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no*. 2, 17–19. (C. Reischer) **46** #6965 94A30

uferev, V. I (*with* Gorelov, V. P.; Il′in, V. I.) Solution of certain problems of neutron transport theory by the method of generalized eigenfunctions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1245–1264, 1365. (Alexej Sitenko) **47** #8055 82.45

(*with* Gorelov, V. P.; Il′in, V. I.) A synthetic model for moderation and for the approximation of cross sections. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 418–435, 533. (Alexej Sitenko) **49** #12012 82.45

uferev, V. P. (*with* Aĭzenštat, V. S.) Solution of a certain problem on the economical distribution of memory. (Russian) *Dokl. Akad. Nauk BSSR* **15** (1971), 108–109. (J. Dénes) **45** #2949 68A50

Classification of minimal irreducible solvable linear groups of prime degree. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no*. 2, 5–10, 137. (Sergei A. Syskin) **49** #7352 20D10

uferev, V. S. (*with* Vasil′ev, M. G.) An application of splines to the approximation of discontinuous solutions of ordinary differential equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no*. 4, 1053–1058, 1095. (Authors' summary) **58** #8311 65L10

ugaĭ, L. P. The optimality of the capture time in a certain linear pursuit problem. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no*. 1, 40–43, 91. (R. Petrović) **53** #12626 90D25

A nonlinear differential game with integral constraints on the controls. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No*. 39 (1976), 25–38, 198. (RŽMat **1976** #9 B498) **58** #33020 90D25

(*with* Gusjatnikov, P. B.) A problem of avoidance in nonlinear differential games with terminal set of complex structure. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no*. 2, 8–13, 219 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no*. 2, 5–12 (1978). (E. G. Al′breht) **58** #4384 90D25

The linear evasion problem with integral constraints on direction. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No*. 548 *Voprosy Mat.* (1977), 129–137, 147. (V. G. Ramm) **58** #33021 90D25

ugel, Albert (*with* Karl, Irmhild) Übertragungsverhalten zellularer Strukturen mit Schwellenwertelementen. *Wiss. Z. Techn. Univ. Dresden* **22** (1973), 797–802. (W. Wechler) **50** #16163 94A30

Verhalten von *L*-Anfangsverteilungen in ebenen zellularen Strukturen mit 0 , *L*-Zustandszellen. *Nachrichtentech. Elektronik* **24** (1974), 8–10. (W. Wechler) **50** #16162 . 94A30

(*with* Wunsch, Gerhard; Karl, Irmhild) Definition und Grundgleichungen für Raum-Zeit-Systeme. *Z. Elek. Informations- und Energietech.* **4** (1974), 5–8. (Robert M. Baer) **50** #6682 94A30

uhanonov, N. N. The general conjugation boundary value problem with derivatives for the disc. (Russian. Tajiki summary) *Differential and integral equations with singular coefficients* (*Russian*), *pp*. 103–113. *Izdat. "Doniš", Dushanbe*, 1969. (T. Iwaniec) **52** #3546 30A84

The singular integral equation of convolution type of the third kind on the half axis. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **14** (1971), *no*. 7, 9–12. (W. Żakowski) **45** #5682 45E10

The approximate solution of certain singular integral equations with complex conjugate unknowns. (Russian) *Tadžik. Gos. Univ. Trudy Meh.-Mat. Fak. Vyp*. 2 (1972), 160–176. (G. S. Litvinčuk) **53** #8842 45L05

General theorems on the solvability of a certain convolution type singular integral equation of the third kind on the half-axis. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1973**, *no*. 3(49), 22–28. (D. Przeworska-Rolewicz) **51** #3823 45E10

The approximate solution of a characteristic singular integral equation that contains a complex conjugate unknown. *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no*. 6, 15–19. (J. Kofroň) **57** #14544 65R05

uhász, Ferenc On the discreteness of the spectra of regular Sturm-Liouville equations with operator coefficients. (Hungarian. English and Russian summaries) *Közlemények—MTA Számitástechn. Automat. Kutató Int. Budapest No*. 16 (1976), 85–88. (László Zsidó) **58** #1364 34B25 (34G05)

uhász, István ★Cardinal functions in topology. In collaboration with A. Verbeek and N. S. Kroonenberg. Mathematical Centre Tracts, No. 34. *Mathematisch Centrum, Amsterdam*, 1971. xiii + 149 *pp*. (M. M. Richter) **49** #4778 04–02 (54A25)

Proof of a theorem of H. M. Shaerf. *Math. Balkanica* **1** (1971), 129–133. (K. D. Magill, Jr.) **45** #4352 54E15

(*with* Hajnal, András) A consequence of Martin's axiom. *Nederl. Akad. Wetensch. Proc. Ser. A* **74** = *Indag. Math.* **33** (1971), 457–463. (Anne K. Steiner) **46** #4474 54A25 (04A15, 54H05)

Non-standard notes on the hyperspace. *Contributions to non-standard analysis* (*Sympos., Oberwolfach*, 1970), *pp*. 171–177. *Studies in Logic and Found. Math., Vol*. 69, *North-Holland, Amsterdam*, 1972. (Author's summary) **58** #2786 54J05 (54B20)

(*with* Hajnal, András) On disjoint representation of ultrafilters. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), *pp*. 215–219. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (S. H. Hechler) **49** #10554 04A20 (54A25)

(*with* Hajnal, András) Two consistency results in topology. *Bull. Amer. Math. Soc.* **78** (1972), 711. (Mary Powderly) **47** #4196 54A25 (02K05, 04A10, 54D10, 54D20)

(*with* Hajnal, András) On discrete subspaces of product spaces. *General Topology and Appl.* **2** (1972), 11–16. (K. Nagami) **45** #7664 54A25 (04A10)

On two problems of A. V. Archangel′skiĭ. *General Topology and Appl.* **2** (1972), 151–156. (Peter Hamburger) **47** #2567 54A25 (54D20)

(*with* Petruska, György) On the occasion of the fiftieth birthday of Ákos Császár. (Hungarian) *Mat. Lapok* **23** (1972), 217–233 (1974). (Editors) **50** #9501 01A70 (54–03)

(*with* Hajnal, András) A consistency result concerning hereditarily α-Lindelöf spaces. *Acta Math. Acad. Sci. Hungar.* **24** (1973), 307–312. (C. R. Borges) **48** #2966 54A25

(*with* Hajnal, András) On the number of open sets. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **16** (1973), 99–102 (1974). (Roland E. Larson) **50** #5718 54A25

(*with* Hajnal, András) On hereditarily α-Lindelöf and α-separable spaces. II. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, II. *Fund. Math.* **81** (1973/74), *no*. 2, 147–158. (C. R. Borges) **49** #1478 54D20

(*with* Kunen, Kenneth) On the weight of Hausdorff spaces. *General Topology and Appl.* **3** (1973), 47–49. (E. P. Rozycki) **48** #1137 54A25

(*with* Hajnal, András) A consistency result concerning hereditarily α-separable spaces. *Nederl. Akad. Wetensch. Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 301–307. (Mary Powderly) **50** #14629 54A25 (02K99)

(*with* Hajnal, András) On square-compact cardinals. *Period. Math. Hungar.* **3** (1973), *no*. 3-4, 285–288. (A. H. Stone) **49** #3840 54D30 (02K35)

Remarks on cardinal functions. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp*. 449–450. *Colloq. Math. Soc. János Bolyai, Vol*. 8, *North-Holland, Amsterdam*. 1974. (Paul R. Meyer) **51** #1705 54A25

(*with* Hajnal, András) On first countable non-Lindelöf *S*-spaces. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his* 60*th birthday*), *Vol. II. pp*. 837–852. *Colloq. Math. Soc. János Bolyai, Vol*. 10, *North-Holland, Amsterdam*, 1975. (S. H. Hechler) **54** #6062 54A25 (04A30, 54D20)

(*with* Hajnal, András) On the products of weakly Lindelöf spaces. *Proc. Amer. Math. Soc.* **48** (1975), 454–456. (E. P. Rozycki) **52** #11834 54D20 (54B10)

(*with* Comfort, W. W.; Hajnal, András) Compactness-like properties of generalized weak products. *Topology* (*Proc. Ninth Annual Spring Conf., Memphis State Univ., Memphis, Tenn.*, 1975), *pp*. 185–188. *Lecture Notes in Pure and Appl. Math., Vol*. 24, *Dekker, New York*, 1976. (S. H. Hechler) **55** #9026 54D30

(*with* Hajnal, András) On spaces in which every small subspace is metrizable. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 9, 727–731. (H. R. Bennett) **56** #6619 54E35

(*with* Kunen, Kenneth; Rudin, Mary Ellen) Two more hereditarily separable non-Lindelöf spaces. *Canad. J. Math.* **28** (1976), *no*. 5, 998–1005. (R. Hodel) **55** #1270 54A25 (54D15)

(*with* Hajnal, András) A separable normal topological group need not be Lindelöf. *General Topology and Appl.* **6** (1976), *no*. 2, 199–205. (D. V. Čudnov′skiĭ) **55** #4088 54A25 (54D20)

(*with* Hardy, Kenneth) Normality and the weak cb property. *Pacific J. Math.* **64** (1976), *no*. 1, 167–172. (M. L. Wage) **55** #6358 54D15

A generalization of nets and bases. *Period. Math. Hungar.* **7** (1976), *no*. 2, 183–192. (V. I. Malyhin) **55** #11187 54A20

On Neumer's theorem. *Proc. Amer. Math. Soc.* **54** (1976), 453–454. (A. H. Stone) **52** #15370 54D30 (04A10)

(*with* Hajnal, András) Remarks on the cardinality of compact spaces and their Lindelöf subspaces. *Proc. Amer. Math. Soc.* **59** (1976), *no*. 1, 146–148. (Stephen Willard) **54** #11263 54A25 (54D30)

Two set-theoretic problems in topology. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part A*, *pp*. 115–123. *Lecture Notes in Math., Vol*. 609, *Springer, Berlin*, 1977. (D. W. Bressler) **56** #16553 54A25 (04A15)

(*with* Gerlits, J.) On left-separated compact spaces. *Comment. Math. Univ. Carolinae* **19** (1978), *no*. 1, 53–62. (Benjamin Halpern) **58** #7561 54D55

See also **General topology and its relations to modern analysis and algebra, 49** #3800; **Problems: Topology, 50** #8399; **Robinson, Abraham, 52** #7836; **Handbook: Mathematical logic, 56** #15351 *and* **Handbook: Mathematical logic, 58** #27475

Juhimenko, B. I. (*with* Škurba, V. V.) Convergence of a certain modification of the "branch and bound" method for the solution of a linear integer programming problem with Boolean variables. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *No*. 3 (*Russian*), *pp*. 81–84. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (S. Zlobec) **46** #3077 90C10

(*with* Britavskiĭ, G. M.) The "branch and bound" method for the optimization of the parameters of a structure of automatic lines. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no*. 2, 102–104. (Authors' summary) **56** #13613 65K05

Juhnke, Friedrich Optimierungstheoretische Behandlung diskreter linearer Tschebyscheffscher Approximationsprobleme. (English and Russian summaries) *Z. Angew. Math. Mech.* **56** (1976), *no*. 9, 393–400. (G. Opfer) **55** #4672 65K05

Juhno, L. F. The numerical solution of a system of differential equations of filtration theory. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no*. 4, 977–998, 1089. (RŽMech **1976** #2 B679) **58** #32314 76.65

The convergence of the Rothe scheme for certain nonlinear evolution equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no*. 5, 1168–1182, 1360. (V. Thomée) **52** #12354 65N10

The nature of the convergence of the network method in the solution of nonlinear evolution problems. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no*. 2, 325–328. (V. Thomée) **53** #12033 65N10 (35K20)

Juhnovskiĭ, I. P. Statistical sum of the three-dimensional Ising model. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 2, 312–315. (J. Fritz) **57** #11562 82.60

Juhnovskiĭ, I. R. (*with* Hetzheim, Hartwig) Theorie des Quantenplasmas unter Benutzung der Methode der kollektiven Variablen. (Russian, English and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **16** (1967), *no*. 7, 849–856. (Evangelos Ifantis) **53** #2201 81.47

(*with* Ostrovs′kiĭ, M. K.) Properties of the function of transition to collective variables. (Ukrainian. English and Russian summaries) *Vīsnik L′vīv. Derž. Unīv. Ser. Fīz. No*. 5(13) (1969), 3–11, 93. (M. E. Mayer) **45** #1532 82.46

(*with* Rudavskiĭ, Ju. K.) Representation of collective variables for the Ising model. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no*. 1, 50–59, 167. (C. A. Hurst) **56** #10686 82.60

Distribution of spin fluctuation waves in the Ising model in a domain that contains a critical point. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no*. 2, 317–327, 349. (C. A. Hurst) **56** #10687 82.60

Integration of the statistical sum of a three-dimensional Ising model in the method of collective variables. I. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 2, 328–338, 349. (C. A. Hurst) **56** #10688 82.60

(*with* Kozlovs′kiĭ, M. P.) Recurrence relations in the three-dimensional Ising model. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 7, 1125–1134, 1226. (Authors' summary) **56** #14421 82.33

Jukalov, V. I. A notion of decoupling for quantum sub-systems. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **26** (1971), *no.* 5, 527–533. (W. Faris) **45** #8174 81.46

The symmetry principle in quantum mechanics. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **27** (1972), *no.* 5, 566–572. (L. Méder) **53** #9912 81.22

On the description of quasiparticles by Green's functions. (Russian. English summary) *Teoret. Mat. Fiz.* **17** (1973), 422–428. (Author's summary) **57** #4941 82.49

Several comments on quasimeans. (Russian. English summary) *Teoret. Mat. Fiz.* **26** (1976), *no.* 3, 403–413. (Author's summary) **56** #7690 82.46

Jukes, Ken A. Ordinary, strong, and absolute Tauberian constants. *Proc. London Math. Soc.* (3) **22** (1971), 747–768. (D. Leviatan) **45** #773 40D10

On the converse of Mertens' theorem. *Proc. Cambridge Philos. Soc.* **73** (1973), 467–471. (B. K. Lahiri) **47** #675 40A05

Tauberian theorems of Landau-Ingham type. *J. London Math. Soc.* (2) **8** (1974), 570–576. (S. Ikehara) **49** #10648 (E **50** #13966) 10H25 (40E05)

Tauberian constants connected with the prime number theorem. *Math. Z.* **145** (1975), *no.* 2, 187–193. (S. Ikehara) **52** #3778 40D10 (10H15)

(*with* Maddox, Ivor J.) Tauberian conclusions. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 407–411. (G. E. Peterson) **53** #8717 40E05

Equiconvergence of matrix transformations. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 2, 261–270. (W. Biegert) **57** #17071 40D10 (10H25)

See also **Segal, Sanford L.**, **50** #13966

Jukes, Thomas H. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9426

Jukevič, M. L. (*with* Karetnyĭ, O. Ja.) Stability of control systems with an impulsive element and one nonlinearity or with two impulsive elements. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 38 (1977), 53–57, 114. (K. B. Datta) **58** #9630 93D10

Jukl, Vladimír Fehlerabschätzung der Nyström'schen Formel. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* **24** (1970), 81–100. (J. C. Butcher) **46** #4731 65L05

Juldašbaev, Š. A. (*with* Ahmetgaleev, I. I.) A method for constructing a region of absolute stability of systems with continuous derivatives of the nonlinearities. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 146 (1972), 55–58, 110. (Š. Schwabik) **48** #643 34D20

Juldašev, È. A. Linear inhomogeneous differential and difference systems with a small parameter. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 41 (1976), 27–36, 185–186. (RŽMat **1977** #1 B253) **58** #28932 34E15 (39A10)

Juldašev, Z. H. (*with* Kalmykov, S. A.; Šokin, Ju. I.) On the solution of ordinary differential equations by interval methods. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 6, 1267–1270. (E. S. Čičkin) **54** #11787 65L05

(*with* Kalmykov, S. A.; Šokin, Ju. I.) The second order interval-analytic method for ordinary differential equations. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 3, 28–30, 89. (H. Shintani) **54** #6508 65L05

Juley, Joseph *See* **Origins of digital computers**, **50** #6760

Julia, Gaston *See* **Poincaré, Henri**, **52** #2804 *and* **Garnier, René**, **58** #16026

Julian, W. (*with* Berg, G.; Mines, R.; Richman, Fred) The constructive Jordan curve theorem. *Rocky Mountain J. Math.* **5** (1975), 225–236. (E. Mendelson) **53** #14448 54F50 (02E05)

(*with* Berg, G.; Mines, R.; Richman, Fred) The constructive equivalence of covering and inductive dimensions. *General Topology and Appl.* **7** (1977), *no.* 1, 99–108. (E. Mendelson) **58** #2751 54F45 (02E99)

Julio, J. *See* **Vorobïov, M. M.**, **52** #3025

Jullien, G. A. (*with* Miller, W. C.; Shridhar, M.; Loh, N. K.) System identification using Fokker-Planck techniques. *Modeling and simulation* (*Proc. Fifth Annual Pittsburgh Conf., Univ. Pittsburgh, Pittsburgh, Pa.*, 1974), *Vol.* 5, *Part* 2, *pp.* 1027–1032. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1974. (Authors' summary) **56** #11181 93B30

Jullien, P. *See* **Ordres totaux finis**, **51** #12625

Jul′met′ev, R. M. A study of the invariants of a many-particle system by the method of projection operators. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 413–425. (Author's summary) **57** #8785 82.47

Derivation of the equation for the radial distribution function in a fluid on the basis of Bogoljubov's idea about reducing the description of an equilibrium system. (Russian. English summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 2, 235–249. (Author's summary) **58** #8992 82.45

A modified Bogoljubov equation for the radial distribution function in a fluid. (Russian. English summary) *Ukrain. Fiz. Ž.* **20** (1975), *no.* 3, 460–467, 522. (Author's summary) **56** #7720 82.62

Application of methods of the scattering theory in the statistical theory of liquids. *Phys. A* **84** (1976), *no.* 1, 82–100. (Douglas Henderson) **56** #7707 82.47

A new equation for the one-particle distribution function of a medium in equilibrium. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 2, 287–295, 344. (Tetz Yoshimura) **56** #10665 82.47

An application of N. N. Bogoljubov's idea on the hierarchy of relaxation times to oscillatory relaxation in fluids. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 11, 1761–1771, 1927. (Author's summary) **56** #7675 82.35

Julve, J. (*with* Costa, G.; Marinucci, T.; Tonin, M.) Non-Abelian gauge theories and triangle anomalies. (Italian summary) *Nuovo Cimento A* (11) **38** (1977), *no.* 4, 373–412. (A. Rouet) **56** #1975 81.22

(*with* Tonin, M.) Quantum gravity with higher derivative terms. (Italian and Russian summaries) *Nuovo Cimento B* (11) **46** (1978), *no.* 1, 137–152. (Authors' summary) **58** #14932 83.53

Jumagužin, V. A. Prolongations of *G*-structures. (Russian) *Differential geometry, No.* 2 (*Russian*), *pp.* 77–87, 118. *Izdat. Saratov. Univ., Saratov*, 1975. (I. Kolář) **55** #4301 58H05 (58A20)

G-structures with constant structural functions. (Russian) *Differential geometry, No.* 3 (*Russian*), *pp.* 82–104, 108. *Izdat. Saratov. Univ., Saratov*, 1977. (P. Ver Eecke) **58** #30901 53C10 (58H05)

Jumarie, Guy Generalization of the theory of Ya. Z. Tsypkin for relay automatic c rol systems. *Avtomat. i Telemeh.* **1969**, *no.* 12, 48–57 (*Russian. English summary*); *tra ted as Automat. Remote Control* **1969**, *no.* 12, 1929–1937. **56** #11287 93C99

Une contribution au filtrage linéaire optimal non stationnaire par la métho de Wiener-Booton. *Internat. J. Electron.* **29** (1970), 419–431. (N. Zierler) **46** #6 94A05

Sur les bases d'une théorie des systèmes auto-organisés. *C. R. Acad. Sci. Pari ér A-B* **273** (1971), A41–A43. (Author's summary) **49** #2196 94A15

Condition d'existence et de stabilité pour les solutions périodiques de cer es équations aux dérivées partielles non linéaires. *C. R. Acad. Sci. Paris Sér. A-* 73 (1971), A510–A513. (O. Vejvoda) **45** #5529 35B10

Conditions d'existence et de stabilité pour les solutions périodiques de cer es équations aux dérivées partielles non linéaires. *C. R. Acad. Sci. Paris Sér. A-* 73 (1971), A992–A994. (O. Vejvoda) **45** #5530 35B10

Quelques méthodes et résultats sur les systèmes non-linéaires multivariables échantillonnes. (English summary) *Internat. J. Control* (1) **13** (1971), 897–929. (Hansgeorg Jeggle) **47** #1509 93C10

★Éléments pour une approche unifiée au problème du filtrage et de l'extrapol on optimale. Thèse présentée à la Faculté des Sciences de l'Université de Lille pour o ur le titre de Docteur d'Université. *Département de Mathématiques, Université du Qué à Montréal, Montreal, Que.*, 1972. ix + 135 *pp.* (*not consecutively paged*) (A. Blaq e) **49** #10422 93E20

Conditions de fonctions propres pour l'oscillation et la stabilité d'équations fonctionnelles non-linéaires exprimées par leurs noyaux de Green-Laplace. *C. R. d. Sci. Paris Sér. A-B* **274** (1972), A1553–A1556. (M. Biroli) **46** #2373 45G99

Méthode des deux premières fonctions propres pour systèmes non linéaires d is par leurs noyaux de Green-Laplace. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1). A1833–A1835. (M. Biroli) **46** #2374 45G99

Deux théorèmes de stabilité globale entrée-sortie pour systèmes non linéai à paramètre réparti. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A655–A657. (Aut s summary) **58** #33374 93D05

Stability circle criterion with spatial harmonic linearisation for nonlinear distributed-parameter systems. *Electron. Lett.* **8** (1972), 281–282. (G. N. Mil'š) **49** #8718 93D99

Étude approchée d'une classe de systèmes échantillonnées non linéaires à param e réparti. (English summary) *Rev. CETHEDEC No.* 31 (1972), 19–40. (E. O. R) **48** #5691 93C20 (35A22)

Auto-oscillations, stabilité à l'origine, stabilité globale des systèmes non linéai à paramètre réparti. *Ann. Télécommun.* **28** (1973), 47–54. (E. Fagiuoli) **49** #21 93D99

Deux critères de stabilité entrée-sortie pour systèmes distribués et stochasti s gaussiens avec nonlinéarité diagonale. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1), A575–A578. (David L. Elliot) **47** #8180 93E15

Autres critères de stabilité pour systèmes distribués et stochastiques Gaussiens non linéarité diagonale. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A957–A960. (D L. Elliott) **47** #8181 93E15

Entropie structurelle, potentiel d'information et morphogenèse. *C. R. Acad. Paris Sér. A-B* **277** (1973), A911–A913. (Author's summary) **49** #2197 94A15

Mean-square criteria for the stability of non-linear distributed parameter syste (French summary) *Internat. J. Control* (1) **18** (1973), 481–496. (Jan C. Wille **51** #7673 93D10

Further extensions on the space mean square stability of deterministic and stochastic non-linear distributed parameter systems. *Internat. J. Control* (1) **18** (19 1041–1065. (M. Benderskiĭ (RŽMat **1974** #4 V73)) **51** #15123 93E15

Une méthode du premier harmonique pour systèmes non-linéaires à param réparti soumis à des sollicitations déterministes ou stochastiques. (English summa *Internat. J. Electron.* **34** (1973), 465–489. (Author's summary) **52** #2671 93C10

Nouvelle méthode de linéarisation harmonique pour systèmes non linéaire paramétre réparti decrits par leurs noyaux de Green-Laplace. (English summa *Internat. J. Electron.* **35** (1973), 289–312. (Author's summary) **56** #14949 93 (93C10, 93D99)

An approach via state estimation to differential games with information time l *Internat. J. Game Theory* **2** (1973), *no.* 1, 39–52. (Author's summary) **47** #302 90D25

Stabilité des systèmes non linéaires à paramètre réparti par comparaison avec système linéaire moyen à constantes localisées. *C. R. Acad. Sci. Paris Sér. A* **278** (197 389–391. (Leonard Weiss) **49** #757 93D99

Coordination des systèmes hiéarchiques à deux niveaux par coordination hamiltoniens du niveau inférieur. *C. R. Acad. Sci. Paris Sér. B* **278** (1974), 451–454. Kósa) **51** #1532 49A99

Éléments pour un modèle informationnel général de représentation dans le thermodynamique des systèmes ouverts. *C. R. Acad. Sci. Paris Sér. B* **278** (197 723–726. (L. L. Campbell) **49** #7017 94A15

Stability criteria for distributed nonlinear sampled-data systems defined by Gree functions. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* (1974), 315–321. (Jan C. Willems) **51** #2718 93D99

Stabilité entrée-sortie limitée et illimitée des systèmes non linéaires dans les espac métriques. *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aiv, A157–A160. (Autho summary) **56** #2571 93D99

Une inéquation différentielle permettant d'étudier l'instabilité à l'origine de certai systèmes d'équations aux dérivées partielles non linéaires de grande dimension. (Engli summary insert) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A225–A228. (J. Cullur **53** #3474 35B35 (93D99)

Dichotomie et stabilité par méthodes fréquentielles pour une classe de systèm déterministes et stochastiques à paramètre réparti avec coefficients variables. (Englis summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A685–A688. (V. M. Popo **51** #15099 93D99 (93E15)

Jeux différentiels structurels ou hyperjeux différentiels. Définition. Quelques propriétés. Perspectives. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975

Aii, A969–A972. (Author's summary) **55** #10038 90D25

Hyperstabilité pour une classe de systèmes à paramètre réparti avec commande monodimensionnelle, définis par une équation intégrodifférentielle. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 6, Aiii, A385–A388. (Marshall Slemrod) **52** #4089 49E20

A practical criterion for the input-output stability of distributed parameter systems with space-dependent coefficients. *Internat. J. Control* **21** (1975), 285–292. (R. N. P. Singh) **51** #15070 93D99

Further advances on the general thermodynamics of open systems via information theory: effective entropy, negative information. *Internat. J. Systems Sci.* **6** (1975), 249–268. (J. Černý) **52** #5200 94A15 (82.30)

A relativistic information theory model for general systems Lorentz transformation of organizability and structural entropy. *Internat. J. Systems Sci.* **6** (1975), *no.* 9, 865–886. (Author's summary) **56** #5054 94A15 (93A10)

A new approach to optimum state estimation in optimum system control. *J. Optimization Theory Appl.* **16** (1975), 135–146. (Stanislav K. Myškov) **52** #5119 93C15

Input-output stability criteria for a broad class of stochastic nonlinear distributed systems defined by Green's function. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **97** (1975), 83–91. (G. N. Mil'šteĭn) **52** #10191 93E15

A space function approach to the hyperstability and the average hyperstability of distributed systems with space-varying linear parts and time-varying gains. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **97** (1975), *no.* 4, 345–353. (Michel Cotsaftis) **53** #2476 93D10

A relativistic information approach to the structural dynamics of general systems. Morphogenesis. *Cybernetica* **19** (1976), *no.* 4, 273–304. (Author's summary) **58** #26212 93A10 (94A15)

New results in relativistic information theory. Application to deterministic, stochastic and biological systems. *Internat. J. Systems Sci.* **7** (1976), *no.* 4, 393–414. (Author's summary) **57** #18910 93A99 (94A15)

Théorie relativiste de l'information, applications à un modèle général d'évolution des systèmes. (English summary) *Rev. CETHEDEC Cahier 4ème Trim.* (1976), N576-1, 94 *pp.* (Manfred Kochen) **57** #19097 94A15 (93Axx)

A non-stationary two-variable operational calculus and its use in the synthesis of distributed parameter systems. *Internat. J. Systems Sci.* **8** (1977), *no.* 2, 201–219. (Edward W. Kamen) **56** #2549 93C20

Further applications of the non-stationary operational calculus to the synthesis of closed-loop distributed systems. A new approach to distributed white noise. *Internat. J. Systems Sci.* **8** (1977), *no.* 12, 1337–1364. (S. E. Aidarous) **58** #33316 93C20

Stability, structural stability, and games: towarad a theory of differential hypergames. *J. Optimization Theory Appl.* **22** (1977), *no.* 4, 607–629. (Guy Cohen) **56** #14783 90D25

A practical method to estimate the existence and the stability of the periodic solutions of some nonlinear partial differential equations. *Utilitas Math.* **12** (1977), 31–52. (Author's summary) **58** #13807 65P05

Further advances in relativistic information and general systems. Interference of observers. *Cybernetica* **21** (1978), *no.* 2, 93–123. (Anthony Ephremides) **58** #26213 93A10 (94A15)

umarie, R. G. Stability circle criterion with 3rd-order spatial-harmonic balance for nonlinear distributed-parameter systems. *Electron. Lett.* **8** (1972), 354–355. (M. M. Konstantinov) **48** #8054 93D99

ump, J. Roberts (*with* Marathe, Shreehari) On the length of feedback shift registers. *Information and Control* **19** (1971), 345–352. (B. P. Zeigler) **47** #6130 68A25

(*with* Thiagarajan, P. S.) On the equivalence of asynchronous control structures. *SIAM J. Comput.* **2** (1973), 67–87. (D. H. Chyung) **49** #2154 93B99

Asynchronous control arrays. *IEEE Trans. Computers* **C-23** (1974), *no.* 10, 1020–1029. (Kailash C. Kapur) **52** #7728 94A20

(*with* Kirtane, Jayant S.) On the interconnection structure of cellular networks. *Information and Control* **24** (1974), 74–91. (D. Richardson) **49** #7037 94A30

(*with* Thiagarajan, P. S.) On the interconnection of asynchronous control structures. *J. Assoc. Comput. Mach.* **22** (1975), *no.* 4, 596–612. (Edward T. Lee) **52** #16886 94A20 (93C99)

ump, K. Ideals in pseudo-rings. *Proc. Edinburgh Math. Soc.* (2) **17** (1970/71), 215–222. (E. M. Patterson) **46** #3578 16A78

Pseudo-rings of infinite matrices. *Proc. Edinburgh Math. Soc.* (2) **17** (1970/71), 325–336. (E. M. Patterson) **46** #3579 16A78

un, G. N. (*with* Mihalĕvič, V. S.; Šor, N. Z.; Žurbenko, N. G.; Momot, A. I.; Sibirko, A. N.; Trubin, V. A.) ★**Вычислительные методы выбора оптимальных проектных решений.** (Russian) [Numerical methods for the selection of optimal design decisions] *Izdat. "Naukova Dumka", Kiev*, 1977. 178 *pp.* (V. Komkov) **57** #2588 90C50

un, Kunás K. A remark on a theorem of R. C. James. *Bol. Soc. Mat. Mexicana* (2) **16** (1971), 29–31. (R. C. James) **50** #10768 46B10

On a result of K. M. Šaĭdukov. *Portugal. Math.* **30** (1971), 169–171. (W. E. Bonnice) **47** #781 46B15

unbergs, E. Recurrence formulas for polynomials that are biorthogonal in the disc. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 12 (*Russian*), *pp.* 231–235. *Izdat. "Zinatne", Riga*, 1973. (Jozef Mikloško) **48** #9244 42A52

el Junco, Andrés (*with* Akcoglu, Mustafa A.) Convergence of averages of point transformations. *Proc. Amer. Math. Soc.* **49** (1975), 265–266. (Michael Lin) **50** #13446 28A65

Coding ergodic processes to approximate Bernoulli processes. *Canad. J. Math.* **28** (1976), *no.* 1, 135–140. (P. C. Shields) **53** #770 28A65

Transformations with discrete spectrum are stacking transformations. *Canad. J. Math.* **28** (1976), *no.* 4, 836–839. (Nathaniel Friedman) **54** #2914 28A65

Stacking transformations and Diophantine approximation. *Illinois J. Math.* **20** (1976), *no.* 3, 494–502. (Gérard Rauzy) **54** #7750 28A65 (10K15)

Bernoulli shifts induced by K-automorphisms. *Adv. Math.* **25** (1977), *no.* 1, 35–41. (Nathaniel Friedman) **56** #8807 28A65

On the decomposition of a subadditive stochastic process. *Ann. Probability* **5** (1977), *no.* 2, 298–302. (R. T. Smythe) **56** #1454 60G99 (28A65)

A transformation with simple spectrum which is not rank one. *Canad. J. Math.* **29** (1977), *no.* 3, 655–663. (B. Weiss) **57** #6367 28A65

(*with* Steele, J. Michael) Moving averages of ergodic processes. *Metrika* **24** (1977), *no.* 1, 35–43. (J. R. Blum) **55** #3216 28A65

(*with* Steele, J. Michael) Growth rates for monotone subsequences. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 2, 179–182. (H. G. Meijer) **58** #10800 10K05

Juncosa, Mario L. A general analytic approach for integrals of converage and more general type using automatic symbol manipulation. *Information processing* 71 (*Proc. IFIP Congr., Ljubljana*, 1971), *Vol.* 2: *Applications*, *pp.* 1356–1362. *North-Holland, Amsterdam*, 1972. (Authors' summary) **56** #16987 65D30 (65C05)

(*with* Cali, M. A.; Casti, John) Invariant imbedding and the solution of Fredholm integral equations with displacement kernels—comparative numerical experiments. *Appl. Math. Comput.* **1** (1975), *no.* 4, 287–293. (Christopher T. H. Baker) **52** #4675 65R05

Juneja, Om P. (*with* Kapoor, Govind P.) On the lower order of entire functions. *J. London Math. Soc.* (2) **5** (1972), 310–312. (Günter Frank) **47** #2059 30A64

(*with* Kapoor, Govind P.) On the lower order of an entire Dirichlet series. *Math. Ann.* **197** (1972), 128–132. (A. G. Azpeitia) **46** #2057 30A66

Approximation of an entire function. *J. Approximation Theory* **11** (1974), 343–349. (R. Vermes) **52** #11433 41A50 (30A66)

(*with* Kapoor, Govind P.; Bajpai, Shyam K.) On coefficients of entire Dirichlet series of fast growth. (Italian summary) *Rend. Mat.* (6) **7** (1974), 457–479 (1975). (M. E. Noble) **51** #3439 30A62

(*with* Srivastava, R. S. L.) On the order of entire functions defined by Dirichlet series. *Rev. Mat. Hisp.-Amer.* (4) **34** (1974), 67–75. (M. Mikolás) **50** #608 30A64

(*with* Kapoor, Govind P.) Polynomial coefficients of entire series. *Yokohama Math. J.* **22** (1974), 125–133. (T. Kövari) **50** #10255 30A64

(*with* Bajpai, Shyam K.; Kapoor, Govind P.) On entire functions of fast growth. *Trans. Amer. Math. Soc.* **203** (1975), 275–297. (Y. Komatu) **51** #8416 30A64

(*with* Kapoor, Govind P.) On the lower order of functions analytic in the unit disc. II. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 3, 241–248. (S. M. Shah) **58** #6188 30A10

(*with* Kapoor, Govind P.; Bajpai, Shyam K.) On the (p,q)-order and lower (p,q)-order of an entire function. *J. Reine Angew. Math.* **282** (1976), 53–67. (Fred Gross) **54** #5464 30A64

(*with* Mogra, M. L.) Coefficient estimates for starlike functions. *Bull. Austral. Math. Soc.* **16** (1977), *no.* 3, 415–425. (W. M. Causey) **56** #5860 30A34 (30A32)

(*with* Kapoor, Govind P.; Bajpai, Shyam K.) On the (p, q)-type and lower (p, q)-type of an entire function. *J. Reine Angew. Math.* **290** (1977), 180–190. (R. P. Boas, Jr.) **55** #3255 30A66

Juneja, Pushpa *See* **Arora, Pushpa**

Junek, Heinz Jürgen Über die Vervollständigung partiell geordneter Halbgruppen II. Art. *Math. Nachr.* **49** (1971), 1–25. (Klaus Keimel) **47** #4887 06A50

Zum Problem der Identitätenvererbung bei Dedekind-Vervollständigungen partiell geordneter universeller Algebren. *Math. Nachr.* **52** (1972), 35–37. (J. Karásek) **46** #7116 06A75

Der Körper der reellen Zahlen. *Wiss. Z. Pädagog. Hochsch. "Karl Liebknecht" Potsdam* **16** (1972), 159–162. (C. Brumfiel) **48** #4209 26–01

Vervollständigung partiell geordneter universeller Algebren. *Math. Nachr.* **56** (1973), 175–178. (R. P. Dilworth) **48** #3838 06A70

Über verallgemeinerte Operatorenideale in Hilberträumen. *Math. Nachr.* **62** (1974), 137–145. (D. J. H. Garling) **50** #1013 46L15

Über lokalkonvexe Räume und Operatorenideale. *Math. Nachr.* **71** (1976), 7–22. (Tosun Terzioğlu) **53** #6267 46A05 (46L20)

Über Hüllenoperationen, Reflektoren und Ideale. (Russian and English summaries) *Wiss. Z. Pädagog. Hochsch. "Karl Liebknecht" Potsdam* **20** (1976), *no.* 1, 103–108. (A. Pultr) **56** #3080 18–01 (18A40)

On dual spaces of locally convex spaces defined by ideals of operators. *Serdica* 3 (1977), *no.* 3, 227–235. (M. S. Ramanujan) **58** #29995 46A05 (46L20)

See also **Studien zur Algebra und ihre Anwendungen**, **48** #8172

Junevicus, G. J. G. (*with* Cooperstock, F. I.; Wilson, A. R.) Critique of the directional singularity concept. *Phys. Lett.* **42A** (1972), 203–204. (W. Israel) **49** #6881 83.53

(*with* Cooperstock, F. I.) Singularities in Weyl gravitational fields. *Internat. J. Theoret. Phys.* **9** (1974), 59–68. (Authors' summary) **53** #10122 83.53

(*with* Cooperstock, F. I.) A new approach to relativistic gravitation. *Phys. Lett. A* **54** (1975), *no.* 4, 273–275. (Authors' summary) **53** #15256 83.49

Jung, Calvin F. K. (*with* Jung, Fuanglada Riddhagni) Uniqueness of net cyclic decompositions in universal algebras. *Nanta Math.* **5** (1972), *no.* 2, 26–28. (S. P. Bandyopadhyay) **47** #8401 08A25

(*with* Jung, Fuanglada Riddhagni) Torsion-free locally cyclic decomposable groups. *Nanta Math.* **5** (1972), *no.* 2, 29–32. (R. Göbel) **47** #6888 20K15

(*with* Jung, Fuanglada Riddhagni) Locally cyclic decomposable abelian groups. *Nanta Math.* **5** (1972), *no.* 2, 33–37. (R. Göbel) **47** #6889 20K20

(*with* Jung, Fuanglada Riddhagni) Maximal locally cyclic subgroups of abelian groups. *Nanta Math.* **5** (1972), *no.* 2, 38–42. (R. Göbel) **47** #6890 20K20

On the deficiency of product spaces. *Colloq. Math.* **27** (1973), 245–246. (A. Lelek) **48** #12478 54F45

Locally compact spaces whose Alexandroff one-point compactifications are perfect. *Colloq. Math.* **27** (1973), 247–249. (M. G. Murdeshwar) **48** #5004 54D35

Mappings and inductive invariants. *Colloq. Math.* **28** (1973), 29–31. (Roman Duda) **48** #5032 54F45

(*with* Barbançon, Gérard; Boonyasombat, Virool; Jung, Fuanglada Riddhagni) An application of group theory to some functional equations. *Nanta Math.* (1974), *no.* 2, 62–68. (Pl. Kannappan) **51** #13501 39A20

(*with* Jung, Fuanglada Riddhagni; Barbançon, Gérard; Boonyasombat, Virool) Functional equations of Cauchy-Pexider-Jensen type. *Nanta Math.* **8** (1975), *no.* 1, 92–98. (J. Aczél) **54** #774 39A40

(*with* Boonyasombat, Virool; Barbançon, Gérard; Jung, Fuanglada Riddhagni) On the functional equation $f(x+f(y))=f(x)f(y)$ *Aequationes Math.* **14** (1976), *no* 1/2, 41–48. (R. A. Rosenbaum) **54** #3206 39A40

Jung, Fuangiada Riddhagni On exterior and interior points of quadrics over a finite field. *Duke Math. J.* **39** (1972), 183–188. (E. J. F. Primrose) **45** #4265 50D30

Solutions of some systems of equations over a finite field with applications to geometry. *Duke Math. J.* **39** (1972), 189–202. (E. J. F. Primrose) **45** #3365 12C05 (50A20)

(*with* Jung, Calvin F. K.) Uniqueness of net cyclic decompositions in universal algebras. *Nanta Math.* **5** (1972), *no.* 2, 26–28. (S. P. Bandyopadhyay) **47** #8401 08A25

(*with* Jung, Calvin F. K.) Torsion-free locally cyclic decomposable groups. *Nanta Math.* **5** (1972), *no.* 2, 29–32. (R. Göbel) **47** #6888 20K15

(*with* Jung, Calvin F. K.) Locally cyclic decomposable abelian groups. *Nanta Math.* **5** (1972), *no.* 2, 33–37. (R. Göbel) **47** #6889 20K20

(*with* Jung, Calvin F. K.) Maximal locally cyclic subgroups of abelian groups. *Nanta Math.* **5** (1972), *no.* 2, 38–42. (R. Göbel) **47** #6890 20K20

On conics over a finite field. *Canad. J. Math.* **26** (1974), 1281–1288. (H. Popp) **52** #3184 14N10 (14M20)

(*with* Barbançon, Gérard; Jung, Calvin F. K.; Boonyasombat, Virool) An application of group theory to some functional equations. *Nanta Math.* (1974), *no.* 2, 62–68. (Pl. Kannappan) **51** #13501 39A20

(*with* Jung, Calvin F. K.; Barbançon, Gérard; Boonyasombat, Virool) Functional equations of Cauchy-Pexider-Jensen type. *Nanta Math.* **8** (1975), *no.* 1, 92–98. (J. Aczél) **54** #774 39A40

(*with* Jung, Calvin F. K.; Boonyasombat, Virool; Barbançon, Gérard) On the functional equation $f(x+f(y))=f(x)f(y)$ *Aequationes Math.* **14** (1976), *no* 1/2, 41–48. (R. A. Rosenbaum) **54** #3206 39A40

Jung, Gerhard ★Quotienten nach endlichen Automorphismengruppen analytischer und differenzierbarer Algebren. Dissertation zur Erlangung des Grades eines Doktors der Naturwissenschaften dem Fachbereich Mathematik der Eberhard-Karls-Universität zu Tübingen. *Eberhard-Karls-Universität Tübingen, Tübingen,* 1973. ix+64 *pp.* (W. Barth) **49** #3194 32B05 (32K15, 32M99)

Quotienten differenzierbarer Räume. *Math. Z.* **145** (1975), *no.* 1, 19–27. (M. L. Gromov) **57** #17697a 58C25 (32K15, 58A05)

Berichtigung zu der Arbeit: "Quotienten differenzierbarer Räume" (Math. Z. **145** (1975), 19–27). *Math. Z.* **149** (1976), *no.* 3, 299. (M. L. Gromov) **57** #17697b 58C25 (32K15, 58A05)

Jung, H. A. On subgraphs without cycles in a tournament. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred,* 1969), *pp.* 675–677. *North-Holland, Amsterdam,* 1970. (J. W. Moon) **45** #6689 05C20

Über den Zusammenhang von Graphen, mit Anwendungen auf symmetrische Graphen. *Math. Ann.* **202** (1973), 307–320. (Rudolf Halin) **48** #1998 05C99

Über die Bestimmung minimaler Wege und Gerüste in Graphen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), *no.* 3-4, 249–252. (R. C. Read) **52** #13490 05C35 (90B10)

(*with* Chartrand, Gary; Hobbs, Arthur M.; Kapoor, S. F.; Nash-Williams, C. St. J. A.) The square of a block is Hamiltonian connected. *J. Combinatorial Theory Ser. B* **16** (1974), 290–292. (R. L. Hemminger) **49** #10595 05C35

Note on Hamiltonian graphs. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague,* 1974), *pp.* 315–321. *Academia, Prague,* 1975. (M. E. Watkins) **52** #13509 05C99

Die Zusammenhangsstruktur symmetrischer Graphen. *J. Reine Angew. Math.* **283/284** (1976), 202–221. (Rudolf Halin) **54** #2542 05C99

(*with* Watkins, Mark E.) On the structure of infinite vertex-transitive graphs. *Discrete Math.* **18** (1977), *no.* 1, 45–53. (Pavol Hell) **58** #10578 05C25

(*with* Watkins, Mark E.) On the connectivities of finite and infinite graphs. *Monatsh. Math.* **83** (1977), *no.* 2, 121–131. (Jean-Claude Bermond) **57** #159 05C10

On a class of posets and the corresponding comparability graphs. *J. Combinatorial Theory Ser. B* **24** (1978), *no.* 2, 125–133. (Stephane Foldes) **58** #10614 05C99 (06A10)

Jung, Hermann (*with* Wiehagen, Rolf) Rekursionstheoretische Charakterisierung von erkennbaren Klassen rekursiver Funktionen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 7-8, 385–397. (G. Weshsung) **56** #11770 02F20

Jung, J. *See* **Kreisel, Georg; et al., 50** #4231

Jung, Jan (*with* Lundberg, Ove) Risk processes connected with the compound Poisson process. Filip Lundberg Symposium on Risk Theory (Stockholm, 1968). *Skand. Aktuarietidskr.* **1969**, *suppl.* 3-4, 118–131 (1971). (Robert Gray) **50** #3510 62P05

A note on a classical result in the collective risk theory. *Skand. Aktuarietidskr.* **1973**, 61. **49** #11749 62P05

Jung, Wolfhart *G*-optimale Versuchsplanung für die Regressionsgerade $y(x)=\Theta_1+\Theta_2x$. (English summary) *Biometrische Z.* **13** (1971), 369–375. (J. Kiefer) **46** #10141 62K05

Kostenoptimale Versuchsplanung im Regressionsmodell. (English summary) *Biometrische Z.* **16** (1974), 31–47. (A. Ja. Dorogovcev) **50** #6073 62K05

(*with* Bandemer, Hans) Optimale Versuchsplanung im Regressionsmodell. (English summary) *Biometrische Z.* **16** (1974), 323–336. (J. Kiefer) **51** #4573 62K05

(*with* Hohmann, G.) On sequential and nonsequential *D*-optimal experimental design. (German summary) *Biometrische Z.* **17** (1975), *no.* 5, 329–336. (Michael Titterington) **52** #12242 62K05

(*with* Bandemer, Hans; Bellmann, Andreas; Richter, Klaus) ★Optimale Versuchsplanung. Zweite Auflage. Deutsch-Taschenbücher, No. 23. *Verlag Harri Deutsch, Zürich-Frankfurt am Main,* 1976. 182 *pp.* (J. Kiefer) **55** #4540 62K05

Jung, Woo Sik (*with* Norman, Alfred Lorn) Linear quadratic control theory for models with long lags. *Econometrica* **45** (1977), *no.* 4, 905–917. (David N. Burghes) **58** #26300 93C05 (90A15)

Jungck, Gerald Commuting mappings and fixed points. *Amer. Math. Monthly* **83** (1976), *no.* 4, 261–263. (L. E. Ward, Jr.) **53** #4031 54H25

An iff fixed point criterion. *Math. Mag.* **49** (1976), *no.* 1, 32–34. (L. F. Guseman, Jr.) **55** #6401 54H25

Jungclaussen, Hardwin *See* **Landau, L. D.; et al., 49** #11884

Junge, Bjarne (*with* Hoggatt, Verner E., Jr.) Polynomials arising from reflection across multiple plates. *Fibonacci Quart.* **11** (1973), *no.* 3, 285–291. (R. N. Jain) **48** #55 78.65 (10A35)

Junge, Hans-Dieter ★Messen. Steuern. Regeln. Englisch-Deutsch, Deutsch-Englisch. Technik-Wörterbuch. *VEB Verlag Technik, Berlin,* 1972. 264 *pp.* (Editors) **50** #125 00A20

Junge, Heinz (*with* Bachmann, Karl-Heinz; Beyer, Otfried; Boseck, Helmut; Göhler, Wilhelm; Heinrich, Winfried; Lorenz, Günter; Oberländer, Siegfried; Pietzsch, Günter; Steger, Arndt; Thiele, Helmut; Walsch, Werner; Wussing, H.; Berthold, Günter; Bock, Hans; Dück, Werner; Görke, Lilly; Hellwich, Manfred; Kästner, Herbert; Neigenfind, Fritz; Peschel, Manfred; Rossberg, H.-J.; Sulanke, Rolf; Va Hans; Wussing, Gerlinde) ★Handbuch der Mathematik Mit einer Einleitung Hans Reichardt. *Buch und Zeit Verlagsgesellschaft M.B.H., Cologne,* 1972. 739 (From the publisher's foreword) **56** #5108 00A20

Jungerman, Mark Orientable triangular embeddings of K_{18}—K_3 and K_{13}—K_3. *J. Combinatorial Theory Ser. B* **16** (1974), 293–294. (Seth R. Alpert) **49** #7167 05

The genus of K_n-K_2. *J. Combinatorial Theory Ser. B* **18** (1975), 53–58. (A White) **51** #2965 05C10

A new solution for the nonorientable case 1 of the Heawood map color theorem *Combinatorial Theory Ser. B* **19** (1975), *no.* 1, 69–71. (Editors) **53** #10634 05C

The genus of the symmetric quadripartite graph. *J. Combinatorial Theory Ser.* (1975), *no.* 2, 181–187. (Author's summary) **52** #13457 05C10

(*with* Ringel, Gerhard) The genus of the *n*-octahedron: regular cases. *J. G Theory* **2** (1978), *no.* 1, 69–75. (Seth R. Alpert) **58** #5315 05C10

Junggeburth, J. Multipliers for (C,κ)-bounded Fourier expansions in weighted loc convex spaces and approximation. *Rev. Un. Mat. Argentina* **27** (1974/75), *no* 127–146 (1976). (Walter Schempp) **54** #5715 42A18 (41A40)

(*with* Nessel, Rolf Joachim) Approximation by families of multipliers for (C,a)-bounded Fourier expansions in locally convex spaces. I. Order-preserving operators. Collection of articles dedicated to G. G. Lorentz on the occasion of sixty-fifth birthday, II. *J. Approximation Theory* **13** (1975), 167–177. (Walter Schem **50** #14023 41A65

(*with* Nessel, Rolf Joachim) Multipliers with respect to Abel-bounded spec measures in locally convex spaces. *Rev. Un. Mat. Argentina* **28** (1976/77), *no.* 1, 46– (Colin Bennett) **58** #6930 43A22 (47B15)

See also **Approximationstheorie, 52** #14743

Junghenn, Hugo D. Demicontinuity and hemicontinuity in Fréchet space. *Proc. A Math. Soc.* **38** (1973), 89–91. (J. Daneš) **46** #9813 47H05

Tensor products of spaces of almost periodic functions. *Duke Math. J.* **41** (19 661–666. (John F. Berglund) **52** #6331 43A60 (22A20)

Tensor products and almost periodicity. *Proc. Amer. Math. Soc.* **43** (1974), 99– (J. Gil de Lamadrid) **51** #1476 47D05 (46M05)

(*with* Taam, C. T.) Arcs defined by one-parameter semigroups of operators. *P Amer. Math. Soc.* **44** (1974), 113–120. (Ju. M. Vuvunikjan) **48** #9448 47D05

Almost periodic compactifications of transformation semigroups. *Pacific J. M* **57** (1975), *no.* 1, 207–216. (John F. Berglund) **51** #11461 54H15 (22A15)

Some general results on fixed points and invariant means. *Semigroup Forum* (1975/76), *no.* 2, 153–164. (L. N. Argabright) **52** #6320 43A07 (54H25)

(*with* Berglund, John F.; Milnes, Paul) Universal mapping properties of semigr compactifications. *Semigroup Forum* **15** (1977/78), *no.* 4, 375–386. (Jimmie D. Laws **58** #6047 22A20

Junginger, Werner ★Über die Lösung des dreidimensionalen Transportproblems. der Universität Stuttgart zur Erlangung der Würde eines Doktors der Naturwissenschaften genehmigte Abhandlung. *Universität Stuttgart, Stuttgart,* 1970. *pp.* (M. Vlach) **56** #10929 90C05

Zurückführung des Stundenplanproblems auf ein dreidimensionales Transportproblem. (English summary) *Z. Operations Res. Ser. A-B* **16** (1972), A11–A25. (D. Hochstädter) **48** #13233 90B35

Rundungsfehler in der linearen Optimierung. (English summary) *Numerische Methoden bei Optimierungsaufgaben, Band 2* (*Tagung, Math. Forschunginst., Oberwolfa* 1973), *pp.* 63–83. *Internat. Schriftenreihe Numer. Math., Band* 23, *Birkhäuser, Ba* 1974. (Ulrich Eckhardt) **56** #13583 65G05 (90C05, 65K05)

Numerische Erfahrungen bei der Lösung des dreidimensionalen Transportproble (English summary) *Computing* **17** (1976), *no.* 2, 129–145. (M. Rössler) **55** #994 90C05

See also **Oberwolfach-Tagung: Operations Research, 50** #9309

Jungnickel, Dieter Verallgemeinerte Klingenberg-Ebenen. (English summary) *Mitt. Ma Sem. Giessen Heft* 120 (1976), 1–10. (T. G. Ostrom) **53** #11485 50D35

Affine *TD*-Ebenen. *Mitt. Math. Sem. Giessen no.* 120 (1976) 39–60. (E. W. Elle **53** #14299 50D05

Hjelmslevebenen mit regulärer abelscher Kollineationsgruppe. *Beiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg,* 1976), *pp.* 157–165. *Lehrbücher Monographien aus dem Gebiete der Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäu Basel,* 1977. (Editors) **58** #18121 50D35 (05B25)

On some classes of finite Hjelmslev planes. *Proceedings of the Eighth Southeast Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Ba Rouge, La.,* 1977), *pp.* 423–432. *Congressus Numerantium, No. XIX, Utilitas Ma Winnipeg, Man.,* 1977. (B. Artmann) **58** #298 05B25

(*with* Hale, Mark P., Jr.) A generalization of Singer's theorem. *Proc. Amer. Ma Soc.* **71** (1978), *no.* 2, 280–284. (A. Cronheim) **58** #18115 50D35

Jungwirth, K. Electron eigen-oscillations and ballistic modes of a stable plasma. *Czechoslovak J. Phys.* **28B** (1978), *no.* 1, 59–67. (V. P. Milant'ev) **57** #8467 78.35

Junker, B. R. (*with* Klein, D. J.) Spin-free computation of matrix elements. I. Group-theoretical computation of Pauling numbers. *J. Chem. Phys.* **54** (1971), 4290–4296. (Philip H. Butler) **52** #4858 81.22

Junkers, Wilhelm Über die Fortsetzbarkeit regulärer Ordnungsfunktionen von affinen a projektive Ebenen. *Festband anläßlich des 65. Geburtstages von Ernst Peschl,* 147–166. *Gesellsch. Math. Datenverarbeitung Bonn, Ber. No.* 57, *Gesellsch. Math. Datenverarbeitung, Bonn,* 1972. (H. Lenz) **51** #11272 50D35

Über die regulären projektiven Fortsetzungen der regulären Ordnungsfunktion auf affinen Räumen. *Abh. Math. Sem. Univ. Hamburg* **37** (1972), 50–59. (S.

Priess-Crampe) **46** #8027 50D05

Über normale Inhaltsfunktionen auf affinen Ebenen. *Beiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg*, 1976), *pp.* 167–178. *Lehrbücher u. Monographien aus dem Gebiete der Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäuser, Basel*, 1977. (J. Böhm) **57** #13660 50A20 (50D05)

Junkins, D. Bruce (*with* Saleh, A. K. Md. Ehsanes; Scott, Christine) Exact first and second order moments of order statistics from the truncated exponential distribution. *Naval Res. Logist. Quart.* **22** (1975), 65–77. (Mir Ali) **52** #4522 62G30

Junkins, John L. (*with* Morton, Harold S., Jr.; Blanton, Jeffrey N.) Analytical solutions for Euler parameters. *Celestial Mech.* **10** (1974), 287–301. (C. Marchal) **50** #11899 70.34

Investigation of finite-element representations of the geopotential. *AIAA J.* **14** (1976), *no.* 6, 803–808. (Author's summary) **56** #17698 86.65

(*with* Kraige, L. G.) Perturbation formulations for satellite attitude dynamics. *Celestial Mech.* **13** (1976), *no.* 1, 39–64. (C. Marchal) **52** #16206 70.34

Junnila, Heikki J. K. (*with* Potoczny, Henry) Closure-preserving families and metacompactness. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 523–529. (R. Telgársky) **52** #9174 54D20

Neighbornets. *Pacific J. Math.* **76** (1978), *no.* 1, 83–108. (William Lindgren) **58** #2734 54E15

Junolaĭnen, A. I. On the question of the construction of a hypersurface from its mean curvature in Lobačevskiĭ space. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **541** (1972), 220–233. (A. V. Pogorelov) **47** #998 53C45 (53A35)

Junusmetov, R. Canonical frame of a curve in four-dimensional conformal space. (Russian) Geometričeskiĭ Sbornik. *Taškent. Gos. Ped. Inst. Učen. Zap.* **85** (1971), 73–82, 84. (I. Kolář) **48** #4932 53A30

Junusov, D. (*with* Abdullaev, D. A.) The decomposition of symmetric Boolean functions. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1975**, *no.* 2, 12–13. (Not reviewed) 94A20

Recognition of unessential variables in Boolean functions. (Russian) *Voprosy Kibernet.* (*Tashkent*) *No.* 98 (1977), 3–8, 101. (Author's summary) **58** #4670 94A20

Junusov, M. Solution of a certain optimal problem of the distribution of a product moving along a supply line. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **17** (1974), *no.* 2, 11–14. (Constantin Vârsan) **55** #11130 49B25 (90B99)

The solution of a certain optimal problem of Stefan type. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 2, 345–357, 539. (V. Komkov) **51** #8632 35K05 (49A20)

Existence of the solution of a certain integrodifferential problem. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **19** (1976), *no.* 7, 3–6. (Stefan Balint) **55** #1012 45K05

The variational approach to the solution of a Stefan type problem. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **19** (1976), *no.* 8, 8–10. (A. Borzymowski) **55** #3539 35K20

Optimal control problems associated to growth processes. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 4(66), 11–18. (Editors) **58** #20301 90A15 (90B99)

Optimal control problems connected with agrocenotic models. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **21** (1978), *no.* 4, 10–14. (Editors) **58** #23921 49C99 (92A05)

Junusov, R. (*with* Žuravlev, Ju. I.) A certain procedure for improving a taxonomy algorithm by means of recognition methods of ballot type. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1344–1347. (G. Stanke (Zbl **233** #68032)) **48** #7697 68A45

Juola, James F. *See* **Contemporary developments in mathematical psychology**, **50** #6554

Jupp, Alan H. (*with* Garfinkel, Boris; Williams, Carol A.) A recursive von Zeipel algorithm for the ideal resonance problem. *Astronom. J.* **76** (1971), 157–166. (F. Nahon) **46** #1280 85.34 (70.34)

A second-order solution of the ideal resonance problem by Lie series. *Celestial Mech.* **5** (1972), 8–26. (B. Garfinkel) **47** #2972 85.35

The perturbed ideal resonance problem. *Celestial Mech.* **7** (1973), 91–106. (B. Garfinkel) **48** #5601 85.35

On the global solution in the resonance problem of Poincaré. *Celestial Mech.* **7** (1973), 347–355. (B. Garfinkel) **49** #8597 85.35 (70.35)

On Broucke's velocity-related series expansions in the two-body problem. *Celestial Mech.* **12** (1975), *no.* 4, 513–518. (Q. K. Ghori) **53** #2090 70.34

See also **Proceedings: Oberwolfach Conference on Celestial Mechanics**, **47** #7979

Jupp, David L. B. Curve fitting by splines as an application of unconstrained optimization. *Optimization* (*Proc. Sem., Austral. Nat. Univ., Canberra*, 1971), *pp.* 49–59. *Univ. Queensland Press, St. Lucia*, 1972. (P. J. Laurent) **54** #9043 65D10 (41A15)

The "lethargy" theorem—a property of approximation by γ-polynomials. *J. Approximation Theory* **14** (1975), *no.* 3, 204–217. (A. Bacopoulos) **51** #13557 41A65

B-splines for smoothing and differentiating data sequences. *J. Internat. Assoc. Mathematical Geol.* **8** (1976), *no.* 3, 243–266. (Author's summary) **56** #16998 65D10

(*with* Holt, J. N.) Free-knot spline inversion of a Fredholm integral equation from astrophysics. *J. Inst. Math. Appl.* **21** (1978), *no.* 4, 429–443. (Robert Piessens) **58** #13821 65R05 (85.65)

Jupp, P. E. Links in manifolds. *Topology* **10** (1971), 219–225. (Roger Fenn) **45** #4428 57C45

Classification of certain 6-manifolds. *Proc. Cambridge Philos. Soc.* **73** (1973), 293–300. (Roger Fenn) **47** #2626 57D55 (57C25)

(*with* Mardia, K. V.) Density-preserving statistics and densities for sample means. *Ann. Probab.* **6** (1978), *no.* 4, 688–694. (C. G. Khatri) **58** #3195 62H10 (58C99)

Jura, Andrzej Coset enumeration in a finitely presented semigroup. *Canad. Math. Bull.* **21** (1978), *no.* 1, 37–46. (Mary Schaps) **58** #5994 20M05

Jurahmedov, G. Ja. On the uniqueness of the polynomial of best approximation in the space $M(Q)$. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 2(165), 92–96. (V. G. Verdiev) **56** #3525 (EA **55/56**) 41A50

Jurák, Věroslav Remark about a construction of some tournaments with points of certain projective planes. *Acta Univ. Carolinae—Math. et Phys.* **14** (1973), *no.* 2, 17–21, (1974). (E. Fried) **49** #7171 05C20

Zur Konstruktion von einigen Turnieren mit Punkten einiger transitiver endlicher projektiver Ebenen. *Grundlagen der Geometrie und algebraische Methoden* (*Internat. Kolloq., Pädagog. Hochsch. "Karl Liebknecht", Potsdam*, 1973), *pp.* 125–129. *Potsdamer Forschungen, Reihe B, Heft* 3, *Pädagog. Hochsch. "Karl Liebknech", Potsdam*, 1974. (R. H. Dye) **51** #208 05B25

On a finite projective plane the points of which are nodes of a tournament. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 323–326. *Academia, Prague*, 1975. (J. W. Moon) **52** #5448 05B25

Jurašev, V. V. Linear mappings that preserve the analytic nature of complex planes. (Russian) *Moskov. Inst. Èlektron. Mašinostroenija—Trudy MIÈM No.* 15 *Funkcional. Anal. i Priložen.* (1971), 151–164. (Not reviewed) 32H99 (32C25)

Jurca, Maria On the relation between the type and the Q-class of a word. (Romanian. English summary) *Stud. Cerc. Mat.* **22** (1970), 1033–1039. (D. Vaida) **49** #4321 68A30

Jurčenko, A. M. Summability of quasi-orthogonal sequences by Cesàro methods. (Russian. English summary) *Anal. Math.* **1** (1975), *no.* 3, 231–247. (S. Baron) **52** #14822 42A52

Jurčenko, O. S. (*with* Berezovs′kiĭ, A. A.; Žariĭ, Ju. I.) On the construction of an approximate solution to the problem of deflections of a sloping spherical shell. (Russian) *Trudy Sem. Mat. Fiz. Nelineĭn. Koleban.* **1** (1968), *no.* 2, 21–27. (A. Buraczewski) **45** #2959 73.34

Jurčenko, V. Ī. Isomorphic irreducible representations of finite groups by semi-linear transformations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 639–640, 671. (Author's summary) **50** #13239 20C99

On a certain class of finite groups. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A.* **1972**, 811–813, 861. (M. Herzog) **51** #5750 20D10

Infinite periodic M-groups. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 282–283. (R. R. Struik) **47** #1965 20F50

Infinite M-groups. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 853–855, 864. (D. I. Zaĭcev) **48** #11333 20F15

(*with* Rokitjans′ka, V. V.) Conditions for the finiteness of certain linear groups. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 6, 838–840, 863. (L. Dornhoff) **53** #8273 20G20

Jurchescu, M. (*with* Flondor, Paul) Grauert's coherence theorem for holomorphic spaces. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1199–1211. (Gerd Fischer) **50** #7575 32C35

Faisceaux sur un espace localement compact. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 329–352. (N. Popa) **49** #10913 32C35 (46M05)

Jurčuk, N. I. (*with* Briš, N. I.) Certain new boundary value problems for a certain kind of partial differential equations. III. (Russian) *Differencial′nye Uravnenija* **5** (1969), 1283–1295. (H. Marcinkowska) **46** #5859 35Q99

(*with* Erugin, N. P.; Bogdanov, Ju. S.; Gusak, A. A.; Ždanovič, V. F.) Nikolaĭ Ivanovič Briš. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1970**, *no.* 1, 97. (Editors) **49** #7084 01A70

(*with* Haritonenko, P. I.) The Cauchy problem for abstract Love equations. (Russian) *Differencial′nye Uravnenija* **8** (1972), 1256–1266. (H. Triebel) **46** #3939 34G05 (35G10)

(*with* Korzjuk, V. I.) The problem of joining certain linear equations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 4, 35–41, 139–140. (A. Szép) **47** #3787 34G05 (35R20, 47D05)

(*with* Česalin, V. I.) A problem with nonlocal conditions for the abstract Love equations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 6, 30–35. (A. Szép) **50** #713 34G05 (35G05)

Boundary value problems for equations that contain in their principal part operators of the form $d^{2m+1}/dt^{2m+1}+A$. (Russian) *Differencial′nye Uravnenija* **10** (1974), 759–762, 768. (P. Talpalaru) **49** #9361 34G05

Boundary value problems for equations with operators of the form $d^{2m}/dt^{2m}+A$. (Russian) *Differencial′nye Uravnenija* **10** (1974), 950–952, 960. (P. Talpalaru) **49** #9362 34G05

(*with* Česalin, V. I.) The conjugation problem for abstract parabolic and hyperbolic equations with nonlocal conditions in t. (Russian) *Dokl. Akad. Nauk BSSR* **18** (1974), 197–200, 282. (A. Szép) **49** #7545 34G05

(*with* Radyno, Ja. V.) The Cauchy problem for certain abstract hyperbolic equations of evenorder. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 2, 331–342, 381. (J. Kisyński) **53** #11184 34G05 (35L99)

A priori estimates of the solutions of boundary value problems for certain operator-differential equations. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 4, 729–739, 774. (J. Kisyński) **54** #766 34G05 (35R20)

Boundary value problems for differential equations with operator coefficients that depend on a parameter. I. A priori estimates. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 9, 1645–1661, 1726. (M. A. Atahodžaev) **55** #10794 34G05 (35R20)

(*with* Lomovcev, F. E.) The Cauchy problem for second order hyperbolic operator differential equations. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 12, 2242–2250, 2301. (M. A. Atahodžaev) **55** #10796 34G05

Solvability of boundary value problems for certain operator-differential equations. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 4, 626–636, 771. (Author's summary) **57** #13051 34G05

Boundary value problems for differential equations with operator coefficients that depend on a parameter. II. Solvability and properties of solutions. (Russian) *Differencial′nye Uravnenija* **14** (1978), *no.* 5, 859–870, 957. (M. A. Atahodžaev) **58** #11748 34G05

Jurcun′, A. E. (*with* Moroz, V. M.) The possibility of using a digital computer for calculating the number of graphs. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 5, 100–101. (Editors) **45** #6700 05C30 (68A15)

Jurdjevic, Velimir (*with* Sussmann, Héctor J.) Controllability of nonlinear systems. *J. Differential Equations* **12** (1972), 95–116. (Henry Hermes) **49** #3646 49E15 (58E99)

(*with* Sussmann, Héctor J.) Control systems on Lie groups. *J. Differential Equations* **12** (1972), 313–329. (Henry Hermes) **48** #9519 49E15 (43A80)

Certain controllability properties of analytic control systems. *SIAM J. Control* **10** (1972), 354–360. (David L. Elliot) **46** #4982 93B05

Attainable sets and controllability: a geometric approach. *Optimal control theory and its applications* (*Proc. 14th Biennial Sem. Canad. Math. Congr., Univ. Western

Ontario, London, Ont., 1973), *Part II*, *pp*. 219–251. *Lecture Notes in Econom. and Math. Systems*, *Vol*. 106, *Springer*, *Berlin*, 1974. (From the author's introduction) **57** #11855 93B05 (57D25, 93C10)

On the structure of irreducible state representations of a causal system. *Math. Systems Theory* **8** (1974), *no*. 1, 77–89. (S. Prusty) **52** #5100 93A10

(*with* Quinn, J. P.) Controllability and stability. *J. Differential Equations* **28** (1978), *no*. 3, 381–389. (David L. Elliott) **58** #13181 58F10 (57D25, 93B05)

See also **Recent developments in control theory**, **48** #8019

Jurečková, Jana Nonparametric estimate of regression coefficients. *Ann. Math. Statist*. **42** (1971), 1328–1338. (J. H. Stapleton) **45** #4553 62G05

Asymptotic independence of rank test statistic for testing symmetry on regression. *Sankhyā Ser. A* **33** (1971), 1–18. (J. Hájek) **47** #9767 62G10

Almost sure uniform asymptotic linearity of rank statistics in regression parameter. *Transactions of the Sixth Prague Conference on Information Theory*, *Statistical Decision Functions*, *Random Processes* (*Tech. Univ*., *Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp*. 305–313. *Academia*, *Prague*, 1973. (H. L. Koul) **50** #6041 62G10 (62E20)

Central limit theorem for Wilcoxon rank statistics process. *Ann. Statist*. **1** (1973), 1046–1060. (J. Sethuraman) **51** #4498 62E20 (62G10)

Asymptotic behaviour of rank and signed-rank statistics from the point of view of applications. *Proceedings of the Prague Symposium on Asymptotic Statistics* (*Charles Univ*., *Prague*, 1973), *Vol. I*, *pp*. 139–156. *Charles Univ*., *Prague*, 1974. (Ju. V. Borovskih) **52** #12198 62G10 (62E20)

An asymptotic theorem of nonparametrics. *Progress in statistics* (*European Meeting Statisticians*, *Budapest*, 1972), *Vol. I*, *pp*. 373–380. *Colloq. Math. Soc. János Bolyai*, *Vol*. 9, *North-Holland*, *Amsterdam*, 1974. (Hira L. Koul) **51** #4534 62G10 (62E20)

(*with* Puri, Madan Lal) Order of normal approximation for rank test statistics distribution. *Ann. Probability* **3** (1975), *no*. 3, 526–533. (James N. Adichie) **51** #14350 62E20

Asymptotic comparison of maximum likelihood and a rank estimate in simple linear regression model. *Comment. Math. Univ. Carolinae* **16** (1975), 87–97. (Hira L. Koul) **51** #4499 62E20

Nonparametric estimation and testing linear hypotheses in the linear regression model. (German and French summaries) Vorträge auf der Ersten Sommerschule über Probleme der Modellwahl und Parameterschätzung in der Regressions-Analyse (Zinnowitz, 1974). *Math. Operationsforsch. Statist*. **6** (1975), *no*. 2, 269–283. (James N. Adichie) **53** #9494 62G05 (62J05, 62G10)

Asymptotic relations of M-estimates and R-estimates in linear regression model. *Ann. Statist*. **5** (1977), *no*. 3, 464–472. (Rudolph J. Beran) **55** #6670 62G05 (62G35)

Locally optimal estimates of location. *Comment. Math. Univ. Carolinae* **18** (1977), *no*. 3, 599–610. (Rudolph J. Beran) **58** #3177 62G05

Jurek, Zbigniew A limit theorem for truncated random variables. *Probability—Winter School* (*Proc. Fourth Winter School*, *Karpacz*, 1975), *pp*. 69–76. *Lecture Notes in Math*., *Vol*. 472, *Springer*, *Berlin*, 1975. (V. M. Kruglov) **52** #15590 60B10

A limit theorem for truncated random variables. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **23** (1975), *no*. 8, 911–916. (B. L. S. Prakasa Rao) **52** #6813 60B10

Truncated semi-stable probability distributions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **25** (1977), *no*. 1, 73–78. (V. M. Kruglov) **55** #9192 60B05

(*with* Urbanik, Kazimierz) Remarks on stable measures on Banach spaces. *Colloq. Math*. **38** (1977/78), *no*. 2, 269–276. (Albert Tortrat) **58** #24439 60B05

Jurenka, Henry (*with* Churchill, Richard C.; Thomas, Edward S., Jr.) A note on isoenergetic stability. *Internat. J. Non-Linear Mech*. **12** (1977), *no*. 1, 37–43. (D. Schmidt) **56** #7387 70.34

Jurenkov, K. E. A stochastic exchange model for two-level memory. (Russian) *Probabilistic methods and cybernetics*, *Vol*. 12–13, *pp*. 91–102. *Kazan. Univ*., *Kazan*, 1976. (M. Men′šikov (RŽMat **1978** #12 V618)) **58** #32123 68A35

Jur′ev, S. P. (*with* Babenko, K. I.) A problem of Gauss. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No*. 63 (1977), 69 *pp*. (Authors' summary) **58** #19017 65B05 (10A30)

Jur′ev, V. A. Certain questions on the line geometry of manifolds of hyperbolic lines. (Russian) *Proceedings of the Seminar of the Department of Geometry*, *No. VII* (*Russian*), *pp*. 176–184. *Izdat. Kazan. Univ*., *Kazan*, 1974. (K. Svoboda) **53** #3922 53A25

Jurevič, E. I. *See* **Control in space**, **48** #8041

Jurewicz, A. *See* **Concepts in hadron physics**, **48** #1596

Jurgaitis, Donatas (*with* Kvedaras, Bronius) A solution of the Abel equation by the method of quasilinearization. (Russian. Lithuanian and English summaries) *Differencial′nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp*. 17 (1977), 33–41, 99. (E. S. Čičkin) **58** #8272 65L05

Jurgelas, V. V. (*with* Kibenko, A. V.) Stepanov almost periodic functions of several variables with values in a Banach space. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp*. 6 (1972), 43–51. (B. Levitan (RŽMat **1973** #4 B817)) **56** #12764 42A68

(*with* Birjuk, N. D.) A study of the stability of a linear homogeneous system with variable parameters. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak*. **1972**, *no*. 7, 14–16. (P. Talpalaru) **55** #788 34D20

(*with* Perov, A. I.) The convergence of a certain iteration process. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **17** (1977), *no*. 4, 859–870, 1091. (B. Jankó) **58** #8241 65J05 (47H15)

Jürgensen, Helmut (*with* Bröck, R.) On the computation of union-extensions of finite semigroups. (Russian summary) *Acta Cybernet*. **2**, 109–113 (1973). (L. A. M. Verbeek) **48** #6302 20M35

(*with* Wick, P.) Bestimmung der Unterhalbgruppenverbände für zwei Klassen endlicher Halbgruppen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no*. 4, 337–351. (R. J. Plemmons) **53** #5778 20M10

Fastideale von Halbgruppen. *Semigroup Forum* **9** (1974/75), *no*. 3, 261–270. (G. Pollák) **52** #612 20M10

Einige Eigenschaften der Monoide von Akzeptoren und Ereignissen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **11** (1975), *no*. 9, 545–556. (P. Turakainen) **55** #5329 94A35

Vereinigungserweiterungen durch vollständig 0-einfache Halbgruppen. *Semigr Forum* **11** (1975/76), *no*. 2, 185–188. (B. M. Schein (Šaĭn)) **52** #8300 20M10

Probabilistic L systems. *Automata*, *languages*, *development*, *pp*. 211–225. *North-Holland*, *Amsterdam*, 1976. (A. Paz) **57** #4646 68A30 (94A35)

Zur Charakterisierung von Vereinigungserweiterungen von Halbgruppen durch partielle Morphismen. *Acta Sci. Math*. (*Szeged*) **38** (1976), *no*. 1-2, 73–78. (E. Behrens) **53** #13448 20M10

Fastideale in vollständig 0-einfachen Halbgruppen. (Loose English summary) *Math. Slovaca* **26** (1976), *no*. 2, 73–76. (Donald W. Miller) **56** #8730 20M10

(*with* Duske, Jürgen) ★Codierungstheorie. Reihe Informatik, Band 13. *Bibliographisches Institut*, *Mannheim-Vienna-Zurich*, 1977. 235 *pp*. *ISBN* 3-411-0152 (Editors) **58** #26518 94A10

(*with* Wick, P.) Die Halbgruppen der Ordnungen <7. *Semigroup Forum* **14** (19 *no*. 1, 69–79. (Eckehart Hotzel) **56** #5764 20M99

Computers in semigroups. *Semigroup Forum* **15** (1977/78), *no*. 1, 1–20. (R. Kruse) **57** #3291 20M99 (68A10)

Inf-Halbverbände als syntaktische Halbgruppen. *Acta Math. Acad. Sci. Hungar*. (1978), *no*. 1-2, 37–41. (Heinrich Seidel) **58** #8525 68A30 (20M35)

See also **Fachtagung: Gesellschaft für Informatik, Programmiersprachen**, **48** #10

Jurgenson, D. V. *See* **Jorgenson, D.**

Juricek, L. *See also* **Bonnemay-Juricek, L.**

Juricek, L. (*with* Blaquière, Augustin; Wiese, K. E.) Geometry of Pareto equilibria N-person differential games. *Topics in differential games*, *pp*. 271–310. *North-Holla Amsterdam*, 1973. (Y. C. Ho) **50** #12293 90D25

Games with coalitions. *Topics in differential games*, *pp*. 311–344. *North-Holla Amsterdam*, 1973. (Y. C. Ho) **50** #12294 90D25

Juričić, D. (*with* Vukobratović, M.) Sensitivity of nonlinear systems. *Avtomat. i Telem* **1970**, *no*. 9, 12–20 (*Russian. English summary*); *translated as Automat. Remote Cont* **1970**, *no*. 9, 1381–1388. (Jochen Werner) **46** #8723 93D99

Jurie, Pierre-François Axiomatisation de certaines classes d'algèbres polyadiques représentables, de degré fini. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1029–A10 (I. Petrescu) **46** #56 02J15

Une extension de la théorie de Galois abstraite finitaire. *C. R. Acad. Sci. Paris S A-B* **276** (1973), A81–A84. (A. Preller) **47** #6481 02J99 (02H15, 16A74)

Algèbres n-adiques rationnelles représentables. *C. R. Acad. Sci. Paris Sér. A-B* **2** (1973), A657–A660. (E. W. Chapin, Jr.) **47** #4793 02J15 (02J10)

Algèbres polyadiques réduites, de degré fini. *C. R. Acad. Sci. Paris Sér. A-B* **2** (1973), A707–A709. (D. Monk) **52** #92 02J15

Juriev, M. S. (*with* Dmitriev, Ju. Ju.) Variational principle for the correction of the thi order energy in perturbation theory. *Chem. Phys. Lett*. **4** (1969/70), 43–44. (A. Nikodémusz) **49** #1992a 81.49

(*with* Dmitriev, Ju. Ju.) Variational upper and lower bounds for the correction the second order energy in $1/Z$ expansions for two-electron atoms. *Chem. Phys. Lett* (1969/70), 45–47. (A. Nikodémusz) **49** #1992b 81.49

Jurik, I. I. The tensor product of irreducible unitary representations of the inhomogeneo de Sitter group. (Russian) *Ukrain. Mat. Ž*. **27** (1975), *no*. 4, 564–568, 576. (A. Coleman) **52** #8342 22E70

Reduction of unitary representations of the Lie algebra of the inhomogeneous Sitter group. (Russian) *Ukrain. Mat. Ž*. **27** (1975), *no*. 6, 851–855, 864. (L. Méde **55** #576 22E70 (81.22)

(*with* Nikitin, A. G.; Fuščič, V. I.) Reduction of irreducible unitary representatio of generalized Poincaré groups by their subgroups. (Russian. English summary) *Teor Mat. Fiz*. **26** (1976), *no*. 2, 206–220. (Ju. M. Širokov) **56** #14228 81.22 (22E70)

(*with* Gavrilik, O. M.) ★Представления группы P(1, n) в SO(1, n)-лбазисе. (Russian) [Representation of the group P(1, n) in SO(1, n)-base] Preprint IM-77- *Akad. Nauk Ukrain. SSR Inst. Mat*., *Kiev*, 1977. 35 *pp*. (Wayne J. Holman, II **58** #6087 22E70

Jürimäe, E. Topological properties of co-zero summability methods. II. (Russian. Estonia and English summaries) *Tartu Riikl. Ül. Toimetised No*. 253 (1970), 145–147. (Peyerimhoff) **45** #7343 40C05

Sets of perfectness for methods that preserve convergence. (Russian. Estonian an English summaries) *Tartu Riikl. Ül. Toimetised No*. 277 (1971), 115–124. (Hubert Tiet **51** #6218 40H05

(*with* Baron, S. A.; Reĭmers, È. G.) Gunnar Fromholdovič Kangro (on the occasio of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **30** (1975), *no*. 1(181), 273–278. (*plate*) (Editors) **52** #7789 01A70

(*with* Baron, S. A.; Reĭmers, È. G.) In memoriam Gunnar Fromhol′dovič Kangr (Russian) *Uspehi Mat. Nauk* **32** (1977), *no*. 1 (193), 151–152. (Editors) **55** #7686 01A70

Jurinskiĭ, V. V. Estimates for the characteristic functions of certain degenerate multidimensional distributions. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **17** (1972), 99–110. (I. I. Kotlarski) **45** #6112 62F10

Letter to the editors. (Russian) *Teor. Verojatnost. i Primenen*. **17** (1972), 200. (Volkmann) **45** #7855 62E99

Summing variances in L_p. *Mathematics and statistics* (*in honour of Harald Bergströn on the occasion of his 65th birthday*), *pp*. 101–121. *Dept. of Math*., *Chalmers Inst. Tech Göteborg*, 1973. (D. Dacunha-Castelle) **52** #12026 60B05 (60F10)

The sample continuity of random fields. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **18** (1973), 633–639. (M. I. Jadrenko) **48** #9830 60G17

The strong law of large numbers for homogeneous random fields. (Russian) *Mat Zametki* **16** (1974), 141–149. (Harry I. Cohn) **52** #6844 60F15 (60G10)

Exponential estimates for large deviations. (Russian. English summary) *Teor Verojatnost. i Primenen*. **19** (1974), 152–154. (W. Hoeffding) **48** #12617 60B0 (60F10)

Exponential bounds for smooth fields. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **19** (1974), 230–235. (M. R. Leadbetter) **48** #12641 60G17

Infinitely divisible distributions. (Russian. English summary) *Teor. Verojatnost. Primenen*. **19** (1974), 308–318. (V. V. Buldigin) **49** #9891 (E **55** #11321) 60B05

A smoothing inequality for estimates of the Lévy-Prohorov distance. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **20** (1975), 3–12. (J. Štěpán) **51** #6923 60F05

Exponential inequalities for sums of random vectors. *J. Multivariate Anal.* **6** (1976), *no.* 4, 473–499. (Robert L. Taylor) **55** #1422 60F10 (60G50)

The error of Gaussian approximation of convolutions. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 2, 242–253. (Author's summary) **58** #24476 60F05

Letter to the editors: "Infinitely divisible distributions" (Teor. Verojatnost. i Primenen. **19** (1974), 308–318). (Russian) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 2, 442. (Editors) **55** #11321 60B05

On the approximation of convolutions by normal laws. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 4, 675–688. (Author's summary) **58** #24477 60F05

uritz, June M. The partial multiple correlation coefficient and its applications in regression analysis. *Math. Colloq. Univ. Cape Town* **6** (1970/71), 37–52. (Joaquin Diaz Saiz) **55** #1645 62J05

(*with* Troskie, C. G.) Noncentral matrix *T* distributions. *South African Statist. J.* **10** (1976), *no.* 1, 1–7. (Akio Kudô) **57** #17944 62H10

urkat, W. B. (*with* Graver, Jack E.) Algebra structures for general designs. *J. Algebra* **23** (1972), 574–589. (W. M. Kantor) **46** #8872 05B30

(*with* Peyerimhoff, A.) On power series with negative zeros. Collection of articles dedicated to Gen-ichirô Sunouchi on his sixtieth birthday. *Tôhoku Math. J.* (2) **24** (1972), 207–221. (Horst Tietz) **48** #4279 30A08 (34A20)

On the Martens conjecture and related general Ω-theorems. *Analytic number theory* (*Proc. Sympos. Pure Math., Vol. XXIV, St. Louis Univ., St. Louis, Mo.*, 1972), *pp.* 147–158. *Amer. Math. Soc., Providence, R.I.*, 1973. (Henri Joris) **50** #4514 (EA **50**) 10H25 (10K35)

(*with* Lutz, Donald A.; Peyerimhoff, A.) Effective solutions for meromorphic second order differential equations. *Symposium on Ordinary Differential Equations* (*Univ. Minnesota, Minneapolis, Minn.*, 1972), *pp.* 100–107. *Lecture Notes in Math., Vol.* 312, *Springer, Berlin*, 1973. (J. Nikolaus) **55** #10760 34A20

(*with* Graver, Jack E.) The module structure of integral designs. *J. Combinatorial Theory Ser. A* **15** (1973), 75–90. (M. Kimberley) **48** #8270 05B30

(*with* Kratz, Werner; Peyerimhoff, A.) The Tauberian theorems which interrelate different Riesz means. Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, III. *J. Approximation Theory* **13** (1975), 235–266. (K. Chandrasekhara Rao) **52** #8718 40E05

(*with* Lutz, Donald A.; Peyerimhoff, A.) Invariants and canonical forms for meromorphic second order differential equations. *New developments in differential equations* (*Proc. 2nd Scheveningen Conf., Scheveningen*, 1975), *pp.* 181–187. *North-Holland Math. Studies, Vol.* 21, *North-Holland, Amsterdam*, 1976. (S. G. Dee) **56** #12362 34A20

(*with* Lutz, Donald A.; Peyerimhoff, A.) Birkhoff invariants and effective calculations for meromorphic linear differential equations. II. *Houston J. Math.* **2** (1976), *no.* 2, 207–238. (C. Carton-Lebrun) **53** #3388b 34A20

(*with* Lutz, Donald A.; Peyerimhoff, A.) Birkhoff invariants and effective calcualtions for meromorphic linear differential equations. *J. Math. Anal. Appl.* **53** (1976), *no.* 2, 438–470. (C. Carton-Lebrun) **53** #3388a 34A20

(*with* Peyerimhoff, A.) A constructive approach to Kronecker approximations and its application to the Mertens conjecture. *J. Reine Angew. Math.* **286/287** (1976), 322–340. (E. Grosswald) **55** #2799 10H05 (10A20, 10F10, 42A84)

(*with* Fiedler, Heinz; Körner, Otto) Asymptotic expansions of finite theta series. *Acta Arith.* **32** (1977), *no.* 2, 129–146. (From the introduction) **58** #27832 10G05

(*with* Kratz, Werner; Peyerimhoff, A.) Explicit representations of Dirichlet approximations. *Math. Ann.* **228** (1977), *no.* 1, 11–25. (Thomas W. Cusick) **57** #5913 10F20

(*with* Fiedler, Heinz; Körner, Otto) On Salem's problem for Fourier and Dirichlet series. *Period. Math. Hungar.* **8** (1977), *no.* 3-4, 229–242. (E. Grosswald) **56** #16238 42A16 (10K35, 42A32)

urkevič, O. M. (*with* Kovalenko, Ī. M.) Optimal servicing of demands in systems with limited waiting time. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 1, 26–35 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 1, 21–29. (A. Descloux) **46** #4919 90B05

Multilinear systems with random constraints on waiting time. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 4, 39–46 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 4, 624–630 (1972). (Vijendra P. Singh) **46** #10094 60K25

(*with* Kovalenko, Ī. M.) A mass service system with simultaneously arriving "impatient customers". *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 1, 52–56 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 1, 43–47. (P. R. Milch) **49** #6407 60K25

Servicing of simultaneously appearing "impatient clients" in systems with failures of devices. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 3, 106–112 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 3, 459–464. (Z. Khalil) **54** #12193 90B35

On multistage service for impatient customers. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 117–122 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1045–1049. (Author's summary) **55** #12013 90B15 (60K25)

Many-line queueing systems with arbitrary distribution of the length of servicing of impatient clients. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 6, 80–89 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 6, 954–963. (D. J. Daley) **51** #11706 60K25

urkevič, V. È. (*with* Rolov, B. N.) ★**Применения квантовой статистики.** (Russian) [Applications of quantum statistics] *Latv. Gos. Univ., Riga*, 1975. 122 *pp.* (S. V. Temko) **57** #4928 82.00

urkevich, Igor (*with* Heard, William B.) On the reduction of certain integrals occurring in Kopal's Fourier theory of eclipsing binaries. *Astrophys. and Space Sci.* **52** (1977), *no.* 1, 237–238. (Editors) **56** #10732 85.42

urkiewicz, Anna *See* **Legras, Jean, 55** #4590

urkiewicz, Jerzy Morphisms and automorphisms functors of affine schemes. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 799–803. (L. Bădescu) **48** #3959 14A25

An example of algebraic torus action which determines the nonfiltrable decomposition. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 11, 1089–1092. (D. Gallarati) **57** #16324 14L99

(*with* Wosiek, J.) Padé approximants on a lattice. *Nuclear Phys. B* **135** (1978), *no.* 3, 416–428. (Authors' summary) **58** #14599 81.41

Jurkiewicz, Lidia (*with* Kąkol, Jerzy) Some remarks on Wiweger topology and generalization of inductive limit topology. *Funct. Approximatio Comment. Math.* **5** (1977), 179–182. (D. J. H. Garling) **57** #13435 46A15 (46M10)

Jurkin, G. I. The plane variation of A. S. Kronrod and the Tonelli variation of a function $Z=\omega(x,y)$ of two variables. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **67** (1972), 29–31. (D. Preiss) **47** #3615 26A69 (26A45)

The surface measure of sets. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **75** (1974), 553–555. (W. F. Pfeffer) **50** #4901 28A75

Jurkina, M. I. The contribution of Euler and Gauss to the solution of the height problem. (Russian) *Istor.-Mat. Issled. Vyp.* 22 (1977), 225–228, 303. (E. M. Bruins) **58** #21175 01A50 (01A55)

Jurko, V. A. The generating elements of operators of the form $Kf=\int_0^x f(t)K(x-t)\,dt$. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 3 (1973), 79–102, 171. (Stefan Balint) **55** #3878 47G05

An inverse problem for second order ordinary linear differential operators on a finite interval with nonsplitting boundary conditions. (Russian) *Studies in differential equations and the theory of functions* (*Russian*), *pp.* 84–103, 115. *Saratov. Univ., Saratov*, 1974. (Author's summary) **58** #28808 34B25

The reconstruction of higher order differential operators from their system of spectra. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 5 (1975), *part* 1, 26–38, 148. (Author's summary) **57** #12987 34B25 (47E05)

An inverse problem for second order differential operators with regular boundary conditions. (Russian) *Mat. Zametki* **18** (1975), *no.* 4, 569–576. (Leo F. Boron) **52** #14450 34B25

The inverse problem for differential equations of even order. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 2, 55–66, 168. (M. M. Skriganov) **57** #6600 34B25

Jurksztowicz, Z. (*with* Kopeč, J.) On orders of growth of the entire functions represented by the Dirichlet series. *Comment. Math. Prace Mat.* **17** (1973), 97–103. (Editors) **54** #2933 30A16

Jurov, P. G. The inhomogeneous Riemann boundary value problem with infinite index of logarithmic order $\alpha \geqslant 1$. (Russian) *Proceedings of a Conference on Boundary Value Problems* (*Kazan*, 1969) (*Russian*), *pp.* 279–284. *Izdat. Kazan. Univ., Kazan*, 1970. (È. Zverovič and G. Litvinčuk (RŽMat **1971** #2 B474)) **50** #10284 30A88

Asymptotic estimates of entire functions that are given by canonical products. (Russian) *Mat. Zametki* **10** (1971), 641–648. (J. Gregor) **45** #552 30A64

An improper integral of Cauchy type. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1975.** *no.* 4, 108–109, 120. (A. D. Mednyh) **56** #15945 30A86

Jurovskiĭ, B. Ju. (*with* Dem'janovskiĭ, A. P.; Haritonenko, A. A.) A method for the optimization with respect to a vector criterion of the memory hierarchy in a computer system. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1978**, *no.* 1, 71–74, 95. (Authors' summary) **58** #19455 68A99 (90C10)

Jurovskiĭ, V. K. (*with* Vaĭnšteĭn, I. I.) A conjugacy problem for vortex flows of an ideal fuid. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1976**, *no.* 5, 98–100, 185. (E. Zeidler) **56** #14078 76.35

Juršanskiĭ, Z. M. Choice of optimum sequence for the multiplication of matrices. *Izv. Vysš. Učebn. Zaved. Geod. i Aèrofot.* **1970**, *no.* 6, 3–5 (*Russian*); *translated as Geodes. and Aerophot.* **1970**, *no.* 6, 339–340 (1972). **50** #1488 65F30

Jurut', I. E. An asymptotic formula for the number of representations of integers that are bounded by a number of random summands. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 2, 5–14. (J. Kubilius) **47** #1763 10J20

The derivation of an asymptotic formula for the number of representations of natural numbers by a sum of two prime numbers and a random integer. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 4, 13–20, 134. (F. Schweiger) **58** #21988 10J15 (10G05, 10H25)

Jury, Eliahu I. (*with* Lee, Banjamin W.) A stability theory for multinonlinear control systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 53, *Paper* 28A, 11 *pp. Inst. Mech. Engrs., London*, 1967. (Authors' summary) **51** #9912 93D99

(*with* Cypkin, Ja. Z.) Theory of discrete automatic systems. (Review) *Avtomat. i Telemeh.* **1970**, *no.* 6, 57–81 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 6, 915–936. (E. Ar) **46** #3133 93A10 (93C55)

Stability, root clustering and inners. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and non-linear systems; Identification, differential games, discrete and stochastic systems, Paper No.* 35.2, 7 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 (1972). (Author's summary) **57** #18998 93D10

(*with* Cypkin, Ja. Z.) On the theory of discrete systems. (French, German and Russian summaries) *Automatica—J. IFAC* **7** (1971), 89-107. (Bojan Popović) **48** #5675 93A10

(*with* Kan, Edwin P. F.) On Popov criteria for ΣPFM systems. *Internat. J. Control* (1) **13** (1971), 1121–1129. (E. O. Roxin) **51** #2713 (E **55** #2273) 93D10

(*with* Tschauner, J.) On the inners formulation of stability condition within the shifted unit circle. (German summary) *Regelungstech. Prozeß-Datenverarbeit.* **19** (1971), *no.* 7, 299–300. (R. Liu) **47** #10107 93D10

(*with* Agniel, R. G.) Almost sure boundedness of randomly sampled systems. *SIAM J. Control* **9** (1971), 372–384. (Edward J. Davison) **46** #3173 93E15

(*with* Ahn, S. M.) Interchangeability of "inners" and "minors". *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **93** (1971), 257–260. (C. G. Cullen) **45** #1636 93D05

(*with* Anderson, B. D. O.) Some remarks on simplified stability criteria for continuous linear systems. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 3, 371–372. (A. S. C. Sinha) **55** #7533 93D99

(*with* Kan, Edwin P. F.) Errata: "On Popov criteria for ΣPFM systems" (Internat. J. Control (1) **13** (1971), 1121–1129). *Internat. J. Control* (1) **15** (1972), 1197–1198. (E.

O. Roxin) **55** #2273 93D10

(*with* Ahn, S. M.) Symmetric and innerwise matrices for the root-clustering and root-distribution of a polynomial. *J. Franklin Inst.* **293** (1972), 433–450. (B. Levinger) **54** #2932 30A08

(*with* Anderson, B. D. O.) Stability test for two-dimensional recursive filters. *IEEE Trans. Audio Electroacoust.* **AU-21** (1973), *no.* 4, 366–372. (R. Liu) **52** #16787 (E **55** #2281) 93D99

(*with* Anderson, B. D. O.) A simplified Schur-Cohn test. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 2, 157–163. (Authors' summary) **56** #4991 93D99

(*with* Gutman, S.) The inner formulation for the total square integral (SUM). *Proc. IEEE* **61** (1973), 395–397. (Seihaku Higuchi) **52** #7668 93E10 (93D99)

★Inners and stability of dynamic systems. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1974. xii + 308 *pp.* (J. Casti) **51** #2719 93D99

(*with* Anderson, B. D. O.; Chaparro, F. L. C.) Relations between real and complex polynomials for stability and aperiodicity conditions. *Proceedings of the* 1974 *IEEE Conference on Decision and Control including* 13*th Symposium on Adaptive Processes* (*Phoenix, Ariz.*, 1974), *pp.* 245–247. *Inst. Electrical Electron. Engrs., New York*, 1974. (Authors' summary) **56** #18015 93D10

(*with* Bose, Nirmal K.) Positivity and stability test for multidimensional filters (discrete-continuous). *IEEE Trans. Acoust. Speech Signal Processing* **ASSP-22** (1974), *no.* 3, 174–180. (R. Liu) **55** #2280 93D99

(*with* Anderson, B. D. O.; Bose, Nirmal K.) A simple test for zeros of a complex polynomial in a sector. *IEEE Trans. Automatic Control* **AC-19** (1974), 437–438. (D. M. Young, Jr.) **54** #9071 65H05

(*with* Chan, Oliver W. C.) Roundoff error in multidimensional generalized discrete transforms. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 100–108. (Roger Y. Goulet) **54** #1577 65G05 (94A05)

(*with* Anderson, B. D. O.) On the reduced Hermite and reduced Schur-Cohn matrix relationships. *Internat. J. Control* **19** (1974), 877–890. (Ljubomir Lilov) **49** #7243 12D10 (93D99)

(*with* Ahn, S. M.) Remarks on the root-clustering of a polynomial in a certain region in the complex plane. *Quart. Appl. Math.* **32** (1974/75), 203–205. (Marvin Marcus) **55** #5598 12D10 (93B30)

(*with* Anderson, B. D. O.; Bose, Nirmal K.) Output feedback stabilization and related problems–solution via decision methods. *IEEE Trans. Automatic Control* **AC-20** (1975), 53–66. (Luciano Pandolfi) **55** #2274 93D15

(*with* Anderson, B. D. O.; Chaparro, F. L. C.) Relations between real and complex polynomials for stability and aperiodicity conditions. *IEEE Trans. Automatic Control* **AC-20** (1975), 244–246. (T. Kaczorek) **55** #633 30A08

(*with* Anderson, B. D. O.; Bose, Nirmal K.) On eigenvalues of complex matrices in a sector. *IEEE Trans. Automatic Control* **AC-20** (1975), 433–434. (B. P. Molinari) **55** #2955 15A18

(*with* Gutman, S.) On the stability of the *A* matrix inside the unit circle. *IEEE Trans. Automatic Control* **AC-20** (1975), 533–535. (Dahsoong Yü) **53** #2479 93C99 (15A42)

(*with* Ahn, S. M.) On orthogonal polynomials. *J. Franklin Inst.* **300** (1975), *no.* 3, 169–173. (L. Leindler) **57** #1011 42A52

The theory and applications of the inners. *Proc. IEEE* **63** (1975), *no.* 7, 1044–1068. (Peter Lancaster) **55** #12198 93B25

(*with* Anderson, B. D. O.) Generalized Bezoutian and Sylvester matrices in multivariable linear control. *Proceedings of the IEEE Conference on Decision and Control and the* 15*th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 901–906. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **57** #2670 93B99

Some new results in stability and performance index of linear discrete systems. (French summary) With a discussion in French. *Transformations ponctuelles, et leurs applications* (*Colloq. Internat. CNRS, No.* 229, *Toulouse*, 1973), *pp.* 349–360, 384. *Éditions Centre Nat. Recherche Sci., Paris*, 1976. (P. C. Parks) **58** #26391 93D10 (93C55)

(*with* Anderson, B. D. O.) A note on the Youla-Bongiorno-Lu condition: "Single-loop feedback-stabilization of linear multivariable dynamical plants" (Automatica—J. IFAC **10** (1974), no. 2, 159–173) by D. C. Youla, J. J. Bongiorno and C. N. Lu. *Automatica—J. IFAC* **12** (1976), *no.* 4, 387–388. (Edward J. Davison) **58** #9641 93D15

(*with* Anderson, B. D. O.) Proof of a special case of Shanks' conjecture. *IEEE Trans. Acoust. Speech Signal Processing* **ASSP-24** (1976), *no.* 6, 574–575. (B. D. Donevski) **55** #2284 93E10

(*with* Anderson, B. D. O.) Inverse Lienard-Chipart problem. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 3, 426. (H. Ratschek) **54** #5274 15A57 (93D99)

(*with* Anderson, B. D. O.) Generalized Bezoutian and Sylvester matrices in multivariable linear control. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 4, 551–556. (Peter A. Cook) **56** #2533 93C05 (15A54)

(*with* Pendergrass, N. A.; Mitra, Sanjit K.) Spectral transformations for two-dimensional digital filters. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 1, 26–35. (M. C. Cheng) **52** #7689 94A05

(*with* Anderson, B. D. O.; Mansour, M.) Schwarz matrix properties for continuous and discrete time systems. *Internat. J. Control* **23** (1976), *no.* 1, 1–16. (Bradley W. Dickinson) **54** #7055 93D05

(*with* Anderson, B. D. O.; Chaparro, L. F.) On the root distribution of a real polynomial with respect to the unit circle. *Regelungstech.* **24** (1976), *no.* 3, 101–102. (Not reviewed) 93D99

(*with* Szczupak, J.; Mitra, Sanjit K.) Some new results on discrete system stability. *IEEE Trans. Acoust. Speech Signal Process.* **ASSP-25** (1977), *no.* 1, 101–102. (K. B. Datta) **57** #5325 93D99

(*with* Humes, Ana F.) Stability tests for two-dimensional linear multivariable digital filters. Routh centenary issue. *Internat. J. Control* **26** (1977), *no.* 2, 225–234. (Bradley W. Dickinson) **58** #9649 93D99

(*with* Anderson, B. D. O.) A "simplest possible" property of the generalized Routh-Hurwitz conditions. *SIAM J. Control Optimization* **15** (1977), *no.* 1, 177–184. (A. S. C. Sinha) **58** #15518 93D10

(*with* Bickart, Theordore A.) Arithmetic tests for *A*-stability, *A*[α]-stability, stiff-stability. *BIT* **18** (1978), *no.* 1, 9–21. (Authors' summary) **58** #3504 65L9

See also **Barnett, Stephen, 50** #9913; **Proceedings: International Congress o International Federation of Automatic Control (IFAC), 51** #12360c *and* **Šiljak, Dragoslav D., 55** #2281

Jury, Stanley H. Numerical solution of systems of mixed partial differential equa associated with transport phenomena with exchange. *J. Franklin Inst.* **292** (1 203–223. (W. F. Ames) **46** #8450 65P05

Jurzak, J. P. A contribution to group representations in locally convex spaces. *Lett. M Phys.* **1** (1975/77), *no.* 6, 513–519. (L. Corwin) **58** #28258 22D12

Jurzak, Jean-Paul Poids strictement semi-finis et groupe d'automorphismes modulaire une algèbre de von Neumann décomposable. *C. R. Acad. Sci. Paris Sér. A* **279** (1 221–224. (François Combes) **52** #1340 46L10

Topologie pour les *-algèbres d'opérateurs non bornés. (English summary) *C Acad. Sci. Paris Sér. A-B* **280** (1975), Aii, A1283–A1286. (Wai-Mee Ching) **51** #1 46L99

Decomposable operators application to K.M.S. weights in a decomposable Neumann algebra. *Rep. Mathematical Phys.* **8** (1975), *no.* 2, 203–228. (Gerald Goldin) **56** #1087 46L10 (47B15)

Simple facts about algebras of unbounded operators. *J. Functional Analysis* (1976), *no.* 4, 469–482. (S. Gudder) **53** #3725 46L99 (47D15)

(*with* Arnal, Didier) Topological aspects of algebras of unbounded operators. *Functional Analysis* **24** (1977), *no.* 4, 397–425. (G. J. O. Jameson) **55** #8825 46 (47D99)

Une application d'une théorème de Dixmier. (English summary) *C. R. Acad. Paris Sér. A-B* **286** (1978), *no.* 22, A1057–A1058. (Author's summary) **58** #2361 46K05

Jusas, Ĭ. C. The distribution of the maximal frequency in a polynomial scheme. (Russ English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 755–761. (R. H. Rod **46** #10112 62F05

Jusas, J. Estimation of the efficiency of acceptance control by attributes. (Russi Lithuanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 3, 219–225, 2 (K. Sarkadi) **51** #7216 62N10

(*with* Nikulin, M. S.) The distribution of a statistic of chi-square type w additional observations are used in the estimation of an unknown parameter. (Russi English summary) Problems of the theory of probability distributions, IV. *Zap. Nau Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **72** (1977), 98–102, 217, 2 (Joachim Krauth) **57** #7862 62G10

Jusas, Mečislovas (*with* Slivinskas, Vytautas; Gabrijolavičius, Alfredas) A recursive algorithm for the minimal realization of linear systems. (Russian. Lithuanian a English summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 20 (1977), 21–35, 89. (Authors' summary) **58** #1539 93B20

Juščenko, A. A. *See* **Proceedings: Republican Conference of Belorussian Mathematicia 48** #3669

Juščenko, A. S. (*with* Medvedev, V. S.) A numerical method of optimizing automa control systems according to the criterion of maximum probability of attaining a gi state. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 1, 149–153, 223 (*Russia translated as Engrg. Cybernetics* **13** (1975), *no.* 1, 120–124. (V. Kolmanovskiĭ) **52** #10195 93E20

(*with* Pupkov, K. A.; Kapalin, V. Ĭ.) ★Функциональные ряды в теории нелинейных систем. (Russian) [Functional series in the theory of nonlinear system Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundatio of Engineering Cybernetics] *Izdat. "Nauka", Moscow*, 1976. 448 *pp.* (V. Komk **56** #14938 93C10

Juščenko, K. L. (*with* Vel′bickiĭ, I. V.; Mihaĭlov, G. A.) A syntactic chart method for t testing of programs. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1967**, *no.* 100–102. (L. Kolobaeva (RŽMat **1968** #5 V464)) **45** #9880 68A30

(*with* Vel′bickiĭ, I. V.; Mihaĭlov, G. A.) A method of syntactic charts for the testi of programs, written in algorithmic language, that are to be introduced into a system machines. (Russian) *Computing systems, No.* 4: *Computational methods and programmi on computers* (*Proc. First All-Union Conf., Novosibirsk*, 1967) (*Russian*), *pp.* 44–52. *Izd "Nauka" Sibirsk. Otdel., Novosibirsk*, 1968. (Editors) **45** #9881 68A30

(*with* Vel′bickiĭ, I. V.) A metalanguage that is oriented toward syntactic analys and control. (Russian. English summary) *Kibernetika* (*Kiev*) **1970**, *no.* 2, 50–53. (Fro the authors' summary) **51** #2369 68A30

(*with* Vel′bickiĭ, I. V.; Meĭtus, V. Ju.) The translation problem and *M*-system (Russian) *Software of electronic digital computers* (*Proc. Sem. Automation of Programming, Kiev*, 1970/1971) (*Russian*), *pp.* 3–21. *Akad. Nauk Ukrain. SSR Ins Kibernet., Kiev*, 1971. (Horst Reichel) **53** #7152 68A30

(*with* Ceĭtlin, G. E.) The algebra of multiregister operators. (Russian. Englis summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 2, 66–70. (S. Waligórski) **48** #3290 68A05 (08A25)

(*with* Vel′bickiĭ, I. V.; Meĭtus, V. Ju.) The theory of *M*-systems and its application (Russian) *Problemy Kibernet. No.* 27 (1973), 251–266, 295. (Armin Cremers) **49** #1187 68A30 (68A25)

(*with* Gluškov, V. M.; Ceĭtlin, G. E.) ★Алгебра, языки, программировани (Russian) [Algebra, languages, programming] *Izdat. "Naukova Dumka", Kiev*, 1974. 32 *pp.* (M. Novotný) **55** #13847 68–01

(*with* Kirsanov, G. M.; Ceĭtlin, G. E.) On the question of automated deductiv inference in a system of algorithmic algebras. (Russian) *Languages of systems programming and methods for their realization* (*Russian*), *pp.* 3–13. *Akad. Nauk Ukrain SSR Inst. Kibernet., Kiev*, 1974. (Costică Cazacu) **56** #17234 68A40

(*with* Ceĭtlin, G. E.) The representation of languages in bobsled automata. (Russian English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 6, 40–51. (See Zbl **311** #68038) 68A30

(*with* Gluškov, V. M.; Ceĭtlin, G. E.) Automata theory, and some questions on the synthesis of language processor structures. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 5, 1–20. (Editors) **58** #33595 94A30 (68A05)

(*with* Perevozčikova, O. L.) The development of programming languages and dialogue systems in the USSR. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no*. 6, 16–33. (Editors) **58** #31987 68–03 (01A65)

(*with* Ceĭtlin, G. E.) Several aspects of theory of parametric models of languages and parallel syntactic analysis. *Methods of algorithmic language implementation* (*Sympos*., *Novosibirsk*, 1975), *pp*. 231–245. *Lecture Notes in Comput. Sci*., *Vol*. 47, *Springer*, *Berlin*, 1977. (A. V. Anīsīmov) **56** #17218 68A30

(*with* Ceĭtlin, G. E.) Parametric models of languages intended for single-valued parametric recursive analysis. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 1, 21–35. (Authors' summary) **58** #8513 68A30

See also **Theory of languages and methods of construction of programming systems**, **48** #7682; **Software of electronic digital computers**, **50** #11832; **Cybernetics encyclopedia**, **54** #9919; **Cybernetics encyclopedia**, **54** #9920; **Languages of systems programming and methods for their realization**, **56** #7281; **Questions of systems programming**, **58** #31990 *and* **Theory and practice of systems programming**, **58** #31993

schkewitsch, A. P. *See* **Juškevič, A. P.**

sifov, B. M. (*with* Džafarov, È. M.) Optimal control of processes that are described by integro-differential equations. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no*. 12, 2276–2279, 2304. (C. E. Langenhop) **57** #3948 49B35

sim, G. V. The influence of random perturbations on the error of a time-optimal scheme for setting a gyrocompass. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp*. 62 *Differencial'nye Uravnenija* (1975), 166–176, 186. (Author's summary) **57** #11244 70.60

šin, Ju. Ja. (*with* Bažanov, V. V.; Pron'ko, G. P.; Solov'ev, L. D.) Scattering by small angles in quantum electrodynamics. (Russian. English summary) *Teoret. Mat. Fiz*. **33** (1977), *no*. 2, 218–230. (Authors' summary) **56** #14296 81.47

(*with* Solov'ev, L. D.) Investigation of infrared singularities in quantum electrodynamics by the Feynman diagram method. (Russian. English summary) *Teoret. Mat. Fiz*. **36** (1978), *no*. 1, 3–23. (Authors' summary) **58** #20025 81.47

ška, Faustas A numerical method for the construction of a network of minimal length. (Russian. Lithuanian and English summaries) *Teor. Optimal. Rešenii–Trudy Sem. Processy Optimal. Upravlenija VI Sekcija Vyp*. 1 (1975), 53–65. (B. T. Poljak) **55** #14223 90C35

škevič, A. A. Limit transition to diffusion in a special case of the problem of ruin of a player. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no*. 6, 82–85. (M. Maljutov (RŽMat **1969** #11 V50)) **45** #8284 93E05

A certain class of strategies in general Markov decision models. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **18** (1973), 815–817. (I. V. Romanovskiĭ) **49** #2110 (EA **49**) 90C40

On the history of the concepts of entropy and information (an anticipation of the ideas of C. Shannon). (Russian) *Studies in the history of mathematics*, *No*. 19 (*Russian*), *pp*. 167–176, 301. *Izdat*. "*Nauka*", *Moscow*, 1974. (Editors) **58** #4900 01A60 (94–03)

(*with* Dynkin, E. B.) ★Управляемые марковские процессы и их приложения. (Russian) [Controllable Markov processes and their applications] *Izdat*. "*Nauka*", *Moscow*, 1975. 338 *pp*. (*errata insert*) (I. V. Romanovskiĭ) **58** #15197 90C40 (90C15)

Passage probabilities and attrition probabilities in a stochastic version of the quadratic Lanchester model. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp*. 510 *Prikl. Mat. i Zadači Žoloznodorož. Transporta* (1976), 10–23, 129. (Author's summary) **56** #14773 90D15

The reduction of a Markov decision model with incomplete data to a problem with complete information in the case of Borelian state space and control space. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **21** (1976), *no*. 1, 152–157. (Author's summary) **57** #15478 90C40 (90C50)

Controllable jump-like Markov processes. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no*. 2, 304–307. (H.-J. Engelbert) **56** #9716 60J75 (93E20)

Controlled Markov models with countable state space and continuous time. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **22** (1977), *no*. 2, 222–241. (H.-J. Engelbert) **56** #16803 60J25 (90C50)

škevič, A. P. Traditions archimédiennes en mathématique au Moyen Age. *Organon No*. 4 (1967), 95–103. (Not reviewed) 01A35

(*with* Kedrov, B. M.; Pogrebysskiĭ, I. B.; Kuznecov, B. G.; Plotkin, S. Ja.) A. T. Grigor'jan zum 60. Geburtstag. *NTM Schr. Geschichte Naturwiss*., *Tech. Medizin* 7 (1970), *no*. 2, 68–70. (Editors) **56** #5175 01A70

(*with* Grigor'jan, A. T.; Pogrebysskiĭ, I. B.) L'héritage scientifique de Léonard de Vinci dans les travaux des savants soviétiques. Avec une bibliographie par L. V. Kaminer. *Organon No*. 8 (1971), 167–180. **58** #27007 01A55

(*with* Kedrov, B. M.; Markuševič, A. I.; Rybnikov, K. A.; Grigor'jan, A. T.; Demidov, S. S.) Izabella Grigor'evna Bašmakova (on the occasion of her fiftieth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp*. 2(35) (1971), 76. (Editors) **58** #16030 01A70

(*with* Mŭminov, I. M.; Sadykov, A. S.; Faĭzullaev, A. F.) Tašmuhamed Nijazovič Kary-Nijazov. (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp*. 2(35) (1971), 108–109. (Editors) **58** #16034 01A70

The revolution in mathematics in the modern era. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn*. **1971**, *no*. 4(33), 3–13, 105. (Author's summary) **58** #9983 01A05 (01A35)

(*with* Kedrov, B. M.; Kuznecov, B. G.; Plotkin, S. Ja.; Pogrebysskiĭ, I. B.; Fedorov, A. S.; Fedoseev, I. A.) A. T. Grigor'jan (on the occasion of his sixtieth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn*. **1971**, *no*. 4(33), 62–63. (Editors) **58** #27116 01A70

★Die Entwicklung des Funktionsbegriffs. Übersetzt aus dem Russischen von Karin Reich. *Deutsches Museum*, *Münich*, 1972. i + 31 *pp*. (Editors) **50** #6748 01A15 (26–03)

(*with* Grigor'jan, A. T.) Iosif Benedictovitch Pogrebysski (1906–1971). (French) *Rev. Histoire Sci. Appl*. **25** (1972), *no*. 1, 73–74. (Editors) **56** #15329 01A70

(*with* Aleksandrov, P. S.; Gnedenko, B. V.; Kolmogorov, A. N.; Markuševič, A. I.; Orlov, V. B.; Cvetkov, A. T.) Georgiĭ Fedorovič Rybkin. Obituary. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no*. 5(167), 223–225 (1 *plate*). (Editors) **52** #5284 01A70

New literature on Leibniz. (Russian) *Voprosy Istor. Estestvoznan. i Tehn*. **1972**, *no*. 1(38), 73–77. (Editors) **58** #26967 01A50 (01A75)

(*with* Bogoljubov, O. M.; Grigor'jan, A. T.; Kuznecov, B. G.; Štokalo, Ĭ. Z.) I. B. Pogrebysskiĭ. (Russian) *Voprosy Istor. Estestvoznan. i Tehn*. **1972**, *no*. 1(38), 122–123. (Editors) **58** #27102 01A70

L. Carnot and the competition at the Berlin Academy of Sciences in the year 1786 on the topic of the mathematical theory of the infinite. (Russian) *Studies in the history of mathematics*, *No*. 18 (*Russian*), *pp*. 132–156, 337. *Izdat*. "*Nauka*", *Moscow*, 1973. (E. Stipanić) **58** #26968 01A50

J. A. da Cunha and problems on the foundations of mathematical analysis. (Russian) *Studies in the history of mathematics*, *No*. 18 (*Russian*), *pp*. 157–175, 337. *Izdat*. "*Nauka*", *Moscow*, 1973. (E. Stipanić) **57** #15877 01A50

J. A. da Cunha et les fondements de l'analyse infinitésimale. (English summary) *Rev. Histoire Sci. Appl*. **26** (1973), *no*. 1, 3–22. (D. J. Struik) **56** #8287 01A50

(*with* Grigor'jan, A. T.) Joseph Ehrenfried Hofmann. *Studia Leibnitiana* **5** (1973), *no*. 1, 1–4. (Editors) **58** #21301 01A70

(*with* Bogoljubov, O. M.; Grigor'jan, A. T.; Drinfel'd, G. I.) Ja. L. Geronimus (on the occasion of his seventy-fifth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp*. 2(43) (1973), 71–72. (Editors) **58** #16016 01A70

(*with* Winter, Eduard J.) The correspondence of L. Euler with the St. Petersburg Academy of Sciences from 1726 to 1774 (on the occasion of the 250th anniversary of the USSR Academy of Sciences). (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp*. 3(44) (1973), 14–18. (E. M. Bruins) **56** #8290 01A50

(*with* Grigor'jan, A. T.; Sagateljan, V. V.) G. B. Petrosjan (on the occasion of his seventieth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp*. 4 (45) (1973), 83–84. (Editors) **56** #5173 01A70

The concept of function in the works of Condorcet. (Russian) *Studies in the history of mathematics*, *No*. 19 (*Russian*), *pp*. 158–166, 301. *Izdat*. "*Nauka*", *Moscow*, 1974. (Editors) **58** #4863 01A50

Joseph Ehrenfried Hofmann. (Russian) *Voprosy Istor. Estestvoznan. i Tehn*. **1974**, *no*. 1(46), 118–119 (*loose errata*). (Editors) **58** #27113 01A70

(*with* Grigor'jan, A. T.) Vasiliĭ Pavlovič Zubov (on the occasion of his seventy-fifth birthday). (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn*. **1974**, *no*. 2-3(47-48), 165–167, 224. (Editors) **58** #21302 01A70

On the history of the controversy about the vibrating string (d'Alembert on the application of "discontinuous" functions). (Russian) *Istor.-Mat. Issled. Vyp*. 20 (1975), 221–231, 380. (E. Stipanić) **57** #15878 01A50

Academician V. I. Smirnov. (Russian) *Voprosy Istor. Estestvoznan. i Tehn*. **1975**, *no*. 1(50), 98–100. (Editors) **58** #10183 01A70

(*with* Blanc, S.; Grigor'jan, A. T.; Habicht, W.) On the publication of Leonard Euler's complete works. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn*. **1975**, *no*. 2(51), 67–86, 124. (Editors) **58** #27139 01A75

K. Weierstrass and S. V. Kovalevskaja (on the occasion of S. V. Kovalevskaja's 125th birthday). (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn*. **1975**, *no*. 2(51), 103–107, 124. (Editors) **58** #27012 01A55 (01A70)

The concept of function up to the middle of the 19th century. *Arch. History Exact Sci*. **16** (1976/77), *no*. 1, 37–85. (E. Neuenschwander) **58** #15925 01A50 (01A55)

(*with* Erugin, N. P.; Krylov, V. I.; Parasjuk, O. S.; Bogoljubov, O. M.; Grigor'jan, A. T.) Iosif Zaharovič Štokalo (on the occasion of his eightieth birthday). (Russian) *Differencial'nye Uravnenija* **13** (1977), *no*. 11, 2102–2104. (Editors) **58** #4936 01A70

Newton as mathematician. (Bulgarian) Translated from the Russian. *Fiz.-Mat. Spis. B"lgar. Akad. Nauk*. **20(53)** (1977), *no*. 4, 316–326. (Editors) **58** #16028 01A70

(*with* Grigor'jan, A. T.) Boris A. Rosenfeld on the 60th anniversary of his birth. *Historia Math*. **4** (1977), *no*. 4, 411–414. (Editors) **58** #10175 01A70

The mathematical manuscripts of I. Newton. (Russian) *Istor.-Mat. Issled. Vyp*. 22 (1977), 127–192, 303. (Ja. O. Matviĭšin) **58** #21135 01A45

(*with* Demidov, S. S.) Bernhard Riemann: on the 150th anniversary of his birth. (Russian) *Mat. v Škole* **1977**, *no*. 4, 76–80. (Editors) **58** #4943 01A70

The early history of the theory of multiple integrals. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn*. **1977**, *no*. 3-4(56-57), 30–34, 161. (J. S. Joel) **58** #15926 01A50

See also **Biermann, Kurt Reinhard**, (Not reviewed); **Enzyklopädie: Elementarmathematik**, **49** #8784; **Studies in the history of mathematics**, **50** #1806; **History of mathematical education in the USSR**, **52** #13176; **History of science**, **53** #25; **Studies in the history of mathematics**, **55** #2457; **Studies in the history of mathematics**, **55** #7673; **Bašmakova, I. G.; et al.**, **55** #12430; **Reader in the history of mathematics**, **57** #15832; **Reader in the history of mathematics**, **57** #15833; **Folta, Jaroslav**, **58** #4938; **Euler, Leonhard**, **58** #15920; **Bibliography: Juškevič, A. P.**, **58** #16049; **History of mathematics from antiquity to the beginning of the nineteenth century**, **58** #21190; **History of national mathematics in four volumes**, **58** #26682; **History of mathematics from antiquity to the beginning of the nineteenth century**, **58** #26719; **History of mathematics from antiquity to the beginning of the nineteenth century**, **58** #26944a; **History of mathematics from antiquity to the beginning of the nineteenth century**, **58** #26944b *and* **Bašmakova, I. G.; et al.**, **58** #27099

Juškevičius, Kestutis (*with* Raudys, Šarūnas; Pikelis, Vitalijus) An experimental comparison of thirteen classification algorithms. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija–Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp*. 11 (1975), 53–80. (László Györfi) **53** #11889 62H30 (68A45)

Calculation of the variance of maximum likelihood estimators of the mean components of a mixture of multivariate normal distributions. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija–Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp*. 11 (1975), 121–137. (László Györfi) **53** #11852 62F10 (62H10)

Juškis, Z. M. *See* **Juškys, Z.**

Juškjavičjus, Kjastutis *See* **Juškevičius, Kestutis**

Juškov, P. P. More accurate difference schemes for solving the heat-conduction equation with boundary conditions of the third kind. *Inž.-Fiz. Ž*. **26** (1974), *no*. 3, 533–538 (*Russian*); *translated as J. Engrg. Phys*. **26** (1974), *no*. 3, 375–379 (1975). (Ian P. Grant) **53** #9891 80.65

Juškova, E. A. (*with* Ufljand, Ja. S.) A certain method of solving spatial boundary value problems for a composite wedge. (Russian) *Differencial'nye Uravnenija* **10** (1974), 330–334, 373. (A. Nikodémusz) **50** #2674 35J05 (31B20)

Juškys, Z. (*with* Kubilius, J.) The distribution of the values of multiplicative functions. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **11** (1971), 261–273. (B. Novák) **45** #3342 10H15

On the question of the distribution of the values of arithmetic multiplicative functions. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 3, 185–201, 215. (J. B. Roberts) **47** #3338 10K20

(*with* Postnikov, A. G.) A new proof of Halász's theorem in the regular case. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 3, 201–210, 235. (G. Halász) **54** #12686 10H25

Jussila, O. *See* **Théorie des intersections et théorème de Riemann-Roch**, **50** #7133

Just, E. *See* **Wollan, G. N.**, **46** #3249

Just, K. (*with* Kraus, K.) Linear independence of field operators at different space-time points. *Lett. Math. Phys.* **1** (1975/76), *no.* 3, 171–174. (Aubrey Truman) **54** #14636 81.47

Just, Richard E. Existence of stable distributed lags. *Econometrica* **45** (1977), *no.* 6, 1467–1480. (Author's summary) **58** #24821 62P20 (90A05)

Estimation of an adaptive expectations model. *Internat. Econom. Rev.* **18** (1977), *no.* 3, 629–644. (From the introduction) **58** #15051 90A15 (62P20)

(*with* Pope, Rulon D.) Stochastic specification of production functions and economic implications. *J. Econometrics* **7** (1978), *no.* 1, 67–86. (G. Tintner) **57** #15387 90B30

Justesen, Jørn A class of constructive asymptotically good algebraic codes. *IEEE Trans. Information Theory* **IT-18** (1972), 652–656. (N. J. A. Sloane) **52** #5190 94A10

(*with* Massey, James L.; Costello, Daniel J., Jr.) Polynomial weights and code constructions. *IEEE Trans. Information Theory* **IT-19** (1973), 101–110. (N. J. A. Sloane) **52** #12970 94A10

New convolutional code constructions and a class of asymptotically good time-varying codes. *IEEE Trans. Information Theory* **IT-19** (1973), 220–225. (N. J. A. Sloane) **52** #2710 94A10

(*with* Hughes, Lawrence R.) On maximum-distance-separable convolutional codes. *IEEE Trans. Information Theory* **IT-20** (1974), 288. (R. J. McEliece) **50** #16086 94A10

(*with* Berlekamp, Elwyn R.) Some long cyclic linear binary codes are not so bad. *IEEE Trans. Information Theory* **IT-20** (1974), 351–356. (N. J. A. Sloane) **52** #2709 94A10

An algebraic construction of rate $1/v$ convolutional codes. *IEEE Trans. Information Theory* **IT-21** (1975), *no.* 5, 577–580. (J. H. van Lint) **52** #7704 94A10

(*with* Larsen, Knud J.) On probabilistic context-free grammars that achieve capacity. *Information and Control* **29** (1975), *no.* 3, 268–285. (Stephen Soule) **52** #16865 94A15 (68A30)

On the complexity of decoding Reed-Solomon codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 2, 237–238. (Author's summary) **57** #5404 94A10

Information rate and source coding of context free languages. *Topics in information theory* (*Second Colloq., Keszthely*, 1975), *pp.* 357–368. *Colloq. Math. Soc. János Bolyai, Vol.* 16, *North-Holland, Amsterdam*, 1977. (H. P. Edmundson) **57** #4647 68A30 (94A15)

See also **Cybernetics collection**, **48** #5714; **Algebraic coding theory: history and development**, **51** #9958; **Key papers in the development of coding theory**, **52** #5176 *and* **Cybernetics collection**, **52** #16085

Justice, J. H. (*with* Shanks, John L.) Stability criterion for N-dimensional digital filters. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 3, 284–286. (Authors' summary) **55** #14395 94A05

Justice, James H. An algorithm for inverting positive definite Toeplitz matrices. *SIAM J. Appl. Math.* **23** (1972), 289–291. (C. Ilioi) **48** #12804 65F30

The Szegö recursion relation and inverses of positive definite Toeplitz matrices. *SIAM J. Math. Anal.* **5** (1974), 503–508. (T. S. Chihara) **50** #880 42A52 (47B35)

Justin, Jacques Sur une construction de Bruck et Reilly. (English summary) *Semigroup Forum* **3** (1971/72), *no.* 2, 148–155. (J.-F. Perrot) **45** #5248 (EA **58**) 20M05

Characterization of the repetitive commutative semigroups. *J. Algebra* **21** (1972), 87–90. (D. R. LaTorre) **46** #277 20M10

Généralisation du théorème de van der Waerden sur les semi-groupes répétitifs. *J. Combinatorial Theory Ser. A* **12** (1972), 357–367. (Donald W. Miller) **46** #5485 20M05

zinn-Justin, Jean *See* **Zinn-Justin, Jean**

zinn-Justin, Nicole *See* **Zinn-Justin, Nicole**

Justiniano, Madeline (*with* Hajek, Darrell W.) A compactification for T_3 spaces. *Nanta Math.* **10** (1977), *no.* 1, 68–71. (From the introduction) **58** #24195 54D35

Justman, M. Iterative processes with "nucleolar" restrictions. *Internat. J. Game Theory* **6** (1977), *no.* 4, 189–212. (G. Owen) **58** #20530 90D30

Jusufov, V. Š. Semigroups of topological mappings. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **32** (1976), *no.* 11, 6–7. (A. B. Paalman de Miranda) **57** #7554 54H15 (20M20)

Semigroups of open continuous mappings. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 5, 3–8. (J. M. Lysko) **56** #3812 54H15

A semiheap of continuous mappings of topological spaces. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **(1977)**, *no.* 1, 24–29. (Helmut Ludescher) **57** #1402 54C35 (20N10)

Jusupbekov, N. R. (*with* Orlov, B. N.) Some questions on the existence of quality criterion for a control system of large complexes. (Russian) *Voprosy Kibernet.* (*Tashkent*) *No.* 65 (1974), 3–7, 169. (Authors' summary) **58** #9464 93A15 (02F20, 90B05)

Jusupov, A. Ja. (*with* Hašimov, Š.) A global study of the characteristics of the differential equation $dy/dx = Q(x; y)/P(x; y)$ on the entire plane. (Russian) *Taškent. Gos. Univ.-Buharsk. Ped. Inst. Naučn. Trudy Vyp.* 2 (16) (1967), 53–58. (K. R. Schneider) **53** #11147 34C05

(*with* Hašimov, Š.) Limit angles of convex polygons and polyhedra in Lobačevskiĭ space. (Russian) *Taškent. Gos. Univ.—Buharsk. Ped. Inst. Naučn. Trudy Vyp.* 2 (16) (1967), 59–61. (A. K. Guc) **54** #1070 50C05

Euler characteristic and index of singular points of vector fields on manifolds. (Russian) *Taškent. Gos. Univ.—Buharsk. Ped. Inst. Naučn. Trudy No.* 4(18) 271–281. (RŽMat **1969** #8 A397) **58** #31280 58F99 (57D25)

A method for the study of a special type of first order differential eq (Russian) *Taškent. Gos. Univ.—Buharsk. Ped. Inst. Naučn. Trudy No.* 4(18) 282–294. (RŽMat **1969** #11 B220) **58** #28830 34C05

Jusupov, A. K. The solution of a stochastic boundary value problem for a gene biharmonic operator in a multiply connected region. (Russian) *Functional a theory of functions and their applications, No.* 1 (*Russian*), *pp.* 192–195, 11. *Dagesta Univ., Makhachkala*, 1974. (V. M. Isakov) **58** #11464 31A30

Inversion of a random matrix. (Russian) *Functional analysis, theory of functic their applications, No.* 1 (*Russian*), *pp.* 196–200, 12. *Dagestan. Gos. Univ., Makha* 1974. (A. A. Svešnikov) **56** #1394 60B10 (15A09)

Jusupov, D. Š. A certain generalization of the theorem on the natural equation. (Ru *Mathematics and mechanics, No.* 1, *Part* 1 (*Russian*), *pp.* 57–60. *Ministerstvo Sredn. Spec. Obrazovanija Kazah. SSR, Alma-Ata*, 1966 (1970). (V. Belousova (**1970** #9 A555)) **58** #18202 53A35

On the integral geometry method in the theory of nonregular curves. (Russian *Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 4(119), 120–122. (W. J. Firey) **46** # 53C65

Jusupov, R. M. (*with* Kuncevič, V. M.; Letov, A. M.; Naumov, B. N.; Nelepin, Petrov, B. N.; Platov, V. Ja.; Popov, E. P.; Pospelov, G. S.; Rozenvasser, Šamrikov, B. M.; Šelenkov, V. M.) ★**Точные методы исследования нелин систем автоматического управления.** (Russian) [Exact methods for investigating nonlinear automatic control systems] Edited by R. A. Nelepin. Nonlinear Aut Control Systems, Vol. 4. *Izdat. "Mašinostroenie", Moscow*, 1971. 323 *pp.* (Lju Lilov) **50** #4040 93C10

(*with* Gorodeckiĭ, V. I.; Zaharin, F. M.; Ponomarev, V. M.) Direct and i problems of sensitivity theory. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, 177–187 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 5, 935–942. (Au summary) **56** #17982 93B35

Sensitivity functions in stability and optimal control problems. (Russian) *Pro of analytical mechanics, stability and control theories* (*Proc. Second Četaev Conf.,* 1973), *Vol.* 2 (*Russian*), *pp.* 386–396, 418–419. *Kazan. Aviacion. Inst., Kazan,* (Author's summary) **58** #9619 93D05 (93B35)

(*with* Voronov, A. A.; Ērmačenko, A. Ī.; Zdor, V. V.; Raev, N. G.) The sens of automatic control systems. (Russian) *Sensitivity of control systems* (*Proc. All- School-Seminar Theory of Sensitivity of Control Systems and its Application, Vladiv* 1975), *Vol. I* (*Russian*), *pp.* 6–39, 324. *Akad. Nauk SSR Dal'nevostocn. Naučn. Vladivostok*, 1976. (Vadim Komkov) **58** #15417 93B35

(*with* Ērmačenko, A. Ī.) The use of sensitivity functions in synthesizing multicoupled control systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1976**, 170–178 (*Russian*); *translated as Engrg. Cybernetics* **14** (1976), *no.* 2, 146–154 ((Authors' summary) **58** #15412 93B35

See also **Sensitivity of control systems**, **58** #4505

Jusupov, S. (*with* Sabirov, T. S.) On the problem of equivalence in the spectral theor holomorphic operator-valued function. (Russian. Tajiki summary) *Dokl. Akad. Tadžik. SSR* **19** (1976), *no.* 9, 7–10. (P. A. Kučment) **55** #11079 47A55

Juszczak, L. Generating functionals in the current theory of the meson field. (Italiar Russian summaries) *Nuovo Cimento A* (11) **41** (1977), *no.* 4, 659–676. (David H. S **58** #32556 81.46

(*with* Rabsztyn, Szymon) On the harmonic oscillator and free fields in the approach. *Rep. Mathematical Phys.* **12** (1977), *no.* 2, 219–228. (Adriaan Tip) **57** # 81.47

Jutila, Matti A density estimate for L-functions with a real character. *Ann. Acad. Fenn. Ser. A I No.* 508 (1972), 10 *pp.* (J. Knopfmacher) **46** #1725 10H10

On a density theorem of H. L. Montgomery for L-functions. *Ann. Acad. Sci. Ser. A I No.* 520 (1972), 13 *pp.* (J. Knopfmacher) **48** #6023 10H10

On numbers with a large prime factor. *J. Indian Math. Soc.* (*N.S.*) **37** (1973), 4 (1974). (J. W. Porter) **50** #12936 10H15

On character sums and class numbers. *J. Number Theory* **5** (1973), 203–214. (Kanold) **49** #230 10G05 (12A50)

On sums of real character. (Russian summary) Proceedings of the Internati Conference on Number Theory (Moscow, 1971). *Trudy Mat. Inst. Steklov.* **132** (247–250, 266. (J. Knopfmacher) **49** #2585 10G05 (12A50)

On mean values of L-functions and short character sums with real characters. *Arith.* **26** (1974/75), *no.* 4, 405–410. (J. W. Porter) **52** #302 10H10

On numbers with a large prime factor. II. *J. Indian Math. Soc.* (*N.S.*) **38** (1974) 1, 2, 3, 4, 125–130 (1975). (J. W. Porter) **53** #2864 10H15

On mean values of Dirichlet polynomials with real characters. Collection of art in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 191–198. (H Montgomery) **53** #10739 10H10

Prime factors of consecutive integers. *Séminaire de Théorie des Nombres*, 1975– (*Univ. Bordeaux I, Talence*), *Exp. No.* 5, 6 *pp. Lab. Théorie des Nombres, Centre Recherche Sci., Talence*, 1976. (Jean-Marie De Koninck) **55** #7954 10H15

Recent progress in the theory of L-functions. *Séminaire de Théorie des Nom* 1975–1976 (*Univ. Bordeaux I, Talence*), *Exp. No.* 6, 9 *pp. Lab. Théorie des Nom Centre Nat. Recherche Sci., Talence*, 1976. (Bruce C. Berndt) **55** #7952 10H10

On large values of Dirichlet polynomials. *Topics in number theory* (*Proc. Col Debrecen*, 1974), *pp.* 129–140. *Colloq. Math. Soc. János Bolyai, Vol.* 13, *North-Holl Amsterdam*, 1976. (Bruce C. Berndt) **55** #7951 10H10

Recent progress in the theory of L-functions. *Séminaire Delange-Pisot-Poitou, année*: 1975/76. *Théorie des nombres*: *Fasc.* 1, *Exp. No.* 6, 7 *pp. Secrétariat Math., Pa* 1977. (Bruce C. Berndt) **56** #5463 10H10

Zero-density estimates for L-functions. *Acta Arith.* **32** (1977), *no.* 1, 55–62. (Br C. Berndt) **55** #2800 10H10

(*with* Huxley, Martin) Large values of Dirichlet polynomials. IV. *Acta Arith.* (1977), *no.* 3, 297–312. (Bruce C. Berndt) **58** #5550 10H10

On Linnik's constant. *Math. Scand.* **41** (1977), *no.* 1, 45–62. (W. Schwarz) **57** #16230 10H20 (10H10)

See also **Proceedings: International Conference on Number Theory**, **51** #5463

ila, Sakari T. Generalizations of availability models. *Indust. Math.* **22** (1972), 87–98. (Wolfgang Sendler) **50** #1453 62N05 (90B25)

ras, G. J. (*with* Ahmed, Nasiruddin; Yeo, S. H.) Optimal control of an economic system modelled on the basis of cyclical growth theory. *Internat. J. Control* **25** (1977), *no.* 6, 827–835. (Andrew P. Sage) **56** #14573 90A15

benthem Jutting, L. S. *See* **van Benthem Jutting, L. S.**

ttler, H. *See* **Buslenko, N. P., 50** #6432

l, Karsten Some three-point subset properties connected with Menger's characterization of boundaries of plane convex sets. *Pacific J. Math.* **58** (1975), *no.* 2, 511–515. (H. T. Croft) **52** #6572 52A10

A three-point convexity property and the union of two convex sets. *Geometriae Dedicata* **6** (1977), *no.* 2, 181–192. (Marilyn Breen) **57** #1274 52A10

Wei, Tai *See* **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360b

a, Miloslav Single parameter systems of n-dimensional projective spaces in the space of dimension $3n+1$. (Czech. French summary) *Časopis Pěst. Mat.* **98** (1973), 225–232. (D. Klucký) **48** #2909 53A20

Sur la dérivabilité des fonctions composées. (Czech summary) *Časopis Pěst. Mat.* **99** (1974), 352–362, 410. (K. M. Garg) **52** #675 26A24

akov, A. P. (*with* Krivokolesko, V. P.) Certain properties of linearly convex domains with smooth boundaries in C^n. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 452–458. (O. Forster) **46** #399 32F99

(*with* Egoryčev, G. P.) An application of multidimensional residues to the determination of generating functions and the computation of combinatorial sums. (Russian) *Holomorphic functions of several complex variables* (*Sem., Krasnoyarsk*, 1973) (*Russian*), *pp.* 47–61, 209–210. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR, Krasnoyarsk*, 1972. (H. Tornehave) **56** #11811 05A15 (32A25)

The residues of rational functions of two variables. (Russian) *Holomorphic functions of several complex variables* (*Sem., Krasnoyarsk*, 1972) (*Russian*), *pp.* 153–163, 212. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSR, Krasnoyarsk*, 1972. (A. H. Wallace) **57** #700 32C30

(*with* Derjabin, S. V.) The determination of a Weierstrass pseudopolynomial by the method of indeterminate coefficients. (Russian) *Holomorphic functions of several complex variables* (*Sem., Krasnoyarsk*, 1972) (*Russian*), *pp.* 181–184, 213. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR, Krasnoyarsk*, 1972. (H. Tornehave) **57** #16662 32B05

A sufficient condition for the separation of analytic singularities in $\mathbf{C}^n$ and a basis of a Certain space of holomorphic functions. (Russian) *Mat. Zametki* **11** (1972), 585–596. (Author's summary) **58** #1216 32A10 (46E10)

(*with* Kuprikov, A. V.) The logarithmic residue in $\mathbf{C}^n$. (Russian) *Properties of holomorphic functions of several complex variables* (*Russian*), *pp.* 181–191, 239. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR, Krasnoyarsk*, 1973. (L. I. Ronkin) **58** #1223 32A25

A generalization of the Lagrange expansion to arbitrary implicit functions. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 822–824. (L. I. Ronkin) **51** #10658 32A10

(*with* Egoryčev, G. P.) The determination of generating functions and combinatorial sums by means of multidimensional residues. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1049–1060, 1181. (J. B. Roberts) **50** #6877 05A19

★Элементы теории многомерных вычетов. (Russian) [Principles of the theory of multidimensional residues] *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1975. 182 *pp.* (Editors) **58** #28577 32–02

The representation of implicit functions in the form of function series. (Russian) *Combinatorial and asymptotic analysis* (*Russian*), *pp.* 179–183. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1975. (From the text) **58** #28633 32A30

The application of the multiple logarithmic residue to the expansion of implicit functions in power series. (Russian) *Mat. Sb.* (*N.S.*) **97(139)** (1975), *no.* 2(6), 177–192, 317. (L. I. Ronkin) **53** #3339 32A10

(*with* Orehovskiĭ, Z. B.) The analytic function that is defined by the integral of a certain rational form in C^n. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 191–194, 199. (I. I. Bavrin) **51** #10660 32A10

(*with* Bolotov, V. A.) A generalization of the inversion formulas for systems of power series to systems of implicit functions. (Russian) *Mat. Zametki* **23** (1978), *no.* 1, 47–54. (A. I. Heĭfic) **57** #16649 32A05 (32A25)

Južakova, N. F. (*with* Černyšenko, V. M.) An investigation of the chord method for the solution of transcendental equations taking computational errors into account. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 163–167. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (A. V. Džiškariani) **55** #1724 65H05

See also **Differential equations and their applications, 58** #26644

Juzbašev, G. L. A study of the set of periodic solutions of a certain system of second order differential equations without dissipation. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1734–1737, 1744. (H. I. Freedman) **49** #737 34C25

Family of periodic solutions of a system of second order differential equations without dissipation. (Russian) *Differencial'nye Uravnenija* **10** (1974), 567–568, 576. (J. Jarník) **49** #5476 34C25

Juzefovič, Ju. M. Extension of the Chebyshev-Grave theorem to a new class of cartographic projections. *Izv. Vysš. Učebn. Zaved. Geod. i Aèrofot.* **1971**, *no.* 3, 97–102 (*Russian*); *translated as Geodes. and Aerophot.* **1971**, 155–157 (1973). (A. M. White) **47** #10027 86.49

Juzvinskiĭ, S. A. The entropy of the sequence of partitions that is generated by an endomorphism. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 3, 87–88. (F. Schweiger) **47** #2032 28A65

Distinguishing K-automorphisms by the scale. (Russian) *Funkcional. Anal. i Priložen.* 7 (1973), *no.* 4, 70–75. (R. K. Thomas) **49** #5306 28A65

(*with* Kaplunovič, G. Ja.) The classification two-dimensional algebras without zero divisors. (Russian) *Geometry and topology, No.* 2 (*Russian*), *pp.* 112–121. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974. (P. S. Landweber) **56** #15697 16A48 (55F99)

Orthogonal pairing of finite-dimensional Euclidean spaces. (Russian) *Geometry and topology, No.* 1 (*Russian*), *pp.* 148–156. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (E. J. F. Primrose) **53** #14293 50B10

Jyoo, Yeong Heum Studies on Finsler spaces. (Korean. English summary) *Hak-sul Chi* **11** (1970), 645–655. (Author's summary) **57** #7490 53C60

Spherical functions and unitary representations in mathematical physics. (Korean. English summary) *Hak-sul Chi* **12** (1971), 681–689. **58** #29857 43A90

Study of a variational theory in mathematical physics. (Korean. English summary) *Hak-sul Chi* **17** (1974), 427–435. (D. H. Chyung) **55** #6480 58E99 (58–01)

Jyothi, S. (*with* Ramanna, R.) Differential geometry of atomic structure and the binding energy of atoms. *Internat. J. Theoret. Phys.* **4** (1971), 339–359. (Authors' summary) **51** #14793 81.35

Jyothirao, Patta A. D. (*with* Bapeswara Rao, V. V.; Aatre, V. K.) A note on positive real functions. *Proceedings of the Eighteenth Midwest Symposium on Circuits and Systems* (*Concordia Univ., Montreal, Que.*, 1975), *pp.* 252–253. *Western Periodicals, North Hollywood, Calif.*, 1975. (P. R. Bryant) **55** #7591 94A20

(*with* Bapeswara Rao, V. V.) Formulation of network matrices. (German summary) *AEÜ—Arch. Elek. Übertragungstech. Electron. Commun.* **29** (1975), 168–172. (W.-K. Chen) **51** #2782 94A20

ke, Jürgen (*with* Herz, Bernhard) Ein isoperimetrisches Problem mit Nebenbedingung. *Elem. Math.* **28** (1973), 63–65. (G. D. Chakerian) **48** #7120 52A40

Über eine Verallgemeinerung der Valentineschen P_3-Eigenschaft. *Geometriae Dedicata* 2 (1973), 111–114. (F. A. Valentine) **48** #1036 52A20

Zur kombinatorischen Struktur (m, n)-konvexer Mengen. *Geometriae Dedicata* **6** (1977), *no.* 2, 165–169. (C. M. Petty) **58** #18143 52A20

i, K. Rings in which all subgroups of the additive group are subrings. (Russian) *Students' works in algebra and geometry* (*Russian*), *pp.* 5–24. *Tartu. Gos. Univ., Tartu,* 1972. (G. M. Bergman) **52** #10835a 17E05

Rings in which all subgroups of the additive group are subrings. II. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 336 (1974), 206–233. (G. M. Bergman) **52** #10835b 17E05

A note on near-rings with unity. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 336 (1974), 234–242. (J. R. Clay) **52** #3247 16A76

Minimal ideals in near-rings. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 366 (1975), 105–142. (F. L. Hardy) **56** #424 16A76

Radicals in near-rings. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 390 (1976), 134–171. (F. L. Hardy) **57** #9760 16A76

, R. (*with* van Emde Boas, Peter; Zijlstra, E.) Design and implementation of an efficient priority queue. Sixteenth Annual Symposium on Foundations of Computer Science (Berkeley, Calif., 1975), selected papers. *Math. Systems Theory* **10** (1976/77), *no.* 2, 99–127. (A. D. Booth) **55** #4772 68A20 (90B15)

hoek, M. A. On the peripheral spectrum of an element in a strict closed semi-algebra. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf., Tihany,* 1970), *pp.* 319–332. *Colloq. Math. Soc. János Bolyai, 5. North-Holland, Amsterdam,* 1972. (A. M. Sinclair) **50** #10849 46L20 (47C05)

(*with* Smyth, M. R. F.) On operators T such that $f(T)$ is Riesz or meromorphic. *Proc. Roy. Irish Acad. Sect. A* **72**, 81–87 (1972). (E. Berkson) **47** #5641 47B05

(*with* Lay, David C.) Ascent, descent, and commuting perturbations. *Trans. Amer. Math. Soc.* **169** (1972), 35–47. (R. Nussbaum) **47** #861 47A55

A note on the spectral properties of linear operators leaving invariant a convex set. *Nederl. Akad. Wetensch. Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 254–262. (B. Yood) **8** #6971 47A10

(*with* West, T. T.) ★Locally compact semi-algebras. With applications to spectral theory of positive operators. North-Holland Mathematics Studies, No. 9. *North-Holland Publishing Co., Amsterdam-London; American Elsevier Publishing Co., Inc., New York,* 1974. ix + 102 *pp.* (E. J. Barbeau) **56** #1067 46H99 (47B55, 47D20)

(*with* Bart, Harm; Lay, David C.) Stability properties of finite meromorphic operator functions. I. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 217–230. (Jürgen Leiterer) **50** #14298a 47A55

(*with* Bart, Harm; Lay, David C.) Stability properties of finite meromorphic operator functions. II. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 231–243. (Jürgen Leiterer) **50** #14298b 47A55

(*with* Bart, Harm; Lay, David C.) Stability properties of finite meromorphic operator functions. III. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 244–259. (Jürgen Leiterer) **50** #14298c 47A55

(*with* Bart, H.; Lay, David C.) Relative inverses of meromorphic operator functions and associated holomorphic projection functions. *Math. Ann.* **218** (1975), *no.* 3, 199–210. (Jürgen Leiterer) **53** #3743 47A55

(*with* Förster, Karl-Heinz) The asymptotic behaviour of the reduced minimum modulus of a Fredholm operator. *Proc. Amer. Math. Soc.* **49** (1975), 123–131. (H. A. Gindler) **51** #8867 47A55 (47B30)

(*with* Gohberg, Israel C.; Lay, David C.) Spectral classification of operators and operator functions. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 4, 587–589. (R. G. Bartle) **3** #8939 47A55

(*with* Bart, Harm; Gohberg, Israel C.) Operator polynomials as inverses of characteristic functions. *Integral Equations Operator Theory* **1** (1978), *no.* 1, 1–18. (Harro Heuser) **57** #17323 47A45

(*with* Gohberg, Israel C.; Lay, David C.) Equivalence, linearization, and decomposition of holomorphic operator functions. *J. Functional Analysis* **28** (1978), *no.* , 102–144. (Harro Heuser) **58** #2390 47A65 (47B30)

(*with* Bart, Harm; Lay, David C.) The integral formula for the reduced algebraic multiplicity of meromorphic operator functions. *Proc. Edinburgh Math. Soc.* (2) **21** (1978/79), *no.* 1, 65–71. (T. Kato) **58** #17884 47A10 (47B30)

k, Ü. (*with* Tamme, È. È.) An algorithm for the solution of a generalized load problem. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 13 (1968), 3–21. (Ju. Finkel'steĭn (RŽMat **1969** #3 V317)) **46** #1301 90B25

The terminology of programming and mathematical economics. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 21 (1971), 3–61. (Editors) **52** #10319 00A20 (90–02)

(*with* Tjaht, R.) A method of solution of a certain Boolean problem of linear programming. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 22 (1971), 35–40. (Š. Krčevinac) **46** #3064 90C05

(*with* Lasn, T.) A method of approximate solution of nonlinear programming problems. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 23 (1971), 32–50. (S. Krčevinac) **46** #3091 90C30

(*with* Prèèm, M. K.) A problem of finding routes. (Russian) *Trudy Vyčisl. Centra Tartu Gos. Univ. No.* 28 (1973), 3–18. **52** #7504 90B10

(*with* Baron, S. A.; Reĭmers, È. G.) On the occasion of the sixtieth birthday of Ja. abovič. (Russian) *Tartu Riikl. Ül. Toimetised No.* 355 (1975), 3–6. (Editors) **1** #12462 01A70

M. Albert Das lineare Verfolgungsspiel im Licht des Pontryaginschen Flucht-Theorems. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **20** (1972), . 10, 443–447. (È. G. Al'breht) **54** #9698 90D25 (49E15)

Certain topological postulates in the theory of pursuit and evasion. *Kybernetes* **3** (1974), *no.* 4, 221–229. (A. I. Subbotin) **54** #2227 90D25

The relevence of multi-valued functions in the theory of pursuit games. *Kybernetes* (1975), *no.* 2, 97–104. (Ronald J. Stern) **53** #5021 90D25

Coincidence mappings: a game-theoretic view. *Kybernetes* **4** (1975), *no.* 3, 165–168. (Author's summary) **57** #11814 90D40 (55C20)

On games in which both players either have or fail to have winning strategies. *Kybernetes* **4** (1975), *no.* 4, 233–237. (J. C. Oxtoby) **52** #10433 04A15 (54E99, 90D40)

★Elemente der mathematischen Logik für den Gebrauch in Physik und Technik. *R. Oldenbourg Verlag, Munich-Vienna,* 1977. 243 *pp. ISBN* 3-486-20711-3 (Editors) **58** #16076 02–01 (68–01, 82.00, 94–01)

Kaazik, Ju. Ja. *See* **Kaasik, Ü.**

Kabacĭĭ, M. M. (*with* Markuš, Ī. Ī.) Asymptotic representation of the solution of the Cauchy problem for a second order linear hyperbolic equation with a small parameter multiplying the highest derivative with respect to the time coordinate. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 780–783, 860. (J. Muszyński) **50** #7771 35C10

Kabaila, A. P. (*with* Care, R. F.; Lawther, R. E.) Finite element post-buckling analysis for frames. *Internat. J. Numer. Methods Engrg.* **11** (1977), *no.* 5, 833–849. (B. A. Bondarenko) **56** #1910 73.65

See also **Finite element methods in engineering, 56** #9897

Kabaila, Paul V. (*with* Goodwin, G. C.) Comments on "Parameter estimation in multivariate stochastic difference equations" (IEEE Trans. Automatic Control **AC-19** (1974), 784–797) by R. L. Kashyap and Robert E. Nasburg. With a reply by R. L. Kashyap and R. E. Nasburg. *IEEE Trans. Automatic Control* **AC-20** (1975), *no.* 5, 719–720. **56** #11378 93E10 (62M10)

(*with* Goodwin, G. C.; Ng, Tung Sang) On the optimization of vector-valued performance criteria. *IEEE Trans. Automatic Control* **AC-20**, (1975), *no.* 6, 803–804. (Pierre Loridan) **54** #13670 49A99

Kabaila, V. A remark on the convergence of a Dirichlet series on the boundary of the domain of convergence. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 109–115. (S. Mandelbrojt) **46** #5596 30A16

An analogue of the Poisson-Jensen formula with a double integral. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 241–253. (D. Sarason) **45** #3718 30A86 (30A08)

Letter to the editors. (Russian) *Litovsk. Mat. Sb.* **13** (1973), *no.* 1, 227. (Editors) **50** #612 30A78

Smoothed characteristics of meromorphic functions. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 2, 43–53, 257. (I. N. Baker) **48** #6421 30A70

An interpolation problem in the class H_1. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 1, 33–39, 225–226. (R. McLaughlin) **52** #760 30A80

A certain interpolation problem in the space H^p. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 3, 87–92, 237–238. (R. McLaughlin) **52** #3537 30A80 (30A78)

The continuous factorization of functions in H^p classes. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 4, 121–126, 222–223. (Boris Korenblum) **57** #639 30A78

Kabak, Bert (*with* Schaumberger, Norman) Another proof of the arithmetic-geometric mean inequality. *Pi Mu Epsilon J.* **6**, *no.* 6, 352–354 (1977). (Editors) **55** #3197 26A86

Kabak, G. I. (*with* Lando, Ju. K.) The minimal Green's matrix of a multi-valued differential operator. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 6, 978–982, 1139. (Leo F. Boron) **54** #7942 34B25 (47E05)

The Green's matrix of a p-dimensional valued differential operator. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 2, 115–117, 143. (Leo F. Boron) **53** #13712 34B25

Kabak, Irwin W. Blocking and delays in $M^{(x)}/M/c$ bulk arrival queueing systems. *Management Sci.* **17** (1970/71), 112–115. (J. G. C. Templeton) **49** #6405 60K25

System availability for gamma failure and repair time distributions. *Opsearch* **8** (1971), 189–200. (Author's summary) **47** #4616 90B25

(*with* Weinberg, Charles B.) The generalized newsboy problem, contract negotiations and secondary vendors. *AIIE Trans.* **4** (1972), 154–157. (A. Bensoussan) **51** #2610 90B05

Kabak, V. I. Certain properties of polynomial pencils in a Banach algebra. (Russian) *Mat. Issled.* **10** (1975), *no.* 3(37), 56–70, 239. (P. A. Kučment) **53** #8942 47A65 (46H05)

(*with* Markus, A. S.) The decomposition of a polynomial pencil into linear factors. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 4(184), 245–246. (E. Durszt) **53** #1317 47A65

(*with* Markus, A. S.; Mereuca, I. V.) The spectral properties of the divisors of a polynomial operator pencil. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1976**, *no.* 2, 24–26, 93. (E. Durszt) **55** #1119 47A65

(*with* Markus, A. S.; Mereuca, I. V.) The connection between spectral properties of a polynomial operator pencil and its factors. (Russian) Spectral properties of operators. *Mat. Issled. Vyp.* 45 (1977), 29–57, 180. (E. Durszt) **58** #2392 47A65 (47A10)

Kabakov, A. B. (*with* Dubov, Ju. A.; Ikoeva, N. V.; Imel'baev, Š. S.; Koval'čuk, S. G.; Kopeĭkin, A. B.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul'jan, B. L.) Mathematical simulation of the development of urban systems. *Avtomat. i Telemeh.* **1975**, *no.* 11, 93–127 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 2, 1831–1862 (1976). (Kenneth F. Wieand) **55** #7306 90A15 (92A15, 93C10)

Kabakov, F. A. (*with* Petrov, I. M.; Frenkel', V. I.) ★Математика для лингвистов. Часть I. (Russian) [Mathematics for linguists. Part 1] Множества, алгебра, логика. [Sets, algebra, logic] *Moskov. Gosudarstv. Ped. Inst. Inostran. Jazykov im. Toreza, Moscow,* 1973. 160 *pp.* (Editors) **50** #12495 00A05

See also **Mendelson, Elliot, 50** #1825; **Mendelson, Elliot, 54** #4907 *and* **Kleene, Stephen Cole; et al., 58** #16196

Kabakova, A. I. The initial period of the development of the theory of a low temperature plasma. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1976**, *no.* 1(54), 52–56, 97, 108. (Editors) **58** #4901 01A60

Kabalevskiĭ, A. N. (*with* Volkovinskiĭ, M. I.) Service with mixed priorities in systems with losses on switchover. *Avtomat. i Telemeh.* **1975**, *no.* 11, 16–22 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 1, 1758–1764

(1976). (Masafumi Sasaki) **54** #11572 60K25 (90B35)

Kaballo, Winfried Zum Abbildungsgrad in Hausdorffschen topologischen Vektorräumen. (English summary) *Manuscripta Math.* **8** (1973), 209–216. (J. Daneš) **50** #10922 47H10 (55C25)

Über holomorphe und meromorphe einseitige Inverse. (English summary) *Manuscripta Math.* **13** (1974), 1–13. (H. Amann) **50** #10885 47B30 (32C35)

Holomorphe Störungstheorie in lokalkonvexen Räumen. (English summary) *Manuscripta Math.* **18** (1976), *no.* 1, 57–82. (Harro Heuser) **53** #3744 47A55 (58B15, 58B10)

Projektoren und relative Inversion holomorpher Semi-Fredholmfunktionen. *Math. Ann.* **219** (1976), *no.* 1, 85–96. (Harro Heuser) **52** #11636 47A55 (32C25)

Lifting theorems for vector valued functions and the ε-tensor product. *Functional analysis: surveys and recent results* (*Proc. Conf., Paderborn*, 1976), *pp.* 149–166. *North-Holland Math. Studies, Vol.* 27; *Notas de Mat., No.* 63, *North-Holland, Amsterdam*, 1977. (D. Vogt) **58** #17878 46M05 (46E40)

Holomorphe Systeme von Pseudodifferentialoperatoren. *Arch. Math.* (*Basel*) **29** (1977), *no.* 3, 284–299. (G. Greiner) **58** #6785 35S05 (32A99, 47G05, 58G15)

(*with* Gramsch, Bernhard) Regularisierung von Fredholmfunktionen. *Math. Ann.* **232** (1978), *no.* 2, 151–162. (Jürgen Leiterer) **57** #17334 47A55 (32D05, 58B15)

Kabanec, I. F. *See* **Mathematical simulation and the theory of electrical circuits, 48** #3287

Kabanin, V. A. Solution of a mixed problem for a fourth order equation. (Russian) *Differential equations and inequalities* (*Russian*), *pp.* 54–61. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1973. (R. Guenther) **53** #13878 35Q99

Kabanin, V. K. Solution of a functional equation. (Russian) *Numerical analysis and mathematical physics, No.* 2 (*Russian*), *pp.* 252–260. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (Editors) **58** #29288 35L05

Kabanov, A. N. (*with* Djatlov, V. A.; Milov, L. T.) Synthesis of output filters for the control of dynamical objects. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1973**, *no.* 11, 1254–1257. (K. Amborski) **48** #13354 93B35

Kabanov, G. A. (*with* Sedjakin, N. M.) A certain physical principle of reliability theory and some consequences of it. (Russian) *Mathematical methods in quality control and reliability* (*Proc. All-Union Colloq., Tashkent*, 1967) (*Russian*), *pp.* 103–124. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1969. (A. Obretenov) **45** #6134 62N05

Kabanov, Ju. M. Representation of the functionals of Wiener and Poisson processes in the form of stochastic integrals. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 376–380. (G. Niculescu) **47** #7809 60H05 (60J65)

Integral representations of functionals of processes with independent increments. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 889–893. (Stanley Sawyer) **50** #11468 60J30 (60G45)

A generalized Itô formula for an extended stochastic integral with respect to Poisson random measure. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 4(178), 167–168. (D. Surgailis) **53** #1732 60H05

(*with* Skorohod, A. V.) Extended stochastic integrals. (Russian) *Proceedings of the School and Seminar on the Theory of Random Processes* (*Druskininkai*, 1974), *Part I* (*Russian*), *pp.* 123–167. *Inst. Fiz. i Mat. Akad. Nauk Litovsk. SSR, Vilnius*, 1975. (Stanley Sawyer) **54** #1375 60H05

(*with* Lipcer, R. Š.; Širjaev, A. N.) Martingale methods in the theory of point processes. (Russian) *Proceedings of the School and Seminar on the Theory of Random Processes* (*Druskininkai*, 1974), *Part II* (*Russian*), *pp.* 269–354. *Inst. Fiz. i Mat. Akad. Nauk Litovsk. SSR, Vilnius*, 1975. (Ĭ. M. Stojanov) **55** #4371 60G45 (60G55, 93E10)

Extended stochastic integrals. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no.* 4, 725–737. (D. Surgailis) **53** #1733 60H05

(*with* Lipcer, R. Š.; Širjaev, A. N.) Criteria of absolute continuity of measures corresponding to multivariate point processes. *Proceedings of the Third Japan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 232–252. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (Editors) **58** #24515 60G30

(*with* Lipcer, R. Š.; Širjaev, A. N.) "Predictable" criteria for the absolute continuity and singularity of probability measures (the case of continuous time). (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 5, 1016–1019. (Jean Memin) **58** #24513 60G30 (60G45)

(*with* Lipcer, R. Š.; Širjaev, A. N.) On the question of the absolute continuity and singularity of probability measures. (Russian) *Mat. Sb.* (*N.S.*) **104(146)** (1977), *no.* 2(10), 227–247, 335. (Jean Memin) **58** #24514 60G30 (60G45)

The transmission capacity of a Poisson type channel. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 1, 148–153. (Ĭ. M. Stojanov) **57** #15729 94A05

Kabanov, N. I. The geometric theory of a singular variational problem for an $(n-1)$-triple integral. (Russian) *Differential geometry, No.* 3 (*Russian*), *pp.* 10–30, 107. *Izdat. Saratov. Univ., Saratov*, 1977. (Author's introduction) **58** #30855 53B20

See also **Progress in mathematics, 49** #4726

Kabanov, V. A. Recurrent procedures of Bayesian estimation in real time systems. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 300 (1976), 94–102. (Vladimir Katkovnik) **56** #15037 93E10

Kabanov, V. V. Finite groups with a selfcentralizing subgroup of order 6. (Russian) *Algebra i Logika* **11** (1972), 509–515, 614. (R. Kochendörffer) **47** #5108 20D25

Finite groups with a selfcentralizing subgroup of order 6 and one class of involutions. (Russian) *Algebra i Logika* **11** (1972), 516–534, 614. (R. Kochendörffer) **47** #5097 20D05

(*with* Mazurov, V. D.; Syskin, S. A.) Finite simple groups whose Sylow 2-subgroups have an extraspecial subgroup of index 2. (Russian) *Mat. Zametki* **14** (1973), 127–132. (Peter M. Neumann) **48** #11277 20D05

(*with* Starostin, A. I.) Finite groups in which the Sylow 2-subgroup of the centralizer of a certain involution is of order16. (Russian) *Mat. Zametki* **18** (1975), *no.* 6, 869–876. (V. M. Busarkin) **53** #3101 20D05

(*with* Mahnev, A. A.; Starostin, A. I.) Finite groups with normal intersections of Sylow 2-subgroups. (Russian) *Algebra i Logika* **15** (1976), *no.* 6, 655–659, 744. (S. S. Levīščenko) **58** #5915 20D20 (20D05)

Finite groups with large intersections of Sylow 2-subgroups. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 5, 1188–1189, 1200. (N. D. Podufalov) **55** #5738 20D20

(*with* Železnov, L. P.) A study of the stability of cylindrical shells un inhomogeneous stress state by the finite element method. (Russian) *Prikl. M* (1978), *no.* 3, 45–52, 141. (Authors' summary) **58** #19659 73.65

Kabanov, Yu. M. *See* **Kabanov, Ju. M.**

Kabasawa, Yasuo (*with* Noguchi, Shoichi; Oizumi, Juro) Nonsupervised learning by stochastic approximation. *Systems-Computers-Controls* **5** (1974), *no.* 6, 30–38 (M. Arató) **53** #2054 68A35 (68A45)

(*with* Noguchi, Shoichi; Oizumi, Juro) Fundamental consideration of classi rules for sequentially dependent patterns. *Systems-Computers-Controls* **6** (1975) 81–89. (Not reviewed) 68A45

(*with* Noguchi, Shoichi; Oizumi, Juro) Statistical learning for dependent sequences. *Systems-Computers-Controls* **6** (1975), *no.* 5, 111–118. (Sidney Ber **57** #4693 68A45 (62G10)

(*with* Noguchi, Shoichi) Topological structures of symbolic sequence pattern and their representations. *Electron. Comm. Japan* **60** (1977), *no.* 12, 42–50. (A summary) **58** #32136 68A45 (68A30)

Kabatjanskiĭ, G. A. (*with* Bojarinov, I. M.) Arithmetic (n, A)-codes over an arbitrar (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 4, 794–797. (G. M. Te **52** #16846 94A10

(*with* Bojarinov, I. M.) Perfect arithmetic *AN*-codes for single error cor (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 1, 16–23. (Stefan Dodu **54** #12350 94A10

Bounds for the number of code words in binary arithmetic codes. (Ru *Problemy Peredači Informacii* **12** (1976), *no.* 4, 46–54. (T. Nemetz) **58** #15677 94A10

Two generalizations of the product of codes. (Russian) *Dokl. Akad. Nauk* **232** (1977), *no.* 6, 1277–1280. (From the introduction) **58** #9766 94A10

The existence of good cyclic almost linear codes over non-prime fields. (Ru *Problemy Peredači Informacii* **13** (1977), *no.* 3, 18–21. (Author's summary) **58** #1 94A10

(*with* Levenšteĭn, V. I.) Bounds for packings on the sphere and in space. (Ru *Problemy Peredači Informacii* **14** (1978), *no.* 1, 3–25. (Authors' summary) **58** #2 52A45

Kabdykairov, K. K. (*with* Bazarbaeva, S. E.) Solution of a partial integro-diff equation. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1978**, *no.* 3, 77- (Authors' summary) **58** #17754 45K05

Kabe, D. G. Generalized MANOVA linear hypothesis with linear restrictions. *Est* **28** (1970), 542–546. (R. Pfaffenberger) **51** #4554 62H15

(*with* Wani, J. K.) On some least square problems. *J. Indian Statist. Assoc.* **8** 32–36. (R. Pfaffenberger) **50** #15191 62J99

(*with* Gupta, R. P.) Distribution of certain factors useful in discriminant ar *Ann. Inst. Statist. Math.* **23** (1971), 97–103. **45** #4543 62H30

Some distributions of ordered values from Burr and beta distributions. *Math. Bull.* **14** (1971), 167–173. (A. M. Mathai) **49** #6481 62G30

(*with* Wani, J. K.) Generalized inverse and its applications in classical multivariate regression theory. *Trabajos Estadíst.* **22** (1971), *no.* 1-2, 137–146. Khatri) **47** #9783 62J05

On a generalization of Rao's *U* statistic. *Ann. Inst. Statist. Math.* **24** (1972), (D. Papamicail) **48** #9983 62H15

(*with* Wani, J. K.) Note on a multidimensional linear discriminant function *Inst. Statist. Math.* **24** (1972), 409–412. (J. N. K. Rao) **48** #12734 62H30

(*with* Gupta, R. P.) Decomposition of the multivariate beta distributio applications. *Canad. Math. Bull.* **15** (1972), 225–228. (C. G. Khatri) **46** #1 62E10

Some results for the normal univariate covariance linear regression model. *J.* *Statist. Assoc.* **10** (1972), 36–41. (R. Pfaffenberger) **51** #4550 62H10

(*with* Gupta, R. P.) Extensions of the general multivariate linear hypothesis (German and Russian summaries) *Math. Operationsforsch. Statist.* **3** (1972), 61–65. (J. Kiefer) **48** #3186 62H15 (62J10)

(*with* Gupta, R. P.) On testing several linear relations. (German and summaries) *Math. Operationsforsch. Statist.* **3** (1972), *no.* 3, 203–205. (G. T **49** #1686 62H15

On moments of order statistics from the Pareto distribution. *Skand. Aktuari* **1972**, 179–181 (1973). **49** #11688 62E10

On the noncentral distribution of a certain correlation matrix. *South African* *J.* **6** (1972), 27–29. (Robert Hultquist) **46** #10129 62H10

On Rao's generalized *U* statistic. *Multivariate statistical inference* (*Proc. Res* *Dalhousie Univ., Halifax, N.S.*, 1972), *pp.* 129–135. *North-Holland, Amsterdam*; *American Elsevier, New York*, 1973. (I. Olkin) **48** #5264 62H10

A note on a quadratic programming problem. *Indust. Math.* **23** (1973), 61– W. Cottle) **50** #1718 90C20

(*with* Wani, J. K.) Some results for the inverse Gaussian process. *Skand. Aktuarietidskr.* **1973**, 52–57. **49** #11692 62E99

(*with* Wani, J. K.) Distributions of linear functions of ordered rectangular va *Skand. Aktuarietidskr.* **1973**, 58–60. (E. Lukacs) **49** #11694 62E15 (62G30)

Generalized Sverdrup's lemma and the treatment of less than full rank reg model. *Canad. Math. Bull.* **17** (1974), *no.* 3, 417–419. (P. Fortunati) **51** #1 62J05

(*with* Gupta, R. P.) Distributions of sums of truncated discrete variate applications. *Comm. Statist.* 3 (1974), 1161–1170. (Authors' summary) **50** #1 62E15

Some results for the reduced form model. *Applied statistics* (*Proc. Conf., Da* *Univ. Halifax, N. S.*, 1974), *pp.* 169–175. *North-Holland, Amsterdam*, 1975. (Sta Sclove) **53** #6889 62H15 (62J10)

Generalized MANOVA double linear hypothesis with double linear restric *Canad. J. Statist.* 3 (1975), *no.* 1, 35–44. (P. Fortunati) **52** #15849 62H15 (6

Some results for the GMANOVA model. *Comm. Statist.* **4** (1975), *no.* 9, 81 (I. Olkin) **51** #11822 62H15 (62J10)

A note on compressing multivariate data. *Indust. Math.* **25** (1975), *no.* 1, 45– G. Khatri) **52** #7011 62H10 (62Jxx) (*with* Laurent, Andre G.) Distributions of certain vector quadratic forms. *Indust. Math.* **25** (1975), *no.* 2, 105–110. (Sabri Al-Ani) **52** #12211 (E **54** #1481) 62H10

On testing equality of *k* generalized MANOVA models. *J. Indian Statist. Assoc.* **13** (1975), 39–44. (S. John) **53** #11884 62H15

Inverse moments of discrete distributions. (French summary) *Canad. J. Statist.* **4** (1976), *no.* 1, 133–141. (M. L. Tiku) **56** #6961 62E15

Q generalized Sverdrup's lemma. (French summary) *Canad. J. Statist.* **4** (1976), *no.* 2, 221–226. (Edward M. Carter) **56** #4053 62H10

(*with* Laurent, Andre G.) Errata: "Distributions of certain vector quadratic forms" (Indust. Math. **25** (1975), no. 2, 105–110). *Indust. Math.* **26** (1976), *no.* 2, 113. (Editors) **54** #1481 62H10

On confidence bands for quantiles of a normal population. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 354, 417–419. (Ivar Petersen) **53** #14776 62F25

(*with* Laurent, Andre G.) Statistical normal bombing problems. *Indust. Math.* **27** (1977), *no.* 2, 105–111. (Authors' summary) **57** #17929 62F15 (62H99, 62J05)

(*with* Scobey, P.) On a criterion for extrapolation in multivariate normal regression. *Statist. Hefte* (*N.F.*) **18** (1977), *no.* 2, 129–132. (Authors' summary) **58** #31615 62J05

(*with* Gupta, R. P.) Prediction of correlated observations in multivariate regression with stochastic regressors. *Utilitas Math.* **12** (1977), 25–30. (H. Toutenburg) **58** #18921 62J05

(*with* Scobey, P.) Vector quadratic programming problems and inequality constrained least squares estimation. *Indust. Math.* **28** (1978), *no.* 1, 37–50. (Authors' summary) **58** #20429 90C20

On binary variables multiple regression. *Scand. J. Statist.* **5** (1978), *no.* 1, 72–74. (Colin L. Mallows) **57** #14278 62J05

See also **Multivariate statistical inference**, **47** #7861

el, Detlef *See* **Dictionary: Cybernetics**, **51** #2827

enjuk, M. I. The complementability of subgroups in compact groups. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 939–943. (H. Salzmann) **46** #7442 22C05

(*with* Mazurov, V. D.) Cyclic automorphism groups of topological groups. (Russian) *Algebra i Logika* **13** (1973), 9–21, 120. (H. de Vries) **51** #5723 22A05 (20B25)

Finite automorphism groups of topological groups. (Russian) *Algebra i Logika* **13** (1974), 291–299, 364. (H. de Vries) **51** #5724 20B25 (22A05)

Normal subgroups of locally compact groups. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 5, 1005–1010, 1131. (Harald Rindler) **53** #699 22D05

euchi, Teruo (*with* Sunahara, Yoshifumi; Asada, Yoshiharu; Aihara, Shin'ichi; Kishino, Kiyotaka) On stochastic controllability for nonlinear systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 49–54. (Peter Stavroulakis) **50** #12415 93E20

r, A. B. M. Lutful (*with* Ahsanullah, Mohammad) A characterization of the Pareto distribution. (French summary) *Canad. J. Statist.* **1** (1973), *no.* 1, 109–112. (V. Seshadri) **53** #11834 62E10

(*with* Ahsanullah, Mohammad) A characterization of the power function distribution. *Canad. J. Statist.* **2** (1974), *no.* 1, 95–98. (Ramesh C. Gupta) **53** #1801 62E10

(*with* Ahsanullah, Mohammad) Estimation of the location and scale parameters of a power-function distribution by linear functions of order statistics. *Comm. Statist.* **3** (1974), 463–467. (J. V. Deshpande) **51** #9322 62F10

(*with* Rahman, Mizan) Bounds for expected values of order statistics. *Comm. Statist.* **3** (1974), 557–566. (I. R. Savage) **50** #1409 62G30

(*with* Ahsanullah, Mohammad) A characterization of the Pareto distribution. *Comm. Statist.* **3** (1974), *no.* 10, 953–957. (Ramesh C. Gupta) **53** #1800 62E10

(*with* Ahsanullah, Mohammad) Estimation of Pr($Y<X$) when X and Y have a joint bivariate normal distribution. *Proceeding of the Symposium on Statistics and Related Topics* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 15, 11 *pp. Carleton Univ., Ottawa, Ont.*, 1975. (George W. Williams) **55** #6649 62F10

, E. O. *See* **Soviet statistics in half a century (1917–1967)**, **50** #15016

risky, M. *See* **Applications of Walsh functions**, **48** #8080

ulov, A. V. Local algorithms over S. V. Jablonskiĭ schemes. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 1, 217–225, 286. (Max I. Kanovič) **57** #9324 94A20

ulov, R. The analytic continuability with respect to the parameter of the solution of a Cauchy problem. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **14** (1970), *no.* 4, 13–17. (A. Haimovici) **45** #701 35R99

Power-fractional solvability of the Cauchy problem for a certain class of equations in a Banach space. (Russian) *Boundary value problems for differential equations, No.* 2 (*Russian*), *pp.* 104–110, 187. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1972. (Author's summary) **56** #12473 34G05

(*with* Kutmatov, Š.) Analytic continuability with respect to a parameter of the solution of the Cauchy problem. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp.* 3–10. *Samarkand. Gos. Univ., Samarkand*, 1972. (M. Ráb) **54** #10785 34G05

(*with* Kutmatov, Š.) Fractional power continuability of the solution of the Cauchy problem with respect to a parameter. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp.* 10–17. *Samarkand. Gos. Univ., Samarkand*, 1972. (M. Ráb) **54** #10786 34G05

(*with* Ahmatova, S.) The singular solutions of a certain class of integrodifferential equations. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp.* 17–26. *Samarkand. Gos. Univ., Samarkand*, 1972. (Editors) **54** #3336 45K05

On singular solutions of a certain class of equations. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp.* 26–33. *Samarkand. Gos. Univ., Samarkand*, 1972. (B. V. Loginov) **54** #3451 47A50 (47H15)

Unbounded solutions of a certain class of equations. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972), (*Russian*), *pp.* 98–107. *Samarkand. Gos. Univ., Samarkand*, 1972. (B. V. Loginov) **54** #3452 47A50 (34G05, 47H15)

(*with* Bykov, Ja. V.) The periodic oscillations with large amplitude of certain classes of nonlinear systems. (Russian) *Differencial'nye Uravnenija* **8** (1972), 223–229. (M. Švec) **47** #558 34C25 (34G05)

The singular solutions of a certain class of nonlinear equations. (Russian) *Boundary value problems for differential equations*, 3 (*Russian*), *pp.* 115–130, 187. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1973. (E. Zeidler) **51** #13795 47H15

(*with* Bykov, Ja. V.) The singular solutions of a certain class of equations. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **17** (1973), *no.* 2, 3–9, 69. (D. Przeworska-Rolewicz) **53** #1347 47H15 (47A50)

(*with* Bykov, Ja. V.) Singular solutions of a certain class of nonlinear equations. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 6, 3–9, 90. (S. Fučik) **54** #11126 47H15

(*with* Bykov, Ja. V.) Unbounded solutions of a class of equations. (Russian) *Taškent. Gos. Ped. Inst. Sb. Naučn. Trudov* **166** *Nekotorye Vorposy Fiz. Kristal. i Differencial. Uravneniĭ* (1976), 27–37, 90. (Authors' introduction) **57** #17327 47A50

Kabulov, V. K. A certain algorithmization scheme in the method of deformation. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1969**, *no.* 11, 5–6. (R. N. Goss) **47** #2859 68A20 (73.65)

A certain algorithmic approach to the calculation of frame systems. (Russian. Uzbek summaries) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 6, 7–9. (Z. Kączkowski) **47** #7983 73.34

The foundations of algorithmization. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 45 (1971), 72–77. **55** #1784 68A05

Some problems of the automation of computational processes on electronic computers. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 5 (1971), 47–72. (See RŽMat **1972** #2 B895) 68A10

Kaburaki, Shigeru (*with* Sasaki, Masafumi; Yanagi, Shigeru) System availability and optimum spare units. *IEEE Trans. Reliab.* **R-26** (1977), *no.* 3, 182–188. (Masanori Kodama) **58** #15105 90B25 (90C10)

Kabyš, V. L. (*with* Bernšteĭn, A. S.; Èl'vov, S. N.) ★Математические методы решения экономических задач в отраслях народного хозяйства. (Russian) [Mathematical methods for the solution of economic problems in sectors of the national economy] *Izdatel. Ob"ed. "Višča Škola" Izdat. pri Kiev. Gosudarstv. Univ., Kiev*, 1973. 223 *pp.* (A. Aganbegjan) **55** #11967 90A15

Kabziński, Jacek K. (*with* Surma, Stanisław J.) Diagrams of models in the sense of A. Robinson and the neopositivist concept of protocol sentences. (Polish. English summary) *Zeszyty Nauk. Uniw. Jagiello. Prace z Logiki No.* 5, (1970), 9–14. (A. Sochor) **46** #1546 02A05

Some derivational formalizations of propositional modal logics. (Polish. English summary) *Zeszyty Nauk. Uniw. Jagiello. Prace z Logiki No.* 7 (1972), 7–21. (G. E. Minc) **47** #6444 02C10

On problems of definability of propositional connectives. Abstracts of the lectures delivered at the 19th Conference of the History of Mathematical Logic (Cracow, 1973). *Polish Acad. Sci. Inst. Philos. Sociology Bull. Sect. Logic* **2** (1973), 127–130. (Editors) **55** #7730 02B05

The Wajsberg's results connected with separability of the intuitionistic propositional logic. Abstracts of the lectures delivered at the 19th Conference of the History of Mathematical Logic (Cracow, 1973). *Polish Acad. Sci. Inst. Philos. Sociology Bull. Sect. Logic* **2** (1973), 131–133. (Editors) **55** #7743 02C15

(*with* Wroński, Andrzej) On equivalential algebras. *Proceedings of the* 1975 *International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.*, 1975), *pp.* 419–428. *IEEE Comput. Soc., Long Beach, Calif.*, 1975. (From the introduction) **58** #10438 02J05 (02C15)

(*with* Porębska, Małgorzata) Proof of the separability of the intuitionistic propositional logic by the Wajsberg method. *Rep. Math. Logic No.* 4 (1975), 31–37. (Michael Beeson) **51** #12487 02C15 (02D99)

Certain problems associated with an equivalential formulation of the classical propositional calculus. (Polish with English translation) Papers presented at the Logic Conference (Opole, 1973). *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **15 Logika Mat.** (1975), 29–32, 33–36. (K. Inoue) **55** #5384 02B05

An axiomatization of the variety of equivalential algebras by a single identity. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **6** (1977), *no.* 3, 102–106. (From the text) **58** #16277 02J05 (02C15, 08A15)

Kac, A. O. (Previous to 1980 this author's primary name was Kaca, $\bar{\text{A}}$.)

Some properties of totally inhomogeneous graphs. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap.* **242** *Razrabotka i Vnedrenie Avtomat. Sistem no.* 1 (1975), 128–131. (See Zbl **332** #05115) 05C35

A study of the system of distance vectors of a graph. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 20 (1976), 170–179, 214. (P. Ungar) **56** #15498 05C99

(*with* Grinberg, È. Ja.) The use of certain invariant characteristics to establish the isomorphism of graphs. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 21 (1977), 124–135, 237. (R. Mathon) **57** #12291 05C30 (05C10, 05C35)

Kac, A. S. The uniqueness of the polynomial of best simultaneous approximation in the metrics of C and $\mathfrak{L}_1$. (Russian) *Application of functional analysis in approximation theory, No.* 4 (*Russian*), *pp.* 53–59. *Kalinin. Gos. Univ., Kalinin*, 1974. (Editors) **58** #29602 41A10 (41A50)

Kac, A. V. (*with* Kontorovič, V. M.) Symmetry group of the kinetic equation and stationary distributions in a weakly turbulent plasma. *Phys. A* **86** (1977), *no.* 2, 471–474. (Authors' summary) **54** #14655 82.22

See also **Collection: Oscillations and waves in nonlinear media**, **49** #4705

Kac, B. A. (*with* Aleksandrov, A. M.) Servicing flows of inhomogeneous demands. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 2, 47–52 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 2, 228–233. (Authors' summary) **55** #4419 60K25

A boundary value problem with nonhomeomorphic shift. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 781–784. (N. K. Karapetjanc) **51** #10647 30A88

Convexity and starlikeness of the level curves of polynomials. (Russian) *Mat. Zametki* **15** (1974), 701–710. (A. W. Goodman) **50** #2459 30A06 (30A32)

Some problems of the boundary conjugation of analytic functions. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 6, 1271–1288, 1437. (G. S. Litvinčuk and N. L.

Vasilevskiĭ) **56** #3310 30A88

A method for estimating the number of linearly independent solutions of boundary value problems. (Russian) *Trudy Sem. Kraev. Zadačam Vyp*. 13 (1976), 120–127. (From the text) **58** #22585 30A88

Boundary value problems with not one-to-one shifts in the case of a multiply connected domain. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 1(176), 134–136. (N. K. Karapetjanc) **56** #633 (EA **55/56**) 30A88

Convexity and starlikeness of the level curves of rational functions. I. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 3 (178), 32–42. (A. W. Goodman) **57** #3373a 30A32

Convexity and starlikeness of the level curves of rational functions. II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 4 (179), 44–52. (A. W. Goodman) **57** #3373b 30A32

Kac, B. E. *See* **Kats, Boris E.**

Kac, È. H. *See* **Theory of languages and methods of construction of programming systems, 48** #7682

Kac, G. A. Certain characteristic classes in the category of smooth *G*-bundles. (Russian) *Mat. Sb.* (*N.S.*) **86(128)** (1971), 180–186. (C. Teleman) **45** #7734 58B20 (57D20)

J-rigged bordisms. (Russian) *Uspehi Mat. Nauk* **26** (1971), *no*. 4 (160), 233–234. (D. Burghelea) **46** #2695 57D90

Estimates for the ranks of Wall groups for finite subgroups in SU(2). (Russian) *Funkcional. Anal. i Priložen*. **6** (1972), *no*. 2, 86–87. (C. Teleman) **46** #9995 57C25

Euler cohomology classes, and homotopic approximation. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no*. 5(179), 225–226. (A. V. Zarelua) **54** #1221 55F10 (57D40)

Wall groups of finite groups, and *P*-signatures of manifolds. (Russian) *Mat. Sb.* (*N.S.*) **98(140)** (1975), *no*. 2(10), 185–206, 333. (A. A. Ranicki) **53** #14512 57D65 (18F25, 58G10)

Kac, G. I. (*with* Koronkevič, A. I.) The Frobenius theorem for functions of commuting and anticommuting arguments. (Russian) *Funkcional. Anal. i Priložen*. **5** (1971), *no*. 1, 78–80. (J. S. Joel) **57** #4208 58A15 (34A30, 58F05)

Certain arithmetic properties of ring groups. (Russian) *Funkcional. Anal. i Priložen*. **6** (1972), *no*. 2, 88–90. (Robert S. Doran) **46** #3687 22D25 (20C99, 46N05)

(*with* Vaĭnerman, L. Ĭ.) Nonunimodular ring groups, and Hopf-von Neumann algebras. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 1031–1034. (József Szücs) **49** #3025 22D35

(*with* Vaĭnerman, L. Ĭ.) Nonunimodular ring groups and Hopf-von Neumann algebras. (Russian) *Mat. Sb.* (*N.S.*) **94(136)** (1974), 194–225, 335. (J. M. G. Fell) **50** #536 22D35 (46L10)

(*with* Žuk, V. A.) Algebras with canonical generators, and the structure of C^*-algebras of metabelian Lie groups. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no*. 6, 1313–1316. (J. Cuntz (Zbl **351** #22004)) **58** #16953 22D25 (46L05)

Kac, I. Ja. (*with* Kuržanskiĭ, A. B.) Certain problems in observation and control under random circumstances. *Avtomat. i Telemeh.* **1970**, *no*. 12, 15–25 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no*. 12, 1913–1923. (L. D. Berkovitz) **46** #3181 93E20

(*with* Kuržanskiĭ, A. B.) The duality of statistical problems of optimal control and observation. (Russian. English summary) *Avtomat. i Telemeh.* **1971**, *no*. 3, 12–21. (R. Lipcer (RŽMat **1971** #10 V109)) **51** #5138 93E20

(*with* Kuržanskiĭ, A. B.) On the optimal observation problems. *Prikl. Mat. Meh.* **37** (1973), 771–786 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 733–747 (1974). (H. Taylor) **49** #12133 93E05

(*with* Abašev, F. H.) Stochastic optimal control problems with nonconvex constraints. *Prikl. Mat. Meh.* **38** (1974), 409–416 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 380–387 (1975). (François Brodeau) **50** #16048 93E20

(*with* Kuržanskiĭ, A. B.) Minimax estimation in multistep systems. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no*. 3, 535–538. (Bojan Popović) **51** #15111 93E10

Kac, Ī. S. Solution of an axially symmetric problem for elliptic selfadjoint second order equations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No*. 9 (1969), 111–120. (Author's summary) **45** #9514 65N20

Power asymptotic behavior of the spectral functions of generalized second order boundary value problems. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 752–755. (H. Baumgärtel) **45** #7535 47G05 (34B25)

Density of the spectrum of a string. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 520–523. (R. C. Gilbert) **49** #5455 34B25 (47E05)

A generalization of the asymptotic formula of V. A. Marčenko for the spectral functions of a second order boundary value problem. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 422–436. (J. B. Butler, Jr.) **48** #9450 47E05 (34B25)

The solution of a linear programming problem with negative right hand sides. (Russian) *Èkonom. i Mat. Metody* **10** (1974), 815–816. (K. Zimmerman) **50** #12228 90C05

A description of the set of spectral functions of a regular string supporting a concentrated mass at an end that is free of boundary conditions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no*. 7(146), 27–33. (G. B. Gustafson) **50** #5087 34B25 (47E05)

The incompleteness of the system of eigenfunctions of a generalized second order linear differential expression. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **60** (1975), *no*. 4, 198–203. (Leo F. Boron) **53** #3408 34B25 (47E05)

See also **American Mathematical Society Translations, Ser. 2, 48** #6969

Kac, L. I. (*with* Arhipov, Ju. A.; Šehter, D. Š.; Šehter, L. Š.) The magnetoresistive effect in a variable magnetic field. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no*. 2, 312–320. (Authors' summary) **56** #10440 78.35

Kac, M. E. The motion of charged particles in a random magnetic field. (Russian. English summary) *Ukrain. Fiz. Ž.* **16** (1971), 1536–1542. (E. H. Bareiss) **47** #2665 60H15 (82.60)

Kac, M. P. The extension of vector-valued measures. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 1158–1168, 1200. (Alan Shuchat) **49** #520 28A45

The second derivative of a twice differentiable measure might not be countably additive. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27** (1972), *no*. 5, 35–43. (G. Marinescu) **49** #10847 28A15

Conditions for the countable additivity of the derivatives of differentiable measures. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27** (1972), 18–25. (J. Daneš) **50** #10813 46G10

Every DF-space is quasinormable. (Russian) *Funkcional. Anal. i Priložen*. **7** *no*. 2, 85–86. (G. Marinescu) **49** #11190 46A05

Countable additivity of the derivatives of "sufficiently smooth" measures. (Ru *Uspehi Mat. Nauk* **28** (1973), *no*. 3(171), 183–184. (G. Marinescu) **54** #8282 (28A40)

(*with* Kurato, A.) Theorems on lifting vector-valued functions. (Russian) *Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no*. 4, 911–925. (Editors) **58** #7018a #7018b) 46A30 (46M99, 47A99)

An example of a dually metric space that is not a (DF)-space. (Russian. E summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no*. 4, 36–38. (Ruckle) **52** #11519 46A05

(*with* Kurato, A.) Corrections to the paper by A. Kurato and M. P. Kac: "Theorems on lifting vector-valued functions" (Izv. Akad. Nauk SSSR Ser. M (1975), 911–925). (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no*. 3, 70 (Editors) **58** #7018b 46A30 (46M99, 47A99)

Topological properties of pseudotopological linear spaces. (Russian) *Math.* **75** (1976), 207–227. (Theodore S. Bolis) **55** #10992 46A15 (58B10, 58C20)

(*with* Kurato, A.) A sufficient condition for the differentiability of vector- functions. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. M* (1976), *no*. 4, 44–51. (G. Marinescu) **55** #1377 58C20 (46G05)

Vector bundles as continuous families of spaces. (Russian) *Sibirsk. Mat.* (1978), *no*. 1, 49–53, 237. (A. Morimoto) **57** #10722 58B05 (55F25)

Quasi-invariance and differentiability of measures. (Russian) *Uspehi Mat. N* (1978), *no*. 3(201), 175. (S. A. Čobanjan) **58** #12353 46G10 (28A15)

Kac, Mark ★Aspects probabilistes de la théorie du potentiel. Séminaire de Mathématiques Supérieures (Été, 1968). *Les Presses de l'Université de Montréal, Montreal, Que.*, 1970. 151 *pp*. (J. Hawkes) **45** #2798 60J45

(*with* Ulam, S.) ★Математика и логика. Ретроспектива и перспективы. (Russian) [Mathematics and logic. Retrospect and prospects] Translated fro English by N. I. Plužnikova. Edited by I. M. Jaglom. Contemporary Mathem Popular series. *Izdat. "Mir", Moscow*, 1971. 251 *pp*. (Editors) **50** #1784 00A

(*with* Thompson, Colin J.) Spherical model and the infinite spin dimensi limit. *Phys. Norveg.* **5** (1971), *no*. 3-4, 163–168. (Ta-You Wu) **56** #4608 82.6

Can one hear the shape of a drum? (Polish) Translated from the English (Math. Monthly **73** (1966), no. 4, part II, 1–23). *Wiadom. Mat.* (2) **13**, 11–35 (Editors) **53** #5209 00A05

William Feller, in memoriam. *Proceedings of the Sixth Berkeley Symposi Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/ *Vol. II: Probability theory, pp.* xxi-xxiii. *Univ. California Press, Berkeley, Calif.* (Editors) **52** #7803 01A70

(*with* Gates, D. J.; Gerst, I.) Non-Markovian diffusion in idealized Lorentz *Arch. Rational Mech. Anal.* **51** (1973), 106–135. (G. Papanicolaou) **49** #10310

(*with* Luttinger, J. M.) A formula for the pressure in statistical mechani *Mathematical Phys.* **14** (1973), 583–585. (G. Della Riccia) **49** #6859 82.60

(*with* Case, Kenneth M.) A discrete version of the inverse scattering proble *Mathematical Phys.* **14** (1973), 594–603. (R. G. Newton) **48** #10392 81.65

(*with* Luttinger, J. M.) Bose-Einstein condensation in the presence of impurit *Mathematical Phys.* **14** (1973), 1626–1628. (G. Della Riccia) **49** #6860 82.60

★Quelques problèmes mathématiques en physique statistique. Traduit de l'a Collection de la Chaire Aisenstadt. *Les Presses de l'Université de Montréal, Mo Que.*, 1974. 83 *pp*. (Ju. M. Suhov) **53** #15232 82.60

The ideal Bose-Einstein gas. (Polish) *Statistical theories for solids, fluids an* (*Proc. Working Conf., Jabłonna*, 1972) (*Polish*), *pp*. 432–449. *Ossolineum-W Polskiej Akad. Nauk, Wrocław*, 1974. (Editors) **56** #14484 82.62

Hugo Steinhaus—a reminiscence and a tribute. *Amer. Math. Monthly* **81** 572–581. (Kenneth May) **49** #16 01A70

(*with* Luttinger, J. M.) Bose-Einstein condensation in the presence of impuriti *J. Mathematical Phys.* **15** (1974), 183–186. (G. Della Riccia) **49** #6861 82.60

(*with* van Moerbeke, Pierre) On some isospectral second order differential operators. *Proc. Nat. Acad. Sci. U.S.A.* **71** (1974), 2350–2351. (H. Flaschka) **49** 34B25 (35Q99)

A stochastic model related to the telegrapher's equation. Reprinting of an published in 1956. Papers arising from a Conference on Stochastic Differential Equations (Univ. Alberta, Edmonton, Alta., 1972). *Rocky Mountain J. Math.* **4** 497–509. (Editors) **58** #23185 35Q99

Probabilistic methods in some problems of scattering theory. Notes by Jack and Reuben Hersh. Papers arising from a Conference on Stochastic Differential Equations (Univ. Alberta, Edmonton, Alta., 1972). *Rocky Mountain J. Math.* **4** 511–537. (Editors) **58** #23170 35P25

(*with* van Moerbeke, Pierre) Some probabilistic aspects of scattering theory. *Functional integration and its applications* (*Proc. Internat. Conf., London*, 197 87–96. *Clarendon Press, Oxford*, 1975. (Zbl **318** #34033) **58** #1365 34B25

(*with* van Moerbeke, Pierre) On an explicitly soluble system of nonlinear differential equations related to certain Toda lattices. *Advances in Math.* **16** 160–169. (H. Flaschka) **51** #6182 35P25 (81.34)

(*with* Luttinger, J. M.) Scattering length and capacity. (French summary) Collection of articles dedicated to Marcel Brelot on the occasion of his 70th bir *Ann. Inst. Fourier* (*Grenoble*) **25** (1975), *no*. 3-4, xvi, 317–321. (John M. Ch **53** #5902 31A15 (60J45)

Henri Lebesgue et l'école mathématique polonaise: aperçu et souvenirs. Cer Anniversaire de la naissance de Henri Lebesgue (1875–1941). *Enseignement Math.* (1975) *no*. 2-4, 111–114. (Editors) **52** #13204 01A70

(*with* van Moerbeke, Pierre) A complete solution of the periodic Toda pro *Proc. Nat. Acad. Sci. U. S. A.* **72** (1975), *no*. 8, 2879–2880. (James A. Mu **54** #14480 70.34

(*with* van Moerbeke, Pierre) On some periodic Toda lattices. *Proc. Nat. Aca U.S.A.* **72** (1975), 1627–1629. (S. C. Tefteller) **51** #3602 34B25

(*with* Barrett, Wayne W.) On some modified spherical models. *Proc. Nat.*

ci. U.S.A. **72** (1975), *no.* 12, 4723–4724. (D. A. Dubin) **54** #12085 82.47

(*with* van Moerbeke, Pierre) On an explicitly soluble system of nonlinear ifferential equations related to certain Toda lattices. *Surveys in applied mathematics Proc. First Los Alamos Sympos. Math. in Natural Sci., Los Alamos, N.M.*, 1974), *pp.* 25–234. *Academic Press, New York*, 1976. (Editors) **58** #29427 35P25 (81.34)

(*with* Logan, Jonothan) Fluctuations and the Boltzmann equation. I. *Phys. Rev. A* 3) **13** (1976), *no.* 1, 458–470. (Not reviewed) 82.45

Fluctuations near and far from equilibrium. *Statistical mechanics and statistical ethods in theory and application* (*Proc. Sympos., Univ. Rochester, Rochester, N.Y.*, 1976), *p.* 203–218. *Plenum, New York*, 1977. (Mark Pinsky) **58** #20121 82.60 (80.60)

(*with* Thompson, Colin J.) Correlation functions in the spherical and mean pherical models. *J. Mathematical Phys.* **18** (1977), *no.* 8, 1650–1653. (Burton H. oorhees) **56** #2157 82.60

(*with* Ziff, Robert M.; Uhlenbeck, George E.) The ideal Bose-Einstein gas, evisited. *Phys. Rep.* **32C** (1977), *no.* 4, 169–248. (Michel Romerio) **57** #8746 82.00

Henri Lebesgue and the Polish school of mathematics: observations and ecollections. (Polish) *Wiadom. Mat.* (2) **20** (1978), *no.* 2, 189–192. (Editors) **57** #9425 01A60

See also **Future of applied mathematics**, **48** #10749; **Stability and phase transitions**, #2547; **Studies in mathematical physics**, **52** #16313; **Santaló, Luis A.**, **55** #6340 *nd* **McEliece, Robert J.**, **57** #9301

S. A. (*with* Glogovskiĭ, V. M.; Hurgin, Ja. I.) Systems of algebraic equations with ndom coefficients. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1574–1581. (B. nkó) **46** #6579 65F99

Discrete quasioptimal and minimax filters. (Russian) *Izv. Akad. Nauk SSSR Ser. iz. Zemli* **1972**, *no.* 9, 39–47. (Author's summary) **52** #10207 94A05 (93E10)

V. E. (*with* Fil′štinskiĭ, L. A.) A certain method of construction of doubly periodic olyharmonic functions. (Russian) *Prikladna. Meh.* **7** (1971), *no.* 8, 83–88. (F. Barański) 7 #5274 31A30

V. G. Letter to the editors: "Classification of simple Lie superalgebras" (Funkcional. nal. i Priložen. **9** (1975), no. 3, 91–92). (Russian) *Funkcional. Anal. i Priložen.* **10** 976), *no.* 2, 93. (H. Freudenthal) **55** #435 17B20

Corrections to the paper "Description of filtered Lie algebras with which graded Lie gebras of Cartan type are associated" (Izv. Akad. Nauk SSSR Ser. Mat. **38** (1974), 0–834). (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 6, 1415. (H. de ries) **55** #3008 17B05

Characters of typical representations of classical Lie superalgebras. *Comm. Algebra* (1977), *no.* 8, 889–897. (H. De Vries) **56** #3075 17B10

A sketch of Lie superalgebra theory. *Comm. Math. Phys.* **53** (1977), *no.* 1, 31–64. (F. n der Blij) **56** #437 17B99 (22E70)

Victor G. (*with* Weisfeiler, Boris) Exponentials in Lie algebras of characteristic p. ussian) *Izv. Akad. Nauk SSSR Ser. Mat.* **35** (1971), 762–788. (H. de Vries) 5 #5408 17B40

Global Cartan pseudogroups and simple Lie algebras of characteristic p. (Russian) *spehi Mat. Nauk* **26** (1971), *no.* 3(159), 199–200. (H. de Vries) **47** #293 17B20

Irreducible representations of Lie algebras of classical type. (Russian) *Uspehi Mat. auk* **27** (1972), *no.* 5(167), 237–238. (J. E. Humphreys) **53** #565 17B10

Infinite-dimensional Lie algebras, and the Dedekind η-function. (Russian) *unkcional. Anal. i Priložen.* **8** (1974), *no.* 1, 77–78. (J. E. Humphreys) **51** #10410 7B10

A description of the filtered Lie algebras with which graded Lie algebras of Cartan pe are associated. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **38** (1974), 800–834. (H. Vries) **51** #5685 (E **55** #3008) 17B05

Filtered Lie algebras of Cartan type. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 177), 203–204. (H. de Vries) **53** #564 17B05

Classification of simple Lie superalgebras. (Russian) *Funkcional. Anal. i Priložen.* **9** 975), *no.* 3, 91–92. (H. Freudenthal) **52** #10833 (E **55** #435) 17B99

On the question of describing the orbit space of linear algebraic groups. (Russian) *spehi Mat. Nauk* **30** (1975), *no.* 6(186), 173–174. (H. Freudenthal) **57** #9863 G15

(*with* Popov, Vladimir L.; Vinberg, Ernest B.) Sur les groupes linéaires algébriques nt l'algèbre des invariants est libre. (English summary) *C. R. Acad. Sci. Paris Sér. -B* **283** (1976), *no.* 12, *A*i, *A*875–*A*878. (George R. Kempf) **54** #7489 14L99 5A72, 14M15, 20G15)

(*with* Weisfeiler, Boris) Coadjoint action of a semi-simple algebraic group and the nter of the enveloping algebra in characteristic p. *Nederl. Akad. Wetensch. Proc. Ser.* **79** = *Indag. Math.* **38** (1976), *no.* 2, 136–151. (F. D. Veldkamp) **54** #5364 20G15

Lie superalgebras. *Advances in Math.* **26** (1977), *no.* 1, 8–96. (H. de Vries) #5803 17B10 (17B65)

Classification of simple Z-graded Lie superalgebras and simple Jordan peralgebras. *Comm. Algebra* **5** (1977), *no.* 13, 1375–1400. (I. L. Kantor) **58** #16806 B60 (17B10, 22E60)

ov, A. P. The ray method for flexure vibrations of a shell in liquid. (Russian. English mmary) Mathematical questions on the theory of wave propagation, 8. *Zap. Naučn. m. Leningrad. Otdel. Mat Inst. Steklov.* (*LOMI*) **62** (1976), 111–123, 236. (Author's mmary) **57** #2048 73.35

See also **Mathematical problems in the theory of wave propagation**, **48** #5773

, V. Z. (*with* Anisovič, V. V.) A discontinuous optimal control problem for homogeneous equations. (Russian) *Differential equations and their applications, No.* 3 *ussian*), *pp.* 15–20. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (From the text) #30639 49B10

See also **Differential equations and their applications**, **48** #3659

ov, L. M. ★Foundations of the theory of plasticity. Translated from the Russian cond revised edition. North-Holland Series in Applied Mathematics and Mechanics, l. 12. *North-Holland Publishing Co., Amsterdam-London*; *American Elsevier Publishing*, *New York*, 1971. xiii + 482 *pp.* (A. J. M. Spencer) **58** #3833 73.00

See also **Studies in elasticity and plasticity**, **48** #3334; **Continuum mechanics and ated problems of analysis**, **50** #6714 *and* **Studies in elasticity and plasticity**, #7402

elenbaum, B. Z. (*with* Voĭtovič, N. N.; Sivov, A. N.) ★Обобщенный метод собственных колебаний в теории дифракции. (Russian) [The generalized method of eigenoscillations in diffraction theory] With a supplement "Spectral properties of diffraction problems" by M. S. Agranovič. *Izdat.* "*Nauka*", *Moscow*, 1977. 416 *pp.* (N. D. Kazarinoff) **58** #3962 78.00 (35P20)

Kacenelinboĭgen, A. I. (*with* Movšovič, S. M.; Ovsienko, Ju. V.) Rate of interest in an optimal economy model. (Russian) *Èkonom. i Mat. Metody* **6** (1970), 695–707. (S. Krčevinac) **47** #1432 90A15

Kacevič, A. Ja. A method for the calculation of difference equations that arise in the plane problem of the theory of elasticity. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1977**, *no.* 4, 71–74, 118. (S. P. Gavelja) **58** #8712 73.65 (65N20)

Kacevman, M. Ja. A priori estimates near the boundary for the solutions of second order integro-differential equations of elliptic type. (Russian) *Functional analysis and the theory of functions, No.* 8 (*Russian*), *pp.* 82–104. *Izdat. Kazan. Univ., Kazan*, 1971. (A. Ramm) **49** #7719 45K05 (35J15)

Kačevskiĭ, D. N. Nonmetric Lorentz-covariant theory of gravitation with anisotropy of space. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no.* 7, 101–105. (Michael P. Ryan, Jr.) **55** #7280 83.53

On the theory of gravitation in a flat space. (Russian) *Gravitacija i Teor. Otnositel′nosti No.* 12 (1977), 118–130. (From the text) **58** #32782 83.53

Kacewicz, Bolesław The use of integrals in the solution of nonlinear equations in N dimensions. *Analytic computational complexity* (*Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1975), *pp.* 127–141. *Academic Press, New York*, 1976. (W. Niethammer) **54** #11769 65J05

An integral-interpolation iterative method for the solution of scalar equations. *Numer. Math.* **26** (1976), *no.* 4, 355–365. (Boro Döring) **56** #13591 65H05

(*with* Woźniakowski, H.) A survey of recent problems and results in analytic computational complexity. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnika*, 1977), *pp.* 93–107. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (Sven-Åke Gustafson) **56** #17202 68A20

Kachanov, L. M. *See* **Kačanov, L. M.**

Kachi, Hideyuki Note on the suspension-order of a some complex. *J. Fac. Sci. Shinshu Univ.* **6** (1971), 77–84. (R. E. Mosher) **46** #2666 55D40

(*with* Ishikawa, Nobuhiro) On the admissible multiplication in α-coefficient cohomology theories. *J. Fac. Sci. Shinshu Univ.* **11** (1976), *no.* 1, 1–17. (Donald W. Kahn) **55** #11252 55E45

(*with* Ishikawa, Nobuhiro) On the admissible multiplication in α-coefficient cohomology theories. II. *J. Fac. Sci. Shinshu Univ.* **12** (1977), *no.* 2, 81–101. (Donald W. Kahn) **57** #13917 55B20

Kąciak, Eugeniusz The utilization of the opinions of experts and of the results of econometric models in making optimal decisions. (Polish. Russian and English summaries) *Przegląd Statyst.* **23** (1976), *no.* 2, 231–242. (Author's summary) **55** #2062 90A05

Kačír, Klement *See* **Conference: Mathematical Methods in Economics**, **49** #6886

Kaciveli, Georgiĭ Mathematics and reality. (Russian) *Istor.-Mat. Issled. Vyp.* 20 (1975), 11–27, 379. (E. Stipanić) **58** #18 00A25

Kącki, Edward (*with* Bareła, Ewa; Bareła, Krzysztof) A machine method of reliability analysis in logical combinatorial networks of type $(K \times M)$ using statistical modeling. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódź. Mat. No.* 10 (1978), 59–75. (Authors' summary) **58** #20362 90B25 (90C45)

Kacman, S. I. Semigroups whose lattice of subsemigroups is a complemented lattice. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1276–1285, 1430. (R. P. Sullivan) **52** #613 20M10 (06A25)

Kacnel′son, L. Z. *See* **Kacnelsons, L.**

Kacnel′son, M. B. (*with* Salihov, Z. M.; Paĭziev, È.; Burkov, V. N.) An aggregated algorithm for the solution of a transportation problem. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 40 (1970), 23–29. **55** #2161 90C50

(*with* Burkov, V. N.; Kartašova, O. E.; Nurhaĭdarov, B. H.) A problem on the control of the sale of finished production, and an algorithm for solving it. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no.* 1, 7–13, 91. (Marcel Rădulescu) **52** #7499 90B05

Kacnel′son, V. È. (*with* Galeta, V. O.) Stability of the root multiplicities of an operator. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 11 (1970), 98–102. (S. Suljagić) **45** #5788 47A55

(*with* Bočteĭn, A. M.) Estimation of the norm of a projection in a certain space of analytic functions. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 12 (1970), 81–85. (Z. Čanturia) **45** #7458 46E15

(*with* Fel′dman, G. M.) Zeros of functions in W_+. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 13 (1971), 108–112. (L. Zalcman) **45** #3716 30A10

A remark on canonical factorization in certain spaces of analytic functions. (Russian) Investigations on linear operators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov* (*LOMI*) **30** (1972), 163–164. (D. Sarason) **49** #3583 47B35 (46E25)

The essential selfadjointness of a symmetric operator with a dense set of quasianalytic vectors. (Russian. English summary) *Mathematical physics and functional analysis, No.* 4 (*Russian*), *pp.* 151–157, 163. *Fiz.-Tehn. Inst. Nizkih Temperatur, Akad. Nauk Ukrain. SSR, Kharkov*, 1973. (Author's summary) **57** #17358 47B25

Equivalent norms in spaces of entire functions. (Russian) *Mat. Sb.* (*N.S.*) **92(134)** (1973), 34–54, 165. (H. Tornehave) **49** #3171 31B05

(*with* Men′šikov, V. V.) A certain analogue of the alternating Schwarz method. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 17 (1973), 206–215, 247. (T. Styś) **49** #7594 35J25

(*with* Ronkin, L. I.) The minimal volume of an analytic set. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 516–528, 700. (E. J. Akutowicz) **52** #789 32C25

(*with* Men′šikov, V. V.; Èl′kin, B. S.) An alternating method for the approximate computation of the eigenvalues and eigenfunctions of elliptic operators in divergence form. (Russian) *Vestnik Har′kov. Gos. Univ. No.* 113 *Mat. i Meh. Vyp.* 39 (1974), 68–73, 123. (I. Aganović) **52** #12357 65N25

(*with* Men′šikov, V. V.) A certain iterative method for the solution of second order elliptic equations in divergence form. (Russian) *Teor. Funkciĭ Funkcional. Anal. i*

Priložen. Vyp. 22 (1975), 56–66, 161. (A. Ženíšek) **53** #14928 65N05

The function (sin|x|)/|x|$^\lambda$ (0 < λ < 1) as a Fourier multiplier in $L^p(R^3)$. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 23 (1975), 47–56, 170. (J. Peetre) **55** #962 42A18

Entire functions of Cartwright class with irregular behavior. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 4, 35–44. (R. P. Boas, Jr.) **55** #3252 30A64

The weighted approximation by trigonometrical polynomials of entire functions of exponential type in several variables. (Russian. English summary) Investigations on linear operators and the theory of functions, VII. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **65** (1976), 69–79, 203–204. (Wiesław Pleśniak) **58** #6309 32A15 (32E30)

(*with* Zusmanovskiĭ, I. I.; Men′šikov, V. V.) An alternating method for the solution of boundary value problems for an elliptic-parabolic equation. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 27 (1977), 50–61, 2. (T. Styś) **58** #29405 35M05

See also **Rudin, Walter, 50** #10296 *and* **Investigations on linear operators and the theory of functions, 52** #14241 (EA **53**)

Kacnelsons, L. (*with* Grinberg, È. Ja.; Vanags, A.; Zavorin, A. N.; Lozovoĭ, V. V.) An algorithmic language for the analysis of electronic logical designs. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 11 (*Russian*), *pp.* 25–43. *Izdat.* "*Zinatne*", *Riga*, 1972. (Authors' summary) **47** #1331 68A30

(*with* Perel′šteĭn, A. L.) Certain sufficient conditions for the convergence of the method of conjugate gradients in the Fletcher-Reeves form. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 11 (*Russian*), *pp.* 73–92. *Izdat.* "*Zinatne*", *Riga*, 1972. (H. Schwetlick) **48** #3248 65K05

(*with* Perel′šteĭn, A. L.) Numerical solution of a certain class of systems of transcendental equations. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 11 (*Russian*), *pp.* 93–100. *Izdat.* "*Zinatne*", *Riga*, 1972. (H. Schwetlick) **48** #3249 65K05

(*with* Grinberg, È. Ja.; Zandere, M. K.; Dambītis, J.) A survey of the fundamental works of È. I. Arin′ [E. Āriņš] in mathematics and cybernetics. (Russian. English summary) *Latvian mathematical yearbook*, 11 (*Russian*), *pp.* 220–224. *Izdat.* "*Zinatne*", *Riga*, 1972. (Editors) **47** #3140 01A70

(*with* Neizvestnyĭ, M. M.) An explicit solution of a certain best approximation problem connected with the synthesis of optimal filters. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 15 (*Russian*), *pp.* 29–32, 232. *Izdat.* "*Zinatne*", *Riga*, 1974. (J. Szabados) **50** #563 26A75 (41A50, 94A05)

(*with* Kelmans, E.) Analysis of nonlinear electrical circuits in terms of constant current by the Fletcher-Powell method. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 14 (*Russian*), *pp.* 36–50. *Izdat.* "*Zinatne*", *Riga*, 1974. (H. Schwetlick) **51** #11964 94A20 (65K05)

(*with* Neizvestnyĭ, M. M.) A certain approximation problem connected with the optimal synthesis of oscillatory filters. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 14 (*Russian*), *pp.* 51–68. *Izdat.* "*Zinatne*", *Riga*, 1974. (J. Szabados) **50** #13994 41A20 (94A05)

(*with* Neizvestnyĭ, M. M.) Isoextremal Čebyšev fractions with a denominator of second degree. (Russian) *Latvian mathematical yearbook*, 17 (*Russian*), *pp.* 24–29, 276. *Izdat.* "*Zinatne*", *Riga*, 1976. (J. Szabados) **54** #14317 65D15

See also **Latvian mathematical yearbook, 50** #6718

Kačnova, T. I. The uniform convergence of a certain expansion of a Gaussian process. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1969), *no.* 4, 85–89. (V. V. Buldigin) **46** #8289 60G15

The convergence of the expansion of a Gaussian process with covariance of the type of a Green's function. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **130** (1970), *no.* 3, 69–74. (Ju. M. Ryžov) **45** #1236 60G15

Kačorek, Tadeuš *See* **Kaczorek, Tadeusz**

Kacov, E. B. Flat functors. (Russian) *Mat. Zametki* **19** (1976), *no.* 4, 577–586. (M. L. Laplaza) **53** #5700 18F10

Kacprzyk, Janusz An application of the theory of fuzzy sets to the optimal allocation of positions in a job. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **20** (1975), *no.* 2, 247–260. (Author's summary) **51** #14908 90B05

(*with* Stańczak, Wiesław) An application of the method of minimally interconnected networks to the partitioning of a group of enterprises into subgroups. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **20** (1975), *no.* 4, 513–526. (Authors' summary) **56** #17766 90B10

(*with* Stańczak, Wiesław) On an extension of the method of minimally interconnected subnetworks. (Polish and Russian summaries) *Control Cybernet.* **5** (1976), *no.* 4, 61–77. (B. R. Myers) **57** #2760 94A20

Control of a non-fuzzy system in a fuzzy environment with fuzzy termination time. (Russian summary) *Systems Sci.* **3** (1977), *no.* 4, 325–341. (Author's summary) **58** #15358 93A99

A branch-and-bound algorithm for the multistage control of a nonfuzzy system in a fuzzy environment. (Polish and Russian summaries) *Control Cybernet.* **7** (1978), *no.* 1, 51–64. (Author's summary) **58** #4481 93A99 (90A05)

See also **Céa, Jean, 55** #13325

brahmer-Kacprzyńska, A. *See* **Brahmer-Kacprzyńska, A.**

Kacprzyński, Bogdan A certain method of sequential search for the extremum of a regression function in the class Lip$_M$1. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **14** (1969), 57–73. (M. Zlámal) **46** #6590 65K05

See also **Dem′janov, V. F.; et al., 57** #15407c

Kačur, Jozef On existence of the weak solution for non-linear partial differential equations of elliptic type. *Comment. Math. Univ. Carolinae* **11** (1970), 137–181. (Melvyn S. Berger) **46** #515 35J65

On existence of the weak solution for non-linear partial differential equations of elliptic type. II. *Comment. Math. Univ. Carolinae* **13** (1972), 211–225. (M. Schechter) **46** #7704 35J60

On boundedness of the weak solution for some class of quasilinear partial differential equations. (Czech summary) *Časopis Pěst. Mat.* **98** (1973), 43–55, 99. (L. E. Payne) **47** #5437 35J25 (35D05)

The Rothe method and nonlinear parabolic equations of arbitrary order. *Theory of nonlinear operators* (*Proc. Summer School, Neuchâtel*, 1972), *pp.* 125–131. *Schr. Zentralinst. Math. Mech. Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin*,
Kannan) **51** #1134 35K55

Application of Rothe's method to nonlinear parabolic boundary value p
Nonlinear evolution equations and potential theory (*Proc. Summer School, Podhra*
pp. 89–93. *Academia, Prague*, 1975. (Editors) **58** #6716 35K60 (47H15)

Application of Rothe's method to nonlinear evolution equations. *Mat*
Sloven. Akad. Vied **25** (1975), *no.* 1, 63–81. (R. L. Anderson) **52** #15147

A generalized maximum principle and estimates of max vrai u for
parabolic boundary value problems. *Czechoslovak Math. J.* **26(101)** (197
507–526. (From the introduction) **57** #17001 35K60

(*with* Wawruch, Alojz) On an approximate solution for quasilinear parabol
equations. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 2, 220–241. (Oscar N
58 #29278 35K60 (35A35)

Kačurik, Ī. Ī. (*with* Doboš, V. M.; Hīmīč, Ī. V.) Decomposition of the scattering
in matrix elements of irreducible unitary representations of small groups of the
inhomogeneous de Sitter group. (Russian. English summary) *Ukrain. Fiz. Ž.*
367–379, 518. (Authors' summary) **56** #17551 81.22

(*with* Hīmīč, Ī. V.) An integral representation of the scattering amplitu
connected with the de Sitter group. (Russian. English summary) *Ukrain. F*
(1975), *no.* 8, 1251–1262, 1397. (Not reviewed) 81.22

(*with* Hīmīč, Ī. V.) Two-dimensional expansion of the scattering amplitude
of the matrix elements of irreducible unitary representations of the de Sitt
(Russian. English summary) *Ukrain. Fiz. Ž.* **20** (1975), *no.* 11, 1795–18
(Authors' summary) **56** #14222 81.22

Invariant expansion of the solution of the five-dimensional Klein-Gordon
in a certain orthogonal coordinate system. (Russian. English summary) *Ukrain*
21 (1976), *no.* 11, 1853–1862, 1931. (Author's summary) **57** #11411 81.22

Kačurina, N. I. Conformally Euclidean hypersurfaces in a Riemannian space of
curvature. (Russian) *Geometry and topology, No.* 1 (*Russian*), *pp.* 43–51. *Lening*
Ped. Inst. im. Gercena, Leningrad, 1974. (M. A. Akivis) **54** #11202 53A35

Kačurovskiĭ, R. I. Nonlinear operators whose ranges of values are subspaces. (
Dokl. Akad. Nauk SSSR **196** (1971), 508–511. (Editors) **57** #17416 47H15
47A50)

Kacygin, V. V. *See* **Opeĭko, F. A., 54** #4219

Kaczmarek, Lech Construction of the Frenet formulae for certain symplectic su
S^4. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz*
Politechn. Wrocław. Ser. Studia i Materiały No. 8 *Zagadnienia Geometrii Róż*
(1973), 89–105. (W. Wrona) **51** #1678 53C40

Kaczmarek, Zygmunt (*with* Ceranka, Bronisław) Multivariate analysis of covari
block designs. (Polish) *Mat. Stos.* (3) **4** (1975), 65–75. (V. Komkov) **56**
62J10

Multivariate analysis of covariance and some applications of it. (Polish)
(3) **5** (1975), 139–156. (Author's introduction) **58** #3230 62J10

(*with* Caliński, Tadeusz) A step-down procedure of eliminating variables in
multivariate analysis of variance. *Biometrical J.* **19** (1977), *no.* 6, 449–453.
Ahmad) **57** #14284 62J10

Kaczmarski, Jerzy The least upper bound of a certain functional in the family of
univalent functions. (Polish. French summary) *Zeszyty Nauk. Uniw. Łódz. Na*
Przyrod. Ser. II No. 20 *Matematyka* (1966), 63–101. (Z. Lewandowski) **50**
30A38

Some radius of convexity problems in certain family of functions with
distortion. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astrono*
21 (1973), 27–34. (J. W. Noonan) **47** #5241 30A32

On some extremal problems for certain classes of close-to-starlike. (Russian
summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 133
Kra) **47** #3660 30A32

On the radius of convexity for certain regular functions. *Comment. Mat*
Mat. **17** (1973/74), 373–383. (F. Holland) **50** #2472 30A32

On some extremal problem for certain classes of close-to-starlike functions.
Comment. Math. Prace Mat. **17** (1973/74), 385–398. (F. Holland) **50** #2473

(*with* Dworakowski, Krzysztof) On some properties of flat graphs. *Dem*
Math. **7** (1974), 5–12. (M. L. Marx) **50** #12776 05C10

The transport problem in connection with the construction of a network.
Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441
Zeszyt 26 (1976), 81–98. (Editors) **56** #2288 90B10

The stability of the solutions of the transport problem. (Polish. Russian and
summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976),
(Author's summary) **56** #4787 90B10

Kaczorek, Tadeusz Controllability of the linear nonstationary systems with st
inputs. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971),
(Author's summary) **56** #11463 93E99

Controllability of linear stationary systems with lag under stochastic pertur
(Polish. English and Russian summaries) *Podstawy Sterowania* **1** (1971),
(Author's summary) **52** #1483 49E15 (93E20)

Synthesis of linear stationary systems by means of proportional elements.
Russian and English summaries) *Arch. Automat. i Telemech.* **17** (1972), 247–256.
Konstantinov) **54** #9749 93B25

Design of linear stationary discrete-time systems for specified poles and zer
gain elements. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20**
489–497. (M. Cîrnu) **50** #12379 93C55

Design of multidimensional linear stationary systems with given dynamical
properties. (Polish. English and Russian summaries) *Podstawy Sterowania* **2**
165–173. (Author's summary) **53** #15448 93B25

Design of single-input system for specified poles and zeros using gain el
(Polish and Russian summaries) *Podstawy Sterowania* **2** (1972), 337–347. (Yo
Sawaragi) **47** #8158 93C15

(*with* Traczyk, Tadeusz) Partial derivatives of the Vandermonde determina
their application to the synthesis of linear control systems. (Polish summary)
Mat. **13** (1972/73), 329–337. (From the authors' introduction) **56** #11191

Synthesis of multidimensional linear stationary systems with given dynamical operties in the case when not all the state variables can be measured directly. (Polish. nglish and Russian summaries) *Podstawy Sterowania* **3** (1973), 79–90. (Author's mmary) **53** #15449 93B25

Shifting into a priori prescribed positions the roots of the characteristic equation of multidimensional discrete system. (Polish. English and Russian summaries) *Podstawy terowania* **3** (1973), 167–179. (R. F. Matlak) **54** #2287 93C55

★Teoria układów regulacji automatycznej. (Polish) [Theory of automatic control stems] *Wydawnictwa Naukowo-Techniczne*, *Warsaw*, 1974. 468 *pp*. (Jerzy Klamka) 3 #12650 93–02

Determination of the matrices of linear transformations of the state variables in near stationary systems. (Polish. Russian and English summaries) *Arch. Elektrotech. Warsaw*) **23** (1974), 525–530. (Author's summary) **51** #2701 93C05

Shifting of poles and zeros of matrix transfer function of linear stationary systems ith delay in control. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** 974), 329–335. (Takashi Yahagi) **49** #8705 93C05

(*with* Kozera, Wojciech) The selection of state variables on the basis of an operator ansfer for a linear stationary system with lags. (Polish. Russian and English mmaries) *Arch. Elektrotech.* (*Warsaw*) **24** (1975), *no*. 2, 277–303. (Authors' summary) 6 #13581 65F99 (93C50)

Input-reconstructibility of linear time-invariant systems. (Russian summary) *Bull. cad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), 53–56. (P. A. Cook) **51** #9875 93B15

Input-reconstructibility of linear time-variant systems. (Russian summary) *Bull. cad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), 57–60. (P. A. Cook) **51** #12365 93B15

(*with* Kozera, Wojciech) An algorithm for the transformation to fundamental form f the characteristic polynomial matrix of a system. (Polish. English and Russian mmaries) *Podstawy Sterowania* **5** (1975), *no*. 1, 101–108. (Jerzy Klamka) **53** #2447 3B25

The determination of the matrix of the control sequence for multivariable discrete ationary linear systems. (Polish. English and Russian summaries) *Podstawy Sterowania* (1975), *no*. 4, 397–406. (Jerzy Klamka) **53** #2468 93C50 (93C55)

(*with* Kozera, Wojciech) The design of multivariable linear stationary tracking ystems with lags. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* 1 (1976), *no*. 2, 155–165. (Editors) **56** #11166 93B25

(*with* Kozera, Wojciech) Minimal realization of transfer function matrices of ultvariable linear systems with delays. (Polish and Russian summaries) *Arch. lektrotech.* (*Warsaw*) **25** (1976), *no*. 1, 65–78. (Authors' summary) **56** #2514 93B20

Synthesis of linear nonstationary systems. (Russian. Polish and English summaries) *rch. Elektrotech.* (*Warsaw*) **25** (1976/77), *no*. 3, 605–618. (L. Mikołajczyk) **56** #11154 93B15 (93C05)

Pole-shifting of a multivariable linear system. (Polish. English and Russian ummaries) *Podstawy Sterowania* **6** (1976), *no*. 2, 219–232. (Author's summary) 6 #17964 93B25

Pole shifting to predetermined positions for multivariable linear stationary systems. Polish. English, French, German and Russian summaries) *Rozprawy Elektrotech.* **22** 1976), *no*. 3, 645–675. (Editors) **56** #11167 93B25

★Teoria układów regulacji automatycznej. (Polish) [Theory of automatic control ystems] Second edition. *Wydawnictwa Naukowo-Techniczne*, *Warsaw*, 1977. 468 *pp*. *errata insert*) (J. M. Skowroński) **56** #4927 93–02

(*with* Kozera, Wojciech) Design of linear multivariable tracking systems with elays. *Internat. J. Systems Sci.* **8** (1977), *no*. 6, 639–650. (Alan Bradshaw) **58** #15433 93C05

Design of multivariable linear time-varying tracking systems with stochastic isturbances. *Internat. J. Systems Sci.* **8** (1977), *no*. 8, 933–941. (B. P. Molinari) 7 #15645 93C50

Design of multivariable linear time-varying tracking systems with stochastic isturbances. (Russian summary) *Systems Sci.* **3** (1977), *no*. 1, 33–47. (Kimio Kanai) 6 #18084 93E99

See also **Száz, Árpád**, (See Zbl **345** #93030)

yński, H. (*with* Olech, Czesław) Existence of solutions of orientor fields with on-convex right-hand side. Collection of articles dedicated to the memory of Tadeusz Ważewski. *Ann. Polon. Math.* **29** (1974), 61–66. (F. S. VanVleck) **50** #10974 49E10

lbajoo, M. K. (*with* Jain, P. C.) Dynamic programming solutions of mildly non-linear lliptic problems over irregular regions. *Internat. J. Comput. Math.* **5** (1975/76), *no*. 3, 31–239. (Ammon Barak) **53** #12038 65N35

(*with* Jain, P. C.) A numerical method for solving mildly nonlinear elliptic problems ver irregular regions. *Indian J. Pure Appl. Math.* **7** (1976), *no*. 2, 212–223. (Authors' ummary) **57** #14520 65N99

(*with* Jain, P. C.) Invariant imbedding approach for the solution of the minimal urface equation. *J. Math. Anal. Appl.* **61** (1977), *no*. 3, 643–657. (Klaus Glashoff) 7 #7334 49F25 (35J67, 65P05)

mpatta, S. N. Scales of spaces of analytic functions. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1975**, *no*. 4, 64–68, 118. (Author's summary) **58** #7049 46E10 (30A98)

ne, Joseph B. A moment problem for order statistics. *Ann. Math. Statist.* **42** (1971), 745–751. (W. Uhlmann) **45** #1328 (E **48** #12722) 62G30

Comparison of *k*-class estimators when the disturbances are small. *Econometrica* **39** (1971), 723–737. (Michael D. Intriligator) **53** #1896 62P20

Optimal whereabouts search. *Operations Res.* **19** (1971), 894–904. (H. Taylor) 6 #1319 90B40

A concave property of the hypergeometric function with respect to a parameter. *SIAM J. Math. Anal.* **3** (1972), 642–643. (J. A. Donaldson) **47** #5310 33A30

Correction to: "A moment problem for order statistics" (Ann. Math. Statist. **42** (1971), 745–751). *Ann. Statist.* **1** (1973), 797. (W. Uhlmann) **48** #12722 62G30

Testing a subset of the overidentifying restrictions. *Econometrica* **42** (1974), 853–867. (Author's summary) **55** #11547 62P20

(*with* Brown, George F., Jr.; Ramage, John G.) The asymptotic bias and mean-squared error of double *K* -class estimators when the disturbances are small. *Internat. Econom. Rev.* **15** (1974), 667–679. (A. L. Nagar) **51** #4615 62P20

A characterization of triangular arrays which are expectations of order statistics. *J. Appl. Probability* **11** (1974), 413–416. (I. R. Savage) **50** #15140 62G30

The role of identification in Bayesian theory. *Studies in Bayesian econometrics and statistics* (*in honor of Leonard J. Savage*), *pp*. 175–191. *Contributions to Economic Analysis*, *No*. 86, *North-Holland*, *Amsterdam*, 1975. (Bruce M. Hill) **58** #3143 62A15

(*with* Simon, Herbert A.) Optimal problem-solving search: all-or-none solutions. *Artifical Intelligence* **6** (1975), *no*. 3, 235–247. (S. Amarel) **52** #7235 68A45

(*with* Simon, Herbert A.) Problems of computational complexity in artificial intelligence. *Algorithms and complexity* (*Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1976), *pp*. 281–299. *Academic Press*, *New York*, 1976. (Karel Čulík) **56** #10144 68A20 (68A45, 68A10)

(*with* Lehoczky, John P.) Random juror selection from multiple lists. *Operations Res.* **24** (1976), *no*. 2, 207–219. (Alan E. Gelfand) **53** #9449 62D05 (62P25)

(*with* Simon, Herbert A.) Optimal strategies for a class of constrained sequential problems. *Ann. Statist.* **5** (1977), *no*. 2, 237–255. (S. Blumenthal) **57** #4442 62L05 (90B40)

(*with* Anderson, T. W.) A comment on the test of overidentifying restrictions. *Econometrica* **45** (1977), *no*. 4, 1027–1031. (H. Toutenburg) **58** #3278 62P20

(*with* Roth, Arthur; De Groot, Morris H.) Optimal peremptory challenges in trials by juries: a bilateral sequential process. *Operations Res.* **25** (1977), *no*. 6, 901–919. (A. Rapoport) **58** #15261 90D35 (92A20)

(*with* Chuang, David T.) Stable decision problems. *Ann. Statist.* **6** (1978), *no*. 5, 1095–1110. (Stephen Portnoy) **58** #13434 62C10 (62G35)

A characterization of the Rau class of sequential problems. *Math. Oper. Res.* **3** (1978), *no*. 1, 42–56. (P. Neumann) **58** #9203 90B40

Kadanoff, Leo P. (*with* Ceva, Horacio) Determination of an operator algebra for the two-dimensional Ising model. *Phys. Rev. B* (3) **3** (1971), 3918–3939. (P. Caldirola) **52** #9942 82.62

Scaling, universality and operator algebras. *Phase transitions and critical phenomena*, *Vol*. 5*a*, *pp*. 1–34. *Academic Press*, *London*, 1976. (Brian DeFacio) **58** #20099 82.47

(*with* Houghton, Anthony; Yalabik, Mehmet C.) Variational approximations for renormalization group transformations. *J. Statist. Phys.* **14** (1976), *no*. 2, 171–203. (Authors' summary) **56** #14457 (E **58** #14822) 82.47

(*with* Houghton, Anthony; Yalabik, Mehmet C.) Erratum: "Variational approximations for renormalization group transformations" (J. Statist. Phys. **14** (1976), no. 2, 171–203). *J. Statist. Phys.* **15** (1976), *no*. 3, 263. (Editors) **58** #14822 82.47

Connections between the critical behavior of the planar model and that of the eight-vertex model. *Phys. Rev. Lett.* **39** (1977), *no*. 15, 903–905. (Author's summary) **56** #4597 82.47

The application of renormalization group techniques to quarks and strings. *Rev. Modern Phys.* **49** (1977), *no*. 2, 267–296. (V. A. Malyšev) **55** #11886 82.46 (81.60)

Lattice Coulomb gas representations of two-dimensional problems. *J. Phys. A* **11** (1978), *no*. 7, 1399–1417. (J. E. Lowther) **58** #14784 82.35

Kádas, Sándor Geometric programming and two economic applications. (Hungarian. English and Russian summaries) *Szigma—Mat.-Közgazdosági Folyóirat* **7** (1974), 17–24. (Author's summary) **50** #6438 90A15

A method for the solution of the geometric programming problem. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **2** (1976), *no*. 1–2, 67–81. (Author's summary) **55** #12126 90C99

Kadec′, M. Ī. (*with* Snobar, M. G.) Certain functionals on the Minkowski compactum. (Russian) *Mat. Zametki* **10** (1971), 453–457. (K. Karták) **45** #861 46B05

On complementably universal Banach spaces. *Studia Math.* **40** (1971), 85–89. (R. C. James) **47** #2318 46B15

(*with* Birman, M. Š.; Vilenkin, N. Ja.; Gorin, E. A.; Zabreĭko, P. P.; Iohvidov, I. S.; Kostjučenko, A. G.; Krasnosel′skiĭ, M. A.; Kreĭn, S. G.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Semenov, E. M.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, È. S.) ★Функциональный анализ. (Russian) [Functional analysis] Edited by S. G. Kreĭn. Second edition, revised and augmented. Mathematical Reference Library. *Izdat. "Nauka"*, *Moscow*, 1972. 544 *pp*. (Editors) **50** #5406 46–02 (47–02)

(*with* Bessaga, Czesław) On topological classification of non-separable Banach spaces. *Symposium on Infinite-Dimensional Topology* (*Louisiana State Univ., Baton Rouge, La.*, 1967), *pp*. 15–24. *Ann. of Math. Studies*, *No*. 69, *Princeton Univ. Press*, *Princeton, N. J.*, 1972. (Yehoram Gordon) **54** #5813 46B15

(*with* Dimitrov, D. B.) Weakly almost periodic functions. (Russian) *Teor. Funkcií Funkcional. Anal. i Priložen. No*. 16 (1972), 150–154, 219. (A. Precupanu) **49** #5703 42A84

(*with* Mitjagin, B. S.) Complemented subspaces in Banach spaces. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no*. 6(174), 77–94. (T. Figiel) **53** #3649 46B05

The relative projection constants, and a certain theorem of Z. A. Čanturija. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **74** (1974), 541–543. (P. Wojtaszczyk) **53** #11345 46B15

Geometry of normed spaces. (Russian) *Mathematical analysis*, *Vol*. 13 (*Russian*), *pp*. 99–127. (*errata insert*) *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii*, *Moscow*, 1975. (H. Kogan (RŽMat **1976** #5 B608)) **58** #30064 46Bxx

Remark on the gap between subspaces. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no*. 2, 73–74. (G. J. O. Jameson) **51** #11068 46B05

(*with* Tokarev, E. V.) Conjugate Banach spaces with a countable set of extreme points on the unit sphere. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 4(155), 98–99. (G. J. O. Jameson) **52** #11548 46B10

(*with* Fonf, V. P.) Some properties of the set of extreme points of the unit ball of a Banach space. (Russian) *Mat. Zametki* **20** (1976), *no*. 3, 315–320. (T. Figiel) **55** #3759 46B10

Universal Banach spaces. (Russian) *Operator theory in function spaces* (*Proc. School, Novosibirsk*, 1975) (*Russian*), *pp*. 154–166, 342. *Izdat. "Nauka" Sibirsk. Otdel.*, *Novosibirsk*, 1977. (T. Figiel) **58** #23516 46B99 (46M99)

Kadeišvili, T. V. On the homology theory of principal bundles. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), 309–312. (I. Pop) **51** #6807 55F20

The differentials of the spectral sequence of a twisted product. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no*. 2, 285–288. (Gencho Skordev) **55** #6430 55H10

Kadelburg, Zoran A remark on hereditary properties of linear topological spaces. *Mat.*

Vesnik **13(28)** (1976), *no.* 3, 285–288. (H. Hogbe-Nlend) **57** #7095 46A07

Kademova, K. V. Realisations of the representations of para-Fermi algebra in Fock space of Bose operators. I. *Internat. J. Theoret. Phys.* **3** (1970), 109–114. (Author's summary) **51** #12198 81.47

(*with* Kálnay, Andrés J.) Realisations of the representations of para-Fermi algebra in Fock space of Bose operators. II. *Internat. J. Theoret. Phys.* **3** (1970), 115–118. (Author's summary) **51** #12199 81.47

(*with* Kraev, M. M.) Realisations of the representations of para-Fermi algebra. III. Fock space of Fermi operators. *Internat. J. Theoret. Phys.* **3** (1970), 185–189. (Authors' summary) **51** #12200 81.47

High-order realisations of the para-Fermi algebra with parafield operators. *Internat. J. Theoret. Phys.* **3** (1970), 295–298. (Author's summary) **51** #12201 81.47

(*with* Palev, Čavder D.) Lie algebras and quasifield operators. *Internat. J. Theoret. Phys.* **3** (1970), 337–345. (Anthony Joseph) **48** #5529 81.22

Equations generated by means of parafield operators. *Internat. J. Theoret. Phys.* **3** (1970), 355–358. (Anthony Joseph) **48** #5520 81.17

(*with* Hristov, Hristo Ja.; Arnaudova, Ja.; Mavrodiev, S.; Markovski, B. L.; Rizov, V.) The matrix elements of representations of the Lorentz group. (Russian. Bulgarian and English summaries) *B″lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Fiz. Inst. s Aneb* **20** (1971), 37–76. (A. J. Coleman) **45** #8153 81.22

(*with* Kraev, M. M.) Realisations of the representations of para-Fermi algebras. IV. Fock spaces of para-Bose and para-Fermi operators. *Internat. J. Theoret. Phys.* **4** (1971), 159–170. (Authors' summary) **53** #2202 81.47

(*with* Kálnay, Andrés J.; Mac Cotrina, Enrique) Quantum field theory of Fermions constructed from Bosons. Generalization to para-Fermi statistics. *Internat. J. Theoret. Phys.* **7** (1974), 9–24. (Authors' summary) **50** #12068 81.47

Kaden, H. Open circularly cylindrical metal strip as shield and return circuit of a single-wire line. (German summary) *Siemens Forsch.-und Entwicklungsber.* **7** (1978), *no.* 2, 82–90, i. (E. Pinney) **57** #18489 78.30

Kadeřábek, Jiří A contribution to decomposition. (Czech. English suumary) *Ekonom.-Mat. Obzor* **7** (1971), 194–197. (Author's summary) **45** #3059 90C20

Kadet, V. A. (*with* Turbabin, A. S.) A study of the stability of a second order nonlinear differential equations. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. No.* 10 (1973), 61–66. (See RŽMat **1974** #6 B239) 34D99

Kadimov, Ja. B. *See* **Proceedings: IFAC World Congress**, **50** #12338

Kadish, A. (*with* Grad, Harold; Stevens, D. C.) A free boundary Tokamak equilibrium. *Comm. Pure Appl. Math.* **27** (1974), 39–57. (Rishi Ram) **50** #3734 76.30

Kadison, Richard V. (*with* Pedersen, Gert Kjaergård) Equivalence in operator algebras. *Math. Scand.* **27** (1970), 205–222 (1971). (K. Saitô) **46** #7917 46L10 (46L05)

Mappings of operator algebras. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 389–393. *Gauthier-Villars*, *Paris*, 1971. (Ole A. Nielsen) **55** #1095 46M20 (46L05)

(*with* Ringrose, John R.) Cohomology of operator algebras. II. Extended cobounding and the hyperfinite case. *Ark. Mat.* **9**, 55–63 (1971). (Joseph L. Taylor) **47** #7453 46L10 (46M20)

(*with* Kastler, Daniel) Perturbations of von Neumann algebras. I. Stability of type. *Amer. J. Math.* **94** (1972), 38–54. (H. Halpern) **45** #5772 46L10

(*with* Johnson, Barry Edward; Ringrose, John R.) Cohomology of operator algebras. III. Reduction to normal cohomology. *Bull. Soc. Math. France* **100** (1972), 73–96. (Joseph L. Taylor) **47** #7454 46L10 (46M20)

(*with* Haag, Rudolf; Kastler, Daniel) Asymptotic orbits in a free Fermi gas. *Comm. Math. Phys.* **33** (1973), 1–22. (R. H. Herman) **49** #12015 (E **55** #2009) 82.46

(*with* Ringrose, John R.) Algebraic automorphisms of operator algebras. *J. London Math. Soc.* (2) **8** (1974), 329–334. (S. Sakai) **50** #1006 46L05

Operator algebras. *Algebras in analysis* (*Proc. Instructional Conf. and NATO Advanced Study Inst.*, *Birmingham*, 1973), *pp.* 101–117. *Academic Press*, *London*, 1975. (Wai-Mee Ching) **55** #3801 46L05 (46L10)

A note on derivations of operator algebras. *Bull. London Math. Soc.* **7** (1975), 41–44. (G. A. Elliott) **51** #1415 46L10

(*with* Hugenholtz, N. M.) Automorphisms and quasi-free states of the CAR algebra. *Comm. Math. Phys.* **43** (1975), *no.* 2, 181–197. (H. Araki) **52** #4881 81.46

(*with* Haag, Rudolf; Kastler, Daniel) Corrigendum: "Asymptotic orbits in a free Fermi gas" (Comm. Math. Phys. **33** (1973), 1–22). *Comm. Math. Phys.* **43** (1975), *no.* 2, 198. (Editors) **55** #2009 82.46

Normal states and unitary equivalence of von Nemann algebras. *C*-algebras and their applications to statistical mechanics and quantum field theory* (*Proc. Internat. School of Physics "Enrico Fermi", Course LX*, *Varenna*, 1973), *pp.* 1–18. *North-Holland*, *Amsterdam*, 1976. (From the text) **58** #30312 46L10

Notes on the Fermi gas. *Symposia Mathematica*, *Vol. XX* (*Convegno sulle Algebra C* e loro Applicazioni in Fisica Teorica*, *Convegno sulla Teoria degli Operatori Indice e Teoria K*, *INDAM*, *Rome*, 1975), *pp.* 425–431. *Academic Press*, *London*, 1976. (H. Araki) **57** #2296 81.46 (46L05)

See also **C*-algebras and applications to physics**, **58** #2113

Kadiyala, Koteswara Rao An exact small sample property of the *k*-class estimators. *Econometrica* **38** (1970), 930–932. (A. L. Nagar) **47** #1186 62F10 (62J05, 62P20)

Kadla, Z. I. *See* **Dictionary: Astronomy**, **50** #4203

Kadlaček, Jiři Construction of a net without transversals over a non-planar near-field. *Czechoslovak Math. J.* **24(99)** (1974), 301–310. (T. G. Ostrom) **50** #1107 50D05 (05B15)

Kadlec, J. On the evaluation of some integrals occurring in scattering problems. *Math. Comp.* **30** (1976), *no.* 134, 263–277. (Y. L. Luke) **52** #15962 65D20

(*with* Fahrmeir, Ludwig; Golbach, K.) On the Fokker-Planck solution for thermal noise in Josephson Junctions. *Phys. B + C* **92** (1977), *no.* 2, 261–263. (V. A. Malyšev) **56** #14470 82.60

Kadlof, Andrzej Remarks on Borsuk's problems concerning the operation of the addition of pointed shapes. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 11, 1001–1006. (Thomas J. Sanders) **55** #4157 55D99

Concerning the ordering shape property. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 12, 1103–1108. (Włodimierz Holsztyński) **55** #9082 55D99

On some properties of *P*-like compacta. (Russian summary) *Bull. Acad. P* *Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 1, 63–66. (Thomas J. Sanders) 5 55D99

(*with* Dydak, Jerzy) Compactness in shape theory. (Russian summary) *Bu* *Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 4, 391–394. (summary) **58** #7620 55D99

The Van Kampen theorem in the shape theory. (Russian summary) *Bu* *Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 4, 395–400. (Y. **58** #24260 55D99

Decomposition of shapes of pointed metric continua. (Russian summar *Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 4, 319– Kodama) **58** #18372 54F15 (54C56, 55C15)

Kado, Jiro Note on exchange property. *Math. J. Okayama Univ.* **18** (1975/7 153–157. (K. A. Byrd) **54** #7551 16A64

Kadob'jans'kiĭ, R. M. (*with* Kozak, P. P.) Representation of the solution of the problem for systems of integro-differential equations in the form of a multipl integral. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **19** 210–213, 285. (Nicolae Luca) **58** #12251 45J05 (28A40)

(*with* Kozak, P. P.) A representation of the solution of the characteristic for a system of integro-differential equations in the form of a Wiener-type (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **197** 298–301, 381. (A. Ja. Dorogovcev) **58** #13357 60H99 (28A40, 45K05)

Kadomcev, B. B. (*with* Karpman, V. I.) Nonlinear waves. *Uspehi Fiz. Nauk* **10** 193–232 (*Russian*); *translated as Soviet Physics Uspekhi* **14** (1971), 40–60. (Alan **56** #7453 76.00 (78.35)

(*with* Bazarov, I. P.; Bogoljubov, N. N.; Ol'hovskiĭ, I. I.; Sokolov, A. A.; V. S.; Hohlov, R. V.) Anatoliĭ Aleksandrovich Vlasov (obituary). *Uspehi Fiz. N* (1976), *no.* 2, 385–386 (*Russian*); *translated as Soviet Physics Uspekhi* **19** (197 545–546. (Editors) **54** #12444 01A70

See also **Collection: Oscillations and waves in nonlinear media**, **49** #4705

Kadomcev, S. B. A study of certain properties of normal torsion of a two-dim surface in four-dimensional space. (Russian. English summary) *Problems in g* *Vol.* 7 (*Russian*), *pp.* 267–278, 303. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn.* *Informacii*, *Moscow*, 1975. (Ju. Burago) **58** #7498 53C40

A study of uniqueness questions for two-dimensional surfaces in Euclidea (Russian) *Problems in geometry*, *Vol.* 8 (*Russian*), *pp.* 243–256, 280. *Akad. Nau* *Vsesojuz. Inst. Naučn. i Tehn. Informacii*, *Moscow*, 1977. (Gr. Stanilov) **58** # 53C45

Kadomtsev, B. B. *See* **Kadomcev, B. B.**

Kadosch, M. Temps d'attente dans les transports urbains en commun. (Loose summary) *Rev. Française Automat. Informat. Recherche Opérationnelle Sér.* (1976), *no.* V-1, 37–54. (S. K. Srinivasan) **54** #6932 90B35

Kadota, T. T. (*with* Zakai, Moshe; Ziv, Jacob) Mutual information of the white C channel with and without feedback. *IEEE Trans. Information Theory* **IT-17** 368–371. (Harry H. Tan) **53** #10482 94A15

(*with* Zakai, Moshe; Ziv, Jacob) Capacity of a continuous memoryless with feedback. *IEEE Trans. Information Theory* **IT-17** (1971), 372–378. (E. C. **48** #8084 94A05

(*with* Wyner, Aaron D.) Coding theorem for stationary, asymptotically mem- continuous-time channels. *Ann. Math. Statist.* **43** (1972), 1603–1611. (B. B **50** #4105 94A10

Coding theorem and its converse for continuous incrementally stationary c with finite incremental memory. *IEEE Trans. Information Theory* **IT-18** (1972), 510–513. (M. C. Cheng) **53** #7612 94A15

On the capacity of asymptotically memoryless continuous-time channels. *Trans. Information Theory* **IT-19** (1973), 556–557. (Shunsuke Ihara) **52** #2740 94A15

On the information stability of stationary ergodic processes. *SIAM J. App* **26** (1974), 176–182. (K. Jacobs) **49** #2198 94A15

Optimal, causal, simultaneous detection and estimation of random signal fie Gaussian noise field. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 3, 297– S. Miller) **58** #9668 93E10 (60G35)

Kadota, Yoshinobu A limit theorem for Markov chains and Hordijk-Tijms iterative *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 2, 169–182. (H. Taylor) **54** # 60J10 (90C40)

Kadushin, Isaac (*with* Steinberg, Avraham M.) Stabilization of nonlinear systems dither control. *J. Math. Anal. Appl.* **43** (1973), 273–284. (Leonard Weiss) **48** # 93D99

Kadušin, V. P. Approximate solution of singular integral equations with complex co unknowns. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 6 (169), 1 (V. G. Kravčenko) **57** #3799 45L05

On direct methods for the solution of a certain class of singular integral eq (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 11 (174), 109–111. Kravčenko) **57** #1946 65R05

On the optimality of methods for the solution of singular integral equatio complex conjugate unknowns. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1** 9(184), 115–118. (S. G. Samko) **58** #6996 45L05

Kadykenov, B. M. (*with* Kasymov, K. A.) Asymptotic expansion of the solution Cauchy problem for systems of linear hyperbolic equations with a small par (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 5, 74–77, Kopček) **50** #7835 35L45

Asymptotic expansion of the solution of a non-initial boundary value probl systems of linear hyperbolic equations with a small parameter. (Russian) *Izv.* *Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 5, 79–82, 95. (D. K. Gvazava) **54** #. 35L55

Kadykenov, M. M. (*with* Dautov, L. M.; Ionov, S. P.; Kaipov, D. K.) ★Таблицы атомных волновых функций. (Russian) [Tables of atomic wave functions] Edite E. Ermatov. *Izdat. "Nauka" Kazah. SSR*, *Alma-Ata*, 1974. 196 *pp.* (Editors) **50** 81.33 (65A05)

mov, Ja. B. (*with* Abdulov, G. B.) The method of successive approximations in connection with second order differential equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1669–1673, 1717. (M. Stojanović) **47** #4457 65L99

(*with* Grabovskiĭ, M. P.) Self-induced oscillations in second order optimal systems. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 3, 52–57. (S. P. Bingulac) **50** #9396 93D99

(*with* Kuliev, Z. Ja.; Aliyev, V. B.) Optimum control of transients in complex systems, including links with distributed parameters. *Proceedings of the IFAC 6th World Congress (Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 15.4, 7 *pp. IFAC, Düsseldorf*, 1975. (From the summary) **58** #33317 93C20

(*with* Mamedov, A. I.; Zeĭnalova, È, M.) A numerical method for the computation of optimal control in a certain nonhomogeneous system with distributed parameters. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **32** (1976), *no.* 1, 28–31. (Claudia Simionesco) **55** #7508 93C20 (65K05)

(*with* Mamedov, A. I.; Zeĭnalova, È, M.) Optimal control of inhomogeneous systems with distributed parameters. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 3, 75–80. (Claudia Simionescu) **56** #9990 65K05 (49D99)

(*with* Mamedov, A. I.; Aliev, N. H.) The use of the theory of sampled-data systems for computation on digital computers of transmission processes in inhomogeneous systems with distributed parameters. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no.* 3, 101–106. (B. D. Donevski) **58** #4518 93C20

rbekov, T. On the averaging method in systems of integro-differential equations. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 8, 9–11. (Nicolae Luca) 7 #9204 45J05

(*with* Sunčaliev, R. M.) On averaging of a certain class of differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 9 (1971), 3–9. (RŽMat **1972** #4 3366) **57** #13030 34C30

Continuous dependence of the solution of a countable system of integro-differential equations on a parameter and the averaging method. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1103–1107. (M. I. Imanaliev) **46** #4132 45J05

Averaging in systems of nonlinear integro-differential equations with fast and slow variables. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1972**, *no.* 9, 10–11. (M. I. Imanaliev) **48** #819 45J05

rov, H. K. (*with* Džuraev, Ju.) The principle of compressing information without loss in accuracy. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 46 (1972), 100–112. **55** #2358 94A15

The evasion problem for a certain class of nonlinear differential games. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 1, 15–22, 104. (O. Hájek) **52** #5066 90D25

(*with* Azamov, A.) On the first method of Pontrjagin in evasion problems on a finite segment. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 7, 5–7. (N. N. Petrov) **55** #14238 90D25

The comparison of two pursuit methods in linear differential games with nonlinear controls. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 42 (1976), 46–61, 188. (RŽMat **1977** #5 B330) **58** #33022 90D25

rov, N. Explicit representation of analytic functions of complexes with a group composition law. (Russian) *Tadžik. Gos. Univ. Trudy Meh.-Mat. Fak. Vyp.* 2 (1972), 140–145. (G. Eisenreich) **53** #8449 30A97

See also **Mathematics and the methodology of its teaching**, **58** #20941

rov, U. S. (*with* Sagalovič, Ju. L.) Complexity of a linear decoder. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 43 (1970), 165–172. **55** #2343 94A10

Symbolic decoding of Reed-Müller codes. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 48 (1972), 151–162, 200. (RŽMat **1972** #8 V495) **57** #19073 94A10

An algorithm for the decoding of Reed-Müller codes. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 48 (1972), 163–166, 200. (RŽMat **1972** #8 V496) **57** #19074 94A10

(*with* Sagalovič, Ju. L.) Modifications of an algorithm for the decoding of Reed-Muller codes. (Russian) *Voprosy Kibernet.* (*Tashkent*) *No.* 57 (1973), 122–129, 138. (See RŽKibernet **1973** #3 G187) 94A10

rova, I. I. (*with* Gīhman, Ĭ. Ī.) Certain results of the study of stochastic differential equations. (Russian) *Theory of random processes*, *No.* 1 (*Russian*), *pp.* 51–68, 140. *Izdat. "Naukova Dumka", Kiev*, 1973. (A. Friedman) **52** #12080 60H10

The approximation of periodic mean square continuous processes by stochastic trigonometric polynomials. (Russian) *Theory of random processes*, *No.* 3 (*Russian*), *pp.* 2–50, 158. *Izdat. "Naukova Dumka", Kiev*, 1975. (A. C. Offord) **52** #9346 60G10 (41A65)

See also **Theory of stochastic processes**, **50** #3286

ševskiĭ, V. G. (*with* Židkov, E. P.; Katyšev, Ju. V.) On the problem of the $c \to \infty$ limit in the relativistic Schrödinger equation. (Russian. English summary) *Teoret. Mat. Fiz.* **3** (1970), *no.* 2, 191–196. (Authors' summary) **57** #11442 81.34

Quantum field theory and momentum space of constant curvature. (Russian. English summary) *Problems of theoretical physics* (*in memory of I. E. Tamm*) (*Russian*), *pp.* 52–73, 484, 491. *Nauka, Moscow*, 1972. (From the text) **58** #32537 81.35 (53B20, 83.53)

(*with* Donkov, A. D.; Mateev, M. D.; Mir-Kasimov, R. M.) The method of the extended *S*-matrix, and de Sitter momentum space. (Russian. English summary) *Bulgar. J. Phys.* **1** (1974), *no.* 1, 58–69. (Authors' summary) **54** #9477 81.53

(*with* Donkov, A. D.; Mateev, M. D.; Mir-Kasimov, R. M.) Translation invariance of quantum field theory with a de Sitter momentum space. (Russian. English summary) *Bulgar. J. Phys.* **1** (1974), *no.* 2, 150–160. (Authors' summary) **54** #9478a (E **54** #9478b) 81.53

(*with* Donkov, A. D.; Mateev, M. D.; Mir-Kasimov, R. M.) Locality and causality conditions in quantum field theory with de Sitter momentum space. (Russian. English summary) *Bulgar. J. Phys.* **1** (1974), *no.* 3, 233–248. (Authors' summary) **54** #9479a (E **54** #9479b) 81.53

(*with* Donkov, A. D.; Mateev, M. D.; Mir-Kasimov, R. M.) Errata to "Translation invariance of quantum field theory with a de Sitter momentum space" (Russian) (Bulgar. J. Phys. **1** (1974), no. 2, 150–160). *Bulgar. J. Phys.* **1** (1974), *no.* 3, 316. (Authors' summary) **54** #9478b 81.53

(*with* Donkov, A. D.; Mateev, M. D.; Mir-Kasimov, R. M.) The problem of the multiplication of singular functions in the framework of a quantum field theory with de Sitter *p*-space. (Russian. English summary) *Bulgar. J. Phys.* **2** (1975), *no.* 1, 3–9. (Authors' summary) **54** #9480 81.53

(*with* Donkov, A. D.; Mateev, M. D.; Mir-Kasimov, R. M.) Errata to "Locality and causality conditions in quantum field theory with de Sitter momentum space" (Russian) (Bulgar. J. Phys. **1** (1974), no. 3, 233–248). *Bulgar. J. Phys.* **2** (1975), *no.* 1, 86. (Authors' summary) **54** #9479b 81.53

(*with* Donkov, A. D.; Mateev, M. D.; Mir-Kasimov, R. M.) Extension of the *S*-matrix off the mass shell and momentum space of constant curvature. International Conference: Mathematical Problems of Quantum Field Theory and Quantum Statistics (Moscow, 1972), Part II. *Trudy Mat. Inst. Steklov.* **136** (1975), 85–129, 437. (Authors' summary) **58** #14648 81.47

Kaekebeke, M. (*with* Atkinson, Daniel A.; de Roo, M.) Phase shifts as functions of the cross section. *J. Mathematical Phys.* **16** (1975), 685–693. (Marcel Coz) **54** #14624 81.47

(*with* Atkinson, Daniel A.; Frederiksen, Jørgen S.; Johnson, Porter W.) Sommerfeld-Watson representation for double-spectral functions. III. Crossing symmetric pion-pion scattering amplitude with Regge poles. *Comm. Math. Phys.* **51** (1976), *no.* 1, 67–84. (K. T. Mahanthappa) **56** #4471c 81.30

Kaempffer, F. A. On a possible unification of gravitational and weak interactions. *General Relativity and Gravitation* **7** (1976), *no.* 4, 327–331. (Sotirios Persides) **57** #2433 83.53

Self-consistent torsion potentials. *Phys. Rev. D* (3) **18** (1978), *no.* 8, 2727–2729. (Author's summary) **58** #25786 83.53

Kaerkes, Rolf (*with* Mönch, Dieter) Dual-locus stability analysis. (German summary) *Arch. Elek. Übertr.* **24** (1970), 75–86. (E. Fagiuoli) **45** #6486 93D99

(*with* Neffke, H.) Stochastische Prozesse mit unabhängigen und stationären Zuwächsen in der Lagerhaltung. *Forschungsbericht des Landes Nordrhein-Westfalen, No.* 2605, *pp.* 33–54. *Westdeutscher Verlag, Opladen*, 1976. (A. Prékopa) **56** #17757 90B05

See also **Symposium: Operations Research**, **58** #25852a; **Symposium: Operations Research**, **58** #25852b; **Symposium: Operations Research**, **58** #32839a; **Symposium: Operations Research**, **58** #32839b *and* **Symposium: Operations Research**, **58** #32839c

Kaerlein, Gerd (*with* Chen, Yi) Eine Bemerkung über endliche Laguerre- und Minkowski-Ebenen. *Geometriae Dedicata* **2** (1973), 193–194. (A. Barlotti) **53** #11489 50D45

Kaewsonthi, Somkid A remark on free disposal in von Neumann models. *Mathematical models in economics* (*Proc. Sympos., Warsaw*, 1972 *and Conf. von Neumann Models, Warsaw*, 1972), *pp.* 63–65. *North-Holland, Amsterdam*, 1974. (S. Cruceanu) **52** #4953 90A15

Kafadar, C. B. The dynamical problem for a rigid body in special relativity. *Ann. Physik* (7) **29** (1973), 325–340. (C. Gilbert) **54** #4510 83.35

Kafadar, Charles B. On Ericksen's problem. *Arch. Rational Mech. Anal.* **47** (1972), 15–27. (A. W. Marris) **48** #12978 73.53

Kafarov, V. V. (*with* Mešalkin, V. P.; Perov, V. L.; Ignatov, V. N.) A two-level method for the solution of the inverse problem of optimizing the reliability of chemical engineering systems. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 4, 904–906. **57** #2532 90B99

See also **Cybernetics—in the service of Communism**, **48** #10431

Kaftal, Victor On the theory of compact operators in von Neumann algebras. I. *Indiana Univ. Math. J.* **26** (1977), *no.* 3, 447–457. (J. Ernest) **57** #3908 47C15 (46L10, 47Bxx)

Kafura, D. G. (*with* Shen, V. Y.) Task scheduling on a multiprocessor system with independent memories. *SIAM J. Comput.* **6** (1977), *no.* 1, 167–187. (Erol Gelenbe) **55** #11707 68A20

Kaga, Toshihiro (*with* Watabe, Tsuyoshi) Simply connected 6-manifolds of large degree of symmetry. *Sci. Rep. Niigata Univ. Ser. A No.* 12 (1975), 15–32. (H.-T. Ku) **52** #1744 57E15

(*with* Watabe, Tsuyoshi) On 4-dimensional quasi-homogeneous affine algebraic varieties of reductive algebraic groups. *Sci. Rep. Niigata Univ. Ser. A No.* 15 (1978), 51–69. (V. L. Popov) **57** #16326 14M15

Kagadiĭ, L. (*with* Gaĭmnazarov, G.) Partial best approximations and Fourier coefficients of functions of several variables. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no.* 10, 3–4. (R. L. Cooke) **48** #6808 42A92

Kagadiĭ, L. P. Fourier transforms and difference properties of functions defined on the entire real axis. (Russian) *Scientific reports: a collection of papers by graduate students at Dnepropetrovsk State University* (*mechanics and mathematics*) (*Russian*), *pp.* 116–118. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1970. (M. Cîrnu) **49** #5700 42A68

The function classes $\Lambda_p(\infty, \beta)$ and Fourier coefficients. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 367–374, 430. (S. Baron) **50** #2808 42A92

The moduli of smoothness and the Fourier coefficients of functions of two variables. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 3 (178), 101–103. (S. Aljančić) **57** #1018 42A92

Kagan, A. E. (*with* Il'ina, L. S.) Theory of surfaces of Lovačevskiĭ space in the Cayley-Klein model, and infinitesimal bendings. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1972), 21–28, 145. (K. Svoboda) **49** #9784 53C45

Estimation of the deformation of a closed convex surface under a change in its curvature. (Russian) Problems in global geometry. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **45** (1974), 83–110, 119. (A. V. Pogorelov) **52** #9126 53C45

Kagan, A. M. On ε-admissibility of the sample mean as an estimator of location parameter. *Sankhyā Ser. A* **32** (1970), 37–40. (J. Kiefer) **45** #2845 62F10

(*with* Linnik, Ju. V.; Romanovskiĭ, I. V.; Ruhin, A. L.) "Self-governing" families of distributions. *Sankhyā Ser. A* **33** (1971), 255–264. (J. Kiefer) **46** #1031 62L15

(*with* Zinger, A. A.) Sample mean as an estimator of location parameter case of nonquadratic loss functions. *Sankhyā Ser. A* **33** (1971), 351–358. (I. Guttman) **46** #2783 62F10 (*with* Linnik, Ju. V.; Romanovskiĭ, I. V.; Ruhin, A. L.) Families with "self-control". *Dokl. Akad. Nauk SSSR* **199** (1971), 766–769 (*Russian*); *translated as Soviet Math. Dokl.* **12** (1971), 1167–1171. (Lionel Weiss) **45** #1316 62L12

(*with* Linnik, Ju. V.; Rao, C. Radhakrishna) ★Характеризационные задачи математической статистики. (Russian) [Characterization problems in mathematical statistics] *Izdat. "Nauka", Moscow*, 1972. 656 *pp*. (H. Toutenburg) **47** #4362 62E10 (62B05, 62B10, 62H05)

(*with* Karpov, Ju. N.) A Bayesian formulation of the problem of estimating a location parameter. (Russian) Problems in the theory of probability distributions. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 62–73. (V. Kurotschka) **49** #10026 62F15

(*with* Linnik, Ju. V.; Rao, C. Radhakrishna) ★Characterization problems in mathematical statistics. Translated from the Russian by B. Ramachandran. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney*, 1973. xii + 499 *pp*. (Editors) **49** #11689 62E10

(*with* Linnik, Ju. V.; Rao, C. Radhakrishna) Extension of Darmois-Skitovic theorem to functions of random variables satisfying an addition theorem. *Comm. Statist.* **1** (1973), 471–474. (J. D. Mason) **48** #3158 62E10

Juriĭ Vladimirovič Linnik (1915–1972). (Russian) *Math. Operationsforsch. Statist.* **4** (1973), *no.* 1, 3–6. (Editors) **53** #2592 01A70

Yuriĭ Vladimirovitch Linnik. *Sankhyā Ser. A* **35** (1973), *no.* 3, 253–274. (Editors) **58** #21303 01A70

(*with* Zinger, A. A.) Sample mean as an estimator of the location parameter in presence of the nuisance scale parameter. *Sankhyā Ser. A* **35** (1973), *no.* 4, 447–454. (Authors' summary) **58** #18834 62E10 (62C15)

(*with* Zinger, A. A.) The sample mean as an estimator of the location parameter with Laplacian loss in the presence of a nuisance scale parameter. (Russian) Statistical theory of estimation, I. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **43** (1974), 15–29, 169. (W. Hoeffding) **52** #1973 62E10 (62C15)

(*with* Klebanov, L. B.; Fintušal, S. M.) Asymptotic behavior of polynomial Pitman estimators. (Russian) Statistical theory of estimation, I. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **43** (1974), 30–39, 169. (W. Hoeffding) **52** #1999 62F10 (62E10, 62E20)

On a measure of divergency between two scalar products and its statistical application. *Sankhyā Ser. A* **37** (1975), *no.* 4, 492–501. (Author's summary) **58** #24672 62F05 (62B10)

(*with* Gerleĭn, O. V.) Hilbert space methods in classical problems of mathematical statistics. (Russian. English summary) Statistical theory of estimation, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **53** (1975), 64–100, 142–143. (Steffen Lauritzen) **53** #6913 62J99 (62F10, 62B05)

(*with* Gerleĭn, O. V.) Hilbert space methods in classical problems of mathematical statistics. *Proceedings of the Third Japan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 134–159. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (C. R. Rao) **58** #3216 62J05 (62B10, 62F10)

Fisher information contained in a finite-dimensional linear space, and a properly formulated version of the method of moments. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 2, 20–42. (S. Kotz) **54** #1454 62F10 (62B10)

(*with* Zinger, A. A.) On the problem of reconstructing the type of a distribution. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 2, 398–401. (E. Lukacs) **53** #14749 62E10

Several weak sense analogues of characteristic properties of the normal distribution. (Russian. English summary) Continuity and stability in problems of probability theory and mathematical statistics. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **61** (1976), 59–67, 136. (I. I. Kotlarski) **55** #1560 62E10 (60E05)

(*with* Klebanov, L. B.) Estimation of the stability in the problem of reconstructing the additive type of a distribution. (Russian. English summary) Continuity and stability in problems of probability theory and mathematical statistics. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **61** (1976), 68–74, 136. (I. I. Kotlarski) **55** #1402 60E05 (62E10)

(*with* Gerleĭn, O. V.) Contributions to the theory of linear statistical inference. *Proceedings of the Symposium to honour Jerzy Neyman* (*Warsaw*, 1974), *pp.* 81–88. *Państw. Wydawn. Nauk., Warsaw*, 1977. (C. R. Rao) **58** #3160 62F10 (62J99)

See also **Studies in mathematical statistics**, **48** #1352; **De Groot, Morris H.**, **50** #8774b; **Symposium: Information Theory**, **50** #9416; **Statistical theory of estimation**, **50** #11556; **Problems in the theory of probability distributions**, **52** #4355; **Statistical theory of estimation**, **52** #4468 *and* **Continuity and stability in problems of probability theory and mathematical statistics**, **54** #11424

Kagan, A. R. *See* **Cox, D. R.**, **49** #6504

Kagan, B. A. (*with* Marčuk, G. I.; Gordeev, R. G.; Rivkind, V. Ja) A numerical method for the solution of tidal dynamics equations and the results of its application. *J. Computational Phys.* **13** (1973), 15–34. (V. C. Liu) **48** #5604 86.65

(*with* Gordeev, R. G.; Poljakov, E. V.) Numerical integration of the equations of tidal dynamics in the World ocean, with account taken of load and self-attraction effects. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 4, 817–820. **55** #7112 76.65

Kagan, B. M. (*with* Danilenko, S. E.; Šahunjanc, T. G.) The gradient projection method for the solution of optimal design problems. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no.* 3, 31–36. (Authors' summary) **57** #13645 49D10 (90B40)

(*with* Danilenko, S. E.; Šahunjanc, T. G.) Discrete algorithms in optimization problems. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 2, 39–42, 93. (Authors' summary) **58** #9271 90C30

(*with* Dimitrov, A. A.; Kreĭnin, A. Ja.) Analytic models of real time computational systems with background tasks. (Russian) *Programmirovanie* **1977**, *no.* 6, 60–65, 80. (T. Rus) **58** #8434 68A05

Kagan, F. I. Riemannian metrics in the tangent bundle over a Riemannian manifold. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 6(133), 42–51. (V. Oproiu) **48** #12390 53C15

Almost analytic vectors for almost Kähler metrics in the tangent bundle. (Russian) *Differential geometry, No.* 1 (*Russian*), *pp.* 51–59, 136. *Izdat. Saratov. Univ., Saratov*, 1974. (D. I. Papuc) **53** #9100 53C55

Killing vectors and automorphisms of almost Kähler structures in the bundle of a Riemannian manifold. (Russian) *Differential geometry, No.* 1 (*Russ* 60–71, 137. *Izdat. Saratov. Univ., Saratov*, 1974. (D. I. Papuc) **53** #9101 5

Cartesian composition space and complex analytic space structures in the bundle over an equiprojective space. (Russian) Collection of articles dedi Aleksandr Petrovič Norden on the occasion of his seventieth birthday. *Izv. Vysš Zaved. Matematika* **1974**, *no.* 5(144), 109–116. (W. Waliszewski) **51** #1633

Riemannian metrics in the tangent bundle over a Riemannian manifold. II. (Russian) Almost Kähler and Kähler metrics. *Izv. Vysš. Učebn. Zaved. Ma* **1974**, *no.* 11(150), 44–50. (V. Oproiu) **50** #14569 53C15

Developable and geodesic distributions on the tangent bundle. (Russian) *Differential geometry, No.* 2 (*Russian*), *pp.* 60–76, 118. *Izdat. Saratov. Univ.,* 1975. (V. Oproiu) **55** #1243 53C05

Affine connections on a tangent bundle. (Russian) *Izv. Vysš. Učebn.* *Matematika* **1975**, *no.* 2(153), 31–42. (W. Waliszewski) **52** #4152 53B05

Canonical decomposition of projective-Killing and affine-Killing vectors on tangent bundle. (Russian) *Mat. Zametki* **19** (1976), *no.* 2, 247–258. (J. Szenthe) **54** #6018 53C05

Infinitesimal connections in the tangent bundle, and geodesic sprays. (R *Differential geometry, No.* 3 (*Russian*), *pp.* 31–42, 107. *Izdat. Saratov. Univ.,* 1977. (I. Kolář) **58** #30894 53C05

Kagan, F. M. An information property of the gamma distribution. (Russian) *Iz Nauk UzSSR Ser. Fiz.-Mat. Nauk* **11** (1967), *no.* 5, 67–68; *letter to the editors,* (1971), *no.* 5, 80. (S. Kotz) **45** #4529 62E10

Optimality conditions for certain estimators for families with scale par (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1968**, *no.* 7, 3–5. (I. N. V **52** #9439 62E10

The characterization of families of distributions with location and scale para (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 3, 102–103. (R. H. Rodine) **50** #8784 62E10

Estimation of polynomials of a sample mean. (Russian) *Limit theorems and mathematical statistics* (*Russian*), *pp.* 49–53, 187. *Izdat. "Fan" Uzbek. SSR, T* 1976. (A. L. Rukhin) **55** #13630 62E10

See also **Selected translations in mathematical statistics and probability**, **49**

Kagan, Ja. Ja. The probabilistic description of a seismic system. (Russian) *Izv Nauk SSSR Ser. Fiz. Zemli* **1973**, *no.* 4, 10–23. (Not reviewed) 86.60

Kagan, Joel An axiomatization of topological Boolean algebras. *Z. Math. Logik Grundlagen Math.* **18** (1972), 103–106. (D. Monk) **46** #3300 02J05

(*with* Quackenbush, Robert W.) Monadic algebras. *Rep. Math. Logic No.* 7 53–61. (Leo Esakia) **57** #9534 02J05 (06A40)

Kagan, Ju. (*with* Brovman, E. G.) Singularities of multitail ring diagrams fo systems. *Ž. Èksper. Teoret. Fiz.* **63** (1972), 1937–1949 (*Russian. English su* *translated as Soviet Physics JETP* **36** (1973), 1025–1031. (Authors' summary) **50** #15653 81.30

Kagan, P. B. (*with* Osipova, G. D.) Estimates of solutions of a polyharmonic e (Russian) *Materials for the Forthcoming Eighth Scientific Conference of the Novokuznetsk Ped. Inst., Phys. Math. Ser.* (*Russian*), *pp.* 37–41. *Novokuzneck. G Inst., Novokuznetsk*, 1967. (E. Gerlach) **45** #706 35J30 (31B30)

(*with* Osipova, G. D.) On the question of the existence of a generalized sol the boundary value problem for an elliptic operator. (Russian) *Kemerov. Gos. P Učen. Zap. No.* 19 (1968), 93–98. (H. Marcinkowska) **50** #10536 35J40

Kagan, R. L. Construction of optimal finite-difference and quadrature formulas for homogeneous and isotropic random fields. *Izv. Akad. Nauk SSSR Fiz. At Okeana* **3** (1967), *no.* 6, 592–601 (*Russian*); *translated as Izv. Acad. Sci. USSR Atmospher. Ocean Phys.* **3** (1967), *no.* 6, 337–342. (Author's summary) **56** # 65D30 (65K05)

Kagan, V. G. (*with* Titov, G. I.) An analysis of the structure of the optimal con systems with bounded coordinates. (Russian) *Avtometrija* **1974**, *no.* 5, 64–7 (Author's summary) **50** #15993 93B10

Kagan, V. M. *See* **Transactions of the Moscow Mathematical Society**, **48** #22

Kagan, Yu. *See* **Kagan, Ju.**

Kaganove, J. J. (*with* Lyness, J. N.) Comments on the nature of automatic qua routines. *ACM Trans. Math. Software* **2** (1976), *no.* 1, 65–81. (Henning Esser) **53** #1921 65D30

Kaganovič, S. L. Inductive method for investigating singular extremals. *Avtomat. i Telemeh.* **1976**, *no.* 10, 28–39 (*Russian. English summary*); *translated as Automat.* *Control* **37** (1976), *no.* 11, *part* 1, 1651–1660 (1977). (Mark D. Ardema) **55** #1 49B99

Kaganovs'kiĭ, Ju. S. (*with* Geguzīn, Ja. O.) Diffusive coalescence of the stationary g a granular film on the real surface of a crystal. (Russian. English summary) *Ukra Ž.* **21** (1976), *no.* 2, 254–262, 343. (Authors' summary) **56** #7673 82.35

kan-Kagans, I. *See* **Kan-Kagans, I.**

Kagawa, Masayuki (*with* Maeda, Hajime; Kodama, Shinzo; Ikeda, Masao) A system-theoretic consideration for block diagram manipulation rules. *Systems-Computers-Controls* **7** (1976), *no.* 4, 86–94 (1977). (James A. Heinen) **58** 93B30 (93B05)

Kagermann, Henning (*with* Gerlich, Gerhard) Herleitung kinetischer Gleichungen verallgemeinerten Stratonovich-Verfahren. (English summary) *Phys. A* **88** (1977) 283–304. (Authors' summary) **56** #10654 82.45

(*with* Emmerich, Albert; Gerlich, Gerhard) Particle motion in stochastic fields. *Phys. A* **92** (1978), *no.* 3-4, 362–378. (G. Papanicolaou) **58** #14844 (60H10)

Kageyama, Sanpei On the reduction of associate classes for certain PBIB designs. *Math. Statist.* **43** (1972), 1528–1540. (Author's summary) **54** #6399 62K10

A series of 3-designs. *J. Japan Statist. Soc.* **3** (1972/73), *no.* 2, 67–68. (Da Raghavarao) **54** #5002 05B05 (62K10)

On μ-resolvable and affine μ-resolvable balanced incomplete block designs. *Statist.* **1** (1973), 195–203. (D. Raghavarao) **50** #11659 62K10

On the inequality for BIBD's with special parameters. *Ann. Statist.* **1** 204–207. (From the author's summary) **49** #1701 62K10

Note on the reduction of associate classes for PBIB designs. *Ann. Inst. Statist. Math.* **26** (1974), 163–170. (Damaraju Raghavarao) **54** #6400 62K10 (05B05)

On the reduction of associate classes for the PBIB design of a certain generalized ype. *Ann. Statist.* **2** (1974), 1346–1350. (Damaraju Raghavarao) **53** #1873 62K10 05B20)

Reduction of associate classes for block designs and related combinatorial rrangements. *Hiroshima Math. J.* **4** (1974), 527–618. (A. Hedayat) **51** #5330)5B05

On the incomplete block designs derivable from the association schemes. *J. Combinatorial Theory Ser. A* **17** (1974), 269–272. (J. F. Lawless) **50** #137 05B05

Note on the construction of partially balanced arrays. *Ann. Inst. Statist. Math.* **27** 1975), 177–180. (Damaraju Raghavarao) **51** #11864 62K10 (05B05)

Note on an inequality for tactical configurations. *Ann. Inst. Statist. Math.* **27** 1975), *no.* 3, 529–530. (M. N. Das) **53** #9538 62K10 (05B30)

(*with* Ishii, Goro) A note on BIB designs. *Austral. J. Statist.* **17** (1975), *no.* 1, 49–50. Damaraju Raghavarao) **52** #9522 62K10 (05B05)

Resolvability of block designs. *Ann. Statist.* **4** (1976), *no.* 3, 655–661. (S. S. hrikhande) **53** #7807 05B05 (62K10)

Combinatorial properties of balanced block designs of a certain type. (Japanese) *Sûgaku* **28** (1976), *no.* 3, 202–213. (U. B. Paik) **58** #24774 62K10 (05B05)

Constructions of balanced block designs. *Utilitas Math.* **9** (1976), 209–229. (K. Vijayan) **54** #5003 05B05

Note on combinatorial arrangements. *Hiroshima Math. J.* **7** (1977), *no.* 2, 449–458. Damaraju Raghavarao) **56** #15455 05B05 (62K10)

Classifications of certain t-designs. *J. Combinatorial Theory Ser. A* **22** (1977), *no.* 2, 63–168. (Mikhail Deza) **56** #2844 05B05

(*with* Tsuji, Takumi) Characterization of certain incomplete block designs. *J. Stat. Plann. Inference* **1** (1977), *no.* 2, 151–161. (Damaraju Raghavarao) **58** #18940 2K10 (05B05)

(*with* Tsuji, Takumi) General upper bound for the number of blocks having a given umber of treatments common with a given block. *J. Stat. Plann. Inference* **1** (1977), *no.* , 217–234. (C. H. Kapadia) **58** #8062 62K10

(*with* Ishii, Goro) A note on (r, λ)-systems. *Utilitas Math.* **11** (1977), 113–122. Bhagwandas) **56** #5316 05B05

Bounds on the number of disjoint blocks of incomplete block designs. *Utilitas Math.* **14** (1978), 177–180. (Dieter Jungnickel) **58** #21678 05B05

nŭr'skiĭ, P. S. (*with* Lunik, F. P.) Augmentation of a rectangular inverse matrix over n associative ring to an invertible one. (Ukrainian. English and Russian summaries) *Dopovidī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 505–506, 572. (S. Kurepa) **47** #5008 15A09

wada, Harriet H. (*with* Kalaba, Robert E.; Thomas, Y.) Exact solution of Pontryagin's equations of optimal control. I. *Ann. École Nat. Sup. Méc. Nantes* **1969**, *deuxième semestre*, 151–160. (Editors) **46** #6119 49A10 (93C15)

(*with* Ueno, Sueo; Kalaba, Robert E.) Radiative transfer in spherical shell atmospheres with radial symmetry. *J. Mathematical Phys.* **12** (1971), 1279–1286. (P. Nelson) **46** #1289 86.45

(*with* Kalaba, Robert E.) Invariant imbedding and radiation fields in finite sotropically scattering slabs bounded by a Lambert's law reflector. *J. Quant. Spectrosc. Radiat. Transfer* **11** (1971), *no.* 7, 1101–1109. (Ian Lerche) **53** #12416 82.45

(*with* Kalaba, Robert E.) The basic functions b and h for Fredholm integral equations with displacement kernels. *J. Optimization Theory Appl.* **11** (1973), 517–532. H. E. Fettis) **52** #1201 45B05

(*with* Kalaba, Robert E.) An initial-value method for nonlinear integral equations. *J. Optimization Theory Appl.* **12** (1973), 329–337. (P. M. Anselone) **49** #11836 55R05

★Systems identification: methods and applications. Applied Mathematics and Computation, No. 4. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1974. xix + 293 *pp.* (S. P. Bingulac) **50** #6579 93B30

(*with* Kalaba, Robert E.) ★Integral equations via imbedding methods. Applied Mathematics and Computation, No. 6. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1974. xviii + 382 *pp.* (Editors) **57** #3760 45–02

(*with* Huss, R.; Kalaba, Robert E.) Reduction of a family of nonlinear boundary value problems to a Cauchy system. *Function theoretic methods in differential equations*, *pp.* 244–258. *Res. Notes in Math., No.* 8, *Pitman, London*, 1976. (Walter G. Kelley) **58** #1348 34B15 (65L10)

(*with* Kalaba, Robert E.) Temperature retrieval by imbedding methods: a new method which avoids linear algebraic equations. *Nonlinear Anal.* **1** (1976), *no.* 1, 65–74. N. U. Ahmed) **55** #2055 86.65 (93Exx)

(*with* Kalaba, Robert E.; Mease, K.) The flabbiness and instability of regression analysis and computational methods for improvement. *Applications of statistics* (*Proc. Sympos., Wright State Univ., Dayton, Ohio*, 1976), *pp.* 289–299. *North-Holland, Amsterdam*, 1977. (George P. H. Styan) **58** #24752 62J05 (65F10)

(*with* Garfinkle, J.; Kalaba, Robert E.; McLain, E.) A computational method for fitting Richardson equations of arms races. *Appl. Math. Comput.* **3** (1977), *no.* 2, 175–185. (Guy Jumarie) **54** #14824 93B35

(*with* Hess, J.; Ider, Z.; Kalaba, Robert E.) Team decision theory and integral equations. *J. Optimization Theory Appl.* **22** (1977), *no.* 2, 251–264. (Authors' summary) **58** #25859 90A05 (90D35)

(*with* Helms, Jay; Kalaba, Robert E.; Niedercorn, John) Fitting differential equation models to observed economic data. I. Quasilinearization. *Appl. Math. Comput.* **4** (1978), *no.* 2, 139–145. (I. Norman Katz) **58** #9136 90A15

(*with* Kalaba, Robert E.) Imbedding methods for integral equations with applications. Issue devoted to numerical methods for solving integral equations. *J. Optim. Theory Appl.* **24** (1978), *no.* 1, 29–57. (L. Fox) **58** #8403 65R05 (45B05)

ström, Bo Bounds and perturbation bounds for the matrix exponential. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **17** (1977), *no.* 1, 39–57. (Rolf Jeltsch) **55** #13764 65F99 (15A15)

an, James P. (*with* Rapoport, Amnon; Stein, William E.) Decisions of timing in experimental probabilistic duels. *J. Mathematical Psychology* **13** (1976), *no.* 2, 163–191. D. Marc Kilgour) **53** #5027 90D35

See also **Game theory as a theory of conflict resolution, 49** #4579

Kahan, Steven Fractured fractions. *J. Recreational Math.* **7** (1974), 286–292 (1975). (David Lee Hilliker) **54** #10120 10A30

On the smallest prime greater than a given positive integer. *Math. Mag.* **47** (1974), 91–93. (I. Danicic) **48** #10964 10A25

A curious sequence. *Math. Mag.* **48** (1975), *no.* 5, 290–292. (Donald L. Goldsmith) **53** #5464 10A99

k-reverse-transposable integers. *J. Recreational Math.* **9** (1976/77). *no.* 1, 15–20. (Jau Shyong Shiue) **54** #12618 10A30

k-transposable integers. *Math. Mag.* **49** (1976), *no.* 1, 27–28. (S. P. Mohanty) **53** #2819 10A40

Kahan, Steven J. "Eight blocks to madness"—a logical solution. *Math. Mag.* **45** (1972), 57–65. (Jean Doyen) **52** #155 05B40

See also **Whitehead, Earl Glen, Jr., 50** #4312

Kahan, W. A survey of error analysis. *Information processing* 71 (*Proc. IFIP Congr., Ljubljana*, 1971), *Vol.* 2: *Applications*, *pp.* 1214–1239. *North-Holland, Amsterdam*, 1972. (Author's summary) **56** #17045 65G05

Every $n \times n$ matrix Z with real spectrum satisfies $\|Z - Z^*\| < \|Z + Z^*\| (\log_2 n + 0.038)$. *Proc. Amer. Math. Soc.* **39** (1973), 235–241. (David Carlson) **47** #1833 15A60

Spectra of nearly Hermitian matrices. *Proc. Amer. Math. Soc.* **48** (1975), 11–17. (B. N. Moyls) **51** #5627 15A42

(*with* Parlett, Beresford) How far should you go with the Lanczos process? *Sparse matrix computations* (*Proc. Sympos., Argonne Nat. Lab., Lemont, Ill.*, 1975), *pp.* 131–144. *Academic Press, New York*, 1976. (Michael S. Martin) **56** #17036 65F15

Kahan, Ź.-P. *See* **Kahane, Jean-Pierre**

Kahane, Charles S. Stability of solutions of linear systems with dominant main diagonal. *Proc. Amer. Math. Soc.* **33** (1972), 69–71. (R. K. Rathy) **45** #3867 34D99

Oscillation theorems for solutions of hyperbolic equations. *Proc. Amer. Math. Soc.* **41** (1973), 183–188. (W. Allegretto) **48** #2537 35B05

On the density of the dilations and translates of function in L_1. *Časopis Pěst. Mat.* **101** (1976), *no.* 3, 234–236. (J. L. B. Cooper) **56** #971 42A68

On a system of nonlinear parabolic equations arising in chemical engineering. *J. Math. Anal. Appl.* **53** (1976), *no.* 2, 343–358. (Antonino Maugeri) **53** #8660 35K50

Kahane, Jean-Pierre Sur certaines classes d'ensembles parfaits linéaires. Collection of articles dedicated to Alberto González Domínguez on his sixty-fifth birthday. *Rev. Un. Mat. Argentina* **25** (1970/71), 277–297. (Y. Katznelson) **50** #14040 42A44 (43A46)

The technique of using random measures and random sets in harmonic analysis. *Advances in probability and related topics*, *Vol.* 1, *pp.* 65–101. *Dekker, New York*, 1971. (M. Loève) **45** #7373 42A20 (60H99)

Sur la distribution de certaines séries aléatoires. *Colloque de Théorie des Nombres* (*Univ. Bordeaux, Bordeaux*, 1969), *pp.* 119–122. *Bull. Soc. Math. France, Mém. No.* 25, *Soc. Math. France Paris*, 1971. (M. Mendès France) **50** #12946 10K05 (60E05)

(*with* Helson, Henry) Compact groups with ordered duals. III. *J. London Math. Soc.* (2) **4** (1971/72), 573–575. (K. Yale) **45** #7391 43A40

Projection métrique de $L^1(T)$ sur des sous-espaces fermés invariants par translation. *Linear operators and approximation* (*Proc. Conf., Oberwolfach*, 1971), *pp.* 302–309. *Internat. Ser. Numer. Math., Vol.* 20, *Birkhäuser, Basel*, 1972. (H. S. Shapiro) **52** #3844 41A65 (42A08)

Ensembles parfaits et processus de Lévy. Collection of articles dedicated to the memory of Alfréd Rényi, I. *Period. Math. Hungar.* **2** (1972), 49–59. (R. Kaufman) **48** #7392 60J30 (60G17)

(*with* Katznelson, Yitzhak) Sur les coefficients des séries de Fourier dont les sommes partielles sont positives sur un ensemble. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, VI. *Studia Math.* **44** (1972), 555–562. (S. Izumi) **49** #5672 42A16

★Случайные функциональные ряды. (Russian) [Random series of functions] Translated from the English by B. I. Golubov. Edited by A. V. Efimov. Библиотека Сборника "Математика". [Library of the Journal "Matematika"] *Izdat. "Mir", Moscow*, 1973. 302 *pp.* (Editors) **52** #14797 42–02 (60H99)

Idéaux primaires fermés dans certaines algèbres de Banach de fonctions analytiques. *L'analyse harmonique dans le domaine complexe* (*Actes Table Ronde Internat., CNRS, Montpellier*, 1972), *pp.* 5–14. *Lecture Notes in Math., Vol.* 336, *Springer, Berlin*, 1973. (Colin Bennett) **52** #15020 46J15 (30A98)

Projections métriques dans $L^1 (T)$. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A621–A623. (Colin C. Graham) **47** #7292 41A65 (46J15)

Sur les séries de Dirichlet $\sum_1^\infty \pm n^{-s}$. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A739–A742. (M. E. Noble) **47** #7011 30A16

(*with* Katznelson, Yitzhak) Sur les ensembles d'unicité $U(\varepsilon)$ de Zygmund. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A893–A895. (S. Izumi) **48** #9243 42A48

Heredity in metric projections. *Functional analysis and its applications* (*Internat. Conf., Eleventh Anniversary of Matscience, Madras*, 1973; *dedicated to Alladi Ramakrishnan*), *pp.* 258–271. *Lecture Notes in Math., Vol.* 399, *Springer, Berlin*, 1974. (B. O. Björnestål) **53** #13957 41A65 (42A08)

Les opérateurs de Toeplitz et la meilleure approximation. *Linear operators and approximation, II* (*Proc. Conf., Oberwolfach Math. Res. Inst., Oberwolfach*, 1974), *pp.* 323–326. *Internat. Ser. Numer. Math., Vol.* 25, *Birkhäuser, Basel*, 1974. (Joseph M. Lambert) **54** #814 41A50 (47B35)

Two problems on H^p classes. *Proceedings of the Symposium on Complex Analysis* (*Univ. Kent, Canterbury*, 1973), *pp.* 93–95. *London Math. Soc. Lecture Note Ser., No.* 12, *Cambridge Univ. Press, London*, 1974. (Editors) **58** #12321 46E15 (30A78, 46J15)

Best approximation in $L^1(T)$. *Bull. Amer. Math. Soc.* **80** (1974), 788–804. (H. S. Shapiro) **52** #3845 41A65 (42A08)

(*with* Collins, Michael J.) Une remarque sur les points de Steiner. *Bull. Sci. Math.* (2) **98** (1974), *no.* 4, 249–250. (J. F. Rigby) **54** #13708 50B15 (28A25)

Sur l'irrégularité locale du mouvement brownien. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 331–333. (E. S. Boylan) **49** #9926 60J65 (60G17)

Sur le modèle de turbulence de Benoît Mandelbrot. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 621–623. (W. L. Steiger) **55** #4353 60F15 (60G45, 76.60)

A central object in mathematics: the Brownian motion. Proceedings of the

American Academy Workshop on the Evolution of Modern Mathematics (Boston, Mass., 1974). *Historia Math.* **2** (1975), *no.* 4, 595–600. (Editors) **57** #12085 01A60 (60–03)

Sur le théorème de superposition de Kolmogorov. Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, III. *J. Approximation Theory* **13** (1975), 229–234. (David A. Sprecher) **51** #8351 26A72

Mesures et dimensions. *Turbulence and Navier-Stokes equations* (*Proc. Conf., Univ. Paris-Sud, Orsay*, 1975), *pp.* 94–103. *Lecture Notes in Math., Vol.* 565, *Springer, Berlin*, 1976. (G. Freilich) **56** #8818 28A75

(*with* Peyrière, Jacques) Sur certaines martingales de Benoit Mandelbrot. *Advances in Math.* **22** (1976), *no.* 2, 131–145. (W. L. Steiger) **55** #4355 60F15 (60G45, 76.60)

Brownian motion and classical analysis. *Bull. London Math. Soc.* **8** (1976), *no.* 2, 145–155. (S. J. Taylor) **53** #6768 60J65 (26A27, 42A36, 30A70)

Sur les zéros et les instants de ralentissement du mouvement brownien. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 8, *Aii*, *A*431–*A*433. (N. H. Bingham) **53** #1758 60J65

(*with* Fefferman, Charles L.; Stein, Elias M.) The scientific achievements of Antoni Zygmund. (Polish) *Wiadom. Mat.* (2) **19** (1976), *no.* 2, 91–126. (Editors) **55** #6094 42–03

(*with* de Leeuw, Karel; Katznelson, Yitzhak) Sur les coefficients de Fourier des fonctions continues. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 16, A1001–A1003. (Authors' summary) **58** #23319 42A16

See also **Linear operators and approximation**, **50** #5498 *and* **Problems: Linear operators and approximation**, **51** #12450

Kahane, Joseph (*with* Baker, George A., Jr.; Hind, Margaret F.) *R*-matrix expansion for the ground-state energy of a many-fermion system. *Phys. Rev. C* (3) **2** (1970), 841–858. (Alexej Sitenko) **48** #3419 81.65

Grassman algebras for proving a theorem on Pfaffians. *Linear Algebra and Appl.* **4** (1971), 129–136. (P. Corsini) **46** #1823 15A75

(*with* Marr, Robert) On a class of stochastic pairing processes and the Mycielski-Ulam notions of genealogical distance. *J. Combinatorial Theory Ser. A* **13** (1972), 383–400. (P. Holgate) **46** #6553 62P10

(*with* Beraha, S.; Weiss, Norman J.) Limits of zeroes of recursively defined polynomials. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), *no.* 11, 4209. (M. Marden) **52** #5946 30A08

Kahaner, D. *See* **Finite operator calculus**, **52** #119

Kahaner, David K. Some polynomials for complex quadrature. *Math. Comp.* **25** (1971), 827–830; *addendum, ibid.* **25** (1971), *no.* 116, *loose microfiche suppl.* C11. (F. Stenger) **45** #7990 65D30

(*with* Hayes, John K.; Kellner, Richard G.) An improved method for numerical conformal mapping. *Math. Comp.* **26** (1972), 327–334; *suppl., ibid.* **26** (1972), *no.* 118, *loose microfiche suppl.* A1–B14. (D. Gaier) **46** #334 30A28

Minimum norm differentiation formulas with improved roundoff error bounds. *Math. Comp.* **26** (1972), 477–485. (R. E. Barnhill) **46** #8389 65D25

Numerical quadrature by the ε-algorithm. *Math. Comp.* **26** (1972), 689–693. (T. I. Seidman) **48** #7552 65D30

(*with* Rota, Gian-Carlo; Odlyzko, Andrew M.) On the foundations of combinatorial theory. VIII. Finite operator calculus. *J. Math. Anal. Appl.* **42** (1973), 684–760. (P. Saphar) **49** #10556 05–02

Some computations of expected number of real zeros of random polynomials. *J. Math. Anal. Appl.* **48** (1974), 780–784. (Editors) **54** #6443 65A05 (65H05)

(*with* Hayes, John K.; Kellner, Richard G.) A numerical comparison of integral equations of the first and second kind for conformal mapping. *Math. Comp.* **29** (1975), 512–521. (D. Gaier) **51** #7259 65E05 (30A28)

Kahhorov, A. (*with* Dobrovol′skiĭ, O. V.; Hodžiev, I.) Perfect and amicable numbers in the medieval East. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1976**, *no.* 3(61), 24–28. (Editors) **58** #26779 01A30 (10–03)

Impressing a stamp into a half-plane that has imbedded eccentric rings. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no.* 1 *Fiz. i Mat.*, 13–18. (See RŽMat **1978** #6 B398) 73.30

(*with* Hodžiev, I.) The astronomical and mathematical manuscripts that are held in the A. Firdausi State Library of the Republic. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 1(63), 23–30. (Editors) **57** #5649 01A75 (01A30)

(*with* Hodžiev, I.) Ibn Sīnā—mathematician (on the occasion of the 1000th anniversary of his birth). (Russian) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1977**, *no.* 3(65), 121–124. (Editors) **58** #4808 01A30 (10A45)

Kahiani, O. N. The third and fourth boundary value problems of statics for an orthotropic elastic half-space. (Russian. Georgian and English summaries) *V. I. Lenin. Sakharth. Politekh. Inst. Šrom.* **1973**, *no.* 6(162) *Math.*, 75–85. (J. Mazumdar) **50** #6260 73.35

A method for solving some boundary value problems of the statics of a transversal-isotropic elastic layer. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **88** (1977), *no.* 3, 553–556. (Author's summary) **58** #19566 73.35

Kahičko, A. A. (*with* Burdjuk, V. Ja.; Ščerbak, V. V.) The construction of Hamiltonian paths in tournaments. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1978**, *no.* 2, 65–68. (D. Ja. Kesel′man) **58** #10571 05C20 (05C30, 90B10)

Kahle, Dieter Charakterisierung der Stetigkeit reeller Funktionen durch Eigenschaften ihrer Graphen. *Math.-Phys. Semesterber.* **18** (1971), 55–60. (F. Brooks) **54** #10520 26A15

Kahler, A. L. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9426

Kähler, Erich *See* **Special issue: Kähler, Erich**, **57** #15815

Kahlig, Peter Über einige Lösungen der eindimensionalen Diffusionsgleichung. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **186** (1977), *no.* 4–7, 193–215. (H. E. Fettis) **57** #10030 33A70 (35K05, 65D20)

Further auxiliary functions for non-stationary one-dimensional diffusion. I. Basic properties. (German summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 6, 1099–1108. (Clarence M. Ablow) **57** #3590a 35C15

Further auxiliary functions for non-stationary one-dimensional diffusion. I Applications. (German summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 6, 11 (Clarence M. Ablow) **57** #3590b 35C15

Auxiliary functions for non-stationary one-dimensional diffusion under for convection. Basic properties and applications. (German and Russian summ. *Angew. Math. Mech.* **58** (1978), *no.* 8, 309–321. (Author's summary) **58** # 80.33

Kahlon, Upkar S. Problem of Krull-Schmidt-Remak-Azumaya-Matlis. *J. Indi Soc.* (*N.S.*) **35** (1971), 255–261 (1972). (R. B. Warfield, Jr.) **46** #5388 16A

Kahn, A. H. *See* **Coherent states in quantum theory**, **52** #16309

Kahn, Daniel S. (*with* Priddy, Stewart B.) Applications of the transfer to stable h theory. *Bull. Amer. Math. Soc.* **78** (1972), 981–987. (R. A. Piccinini) **46** 55E45

(*with* Kaminker, Jerome; Schochet, Claude) Generalized homology the compact metric spaces. *Michigan Math. J.* **24** (1977), *no.* 2, 203–224. (Harold **57** #13921 55B35

(*with* Priddy, Stewart B.) On the transfer in the homology of symmetric *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 1, 91–101. (J. P. May) **57** # 55E45

(*with* Priddy, Stewart B.) The transfer and stable homotopy theory. *Ma Cambridge Philos. Soc.* **83** (1978), *no.* 1, 103–111. (J. P. May) **57** #4164b

Kahn, Donald W. Stable spectral sequences and their applications. *Amer. J.* (1972), 1131–1154. (R. E. Mosher) **46** #9974 55E05 (55H05)

A note on *H*-equivalences. *Pacific J. Math.* **42** (1972), 77–80. (J. W. **47** #4250 55D10 (55E05)

Relations in stable homotopy modules. *Proc. Amer. Math. Soc.* **40** (1973), (Author's summary) **55** #9089 55E45

Obstruction theory in the stable range. *Michigan Math. J.* **21** (1974), 19–26. Hastings) **49** #11511 55G35 (55J99)

★Topology. An introduction to the point-set and algebraic areas. *Wil Wilkins Co., Baltimore, Md.*, 1975. viii + 211 *pp.* (John G. Hocking) **53** # 54–01 (55–01)

Realization problems for the group of homotopy classes of self-equivalences *Ann.* **220** (1976), *no.* 1, 37–46. (Guido Mislin) **53** #6544 55D10

(*with* Frank, David) Finite complexes with infinitely-generated groups of self-equivalences. *Topology* **16** (1977), *no.* 2, 189–192. (P. W. H. Lemmens) **57** 55D10

Kahn, Gilles (*with* Courcelle, Bruno; Vuillemin, Jean) Algorithmes d'équivalen réduction à des expressions minimales dans une classe d'équations récursives (English summary) *Automata, languages and programming* (*Second Colloq., Univ Saarbrücken, Saarbrücken*, 1974), *pp.* 200–213. *Lecture Notes in Comput. Sci., Springer, Berlin*, 1974. (Authors' summary) **55** #1798 68A10

The semantics of a simple language for parallel programming. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974), *pp.* 471–475. *North- Amsterdam*, 1974. (Immo O. Kerner) **54** #14429 68A05

Kahn, Kevin C. (*with* Denning, Peter J.; Leroudier, Jacques; Potier, Dominiqu Rajan) Optimal multiprogramming. Papers presented at the International Sym on Computer Performance Modeling, Measurement and Evaluation (Harvar Cambridge, Mass., 1976). *Acta Informat.* **7** (1976), *no.* 2, 197–216. (R. L. **56** #7928 90B35 (68A05)

Kahn, P. M. *See* **Credibility: theory and applications**, **52** #2116

Kahn, Peter B. (*with* Lin, Juan) Averaging methods in predator-prey systems and biological models. *J. Theoret. Biol.* **57** (1976), *no.* 1, 73–102. (L. Billard) **58** # 92A15

(*with* Lin, Juan) Qualitative behavior of predator-prey communities. *J. Biol.* **65** (1977), *no.* 1, 101–132. (C. P. Bruter) **56** #8083 92A15

(*with* Lin, Juan) Limit cycles in random environments. *SIAM J. Appl. M* (1977), *no.* 1, 260–291. (P. Holgate) **57** #2642 92A15

Kahn, Peter J. (*with* Antonelli, Peter L.; Burghelea, Dan) ★The concordance-ho groups of geometric automorphism groups. Lecture Notes in Mathematics, V *Springer-Verlag, Berlin-New York*, 1971. x + 140 *pp.* (E. C. Turner) **50** #11293 57E05

A note on topological Pontrjagin classes and the Hirzebruch index formula. *J. Math.* **16** (1972), 243–256. (J. A. Schafer) **45** #1183 55F40 (57D75)

(*with* Antonelli, Peter L.; Burghelea, Dan) The non-finite homotopy type o diffeomorphism groups. *Topology* **11** (1972), 1–49. (M. Mahowald) **45** #1193 58D05

(*with* Scheerer, Hans) Localisation des groupes et des espaces nilpotents télescopes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* A419–A422. (M. Mimura) **52** #15447 55D99

On inverse limits of homotopy sets. *Proc. Amer. Math. Soc.* **47** (1975), 48 (Ronald Brown) **51** #6800 55E05

Mixing homotopy types of manifolds. *Topology* **14** (1975), *no.* 3, 203–216. (E Brown, Jr.) **51** #14106 57D65 (55D15)

(*with* Brown, Kenneth S.) Homotopy dimension and simple cohomological dimension of spaces. *Comment. Math. Helv.* **52** (1977), *no.* 1, 111–127. (Stew Priddy) **55** #11251 55D99

Kahne, S. J. *See* **Proceedings: International Congress of the International Federa Automatic Control (IFAC)**, **51** #12360a

Kahne, Stephen J. Feasible control computations using dynamic programming. *Au and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*London*, 1966), *Vol.* 1, *p.* 36, *Paper* 18*G*, 6 *pp. Inst. Mech. Engrs., London*, 197 Rössler) **53** #7483 90C30

Kahnert, Dietmar Metrische Dimensionsfunktionen. *Math. Z.* **127** (1972), 127–1 Caraman) **47** #4231 54F45 (54E35)

Über Mengen mit Bairescher Eigenschaft. *Arch. Math.* (*Basel*) **24** (1973), 179 (J. C. Oxtoby) **47** #8777 26A21

Hausdorff-Masse von Summenmengen. I. *J. Reine Angew. Math.* **264** (1973), (J. Král) **49** #3069a 28A10

Graphen reeller Funktionen. *Math. Ann.* **200** (1973), 287–292. (Bernard L.

Madison) **48** #4210 26A15

Mass und Kategorie von Summenmengen. *Math. Z.* **132** (1973), 21–28. (J. C. Oxtoby) **48** #2663 43A05

Addition linearer Cantormengen. *Czechoslovak Math. J.* **24(99)** (1974), 563–572. (J. P. R. Christensen) **50** #10187 28A05

Hausdorff-Masse von Summenmengen. II. *J. Reine Angew. Math.* **266** (1974), 1–9. (J. Král) **49** #3069b 10Kxx

Haar-Mass und Hausdorff-Mass. *Measure theory* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 13–23. *Lecture Notes in Math., Vol.* 541, *Springer, Berlin*, 1976. (J. Král) **56** #8817 28A70

ng, S. W. Best L_p approximation. *Math. Comp.* **26** (1972), 505–508. (G. Nielson) **46** #8380 65D15

niašvili, N. S. Certain estimates in thermo-elasticity theory. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **65** (1972), 547–550. (L. Jentsch) **45** #4727 73.35

On the proof of existence theorems for the fundamental dynamical problems of thermo-elasticity. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **66** (1972), 549–552. (L. Jentsch) **46** #2953 73.35 (35Q99)

The solution of the second fundamental problem of thermoelasticity theory. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **70** (1973), 41–44. (L. Jentsch) **49** #8474 73.35

Fundamental existence of theorems of thermoelasticity theory. (Russian. Georgian summary) Collection of articles dedicated to Academician V. D. Kupradze on the occasion of his 70th birthday. *Thbilis. Univ. Šrom. A* **8(153)** (1974), 79–91. (V. Gheorghiţă) **53** #9810 73.35

ramaner, Suzana Sur l'argument des fonctions univalentes. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **32** (1967), 1–22 (1971). (F. R. Keogh) **46** #9319 30A32

Nazim Terzioğlu (1912–1975). (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **20(53)** (1977), *no.* 4, 346–347. (Editors) **58** #84 01A70

ramanov, A. Š. An application of the operational method to the investigation of the solvability of a mixed problem for a second order parabolic equation on the half axis. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 2, 64–68. (J. Chabrowski) **45** #3944 35K10

A boundary value problem in a quarter plane. (Russian. English summary) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **29** (1973), *no.* 3, 3–7. (P. P. Zabreĭko) **51** #3732 35R20

(*with* Mamedova, Š. Dž.) A boundary value problem for a second order operator differential equation. (Russian) *Spectral theory of operators* (*Russian*), *pp.* 199–208. *Izdat. "Èlm", Baku*, 1977. (From the introduction) **58** #12037 35R20

, Kôyei *See* **Matsuzaki, Toshio**, **58** #21019

, Yū On optimal non-random stationary policies in finite state stochastic games. *Bull. Math. Statist.* **15** (1972/73), *no.* 3-4, 93–99. (Romesh Saigal) **48** #13398 93E05

(*with* Iwamoto, Seiichi) On deterministic stationary strategies for Markov games. *Bull. Math. Statist.* **16** (1974/75), *no.* 1-2, 71–82. (T. Parthasarathy) **52** #5059 90D15 (93E05)

An approach to n-person games in partition function form. *Res. Inst. Fund. Information Sci. Res. Rep. No.* 59 (1975), 12 *pp.* (R. E. Stearns) **55** #5219 90D12

dan, V. O. (*with* Pohilevič, V. O.) The ranges of values of a certain functional on special classes of star-like functions. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 1, 5–9, 92. (Z. Lewandowski) **53** #13539 30A32

darov, K. K. Certain one-dimensional dymanic thermoelastic problems for a half-space. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 231–236. (L. Jentsch) **50** #9185 80.44

gh, W. D. A conditional local limit theorem and its application to random walk. *Bull. Amer. Math. Soc.* **80** (1974), 769–770. (Stanley Sawyer) **49** #8111 60J15 (60B10)

A conditional local limit theorem for recurrent random walk. *Ann. Probability* 3 (1975), *no.* 5, 883–888. (Douglas P. Kennedy) **52** #9337 60F05 (60J15)

An invariance principle for random walk conditioned by a late return to zero. *Ann. Probability* **4** (1976), *no.* 1, 115–121. (Douglas P. Kennedy) **54** #3786 60B10

Success probabilities of a conditioned random walk. *Rocky Mountain J. Math.* 7 (1977), *no.* 4, 807–816. (Douglas P. Kennedy) **56** #6878 60J15

gorodov, V. R. (*with* Pestov, A. B.) A constant vector field in Einstein spaces. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 6 (1969), 46–51. (RŽFiz **1970** #7 V232) **58** #32786 83.53 (53C25)

Nonconformally flat relativistic spaces of recurrent curvature. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 8 (1971), 109–115. (RŽMat **1972** #7 A598) **58** #30918 53C25

The Petrov classification, and recurrent spaces. (Russian) *Gravitation: problems, prospects* (*dedicated to the memory of A. Z. Petrov*) (*Russian*), *pp.* 52–61, 356. *Izdat. "Naukova Dumka", Kiev*, 1972. (N. Rosen) **49** #4522 83.53

The curvature of s-recurrent and quasisymmetric Riemannian manifolds. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 796–799. (P. Günther) **48** #12353 53B20 (53Cxx)

Canonical matrices of the tensor of curvature in general relativity theory. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 9 (1973), 22–24. (RŽFiz **1974** #6 B168) **58** #32784 83.53

2-symmetric and 2-recurrent gravitational fields. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 9 (1973), 25–32. (RŽFiz **1974** #6 B170) **58** #32785 83.53

(*with* Aminova, A. V.; Biljalov, R. F.; Širokov, A. P.) Alekseĭ Zinov′evič Petrov. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 9 (1973), 127–135. (Editors) **58** #27098 01A70

The Riemannian spaces $^*D_n^s$. Structure of the curvature of spaces of type A. (Russian) Collection of articles dedicated to Aleksandr Petrovič Norden on the occasion of his seventieth birthday. *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 5(144), 117–127. (P. Günther) **50** #14547 53B20

Riemannian spaces $^*K_n^s$. (Russian. English summary) Collection of articles dedicated to the memory of Kleopas Grincevičius. *Trudy Geometr. Sem.* **5** (1974), 359–373, 376. (*errata insert*) (P. Günther) **52** #15287 53B20

On the theory of S-recurrent Riemannian spaces. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 10-11 (1975), 91–107. (RŽMat **1977** #11 A645) **58** #30853 53B20

$\overset{*}{D}{}^s_n$-Riemannian spaces. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 10-11 (1975), 209–231. (RŽMat **1977** #11 A644) **58** #30854 53B20

The structure of the curvature of $^*D_n^s$-spaces of type B. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 1 (152), 104–107. (W. Wrona) **52** #1548 53B20

The Riemannian spaces $^*D_n^s$. Second order recurrence. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 2(153), 112–115. (W. Waliszewski) **53** #9059 53B20

Complex recurrent Einstein spaces. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 13 (1976), 75–80. (V. Wünsch) **58** #32783 83.53 (53B30)

Kaijiri, Kenji (*with* Uchinami, Seiichi; Tezuka, Yoshikazu; Seno, Takonori) Methods of constructing weak precedence functions by postponement of error detection. *Systems-Computers-Controls* **7** (1976), *no.* 6, 19–26 (1977). (Miroslav Hladky) **58** #8469 68A10

(*with* Uchinami, Seiichi; Tezuka, Yoshikazu) Methods of realizing precedence functions with error detecting capabilities. *Systems-Computers-Controls* **7** (1976), *no.* 6, 27–36 (1977). (From the summary) **57** #18250 68A30

(*with* Uchinami, Seiichi; Tezuka, Yoshikazu) Extended precedence parsing method and its error detection. *Tech. Rep. Osaka Univ.* **26** (1976), *no.* 1276-1307, 13–34. (Authors' summary) **56** #1774 68A05

Kaijser, Sten Representations of tensor algebras as quotients of group algebras. *Ark. Mat.* **10**, 107–141 (1972). (A. B. Willcox) **46** #9764 46M05 (43A45)

An application of Grothendieck's inequality to a problem in harmonic analysis. *Séminaire Maurey-Schwartz* (1975–1976), *Espaces* L^p, *application radonifiantes et géométrie des espaces de Banach, Exp. No.* 5, 8 *pp. Centre Math., École Polytech., Palaiseau*, 1976. (D. L. Salinger) **58** #12201 43A25 (46M05)

Some remarks on injective Banach algebras. *Spaces of analytic functions* (*Sem. Functional Anal. and Function Theory, Kristiansand*, 1975), *pp.* 84–95. *Lecture Notes in Math., Vol.* 512, *Springer, Berlin*, 1976. (From the introduction) **58** #17879 46M10 (46H05, 46J10)

A note on dual Banach spaces. *Math. Scand.* **41** (1977), *no.* 2, 325–330. (M. M. Day) **58** #12296 46B10

Kaijser, Thomas A limit theorem for partially observed Markov chains. *Ann. Probability* **3** (1975), *no.* 4, 677–696. (R. Theodorescu) **52** #4417 60J10 (60F05)

A limit theorem for Markov chains in compact metric spaces with applications to products of random matrices. *Duke Math. J.* **45** (1978), *no.* 2, 311–349. (U. Herkenrath) **58** #18759 60J99

Kaĭ Lai Čžun *See* **Chung, Kai Lai**

Kailath, Thomas An innovations approach to least-squares estimation. I. Linear filtering in additive white noise. *IEEE Trans. Automatic Control* **AC-13** (1968), 646–655; *comment, ibid.* **AC-15** (1970), 158–159. (P. Whittle) **46** #8367 62M20 (94A05)

(*with* Frost, Paul) An innovations approach to least-squares estimation. II. Linear smoothing in additive white noise. *IEEE Trans. Automatic Control* **AC-13** (1968), 655–660. (P. Whittle) **46** #8368 62M20 (94A05)

Likelihood ratios for Gaussian processes. *IEEE Trans. Information Theory* **IT-16** (1970), 276–288. (Author's summary) **57** #5387 94A05

A further note on a general likelihood formula for random signals in Gaussian noise. *IEEE Trans. Information Theory* **IT-16** (1970), 393–396. (R. Š. Lipcer) **53** #6719 60G30

The innovations approach to detection and estimation theory. *Proc. IEEE* **58** (1970), 680–695. (M. Zakai) **46** #8746 94A05

(*with* Rissanen, Jorma) Partial realization of random systems. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and non-linear systems; Identification, differential games, discrete and stochastic systems, Paper No.* 35.6, 6 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 (1972). (Authors' summary) **56** #11460 93E25

(*with* Geesey, Roger A.) An innovations approach to least squares estimation. IV. Recursive estimation given lumped covariance functions. *IEEE Trans. Automatic Control* **AC-16** (1971), 720–727. (P. Whittle) **46** #8369 62M20 (94A05)

RKHS approach to detection and estimation problems. I. Deterministic signals in Gaussian noise. *IEEE Trans. Information Theory* **IT-17** (1971), 530–549. (S. Csibi) **46** #2766 62M20 (60G35)

(*with* Anderson, B. D. O.) The choice of signal-process models in Kalman-Bucy filtering. *J. Math. Anal. Appl.* **35** (1971), 659–668. (Authors' summary) **45** #8377 94A05

(*with* Geesey, Roger T.; Weinert, Howard L.) Some relations among RKHS norms, Fredholm equations, and innovations representations. *IEEE Trans. Information Theory* **IT-18** (1972), 341–348. (S. Csibi) **49** #12148 94A05 (45B05, 62M20)

(*with* Duttweiler, Donald L.) An RKHS approach to detection and estimation problems. III. Generalized innovations representations and a likelihood-ratio formula. *IEEE Trans. Information Theory* **IT-18** (1972), 730–745. (S. Csibi) **53** #10458 94A05 (60G35)

A note on least squares estimation by the innovations method. *SIAM J. Control* **10** (1972), 477–486. (P. Whittle) **47** #6045 62M20 (60G25, 93E10)

(*with* Gevers, Michel R.) Constant, predictable and degenerate directions of the discrete-time Riccati equation. (French, German and Russian summaries) *Automatica—J. IFAC* **9** (1973), 699–711. (Authors' summary) **58** #4555 93E10

(*with* Geesey, Roger A.) An innovations approach to least-squares estimation. V. Innovations representations and recursive estimation in colored noise. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 5, 435–453. (Authors' summary) **55** #14367 93E10

(*with* Gevers, Michel R.) An innovations approach to least-squares estimation. VI. Discrete-time innovations representations and recursive estimation. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 6, 588–600. (Authors' summary) **55** #14368 93E10

(*with* Aasnaes, Hans Bent) An innovations approach to least-squares estimation. VII. Some applications of vector autoregressive-moving average models. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 6, 601–607. (Authors' summary) **55** #14369 (E **58** #33420) 93E10

Some new algorithms for recursive estimation in constant linear systems. *IEEE*

Trans. Information Theory **IT-19** (1973), 750–760. (Peter Stavroulakis) **50** #16003 93C05

(*with* Duttweiler, Donald L.) RKHS approach to detection and estimation problems. IV. Non-Gaussian detection. *IEEE Trans. Information Theory* **IT-19** (1973), *no.* 1, 19–28. (S. Csibi) **53** #10459 94A05 (60G35, 46–XX)

(*with* Duttweiler, Donald L.) RKHS approach to detection and estimation problems. V. Parameter estimation. *IEEE Trans. Information Theory* **IT-19** (1973), *no.* 1, 29–36. (S. Csibi) **53** #10460 94A05 (60G35, 46–XX)

(*with* Sidhu, Gursharan Singh; Mori, M.) Development of fast algorithms via innovations decompositions. *Proceedings of the Seventh Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), *pp.* 192–195. *Western Periodicals, North Hollywood, Calif.*, 1974. (Authors' summary) **57** #15697 93E10

(*with* Krasner, Norman) On the factorization of semi-separable kernels. *Proceedings of the Seventh Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), *pp.* 223–225. *Western Periodicals, North Hollywood, Calif.*, 1974. (B. P. Molinari) **56** #15045 93E10

(*with* Weinert, Howard L.) Stochastic interpretations and recursive algorithms for spline functions. *Ann. Statist.* **2** (1974), 787–794. (V. M. Dočviri) **52** #5167 93E20

(*with* Dickinson, Bradley W.; Morf, Martin) A minimal realization algorithm for matrix sequences. *IEEE Trans. Automatic Control* **AC-19** (1974), 31–38. (V. M. Popov) **50** #15994 93B20

(*with* Morf, Martin; Sidhu, Gursharan Singh) Some new algorithms for recursive estimation in constant, linear, discrete-time systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 315–323. (See Zbl **279** #93043) 93C05

(*with* Aasnaes, Hans Bent) Initial-condition robustness of linear least squares filtering algorithms. *IEEE Trans. Automatic Control* **AC-19** (1974), 393–397. (A. K. Mahalanabis) **57** #9236 93E10

(*with* Dickinson, Bradley W.; Morf, Martin) Canonical matrix fraction and state-space descriptions for deterministic and stochastic linear systems. System identification and time-series analysis. *IEEE Trans. Automatic Control* **AC-19** (1974), 656–667. (From the authors' summary) **55** #7484 (E **55** #12249) 93B10

A view of three decades of linear filtering theory. *IEEE Trans. Information Theory* **IT-20** (1974), 146–181. (J. S. Joel) **57** #5337 93E10 (60G17, 62M15, 94A05)

(*with* Sidhu, Gursharan Singh) Development of new estimation algorithms by innovations analysis and shift-invariance properties. *IEEE Trans. Information Theory* **IT-20** (1974), 759–762. (Tohru Katayama) **50** #4075 93E10

(*with* Segall, Adrian) Radon-Nikodým derivatives with respect to measures induced by discontinuous independent-increment processes. *Ann. Probability* **3** (1975), *no.* 3, 449–464. (T. T. Kadota) **52** #15652 60G30 (60J35)

Supplement to: "A survey of data smoothing" (Automatica—J. IFAC **9** (1973), 151–162) by J. S. Meditch. *Automatica—J. IFAC* **11** (1975), *no.* 1, 109–111. (E. Parzen) **57** #11897b 93E10

(*with* Morf, Martin) Square-root algorithms for least-squares estimation. *IEEE Trans. Automatic Control* **AC-20** (1975), 487–497. (P. S. Knopov) **54** #4787 93E10

(*with* Weinert, Howard L.) An RKHS approach to detection and estimation problems. II. Gaussian signal detection. *IEEE Trans. Information Theory* **IT-21** (1975), 15–23. (S. Csibi) **52** #5182 93A05

(*with* Segall, Adrian) The modeling of randomly modulated jump processes. *IEEE Trans. Information Theory* **IT-21** (1975), 135–143. (D. D. Sworder) **51** #2731 93E10

(*with* Segall, Adrian; Davis, Mark H. A.) Nonlinear filtering with counting observations. *IEEE Trans. Information Theory* **IT-21** (1975), 143–149. (D. D. Sworder) **51** #2732 93E10

(*with* Ljung, Lennart) Formulas for efficient change of initial conditions in linear least squares estimation. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 640–644. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #18049 93E10 (93E25)

(*with* Kung, S. Y.; Morf, Martin) A generalized resultant matrix for polynomial matrices. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 892–895. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #17960 93B15

Some new results and insights in linear least-squares estimation theory. *Proceedings of the IEEE-USSR Joint Workshop on Information Theory* (*Moscow*, 1975), *pp.* 97–104. *Inst. Electr. Electron. Engrs., New York*, 1976. (Tohru Katayama) **56** #18043 93E10

(*with* Ljung, Lennart) A unified approach to smoothing formulas. *Automatica—J. IFAC* **12** (1976), *no.* 2, 147–157. (Anders Lindquist) **54** #12314 93E10

(*with* Ljung, Lennart) The asymptotic behavior of constant-coefficient Riccati differential equations. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 3, 385–388. (Vladimír Kučera) **53** #15512 93E10 (34E99)

(*with* Weinert, Howard L.) A spline-theoretic approach to minimum-energy control. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 3, 391–393. (Marcel Amouroux) **54** #8413 49E99

(*with* Weinert, Howard L.) A spline-theoretic approach to minimum-energy control. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 3, 391–393. (Marcel Amouroux) **54** #8443 49E99

(*with* Segall, Adrian) Orthogonal functionals of independent-increment processes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 3, 287–298. (S. Ikehara) **54** #1374 60H05

(*with* Ljung, Lennart) Backwards Markovian models for second-order stochastic processes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 4, 488–491. (H. Salehi) **54** #12313 93E10

(*with* Friedlander, Benjamin; Ljung, Lennart) Scattering theory and linear least squares estimation. II. Discrete-time problems. Recent trends in systems theory. *J. Franklin Inst.* **301** (1976), *no.* 1-2, 71–82. (Editors) **58** #20732 93E10

(*with* Ljung, Lennart; Friedlander, Benjamin) Scattering theory and linear least squares estimation. I. Continuous-time problems. Recent trends in system theory. *Proc. IEEE* **64** (1976), *no.* 1, 131–139. (Editors) **58** #20731 93E10

(*with* Ljung, Lennart) A scattering theory framework for fast least-squares algorithms. *Multivariate analysis, IV* (*Proc. Fourth Internat. Sympos., Dayton, Ohio*, 1975), *pp.* 387–406. *North-Holland, Amsterdam*, 1977. (Arunabha Bagchi) **57** #9242 93E10

(*with* Friedlander, Benjamin; Verghese, G.) Scattering theory and linear least-squares estimation. III. The estimates. *Proceedings of the* 1977 *IEEE Confere* *Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 591–597. *Inst. Ele* *Electron. Engrs., New York*, 1977. (C. J. Harris) **58** #20733 93E10

(*with* Lévy, Bernard C.; Kung, S. Y.; Morf, Martin) A unification of s equivalence definitions. *Proceedings of the* 1977 *IEEE Conference on Decisio* *Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 795–800. *Inst. Electrical Electron.* *New York*, 1977. (Authors' summary) **58** #20645 93A05

Some new methods for solving linear equations. *Transactions of the Twenty-* *Conference of Army Mathematicians* (*Watervliet Arsenal, Watervliet, N.Y.*, 197 211–225. *ARO Rep.*, 77-1. *U. S. Army Res. Office, Research Triangle Park, N.C.*, (Author's summary) **58** #31768 65F05

(*with* Ljung, Lennart) Efficient change of initial conditions, dual Chandra equations, and some applications. *IEEE Trans. Automatic Control* **AC-22** (1977), 443–447. (Zbigniew Nahorski) **57** #19014 93E10

(*with* Vieira, A.) On another approach to the Schur-Cohn criterion. *IEEE* *Circuits and Systems* **CAS-24** (1977), *no.* 4, 218–220. (Peter J. Moylan) **56** #4 93D99

(*with* Morf, Martin; Vieira, A.) Covariance characterization by partial autocorrelation matrices. *Ann. Statist.* **6** (1978), *no.* 3, 643–648. (Alan J. Lee) **57** #17996 62M10

(*with* Gupta, Narendra K.) Corrections and extensions to: "An innovations approach to least-squares estimations. VII. Some applications of vector ARMA m (IEEE Trans. Automat. Control **18** (1973), 601–607) by H. B. Aasnaes and Ka *IEEE Trans. Automat. Control* **23** (1978), *no.* 3, 511–512. (Authors' summary) **58** #33420 93E10

(*with* Lévy, Bernard C.; Ljung, Lennart; Morf, Martin) Fast time-invariant implementations of Gaussian signal detectors. *IEEE Trans. Inform. Theory* **24** (*no.* 4, 469–477. (W. A. Gardner) **58** #18703 60G35 (94A05)

(*with* Vieira, A.; Morf, Martin) Inverses of Toeplitz operators, innovations orthogonal polynomials. *SIAM Rev.* **20** (1978), *no.* 1, 106–119. (C. F. Dunkl) **58** #23722 47B35 (33A65, 42A52, 60G10, 94A15)

See also **System identification and time-series analysis**, **50** #4006; **Brammer,** **F.**, **51** #2724; **Key papers in the development of information theory**, **52** #517 **Lindquist, Anders**, **55** #12249

Kaĭman, G. (*with* Golden, K. I.; Silevitch, M. B.) Nonlinear fluctuation-dissipation theorem. *J. Statist. Phys.* **6** (1972), 87–118. (Authors' summary) **56** #7678 8

Kaindl, Georg Simultane Diophantische Approximationen. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **185** (1976), *no.* 8-10, 387–404 (1977). (W. W. A **58** #16537 10F10

Kainen, Paul C. Trivalent descriptions of graphs. *Proceedings of the Second Lo* *Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ.,* *Rouge, La.*, 1971), *pp.* 331–338. *Louisiana State Univ., Baton Rouge, La.*, 1971. Quintas) **48** #178 05C99

Weak adjoint functors. *Math. Z.* **122** (1971), 1–9. (Y. C. Wu) **45** #1987

Universal coefficient theorems for generalized homology and stable cohomo *Pacific J. Math.* **37** (1971), 397–407. (C. M. Naylor) **47** #7743 55J20

On the chromatic number of certain 2-complexes. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 291–295. *Florida Atlantic Univ., Boca* *Fla.*, 1972. (A. K. Dewdney) **54** #5031 05C15 (55A15)

A lower bound for crossing numbers of graphs with applications to K_n, $K_{p,}$ $Q(d)$. *J. Combinatorial Theory Ser. B* **12** (1972), 287–298. (Author's summary) **45** #8563 05C99

Every commutative square of abelian groups can be realized by a hom commutative square of Moore, or co-Moore, spaces. *J. London Math. Soc.* (2) **5** (577–583. (Editors) **55** #6413 55B40 (55E05)

On the stable crossing number of cubes. *Proc. Amer. Math. Soc.* **36** (1972), 5 (A. T. White) **46** #5155 05C10

The Lie product of graphs. *Proceedings of the Fourth Southeastern Conferen* *Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton,* 1973), *pp.* 381–386. *Utilitas Math., Winnipeg, Man.*, 1973. (W. Moser) **51** #7 05C99

Thickness and coarseness of graphs. *Abh. Math. Sem. Univ. Hamburg* **39** (88–95. (E. A. Nordhaus) **49** #104 05C10

Relative colorings of graphs. *J. Combinatorial Theory Ser. B.* **14** (1973), 259 (F. Bernhart) **47** #4840 05C15

(*with* Harary, Frank; Schwenk, Allen J.; White, Arthur T.) A maximal tor graph which is not a triangulation. *Math. Scand.* **33** (1973), 108–112. (Václav Chv **48** #10889 05C35

(*with* Harary, Frank; Schwenk, Allen J.) Toroidal graphs with arbitrarily crossing numbers. *Nanta Math.* **6** (1973), *no.* 1, 58–67. (H. V. Kronk) **49** # 05C10

Some recent results in topological graph theory. *Graphs and combinatorics* (*Capital Conf., George Washington Univ., Washington, D.C.*, 1973), *pp.* 76–108. *L* *Notes in Math., Vol.* 406, *Springer, Berlin*, 1974. (L. W. Beineke) **51** #2966 05

(*with* Hechler, Stephen H.) On the immersion of digraphs in cubes. *Israel J.* **18** (1974), 221–233. (F. R. K. Chung) **50** #12790 05C20

A generalization of the 5-color theorem. *Proc. Amer. Math. Soc.* **45** (1974), 450 (H. V. Kronk) **49** #10591 05C15

Chromatic number and skewness. *J. Combinatorial Theory Ser. B* **18** (1975), 3 (H. V. Kronk) **51** #5367 05C15

(*with* Saaty, Thomas L.) ★The four-color problem. Assaults and conquest. *McGraw-Hill International Book Co., New York-Bogotá-Auckland*, 1977. ix+217 *pp* T. Tutte) **58** #246 05–02 (05C15)

(*with* White, Arthur T.) On stable crossing numbers. *J. Graph Theory* **2** (1978 3, 181–187. (L. W. Beineke) **58** #10549 05C10

See also **Problems: Combinatorics**, **52** #5430

Kainz, W. Lösung der Hartree-Fock-Gleichung für das Heliumatom (Vergleich analytischen mit einer numerischen Methode). *Anz. Österreich. Akad. Wiss.*

Math.-Naturwiss. Kl. **1970**, *no.* 4, 73–78. (Wolfgang Bühring) **52** #9923 81.65

Method of partial differential equations for Feynman graphs in the ghostfree gauge of nonabelian gauge theories. *Acta Phys. Austriaca* **44** (1976), *no.* 1-2, 1–5. (G. Costa) **53** #2187 81.46

io, Naoto (*with* Osaki, Shunji) Optimum ordering policies with two kinds of lead times and non-linear ordering costs. *Internat. J. Systems Sci.* **9** (1978), *no.* 3, 265–272. (S. M. Pandit) **57** #11703 90B25

(*with* Osaki, Shunji) Optimum ordering policies when order costs depend on time. (French summary) *RAIRO Recherche Opér.* **12** (1978), *no.* 1, 93–99, iii. (E. V. Bulinskaja) **58** #4255 90B05

ipov, D. K. (*with* Dautov, L. M.; Ionov, S. P.; Kadykenov, M. M.) ★Таблицы атомных волновых функций. (Russian) [Tables of atomic wave functions] Edited by S. E. Ermatov. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1974. 196 *pp.* (Editors) **50** #9214 81.33 (65A05)

ipov, V. H. (*with* Živogljadov, V. P.) The statistical approach to problems of identification of distributed objects. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 408–417, 482. *Izdat. "Nauka", Moscow*, 1972. (Editors) **48** #10604 93E10

See also **Algorithms and programs in experimental data processing systems**, **57** #5212

ries, Hans-Heinrich Definitionen der Bernoulli-Polynome mit Hilfe ihrer Multiplikationstheoreme. *Manuscripta Math.* **8** (1973), 363–369. (D. Rearick) **48** #2057 10A40

Ein Existenz- und Eindeutigkeitssatz für die Lösungen einer Funktionalgleichung aus der Nörlundschen Theorie der Differenzengleichungen. (English summary) *Aequationes Math.* **10** (1974), 278–285. (I. Fenyő) **49** #11080 39A15

(*with* Dickey, Leroy J.; Shank, Herbert S.) On the functional equation $f(x)=\sum_{j=0}^{k-1} f((x+j)/k)$ over finite rings. *Aequationes Math.* **13** (1975), *no.* 3, 229–232. (P. Javor) **53** #8707 39A40

(*with* Dickey, Leroy J.; Shank, Herbert S.) Analogs of Bernoulli polynomials in fields Z_p. *Aequationes Math.* **14** (1976), *no.* 3, 401–404. (F. T. Howard) **53** #13103 10A40

Bemerkungen zu einer Abschätzungsmethode für ganze Funktionen von G. Dennler und die allgemeine ganze Lösung einer Funktionalgleichung. *Period. Math. Hungar.* **7** (1976), *no.* 1, 3–7. (I. N. Baker) **54** #13048 30A20 (39A15, 33A70)

Convexity in the theory of the gamma function. *General inequalities* (*Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach*, 1976), *I*, *pp.* 49–62. *Birkhäuser, Basel*, 1978. (M. E. Muldoon) **58** #6379 33A15 (26A51, 39A20)

ser, C. *See* **Operating systems**, **56** #1764

ser, Elisabeth Färbungssätze für Graphen auf der projektiven Ebene, dem Torus und dem Kleinschen Schlauch. *Wiss. Z. Techn. Hochsch. Ilmenau* **20** (1974), *no.* 1, 47–53. (E. Jucovič) **49** #8894 05C15

See also **Sachs, Horst**, **49** #10587

ser, Fr. (*with* Wagner, Max) Generalized Peierls-Boltzmann transport equations for phonons and local excitation kinetics. *Z. Naturforsch.* **32a** (1977), *no.* 5, 375–382. (V. A. Malyšev) **58** #20122 82.60

Nonlinear Peierls-Boltzmann equation for phonons: structure and stability of solutions. *Z. Naturforsch.* **32a** (1977), *no.* 8, 805–812. (Author's summary) **58** #25668 82.35

ser, Frithjof (*with* Gatos, Efthymios) Determination of the powers of any given matrix and application on discrete Markov processes. (German summary) *AEÜ—Arch. Elek. Übertragungstech. Electron. Commun.* **25** (1971), 431–435. (Mamoru Kanda) **47** #4338 60J10

ser, G. D. (*with* Eden, Richard J.) Theoretical and experimental consequences of a violation of the Pomeranchuk theorem on total cross sections at high energies. *Phys. Rev. D* (3) **3** (1971), 2286–2288. (N. Nakanishi) **48** #5539 81.30

ser, Gerald Coherent states and asymptotic representations. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Theor., Marseille*, 1974), *Vol.* 1, *pp.* 124–137. *Centre Nat. Recherche Sci., Centre Phys. Theor., Marseille*, 1974. (J. Ławrynowicz) **56** #4476 81.32

Relativistic coherent-state representations. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 313–319. *Academic Press, New York*, 1977. (A. Rouet) **58** #4070 81.47

ser, H. ★Numerische Mathematik und Rechentechnik. I. Studienbücherei. Mathematik für Lehrer, Band 9. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1977. 216 *pp.* (D. Greenspan) **58** #8127 65–01 (68–01, 94–01)

ser, H. J. (*with* Dorn, H.) Asymptotic behaviour of the planar one-loop correction to the Regge trajectory in the dual model. International Conference: Mathematical Problems of Quantum Field Theory and Quantum Statistics (Moscow, 1972), Part II. *Trudy Mat. Inst. Steklov.* **136** (1975), 130–144, 438. (M. Minami) **57** #18560 81.32

See also **New developments in relativistic quantum field theory**, **49** #11978

ser, Hans K. Über das Interpolationsproblem in nichtkommutativen Ringen. *Acta Sci. Math.* (*Szeged*) **36** (1974), 271–273. (B. J. Müller) **52** #10796 16A40

A class of locally complete universal algebras. *J. London Math. Soc.* (2) **9** (1974/75), 5–8. (H. Lausch) **51** #3030 08A25

Der Defekt endlicher abelscher Gruppen. *Monatsh. Math.* **78** (1974), 109–116. (Gilbert Crombez) **49** #8919 08A25

Über lokal polynomvollständige universale Algebren. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 158–165. (G. H. Wenzel) **53** #13081 08A25

(*with* Lidl, Rudolf) Erweiterungs- und Rédeipolynomvollständigkeit universaler Algebren. *Acta Math. Acad. Sci. Hungar.* **26** (1975), *no.* 3-4, 251–257. (J. Karásek) **52** #10549 08A25

On a problem in the theory of primal algebras. *Algebra Universalis* **5** (1975), *no.* 3, 307–311. (Alden Pixley) **52** #13586 08A25

Contributions to the theory of polynomially complete algebras. *An. Acad. Brasil. Ci.* **48** (1976), *no.* 1, 1–5. (Alden Pixley) **55** #10357 08A15

(*with* Lidl, Rudolf) Die Polynomlösungen spezieller partieller Differentialgleichungen. (English summary) *Monatsh. Math.* **81** (1976), *no.* 2, 109–117. (L. Carlitz) **53** #368 12D99 (35C05)

Über kompatible Funktionen in universalen Algebren. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 1-2, 105–111. (H. Lausch) **57** #212 08A25

Kaiser, Henry F. The JK method: a procedure for finding the eigenvectors and eigenvalues of a real symmetric matrix. *Comput. J.* **15** (1972), 271–273. (Author's summary) **47** #9815 65F15

Image and anti-image covariance matrices from a correlation matrix that may be singular. *Psychometrika* **41** (1976), *no.* 3, 295–300. (Author's summary) **58** #8034 62H20

(*with* Dickman, Kern W.) Some properties of binormamin. *Psychometrika* **42** (1977), *no.* 2, 307–309. (Authors' summary) **58** #13514 62H25

See also **Multivariate statistical methods: within-groups covariation**, **52** #2028

Kaiser, Klaus (*with* Armbrust, Manfred) Some remarks on projective model classes and the interpolation theorem. *Math. Ann.* **197** (1972), 5–8. (W. Taylor) **45** #6605 02H99

(*with* Armbrust, Manfred) On quasi-universal model classes. *Z. Math. Logik Grundlagen Math.* **18** (1972), 403–406. (John T. Baldwin) **47** #4784 02H05

Diagonal-like embeddings. *Colloq. Math.* **27** (1973), 171–174. (John T. Baldwin) **49** #2339 02H05

On generalized projective classes. *Colloq. Math.* **28** (1973), 1–5. (John T. Baldwin) **48** #3731 02H05

On reductive and projective classes. *Colloq. Math.* **28** (1973), 7–9. (John T. Baldwin) **48** #3730 02H05

(*with* Armbrust, Manfred) On some properties a projective model class passes on to the generated axiomatic class. *Arch. Math. Logik Grundlagenforsch.* **16**, 133–136 (1974). (J. M. Plotkin) **50** #9570 02H05 (08A20)

Direct limits in quasi-universal model classes. *J. London Math. Soc.* (2) **9** (1974/75), 585–588. (S. Comer) **52** #77 02H05

Various remarks on quasi-universal model classes. *Arch. Math. Logik Grundlagenforsch.* **17** (1975), *no.* 1-2, 91–95. (Manfred Armbrust) **52** #5407 02H05

Quasi-axiomatic classes. *Arch. Math. Logik Grundlagenforsch.* **17** (1975/76), *no.* 3-4, 129–134. (A. I. Kokorin) **54** #4968 02H05 (08A20)

On generic stalks of sheaves. *J. London Math. Soc.* (2) **16** (1977), *no.* 3, 385–392. (Stephen Comer) **57** #9521 02H05

See also **Proceedings: University of Houston Lattice Theory Conference**, **52** #7975

Kaiser, Paul J. (*with* Cesari, Lamberto) Closed operators and existence theorems in multidimensional problems of the calculus of variations. *Bull. Amer. Math. Soc.* **80** (1974), 473–478. (G. M. Ewing) **49** #3636 49A50

Length and variation with respect to a measure. *Atti Sem. Mat. Fis. Univ. Modena* **24** (1975), *no.* 2, 221–235 (1976). (Mauro Boni) **55** #6261 49A50 (28A75)

A problem of slow growth in the calculus of variations. *Atti Sem. Mat. Fis. Univ. Modena* **24** (1975), *no.* 2, 236–245 (1976). (Mauro Boni) **55** #6262 49A50

(*with* Suryanarayana, M. B.) Orientor field equations in Banach spaces. Existence theorem issue. *J. Optimization Theory Appl.* **19** (1976), *no.* 1, 141–183. (J. E. Rubio) **55** #1187 49A50

Kaiser, Rudolf E. (*with* Gottschalk, Günter) ★Einführung in die Varianzanalyse und Ringversuche. Soforthilfe für die richtige statistische Auswertung von Datengruppen. B. I.-Hochschultaschenbücher, Band 775. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1976. 165 *pp.* (Editors) **53** #1786 62–01

Kaiser, Sigurd (*with* Adamski, Wolfgang; Gänßler, Peter) On compactness and convergence in spaces of measures. *Math. Ann.* **220** (1976), *no.* 3, 193–210. (Robert F. Wheeler) **53** #3244 28A32 (60B10, 46Exx)

(*with* Gänßler, Peter) Additional remarks on convergence of stochastic processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **36** (1976), *no.* 1, 9–12. (P. Gérard) **55** #1394 60B10

Kaiser, W. (*with* Müller, B.) Removable sets for the heat equation. (Russian. German summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 5, 26–32. (V. M. Isakov) **48** #11772 35K05 (31B15)

Kaiser, Walter Operative Gesichtspunkte bei der Diskussion des Weberschen Gesetzes. (English summary) *Z. Allgemeine Wissenschaftstheorie* **8** (1977), *no.* 1, 39–47. (Author's summary) **58** #10106 01A55

Kaiser, Wolfram (*with* Rippa, Blasius Konstantin) Die Universitäten Halle-Wittenberg und Bratislava zum Kopernikus-Jubiläum des Jahres 1973. *Wiss. Z. Matin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **23** (1974), *no.* 4, 7–16. (Editors) **52** #13136 01A40

Kaišibaeva, G. K. (*with* Sultangazin, U. M.) The construction of a difference scheme for systems of equations of the method of spherical harmonics. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1474–1481, 1627. (Authors' summary) **56** #13695 65N20

Kaĭsin, V. K. (*with* Ivanov, Ju. I.) Certain problems of the dynamics of a point that are integrable according to Stäckel's theorem. (Russian) *Akad. Nauk Kazah. SSR Trudy Astrofiz. Inst.* **19** (1972), 110–114, 134. (Miloš Kojić) **49** #6714 70.35

Kaĭstrenko, V. M. The Cauchy problem for a second order hyperbolic equation with data on a time-like surface. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 395–398, 422. (V. Rosa) **52** #1025 35L15

Kaĭzer, V. *See also* **Kaiser, W.**

Kaĭzer, V. V. (*with* Krugljakov, L. Z.) Tangential subspaces and higher order characteristics of Pfaffian manifolds of multidimensional planes. (Russian) Geometry collection, No. 14. *Trudy Tomsk. Gos. Univ.* **255** (1974), 47–81. (J. Virsik) **52** #11970 (EA **54**) 58A15 (53A20)

Extensions, restrictions and conjugate directions of differentiable distributions in multidimensional projective spaces. (Russian) Geometry collection, No. 15. *Trudy Tomsk. Gos. Univ.* **258** (1975), 20–49, 233–234. (I. Kolář) **55** #3984 53A20 (58A30)

Two-dimensional distributions in four-dimensional projective space. (Russian) Geometry collection, No. 15. *Trudy Tomsk. Gos. Univ.* **258** (1975), 82–106, 236. (Froim Marcus) **55** #8968 53A20

Kaizu, Satoshi On w^*-infinitesimal operators of dual semigroups. *Rep. Univ. Electro-Commun.* **27** (1976), *no.* 1, 69–75. (J. A. Goldstein) **54** #3497 47D05 (60J35)

Kaizuka, Tetsu A remark on the numerical solution of a single first-order ordinary differential equation. *Yokohama Math. J.* **25** (1977), *no.* 2, 183–189. (John P. Coleman) **57** #4523 65L05

Kajantie, K. Werner Heisenberg: in memoriam. (Finnish) *Arkhimedes* **28** (1976), *no.* 1, 55–56. (Editors) **58** #27114 01A70

Kajdan, D. *See also* **Kazhdan, David**

Kajdan, D. A. *See* **Kazhdan, David**

Kajfasz, Stanisław Wacław Olszak, the epitome of an engineer. (Polish) *Mech. Teoret. Stos.* **10** (1972), 203–211. (Editors) **45** #4936c 01A70

Kaji, Akira On the degenerate oblique derivative problems. *Proc. Japan Acad.* **50** (1974), 1–5. (W. J. Sweeney) **51** #1104 35J25

Kajitani, Kunihiko Initial-boundary value problems for first order hyperbolic systems. *Publ. Res. Inst. Math. Sci.* **7** (1971/72), 181–204. (M. H. Protter) **50** #781 35L50

A necessary condition for the L^2-well posed Cauchy problem with variable coefficients. *J. Math. Kyoto Univ.* **13** (1973), 391–401. (Gilbert Strang) **47** #9075 35L45

Sur la condition nécessaire du problème mixte bien posé pour les systémes hyperboliques à coefficients variables. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 261–284. (Rémi Vaillancourt) **49** #5581 35L50

Strongly hyperbolic systems with variable coefficients. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 597–612. (J. Vaillant) **51** #6164 35L45

A necessary condition for the well posed hyperbolic mixed problem with variable coefficients. *J. Math. Kyoto Univ.* **14** (1974), 231–242. (J. Smoller) **51** #13467 35L50

Fundamental solution of Cauchy problem for hyperbolic systems and Gevrey class. *Tsukuba J. Math.* **1** (1977), 163–193. (D. L. Colton) **58** #1681 35L45

Kajitani, Yoji (*with* Yamada, Akira) Some topological considerations of the node determinant of an LCR network. *Electron. Commun. Japan* **53** (1970), *no.* 10, 1–7. (T. N. Bhargava) **47** #6397 94A20

(*with* Kanada, Hajime) Orientation of a graph and its applications. *Electron. Commun. Japan* **54** (1971), *no.* 6, 25–32. (G. Chartrand) **47** #1677 05C99 (94A20)

(*with* Miyamichi, Juichi) Dependence relations in two-terminal impedances. *Electron. Commun. Japan* **55** (1972), *no.* 1, 9–16. (A. D. Koršunov) **49** #4678 94A20

(*with* Kishi, Genya) Basis in the state of an LCR network and on existence of network equations. *Electron. Commun. Japan* **55** (1972), *no.* 8, 1–8. (N. K. Bose) **48** #13496 94A20

(*with* Shinoda, Shoji) Sparsity of nodal admittance matrix and its applications. *Electron. Commun. Japan* **56** (1973), *no.* 9, 74–81. (Kailash C. Kapur) **50** #4138 94A20

(*with* Kishi, Genya) Topological considerations on minimal sets of variables describing an LCR network. *IEEE Trans. Circuit Theory* **CT-20** (1973), *no.* 4, 335–340. (Authors' summary) **56** #5071 94A20

(*with* Okamoto, Eiji) On trees and cutset matrices of a graph with undistinguishable edges. *Electron. Commun. Japan* **58** (1975), *no.* 1, 44–50. (G. Berman) **53** #12768 94A20

(*with* Sakurai, Hidekazu) Distribution of freedom in a linear network. *Electron. Commun. Japan* **58** (1975), *no.* 5, 19–26. (W.-K. Chen) **54** #12385 94A20

Kajiwara, Joji Some systems of partial differential equations in the theory of soil mechanics. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **24** (1970), 147–230. (Editors) **55** #8526 35C10 (73.35)

(*with* Kazama, Hideaki) Continuation and quotient representation of meromorphic functions. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 10–20. (H. Kerner) **46** #3832 32E10

Some systems of partial differential equations in complex domains. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 21–143. (R. Gérard) **47** #5417 35C15 (35A20)

Holomorphic solutions of a partial differential equation of mixed type. *Math. Balkanica* **2** (1972), 76–83. (J. S. Papadakis) **48** #2533 35A05

(*with* Suzuki, Masaaki) Real analytic solutions of a singular equation $(1-x^2-y^2)\Delta u+4\lambda u=0$. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **26** (1972), 174–178. (J. Conlan) **46** #2195 35A20

(*with* Kazama, Hideaki) Two dimensional complex manifold with vanishing cohomology set. *Math. Ann.* **204** (1973), 1–12. (Michael J. Field) **51** #3526 32E10

Cousin domains over complex projective 2-space. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth. *Math. Balkanica* **3** (1973), 184–187. (H. Röhrl) **50** #7581 32E10

Cauchy-Kowalewski theorem for a partial differential equation of mixed type. *Rend. Mat.* (6) **6** (1973), 183–192. (A. M. Nahušev) **49** #9378 35A10

On a holomorphic solution of a singular partial differential equation with many simple poles. *Czechoslovak Math. J.* **24(99)** (1974), 359–368. (R. Gérard) **50** #5152 35A20

(*with* Môri, Yasuko) On the existence of global holomorphic solutions of differential equations with complex parameters. *Czechoslovak Math. J.* **24(99)** (1974), 444–454. (Y. I. Kannai) **50** #11330 58G05 (35F05)

Domain with many vanishing cohomology sets. *Kōdai Math. Sem. Rep.* **26** (1974/75), 258–266. (Andrew Markow) **52** #14373 32E10

Unique holomorphic solution of a singular partial differential equation with a double pole. *Period. Math. Hungar.* **5** (1974), 61–71. (William Margulies) **49** #9379 35A20

Opérateurs d'' dans les espaces de Hilbert avec croissance polynomiale. *Séminaire Pierre Lelong (Analyse), Année* 1973–1974, *pp.* 91–108. *Lecture Notes in Math., Vol.* 474, *Springer, Berlin,* 1975. (G. Coeuré) **53** #849 32A25 (28A40)

La réciproque du théorème d'annulation et de finitude de cohomologie dans l'espace produit d'une famille dénombrable de sphères de Riemann. *Bull. Soc. Math. France* **103** (1975), *no.* 2, 129–139. (Michael J. Field) **52** #14366 32D05

Le principe d'Oka pour certains espaces de dimension infinie. *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A1055–A1056. (Lawrence Gruman) **51** #5971 32F15 (46G20)

Le principe d'Oka pour espaces vectoriels munis de la topologie *f*-ouverte. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 361–370. (Lawrence Gruman) **52** #8491 32C35 (46G20, 58B10)

Holomorphic solutions of singular Darboux problems. *Riv. Mat. Univ. Parma* (4) **1** (1975), 17–31. (D. L. Colton) **55** #10822 35G15

Solutions holomorphes globales des équations différentielles linéaires à valeurs dans un espace de Hilbert et à paramètre complexe. *Japan. J. Math. (N.S.)* **2** (1976), *no.* 1, 91–107. (Richard M. Aron) **55** #13464 58C10 (58B10)

Les espaces projectifs complexes de dimension infinie. *Mem. Fac. Sci. Kyushu Ser. A* **30** (1976), *no.* 1, 123–133. (John E. Fornaess) **53** #11098 32F15

(*with* Watanabe, Kiyoshi) Domain with a vanishing cohomology set in two dimensional complex projective space. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** *no.* 1, 73–80. (L. Andrew Campbell) **58** #1258 32F15 (32C35, 32D05, 32E10)

Domain with a vanishing cohomology set in a product manifold of an Riemann surface and a one dimensional complex torus. *Mem. Fac. Sci. Kyushu Ser. A* **32** (1978), *no.* 1, 91–97. (L. Andrew Campbell) **58** #1259 32F15 (32D05, 32E10)

(*with* Watanabe, Kiyoshi) Extension of Cartan-Behnke-Stein's theorem for a product of two Riemann surfaces. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), 99–105. (L. Andrew Campbell) **58** #1260 32F15 (32C35, 32D05, 32E10)

Kajiwara, Mitsuharu (*with* Fujii, Masatoshi; Kato, Yoshinobu; Kubo, Fumio) Decompositions of operators in Hilbert spaces. *Math. Japon.* **21** (1976), *no.* 2, 11 (Bernard B. Morrel) **54** #11088 47A65

Kajiya, Fumihiko (*with* Maeda, Hajime; Kodama, Shinzo) System-theoretic consider for compartmental analysis—transfer functions of mammillary systems. *Systems-Computers-Controls* **7** (1976), *no.* 3, 27–33 (1977). (Authors' summary) **58** #33227 93A99 (92A05)

(*with* Maeda, Hajime; Kodama, Shinzo) Compartmental system analysis: realization of a class of linear systems with physical constraints. *IEEE Trans. C and Systems* **CAS-24** (1977), *no.* 1, 8–14. (F. T. Lindstrom) **58** #15284 (93C05)

Kajuk, Ja. F. (*with* Alekseeva, M. K.) Acceleration of the convergence of the meth of successive approximations in geometrically nonlinear problems. (Russian) *Prik Meh.* **7** (1971), *no.* 5, 27–33. (J. Bejda) **46** #4840 73.65

Recurrence relations in a certain class of special functions. (Ukrainian. Englis Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 195–200, 28 L. Makarov) **47** #5336 34A20

The convergence of the method of successive approximations in geomet nonlinear problems. (Russian) *Prikl. Meh.* **9** (1973), *no.* 9, 104–111, 143. (Au summary) **54** #9261 73.41

The convergence of approximate methods for the solution of certain non boundary value problems. (Russian) *Mathematical physics, No.* 16 (*Russian*), *pp.* 96–103, 197. *Izdat. "Naukova Dumka", Kiev,* 1974. (Russell C. Thompson) **49** # 34B15 (65L10)

Justification of methods for the determination of the postcritical state of fl plates. (Russian) *Prikl. Meh.* **10** (1974), *no.* 6, 73–82, 142. (Author's summary) **54** #9262 73.41

A certain method of linear subsummability of function series. (Ukrainian. E and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 306–310, 380. (F. Ustina) **52** #3777 40C15

(*with* Vaščenko, L. F.) Fundamental relations of the geometrically nonlinear of soft shells of revolution. (Russian. English summary) *Dokl. Akad. Nauk Ukrain Ser. A* **1976**, *no.* 8, 715–719, 768. (S. Drobot) **55** #4852 73.35

Kajumov, D. H. The number of limit cycles of a quadratic-fractional differential equ (Russian) *Trudy Samarkand. Gos. Univ. (N.S.) Vyp.* 224 *Voprosy Kačestven. Differencial. Uravnenii̮* (1972), 7–16. (Editors) **57** #6613 34C05

(*with* Svistunov, P. P.) On the question of the construction of domains of acy for a differential equation. (Russian) *Trudy Samarkand. Gos. Univ. (N.S.) Vyp Voprosy Kačestven. Teorii Differencial. Uravnenii̮* (1972), 96–103. (Editors) **57** #6 34C05

(*with* Kukles, I. S.) A certain case of the nonlocal generation of limit cycle quadratic-fractional differential equation. (Russian. Uzbek summary) *Izv. Akad. UzSSR Ser. Fiz.-Mat. Nauk* **17** (1973), *no.* 4, 23–28, 97. (L. Reiziņš) **55** #341 55/56) 34C05

(*with* Svistunov, P. P.) The separatrix cycle of a differential quadratic equatio is defined by the loop of a diverging parabola. (Russian) *Izv. Akad. Nauk UzSS Fiz.-Mat. Nauk* **17** (1973), *no.* 5, 19–23, 77. (M. Bertolino) **49** #717 34C05

An investigation of the structure of the neighborhood of a complex point system of three differential equations of special type. (Russian) *Trudy Samarkand Univ. (N.S.) No.* 296 (1976), 41–50, 174. (Author's summary) **58** #22760 34C

Kajupov, A. K. (*with* Kulikov, N. K.) A method for the solution of certain integral Vo equations. (Russian) *Differential equations and their application* (*Russian*), *pp.* 100 213. *Izdat. "Nauka" Kazah. SSR, Alma-Ata,* 1970. (A Corduneanu) **51** #9551 65R05

Kak, Avinash C. (*with* Rosenfeld, Azriel) ★Digital picture processing. Computer Sc and Applied Mathematics. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *York-London,* 1976. xii + 457 *pp.* (Allen Klinger) **56** #10207 68A45 (94A15)

Kak, Subhash C. Classification of random binary sequences using Walsh-Fourier anal *Applications of Walsh functions* (*Proc. Sympos., Washington, D.C.,* 1971), *pp.* 7 *Naval Research Laboratory, Washington, D.C.,* 1971. (Terrence Fine) **48** #10 94A10

Hilbert transformation for discrete data. *Internat. J. Electron.* **34** (1973), 177 (Y. Ikebe) **53** #1928 65D99 (44A15)

Binary sequences and redundancy. *IEEE Trans. Systems, Man, and Cyb* **SMC-4** (1974), 399–401. (Terrence Fine) **50** #12439 94A10

Note on bicirculant matrices. *Proc. Indian Nat. Sci. Acad. Part A* **41** (1975), 204–206. (Author's summary) **58** #22125 15A57 (20C30)

Kakabadze, D. P. (*with* Taran, V. A.) A modification of a random search algor (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moam* (1977), *no.* 2, 321–324. (V. D. Dimitrov) **58** #20746 93E25

Kakabadze, Miranda (*with* Kiguradze, I. T.) A certain boundary value problem system of ordinary differential equations. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1611–1616. (M. Ráb) **45** #637 34B15

A certain singular boundary value problem for a system of ordinary differe equations. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Moambe* **70** (1973), 549–552. (M. Švec) **50** #7646 34B15

A certain boundary value problem for an ordinary differential equation of ord (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moamb*

(1973), 313–316. (M. Švec) **50** #7647 34B15

A certain singular boundary value problem for a system of ordinary differential equations. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 1259–1262. (M. Tvrdý) **51** #3592 34B15

A certain problem with integral conditions for a system of ordinary differential equations. (Russian. English summary) *Mat. Časopis Sloven. Akad. Vied* **24** (1974), 225–237. (M. Švec) **52** #869 34B15

(*with* Tabukašvili, C. V.) Some boundary value problems with integral conditions for second order ordinary differential equations. (Russian. Georgian summary) *Thbilis. Sahelmc̣. Univ. Gamoqeneb. Math. Inst. Šrom.* **4** (1975), 35–42. (Russell C. Thompson) **53** #11138 34B15

ehi, Katsuhiko (*with* Iwamura, Tsurane; Sakuma, Koiti; Simauti, Takakazu; Wada, Eiiti; Yoneda, Nobuo) ALGOL *N*. *Comment. Math. Univ. St. Paul.* **21** (1972/73), *no.* 1, 1–72. (A. A. Grau) **47** #9897 68A30

(*with* Simauti, Takakazu) Dynamics of system program—progressive induction. Proceedings of the Third Symposium on Basic Theory of Programs (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1973) and of the Workshop for Proof Theory about Algorithms (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 236 (1975), 21–30. (Authors' introduction) **58** #3623 68A05

kei, Kunio *See* **Kakié, Kunio**

kičev, V. A. Trigonometric convolutions as a summability method for series. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **269**, 144–165 (1969). (V. M. Kokilašvili) **47** #3898 42A24

A certain problem of linear conjugacy for bicylindrical domains, and its applications. (Russian) *Proceedings of a Conference on Boundary Value Problems* (*Kazan*, 1969) (*Russian*), *pp.* 127–130. *Izdat. Kazan. Univ., Kazan*, 1970. (V. Mićić) **50** #10306 32A30 (30A88)

Multiplicative boundary value problems for functions that are holomorphic in bicylindrical domains. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 12 (1970), 12–20. (S. G. Samko) **45** #7099 32A07 (30A88)

(*with* Lapenko, Ju. P.) Growth characteristics of functions that are holomorphic in polydiscs. (Russian) *Mathematical analysis and its applications, Vol. III* (*Russian*), *pp.* 131–140. *Izdat. Rostov. Univ., Rostov-on-Don*, 1971. (I. N. Baker) **50** #7563 32A10 (30A64)

Methods for the solution of boundary value problems of linear conjugacy for functions that are holomorphic in bicylindric domains. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 14 (1971), 3–15. (S. G. Samko) **45** #7100 32A07 (30A88)

The factorization of functions of several variables that belong to Wiener rings. (Russian) *Properties of holomorphic functions of several complex variables* (*Russian*), *pp.* 77–108, 236–237. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR, Krasnoyarsk*, 1973. (J. Ławrynowicz) **58** #17182 32A30 (46J10)

The Hilbert problem for functions that are holomorphic in the bidisc, and some of its applications. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 18 (1973), 3–18, i. (S. G. Samko) **50** #7567 32A30

(*with* Kovalenko, N. V.) On the theory of two-dimensional partial integral equations. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 302–312, 428. (B. V. Loginov) **48** #9456 47G05

(*with* Hatyb, A. R.) Some generalizations of Kolosov-Mushelišvili boundary value problems. (Russian) *Functional analysis, theory of functions and their applications, No.* 1 (*Russian*), *pp.* 101–116, 7. *Dagestan. Gos. Univ., Makhachkala*, 1974. (V. G. Kravčenko) **56** #8861 30A88

Representation of functions holomorphic in circular bicylindrical domains by integrals of Cauchy type with a special form of density. I, II. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 19 (1974), 3–12, 158; *ibid. No.* 19 (1974), 12–23, 158. (S. G. Samko) **52** #8482 32A25 (30A88)

(*with* Le Din′ Zon) Matrix boundary value problems of the analytic function theory, and their applications. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vyssš. Školy Ser. Estestv. Nauk.* **1975**, *no.* 4, 60–64, 118. (D. Mitrović) **56** #8862 30A88

Methods for the solution of boundary value problems of linear conjugacy for functions that are holomorphic in bicylindrical domains. II. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 24 (1975), 30–41, i. (S. G. Samko) **52** #8485 32A30 (30A88)

A two-dimensional continual equation in Markuševič-Vekua convolutions. (Russian) *Theory of functions. Differential equations and their applications, No.* 1 (*Russian*), *pp.* 182–194, 214. *Kalmyck. Gos. Univ., Elista*, 1976. (Author's summary) **58** #29915 45E10 (30A88)

Regularization and pseudo-regularization of complete bisingular operators with Cauchy kernels and with a normal characteristic part. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 1, 19–22. (N. K. Karapetjanc) **54** #3511 47G05

Normed rings of functions defined on the closure of $\mathbf{R}^n$ that is homeomorphic to the torus $\mathbf{T}^n$. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 12(175), 38–50. (B. Basit (Zbl **355** #46032)) **58** #23609 46J10

(*with* Le Din′ Zon) The Keldyš-Sedov problem for a function that is holomorphic in a bi-halfplane. (Russian) *Mat. Zametki* **19** (1976), *no.* 5, 681–690. (L. I. Ronkin) **54** #13107 32A25

Normal characteristic bisingular operators with Cauchy kernels. (Russian. English summary) *Dokl. Akad. Nauk. Ukrain. SSR Ser. A* **1977**, *no.* 7, 587–591, 669. (D. Przeworska-Rolewicz) **57** #7239 47B37 (47G05)

A two-dimensional boundary value problem of the type of the Riemann problem that contains integrodifferential operators. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **12** (1977), *no.* 3, 189–203, 241. (V. G. Kravčenko) **56** #15965 32A30 (30A88, 45–XX)

Solution in closed form of two-index discrete equations of Markuševič-Vekua convolution type. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1977**, *no.* 4, 55–58, 117. (M. Dostal) **58** #17938 47B35 (30A88, 45E10)

(*with* Derevjančenko, G. D.) The Riemann problem and the expansion of entire functions of two variables in quasi-power bases. (Russian) *Mat. Zametki* **21** (1977), *no.* 4, 473–483. (N. K. Karapetjanc) **57** #681 32A30

(*with* Šelkovič, V. M.) Solution of boundary problems for analytic functions of several variables in the algebras of Vladimirov. (Russian) *Mat. Zametki* **22** (1977), *no.* 1, 51–60. (S. I. Pinčuk) **56** #8887 32A10

Factorization and γ-factorization of functions belonging to Wiener rings that are defined on a closure of the plane that is homeomorphic to a sphere or a torus. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 5, 589–598, 708. (J. Ławrynowicz (Łódź)) **58** #17183 32A30 (46J10)

(*with* Umarov, H. G.) Semigroups of bounded linear operators with a linearly homogeneous cone as parameter manifold. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **18** (1978), *no.* 1, 107–121, 242. (S. G. Gindikin) **58** #7205 47D05 (58G99)

See also **Mathematical analysis and its applications, 48** #8169; **Mathematical analysis and its applications,** 52 #7760 *and* **Mathematical analysis and the theory of functions, 58** #29250

Kakié, Kunio The extension of Darboux's method to systems in involution of partial differential equations of arbitrary order in two independent variables. *Proc. Japan Acad.* **49** (1973), 777–781. (Antoinette Sec) **53** #4112 58A15 (35A30)

On involutive systems of partial differential equations in two independent variables. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 405–433. (R. Gérard) **50** #13838 35A30 (58G99)

The Cauchy problem for an involutive system of partial differential equations in two independent variables. *J. Math. Soc. Japan* **27** (1975), *no.* 4, 517–532. (R. Gérard) **53** #4113 58A15 (35A30)

On involutive systems of partial differential equations whose characters of order more than one vanish. *Proc. Japan Acad.* **51** (1975), *no.* 4, 265–269. (R. Gérard) **53** #4114 58A15 (35A30)

The resultant of several homogeneous polynomials in two indeterminates. *Proc. Amer. Math. Soc.* **54** (1976), 1–7. (W.-D. Geyer) **52** #8099 12E10 (14A25)

On involutive systems of partial differential equations whose characters higher than the second vanish. (Japanese) Various problems in algebraic analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 266 (1976), 130–141. (Yasuhiro Asoo) **58** #2847 58A15

Kakiichi, Yoshiaki The relation between Hein's construction of Lie algebras and the construction of Lie algebras from symplectic triple systems. *Comment. Math. Univ. St. Paul.* **26** (1977/78), *no.* 2, 195–199. (W. Hein) **57** #12629 17B99

Kakimov, A. (*with* Maukeev, Bolat Izatovič; Alimkulov, T. M.) Convergence of series of ultra-periodic functions. (Russian) *Proceedings of a Seminar of the Departments of Theoretical Mechanics and Higher Mathematics, No.* 1 (*Russian*), *pp.* 40–42. *Džambul. Tehn. Inst. Legkoĭ i Piščevoĭ Promyšl., Alma-Ata*, 1971. (A. Precupanu) **49** #7695 42A60

(*with* Maukeev, Bolat Izatovič) The geometry of a generalized sliding coordinate system (GSCS). (Russian) *Trudy Sem. Kaf. Teoret. Meh. i Vysš. Mat. Vyp.* 6 (1974), 156–160. **58** #24038 53A15

Mathematical justification of a sliding coordinate system. (Russian) *Trudy Sem. Kaf. Teoret. Meh. i Vysš. Mat. Vyp.* 6 (1974), 160–164. **58** #24039 53A15

See also **Proceedings: Seminar of the Departments of Theoretical Mechanics and Higher Mathematics, 48** #3668

Kakishita, Naotake (*with* Hosaka, Mamoru; Kimura, Fumihiko) A unified method for processing polyhedra. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974), *pp.* 768–772. *North-Holland, Amsterdam*, 1974. (Wolfgang Böhm) **53** #15013 68A45 (50–04)

Kakišov, K. B. Linear boundary value problems for a nonlinear differential equation with a small parameter multiplying the highest derivative. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970). 78–82. (See RŽMat **1971** #2 B293) 34B99

(*with* Tazabekov, R.) Justification of the averaging method for systems of integro-differential equations with retarded argument. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970), 83–87. (See RŽMat **1970** #12 B433) 45J05

(*with* Imanaliev, M. I.) Asymptotic estimates of the solutions of nonlinear boundary value problems for systems of nonlinear integro-differential equations with a small parameter multiplying the highest derivative. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 8 (*Russian*), *pp.* 59–79, 332. *Izdat. "Ilim", Frunze*, 1971. (Authors' summary) **58** #17743 45J05 (45M05)

Asymptotic methods in the theory of the branching of solutions of singularly perturbed integro-differential equations with a small parameter multiplying the highest derivative. (Russian) *Studies in integro-differential equations in Kirgizia. No.* 9 (*Russian*), *pp.* 168–187, 246. *Izdat. "Ilim", Frunze*, 1973. (Author's summary) **58** #2094 45J05 (45M05)

(*with* Seĭtkazieva, Kulušaĭ) Asymptotic methods in the theory of periodic solution of singularly perturbed hereditary systems. (Russian) Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. on Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 188–193. (Nicolae Luca) **52** #6350 45J05

(*with* Seĭtkazieva, A.) Theory of branching of solutions of boundary value problems for nonlinear second order integro-differential equations with a small parameter multiplying the highest derivative. (Russian) *Studies in integro-differential equations in Kirgizia, No.* 10 (*Russian*), *pp.* 16–39, 287. *Izdat. "Ilim", Frunze*, 1974. (Authors' summary) **57** #17164 45J05 (34K20)

(*with* Imanaliev, M. I.) Linear boundary value problems for a system of nonlinear integrodifferential equations with a small parameter multiplying the highest derivative. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 9 (1974), 79–86. (See RŽMat **1974** #9 B493) 45J05

(*with* Seĭtkazieva, A.) Linear integrodifferential equations with exponential coefficients and a lag that depends linearly on the argument. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 9 (1974), 97–100. (See RŽMat **1974** #9 B481) 45J05

Theory of the bifurcation of the solutions of nonlinear integro-differential equations of Fredholm type with a small parameter multiplying the highest derivative with reversed time. (Russian) *Studies in integro-differential equations in Kirgizia* (*Russian*), *pp.* 29–76, 430. *Izdat. "Ilim", Frunze*, 1977. (From the text) **58** #23431 45J05 (*with* Seĭtkazieva, Kulušaĭ) Asymptotic methods in the branching theory for periodic solutions of singularly perturbed systems of differential equations in the critical case. (Russian) *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp*. 391–397. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (J. S. Joel) **58** #17372 34E15 (34C25)

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8968

Kakita, Takao Time periodic solutions of some non-linear evolution equations. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 477–492. (A. Elcrat) **49** #7612 35L25

On the existence of time-periodic solutions of some non-linear evolution equations. *Applicable Anal.* **4** (1974/75), 63–76. (T. Ushijima) **56** #12529 35B10 (35L60)

Kakiuchi, Itsurô (*with* Kimura, Miyoshi) On slippage rank tests. I. The derivation of optimal procedures. *Bull. Math. Statist.* **16** (1975), *no.* 3-4, 55–71. (H. E. Reinhardt) **53** #6872 62G10

(*with* Kimura, Miyoshi; Yanagawa, Takashi) On the monotonicity of the power functions of slippage tests. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 269 -277. (S. K. Katti) **54** #3956 62G10

(*with* Kimura, Miyoshi; Yanagawa, Takashi) On slippage rank tests. II. Asymptotic relative efficiencies. *Bull. Math. Statist.* **17** (1976/77), *no.* 3-4, 1–13. (H. E. Reinhardt) **57** #4416 62G10

Kako, Fujio (*with* Mugibayashi, Nobumichi) Complete integrability of nonlinear network equations describing a Volterra system. *J. Phys. Soc. Japan* **43** (1977), *no.* 5, 1783–1791. (Mark Adler) **57** #14036 58F05 (34C35)

Kako, Takashi Scattering theory for abstract differential equations of the second order. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **19** (1972), 377–392. (Teruo Ikebe) **48** #4778 47A40

Approximation of exterior Dirichlet problems; convergence of wave and scattering operators. *Publ. Res. Inst. Math. Sci.* **10** (1974/75), 359–366. (S. T. Kuroda) **51** #13475 35P25

Spectral and scattering theory for the *J*-selfadjoint operators associated with the perturbed Klein-Gordon type equations. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **23** (1976), *no.* 1, 199–221. (John M. Chadam) **54** #756 35P25 (47A40)

(*with* Yajima, Kenji) Spectral and scattering theory for a class of non-selfadjoint operators. *Sci. Papers College Gen. Ed. Univ. Tokyo* **26** (1976), *no.* 2, 73–89. (Bernard B. Morrel) **58** #17899 47A40

Kąkol, Jerzy (*with* Jurkiewicz, Lidia) Some remarks on Wiweger topology and generalization of inductive limit topology. *Funct. Approximatio Comment. Math.* **5** (1977), 179–182. (D. J. H. Garling) **57** #13435 46A15 (46M10)

Kakosjan, A. V. On the theory of estimation of parameters in a linear regression scheme. (Russian. English summary) Statistical theory of estimation, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **53** (1975), 118–129, 143. (W. Hoeffding) **52** #15799 62F10 (62J05)

An admissibility condition for the least squares estimator in the class of polynomial statistics. (Russian. English summary) *Teor. Verojatnost. i Primenen* **23** (1978), *no.* 1, 210–215. (A. L. Rukhin) **57** #10865 62C15 (62F10, 62J05)

Kaku, Michio Field theory of spinning strings. *Phys. Rev. D* (3) **10** (1974), 3943–3956. (Author's summary) **53** #12319 81.46

SU(4) and a new class of exact, time-dependent, classical solutions to gauge theories. *Phys. Rev. D* (3) **13** (1976), *no.* 10, 2881–2883. (Author's summary) **56** #1981 81.22

(*with* Friedman, Kenneth A.) Time-dependent generalizations of 't Hooft-type monopoles. *Phys. Rev. D* (3) **14** (1976), *no.* 8, 2023–2029. (R. Delbourgo) **54** #4380 81.22

(*with* Townsend, Paul K.; van Nieuwenhuizen, P.) Gauge theory of the conformal and superconformal group. *Phys. Lett. B* **69** (1977), *no.* 3, 304–308. (H. Rund) **56** #4621 83.22 (81.22)

(*with* Townsend, Paul K.) Poincaré supergravity as broken superconformal gravity. *Phys. Lett. B* **76** (1978), *no.* 1, 54–58. (Authors' summary) **58** #14933 83.53

(*with* Townsend, Paul K.; van Nieuwenhuizen, P.) Properties of conformal supergravity. *Phys. Rev. D* (3) **17** (1978), *no.* 12, 3179–3187. (Tekin Dereli) **58** #25738 83.22 (83.53)

Kakuda, Yuzuru Saturated ideals in Boolean extensions. *Nagoya Math. J.* **48** (1972), 159–168. (M. Benda) **47** #4796 02K35 (02J05, 06A40)

Kakumanu, Prasadarao Nondiscounted continuous time Markovian decision process with countable state space. *SIAM J. Control* **10** (1972), 210–220. (I. V. Romanovskiĭ) **46** #6905 93E20

Continuous time Markovian decision processes average return criterion. *J. Math. Anal. Appl.* **52** (1975), *no.* 1, 173–188. (J. L. Denny) **52** #7557 90C40

Relation between continuous and discrete time Markovian decision problems. *Naval Res. Logist. Quart.* **24** (1977), *no.* 3, 431–439. (Author's summary) **58** #26026 90C40

Kakurin, N. Ja. (*with* Vasilenko, Ju. A.; Beljavskiĭ, V. L.) Estimation of the quantity of coincidence schemes with a restricted number of inputs for the construction of various types of decoders. (Russian) *Pribory i Sistemy Avtomat. No.* 8 (1969), 13–17. (Not reviewed) 94A30 (94A10)

(*with* Barinov, A. K.) A microprogram and an operational device for multiplication according to Lehmann's algorithm. (Russian) *Avtomat. Sistemy Upravlenija i Pribory Avtomat. No.* 42 (1977), 83–90, 4. (Authors' summary) **58** #26564 94A20 (68A10)

Kakusho, Osamu (*with* Onaga, Kenji) On feasibility conditions of multicommodity flows in networks. *IEEE Trans. Circuit Theory* **CT-18** (1971), 425–429. (Nimrod Megiddo) **52** #16572 90B10

(*with* Onaga, Kenji) A graph-theoretical consideration of Gaussian elimination sequences of sparse matrices. *Electron. Comm. Japan* **57** (1974), *no.* 5, 42–49. (Authors' summary) **56** #13552 65F05

Kakutani, Shizuo Strictly ergodic symbolic dynamical systems. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. II: Probability theory*, *pp.* 319–326. *Univ. California Press, Berkeley, Calif.*, 1972. (W. Parry) **53** #8383 28A65

(*with* Hajian, Arshag; Ito, Yûji) Invariant measures and orbits of dissipative transformations. *Advances in Math.* **9**, 52–65 (1972). (R. V. Chacon) **46** #2003 28A65

Examples of ergodic measure preserving transformations which are weakly but not strongly mixing. *Recent advances in topological dynamics* (*Proc. Con* *Univ., New Haven, Conn.*, 1972; *in honor of Gustav Arnold Hedlund*), *pp.* 1 *Lecture Notes in Math., Vol.* 318, *Springer, Berlin*, 1973. (Nathaniel Friedman) 5 28A65

(*with* Hajian, Arshag; Ito, Yûji) Orbits, sections, and induced transform *Israel J. Math.* **18** (1974), 97–115. (R. V. Chacon) **51** #5890 28A65

(*with* Hajian, Arshag; Ito, Yûji) Full groups and a theorem of Dye. *Advan* *Math.* **17** (1975), *no.* 1, 48–59. (François Aribaud) **51** #10584 28A65

A problem of equidistribution on the unit interval [0, 1]. *Measure theory* *Conf., Oberwolfach*, 1975), *pp.* 369–375. *Lecture Notes in Math., Vol.* 541, *Sp* *Berlin*, 1976. (Motosige Osikawa) **56** #15882 28A65

Kakutani, Tsunehiko (*with* Jeffrey, Alan) Weak nonlinear dispersive waves: A disc centered around the Korteweg-de Vries equation. *SIAM Rev.* **14** (1972), 582–643. Richardson) **48** #12993 76.35 (35Q99)

(*with* Sugimoto, Nobumasa) Krylov-Bogoliubov-Mitropolsky method for no wave modulation. *Phys. Fluids* **17** (1974), 1617–1625. (S. Kaliski) **50** #3746 3

(*with* Matsuuchi, Kazuo) Effect of viscosity of long gravity waves. *J. Phy* *Japan* **39** (1975), *no.* 1, 237–246. (E. V. Laitone) **52** #16264 76.35

Kakwani, N. C. (*with* Court, R. H.) Reduced form coefficient estimation and fore from a simultaneous equation model. *Austral. J. Statist.* **14** (1972), 143–160. Hannan) **50** #6091 62P20

A note on the efficiency of the Zellner's seemingly unrelated regressions esti *Ann. Inst. Statist. Math.* **26** (1974), 361–362. (A. L. Nagar) **51** #4616 62P20 (6

Applications of Lorenz curves in economic analysis. *Econometrica* **45** (1977), 719–727. (G. Tintner) **55** #9866 90A15

Kala, Radosław (*with* Baksalary, Jerzy K.) Extensions of Milliken's estimability crite *Ann. Statist.* **4** (1976), *no.* 3, 639–641. (C. R. Rao) **54** #3978 62J05

(*with* Baksalary, Jerzy K.) Criteria for estimability in multivariate linear m (German and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 1 (C. G. Khatri) **54** #1489 62J05

(*with* Baksalary, Jerzy K.; Dobek, A.) A method for computing projectors. (Russian summary) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 4, 1038–1040, 1086– (L. W. Ehrlich) **54** #9068 65F20 (15A09)

(*with* Baksalary, Jerzy K.) A method of finding bases of a matrix. *Comment.* *Prace Mat.* **20** (1977), *no.* 1, 1–5. (Authors' summary) **56** #12027 15A21

(*with* Baksalary, Jerzy K.) An extension of a rank-criterion for the least sq estimator to be the best linear unbiased estimator. *J. Stat. Plann. Inference* **1** (197 3, 309–312. (George P. H. Styan) **58** #24745 62J05 (15A24, 62F10)

(*with* Baksalary, Jerzy K.) Sums of squares and products matrices for a no ranks hypothesis in the model of Potthoff and Roy. (German and Russian summa *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 4, 459–465. (J. A. **58** #18914 62J05

Kalaba, Robert E. Some numerical aspects of unstable boundary value problems. *Sta* *problems of solutions of differential equations* (*Proc. NATO Advanced Study Inst., P* 1965), *pp.* 295–306. *Edizioni "Oderisi", Gubbio*, 1966. (P. Nelson) **53** #7043 6

(*with* Kagiwada, Harriet H.; Thomas, Y.) Exact solution of Pontryagin's equa of optimal control. I. *Ann. École Nat. Sup. Méc. Nantes* **1969**, *deuxième sem* 151–160. (Editors) **46** #6119 49A10 (93C15)

A one sweep method for linear difference equations with two point boun conditions. *Calcolo* **7** (1970), 249–259. (E. Angel (Zbl **225** #65079)) **58** #319 65Q05

(*with* Huss, R.) Computation of the moments of solutions of certain random point boundary value problems. *Conference on Applications of Numerical Analysis* (*Dundee, Dundee*, 1971), *pp.* 93–102. *Lecture Notes in Math., Vol* 228, *Springer, B* 1971. (Jochen Werner) **52** #2224 65L10

Reduction of matrix integral equations with displacement kernels on the half-li Cauchy systems. *Invariant imbedding* (*Proc. Summer Workshop Invariant Imbed* *Univ. Southern California, Los Angeles, Calif.*, 1970), *pp.* 46–54. *Lecture Note* *Operations Res. and Math. Systems, Vol.* 52, *Springer, Berlin*, 1971. (Jacob Steinb **49** #1034 45F05 (65R05)

(*with* Buell, J.; Ueno, Sueo) Numerical results for Sobolev's function Q of radia transfer. (Russian summary) *Astrofizika* **7** (1971), 23–37. (P. Nelson) **47** #284 65R05

(*with* Ruspini, Enrique H.) Reduction of the Dirichlet problem to an initial v problem. *J. Computational Phys.* **8** (1971), 489–497. (S. Albertoni) **50** #6192 65

(*with* Ueno, Sueo; Kagiwada, Harriet H.) Radiative transfer in spherical s atmospheres with radial symmetry. *J. Mathematical Phys.* **12** (1971), 1279–1286. Nelson) **46** #1289 86.45

On the integral equations of optimal signal detection and estimation theory. *Optimization Theory Appl.* **8** (1971), 110–114. (Author's summary) **45** #8383 94

(*with* Ruspini, Enrique H.) Invariant imbedding and radiative transfer in a homogeneous cylindrical medium. *J. Quant. Spectrosc. Radiat. Transfer* **11** (1971), *no* 1063–1074. (Edward W. Larsen) **53** #12417 82.45

(*with* Kagiwada, Harriet H.) Invariant imbedding and radiation fields in fi isotropically scattering slabs bounded by a Lambert's law reflector. *J. Quant. Spectr* *Radiat. Transfer* **11** (1971), *no.* 7, 1101–1109. (Ian Lerche) **53** #12416 82.45

(*with* Ruspini, Enrique H.) Invariant imbedding and a matrix integral equation neuronal networks. *Math. Biosci.* **12** (1971), 273–280. (N. H. Bingham) **46** #497 92A15

(*with* Casti, John; Murthy, V. K.) A new initial-value method for on-line filter and estimation. *IEEE Trans. Information Theory* **IT-18** (1972), 515–518. (Autho summary) **56** #11361 93E10

(*with* Zagustin, Elena) An initial value method for dual integral equations. (Fren German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **10** (1972), 603–6 (R. P. Srivastav) **47** #2291 45F05

(*with* Yakush, A.; Zagustin, Elena) A new method for the Lebedev-Ufliand integ equation for contact problems of elasticity. (German summary) *J. Elasticity* **2** (197 *no.* 3, 181–189. (Authors' summary) **57** #14779 73.45

(*with* Zagustin, Elena) Initial value treatment for torsion of an elastic layer.

Franklin Inst. **293** (1972), 345–353. (F. Erdogan) **47** #2892 73.45

(*with* Buell, J.; Fymat, Alain L.) An initial value method for the Ambarzumian integral equation. *J. Quant. Spectrosc. Radiat. Transfer* **12** (1972), *no.* 5, 769–776. (Ian Lerche) **53** #15223 82.45

(*with* Casti, John) ★Imbedding methods in applied mathematics. Applied Mathematics and Computation, No. 2. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1973. xiv + 306 *pp.* (U. Tippenhauer) **57** #10985 65–02

(*with* Casti, John; Ueno, Sueo) A Cauchy system for a class of nonlinear Fredholm integral equations. *Applicable Anal.* **3** (1973), 107–115. (J. F. Heyda) **53** #11326 45G05

(*with* Zagustin, Elena) An improved initial value method for a contact problem with a nonplane punch. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **11** (1973), *no.* 4, 459–476. (K. S. Parihar) **56** #17380 73.65

(*with* Scott, Melvin R.) An initial value method for integral operators. I. Complex eigenvalues. *J. Computational Phys.* **12** (1973), 364–368. (P. M. Anselone) **49** #11837 65R05

(*with* Casti, John; Scott, Melvin R.) A proposal for the calculation of characteristic functions for certain differential and integral operators via intial-value methods. *J. Math. Anal. Appl.* **41** (1973), 1–13. (S. L. Kalla) **47** #7936 65R05

(*with* Angel, Edward; Jain, Anil K.) Initial-value problems in potential theory. *J. Optimization Theory Appl.* **11** (1973), 274–283. (Authors' summary) **48** #1480 65M05

(*with* Kagiwada, Harriet H.) The basic functions *b* and *h* for Fredholm integral equations with displacement kernels. *J. Optimization Theory Appl.* **11** (1973), 517–532. (H. E. Fettis) **52** #1201 45B05

(*with* Kagiwada, Harriet H.) An initial-value method for nonlinear integral equations. *J. Optimization Theory Appl.* **12** (1973), 329–337. (P. M. Anselone) **49** #11836 65R05

(*with* Scott, Melvin R.) An initial-value method for integral operators. II. Complex eigenfunctions. *J. Optimization Theory Appl.* **12** (1973), 338–343. (P. M. Anselone) **49** #11838 65R05

(*with* Scott, Melvin R.) An initial-value method for integral operators. IV. Complex-valued kernels of Laser theory. *J. Quant. Spectrosc. Radiat. Transfer* **13** (1973), *no.* 6, 509–515. (Authors' summary) **57** #14545 65R05 (78.45)

(*with* Kagiwada, Harriet H.) ★Integral equations via imbedding methods. Applied Mathematics and Computation, No. 6. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1974. xviii + 382 *pp.* (Editors) **57** #3760 45–02

(*with* Casti, John; Willis, D. R.) A Cauchy method for an integral equation of linearized couette flow. *Applicable Anal.* **4** (1974), *no.* 3, 223–233. (Christopher T. H. Baker) **52** #16273 76.45

(*with* Zagustin, Elena) Reduction of a non-linear two point boundary value problem with non-linear boundary conditions to a Cauchy system. (French, German and Russian summaries) *Internat. J. Non-Linear Mech.* **9** (1974), 221–228. (R. B. Grafton) **52** #16038 65L10

(*with* Scott, Melvin R.) An initial-value method for Fredholm integral equations with generalized degenerate kernels. *J. Approximation Theory* **11** (1974), 194–200. (W. R. Boland) **50** #14098 45B05

(*with* Zagustin, Elena) An initial value method for an inverse problem in wave propagation. *J. Mathematical Phys.* **15** (1974), 289–290. (Authors' summary) **49** #1930 78.45

(*with* Huss, R.; Vasudevan, R.) On a boundary value problem for integro-differential equations. *J. Mathematical Phys.* **15** (1974), 1285–1287. (Authors' summary) **50** #3623 65R05

(*with* Spingarn, Karl) Optimal input system identification for homogeneous and non-homogeneous boundary conditions. *Proceedings of the Eighth Hawaii International Conference (Univ. Hawaii, Honolulu, Hawaii*, 1975), *pp.* 230–232. *Western Periodicals Co., North Hollywood, Calif.*, 1975. (R. L. Kashyap) **50** #12353 93B30

(*with* Scott, Melvin R.) An initial-value method for integral operators. V. Kernels depending upon a parameter. *Appl. Math. Comput.* **1** (1975), *no.* 1, 25–35. (Authors' summary) **58** #6997 45L05

(*with* Spingarn, Karl; Zagustin, Elena) On the integral equations method for buckling loads. *Appl. Math. Comput.* **1** (1975), *no.* 3, 253–261. (Authors' summary) **56** #1914 73.65

(*with* Zagustin, Elena) On penetration of a rigid axisymmetric punch into an elastic layer. *Comput. Math. Appl.* **1** (1975), *no.* 1, 13–25. (M. Mişicu) **52** #7270 73.45

(*with* Scott, Melvin R.) An initial-value method for integral operators. III. Refinement of complex eigenvalues by Newton's method. *Internat. J. Numer. Methods Engrg.* **9** (1975), *no.* 4, 944–948. (P. M. Anselone) **52** #12371 65R05

(*with* Spingarn, Karl) Optimal input system identification for homogeneous and nonhomogeneous boundary conditions. *J. Optimization Theory Appl.* **16** (1975), *no.* 5-6, 487–496. (Ivar Gustavsson) **54** #2267 93B30

(*with* Fymat, Alain L.; Zagustin, Elena) Anisotropic scattering in inhomogeneous media. I. A new representation formula for the solution of the auxiliary integral equation for the source function. *J. Quant. Spectrosc. Radiat. Transfer* **15** (1975), *no.* 3, 259–265. (B. K. Datta) **55** #2048 85.45

(*with* Casti, John) ★Методы погружения в прикладной математике. (Russian) [Imbedding methods in applied mathematics] Translated from the English by S. P. Čebotarev. *Izdat. "Mir", Moscow*, 1976. 223 *pp.* (Editors) **58** #13748 65L99 (69.00)

(*with* Huss, R.; Kagiwada, Harriet H.) Reduction of a family of nonlinear boundary value problems to a Cauchy system. *Function theoretic methods in differential equations, pp.* 244–258. *Res. Notes in Math., No.* 8, *Pitman, London*, 1976. (Walter G. Kelley) **58** #1348 34B15 (65L10)

(*with* Kagiwada, Harriet H.) Temperature retrieval by imbedding methods: a new method which avoids linear algebraic equations. *Nonlinear Anal.* **1** (1976), *no.* 1, 65–74. (N. U. Ahmed) **55** #2055 86.65 (93Exx)

(*with* Spingarn, Karl) Numerical solution of a nonlinear two-point boundary value problem by an imbedding method. *Nonlinear Anal.* **1** (1976/77), *no.* 2, 129–133. (From the introduction) **58** #31862 65L10

(*with* Kagiwada, Harriet H.; Mease, K.) The flabbiness and instability of regression analysis and computational methods for improvement. *Applications of statistics (Proc. Sympos., Wright State Univ., Dayton, Ohio*, 1976), *pp.* 289–299. *North-Holland, Amsterdam*, 1977. (George P. H. Styan) **58** #24752 62J05 (65F10)

(*with* Spingarn, Karl; Zagustin, Elena) Imbedding methods for bifurcation problems and post-buckling behavior of nonlinear columns. *Nonlinear systems and applications (Proc. Internat. Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp.* 173–187. *Academic Press, New York*, 1977. (John M. Ball) **58** #8688 73.47

(*with* Garfinkle, J.; Kagiwada, Harriet H.; McLain, E.) A computational method for fitting Richardson equations of arms races. *Appl. Math. Comput.* **3** (1977), *no.* 2, 175–185. (Guy Jumarie) **54** #14824 93B35

(*with* Zagustin, Elena; Holbrow, W.; Huss, R.) A modification of Davidenko's method for nonlinear systems. *Comput. Math. Appl.* **3** (1977), *no.* 4, 315–319. (Authors' summary) **58** #13675 65H05

(*with* Spingarn, Karl) Optimal input system identification for nonlinear dynamic systems. *J. Optimization Theory Appl.* **21** (1977), *no.* 1, 91–102. (B. Wittenmark) **55** #14321 93C10 (93B30)

(*with* Hess, J.; Ider, Z.; Kagiwada, Harriet H.) Team decision theory and integral equations. *J. Optimization Theory Appl.* **22** (1977), *no.* 2, 251–264. (Authors' summary) **58** #25859 90A05 (90D35)

(*with* Helms, Jay; Kagiwada, Harriet H.; Niedercorn, John) Fitting differential equation models to observed economic data. I. Quasilinearization. *Appl. Math. Comput.* **4** (1978), *no.* 2, 139–145. (I. Norman Katz) **58** #9136 90A15

(*with* Spingarn, Karl) Post buckling beam configurations via an imbedding method. *Comput. Math. Appl.* **4** (1978), *no.* 1, 1–10. (A. M. Cohen) **58** #25303 73.65

(*with* Mease, K.) An imbedding method for matrix eigenvalue problems. *Comput. Math. Appl.* **4** (1978), *no.* 1, 53–59. (E. Deutsch) **58** #16718 15A18 (65F15)

(*with* Tesfatsion, Leigh) Two solution techniques for adaptive reinvestment: a small sample comparison. *J. Cybernet.* **8** (1978), *no.* 1, 101–111. (Tamer Başar) **57** #11886 93C40

(*with* Zagustin, Elena) Estimation of state and system parameters. *J. Franklin Inst.* **306** (1978), *no.* 2, 191–193. (Authors' summary) **58** #26313 93C15 (93B10)

(*with* Kagiwada, Harriet H.) Imbedding methods for integral equations with applications. Issue devoted to numerical methods for solving integral equations. *J. Optim. Theory Appl.* **24** (1978), *no.* 1, 29–57. (L. Fox) **58** #8403 65R05 (45B05)

(*with* Spingarn, Karl) Optimization of functionals subject to integral constraints. *J. Optim. Theory Appl.* **24** (1978), *no.* 2, 325–335. (Edward J. Haug, Jr.) **58** #12611 49B35 (65K05)

(*with* Spingarn, Karl) On the numerical determination of optimal inputs. *J. Optim. Theory Appl.* **25** (1978), *no.* 2, 219–227. (R. Leonard Brown) **58** #9603 93C99 (65K05)

Kalabekov, B. A. (*with* Galkin, L. I.; Šabanov, L. V.) A certain method of search for summable collections of Boolean functions. (Russian) *Digital computer technology and programming, No.* 8 (*Russian*), *pp.* 147–155, 191. *Sovetskoe Radio, Moscow*, 1974. (Authors' summary) **51** #15206 94A20

Kaladze, V. A. (*with* Moroz, P. A.; Rubinstein, Y.) Efficiency of a random search with controlled interference dispersion. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, *no.* 4, 34–38. (V. F. Dem′janov) **47** #7911 65K05

Kalähne, Ursula Existence, uniqueness and some invariance properties of stationary distributions for general single server queues. (German and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 4, 557–575. (D. N. Shanbhag) **55** #1529 60K25

Kalai, Ehud (*with* Smorodinsky, Meir) Other solutions to Nash's bargaining problem. *Econometrica* **43** (1975), 513–518. (Authors' summary) **55** #14250 90D35

On game-type subsets. *Internat. J. Game Theory* **4** (1975), *no.* 3, 141–150. (Nimrod Megiddo) **52** #12832 90D99

(*with* Smorodinsky, Meir) On a game theoretic notion of complexity for compact convex sets. *Proc. Amer. Math. Soc.* **49** (1975), 416–420. (Louis J. Billera) **51** #4948 90A15 (52–XX)

Excess functions for cooperative games without sidepayments. *SIAM J. Appl. Math.* **29** (1975), 60–71. (Andrew Postlewaite) **53** #10331 90D12

(*with* Pazner, Elisha A.; Schmeidler, David) Collective choice correspondences as admissible outcomes of social bargaining processes. *Econometrica* **44** (1976), *no.* 2, 233–240. (Rubin Saposnik) **56** #2210 90A05 (92A20)

(*with* Schmeidler, David) Aggregation procedure for cardinal preferences: a formulation and proof of Samuelson's impossiblility conjecture. *Econometrica* **45** (1977), *no.* 6, 1431–1438. (Rubin Saposnik) **56** #10763 90A05 (92A20)

Proportional solutions to bargaining situations: interpersonal utility comparisons. *Econometrica* **45** (1977), *no.* 7, 1623–1630. (Author's summary) **58** #26101 90D30

Nonsymmetric Nash solutions and replications of 2-person bargaining. *Internat. J. Game Theory* **6** (1977), *no.* 3, 129–133. (G. A. Heuer) **57** #11800 90D12

(*with* Schmeidler, David) An admissible set occurring in various bargaining situations. *J. Econom. Theory* **14** (1977), *no.* 2, 402–411. (Mamoru Kaneko) **55** #12159 90D45

(*with* Muller, Eitan) Characterization of domains admitting nondictatorial social welfare functions and nonmanipulable voting procedures. *J. Econom. Theory* **16** (1977), *no.* 2, 457–469. (J. H. Blau) **57** #11844 92A20 (90A05)

(*with* Rosenthal, Robert W.) Arbitration of two-party disputes under ignorance. *Internat. J. Game Theory* **7** (1978), *no.* 2, 65–72. (Authors' summary) **58** #26106 90D35

Kalai, G. (*with* Maschler, Michael; Owen, Guillermo) Asymptotic stability and other properties of trajectories and transfer sequences leading to the bargaining sets. *Internat. J. Game Theory* **4** (1975), *no.* 4, 193–213. (Louis J. Billera) **54** #4693 90D12

Kalaĭda, O. F. A certain quadrature formula. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 6 (1968), 131–137. (I. Šelihova RŽMat **1969** #1 B786) **45** #7991 65D30

The solution of the Cauchy problem for ordinary differential equations with a prescribed degree of accuracy. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 7 (1969), 151–156. **45** #8004 65L10

The solution of linear integral equations of the second kind. (Russian. French summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 8 (1969), 155–159. (Author's summary) **45** #4076 45D05 (*with* Golovač, G. P.) Solution of linear integral equations of additive-mixed type by the method of splitting the kernel of the Fredholm operator. (Russian) *Approximate and qualitative methods of the theory of differential and integral equations* (*Russian*), *pp*. 175–182. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Š. Schwabik) **50** #15399 65R05

(*with* Golovač, G. P.) An application of the quadrature-iteration method to the solution of nonlinear integral equations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 14–16, 91. (J. Kofroň) **46** #2913 65R05

New methods for the numerical solution of nonlinear algebraic and transcendental equations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 114–117, 187. (Z. V. Kovarik) **46** #2846 65H05

(*with* Golovač, G. P.) The convergence of the quadrature-iteration method and the quadrature method of splitting the solution for a Fredholm integral equation in $C^{(p)}[a,b]$. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 589–593, 668. (J. Kofroň) **46** #10232 65R05

(*with* Golovač, G. P.) Solution of linear integral equations of additively mixed type by the splitting quadrature method. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 1064–1073, 1149. (J. Švejda) **47** #6111 65R05

(*with* Golovač, G. P.) A quadrature-iteration method of solution of linear and nonlinear integral equations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 16 (1972), 52–62. (S. Maloň) **47** #2845 65R05

(*with* Golovač, G. P.) Solution of certain operator equations by the splitting method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 16 (1972), 126–133. (G. Vainikko) **49** #4249 65J05

(*with* Mozok, G. M.) A solution of a certain class of integro-differential equations by the method of decomposition of the kernel. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 17 (1972), 78–86. (I. K. Marek) **47** #2846 65R05

(*with* Mozok, G. M.) Solution of a certain class of integro-differential equations by the quadrature decomposition method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 18 (1972), 108–116. (I. K. Marek) **47** #2847 65R05

(*with* Mozok, G. M.) Solution of a certain class of integro-differential equations by the splitting method. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 302–305, 380. (M. Tvrdý) **47** #7938 65R05

(*with* Zuēva, L. O.) Solution of a multipoint eigenfunction and eigenvalue problem of an ordinary linear differential operator by the splitting method. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 395–398, 476. (Leo F. Boron) **47** #7113 34B25

(*with* Zuēva, L. O.) Solution by the splitting method of boundary value problems with conditions of integral type for linear ordinary differential equations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 593–595, 667. (Leo F. Boron) **48** #614 34B05

(*with* Golovač, G. P.) A method of replacing the kernel by a degenerate one with iterations of the solution of linear Fredholm integral equations of the second kind. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 15 (1973), 81–84, 145. (Š. Schwabik) **50** #3621 65R05

(*with* Mozok, G. M.) Solution of a certain class of integro-differential equations by the method of decomposing the solution. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 19 (1973), 115–121, 159. (S. Maloň) **48** #10168 65R05

(*with* Janīševs'kiĭ, A. T.) The solution of integral equations of the second kind in spaces with weight. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 20 (1973), 68–77, 164. (Stefan Balint) **48** #821 45L05

(*with* Zuēva, L. O.) Solution of the eigenvalue and eigenfunction problem of an ordinary linear differential operator by the method of splitting the kernel. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 21 (1973), 44–48, 158. (Leo F. Boron) **47** #8967 34B25

(*with* Golovač, G. P.) Solution of the spectral problem by the splitting method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 1332–1338, 1366. (G. Vainikko) **48** #4770 47A10

(*with* Golovač, G. P.) ★Наближені методи розвьязування операторных рівнянь. (Ukrainian) [Approximate methods for the solution of operator equations] With a Russian summary. *Vidavniče Ob'ēdnannja "Višča Škola" Vidavn. pri Kiïv. Derž. Unīv., Kiev*, 1974. 248 *pp*. (Not reviewed) 65–02 (65J05, 47A50, 47H15)

(*with* Golovač, G. P.) Solution of Volterra type equations by the splitting method. (Ukrainian. Russian summary) *Projective-iterative methods for the solution of differential and integral equations* (*Ukrainian*), *pp*. 4–14, 197. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1974. (Authors' summary) **57** #7064 45D05

(*with* Zuēva, L. O.) Solution of boundary value problems for linear ordinary differential equations by the kernel splitting method. (Ukrainian. Russian summary) *Projective-iterative methods for the solution of differential and integral equations* (*Ukrainian*), *pp*. 45–52, 199. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1974. (Authors' summary) **57** #3498 34A30 (65L10)

(*with* Golovač, G. P.) The rate of convergence of iterative methods for the solution of linear integral equations of Volterra type. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 16 (1974), 101–104, 176. (M. Tvrdý) **56** #6320 45L05

(*with* Golovač, G. P.) Solution of the spectral problem by the splitting method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 22 (1974), 82–93, 171. (Leo F. Boron) **50** #5503 47A50 (45B05)

(*with* Zuēva, L. O.) Solution of multipoint boundary value problems for linear ordinary differential equations by the splitting method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 22 (1974), 124–128, 172. (Leo F. Boron) **50** #5077 34B10

(*with* Golovač, G. P.) Solution of linear integral equations with unbounded kernel by the splitting method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 23 (1974), 64–70, 173–174. (Nicolae Luca) **50** #908 45A05

(*with* Mozok, G. M.) Solution of linear integro-differential-functional problems by the splitting method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 23 (1974), 91–97, 174–175. (Nicolae Luca) **50** #916 45J05

(*with* Mozok, G. M.) Solution of a certain class of linear integrodifferential-functional equations by the splitting method. (Ukrainian. Eng
Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 18–21, 92.
Boron) **50** #14124 45J05

(*with* Golovač, G. P.) A solution of the problem of the characteristic numb
eigenelements of certain operators by the splitting method. (Russian. English sum
Vyčisl. Prikl. Mat. (*Kiev*) *No.* 27 (1975), 58–66, 154. (Leo F. Boron) **52** #
47A50 (65J05)

(*with* Golovač, G. P.) Solution of integral equations of Volterra type with
singularity by the splitting method. (Ukrainian. English and Russian summaries)
Kiïv. Unīv. Ser. Mat. Meh. No. 18 (1976), 13–17, 140. (Authors' summary) **58** #
45L10

(*with* Gaĭ, Ja. G.) Multipoint methods of tangents for the solution of the e
$f(x)=0$. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 28 (1976), 1
155. (Jan Zítko) **57** #18062 65H05

(*with* Golovač, G. P.) Solution of homogeneous integral equations with
singularity and with nonlinear dependence on a parameter by the splitting m
(Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 30 (1976), 77–8
(Authors' summary) **58** #2103 45L05

(*with* Golovač, G. P.) Solution of a certain spectral problem of transport the
the splitting method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 2, 29
545. (Authors' summary) **58** #13820 65R05 (45E05)

See also **Numerical analysis**, **58** #31701

Kalajdžić, Gojko Two elementary inequalities. *Univ. Beograd. Publ. Elektrotehn. Fa
Mat. Fiz. No.* 412-460 (1973), 53–56. (P. H. Diananda) **50** #2426 26A86

A representation of a class of Euclidean rings. Papers presented at the Fifth
Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 313–315.
Brewer) **51** #12833 13F15

On some particular inequalities. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser
Fiz. No.* 498-541 (1975), 141–143. (R. A. Askey) **52** #10976 26A86

Kalamhatov, B. The cyclic Gomory algorithm. (Russian) *Upravljaemye Sistemy*
(1970), 26–28. (See RŽMat **1971** #6 V529) 90C10

Kalan, James E. (*with* Greenberg, Harvey J.) An exact update for Harris' tread.
Computational practice in mathematical programming, *pp*. 26–29. *Programming S
Vol.* 4, *North-Holland, Amsterdam*, 1975. (Irinel Dragan) **52** #12766 90C05 (6

Kalandarishvili, N. G. *See* **Kalandariśvili, N. G.**

Kalandariśvili, D. G. A certain integro-differential equation with a small parameter.
(Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moam*
(1973), 29–32. (Hans Kaper) **49** #5755 45K05

A certain integro-differential equation with a small parameter multiplyin
highest derivatives. (Russian. Georgian and English summaries) *Sakharth. SSSR
Akad. Moambe* **73** (1974), 273–276. (Hans Kaper) **49** #5756 45K05

Kalandariśvili, N. G. (*with* Buevič, V. A.; Tal', A. A.) Description of a finite automat
means of a finite set of input-output sequences. I. *Avtomat. i Telemeh.* **1970**,
112–122 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**,
99–107. (S. Huzino) **46** #1484 94A25

(*with* Buevič, V. A.; Tal', A. A.) Description of a finite automaton by means
finite set of input-output sequences. II. *Avtomat. i Telemeh.* **1970**, *no.* 2, 61–70 (*Ru
English summary*); *translated as Automat. Remote Control* **1970**, *no.* 2, 225–23
Huzino) **46** #1485 94A25

(*with* Shirtladze, R. L.) The rècognition algorithm of an automaton with
memory. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn.
Moambe* **71** (1973), 61–63. (Armin Cremers) **49** #8762 94A30

The description in the language of equivalent transformations of sets of auto
that are generated by strongly connected automata. (Russian. Georgian summ
Studies in mathematical logic and the theory of algorithms (*Russian*), *pp*. 5–14. *I.
Tbilis. Univ., Tbilisi*, 1975. (Editors) **58** #9906 94A30

An algorithm for the determination of a set of automata that is generated b
automaton with finite memory. (Russian. Georgian summary) *Studies in mathema
logic and the theory of algorithms* (*Russian*), *pp*. 15–18. *Izdat. Tbilis. Univ., Tbilisi*,
(Editors) **58** #9907 94A30

Kalandariśvili, S. G. The equivalence of measures that correspond to homogeneous
Gaussian random fields with different correlation functions. (Russian. Georgian
English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 2, 293–29
G. Žurbenko) **52** #12067 60G30

(*with* Zerakidze, Z. S.) The asymptotic efficiency of pseudobest estimators
regression coefficients. (Russian. Georgian and English summaries) *Sakharth.
Mecn. Akad. Moambe* **81** (1976), *no.* 1, 33–36. (M. A. Mirzahmedov) **54** #1461 (EA
62F20 (62J05)

The consistency of estimates of homogeneous and isotropic random fields. (Russ
Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976),
2, 273–276. (M. I. Jadrenko) **55** #13695 62M99 (62F10)

The absolute continuity of probability measures. (Russian. Georgian and Eng
summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 1, 29–32. (P.
Knopov) **58** #3010 60G30

Kalandija, A. I. The distribution of stresses around openings. (Russian) *Continuum
mechanics and related problems of analysis* (*on the occasion of the eightieth birthday
Academician N. I. Mushelišvili*) (*Russian*), *pp*. 221–233. *Izdat. "Nauka", Moscow*, 19
(M. Mişicu) **51** #14711 73.45

★Математические методы двумерной упругости. (Russian) [Mathematical
methods of two-dimensional elasticity] *Izdat. "Nauka", Moscow*, 1973. 303 *pp*. (Edito
53 #4675 73.30

★Mathematical methods of two-dimensional elasticity. Translated from the
Russian by M. Konyaeva [M. Konjaeva]. *Mir Publishers, Moscow*, 1975. 351
(Editors) **53** #4676 73.30

The integral equations of the plane theory of elasticity. (Russian. Georgian
summary) Collection of articles on the equations of mathematical physics, 5. *Sakhar
SSR Mecn. Akad. Math. Inst. Šrom.* **49** (1975), 42–53. (M. Mişicu) **53** #15060 73

(*with* Laliašvili, O. È.) A certain problem of the bending of plates that is solvable
quadratures. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 1, 34–37. (B.

Bondarenko) **53** #2107 73.35

anov, B. S. (*with* Baĭkuziev, Kahhar) A mixed problem for a linear equation of higher order that degenerates on the boundary of the domain. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 394 (1970), 17–26 (1971). (J. Vencko) **47** #3806 35C10 (35G05)

(*with* Baĭkuziev, Kahhar) The solvability of the mixed problem for a higher order equation that is degenerate on the boundary of the domain. (Russian) *Boundary value problems for differential equations, No.* 2 (*Russian*), *pp.* 40–54, 185. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1972. (Authors' summary) **56** #12554 35G15

(*with* Baĭkuziev, Kahhar) The solvability of a mixed problem for a higher order equation that is degenerate on the boundary of the domain. (Russian) *Boundary value problems for differential equations*, 3 (*Russian*), *pp*. 65–73, 185. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1973. (V. V. Kovrižkin) **51** #10883 35L35

lantari, Iraj (*with* Retzlaff, Allen) Maximal vector spaces under automorphisms of the lattice of recursively enumerable vector spaces. *J. Symbolic Logic* **42** (1977), *no*. 4, 481–491. (From the introduction) **58** #21539 02F27

lantarov, V. K. A study of the generalized solution of a mixed problem for a system of two quasilinear equations of parabolic and hyperbolic type. (Russian. Azerbaijani summary) *Azerbaĭdžn. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat Nauk* **1972**, *no*. 4, 50–54. (J. Vencko) **56** #12638 35H05

An investigation of the mixed problem for a certain class of nonstationary systems. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **30** (1974), *no*. 1, 8–11. (A. Haimovici) **49** #7583 35G30

The mixed problem for semilinear parabolic-hyperbolic systems of equations. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **30** (1974), *no*. 3, 20–25. (Megumi Saigo) **50** #10556 35M05

(*with* Ladyženskaja, O. A.) Formation of collapses in quasilinear equations of parabolic and hyperbolic types. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 10. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **69** (1977), 77–102, 274. (Authors' summary) **58** #29269 35K55 (35L60)

las, J. Construction of a semi-additive measure from a set function defined on a semi-ring. (Russian. English summary) *Mat. Časopis Sloven. Akad. Vied* **24** (1974), 263–273. (M. Nosal) **50** #13417 28A10

Asymptotic behaviour of the system of two differential equations. *Arch. Mat.* (*Brno*) **11** (1975), *no*. 3, 175–186 (1976). (D. Izjumova) **54** #653 34D05

alášek, Pavel A remark on a paper by V. Petrův. (Czech. English summary) *Časopis Pěst. Mat.* **98** (1973), 156–158. (D. Preiss) **48** #474 26A27

alashnikov, O. K. *See* **Kalašnikov, O. K.**

alashnikov, V. A. *See* **Kalašnikov, V. A.**

alashnikov, V. P. *See* **Kalašnikov, V. P.**

alashnikov, V. V. *See* **Kalašnikov, V. V.**

alašnik, B. A. *See* **Theory of languages and methods of construction of programming systems, 48** #7682

alašnik, L. I. The reconstruction of a word from fragments. (Russian) *Numerical mathematics and computer technology, No. IV* (*Russian*), *pp*. 56–57, 137. *Akad. Nauk Ukrain. SSR Fiz.-Tehn-Inst. Nizkih Temperatur, Kharkov*, 1973. (Author's summary) **58** #5399 05C99

alašnikov, A. L. (*with* Slugin, S. N.) Pointwise semi-ordered Sobolev spaces and the positiveness of the optimal solution. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 281–283. (Rosalind Reichard) **47** #3942 46A40 (49A25)

(*with* Slugin, S. N.) Positivity of optimal control with minimal norm in a domain that is prescribed by a linear operator equation in a partially ordered space. (Russian) *Theory of oscillations, applied mathematics and cybernetics, No.* 1 (*Russian*), *pp*. 177–186. *Gor'kov. Gos. Univ., Gorky*, 1973. (Authors' summary) **58** #23870 49A25 (46A99)

(*with* Slugin, S. N.) The growth of support functionals, and the positivity of the optimal solution. (Russian) *Bul. Akad. Stiince RSS Moldoven.* **1973**, *no*. 1, 13–17, 90. (Alexander M. Rubinov) **48** #6968 46N05

(*with* Slugin, S. N.) *K*-minimality of an optimal element and of a minimizing sequence. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no*. 12(139), 73–77. (Rosalind Reichard) **51** #11076 46E05

Selection of a subclass of optimal controls in a sublattice. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no*. 8 (171), 28–31. (Stanislav K. Myškov) **56** #9367 49A99

Localization of the optimal element in the problem of norm minimization. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 3 (178), 104–107. (Ju. A. Abramovič) **57** #984 41A65

Kalašnikov, A. S. The problem without initial conditions in classes of increasing functions for certain linear degenerate second order parabolic systems. I, II. (Russian. English summaries) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), *no*. 2, 42–48; *ibid.* **26** (1971), *no*. 3, 3–9. (A. M. Abasov) **46** #525 35K40

The problem without initial conditions for second order linear degenerate hyperbolic equations with an infinite domain of dependence. (Russian) *Mat. Sb.* (*N.S.*) **88(130)** (1972), 609–622. (O. Horáček) **47** #2193 35L10

Equations of the type of a nonstationary filtration with infinite rate of propagation of perturbations. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27** (1972), *no*. 6, 45–49. (P. Ungar) **49** #849 35K15

The Cauchy problem in classes of increasing functions for certain quasilinear degenerate second order parabolic equations. (Russian) *Differencial'nye Uravnenija* **9** (1973), 682–691, 784. (V. Komkov) **47** #3840 35K15 (35R99)

Uniqueness conditions for the generalized solution of the Cauchy problem for a certain class of quasilinear degenerate parabolic equations. (Russian) *Differencial'nye Uravnenija* **9** (1973), 2207–2212, 2299. (V. Đurikovič) **49** #3327 35K15

(*with* Oleĭnik, O. A.) I. G. Petrovskiĭ Seminar on Differential Equations and the Mathematical Problems of Physics. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no*. 5(173), 257–266. (Editors) **52** #8616 35–06 (00A10)

The differential properties of the generalized solutions of equations of the type of nonstationary filtration. (Russian. English summary) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no*. 1, 62–68. (V.-V. Olariu) **49** #7578 35D10 (76.35)

The nature of the propagation of perturbations in problems of nonlinear heat conduction with absorption. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 891–905, 1075. (A. Borzymowski) **50** #5189 35K15

The nature of the propagation of perturbations in processes that can be described by quasilinear degenerate parabolic equations. (Russian) *Trudy Sem. Petrovsk. Vyp.* 1 (1975), 135–144. (L. I. Rubinstein) **54** #13323 35K55

Uniqueness classes for the solution of the Cauchy problem for the linearized system of equations of a rotating fluid. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no*. 4 (190), 263–264. (A. A. Arsen'ev) **55** #8585 35Q10

The influence of absorption on the propagation of heat in a medium with heat conductivity that depends on the temperature. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no*. 3, 689–696, 820. (L. Jentsch) **54** #14575 80.35

See also **Baouendi, M. S.; et al., 58** #11825

Kalašnikov, N. I. (*with* Gol'dgefter, V. I.) A composite two-channel synchronous phase filter. (Russian) *Otbor i Peredača Informacii No.* 43 (1975), 85–88, 121. (Authors' summary) **51** #15207 94A20

Kalašnikov, O. K. (*with* Fradkin, E. S.) Renormalized set of equations for the Green functions and its asymptotical solution in the gauge field theory with fermions. *Acta Phys. Austriaca* **45** (1976), *no*. 1-2, 81–95. (G. Costa) **54** #9421 81.47

Asymptoticaly free SU(2)×SU(2)×SU(4) model of unified interaction. *Phys. Lett. B* **72** (1977), *no*. 1, 65–69. (Author's summary) **58** #8869 81.22

Kalašnikov, V. A. (*with* Lopuhov, A. A.) Decomposition of automata structures into functional blocks. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no*. 2, 125–129, 222 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no*. 2, 102–107 (1978). (Aleksander Albicki) **57** #15789 94A30

Kalašnikov, V. P. (*with* Zubarev, D. N.) Extremal properties of the non-equilibrium statistical operator. (Russian. English summary) *Teoret. Mat. Fiz.* **1** (1969), *no*. 1, 137–149. (Authors' summary) **56** #17536 80.60

(*with* Zubarev, D. N.) Derivation of the nonequilibrium statistical operator from the extremum of the information entropy. *Physica* **46** (1970), 550–554. (R. Kubo) **47** #10002 82.47

(*with* Zubarev, D. N.) Construction of statistical operators for nonequilibrium processes. (Russian. English summary) *Teoret. Mat. Fiz.* **3** (1970), *no*. 1, 126–134. (Authors' summary) **57** #8825 82.60

(*with* Zubarev, D. N.) Perturbation theory and integral equations for nonequilibrium statistical operators. (Russian. English summary) *Teoret. Mat. Fiz.* **5** (1970), *no*. 3, 406–416. (Authors' summary) **58** #8997 82.45

(*with* Zubarev, D. N.) A time-irreversible generalized master equation. *Phys. Lett.* **34A** (1971), 311–312. (Luigi A. Lugiato) **53** #2245 82.47

(*with* Zubarev, D. N.) The derivation of time-irreversible generalized master equation. *Physica* **56** (1971), 345–364. (S. Harris) **50** #9265 82.45

(*with* Zubarev, D. N.) On the extremal properties of the nonequilibrium statistical operator. *Physica* **59** (1972), 314–320. (S. Harris) **50** #9262 82.45

(*with* Auslender, M. I.) Generating functionals in the classical statistical mechanics of a nonideal gas. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 810–813. (R. A. Minlos) **50** #6404 82.60

A new method for computing magnetic susceptibility in the theory of linear response. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 59–62. (M. Drăganu) **52** #2414 78.35

Interaction of conduction electrons with an external electromagnetic field in a gauge-invariant theory of combined resonance. (Russian. English summary) *Teoret. Mat. Fiz.* **18** (1974), 108–120. (Author's summary) **57** #8786 82.47

(*with* Ljapilin, I. I.) Nonlinear theory of combined resonance, and the polarization of nuclei in semiconductors with a CdS lattice. (Russian. English summary) *Teoret. Mat. Fiz.* **18** (1974), 273–285. (Authors' summary) **57** #8787 82.47

Kalašnikov, V. V. The use of Lyapunov's method in the solution of queueing theory problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1968**, *no*. 5, 89–95 (*Russian*); *translated as Engrg. Cybernetics* **1968**, *no*. 5, 77–84 (1969). (A. Obretenov) **46** #2760 60K25

Stability of piecewise linear aggregates. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no*. 4, 39–44. ((RŽMat **1969** #11 V259)) **45** #8334 93E15

Stability of the functioning of aggregative systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no*. 5, 63–67. **45** #8229 90A15

Reliability analysis by Lyapunov's method. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1970**, *no*. 2, 65–76 (*Russian*); *translated as Engrg. Cybernetics* **1970**, *no*. 2, 257–269 (1971). (A. Obretenov) **46** #8324 60K20

Analysis of ergodicity of queueing systems by means of the direct method of Lyapunov. *Avtomat. i Telemeh.* **1971**, *no*. 4, 46–54 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no*. 4, *part* 1, 559–566. (I. Cuculescu) **47** #7832 60K25

(*with* Ciciašvili, G. Š.) On the stability of queueing systems with respect to disturbances of their distribution functions. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 2, 41–48 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 2, 211–217. (S. Krčevinac) **49** #8133 60K30

A property of γ-recurrence for Markov sequences. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 1243–1246. (D. A. Darling) **49** #1590 60J05

Boundedness and limiting behavior of trajectories of systems described by Markov processes with discrete time. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no*. 5, 40–47 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no*. 5, 751–758. (Author's summary) **54** #1392 60J05 (60K25)

Uniform closeness of components of a Markov process with variation of its parameters. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no*. 4, 43–53, 220 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no*. 4, 32–41. (N. H. Bingham) **52** #4415 60J05 (60K25)

Interaction between the stability of distributions and their limiting distributions. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no*. 3, 103–108 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no*. 3, 71–76. (G. C. Jain) **55** #1530 60K25

Certain properties of piecewise linear Markov processes. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no*. 3, 571–583. (D. A. Darling) **51** #14276 60J25 (60K25)

Solution of the stability problem for regenerative processes. (Russian) *Dokl. Akad.*

Nauk SSSR **232** (1977), *no.* 1, 13–15. (A. K. Aleškevičienė) **55** #6596 60K05 (60B10)

Continuity of the characteristics of regenerating processes. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 3, 87–96, 221 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 3, 71–81 (1978). (N. R. Mohan) **58** #7895 60K05

Analysis of stability in queueing problems by a method of trial functions. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 1, 89–105. (H. T. Tašmanov) **57** #1701 60K25

A uniform estimate for the rate of convergence in a discrete time renewal theorem. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 2, 399–403. (Gh. Oprişan) **55** #11419 60K05

See also **Jaiswal, N. K.**, **49** #11657; **Karlin, Samuel**, **50** #3349 *and* **Mine, Hisashi; et al.**, **58** #15206

Kalašnikova, V. V. Curves in centro-projective space. (Russian) *Trudy Irkutsk. Gos. Univ.* **64** (1969), 153–157. (Froim Marcus) **46** #8066 53A20

Kalata, Paul (*with* Priemer, Roland) On minimal error entropy stochastic approximation. *Internat. J. Systems Sci.* **5** (1974), 895–906. (S. P. Bingulac) **50** #1761 93E10

(*with* Priemer, Roland) On system identification with and without certainty. *J. Cybernet.* **8** (1978), *no.* 1, 31–50. (Seihaku Higuchi) **57** #9243 93E10

Kalatalova, M. A. Tauberian type theorems for double series that are summable by Cesàro methods. (Russian) *Ukrain. Mat. Ž.* **23** (1971), 733–744. (J. Mařík) **45** #5622 40B05 (40E05)

Kalb, Klaus Gero Spektrale Invarianz bei verallgemeinerten Eigenfunktionsentwicklungen. *Manuscripta Math.* 7 (1972), 271–297. (E. R. Lorch) **48** #9433 47A70

Die Vielfachheit nach Hellinger und die geometrische Vielfachheit der verallgemeinerten Eigenwerte. *Arch. Math.* (*Basel*) **25** (1974), 290–296. (Ju. M. Berezanskiĭ) **53** #3747 47A70 (47B15)

Theorem and functions of spectral multiplicity. (Spanish) *Rev. Colombiana Mat.* **10** (1976), *no.* 1, 1–37. (J. Wichmann (Zbl **347** #47013)) **57** #10449 47A10

Selbstadjungierte Operatoren als "dual-rein atomare" Skalaroperatoren. *Math. Ann.* **232** (1978), *no.* 2, 121–130. (G. A. Elliott) **57** #3894 47A70

On the expansion in joint generalized eigenvectors. *Pacific J. Math.* **76** (1978), *no.* 1, 109–116. (H. Baumgärtel) **58** #7163 47A70 (47B15)

Kalbfleisch, Jack *See* **Cox, D. R.**, **49** #6504

Kalbfleisch, James G. On Robillard's bounds for Ramsey numbers. *Canad. Math. Bull.* **14** (1971), 437–440. (J. Spencer) **46** #8851 05A17 (05C15)

Complete subgraphs of random hypergraphs and bipartite graphs. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 297–304. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. (K. Vijayan) **50** #6925 05C99

(*with* Sprott, D. A.) On tests of significance. With discussion. *Foundations of probability theory, statistical inference, and statistical theories of science* (*Proc. Internat. Res. Colloq., Univ. Western Ontario, London, Ont.*, 1973), *Vol. II*, *pp.* 259–272. *Univ. Western Ontario Ser. Philos. Sci.*, *Vol.* 6, *Reidel, Dordrecht*, 1977. (Günter Menges) **57** #14205 62A99 (62F05)

See also **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing**, **48** #10747

Kalbfleisch, John D. Likelihood methods of prediction. With comments by M. S. Bartlett, R. J. Buehler, S. Geisser, D. V. Lindley and James S. Williams and a reply by the author. *Foundations of statistical inference* (*Proc. Sympos., Univ. Waterloo, Waterloo, Ont.*, 1970), *pp.* 378–392. *Holt, Rinehart and Winston of Canada, Toronto, Ont.*, 1971. (Adrian F. M. Smith) **52** #1948 62A10

(*with* Sprott, D. A.) Corrigendum: "Application of likelihood methods to models involving large numbers of parameters". *J. Roy. Statist. Soc. Ser. B.* **34** (1972), 124–125. (T. Pitcher) **47** #2696 62–00

(*with* Prentice, R. L.) Marginal likelihoods based on Cox's regression and life model. *Biometrika* **60** (1973), 267–278. (I. Guttman) **48** #5281 62J05

(*with* Sprott, D. A.) Marginal and conditional likelihoods. *Sankhyā Ser. A* **35** (1973), *no.* 3, 311–328. (Authors' summary) **58** #24627 62A10

Sufficiency and conditionality. With a discussion by D. A. Sprott, G. A. Barnard and D. R. Cox and a reply by the author. *Proceedings of Conference on Foundational Questions in Statistical Inference* (*Aarhus*, 1973), *pp.* 81–99. *Memoirs, No.* 1, *Dept. Theoret. Statist., Inst. Math., Univ. Aarhus, Aarhus*, 1974. (R. J. Buehler) **53** #6809 62A10

Some efficiency calculations for survival distributions. *Biometrika* **61** (1974), 31–38. (Johannes S. Maritz) **52** #2108 62N05

Sufficiency and conditionality. With comments by G. A. Barnard, Ole Barndorff-Nielsen, Allan Birnbaum and A. D. McLaren and a reply by the author. *Biometrika* **62** (1975), *no.* 2, 251–268. (Steffen Lauritzen) **52** #6934 62A99

Likelihood methods and nonparametric tests. *J. Amer. Statist. Assoc.* **73** (1978), *no.* 361, 167–170. (I. R. Savage) **58** #24628 62A10 (62G10)

See also **Lindley, Dennis V.**, **52** #6932; **Godambe, V. P.; et al.**, **53** #6818; **Kaleidoscope**, **53** #9444; **Barnard, George A.**, **53** #9477; **Martin-Löf, Per**, **54** #1447 *and* **Basu, D.**, **55** #1547

Kalčaev, K. K. (*with* Tlegenov, K. B.; Zapletin, P. P.) ★Методы математического программирования. (Russian) [Methods of mathematical programming] *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1975. 247 *pp.* (1 *fold out*) (V. D. Dimitrov) **53** #7372 90–01

Kalckar, J. *See* **Foundations of quantum mechanics**, **52** #7333

Kaldor, Uzi Calculation of extended Hartree-Fock wavefunctions. *J. Chem. Phys.* **48** (1968), 835–837. (I. K. Marek) **49** #11993 81.47

Kaldybaev, O. (*with* Baĭzakov, S.) ★Математические методы в планировании и управлении региональной економикой. (Russian) [Mathematical methods in the planning and control of a regional economy] *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1977. 189 *pp.* (Not reviewed) 90A15

Kaldybaev, S. U. An algorithm for the approximation-combinatorial method in solving an allocation problem using Boolean variables. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 5, 43–49, 93. (E. Ja. Gabovič) **53** #10289 90C10 (90B05)

Kale, B. K. (*with* Samanta, M.) Nonparametric estimation of the regression matrix in a bivariate multiple regression. *J. Indian Statist. Assoc.* **10** (1972), 63–86. (G. M ja) **51** #4529 62G05 (62J05)

(*with* Veale, James R.) Tests of hypotheses for expected life in the presence a spurious observation. *Utilitas Math.* **2** (1972), 9–23. (A. P. Basu) **47** #1230 6 05

(*with* Mount, Kenneth S.) On selecting a spurious observation. *Canad. Math.* ll **16** (1973), 75–78. (A. P. Basu) **48** #5304 62N05

(*with* Nath, S.) On pooling of sample means from two Poisson populations. *C n. Statist.* **2** (1973), 273–280. (Mir Ali) **48** #3172 62F10

On tests of hypotheses regarding the change of opinions. *Ann. Soc. Sci. Bru es Sér. I* **88** (1974), 305–312. (I. Vincze) **51** #7223 62P25

Trimmed means and the method of maximum likelihood when spurious observations are present. *Applied statistics* (*Proc. Conf., Dalhousie Univ., Halifax,* ., 1974), *pp.* 177–185. *North-Holland, Amsterdam*, 1975. (I. Guttman) **52** #12184 62F10

Kale, P. P. Certain special features of the gravitational metric of spherical symmetry d geodesic type. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 6, 1108–1117. (P. C. Va a) **49** #10318 83.53

Kalecki, M. On an inequality in the general additive theory of numbers. *Comment. h. Prace Mat.* **15** (1971), 133–134. (M. C. Wunderlich) **46** #8996 10L05

Kalēkīn, O. Ju. (*with* Litvin, O. M.; Maslov, O. P.) A certain normal system of coordi te functions. (Russian) *Mathematical physics, No.* 15 (*Russian*), *pp.* 62–65, 179. t. *"Naukova Dumka", Kiev*, 1974. (M. Zlamal) **49** #11830 65N30

(*with* Litvin, O. M.; Maslov, O. P.) The completeness in $W_2^1(G)$ of a certain sy n of coordinate functions for the variational-difference method. (Ukrainian. English d Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 24–28, 92. (N li M. Gupta) **49** #1795 65N15

(*with* Litvin, O. M.; Maslov, A. P.) Some estimates of approximations of e multipoint Taylor formula. (Russian) *Mathematics collection* (*Russian*), *pp.* 247–). *Izdat. "Naukova Dumka", Kiev*, 1976. (M. Zlámal) **56** #13715 65N30

Kalenčuk-Porhanova, A. A. Algorithms for the best Čebyšev polynomial and linear fractional approximation. (Russian) *Optimization of computations* (*Russian*), *pp.* 8). *Inst. Kibernet., Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Editors) **58** #31730 65D.

An analysis of the total absolute error in a polynomial and a linear fracti l problem of Čebyšev approximation. (Russian) *Optimization of computations* (*Russ* , *pp.* 10–16. *Inst. Kibernet., Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Editors) **58** #317 65D15

(*with* Īvanov, V. V.; Besarab, P. N.; Danil'čenko, L. S.; Dul'skaja, V. A.) Estimates of round-off errors for ordinary continued and branching continued fracti . (Russian) *Continued fractions and their applications* (*Russian*), *pp.* 20–24, 103 (*er insert*). *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Authors' summary) **58** #27721 10A30 (65G05)

Kalendarev, M. A. Application of the method of feasible directions for optimizatio f netgraphs with respect to time and expense. (Russian) *First All-Union Conferenc Mathematical Questions of Network Planning and Control* (*Kiev*, 1966): *Abstracts Reports* (*Russian*), *pp.* 102–112. *Akad. Nauk Ukrain. SSR, Kiev*, 1967. (M. Ma **45** #1574 90B35

Kalenjuk, P. Ī. A generalization of the method of separation of variables. (Ukrain Russian summary) *Projective-iterative methods for the solution of differential and inte equations* (*Ukrainian*), *pp.* 53–61, 200. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. R Kiev*, 1974. (Author's summary) **57** #3571 35A25

A generalization of the method of separation of variables. (Russian) *Ukrain. Ž.* **26** (1974), 652–657, 717. (B. Crstici) **50** #5251 39A40

(*with* Bodnarčuk, P. Ī.; Marko, V. F.) A generalization of the Euclidean algorithm, and branching continued fractions. (Ukrainian. Russian summary) *Vī L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 3–6, 151. (S. V. Kotov) **52** #1057 10A30 (12A20)

The separation of variables in a tensor product of Hilbert spaces. (Russia *Mathematical methods, and physical and mechanical fields, No.* 1(*Russian*), *pp.* 10–15, *"Naukova Dumka", Kiev*, 1975. (Andrei Rácz) **53** #14176 47A50

(*with* Bodnarčuk, P. Ī.; Marko, V. F.) The generalized Euclidean algorithm, branching continued fractions. (Russian) *Mathematical methods, and physical and mechanical fields, No.* 1 (*Russian*), *pp.* 181–184, 220. *"Naukova Dumka", Kiev*, 1975. V. Kotov) **53** #13097 10A30

An abstract formulation of the method of separation of variables. (Russia *Mathematics collection* (*Russian*), *pp.* 190–194. *Izdat. "Naukova Dumka", Kiev*, 19 (From the introduction) **58** #17909 47A50

(*with* Skorobogat'ko, V. Ja.) ★Якісні методи теорії диференціальних рівня (Ukrainian) [Qualitative methods of the theory of differential equations] *Vida "Naukova Dumka", Kiev*, 1977. 123 *pp.* (D. Bobrowski) **58** #6485 34Cxx

(*with* Kljuĭnik, Ī. F.) A determinant criterion for the sign constancy of binary for (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 104–106, 191. (Authors' summary) **58** #5518 10C10

(*with* Kljuĭnik, Ī. F.; Obšta, A. F.) Ellipticity conditions in the sense of Douglis a Nirenberg. (Russian) *Mat. Fiz. Vyp.* 22 (1977), 91–93, 125. (G. Albinus) **57** #682 35J45

Kalenova, L. M. (*with* Grabar', L. P.; Rodīna, N. F.; Beregovs'kiĭ, O. K.) A statisti method of solution of inverse problems of automation, physics, and engineerin *Avtomatika* **1974**, *no.* 4, 34–45 (*Ukrainian*); *translated as Soviet Automat. Control* (1974), *no.* 4, 25–34. (A. Pasquali) **51** #9548 65R05

Kalenskiĭ, L. A. Limit theorems for products of independent triangular matrices. (Russia English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 1, 164–169. (Mich Keane) **56** #1414 60F05 (60B15)

(*with* Molčanov, S. A.) Behavior of the trajectory of a random walk near maximum point, and limit theorems on the group of affine transformations of the li (Russian) *Uspehi Mat. Nauk* 33 (1978), *no.* 1(199), 215–216. (Michael Keane) **58** #24561 60J15 (60B15)

Kalf, Hubert (*with* Walter, Johann) Strongly singular potentials and essential self-adjointness of singular elliptic operators in $C_0^\infty(\mathbf{R}^n \setminus \{0\})$. *J. Functional Analysis* (1972), 114–130. (Michael E. Taylor) **50** #2676 35J15

On the characterization of the Friedrichs extension of ordinary or elliptic differential operators with a strongly singular potential. *J. Functional Analysis* **10** (1972), 230–250. (H. Baumgärtel) **50** #754 35J15 (47F05)

A limit-point criterion for separated Dirac operators and a little known result on Riccati's equation. *Math. Z.* **129** (1972), 75–82. (J. Kaplan) **47** #3745 34B20

(*with* Walter, Johann) Note on a paper of Simon on essentially self-adjoint Schrödinger operators with singular potentials. *Arch. Rational Mech. Anal.* **52** (1973), 258–260. (T. Ushijima) **49** #3313 35J10

Self-adjointness for strongly singular potentials with a $-|x|^2$ fall-off at infinity. *Math. Z.* **133** (1973), 249–255. (E. Müller-Pfeiffer) **48** #6650 35J10 (47F05)

Remarks on some Dirichlet type results for semibounded Sturm-Liouville operators. *Math. Ann.* **210** (1974), 197–205. (J. Weidmann) **50** #7653 34B25

(*with* Schmincke, Upke-Walther; Walter, Johann; Wüst, Rainer) On the spectral theory of Schrödinger and Dirac operators with strongly singular potentials. *Spectral theory and differential equations* (*Proc. Sympos., Dundee*, 1974; *dedicated to Konrad Jörgens*), *pp.* 182–226. *Lecture Notes in Math., Vol.* 448, *Springer, Berlin*, 1975. (J. Wiesner) **53** #1051 35P05 (81.47)

(*with* Jansen, Karl-Heinz) On positive eigenvalues of one-body Schrödinger operators: remarks on papers by S. Agmon (Proceedings of the International Conference on Functional Analysis and Related Topics (Tokyo, 1969) pp. 216–224, Univ. Tokyo Press, Tokyo, 1970; J. Analyse Math. **23** (1970), 1–25) and B. Simon (Comm. Pure Appl. Math. **22** (1969), 531–538). *Comm. Pure Appl. Math.* **28** (1975), *no.* 6, 747–752. (Teruo Ikebe) **54** #10888 35P15

The quantum mechanical virial theorem and the absence of positive energy bound states of Schrödinger operators. *Israel J. Math.* **20** (1975), 57–69. (J. Weidmann) **51** #8647 35P05 (47F05)

The virial theorem in relativistic quantum mechanics. *J. Functional Analysis* **21** (1976), *no.* 4, 389–396. (J. Weidmann) **53** #4819 81.47 (35P05)

A characterization of the Friedrichs extension of Sturm-Liouville operators. *J. London Math. Soc.* (2) **17** (1978), *no.* 3, 511–521. (D. Hinton) **58** #11609 34B25

lia, Ravindra Nath Theorems on a new generalization of the Laplace transform. *Univ. Nac. Tucumán Rev. Ser. A* **20** (1970), 139–144. (V. P. Mainra) **45** #821 44A10

An application of a theorem on H-transform. (Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **9** (1971), 165–169. (V. M. Bhise) **48** #6491 33A35

Certain applications of Poisson's formulae. (Macedonian summary) *Makedon. Akad. Nauk. Umet. Oddel. Prirod.-Mat. Nauk. Prilozi* **4** (1972), *no.* 2, 5–13. (R. C. Varma) **50** #10700 44A10

Certain applications of a fractional differential operator. *Mathematica* (*Cluj*) **15 (38)** (1973), 53–56. (R. C. Varma) **50** #13637 33A30 (26A33)

(*with* Rosenberger, Gerhard) On the isomorphism problem for one-relator groups. *Arch. Math.* (*Basel*) **27** (1976), *no.* 5, 484–488. (Leo P. Comerford, Jr.) **54** #7637 20F05

lkin, N. Albert Einstein (on the occasion of the ninetieth anniversary ofhis birth). (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **12(45)** (1969), 169–171. (Editors) **53** #53 01A70

liev, S. (*with* Nurekenov, T. K.) The complete continuity of the Uryson integral operator. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1972**, *no.* 5, 51–55, 93. (P. Talpalaru) **50** #8170 47G05

The existence of a solution of an ordinary differential equation in a Banach space. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no.* 5, 32–36, 93. (C. E. Langenhop) **50** #13779 34G05

alik, Carol The approximate solution of differential equations with the aid of a class of spline functions. (Romanian. Russian and French summaries) *Studia Univ. Babeş-Bolyai Ser. Math.-Mech.* **16** (1971), *no.* 2, 21–26. (F. M. Pascal) **46** #6627 65N35

Interpolating spline elements in Banach spaces. *Mathematica* (*Cluj*) **18(41)** (1976), *no.* 2, 153–164. (V. A. Popov) **58** #1926 41A65 (41A15)

On the existence of a weak solution to certain nonlinear Dirichlet problems. (Romanian. French summary) *Studia Univ. Babeş-Bolyai Math.* **21** (1976), 45–50. (D. Pascali) **56** #6097 35J20

See also **Nonlinear analysis and applications in mechanics**, **58** #17977

alik, Charles Application of the finite element method to some Dirichlet problems. (Russian) *Anal. Numér. Théor. Approx.* **6** (1977), *no.* 1, 23–29. (RŽMat **1978** #1 B736) **58** #31915 65N30 (35J15)

alikow, Steven An entrance law which reaches equilibrium. *Ann. Probability* **5** (1977), *no.* 3, 467–469. (Martin Jacobsen) **55** #6575 60J10

aliman, Š. I. A holomorphic universal covering of the space of polynomials without multiple roots. (Russian) *Funkcional. Anal. i Priložen.* **9** (1974), *no.* 1, 71. (H. Tornehave) **51** #942 32G15

(*with* Selivanov, Ju. V.) The cohomology of operator algebras. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 5, 24–27. (B. R. Gelbaum) **50** #10851 46M20

Holomorphic endomorphisms of the manifold of complex polynomials with discriminant 1. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 1(187), 251–252. (J. S. Joel) **57** #6499 32C40

A holomorphic universal covering of the space of polynomials without multiple roots. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 28 (1977), 25–35, ii. (Editors) **58** #28654 32C40 (32G15)

Kalin, Dieter On stochastic, dynamic, m-product inventory models and generalized (s, S) policies. *Dynamische Optimierung* (*Tagung, Inst. Angewandte Math., Univ. Bonn, Bonn*, 1976), *pp.* 67–76. *Bonner Math. Schriften, No.* 98, *Inst. Angew. Math., Univ. Bonn, Bonn*, 1977. (Author's summary) **58** #20337 90B05

Kalina, Jerzy A variational characterization of the capacity in 3-space. (Polish summary) *Bull. Soc. Sci. Lettres Łódź* **24** (1974), *no.* 2, 4 *pp.* (1975). (R. B. Kelman) **55** #8387 31B15

Kalinauskaitė, N. B. Certain expansions of multidimensional symmetric stable densities. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **10** (1970), 727–732. (G. K. Eagleson) **49** #1556 60E05

(*with* Banys, J.; Vaĭtkus, P. S.) The rate of convergence to stable distributions in a local theorem. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 511–516. (S. A. Book) **45** #4479 60F05

The exponential decrease of certain multidimensional stable densities. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 557–562. (I. I. Kotlarski) **45** #1215 60E05

The influence of the maximal modulus of a summand on a sum of independent random vectors. I. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 4, 117–123, 221. (P. Révész) **51** #9160a 60F05

The influence of the maximal modulus of a summand on a sum of independent random vectors. II. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 1, 41–48, 225. (P. Révész) **51** #9160b 60F05

The accuracy of the approximation of the distribution functions of sums of independent random variables by stable distributions. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 2, 41–54, 249. (P. Révész) **51** #14213 60F05

Attraction to stable laws of Lévy-Feldheim type. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 3, 93–105, 237. (V. Fabian) **55** #9227 60F05

The moments of multidimensional distributions that are attracted to stable laws. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 1, 125–129, 251–252. (L. A. Anorina) **52** #12046 60F05

The asymptotic behavior of multidimensional stable distributions with respect to the parameter α. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no.* 4, 121–124, 254. (R. Cuppens) **54** #11447 60E05

See also **Selected translations in mathematical statistics and probability**, **49** #4728

Kalinauskas, R. K. (*with* Vanagas, V. V.) General properties of the bilinear form of the infinitesimal operators of the group $U_{3(n-1)}$. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **9** (1969), 665–673. (From the authors' summary) **51** #7502 81.22

(*with* Vanagas, V. V.) The irreducible structure of the bilinear forms of the infinitesimal operators of the group $U_{3(n-1)}$. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **9** (1969), 675–683. (Authors' summary) **48** #5530 81.22

(*with* Vanagas, V. V.) Matrix elements and Clebsch-Gordan coefficients for irreducible operators of a symmetric group. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **13** (1973), *no.* 1, 11–24, 159. (Authors' summary) **58** #8978 82.20 (20C30)

(*with* Vanagas, V. V.) A general expression of the density matrix and its irreducible decomposition in the case of tensor wave functions. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **13** (1973), *no.* 1, 25–32, 159. (Authors' summary) **58** #8976 82.20

(*with* Vanagas, V. V.) General properties of weight functions, and the averaging of operators with respect to the internal variables of the nucleus. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **14** (1974), *no.* 3, 491–506, 535. (Authors' summary) **58** #8979 82.22

(*with* Vanagas, V. V.) Genealogical construction of the wave functions of a three-nucleon system. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **15** (1975), *no.* 3, 341–357, 481. (Author's summary) **54** #14594 81.22

(*with* Taurinskas, M. V.; Vanagas, V. V.) Differential operators in the collective and internal variables of the nucleus. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **16** (1976), *no.* 2, 177–199. (Z. Janković) **54** #6716 81.22

Kaliničenko, D. F. The spaces $W^{m}_{p,\alpha_1,\ldots,\alpha_r}(T,\Omega)$ and certain of their applications to the theory of boundary value problems. (Russian) *Imbedding theorems and their applications* (*Proc. Sympos., Baku*, 1966) (*Russian*), *pp.* 98–104, 245. *Izdat. "Nauka", Moscow*, 1970. (G. Wildenhain) **47** #2341 46E35 (35J40)

(*with* Bicadze, A. V.) ★**Сборник задач по уравнениям математической физики.** (Russian) [Collection of problems on the equations of mathematical physics] *Izdat. "Nauka", Moscow*, 1977. 223 *pp.* (A. Haimovici) **58** #3804 69.00 (35-01)

Kaliničenko, V. Ī. (*with* Kašuba, Ž. B.; Rvačov, V. L.) The derivatives of R-conjunctive (-disjunctive) forms. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 1061–1063, 1148. (K. Moszyński) **45** #8016 65D25

The coefficients of functions that are bounded in a polycylinder. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 306–309, 380. (W. K. Hayman) **48** #553 32A05

(*with* Rvačov, V. L.) A construction of functions normalized up to order n. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 614–616, 669. (O. John) **48** #4230 26A54 (35C99)

Functions analytic in a polycylinder with $\operatorname{Re} f(z) \geqslant 0$. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 791–794, 860. (W. K. Hayman) **48** #11557 32A30

(*with* Rvačov, V. L.) On the construction of orthogonal polynomials in polygonal domains. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 818–821, 862. (B. A. Bondarenko) **48** #8899 33A65

(*with* Nesenenko, G. O.) The asymptotic behavior of the solution of the first boundary value problem for the heat equation on the case of a moving boundary. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 89–94, 143. (Authors' summary) **57** #16928 35B40 (35K05)

Kalinin, A. I. The connection between the Bellman function and matrix impulses. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1501–1504. (I. Muntean) **47** #587 34H05 (49B10)

A certain method of proof of necessary conditions for optimality. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 3, 7–10, 94. (T. Giec) **50** #14421 (EA **51**) 49B10

Necessary optimality conditions for singular controls. (Russian) *Differencial'nye Uravnenija* **9** (1973), 568–573, 591. (J. Jarník) **47** #7552 49B10

A method for the improvement of attainable controls in discrete systems. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 2, 338–344, 389. (Robert Staniszewski) **58** #9574 93C30

Kalinin, A. V. (*with* Azimi, Sh. A.; Kalinin, V. V.; Pivovarov, B. L.) The use of linear differential operator for the temporal compression of seismic impulses. *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1969**, 29–38 (*Russian*); *translated as Izv. Acad. Sci. USSR Phys. Solid Earth* 1969, 223–227. (V. C. Liu) **45** #1562 86.34

The stability of supersonic two-phase flow. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1976**, *no.* 1, 163–171. (Author's summary) **56** #14038 76.34

Kalinin, B. N. (*with* Galuškin, A. I.; Degtjarev, Ju. I.; Kostjuk, G. A.; Markov, V. N.; Pupkov, K. A.; Sačkov, V. N.; Šimko, N. A.) ★Основы кибернетики. (Russian) [Foundations of cybernetics] Математические основы кибернетики. [Mathematical foundations of cybernetics] Edited by K. A. Pupkov. "*Vysšaja Škola*", *Moscow*, 1974. 416 *pp.* (Editors) **50** #9089 69.00

Kalinin, D. I. (*with* Gel'fand, I. M.; Fuks, D. B.) The cohomology of the Lie algebra of Hamiltonian formal vector fields. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 3, 25–29. (A. Verona) **47** #1088 58H05

Kalinin, G. A. (*with* Marder, V. P.) Machine calculation of piecewise linear approximators. (Russian) *Èlektronika i Modelirovanie No.* 15 (1977), 101–102, 126. (Editors) **58** #13623 65D15

Kalinin, M. I. A kinetic equation for a linear dynamical system with a parameter that fluctuates according to the Poisson law. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 10, 1516–1523. (Ł. A. Turski) **57** #2386 82.60

The simultaneous parametric excitation of a dynamical system by deterministic and random signals. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 11, 1689–1693. (Author's summary) **57** #818 34F05 (78.34)

Kalinin, O. M. Unified mathematical treatments in biological systematics and population dynamics and the connection of diffusion with nonlinear equations. (Russian) *Problemy Kibernet. No.* 25 (1972), 107–117. (A. Ja. Dorogovcev) **45** #9723 (E **51** #2680) 92A15

Erratum: "Unified mathematical treatments in biological systematics and population dynamics and the connection of diffusion with nonlinear equations" (Problemy Kibernet. No. 25 (1972), 107–117). (Russian) *Problemy Kibernet. No.* 28 (1974), 4. (A. Ja. Dorogovcev) **51** #2680 92A15

Kalinin, S. V. ★Устойчивость периодических движений в критических случаях. (Russian) [Stability of periodic motions in critical cases] Edited by V. V. Rumjancev. *Izdat. Moskov. Univ., Moscow*, 1972. 141 *pp.* (Editors) **54** #14842 93D99

Kalinin, V. A. Approximation retracts for a class of bicompact spaces. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 505–508. (W. Kuperberg) **49** #9801 54C55

Approximative retracts for the class of bicompact spaces. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 4, 722–735, 884. (Maria Moszyńska) **52** #9163 54C55

Representation of absolute shape retracts in the form in an intersection of Tihonov cubes. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 5, 1045–1048. (S. A. Bogatyĭ) **53** #9137 54C56

A fixed point theorem. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 2, 267–268. (Gencho Skordev) **54** #8604 54H25 (54C55)

(*with* Bogatyĭ, Semen A.) The movability of relatively different classes of spaces. (Russian) *Mat. Zametki* **21** (1977), *no.* 1, 125–132. (C. Teleman) **57** #17633 55D99

See also **Borsuk, Karol, 55** #13392

Kalinin, V. L. (*with* Venkov, A. B.; Faddeev, L. D.) A nonarithmetic derivation of the Selberg trace formula. (Russian) Differential geometry, Lie groups and mechanics. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **37** (1973), 5–42. (J. S. Joel) **58** #21949 10D15 (22E45, 43A85, 47A40)

An explicit trace formula for Brandt matrices. (Russian) Differential geometry, Lie groups and mechanics. II. *Zap. Naučn. Sem. Leningrad. Otdel Mat. Inst. Steklov.* (*LOMI*) **63** (1976), 67–94, 132. (Larry J. Goldstein) **56** #15562 10D20

Eisenstein series on the symplectic group. (Russian) *Mat. Sb.* (*N.S.*) **103(145)** (1977), *no.* 4, 519–549, 631. (Editors) **58** #27791 10D20

Eisenstein series on a symplectic group. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 10. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **69** (1977), 103–105, 274–275. (J. S. Joel) **58** #27792 10D20

(*with* Andrianov, A. N.) Analytic properties of standard zeta-functions of Siegel modular forms. (Russian) *Mat. Sb.* (*N.S.*) **106(148)** (1978), *no.* 3, 323–339, 495. (M. Maknys) **58** #21950 10D20

Kalinin, V. M. The gamma-function and probabilistic limit theorems. (Russian) *Trudy Mat. Inst. Steklov.* **111** (1970), 163–194. (J. Galambos) **45** #1222 60F99 (62E20)

Special functions and limit properties of probability distributions. II. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **26** (1972), 5–87. (A. M. Kagan) **46** #2716 60F05

(*with* Šalaevskiĭ, O. V.) χ^2 as a test for independence in a contingency table. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **26** (1972), 88–117. (S. Kotz) **45** #4571 62D05

(*with* Šalaevskiĭ, O. V.) χ^2 as a test of homogeneity. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **26** (1972), 118–123. (S. Kotz) **45** #4572 62D05

See also **Studies in mathematical statistics, 48** #1352; **Theoretical problems in mathematical statistics, 48** #7424 *and* **Studies in the classical problems of probability theory and mathematical statistics, 51** #2038

Kalinin, V. V. (*with* Azimi, Sh. A.; Kalinin, A. V.; Pivovarov, B. L.) The use of linear differential operator for the temporal compression of seismic impulses. *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1969**, 29–38 (*Russian*); *translated as Izv. Acad. Sci. USSR Phys. Solid Earth* 1969, 223–227. (V. C. Liu) **45** #1562 86.34

The equation $LU(x)+F(x)U(x)=H(x)$ with a functional Laplacian in Hilbert space. (Russian) *Functional analysis and the theory of functions, No.* 8 (*Russian*), *pp.* 78–81. *Izdat. Kazan. Univ., Kazan*, 1971. (E. Gerlach) **58** #30208a 46G05 (35R15)

The Laplace and Poisson equations in functional derivatives in Hilbert space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 3(118), 20–22. (E. Gerlach) **58** #30208b 46G05 (35R15)

Some equations with a Laplace-Lévy operator on a Hilbert space. (Russian) *Applications of functional analysis to approximate calculations* (*Russian*), *pp.* 77–79. *Kazan. Univ., Kazan*, 1974. (Editors) **58** #30209 46G05

The representation of *C*-lattices. (Russian) *Probabilistic methods and cybernetics, No. X–XI* (*Russian*), *pp.* 94–99. *Izdat. Kazan. Univ., Kazan*, 1974. (Ju. A. Drozd) **57** #12565 15A63 (06A23)

Dimension functions on Boolean logics. I. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 9(160), 92–94. (M. J. Mączyński) **54** #181 06A10 (81.06)

Dimension functions on Boolean logics. II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 10(161), 89–90. (M. J. Mączyński) **54** #182 06A10 (81.0

Atomic Boolean logics. (Russian) *Probabilistic methods and cybernetics, Vol.* 13, *pp.* 207–216. *Kazan. Univ., Kazan*, 1976. (M. Burgin (RŽMat **1978** #9 A314)) **58** #27470 02J05 (06A40)

Orthomodular partially ordered sets with dimension. (Russian) *Algebra i Log* **15** (1976), *no.* 5, 535–557, 605. (M. Kolibiar) **58** #16442 06A30

Kalinina, M. V. (*with* Mjakiševa, E. D.; Nasuščnova, T. D.; Orlov, V. S.; Rudneva, L.) Minimization algorithms. (Russian) *Vyčisl. Metody i Programmirovanie Vyp.* 26 (7), 176–190. (Joachim Hirche) **58** #8252 65K05

Kalinina, N. A. *See* **System and theoretical programming, 50** #11833

Kalinina, T. B. On the theory of extensions of *K*-symmetric operators. (Russian) *Functional analysis, No.* 7 (*Russian*), *pp.* 78–85. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk*, 1976. (Editors) **58** #30467 47B50

The *K*-characteristic function of a linear operator in a space with an anti-unitary transformation. (Russian) *Functional analysis, No.* 9: *Harmonic analysis on groups* (*Russian*), *pp.* 45–50. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk*, 1977. (Boris Pa) **58** #30468 47B50 (47A45)

Kalinjak, M. Ī. Asymptotic solution of the Cauchy problem for a quasilinear differential equation of parabolic type. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 54–59, 155. (Author's summary) **53** #8634 3 (35K15)

(*with* Palenička, M. A.) Solution of a mixed boundary value problem for the system of differential equations of the oscillation of a rod. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 126–131, 162. (Author's summary) **52** #9761 73.35

Asymptotic solution of mixed problems for quasilinear differential equations of parabolic type. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 6 (1975), 71–74, 201. (Author's summary) **58** #22984 35C99

(*with* Palenička, M. A.; Palenička, R. M.) The Dirichlet problem in an annular domain for the equation of filtration of a generalized fluid. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 54–56, 187. (Author's summary) **58** #29112 35C99

Kalinka, V. A. (*with* Postnikova, L. P.) The distribution of the values of a distorted E function. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), 3, 61–74, 207. (A. I. Vinogradov) **47** #4963 10K20

A variant of the divisor problem with a large number of components. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 3, 107– 237–238. (Karl-Heinz Indlekofer) **52** #5597 10H25

Kalinkin, L. F. *See* **Studies in cosmic rays, 54** #14584

Kalinnikov, Ju. S. *See* **Problems of statistical optimization, 47** #6378

Kalinovič, V. M. (*with* Mītropol's'kiĭ, Ju. O.; Košljakov, V. M.; Boĭčuk, O. P.; Storoženko, V. O.; Temčenko, M. Ė.) Works on the theory of gyroscopes at Institute of Mathematics of the Academy of Sciences of the Ukrainian SSR. (Russi *Ukrain. Mat. Ž.* **25** (1973), 747–760, 860. (I. N. Veselovskiĭ) **49** #7071 01 (70.01)

Kalinovskaja, S. S. (*with* Krasovskaja, I. A.; Pavlova, L. I.) A method and program seeking the Čebyšev center of a system of weighted points. (Russian) *Mathema programming and related questions* (*Proc. Seventh Winter School, Drogobych,* 19 *Convex programming* (*Russian*), *pp.* 16–22. *Central. Èkonom.-Mat. Inst. Akad. N SSSR, Moscow*, 1976. (A. B. Pevnyĭ) **55** #14186 90B99

Kalinovski, Juzef *See* **Kalinowski, Józef**

Kalinovskiĭ, A. M. (*with* Mova, V. V.) Optimal situation priorities in queueing systems closed type. (Russian) *Mathematics collection* (*Russian*), *pp.* 132–137. *Izdat. "Nauk Dumka", Kiev*, 1976. (B. Dimitrov) **58** #7918 60K25

(*with* Mova, V. V.) Optimal discipline of servicing arrivals in a system with a limi queue. (Russian) *Mathematics collection* (*Russian*), *pp.* 137–140. *Izdat. "Naukova Dumka", Kiev*, 1976. (B. Dimitrov) **58** #3116 60K25

Kalinowski, Jerzy Sur la syllogistique déontique de Zdzisław Ziemba. (Polish and Russ summaries) *Studia Logica* **29** (1971), 125–147. **46** #1554 02C10

★Einführung in die Normenlogik. Übersetzt aus dem Französischen von Wolfgang Klein. Schwerpunkte Linguistik und Kommunikationswissenschaft, Band *Athenäum, Frankfurt*, 1972. xix + 162 *pp.* (E. Melis (Zbl **295** #2002)) **57** #568 02C10

Sur quelques suggestions en logique modale et en logique trivalente. Autour idées de Robert Blanché. *Logique et Analyse* (*N.S.*) **17** (1974), 111–125. (Da Makinson) **51** #63 02C10 (02C05)

Sur un nouveau système de logique déontique. À propos de "Logique déontique théorie générale des fonctions complétives" (Logique et Analyse (N.S.) **16** (1973), 61-62, 143–220), de J.-L. Gardies. *Logique et Analyse* (*N.S.*) **17** (1974), *no.* 67- 343–387. **56** #11756 02C10

See also **Gardies, Jean-Louis, 56** #11755

Kalinowski, Józef A two-point boundary value problem for certain systems of second-ord ordinary differential equations with deviating argument. (Russian) *Ann. Polon. Math.* (1974), 71–76. (F. Brauer) **49** #5516 34K10

(*with* Drewniak, Józef; Ulewicz, Barthłomiej) On the behaviour of continous re functions in the neighbourhood of a fixed point. *Aequationes Math.* **14** (1976), *no.* 1/ 123–136. (B. Rodríguez-Salinas) **54** #6111 54H25

(*with* Drewniak, Józef) Les relations entre les équations pré-Schröder. I. *Ann. Polon. Math.* **32** (1976), *no.* 1, 5–11. (Wazir Hasan Abdi) **53** #13906 39A15

(*with* Drewniak, Józef) Les relations entre les équations pré-Schröder. II. *Ann. Polon. Math.* **33** (1976/77), *no.* 3, 287–292. (Wazir Hasan Abdi) **56** #907 39A15

On the convergence of an iterative sequence to the solution of a system of ordinar differential equations with deviated arguments. *Demonstratio Math.* **9** (1976), *no.* 77–93. (F. Brauer) **53** #3457 34K05

Kalińska, Helena The generation of prescribed binary sequences. (Polish. English summary) *Studia Automat.* **5** (1976), 5–22. (Przemysław Prusinkiewicz) **58** #32153 68A99 (94A20, 94A25)

Kalis, H. The finite difference approximations of a second order differential equation wit discontinuous coefficients. (Russian. Latvian and English summaries) *Latvian* *mathematical yearbook*, 9 (*Russian*), *pp*. 79–94. *Izdat*. "*Zinatne*", *Riga*, 1971. (R. Kodnár) **47** #4470 65P05

Behavior of the solution of a nonstationary boundary value problem of magnetohydrodynamics with large time parameter values. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 10 (*Russian*), *pp*. 33–41. *Izdat*. "*Zinatne*", *Riga*, 1972. (S. Kaliski) **47** #2207 35Q99 (76.35)

(*with* Vītoliņš, G.) A certain numerical method for solving a stationary system of Navier-Stokes equations with respect to the functions u, v, p. (Russian) *Čisl. Metody Meh. Splošnoi Sredy* **3** (1972), *no*. 4, 34–51. (Murli M. Gupta) **50** #6317 76.65

The behavior of the solution of a nonstationary boundary value problem of hydrodynamics with "weak compressibility" as $t\to\infty$. (Russian. Latvian summary) *Latvian mathematical yearbook*, 16 (*Russian*), *pp*. 202–207, 275. *Izdat*. "*Zinatne*", *Riga*, 1975. (Simona Popp) **53** #9850 76.35

(*with* Abolinja, V. È.; Peterson, D. E.; Cinobers, A. B.) Some numerical experiments in the study of the hydrodynamic stability of plane parallel flows of a viscous incompressible fluid in a channel with velocity profiles that have a point of inflection. (Russian) *Proceedings of the Fifth All-Union Seminar on Numerical Methods in the Mechanics of a Viscous Fluid* (*Kaciveli*, 1974), *Part II* (*Russian*), 9–43. *Vyčisl. Centr, Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1975. (Editors) **58** #32390 76.65

A stationary solution of a boundary value problem of magnetohydrodynamics in induction-free approximation as the limit of the solution of the corresponding nonstationary boundary value problem. (Russian) *Latvian mathematical yearbook*, 17 (*Russian*), *pp*. 151–165, 278. *Izdat*. "*Zinatne*", *Riga*, 1976. (Ilija Lukačević) **55** #4904 76.35

A stationary solution of a boundary value problem of magnetohydrodynamics as the limit of the corresponding nonstationary boundary value problem. (Russian) *Latvian mathematical yearbook*, 17 (*Russian*), *pp*. 166–178, 278. *Izdat*. "*Zinatne*", *Riga*, 1976. (Ilija Lukačević) **55** #4905 76.35

Comparison of certain methods for the numerical solution of the nonstationary boundary value problems of mathematical physics. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp*. 20 (1976), 78–94, 212. (N. N. Janenko) **57** #4544 65P05

The linear hydrodynamic stability of plane-parallel flows between two parallel plates with velocity profiles that have inflection points. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp*. 21 (1977), 35–45, 234. (V. Komkov) **56** #17419 76.35

(*with* Čerepanov, V. Ju.) The solvability of a certain stationary problem of magneto-hydrodynamics in a channel with a porous wall. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp*. 21 (1977), 46–53, 235. (V. Komkov) **56** #17420 76.35

alisch, Gerhard K. On operators on separable Banach spaces with arbitrary prescribed point spectrum. *Proc. Amer. Math. Soc*. **34** (1972), 207–208. (W. B. Arveson) **47** #4023 47A10 (47G05)

On operators with large point spectrum. Collection of articles dedicated ot the memory of Abraham Adrian Albert. *Scripta Math*. **29**, *no*. 3-4, 371–378 (1973). (Henry R. Dowson) **53** #3770 47B37

On integral representations of piecewise holomorphic functions. *Pacific J. Math*. **72** (1977), *no*. 1, 105–114. (Tord H. Ganelius) **56** #8855 30A76 (30A86)

alisch, R. G. On the similarity of certain operators. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf., Tihany*, 1970), *pp*. 333–346. *Colloq. Math. Soc. János Bolyai*, 5. *North-Holland, Amsterdam*, 1972. (Kevin Clancey) **50** #14375 47G05

alish, George (*with* Mikulski, Piotr W.) The asymptotic behavior of the Smirnov test compared to standard "optimal procedures". *Ann. Math. Statist*. **42** (1971), 1742–1747. (H. E. Reinhardt) **50** #1404 62G10

aliski, Martin E. Autonomous sequence generation. *Information and Control* **26** (1974), 201–218. (Joseph McPherson) **51** #7668 93C55

(*with* Klein, Quentin L.) Toward a theory of dense orbital behavior in a class of autonomous one-dimensional nonlinear discrete-time systems. *Information and Control* **35** (1977), *no*. 3, 246–258. (Guy Jumarie) **58** #9555 93C10 (39A12, 58F15)

aliski, Sylwester (*with* Nowacki, Witold) Integral theorems for the wave-type heat conductivity equation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **17** (1969), 509–518. (Zbl **184**, 321) **58** #29113 35C99 (35K05)

Non-stationary motion of a particle in the classical treating of quantum mechanics. (Polish and Russian summaries) *Proc. Vibration Problems* **12** (1971), 3–13. (F. C. Auluck) **46** #6747 81.35

(*with* Rymarz, Cz.) Surface waves in continuous medium with non-local interactions. (Polish and Russian summaries) *Proc. Vibration Problems* **12** (1971), 183–203. (N. Zitron) **46** #1170 73.35

Conditions of reflectionless passage of an "isothermal" shock wave across a jump-like nonhomogeneity. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **25** (1977), *no*. 5, 377–380. (Author's summary) **56** #14057 76.35

The concept of explosion compression profiled via a nonhomogeneous external layer. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **25** (1977), *no*. 6, 447–452. (Author's summary) **57** #8379 76.35

Homogenizing a jump-inhomogeneous medium by a reflectionless shock-wave. (Polish and Russian summaries) *J. Tech. Phys*. **18** (1977), *no*. 4, 455–463. (From the text) **58** #14278 76.35

A constant-speed concentric shock wave in a nonhomogeneous medium. *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **26** (1978), *no*. 2, 97–101. (Alan Jeffrey) **58** #3922 76.35

Kalistru, R. K. (*with* Alekseĭ, S. F.) The completeness of free topological modules. (Russian) Topological structures and algebraic systems. *Mat. Issled. Vyp*. 44 (1977), 164–173, 181–182. (V. I. Arnautov) **58** #16791 16A80

Kaliszewski, Ignacy (*with* Nowicki, Tadeusz; Stańczak, Wiesław) The decomposition of the structure of an interexchange telephone network by the method of minimal aggregates. (Polish. English, French, German and Russian summaries) *Rozprawy Elektrotech*. **21** (1975), *no*. 2, 573–580. (From the authors' summary) **51** #9974 94A20

Kalita, A. S. *See* **Cybernetics and computer technology**, **50** #12335

Kalitcova, P. (*with* Zaprjanov, Zaprjan Dimitrov) On the total stability of certain systems of differential equations of the third order. (Bulgarian and Russian summaries) *Teoret. i Prilož. Meh*. **2** (1971), *no*. 2, 31–37, 3, 4–5. (F. Odeh) **45** #7200 34D99

Kalitin, B. S. Investigation of the oscillations of a pendulum in a medium with an elastic partition. I. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1971**, *no*. 2, 78–82, 91. (Gh. Silaş) **47** #7977 70.34 (34C99)

Investigation of the oscillations of a pendulum in a medium with an elastic partition. II. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1973**, *no*. 1, 81–88, 106. (Gh. Silaş) **48** #4403 34C05 (70.34)

Investigation of the oscillations of a pendulum in a medium with an elastic partition. III, IV. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1974**, *no*. 1, 58–63, 89; *ibid*. **1974**, *no*. 2, 74–79, 95. (Gh. Silaş) **51** #7411 70.34

Singular points of two-dimensional systems with shocks. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1975**, *no*. 3, 8–11, 92. (A. A. Reinfelds) **53** #8557 34C05

Complete controllability of linear systems with variable structure. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no*. 3, 556–558, 575. (Author's summary) **56** #13084 49E15

On the stability of third order systems. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no*. 2, 70–72, 95. (From the author's introduction) **57** #10125 34D20

(*with* Bulgakov, N. G.) A generalization of theorems of Ljapunov's second method. I. Theory. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no*. 3, 32–36, 138. (Vadim Komkov) **58** #17358 34D20 (93D05)

Kalitkin, N. N. (*with* Volčinskaja, M. I.; Gol'din, V. Ja.) A comparative study of difference schemes for the equations of acoustics. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **14** (1974), 919–927, 1075. (S. Kaliski) **50** #3768 76.65

(*with* Kuz'mina, L. V.) Interpolation formulae for Fermi-Dirac functions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **15** (1975), *no*. 3, 768–771, 813. (Authors' summary) **51** #12223 81.65

Kalitzova, P. *See* **Kalitcova, P.**

Kaljabin, G. A. The number of solutions in $L_2(0,\infty)$ of a selfadjoint system of second order differential equations. (Russian) *Funkcional. Anal. i Priložen*. **6** (1972), *no*. 3, 74–76. (Leo F. Boron) **46** #7614 34A30 (47E05)

A necessary and sufficient condition for the discreteness of the spectrum of a monomial operation in the matrix case. (Russian) *Differencial'nye Uravnenija* **9** (1973), 951–954, 979. (H. Baumgärtel) **48** #621 34B25 (47E05)

Estimates for functions with a finite O. V. Besov seminorm. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no*. 4, 713–717, 765–766. (Pavel Doktor) **53** #1250 46E35 (26A15)

The traces of functions with majorized derivatives. (Russian) *Mat. Zametki* **18** (1975), *no*. 4, 499–506. (H. Triebel) **52** #14979 46E35

(*with* Birger, E. S.) Theory of Weyl circles in the case of a nonselfadjoint system of second order differential equations. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no*. 9, 1531–1540, 1723. (Alexander Alenicyn) **56** #6002 34B20

Description of traces for functions in weight classes of Liouville type. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no*. 2, 284–287. (J. Albrycht) **53** #3680 46E35

Trace spaces for a certain family of periodic weight classes. (Russian) Studies in the theory of differentiable functions of several variables and its applications, VI. *Trudy Mat. Inst. Steklov*. **140** (1976), 169–180, 288. (Pavel Doktor) **56** #1053 46E35

Imbedding theorems for generalized Besov and Liouville spaces. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 6, 1245–1248. (A. Kufner) **56** #1054 (E **57** #7144) 46E35

Characterization of functions from spaces of Besov-Lizorkin-Triebel type. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no*. 5, 1056–1059. (RŽMat **1978** #3 B85) **58** #7061 46E35

Letter to the editors: "Imbedding theorems for generalized Besov and Liouville spaces" (Dokl. Akad. Nauk SSSR **232** (1977), no. 6, 1245–1248). (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no*. 4, 760. (Editors) **57** #7144 46E35

The trace problem for weighted anisotropic spaces of Liouville type. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat*. **41** (1977), *no*. 5, 1138–1160. (Pavel Doktor) **58** #30136 46E35

A characterization of spaces with generalized Liouville differentiation. (Russian) *Mat. Sb*. (*N.S.*) **104(146)** (1977), *no*. 1, 42–48, 175. (H. Triebel) **58** #12335 46E35

Spaces of traces for generalized Liouville anisotropic classes. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat*. **42** (1978), *no*. 2, 305–314, 470. (Jöran Bergh) **58** #2228 46E35

Generalized method of traces in the theory of the interpolation of Banach spaces. (Russian) *Mat. Sb*. (*N.S.*) **106(148)** (1978), *no*. 1, 85–93, 144. (A. Kufner) **58** #12424 46M35

Kaljaev, A. V. ★Введение в теорию цифровых интеграторов. (Russian) [Introduction to the theory of digital integrators] *Naukova Dumka, Kiev*, 1964. 291 *pp*. (2 *foldouts*) **52** #2762 94A20

The dependence of high speed and the accuracy of digital integration machines on the formulas of numerical Stieltjes integration. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no*. 6, 23–26. **45** #7992 65D30

High-speed universal digital integrators with variable increments as elements of automatic control systems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol*. 6: *Technological means of automation* (*Russian*), *pp*. 464–476. *Izdat*. "*Nauka*", *Moscow*, 1971. **48** #10195 68A20

(*with* Skrolis, I. L.) Solution of matrix games on digital integrating machines. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1971**, *no*. 1, 119–125 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no*. 1, 103–110. (T. A. Porsching) **47** #3035 90D99 (65F30)

A digital Stieltjes integrator. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1972**, *no*. 5, 146–156 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 5, 883–892. (F. Götze) **48** #10065 65D30

Automata with homogeneous structure and programmable register commutation. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp*. 126–133. *IEEE Computer Soc., New York*, 1975. (Author's summary) **58** #4729 94A30

(*with* Platonov, V. A.; Šafran, E. Ju.) Interpolation formulas for numerical Stieltjes integration on the basis of the values of the functions. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Tehn. Nauk* **1975**, *no*. 2, 58–61, 117. (Gheorghe Coman) **54** #14307 65D05

Plane homogeneous automatic commutation register structures. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 3, 1–10. (Ju. D. Burtin) **54** #9864 94A20

Automata with programmable structure. (Russian. English summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 1, 35–56. (V. N. Agafonov) **55** #12359 94A30

Homogeneous digital modeling structures. (Russian) *Problems in electronics and computer science* (*Russian*), *pp.* 57–76, 296. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (Jiři Šústal) **58** #3790 68A55

(*with* Platonov, V. A.; Romm, Ja. E.) The convergence of the method of numerical Stieltjes integration for Shannon's differential systems. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1976**, *no.* **4**, 35–37, 117. (Authors' summary) **57** #18123 65L99 (65D30)

(*with* Zolotovskiĭ, V. E.) Formulas for the numerical integration of a wave equation on digital integrators. I. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 3, 48–57. (From the introduction) **58** #3517 65M99

(*with* Zolotovskiĭ, V. E.; Ledovskoĭ, M. I.) Numerical methods for reproducing functional relations of several variables using digital integrators. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Tehn. Nauk.* **1977**, *no.* 1, 3–6, 115. (Authors' summary) **58** #8166 65D30

See also **Mathematical simulation and the theory of electrical circuits**, **48** #3287

Kaljakin, B. K. A method for the decomposition of the dynamical optimization problem of production and the use of plastics. (Russian) *Èkonom. i Mat. Metody* **11** (1975), *no.* 6, 1137–1143. (RŽMat **1976** #4 V609) **57** #11780 90C50

See also **Cartan, H.**, **49** #8775

Kaljakin, Léonid A. Approximate solution of certain unstable problems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 10(125), 41–45. (Z. Poracká-Diviš) **51** #1440 47A50 (65J05)

The approximate solution of ill-posed problems in normed spaces. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1168–1181, 1364. (Z. V. Kovarik) **48** #908 47A50 (65J05)

The first boundary value problem for elliptic equations in an unbounded domain. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1684–1691, 1734. (O. John) **51** #6124 35J20

(*with* Emel'janov, K. V.; Il'in, A. M.; Titov, V. A.; Šiškin, G. I.) Solution of differential equations with small parameters multiplying the highest derivatives. (Russian) *Proceedings of the Fifth All-Union Seminar on Numerical Methods in the Mechanics of a Viscous Fluid* (*Kaciveli*, 1974), *Part I* (*Russian*), 37–47. *Vyčisl. Centr, Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1975. (Editors) **58** #29073 35B25 (65N99)

L'approximation des problèmes non linéaires avec petit paramètre. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 15, Aii, A625–A628. (Denise Huet) **52** #6519 47H99 (35B25)

The number of coordinate functions in projection methods for the solution of unstable problems. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR Vyp.* 17 *Metody Rešenija Uslovno-korrekt. Zadač.* (1975), 53–66, 142. (Author's summary) **57** #1873 65J05 (47A50)

Approximate methods for the solution of nonlinear boundary value problems with a small parameter. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 4, 548–558. (Ja. I. Al'ber) **53** #14243 47H15 (49D30, 65J05)

Kal'julaid, U. The absence of zero divisors in certain semigroup rings. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 281 (1971), 49–57. (L. Bokut') **46** #7423 20M25

The fundamental ideal of the integer group ring of a finite group. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 281 (1971), 58–62. (L. Bokut') **46** #7358 20C05

The powers of the augmentation ideal. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 3–21. (F. Haimo) **50** #13223 20C05

Remarks on varieties of representations of semigroups and linear automata. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 431 (1977), 47–67. (B. Pondělíček) **57** #12751 20M30 (20M35)

Triangular products of representations of semigroups and associative algebras. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 4 (196), 253–254. (S. M. Vovsi) **57** #9895 20M30

Kaljusskiĭ, A. E. (*with* Pjaseckiĭ, B. P.) The solution of a nonstationary boundary value problem for the heating of the half-space by a source distributed along a strip. (Russian) *Nonlinear differential equations in applied problems* (*Russian*), *pp.* 21–28, 211. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (Vadim Komkov) **58** #14423 80.35

See also **Nonlinear boundary value problems of mathematical physics**, **50** #1797

Kaljužnaja, T. S. (*with* Bulatov, V. I.; Naumovič, R. F.) Control of the spectrum of differential equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1946–1952, 2082. (G. N. Mil'šteĭn) **51** #1558 49E15

Controllability of general differential systems. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 3, 451–459, 572. (Vladimir Katkovnik) **58** #26238 93B05

Kaljužnyĭ, V. N. The existence of an exact left invariant metric on groups. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 93 *Mat. Vyp.* 38 (1973), 22–26, 1. (K. Strambach) **49** #3014 22A05

Commutative groups of isometries of Minkowski spaces. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1138–1142, 1182. (K. Radziszewski) **51** #4109 53C30

Kalka, Morris A deformation theorem for the Kobayashi metric. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 245–251. (Marcus Wright) **54** #604 32H15 (32G05)

(*with* Bedford, Eric) Foliations and complex Monge-Ampère equations. *Comm. Pure Appl. Math.* **30** (1977), *no.* 5, 543–571. (H. Wu) **58** #1253 32F05 (32L99, 57D30)

(*with* Duchamp, T.) Holomorphic foliations and the Kobayashi metric. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 117–122. (L. Andrew Campbell) **57** #4192 57D30 (32H15)

Kalker, Joost J. (*with* van Randen, Y.) A minimum principle for frictionless elastic contact with application to non-Hertzian half-space contact problems. *J. Engrg. Math.* **6** (1972), 193–206. (W. Prager) **50** #11951 73.49

Variational principles of contact elastostatics. *J. Inst. Math. Appl.* **20** (1977), 199–219. (D. R. Bland) **56** #13966 73.49

See also **Mechanics of the contact between deformable bodies**, **56** #4320

Kalkwiek, K. A. Three mappae mundi from the University Library in Leyden. *Ja* (1975), *no.* 1-3, 17–41. (Editors) **58** #21067 01A35

Kall, Peter Entwicklungstendenzen in der mathematischen Optimierung, aufgezei Beispielen der neueren Literatur. *Unternehmensforschung heute* (*Übersichtsvorträge Züricher Tagung von SVOR und DGU, Zurich*, 1970), *pp.* 52–60. *Lecture Notes in Res. and Math. Systems, Vol.* 50, *Springer, Berlin*, 1971. (A. Majthay) **48** #10 90C30

(*with* Finkbeiner, B.) Direct algorithms in quadratic programming. (German summary) *Z. Operations Res. Ser. A-B* **17** (1973), *no.* 1, A45–A54. (Authors' sum **55** #12084 90C20

Approximations to stochastic programs with complete fixed recourse. *Numer.* **22** (1974), 333–339. (G. Tintner) **50** #15915 90C15

(*with* Oettli, Karl Werner) Measurability theorems for stochastic extremals (extended abstract). *Siebente Oberwolfach-Tagung über Operations Research* (1974 139–140. *Operations Research Verfahren, Band XXI, Hain, Meisenheim am Glan*, (I. V. Evstigneev) **55** #5828 28A20 (90C15)

(*with* Oettli, Karl Werner) Measurability theorems for stochastic extremals. *J. Control* **13** (1975), *no.* 5, 994–998. (S. K. Srinivasan) **52** #5013 90C15

★Mathematische Methoden des Operations Research. Eine Einführung. Leit der angewandten Mathematik und Mechanik, Band 27. *B. G. Teubner, Stuttgart*, 176 *pp.* (Siegfried Schaible) **55** #11920 90–01

★Stochastic linear programming. Ökonometrie und Unternehmensforschung, XXI. *Springer-Verlag, Berlin-New York*, 1976. v+95 *pp.* (I. M. Stancu-Minasian) **56** #4829 90C15

See also **Operational Research**, **49** #12059

Kalla, S. L. A study of Gauss hypergeometric transform. *Proc. Nat. Acad. Sci. India A* **36** (1966), 675–686. (C. Fox) **46** #5948 44A15

Fractional integration operators involving generalized hypergeometric functions *Acta Mexicana Ci. Tecn.* **3** (1969), 1–5. (S. K. Chatterjea) **55** #5911 33A30 (44

Integral operators involving Fox's *H*-function. II. *Notas Ci. Ser. M: Mat.* **7** (1 *no.* 2, 72–79. (Editors) **54** #13484 44A20 (26A33)

(*with* Kushwaha, R. S.) Production of heat in an infinite cylinder. *Acta Mexi Ci. Tecn.* **4** (1970), 89–93. (B. R. Bhonsle) **48** #1595 80.35 (35K05)

On operators of fractional integration. *Math. Notae* **22** (1970/71), 89–93. (Carlson) **48** #11409 26A33 (44A15)

Some generalized theorems of integral transforms. *Notas Ci. Ser. M: Mat.* **8** (1 *no.* 1, 1–6. (Hans-Jürgen Glaeske) **54** #3308 44A05

(*with* Kushwaha, R. S.) Production of heat in an infinite cylinder and Me *G*-function. *Notas Ci. Ser. M: Mat.* **8** (1970), *no.* 1, 7–15. (V. M. Bhise) **53** #140 44A20 (33A35, 80.35)

(*with* Lagarrigue, E. M.) On the derivation of Fox's *H* function. (Spanish) *Ci. Ser. M Mat.* **8** (1970), *no.* 2, 43–47. (R. G. Buschman) **53** #13673 33A35

On dual integral equations. *Proc. Nat. Acad. Sci. India Sect. A* **40** (1970), 5–8. (Cooke) **45** #7413 45F05

Fractional integration operators involving generalized hypergeometric functio *Univ. Nac. Tucumán Rev. Ser. A* **20** (1970), 93–100. (S. K. Chatterjea) **45** #40 44A20 (26A33)

(*with* Bora, S. L.; Saxena, Ram Kishore) On integral transforms. *Univ. Tucumán Rev. Ser. A* **20** (1970), 181–188. (P. Anandani) **45** #2419 (E **49** #3470 44A20

(*with* Oliver, Marion L.) On the derivative of Fox's *H*-function. (Spanish) *Mexicana Ci. Tecn.* **5** (1971), 3–5. (R. G. Buschman) **46** #2107 33A35

(*with* de Battig, N. E. F.) On certain finite integrals involving the hypergeometri function of two variables. (Spanish) *Acta Mexicana Ci. Tecn.* **5** (1971), 142–148. (S. Chatterjea) **48** #6488 33A35

(*with* Munot, P. C.) Some theorems on Laplace and Varma transforms. *Rev. Mat. Univ. Lourenço Marques Sér. A* **2** (1971), 27–37. (B. S. Tavathia) **48** #80 44A10

(*with* de Battig, N. E. F.) Some results involving generalised hypergeometric function of two variables. *Rev. Ci. Mat. Univ. Lourenço Marques Sér. A* **2** (19 47–53. (K. M. Saksena) **48** #11586 33A30

(*with* Bora, S. L.) An expansion formula for the generalised function of variables. *Univ. Nac. Tucumán Rev. Ser. A* **21** (1971), 53–58. (Harold Exton) **49** #5 33A30

(*with* Munot, P. C.) On an extension of generalised function of two variables. *U Nac. Tucumán Rev. Ser. A* **21** (1971), 67–84. (S. D. Bajpai) **49** #7488 33A35

(*with* Bhagchandani, L. K.) Some results involving generalized hypergeome polynomial and Jacobi polynomial. *Univ. Nac. Tucumán Rev. Ser. A* **21** (19 155–159. (B. R. Bhonsle) **49** #9268 33A30

(*with* de Battig, N. E. F.) On certain infinite integrals involving generalized hypergeometric functions. (Spanish. English summary) *Univ. Nac. Tucumán Rev. Ser* **21** (1971), 227–230. (E. Frank) **49** #10929 33A30

(*with* Saxena, Ram Kishore) Relations between Hankel and hypergeometric function operators. *Univ. Nac. Tucumán Rev. Ser. A* **21** (1971), 231–234. (S. Chatterjea) **50** #903 44A15

Some generalized theorems of fractional integration. *Univ. Nac. Tucumán Rev. S A* **21** (1971), 235–239. (S. K. Chatterjea) **50** #900 44A05 (26A33)

(*with* de Battig, N. E. F.) Certain results on the generalized hypergeometric functi *H* of two variables. (Spanish. English summary) *Univ. Nac. Tucumán Rev. Ser. A* (1971), 257–269. (S. K. Chatterjea) **50** #649 33A30

(*with* Saxena, Ram Kishore; Bora, S. L.) Addendum to a paper: "On integ transforms" (Univ. Nac. Tucumán Rev. Ser. A **20** (1970), 181–188). *Univ. Na Tucumán Rev. Ser. A* **21** (1971), 289. (V. M. Bhise) **49** #3470 44A15

(*with* Bora, S. L.) Some recurrence ralations for the *H*-function. (Hindi. Engl summary) *Vijnana Parishad Anusandhan Patrika* **14** (1971), 9–12. **45** #5426 33A

(*with* de Anguio, M. E. F.; de Gómez López, A. M. M.) Integrals that involve t

H-function of two variables. (Spanish) *Acta Mexicana Ci. Tecn.* **6** (1972), 30–41. (R. G. Buschman) **48** #8873 33A35

On a relation involving Hardy's transform. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **18** (1972), 113–117. (L. Artiaga) **47** #722 44A15

On the solution of an integral equation involving a kernel of Mellin-Barnes type integral. *Kyungpook Math. J.* **12** (1972), 93–101. (C. M. Joshi) **46** #4130 45H05

Some finite integrals involving R-function. *Portugal. Mat.* **31** (1972), 31–40. (P. N. Rathie) **46** #3857 33A40

(*with* Bhagchandani, L. K.) Some results involving generalized hypergeometric polynomial and Bessel functions. *Portugal. Math.* **31** (1972), 147–152. (Authors' summary) **46** #2088 33A30

A generalized theorem of integral transforms. *Rev. Ci. Mat. Univ. Lourenço Marques Sér. A* **3** (1972), 1–4. (R. K. Saxena) **49** #3467 44A15

(*with* Bora, S. L.; Saxena, Ram Kishore) An expansion formula for Fox's H-function of two variables. *Univ. Nac. Tucumán Rev. Ser. A* **22** (1972), 43–48. (R. N. Jain) **48** #6489 33A35

An integral involving Meijer's G-function and generalized function of two variables. *Univ. Nac. Tucumán Rev. Ser. A* **22** (1972), 57–61. (C. M. Joshi) **49** #655 33A35

(*with* de Battig, N. E. F.) Certain theorems on the transform whose kernel is the H-function. (Spanish) *Univ. Nac. Tucumán Rev. Ser. A* **22** (1972), 157–163. (N. Hayek Calil) **48** #11934 44A15

(*with* de Gómez López, A. M. M.) Integrals that involve Fox's H-function. (Spanish. English summary) *Univ. Nac. Tucumán Rev. Ser. A* **22** (1972), 165–170. (R. G. Buschman) **48** #6490 33A35

(*with* de Anguio, M. E. F.) The Laplace transform of the product of two of Fox's H-functions. (Spanish. English summary) *Univ. Nac. Tucumán Rev. Ser. A* **22** (1972), 171–175. (G. Doetsch) **48** #6831 44A20

(*with* de Gómez López, A. M. M.) On a generalized integral transform. *Kyungpook Math. J.* **13** (1973), 275–280. (P. Anandani) **49** #5738 44A15

(*with* de Amin, L. H.) Relation between the Hardy transform and the transform whose kernel is the H-function. (Spanish) *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 45–50 (1974). (M. E. Muldoon) **51** #8753 44A15 (33A35)

(*with* de D'Angelo, Ilda G.) Some results that involve the H-function of Fox. (Spanish) *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 83–87 (1974). (M. E. Muldoon) **51** #8493 33A35

(*with* de Bertini, B. M.) Some theorems of operational calculus. (Spanish) *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 95–101 (1974). (L. Berg) **51** #6299 44A10

(*with* de Anguio, M. E. F.) On integration with respect to parameters. (Spanish. English summary) *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 103–110 (1974). (R. G. Buschman) **51** #5984 33A35

A generalization of Sonine-Mehler integral. *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 111–112 (1974). (R. N. Jain) **52** #830 33A40

(*with* de Amin, L. H.) Integrals that involve products of generalized hypergeometric functions and the H-function of two variables. (Spanish) *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 131–141 (1974). (S. K. Chatterjea) **52** #826 33A35

(*with* Battig, A.) On deconvolution. *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 255–262 (1974). (Authors' introduction) **51** #1303 44A35 (94A05)

A note on a theorem of self-reciprocal functions. *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), 263–265 (1974). (C. Fox) **51** #3809 44A15

(*with* Battig, A.) A note on production of heat in a circular cylinder with a moving source. *Univ. Nac. Tucumán Rev. Ser. A* **23** (1973), *no.* 1–2, 276–279. (E. J. Scott) **55** #7148 80.44 (80.35)

(*with* Munot, P. C.) Some new expansion formulae for Jacobi polynomials. *Math. Notae* **24** (1974/75), 27–32. (B. R. Bhonsle) **53** #8522 33A35 (33A65)

(*with* Valentinuzzi, M. E.; Montaldo Volachec, E. M.) On some special cases of continuous deconvolution. *Rev. Ci. Mat. Univ. Lourenço Marques* **5** (1974/75), 31–36. (P. C. Golas) **57** #1034 44A35

(*with* Saxena, Ram Kishore) Integral operators involving hypergeometric functions. II. *Univ. Nac. Tucumán Rev. Ser. A* **24** (1974), *no.* 1-2, 31–36 (1975). (Editors) **52** #1186 44A15 (33A35, 44A20)

(*with* Munot, P. C.) Some formulae involving generalized Rice polynomials. *Univ. Nac. Tucumán Rev. Ser. A* **24** (1974), *no.* 1-2, 67–71 (1975). (H. L. Manocha) **52** #8532 33A65

A note on expansion of hypergeometric functions in hypergeometric functions. *Univ. Nac. Tucumán Rev. Ser. A* **24** (1974), *no.* 1-2, 227–229 (1975). (J. L. Fields) **53** #8519 33A30

(*with* Battig, A.) Production of heat in a circular cylinder with a moving source. *Univ. Nac. Tucumán. Rev. Ser. A* **24** (1974), *no.* 1-2, 251–254 (1975). (E. J. Scott) **52** #4828 80.44

(*with* Santana de Galindo, M. S.) An integral involving generalized function of two variables. (Romanian summary) *An. Univ. Timoşoara Ser. Şti. Mat.* **13** (1975), *no.* 2, 141–147 (1977). (R. K. Saxena) **57** #10022 33A35

On an integral equation of electrostatic problems. (Turkish summary) *METU J. Pure Appl. Sci.* **8** (1975), *no.* 3, 291–294. (R. P. Srivastav) **58** #12248 45H05

(*with* Battig, A.) On Mikusinski's operators of fractional integration. *Rev. Colombiana Mat.* **9** (1975), *no.* 3-4, 155–160. (H. L. Manocha) **54** #8175 44A15

On an integral equation associated with electrostatic problems. (Spanish summary) *Rev. Mexicana Fis.* **24** (1975), *supl. enseñanza*, *E*1–*E*6. (S. P. Goyal) **54** #13505 45H05

(*with* Gupta, K. C.; Garg, Om Prakash) On a generalized integral transform involving two variables. *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1-2, 57–72 (1976). (Authors' summary) **54** #13481 44A15 (33A30)

(*with* Gupta, K. C.; Handa, S.) On certain new integral transformation formulae. *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1-2, 143–152 (1976). (V. M. Bhise) **54** #10993 44A20 (33A35)

(*with* Battig, A.) Conduction of heat in a finite circular cylinder. *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1–2, 203–207 (1976). (J. N. Pandey) **55** #7143 80.35

(*with* Battig, A.) Mikusinski's operators to some integral equations of convolution type. *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1-2, 209–212 (1976). (R. G. Buschman) **54** #8193 45H05 (33A30)

(*with* Santana de Galindo, M. S.) On an extension of the generalized function of two variables. (Spanish. English summary) *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1-2, 221–229 (1976). (M. E. Muldoon) **54** #7885 33A30

(*with* Battig, A.) On generalized discrete convolution operators. *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1-2, 247–252 (1976). (P. C. Golas) **56** #16282 44A35

(*with* Battig, A.; Luccioni, R.) A note on "Production of heat in a circular cylinder with a moving source. II" (Univ. Nac. Tucumán Rev. Ser. A **23** (1973), no. 1–2, 267–275 (1974)). *Univ. Nac. Tucumán Rev. Ser. A* **25** (1975), *no.* 1–2, 253 (1976). (Editors) **55** #11817 80.44

(*with* Battig, A.) Conduction of heat in a finite circular cylinder. *Kyungpook Math. J.* **16** (1976), *no.* 1, 113–117. (R. N. Pandey) **55** #13965 (EA **55/56**) 80.35

On operators of fractional integration. II. *Math. Notae* **25** (1976), 29–35. (Author's summary) **57** #13393 44A15 (26A33)

(*with* González de Galindo, S. E.) The inversion formulae for some Bessel and hypergeometric transforms. *Rev. Colombiana Mat.* **10** (1976), *no.* 2, 83–92. (Jean Lavoine) **55** #3688 44A15

(*with* Villalonga, Patricia M.) On the solution of some integral equations. (Romanian summary) *Univ. Braşov Lucrari Ştiinţ.* **18** (1976), 29–36. (K. C. Gupta) **57** #17156 45H05

(*with* Battig, A.) On an integral equation associated with a production problem. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **19** (1976), *no.* 2, 131–136. (R. P. Soni) **57** #5050 90B30

(*with* Gómes López, A. M. M. de) Solution of dual integral equations associated to the H-function, by means of the operators L and L^{-1}. (Spanish. English summary) *Rev. Colombiana Mat.* **11** (1977), *no.* 1-4, 1–17. (Authors' summary) **58** #17732 45F10 (33A35)

(*with* Battig, A.; Luccioni, R.) Production of heat in a circular cylinder with a moving source. II. *Univ. Nac. Tucumán Rev. Ser. A* **23** (1977), *no.* 1–2, 267–275. (E. J. Scott) **55** #7147 (E **55** #11817) 80.44 (80.35)

Kallaev, S. O. Saturation classes of certain summability methods for Fourier-Legendre series. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 9(124), 33–43. (F. Ustina) **48** #2651 42A56

(*with* Agaev, M. A.) The rate of Cesàro summability of Fourier series in systems of derivatives of Legendre polynomials. (Russian) *Functional analysis, theory of functions and their applications, No.* 1 (*Russian*), *pp.* 48–50, 4. *Dagestan. Gos. Univ., Makhachkala*, 1974. (D. P. Gupta) **56** #964 42A56 (33A65)

Kallaher, Michael J. A class of rank three affine planes. *Math. Z.* **119** (1971), 75–82. (H. Lüneburg) **45** #4266 (E **48** #1025) 50D05

On rank 3 projective planes. *Pacific J. Math.* **39** (1971), 207–214. (G. Pickert) **46** #4354 50D30

A note on finite Bol quasi-fields. *Arch. Math.* (*Basel*) **23** (1972), 164–166. (William M. Kantor) **47** #2489 50D35

A note on planes of characteristic three. *Bull. Austral. Math. Soc.* **7** (1972), 105–111. (C. Ballester Pereyra) **46** #2546 50D35 (05B25)

Rank three affine planes. *Proc. Amer. Math. Soc.* **36** (1972), 79–86. (F. C. Piper) **47** #2481 50D05

A survey of weak rank 3 affine planes. *Proceedings of the International Conference Projective Planes* (*Washington State Univ., Pullman, Wash.*, 1973), *pp.* 121–143. *Washington State Univ. Press, Pullman, Wash.*, 1973. (P. J. Lorimer) **50** #14477 50D35

Rank 3 affine planes of square order. *Geometriae Dedicata* **1** (1973), *no.* 4, 415–425. (G. Pickert) **48** #2892 50D35

Correction to: "A class of rank three affine planes" (Math. Z. **119** (1971), 75–82). *Math. Z.* **131** (1973), 335–337. (H. Lüneburg) **48** #1025 50D05

(*with* Johnson, Norman L.) Transitive collineation groups on affine planes. *Math. Z.* **135** (1973/74), 149–164. (E. J. F. Primrose) **49** #3653 50A15

Bol quasi-fields of dimension two over their kernels. *Arch. Math.* (*Basel*) **25** (1974), 419–423. (E. J. F. Primrose) **50** #5610 50D05

A note on Z-planes. *J. Algebra* **28** (1974), 311–318. (Robert A. Liebler) **49** #2429 05B30

A conjecture on semi-field planes. *Arch. Math.* (*Basel*) **26** (1975), *no.* 4, 436–440. (E. J. F. Primrose) **51** #11273 50D35

On translation planes with affine central collineations. *Geometriae Dedicata* **4** (1975), *no.* 1, 71–89. (G. Pickert) **52** #4113 50D35

(*with* Johnson, Norman L.) On translation planes with affine central collineations. II. *Canad. J. Math.* **28** (1976), *no.* 1, 116–129. (G. Pickert) **53** #3870 50D35

Translation planes in which the stabilizer of every line is doubly transitive. *Geometriae Dedicata* **5** (1976), *no.* 1, 97–108. (J. F. Rigby) **55** #3949 50D05

Translation planes admitting solvable rank 3 collineation groups. *Geometriae Dedicata* **6** (1977), *no.* 3, 305–329. (Robert A. Liebler) **58** #18099 50D05 (05B25)

Semi-field-like affine planes. *Glasgow Math. J.* **18** (1977), *no.* 2, 113–123. (J. André) **57** #10583 50D35

A note on affine planes with transitive collineation groups. *Math. Z.* **153** (1977), *no.* 1, 89–97. (H. Lüneberg) **56** #6543 50D05

(*with* Foulser, David A.) Solvable, flag-transitive, rank 3 collineation groups. *Geometriae Dedicata* **7** (1978), *no.* 1, 111–130. (Stanley E. Payne) **57** #12263 05B25

See also **Proceedings: International Conference on Projective Planes, 47** #7590

Kallay, Michael Reconstruction of a plane convex body from the curvature of its boundary. *Israel J. Math.* **17** (1974), 149–161. (G. C. Shephard) **50** #3110 52A10

The extreme bodies in the set of plane convex bodies with a given width function. *Israel J. Math.* **22** (1975), *no.* 3-4, 203–207. (W. J. Firey) **53** #9033 52A10

Källén, Gunnar (*with* Steinberger, J.) ★Elementarteilchenphysik. Second edition. Translated from the English. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1974. 687 *pp. ISBN* 3-411-01403-2 (Editors) **58** #25652 82.00

van der Kallen, Wilberd Le K_2 des nombres duaux. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A1204–A1207. (P. Samuel) **45** #252 13D15 (18F25)

★Infinitesimally central extensions of Chevalley groups. Lecture Notes in

Mathematics, Vol. 356. *Springer-Verlag, Berlin-New York*, 1973. vii + 147 *pp*. (Michael R. Stein) **51** #738 20G40 (17B45)

The Schur multipliers of $\mathrm{SL}(3,\mathbf{Z})$ and $\mathrm{SL}(4,\mathbf{Z})$. *Math. Ann.* **212** (1974/75), 47–49. (Edward Cline) **50** #7370 20H05 (18F25)

(*with* Maazen, Hendrik; Stienstra, Jan) A presentation for some $K_2(n,R)$. *Bull. Amer. Math. Soc.* **81** (1975), *no.* 5, 934–936. (Keith Dennis) **51** #12993 18F25

Injective stability for K_2. *Algebraic K-theory* (*Proc. Conf., Northwestern Univ., Evanston, Ill.*, 1976), *pp.* 77–154. *Lecture Notes in Math., Vol.* 551, *Springer, Berlin*, 1976. (M. E. Keating) **58** #22243 18F25 (13C15, 20H05, 55E40)

The K_2's of a 2-dimensional regular local ring and its quotient field. *Comm. Algebra* **4** (1976), *no.* 7, 677–679. (J.-P. Jouanolou) **54** #5224 13H05 (14C10)

The K_2 of rings with many units. *Ann. Sci. École Norm. Sup.* (4) **10** (1977), *no.* 4, 473–515. (Manuel Ojanguren) **58** #22018 12A65 (18F25)

(*with* Cline, Edward; Parshall, Brian; Scott, Leonard L.) Rational and generic cohomology. *Invent. Math.* **39** (1977), *no.* 2, 143–163. (S. I. Gel'fand) **55** #12737 (EA **57**) 14L15 (14M15, 20G10)

(*with* Stein, Michael R.) On the Schur multipliers of Steinberg and Chevalley groups over commutative rings. *Math. Z.* **155** (1977), *no.* 1, 83–94. (R. Steinberg) **57** #474 20G35

Another presentation for Steinberg groups. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no.* 4, 304–312. (F. E. A. Johnson) **57** #3216 20G15 (18F25)

Kallenbach, Eberhard *See* **Taschenbuch Elektrotechnik in sechs Bänden**, **52** #13100

Kallenberg, Olav Stability in the decomposition of probability measures with finite support. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 216–223. (H. Teicher) **48** #5141 60E05 (60F05)

Decomposition of generalized binomial and multinomial distributions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 224–229. (H. Teicher) **48** #5142 60E05 (60F05)

A canonical representation of symmetrically distributed random measures. *Mathematics and statistics* (*in honour of Harald Bergström on the occasion of his 65th birthday*), *pp.* 41–48. *Dept. of Math., Chalmers Inst. Tech., Göteborg*, 1973. (Albert Tortrat) **51** #9201 60G55

Conditions for continuity of random processes without discontinuities of the second kind. *Ann. Probability* **1** (1973), 519–526. (C. Stone) **51** #6959 (E **53** #14629) 60G17

Stability in polynomial factorization. *Math. Scand.* **33** (1973), 18–20. (L. Carlitz) **54** #5198 12D05 (26A75, 60E05)

Characterization of continuous random processes and signed measures. *Studia Sci. Math. Hungar.* **8** (1973), 473–477. (F. Papangelou) **51** #6904 60B10 (60G55)

Characterization and convergence of random measures and point processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **27** (1973), 9–21. (F. Papangelou) **55** #4374 60G55 (60B10)

Canonical representations and convergence criteria for processes with interchangeable increments. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **27** (1973), 23–36. (F. Papangelou) **52** #15641 60G17 (60B10, 60G55)

Path properties of processes with independent and interchangeable increments. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 257–271. (W. E. Pruitt) **53** #6715 60G17

Series of random processes without discontinuities of the second kind. *Ann. Probability* **2** (1974), 729–737. (M. Csörgő) **51** #6905 60B10 (60J30)

A note on the asymptotic equivalence of sampling with and without replacement. *Ann. Statist.* **2** (1974), 819–821. (I. Kramosil) **51** #2063 62D05

On extrapolation of characteristic functions. *Scand. Actuar. J.* **1974**, 100–102. (R. A. Horn) **50** #3298 60E05

Extremality of Poisson and sample processes. *Stochastic Processes Appl.* **2** (1974), 73–83. (S. M. Samuels) **51** #14263 60G55

★Random measures. Schriftenreihe des Zentralinstituts für Mathematik und Mechanik bei der Akademie der Wissenschaften der DDR, Heft 23. *Akademie-Verlag, Berlin*, 1975. vi + 104 *pp*. (P. M. Lee) **55** #4372 60G55

On the existence and path properties of stochastic integrals. *Ann. Probability* **3** (1975), 262–280. (P. W. Millar) **53** #4225 60H05 (60J30)

Limits of compound and thinned point processes. *J. Appl. Probability* **12** (1975), 269–278. (P. M. Lee) **52** #12072 60G55

On symmetrically distributed random measures. *Trans. Amer. Math. Soc.* **202** (1975), 105–121. (F. Papangelou) **51** #6977 60G55

Infinitely divisible processes with interchangeable increments and random measures under convolution. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **32** (1975), *no.* 4, 309–321. (P. M. Lee) **55** #1454 60G55

★Random measures. *Akademie-Verlag, Berlin*; *Academic Press, London-New York*, 1976. ii + 104 *pp*. (Editors) **55** #4373 60G55

Correction to: "Conditions for continuity of random processes without discontinuities of the second kind" (Ann. Probability 1 (1973), 519–526). *Ann. Probability* **4** (1976), *no.* 2, 338. (C. Stone) **53** #14629 60G17

On the structure of stationary flat processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **37** (1976/77), *no.* 2, 157–174. (F. Papangelou) **54** #11494 60G55 (60D05)

Stability of critical cluster fields. *Math. Nachr.* **77** (1977), 7–43. (F. Papangelou) **56** #1451 60G55

A counterexample to R. Davidson's conjecture on line processes. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 2, 301–307. (F. Papangelou) **56** #9685 60G55

On conditional intensities of point processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **41** (1977/78), *no.* 3, 205–220. (F. Papangelou) **57** #1639 60G55

Kallenberg, W. C. M. ★Asymptotic optimality of likelihood ratio tests in exponential families. Mathematical Centre Tracts, No. 77. *Mathematisch Centrum, Amsterdam*, 1978. vii + 126 *pp*. *ISBN* 90-6196-134-3 (W. Hoeffding) **58** #7998 62F20 (62E20)

Kallianpur, G. Nonlinear filtering. *Optimizing methods in statistics* (*Proc. Sympos., Ohio State Univ., Columbus, Ohio*, 1971), *pp.* 211–232. *Academic Press, New York*, 1971. (A. N. Širjaev) **53** #7577 93E10 (60G35)

(*with* Borwanker, J. D.; Prakasa Rao, B. L. S.) The Bernstein-von Mises theorem for Markov processes. *Ann. Math. Statist.* **42** (1971), 1241–1253. (G. Roussas) **45** #7860 62E20

(*with* Mandrekar, Vidyadhar) Spectral theory of stationary $\mathcal{H}$-valued processe *J. Multivariate Anal.* **1** (1971), *no.* 1, 1–16. (Authors' summary) **46** #943 60G10

(*with* Striebel, Charlotte) A stochastic differential equation of Fisk type for estimation and nonlinear filtering problems. *SIAM J. Appl. Math.* **21** (1971), 61–72 Zakai) **45** #6090 60H10

(*with* Nadkarni, M. G.) Supports of Gaussian measures. *Proceedings of the Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. II: Probability theory*, *pp.* 375–387. *Univ. Calif Press, Berkeley, Calif.*, 1972. (Raoul LePage) **53** #9355 60G15 (60B05)

Homogeneous chaos expansions. *Statistical models and turbulence* (*Proc. Sym Univ. California, La Jolla, Calif.*, 1971), *pp.* 230–254. *Lecture Notes in Phys., Vol Springer, Berlin*, 1972. (G. Papanicolaou) **57** #1634 60G20 (60J65)

(*with* Jain, Naresh C.) Oscillation function of a multiparameter Gaussian proc *Nagoya Math. J.* **47** (1972), 15–28. (P. M. Lee) **47** #5946 60G15 (60F20)

(*with* Fujisaki, Masatoshi; Kunita, Hiroshi) Stochastic differential equations fo non linear filtering problem. *Osaka J. Math.* **9** (1972), 19–40. (L. I. Galčuk) **49** # 60G35 (93E10)

Non-anticipative canonical representations of equivalent Gaussian processes. *Multivariate analysis, III* (*Proc. Third Internat. Sympos., Wright State Univ., Day Ohio*, 1972), *pp.* 31–44. *Academic Press, New York*, 1973. (V. S. Mandrekar) **51** #1 60G30

(*with* Oodaira, Hiroshi) Non-anticipative representations of equivalent Gaus processes. *Ann. Probability* **1** (1973), *no.* 1, 104–122. (Masuyuki Hitsuda) **54** #88 60G30 (60G15)

Canonical representations of equivalent Gaussian processes. *Sankhyā Ser. A* (1973), *no.* 4, 405–416. (Author's summary) **58** #24502 60G15

(*with* Mandrekar, Vidyadhar) The Markov property for generalized Gaussian random fields. (French summary) Colloque International sur les Processus Gaussien les Distributions Aléatoires (Colloque Internat. du CNRS, No. 222, Strasbourg, 19 *Ann. Inst. Fourier* (*Grenoble*) **24** (1974), *no.* 2, vi, 143–167. (G. M. Molčan) **53** #936 60G20

Canonical representations of equivalent Gaussian processes. *Stochastic proce and related topics* (*Proc. Summer Res. Inst. Statist. Inference for Stochastic Proces Indiana Univ., Bloomington, Ind.*, 1974, *Vol.* 1; *dedicated to Jerzy Neyman*), *pp.* 195– *Academic Press, New York*, 1975. (V. S. Mandrekar) **51** #14251 60G30

(*with* Hida, Takeyuki) The square of a Gaussian Markov process and nonlin prediction. *J. Multivariate Anal.* **5** (1975), *no.* 4, 451–461. (A. N. Širjaev) **53** #671 60G25

A stochastic equation for the optimal non-linear filter. *Multivariate analysis,* (*Proc. Fourth Internat. Sympos., Dayton, Ohio*, 1975), *pp.* 267–281. *North-Holl Amsterdam*, 1977. (O. A. Glonti) **56** #13347 60G35 (60H10, 93E10)

(*with* Etemadi, Nasrollah) Nonanticipative transformations of the two-param Wiener process and a Girsanov theorem. *J. Multivariate Anal.* **7** (1977), *no.* 1, 28– (Won Joon Park) **57** #17796 60G15 (60G30)

See also **Optimizing methods in statistics**, **48** #9900 *and* **Mathematics: Periodi collection of translations of foreign articles**, **50** #12531 (EA **58**)

Kallibekov, Seĭtinjaz Index sets of degrees of unsolvability. (Russian) *Algebra i Logika* (1971), 316–326. (A. A. Mullin) **45** #3202 02F30

Index sets of m-degrees. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 1292–1300. Mendelson) **45** #59 02F25

Truth table degrees of recursively enumerable sets. (Russian) *Mat. Zametki* (1973), 697–702. (Stephen L. Bloom) **49** #2314 02F25 (02F30)

The degrees of recursively enumerable sets. (Russian) *Sibirsk. Mat. Ž.* **14** (197 421–426, 463. (E. Mendelson) **48** #8216 02F30 (02F25)

Hierarchy of sets for truth-table enumerability. (Russian) *Current questions mathematical logic and set theory* (*Russian*), *pp.* 155–163. *Moskov. Gos. Ped. Inst. Lenina, Moscow*, 1975. (Igor Lavrov) **57** #5719 02F35

Kallies, J. Funktionen von beschränkter Variation auf metrischen Räumen. Collection articles dedicated to Helmut Hasse on his seventy-fifth birthday, II. *J. Reine Ange Math.* **268/269** (1974), 379–387. (J. Král) **50** #2429 28A10

Kallina, Carl (*with* Williams, A. C.) Linear programming in reflexive spaces. *SIAM R* **13** (1971), 350–376. (A. Ben-Israel) **51** #4986 90C05

Kallio, Markku (*with* Porteus, Evan L.) Decomposition of arborescent linear program *Math. Programming* **13** (1977), *no.* 3, 348–356. (A. G. Azpeitia) **57** #15415 90C0

Computing bounds for the optimal value in linear programming. *Naval Res. Log Quart.* **24** (1977), *no.* 2, 301–308. (A. G. Azpeitia) **56** #17797 90C05

(*with* Porteus, Evan L.) Triangular factorization and generalized upper boundi techniques. *Operations Res.* **25** (1977), *no.* 1, 89–99. (R. N. Kaul) **56** #7950 90C

(*with* Porteus, Evan L.) A class of methods for linear programming. *Math. Programming* **14** (1978), *no.* 2, 161–169. (Robert A. Abrams) **57** #11728 90C05

Kallioniemi, Henry On bounds for the derivatives of a complex-valued function of compact interval. *Math. Scand.* **39** (1976), *no.* 2, 295–314 (1977). (Z. Ditzian) **57** #99 26A84

On representation formulas for intermediate derivatives. *Math. Scand.* **39** (197 *no.* 2, 315–326 (1977). (Z. Ditzian) **57** #9927 26A24

Kallman, R. R. (*with* Zames, G.) On spectral mappings, higher order circle criteria, an periodically varying systems. *IEEE Trans. Automatic Control* **AC-15** (1970), 649–65 (M. Peschel) **45** #1638 93D99

Kallman, Ralph A. (*with* Beekman, John A.) Gaussian Markov expectations and relate integral equations. *Pacific J. Math.* **37** (1971), 303–317. (G. W. Johnson) **46** #7467 28A40 (60H20)

Kallman, Robert R. Certain topological groups are type I. II. *Advances in Math.* **1** 221–255 (1973). (E. Thoma) **49** #3022 22D10

The existence of invariant measures on certain quotient spaces. *Advances in Math* **11** (1973), 387–391. (C. Chou) **48** #8682 22D05

A theorem on the restriction of type I representations of a group to certain of it subgroups. *Proc. Amer. Math. Soc.* **40** (1973), 291–296. (Robert S. Doran) **47** #5177 22D10 (46L10)

A conjecture of Gilbert and Pollak on minimal trees. *Studies in Appl. Math.* **52** (1973), 141–151. (J. Sedláček) **49** #7166 05C05

The topology of compact simple Lie groups is essentially unique. *Advances in Math.* **12** (1974), 416–417. (P. S. Mostert) **50** #10145 22C05

A theorem in the representation theory of totally disconnected groups. *Proc. Amer. Math. Soc.* **45** (1974), 457–460. (R. C. Busby) **51** #789 22D10

Certain quotient spaces are countably separated. *Illinois J. Math.* **19** (1975), 378–388. (J. M. G. Fell) **52** #650 22D10

Certain quotient spaces are countably separated. II. *J. Functional Analysis* **21** (1976), *no.* 1, 52–62. (J. M. G. Fell) **54** #5384 22D25 (46L05)

Certain quotient spaces are countably separated. III. *J. Functional Analysis* **22** (1976), *no.* 3, 225–241. (J. M. G. Fell) **54** #5385 22D25

A uniqueness result for topological groups. *Proc. Amer. Math. Soc.* **54** (1976), 439–440. (Siegfried Grosser) **54** #5382 22D05

Only trivial Borel measures on S_∞ are quasi-invariant under automorphisms. *Pacific J. Math.* **76** (1978), *no.* 2, 453–461. (R. K. Thomas) **58** #17049 28A70 (22A10)

(*with* Mauldin, R. Daniel) A cross section theorem and an application to C^*-algebras. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 1, 57–61. (G. K. Pedersen) **57** #3342 28A05 (46L05)

See also **Hille, Einar**, **56** #15341

mann, A. (*with* Kneser, Martin; Stuhler, Ulrich) Invariante Untermoduln quadratischer Moduln. *J. Reine Angew. Math.* **258** (1973), 51–54. (Manfred Knebusch) **49** #340 15A63

loš, R. E. (*with* Tjutin, I. V.) The equivalence theorem and gauge invariance in renormalizable theories. *Jadernaja Fiz.* **17** (1973), 190–209 (*Russian*); *translated as Soviet J. Nuclear Phys.* **17** (1973), 98–106. (Authors' summary) **50** #15696 81.46

(*with* Gastmans, R.; Truffin, C.) Quantum gravity near two dimensions. *Nuclear Phys. B* **133** (1978), *no.* 3, 417–434. (J. G. Taylor) **58** #14574 81.35

(*with* Tarasov, O. V.; Tjutin, I. V.) One-loop finiteness of quantum gravity off mass shell. *Nuclear Phys. B* **137** (1978), *no.* 1–2, 145–163. (Authors' summary) **57** #18714 83.53

Modified Feynman rules in supergravity. *Nuclear Phys. B* **141** (1978), *no.* 1-2, 141–152. (Author's summary) **58** #20156 83.22

losh, Renata Renormalization in non-Abelian gauge theories. *Nuclear Phys.* **B78** (1974), 293–312. (R. L. Ingraham) **52** #7386 81.47

lström, A. (*with* Sleeman, Brian D.) A multi-parameter Sturm-Liouville problem. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp.* 394–401. *Lecture Notes in Math., Vol.* 415, *Springer, Berlin*, 1974. (Patrick J. Browne) **55** #3405 34B25

(*with* Sleeman, Brian D.) An abstract relation for multiparameter eigenvalue problems. *Proc. Roy. Soc. Edinburgh Sect. A* **74** (1974/75), 135–143 (1976). (F. H. Szafraniec) **56** #9304 47A70 (34B25)

(*with* Sleeman, Brian D.) A left definite multiparameter eigenvalue problem in ordinary differential equations. *Proc. Roy. Soc. Edinburgh Sect. A* **74** (1974/75), 145–155 (1976). (F. H. Szafraniec) **56** #8957 34B25 (34A30)

(*with* Sleeman, Brian D.) Solvability of a linear operator system. *J. Math. Anal. Appl.* **55** (1976), *no.* 3, 785–793. (B. V. Loginov) **54** #5881 47A70 (47A50)

(*with* Sleeman, Brian D.) Multiparameter spectral theory. *Ark. Mat.* **15** (1977), *no.* 1, 93–99. (Patrick J. Browne) **55** #11082 47A70

luri, Dikshitulu (*with* Prasad, R. C.) Reflection of an obliquely incident impulsive plane wave from isotropic and uniaxial cold lossy plasma half-spaces. *IEEE Trans. Plasma Sci.* 6 (1978), *no.* 4, 543–549. (Authors' summary) **58** #25674 82.45

lman, C. S. Total scattering cross sections in two-body strong interactions calculated by an algebraic approach using the group SU(1,3). (French summary) *Canad. J. Phys.* **50** (1972), 481–499. (Author's summary) **52** #7347 81.22

SU(1, 4) as a dynamical group; analysis of all the discrete representations. I. Baryons. (French summary) *Canad. J. Phys.* **55** (1977), *no.* 7-8, 673–676. (Author's summary) **56** #1982 81.22

lman, Dan On transient optimization criteria. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), *no.* 11, 898–900. (J. William Helton) **53** #2480 93D99

lman, H. *See* **Control in space**, **48** #8040

lman, John A. Substitution-and-detachment systems related to abelian groups. *A spectrum of mathematics* (*essays presented to H. G. Forder*), *pp.* 22–31. *Auckland Univ. Press, Auckland*, 1971. (Franco Montagna) **55** #5435 02H15 (20A10, 02C99)

Subdirect decomposition of distributive quasilattices. *Fund. Math.* **71** (1971), *no.* 2, 161–163. (L. E. Ward, Jr.) **45** #5040 06A35

The free distributive system with one generator. *Math. Chronicle* **1** (1971), 147–150. (R. P. Dilworth) **46** #1662 06A20

Applications of subdirect products in general algebra. *Math. Chronicle* **3** (1974/75), 45–62. (R. S. Pierce) **50** #4437 08A05

Axiomatizations of logics with values in groups. *J. London Math. Soc.* (2) **14** (1976), *no.* 2, 193–199. (B. H. Mayoh) **55** #2484 02B05 (02G15, 20A10)

A shortest single axiom for the classical equivalential calculus. *Notre Dame J. Formal Logic* **19** (1978), *no.* 1, 141–144. (H.-D. Ebbinghaus) **58** #10282 02B05

alman, Peter J. (*with* Dusansky, Richard) The real balance effect and the traditional theory of consumer behavior: a reconciliation. *J. Econom. Theory* **5** (1972), *no.* 3, 336–347. (From the authors' introduction) **56** #4751 90A15

(*with* Intriligator, Michael D.) Generalized comparative statics with applications to consumer theory and producer theory. *Internat. Econom. Rev.* **14** (1973), *no.* 2, 473–486. (Kailash C. Kapur) **53** #10183 90A10 (90C50)

(*with* Dusansky, Richard; Wickström, Bengt-Arne) On the major Slutsky properties when money is the sole medium of exchange. *Internat. Econom. Rev.* **15** (1974), 718–728. (Bojan Popović) **52** #7489 90A15

(*with* Wickström, Bengt-Arne) A dynamic nonlinear constrained optimal replacement model. *Naval Res. Logist. Quart.* **23** (1976), *no.* 4, 639–651. (Authors' summary) **58** #20363 90B25

(*with* Chichilnisky, Graciela) Properties of critical points and operators in economics. *J. Math. Anal. Appl.* **57** (1977), *no.* 2, 340–349. (Michael D. Intriligator) **54** #12166 90A15 (58E15)

(*with* Chichilnisky, Graciela) Comparative statics of less neoclassical agents. *Internat. Econom. Rev.* **19** (1978), *no.* 1, 141–148. (Trout Rader) **58** #4225 90A15 (90C50)

(*with* Chichilnisky, Graciela) Rothe's fixed point theorem and the existence of equilibria in monetary economies. *J. Math. Anal. Appl.* **65** (1978), *no.* 1, 56–65. (Anjan Mukherji) **58** #15040 90A15

See also **Alexander, Judith A.; et al.**, **56** #4752

Kalman, R. E. Algebraic aspects of the generalized inverse of a rectangular matrix. *Generalized inverses and applications* (*Proc. Sem., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1973), *pp.* 111–124. *Publ. Math. Res. Center Univ. Wisconsin, No.* 32, *Academic Press, New York*, 1976. (Thomas L. Boullion) **58** #716 15A09

Kalman, Rudolph E. Introduction to the algebraic theory of linear dynamical systems. *Mathematical systems theory and economics, I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp.* 41–65. *Lecture Notes in Oper. Res. and Math. Econom., Vols.* 11, 12, *Springer, Berlin*, 1969. (I. Mezhík) **48** #1742 93A10

New algebraic methods in stability theory. (Russian summary) *Proceedings of the Fifth International Conference on Nonlinear Oscillations* (*Kiev*, 1969), *Vol.* 2: *Qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 189–199. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1970. (G. Eisenreich) **47** #7164 34D25 (12D10, 93D10)

(*with* Falb, P.; Arbib, Michael) ★Очерки по математической теории систем. (Russian) [Topics in mathematical system theory] Translated from the English by È. L. Nappel′baum. Edited by Ja. Z. Cypkin. *Izdat. "Mir", Moscow*, 1971. 400 *pp.* (Editors) **45** #9732 93A10

(*with* Hautus, M. L. J.) Realization of continuous-time linear dynamical systems: rigorous theory in the style of Schwartz. *Ordinary differential equations* (*Proc. NRL-MRC Conf., Math. Res. Center, Naval Res. Lab., Washington, D.C.*, 1971), *pp.* 151–164. *Academic Press, New York*, 1972. (Stephen J. Hegner) **57** #18930 93B15

Kronecker invariants and feedback. *Ordinary differential equations* (*Proc. Conf., Math. Res. Center, Naval Res. Lab., Washington, D. C.*, 1971), *pp.* 459–471. *Academic Press, New York*, 1972. (V. M. Popov) **54** #9745 93B10

(*with* Rouchaleau, Yves; Wyman, Bostwick F.) Algebraic structure of linear dynamical systems. III. Realization theory over a commutative ring. *Proc. Nat. Acad. Sci. U.S.A.* **69** (1972), 3404–3406. (Authors' summary) **55** #10078 93A05

(*with* Rouchaleau, Yves) Realization theory of linear systems over a commutative ring. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 61–65. *North Holland, Amsterdam*, 1973. (Eugene S. Santos) **51** #2686 93A05

Realization theory of linear dynamical systems. *Control theory and topics in functional analysis* (*Internat. Sem., Internat. Centre Theoret. Phys., Trieste*, 1974), *Vol. II*, *pp.* 235–256. *Internat. Atomic Energy Agency, Vienna*, 1976. (Editors) **58** #20667 93B15

(*with* Hazewinkel, Michiel) On invariants, canonical forms and moduli for linear, constant, finite dimensional, dynamical systems. *Mathematical systems theory* (*Proc. Internat. Sympos., Internat. Centre Mech. Sci., Udine*, 1975), *pp.* 48–60. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer, Berlin*, 1976. (From the introduction) **58** #33222 93A99 (14D20)

See also **Estimation theory**, **49** #8719 *and* **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360a

Kalmanson, Kenneth On a theorem of Erdős and Szekeres. *J. Combinatorial Theory Ser. A* **15** (1973), 343–346. (C. Ballester Pereyra) **48** #8268 05B25

Edgeconvex circuits and the traveling salesman problem. *Canad. J. Math.* **27** (1975), *no.* 5, 1000–1010. (L. V. Quintas) **53** #197 05C35 (90B10, 90C05)

Kalmár, I. G. Atomistic orthomodular lattices and a generalized probability theory. *Publ. Math. Debrecen* **25** (1978), *no.* 1-2, 139–153. (S. Gudder) **58** #14748 81.60 (06A25)

Kálmár, László Ist Algol wirklich eine algorithmische Sprache? *Automatentheorie und formale Sprachen* (*Tagung Math. Forschungsinst., Oberwolfach*, 1969), *pp.* 305–315. *Bibliographisches Inst., Mannheim*, 1970. **48** #1525 68A30

See also **Festschrift: Kalmár, László**, **52** #4685; **Arató, Mátyás**, **52** #7787; **Obituary: Kalmár, László**, **54** #9955; **Obituary: Kalmár, László**, **54** #9956; **Ádám, András**, **58** #4931; **Bibliography: Kalmár, László**, **58** #10239; **Obituary: Kalmár, László**, **58** #10242; **Obituary: Kalmár, László**, **58** #10248 *and* **Vačov, Dimitir K.**, **58** #16045

Kalmar, Martin Thomas Hariot's *De reflexione corporum rotundorum*: an early solution to the problem of impact. *Arch. History Exact Sci.* **16** (1976/77), *no.* 3, 201–230. (J. A. Lohne) **57** #2832 01A45

Kalmbach, Gudrun (*with* Bruns, Günter) Varieties of orthomodular lattices. I. A summary prepared by G. Roulet. *Möbius algebras* (*Proc. Conf., Univ. Waterloo, Waterloo, Ont.*, 1971), *pp.* 45–50. *Univ. Waterloo, Waterloo, Ont.*, 1971. (Ann Miller) **50** #1999 06A30

(*with* Bruns, Günter) Varieties of orthomodular lattices. II. *Möbius algebras* (*Proc. Conf., Univ. Waterloo, Waterloo, Ont.*, 1971), *pp.* 56–58. *Univ. Waterloo, Waterloo, Ont.*, 1971. (Ann Miller) **50** #2000 06A30

(*with* Bruns, Günter) Varieties of orthomodular lattices. II. *Canad. J. Math.* **24** (1972), 328–337. (K. A. Baker) **45** #3267 06A30

(*with* Bruns, Günter) Some remarks on free orthomodular lattices. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 397–408. *Dept. Math., Univ. Houston, Houston, Tex.*, 1973. (Ronald P. Morash) **53** #5391 06A30

Orthomodular logic. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston, Tex.*, 1973), *pp.* 498–503. *Dept. Math., Univ. Houston, Houston, Tex.*, 1973. (Ronald P. Morash) **53** #5395 06A30 (02G15)

Orthomodular logic. *Z. Math. Logik Grundlagen Math.* **20** (1974), 395–406. (E. G. Beltrametti) **53** #10556 02C99 (06A30, 81.06, 02J99)

On some results in Morse theory. *Canad. J. Math.* **27** (1975), 88–105. (A. Verona) **51** #1851 57D70

Extension of topological homology theories to partially ordered sets. *J. Reine Angew. Math.* **280** (1976), 134–156. (V. S. Krishnan) **52** #11895 55B35

Orthomodular lattices do not satisfy any special lattice equation. *Arch. Math.* (*Basel*) **28** (1977), *no.* 1, 7–8. (S. S. Holland, Jr.) **55** #5492 06A30 (06A40)

See also **Proceedings: Lattice Theory Conference**, **54** #7327

Kalme, Charles I. *See* **Siegel, Carl Ludwig; et al.**, **58** #19464

Kalme, John S. Semi-groups of operators and stationary Gaussian processes. *J. Math. Anal. Appl.* **44** (1973), 482–488. (R. Jajte) **48** #9831 60G17

Kal'menov, T. Š. A criterion for the continuity of the solution of the Goursat problem for a certain degenerate equation. (Russian) *Differencial'nye Uravnenija* **8** (1972), 41–54. (G. W. Hedstrom) **46** #540 35M05

The characteristic Cauchy problem for a certain class of degenerate hyperbolic equations. (Russian) All-Union Symposium on Selected Questions of Partial Differential Equations (Prièlbrus, 1972). *Differencial'nye Uravnenija* **9** (1973), 84–96, 195; *errata, ibid.* **9** (1973), 1161. (J. Kopáček) **48** #11801 35M05 (35L15)

The characteristic Cauchy problem for a certain class of degenerate hyperbolic equations. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **70** (1973), 533–536. (V. V. Kovrižkin) **49** #5592 35M05

The Darboux problem for a certain degenerate equation. (Russian) *Differencial'nye Uravnenija* **10** (1974), 59–68, 180. (V. V. Kovrižkin) **49** #5593 35M05

The uniqueness of the regular solution of the Darboux problem for a certain class of degenerate hyperbolic equations. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 1, 79–82, 93. (Author's summary) **57** #10251 35L15

The spectrum of the Gellerstedt problem. (Russian) *Theoretical and applied problems in mathematics and mechanics* (*Russian*), *pp.* 167–169, 311. *Nauka Kazah. SSR, Alma-Ata*, 1977. (Author's summary) **58** #29372 35M05

(*with* Otelbaev, M. O.) The smoothness of the solutions of a class of degenerate elliptic equations. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 7, 1244–1255, 1348. (È. M. Saak) **57** #10230 35J70 (35D10)

The spectrum of the Tricomi problem for the Lavrent'ev-Bicadze equation. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 8, 1418–1425, 1539. (Megumi Saigo) **57** #6873 35M05

The semiperiodic Dirichlet problem for a class of equations of mixed type. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 3, 546–547, 575. (Editors) **58** #23130 35M05

(*with* Otelbaev, M. O.) The smoothness of the solution of a class of selfadjoint operators. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1978**, *no.* 3, 33–37, 92. (Harold H. McFaden) **58** #12452 47A50

Kal'muševs'kiĭ, Ī. G. Invariant subspaces of non-dissipative Volterra operators. (Ukrainian. English and Russian summaries) *Dopovidī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 601–604, 669. (F. H. Szafraniec) **46** #7932 47A15

(*with* Dudko, L. N.) Conditions for similarity to the operator I^2 in terms of the characteristic matrix-valued function. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 4(167), 38–46. ((RŽMat **1976** #11 B819)) **58** #23693 47A65

Kalmykov, A. A. Fixed points of condensing operators that expand a cone. (Russian) *Perm. Gos. Univ. Učen. Zap. No. 309 Mat.—Problemy Nelineĭn. Anal.* (1974), 29–32. (J. Daneš) **52** #1425 47H10

(*with* Ljal'kina, G. B.) The point of attraction of a condensing operator in a partially ordered Banach space. (Russian) Some problems in nonlinear analysis and the mechanics of deformable bodies. *Perm. Gos. Univ. Učen. Zap. No.* 291 (1975), 17–21. (B. Jankó) **55** #6249 47H10

Kalmykov, G. I. Filling in from a finite number of symmetrically dependent random variables. (Russian) *Kombinatornyĭ Anal. Vyp.* 4 (1976), 8–15. (Author's introduction) **58** #18654 60C05

Thermodynamic limit for a classical system of particles with hard cores. (Russian. English summary) *Teoret. Mat. Fiz.* **36** (1978), *no.* 1, 89–98. (Author's summary) **58** #20123 82.60

Kalmykov, S. A. (*with* Šokin, Ju. I.; Juldašev, Z. H.) On the solution of ordinary differential equations by interval methods. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 6, 1267–1270. (E. S. Čičkin) **54** #11787 65L05

(*with* Šokin, Ju. I.; Juldašev, Z. H.) The second order interval-analytic method for ordinary differential equations. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 3, 28–30, 89. (H. Shintani) **54** #6508 65L05

Kalnajs, Agris J. Dynamics of flat galaxies. I. *Astrophys. J.* **166** (1971), 275–293. (V. C. Liu) **47** #6265 85.35

Dynamics of flat galaxies. II. Biorthonormal surface density-potential pairs for finite disks. *Astrophys. J.* **205** (1976), *no.* 3, *part* 1, 745–750. (George Contopoulos) **54** #2125 85.45

Dynamics of flat galaxies. III. Equilibrium models. *Astrophys. J.* **205** (1976), *no.* 3, *part* 1, 751–761. (George Contopoulos) **54** #2126 85.45

Kálnay, Andrés J. (*with* Kademova, K. V.) Realisations of the representations of para-Fermi algebra in Fock space of Bose operators. II. *Internat. J. Theoret. Phys.* **3** (1970), 115–118. (Author's summary) **51** #12199 81.47

Lorentz-invariant localization for elementary systems. III. Zero-mass systems. *Phys. Rev. D* (3) **3** (1971), 2357–2363. (Mineo Ikeda) **52** #9900 81.47

(*with* Mac Cotrina, Enrique; Kademova, K. V.) Quantum field theory of Fermions constructed from Bosons. Generalization to para-Fermi statistics. *Internat. J. Theoret. Phys.* **7** (1974), 9–24. (Authors' summary) **50** #12068 81.47

On the new Nambu mechanics, its classical partners and its quantization. (French summary) *Géométrie symplectique et physique mathématique* (*Colloq. Internat. C.N.R.S., Aix-en-Provence*, 1974), *pp.* 401–410. *Éditions Centre Nat. Recherche Sci., Paris*, 1975. (F. J. Bloore) **56** #7653 81.58

(*with* Cohen, Isaac) On Nambu's generalized Hamiltonian mechanics. *Internat. J. Theoret. Phys.* **12** (1975), 61–67. (Authors' summary) **53** #15028 70.34

(*with* García Sucre, Máximo) On the statistics consistent with Nambu's new quantum rules. Quarks? *Internat. J. Theoret. Phys.* **12** (1975), 149–151. **53** #12253 81.22

Quantum field theory of fermions and parafermions constructed from quantum Bose fields. I. Simplification and generalization. *Progr. Theoret. Phys.* **54** (1975), *no.* 6, 1848–1859. (Jean-Pierre Eckmann) **53** #4820 81.47

(*with* Mac Cotrina, Enrique) Quantum field theory of fermions and parafermions constructed from quantum Bose fields. II. A remark on the observables. *Progr. Theoret. Phys.* **55** (1976), *no.* 1, 297–301. (Jean-Pierre Eckmann) **53** #4821 81.47

A note on Grassmann algebras. *Rep. Mathematical Phys.* **9** (1976), *no.* 1, 9–13. (See Zbl **329** #15011) 81.17

(*with* Tascón, Ricardo) Poincaré canonical momenta and Nambu mechanics. *Internat. J. Theoret. Phys.* **16** (1977), *no.* 9, 635–648. (From the summary) **58** #2 7 81.47

On Laguerre polynomials and the convolution product of parabolic cylinder functions. *Rep. Mathematical Phys.* **11** (1977), *no.* 2, 157–163. (A. Erdelyi) **56** # 3 33A65

Kalnberzin', A. Ja. (*with* Jakubaïtis, È. A.; Čapenko, V. P.) A method for the synth s of the structure of a multifunctional logical element. (Russian) *Avtomat. i Vyčisl.* hn (*Riga*) **1973**, *no.* 6, 1–6. (From the authors' introduction) **51** #2797 94A20

(*with* Čapenko, V. P.) Synthesis of multifunctional logical elements by means the classification of Boolean functions. (Russian) *Theory of finite automata and its applications, No.* 3 (*Russian*), *pp.* 61–69, 80. *Izdat. "Zinatne", Riga*, 1974. (E rs) **54** #12386 94A20

(*with* Jakubaïtis, È. A.) A method for the accelerated synthesis of the structu a multifunctional logical element. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, 2, 3–8. (From the authors' introduction) **51** #2798 94A20

Kal'neĭ, S. G. Uniform boundedness in the *L*-metric of polynomials with respect the Jacobi polynomials. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 5, 1024 27 (D. P. Gupta) **52** #8769 42A20

The regularity of linear summability methods for Fourier-Jacobi series. (Ru n) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata,* 73) (*Russian*), *pp.* 44–49, 186. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (O. D. Gabisonija) **58** #1993 42A56

Kalnibolotskiĭ, Ju. M. *See* **Mathematical simulation and the theory of electrical ci ts.** **48** #3287

Kalnin', I. M. *See* **Kalņinš, I.**

Kalnin, V. M. The application of frequency methods to the study of the stabili of numerical integration of differential equations. (Russian) *Dokl. Akad. Nauk SSS.* 22 (1975), *no.* 6, 1272–1275. (C. Ilioi) **52** #9615 65L05

Frequency error estimates of the numerical integration of differential equa s. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 1, 38–41. (Editors) **57** #11 65L05 (65D15)

Kalņinš, A. Estimation of the complexity of graph coloring on a Turing machine. (Rus n) *Problemy Peredači Informacii* 7 (1971), *no.* 4, 59–72. (Ivan Havel) **48** #1514 6 25 (94A20)

(*with* Bārzdiņš, J.; Bičevskiĭ, Ja. Ja.) The construction of a complete sample s m for testing the correctness of programs. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap* 0 *Teorija Algoritmov i Programm No.* 1 (1974), 152–187. (Editors) **58** #25061a 6 5

(*with* Bičevskiĭ, Ja. Ja.; Bārzdiņš, J.) Solvable and unsolvable cases of the pro n of constructing a complete sample system. (Russian) *Latviĭsk. Gos. Univ. Učen.* p. **210** *Teorija Algoritmov i Programm No.* 1 (1974), 188–205. (Editors) **58** #250 68A05

(*with* Bārzdiņš, J.; Bičevskiĭ, Ja. Ja.) Construction of complete sample syster r correctness testing. *Mathematical foundations of computer science* (*Fourth Sym Mariánské Lázně*, 1975), *pp.* 1–12. *Lecture Notes in Comput. Sci., Vol.* 32, *Spr Berlin*, 1975. (I. Kaufmann) **52** #12379 68A05

(*with* Bārzdiņš, J.) Construction of complete systems of samples for programs w a direct method of access. (Russian. English summary) Theory of algorithms and programs, II. *Latvijas Valsts Univ. Zinātņ. Raksti* **233** (1975), 123–154, 208. (Aut summary) **58** #3604 68A05

(*with* Bārzdiņš, J.; Bičevskiĭ, Ja. Ja.) Automatic construction of complete sa system for program testing. *Information processing* 77 (*Proc. IFIP Congr., Toronto,* 1977), *pp.* 57–62. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam*, 1977. (Aut summary) **57** #18181 68A05

Kalnins, Arturs Numerical methods for mixed boundary value problems of shell revolution. *Computers & Structures* **2** (1972), 181–196. (H. J. Weinitschke) **45** #14 73.65

Kalnins, E. G. The relativistically invariant expansion of a scalar function on imagi Lobachevski space. *J. Mathematical Phys.* **14** (1973), 1316–1319. (Anthony Jos **48** #10337 81.22

(*with* Patera, Jiri; Sharp, Robert T.; Winternitz, P.) Two-variable Galilei-gr expansions of nonrelativistic scattering amplitudes. *Phys. Rev. D* (3) **8** (1973), 2552–2572. (Authors' summary) **50** #15640 81.22

(*with* Patera, Jiri; Sharp, Robert T.; Winternitz, P.) Potential scattering and Galilei-invariant expansions of scattering amplitudes. *Phys. Rev. D* (3) **8** (19 3527–3538. (Authors' summary) **50** #15656 81.31

Lie theory and separation of variables. *Group theoretical methods in physics* (*P Third Internat. Colloq., Centre Phys. Theor., Marseille*, 1974), *Vol.* 1, *pp.* 237–248. *Ce Nat. Recherche Sci., Centre Phys. Theor., Marseille*, 1974. (Mineo Ikeda) **56** #609 35J10 (81.35)

(*with* Miller, Willard, Jr.) Lie theory and separation of variables. III. The equat $f_{tt}-f_{ss}=\gamma^2 f$. *J. Mathematical Phys.* **15** (1974), 1025–1032. (G. R. Allcock) **51** #85 (E **51** #8593d) 35A25 (33A75, 81.22)

(*with* Miller, Willard, Jr.) Lie theory and separation of variables. IV. The gro SO(2, 1) and SO(3). *J. Mathematical Phys.* **15** (1974), 1263–1274. (G. R. Allco **51** #8593e 32A25 (33A75, 81.22)

(*with* Miller, Willard, Jr.) Lie theory and separation of variables. V. The equatio $iU_t-U_{xx}=0$ and $iU_t+U_{xx}-(c/x^2)U=0$. *J. Mathematical Phys.* **15** (1974), 1728–17 (G. R. Allcock) **51** #8593f 35A25 (33A75, 81.22)

(*with* Patera, Jiri; Sharp, Robert T.; Winternitz, P.) Elementary particle reactio and the Lorentz and Galilei groups. *Group theory and its applications, Vol. III,* 369–464. *Academic Press, New York*, 1975. (Philip Huddleston) **56** #10495 81.22

(*with* Miller, Willard, Jr.) Erratum: "Lie theory and separation of variables. III. T equation $f_{tt}-f_{ss}=\gamma^2 f$". (J. Mathematical Phys. **15** (1974), 1025–1032). *J. Math. Phys.* (1975), 1531. (G. R. Allcock) **51** #8593d 35A25 (33A75, 81.22)

(*with* Boyer, Charles P.; Miller, Willard, Jr.) Lie theory and separation of variabl VI. The equation $iU_t+\Delta_2 U=0$. *J. Mathematical Phys.* **16** (1975), 499–511. (G. Allcock) **51** #8593g 35A25 (33A75, 81.22)

(*with* Boyer, Charles P.; Miller, Willard, Jr.) Lie theory and separation of variabl VII. The harmonic oscillator in elliptic coordinates and Ince polynomials. *J.*

Mathematical Phys. **16** (1975), 512–517. (G. R. Allcock) **51** #8593h 35A25 (33A75, 81.22)

(*with* Miller, Willard, Jr.) Lie theory and separation of variables. VIII. Semisubgroup coordinates for $\psi_{tt}-\Delta_2\psi=0$. *J. Mathematical Phys.* **16** (1975), *no.* 12, 2507–2516. (G. R. Allcock) **52** #4857 81.22 (35A25, 35L05)

On the separation of variables for the Laplace equation $\Delta\Psi+K^2\Psi=0$ in two- and three-dimensional Minkowski space. *SIAM J. Math. Anal.* **6** (1975), 340–374. (William Margulies) **50** #10526 35J05

(*with* Miller, Willard, Jr.) Lie theory and separation of variables. IX. Orthogonal *R*-separable coordinate systems for the wave equation $\psi_{tt}-D_2\psi=0$. *J. Mathematical Phys.* **17** (1976), *no.* 3, 331–355. (G. R. Allcock) **53** #8325a 22E05 (81.35, 35A30)

(*with* Miller, Willard, Jr.) Lie theory and separation of variables. X. Nonorthogonal *R*-separable solutions of the wave equation ${}_{tt}\psi=D_2\psi$. *J. Mathematical Phys.* **17** (1976), *no.* 3, 356–368. (G. R. Allcock) **53** #8325b 22E05 (81.35, 35A30)

(*with* Miller, Willard, Jr.) Lie theory and separation of variables. XI. The EPD equation. *J. Mathematical Phys.* **17** (1976), *no.* 3, 369–377. (G. R. Allcock) **53** #8325c 22E05 (81.35, 35A30)

(*with* Boyer, Charles P.; Miller, Willard, Jr.) Symmetry and separation of variables for the Helmholtz and Laplace equations. *Nagoya Math. J.* **60** (1976), 35–80. (Carl Wulfman) **52** #14600 35J05 (33A75, 35A30)

(*with* Miller, Willard, Jr.; Winternitz, P.) The group O(4), separation of variables and the hydrogen atom. *SIAM J. Appl. Math.* **30** (1976), *no.* 4, 630–664. (Anthony J. Bracken) **53** #15135 81.22

(*with* Miller, Willard, Jr.) Lie theory and the wave equation in space-time. I. The Lorentz group. *J. Mathematical Phys.* **18** (1977), *no.* 1, 1–16. (Anthony J. Bracken) **58** #22421a 22E99 (33A75, 35L05)

(*with* Miller, Willard, Jr.) Lie theory and the wave equation in space-time. III. Semisubgroup coordinates. *J. Mathematical Phys.* **18** (1977), *no.* 2, 271–280. (Anthony J. Bracken) **58** #22421c 22E99 (33A75, 35L05)

(*with* Boyer, Charles P.) Symmetries of the Hamilton-Jacobi equation. *J. Mathematical Phys.* **18** (1977), *no.* 5, 1032–1045. (Mayer Humi) **55** #11871 81.58

(*with* Miller, Willard, Jr.) The wave equation, O(2, 2), and separation of variables on hyperboloids. *Proc. Roy. Soc. Edinburgh Sect. A* **79** (1977/78), *no.* 3-4, 227–256. (Mineo Ikeda) **58** #4018 81.22 (22E30, 58G99)

(*with* Boyer, Charles P.; Miller, Willard, Jr.) Separable coordinates for four-dimensional Riemannian spaces. *Comm. Math. Phys.* **59** (1978), *no.* 3, 285–302. (J. Charles-Renaudie) **58** #7678 58A15 (35A30)

(*with* Boyer, Charles P.; Miller, Willard, Jr.) Symmetry and separation of variables for the Hamilton-Jacobi equation $W_t^2-W_x^2-W_y^2=0$. *J. Mathematical Phys.* **19** (1978), *no.* 1, 200–211. (G. R. Allcock) **57** #13138 35C99

(*with* Miller, Willard, Jr.) Lie theory and the wave equation in space-time. IV. The Klein-Gordon equation and the Poincaré group. *J. Mathematical Phys.* **19** (1978), *no.* 6, 1233–1246. (Anthony J. Bracken) **58** #22421d 22E99 (33A75, 35L05)

(*with* Miller, Willard, Jr.) Lie theory and the wave equation in space-time. V R-separable solutions of the wave equation $\psi_{tt}-\Delta_3\psi=0$. *J. Mathematical Phys.* **19** (1978), *no.* 6, 1247–1257. (Anthony J. Bracken) **58** #22421e 22E99 (33A75, 35L05)

(*with* Miller, Willard, Jr.) Lie theory and the wave equation in space-time. II. The group SO(4, C). *SIAM J. Math. Anal.* **9** (1978), *no.* 1, 12–33. (Anthony J. Bracken) **58** #22421b 22E99 (33A75, 35L05)

lniņš, I. The Hurwitz zeta-function. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 12 (*Russian*), *pp.* 87–92. *Izdat. "Zinatne", Riga*, 1973. (B. Novák) **49** #231 10H10

lniņš, J. (*with* Bārzdiņš, J.) Graph-algorithms for parallel operation. (Russian) *Theory of finite automata and its applications, No.* 2 (*Russian*), *pp.* 60–76, 80. *Izdat. "Zinatne", Riga*, 1973. (V. N. Agafonov) **51** #15241 94A30 (68A25)

(*with* Bārzdiņš, J.) A certain graph transformation language that is oriented toward the representation of automata. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 5, 22–28. (B. Zelinka) **48** #10704 94A30

(*with* Bārzdiņš, J.) A universal automaton with variable structure. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 2, 9–17. (R. Shirtladze) **51** #15242 94A30

Simulation of parallel action automata in growing iterative networks. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 3, 80–93. (Author's summary) **57** #9358 94A30

See also **Theory of languages and methods of construction of programming systems, 48** #7682

alninsh, A. A. *See* **Kalniņš, A.**

alnitsky, K. C. (*with* Kwatny, Harry G.) An eigenvalue characterization and computational algorithm for multivariable system zeroes. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 369–373. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #17965 93B25

(*with* Kwatny, Harry G.) An eigenvalue characterization of multivariable system zeros. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 2, 259–262. (Authors' summary) **58** #15427 93B99

aloev, M. A. (*with* Žukovin, V. E.) Multicriterion scaling of qualitative characteristics in systems analysis. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 1, 53–56. (P. Vondráček) **53** #15316 90A99

(*with* Čavčanidze, V. V.; Žukovin, V. E.; Kočarjan, A. E.) Certain problems of systems analysis based on the theory of artificial conceptual intelligence (ACI). (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 2, 321–324. (Stephen Soule) **53** #2058 68A45

aloni, P. N. (*with* Chandna, O. P.) Steady plane flows of Cosserat fluids. *SIAM J. Appl. Math.* **31** (1976), *no.* 4, 686–698. (Jacques Mauss) **54** #14558 76.53

(*with* Kamel, M. T.) On the flow of a Cosserat fluid through a curved pipe. (French summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 4, 551–576. (Authors' summary) **58** #32336 76.35

aloni, Purna N. (*with* Smith, Raymond) Penny-shaped crack in a linear viscoelastic medium under torsion. *AIAA J.* **12** (1974), 1745–1747. (L. W. Morland) **50** #6273 73.45

alos, M. H. *See* **Studies in applied mathematics, 49** #4734

Kalotas, T. (*with* Lloyd, M. H.; Delves, L. M.) Euler-angle reduction of the Schrödinger equation for three-electron atoms. *J. Chem. Phys.* **48** (1968), 5494–5502. (G. R. Allcock) **48** #10375 81.47

Kalotay, Andrew J. Capacity expansion and specialization. *Management Sci.* **20** (1973/74), 56–64. (I. Gh. Ciobanu) **49** #8628 90B30

Joint capacity expansion without rearrangement. *Operational Res. Quart.* **26** (1975), *no.* 3, *part* 2, 649–658. (Richard F. Serfozo) **57** #5064 90B99

(*with* Wilson, Lynn O.) Alternating policies for non-rearrangeable networks. (French summary) *INFOR–Canad. J. Operational Res. and Information Processing* **14** (1976), *no.* 3, 193–211. (Rainer Burkard) **55** #2096 90B10

Kaloujnine, L. A. *See* **Kalužnin, L. A.**

Kalouptsidis, N. (*with* Elliott, David L.) Accessibility properties of smooth nonlinear control systems. *The* 1976 *Ames Research Center* (*NASA*) *Conference on Geometric Control Theory* (*Moffett Field, Calif.*, 1976), *pp.* 439–446. *Lie groups: History Frontiers and Appl., Vol. III, Math Sci Press, Brookline, Mass.*, 1977. (Author's review) **58** #30678 49E15 (57D25, 93B05)

Kalpakam, S. (*with* Srinivasan, S. K.) Finite dam with deterministic input. *J. Mathematical and Physical Sci.* **9** (1975), 31–48. (P. B. M. Roes) **50** #8761 60K30

Finite dam with alternating linear input and output. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 5, 443–460. (From the summary) **58** #14033 70.33 (76.60)

Kalra, S. N. (*with* Babu, C. Chitti) On feature extraction in multi-class pattern recognition. *Internat. J. Control* (1) **15** (1972), 595–601. (M. Arató) **48** #1538 68A45

Kalsi, P. S. (*with* Jain, Pawan Kumar) Growth of the geometric means of entire Dirichlet series. *Mathematica* (*Cluj*) **17(40)** (1975), *no.* 1, 71–76. (Shlomo Strelitz) **57** #16554 30A16

Kaltinska, Rumjana N. *See* **Mathematics and mathematical education, 49** #4719

Kalton, G. *See* **Kish, Leslie; et al., 51** #2064 *and* **Smith, T. M. F., 56** #4005

Kalton, Nigel J. Subseries convergence in topological groups and vector spaces. *Israel J. Math.* **10** (1971), 402–412. (Ky Fan) **45** #3628 22A05 (46A15)

Some forms of the closed graph theorem. *Proc. Cambridge Philos. Soc.* **70** (1971), 401–408. (A. McIntosh) **46** #634 46A30

(*with* Elliott, Robert J.) ★The existence of value in differential games. Memoirs of the American Mathematical Society, No. 126. *American Mathematical Society, Providence, R.I.*, 1972. iv+67 *pp.* (J. H. Case) **50** #12297 90D25

(*with* Elliott, Robert J.) Values in differential games. *Bull. Amer. Math. Soc.* **78** (1972), 427–431. (C. P. Tsokos) **45** #4840 90D25

(*with* Bennett, Grahame) *FK*-spaces containing c_0. *Duke Math. J.* **39** (1972), 561–582. (E. Dubinsky) **46** #9695 (E **47** #2312) 46B15 (40J05)

(*with* Bennett, Grahame) Addendum to: "*FK*-spaces containing c_0". *Duke Math. J.* **39** (1972), 819–821. (E. Dubinsky) **47** #2312 46A45

(*with* Elliott, Robert J.) The existence of value in differential games of pursuit and evasion. *J. Differential Equations* **12** (1972), 504–523. (A. B. Kuržanskiĭ) **50** #12298 90D25

Bases in weakly sequentially complete Banach spaces. *Studia Math.* **42** (1972), 121–131. (Ivan Singer) **46** #9697 46B15

(*with* Ruckle, William H.) A series characterization of subspaces of $L_p(\mu)$ spaces. *Bull. Amer. Math. Soc.* **79** (1973), 1019–1022. (J. R. Holub) **47** #9247 46B05

(*with* Bennett, Grahame) Inclusion theorems for *K*-spaces. *Canad. J. Math.* **25** (1973), 511–524. (E. Dubinsky) **48** #836 46A45

On the weak*-basis theorem. *Compositio Math.* **27** (1973), 213–215. (Grahame Bennett) **50** #2878 46B15 (46A35)

(*with* Elliott, Robert J.) Upper values of differential games. *J. Differential Equations* **14** (1973), 89–100. (A. Friedman) **49** #2119 90D25

On absolute bases. *Math. Ann.* **200** (1973), 209–225. (E. Dubinsky) **48** #9334 46A35

On summability domains. *Proc. Cambridge Philos. Soc.* **73** (1973), 327–338. (A. Alexiewicz) **47** #9236 46A45 (40J05)

Mackey duals and almost shrinking bases. *Proc. Cambridge Philos. Soc.* **74** (1973), 73–81. (G. J. O. Jameson) **47** #3962 46B15

(*with* Elliott, Robert J.; Markus, L.) Saddle points for linear differential games. *SIAM J. Control* **11** (1973), 100–112. (J. H. Case) **48** #3513 (EA **48**) 90D25

(*with* Elliott, Robert J.) Extended Isaacs equations for games of survival. *Differential games and control theory* (*Proc. NSF-CBMS Regional Res. Conf., Univ. Rhode Island, Kingston, R.I.*, 1973), *pp.* 321–336. *Lecture Notes in Pure Appl. Math., Vol.* 10, *Dekker, New York*, 1974. (From the authors' introduction) **56** #17867 90D25

(*with* Elliott, Robert J.; Friedman, Avner) Alternate play in differential games. *J. Differential Equations* **15** (1974), 560–588. (J. H. Case) **49** #4585 90D25

(*with* Elliott, Robert J.) Boundary value problems for nonlinear partial differential operators. *J. Math. Anal. Appl.* **46** (1974), 228–241. (Norman P. Coleman, Jr.) **52** #16679 90D25 (35F30, 35K50)

Spaces of compact operators. *Math. Ann.* **208** (1974), 267–278. (A. E. Tong) **49** #5904 47B05 (46B05)

Differential games with optional stopping. *Proc. Cambridge Philos. Soc.* **76** (1974), 263–284. (A. Friedman) **49** #6947 90D25

Exhaustive operators and vector measures. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 291–300. (Jürgen Batt) **52** #8936 46G10 (47B37)

Basic sequences in *F*-spaces and their applications. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), *no.* 2, 151–167. (C. Bessaga) **54** #3350 46A15

Topologies on Riesz groups and applications to measure theory. *Proc. London Math. Soc.* (3) **28** (1974), 253–273. (J. Diestel) **51** #10577 28A45 (46A40)

(*with* Bennett, Grahame) Consistency theorems for almost convergence. *Trans. Amer. Math. Soc.* **198** (1974), 23–43. (K. Kutzler) **50** #5418 46A45

(*with* Elliott, Robert J.) Cauchy problems for certain Isaacs-Bellman equations and games of survival. *Trans. Amer. Math. Soc.* **198** (1974), 45–72. (A. Friedman) **49** #12103 90D25

Differential games of survival. *The theory and application of differential games* (*Proc. NATO Advanced Study Inst., Univ. Warwick, Coventry*, 1974), *pp.* 45–61. *NATO Adv. Study Inst. Ser., Ser. C: Math. and Phys. Sci.*, 13. *Reidel, Dordrecht*, 1975. (M. I. Gusev) **58** #33023 90D25

Values of positional games. *The theory and application of differential games* (*Proc.

NATO Advanced Study Inst., Univ. Warwick, Coventry, 1974), *pp.* 293–300. *NATO Adv. Study Inst. Ser., Ser. C: Math. and Phys. Sci.*, 13, *Reidel, Dordrecht*, 1975. (Y. I. Kannai) **58** #26055 90D05

(*with* Shapiro, Joel H.) An *F*-space with trivial dual and non-trivial compact endomorphisms. *Israel J. Math.* **20** (1975), *no.* 3-4, 282–291. (D. Vogt) **53** #6271 46A15

(*with* Wood, Geoffrey V.) Radial Banach algebras. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), *no.* 104, 465–483. (A. M. Sinclair) **53** #3703 46H15

On a class of nonlinear functionals on spaces of continuous functions. *J. Math. Anal. Appl.* **54** (1976), *no.* 3, 726–740. (O. V. Vasilev) **54** #12237 90D25 (49A25)

(*with* Wood, Geoffrey V.) Orthonormal systems in Banach spaces and their applications. *Math. Proc. Cambridge Philos. Soc.* **79** (1976), *no.* 3, 493–510. (Richard Fleming) **53** #6291 46B15 (47B99)

(*with* Wood, Geoffrey V.) Homomorphisms of group algebras with norm less than $\sqrt{2}$. *Pacific J. Math.* **62** (1976), *no.* 2, 439–460. (B. E. Johnson) **54** #3296 43A20

(*with* Wood, Geoffrey V.) Idempotents of norm one and Banach algebra representations of compact groups. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 2, 361–366. (L. N. Argabright) **53** #1170 43A20 (43A65)

A note on the spaces L_p for $0<p<1$. *Proc. Amer. Math. Soc.* **56** (1976), 199–202. (J. B. Bednar) **55** #11022 46E30

(*with* Wilansky, Albert) Tauberian operators on Banach spaces. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 251–255. (Authors' summary) **57** #13555 47B05 (47B30)

Linear operators whose domain is locally convex. *Proc. Edinburgh Math. Soc.* (2) **20** (1976/77), *no.* 4, 293–299. (C. Bessaga) **56** #12949 47A99 (46A99, 47B99)

(*with* Shapiro, Joel H.) Bases and basic sequences in *F*-spaces. *Studia Math.* **56** (1976), *no.* 1, 47–61. (William Robinson) **54** #8215 46A35

(*with* Janicka, Liliana) Vector measures of infinite variation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 3, 239–241. (J. Diestel) **56** #3235 28A45

Compact and strictly singular operators on Orlicz spaces. *Israel J. Math.* **26** (1977), *no.* 2, 126–136. (Author's summary) **58** #30422 47B05 (46E30)

Orlicz sequence spaces without local convexity. *Math. Proc. Cambridge Philos. Soc.* **81** (1977), *no.* 2, 253–277. (W. H. Ruckle) **55** #6173 46A45

Compact *p*-convex sets. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 111, 301–308. (Benno Fuchssteiner) **58** #23496 46A99 (46A15)

Universal spaces and universal bases in metric linear spaces. *Studia Math.* **61** (1977), *no.* 2, 161–191. (P. Wojtaszczyk) **56** #16312 46A15

(*with* Wood, Geoffrey V.) Norm decreasing homomorphisms between ideals of $L^p(G)$. *Canad. J. Math.* **30** (1978), *no.* 1, 102–111. (Benjamin B. Wells) **57** #3747 43A15 (43A22)

Quotients of *F*-spaces. *Glasgow Math. J.* **19** (1978), *no.* 2, 103–108. (J. H. Williamson) **58** #12267 46A15 (47B05)

The endomorphisms of $L_p(0<p<i)$. *Indiana Univ. Math. J.* **27** (1978), *no.* 3, 353–381. (M. M. Rao) **57** #10416 46E30

Kalugin, V. N. *See* **Nonlinear boundary value problems of mathematical physics**, **50** #1797 *and* **Cybernetics and computer technology**, **50** #12334

Kalugina, A. S. (*with* Aksent'eva, E. P.) On the solution of the nonlinear Hilbert problem with constant coefficients. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 12 (1975), 9–18. (I. A. Volynec) **57** #16618 30A88

Kalugina, E. P. A generalized quadrature formula for multiple integrals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 12(115), 66–74. (Walter Gautschi) **45** #2917 65D30

An application of Legendre polynomials to the approximate computation of simple integrals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 1(128), 57–64. (Walter Gautschi) **47** #6070 65D30

An application of Legendre polynomials to the approximate computation of multiple integrals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 4(131), 27–35. (F. Pecka) **47** #9806 65D30

Kalugina, T. F. Interpolation of Banach spaces with a functional parameter. Reiteration theorem. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 6, 68–77. (Angelo Favini) **53** #11388 46M35

A priori estimates of the norms of the solutions of a regular elliptic problem in Banach spaces. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 3, 14–24. (H. Triebel) **54** #13296 35J10 (46M35, 46E35)

A class of functions of a nonnegative operator in a Banach space. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 6, 60–66. (V. V. Peller) **58** #7154 47A60

Functions of a nonnegative operator in a Banach space. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 2, 32–40. (P. A. Kučment) **56** #12939 47A60 (47D05)

A priori estimates for equations of parabolic type. (Russian) *Trudy Sem. Petrovsk. No.* 3 (1978), 61–80. (H. Triebel) **58** #1640 35K15 (46E35)

Kałuski, Jan An investigation of the sorting error of an automaton for multigroup sorting. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Automat. No.* 15 (1970), 77–88. (J. Morávek) **45** #8061 68A25

Kaluza, Theodor Ein Schnittpunkt-Satz. *Abh. Braunschweig. Wiss. Ges.* **28** (1977), 53–54. (Haskell Cohen) **58** #31036 54H99

Existenz streng monotoner Folgen in geordneten Mengen. *Abh. Braunschweig. Wiss. Ges.* **28** (1977), 55–57. (Hartmut Höft) **58** #27666 06A05 (06A10)

Ein Zusammenhang zwischen 1-Faktoren, Doppelsternen und gewissen Durchlaufungen von Graphen. *Abh. Braunschweig. Wiss. Ges.* **28** (1977), 59–63. (Editors) **58** #21848 05C99

Kalužin, A. A. (*with* Bykovcev, G. I.; Kretova, L. D.) Wave propagation in three-dimensional elastic-plastic bodies in the case of complete plasticity. *Inž. Ž. Meh. Tverd. Tela* **1967**, *no.* 3, 13–20 (*Russian*); *translated as Mechanics of Solids* **2** (1967), *no.* 3, 8–12 (1971). (H. R. Aggarwal) **46** #8505 73.35

Kalužnin, L. A. (*with* Bodnarčuk, V. G.; Kotov, V. N.; Romov, B. A.) Galois theory for Post algebras. I, II. (Russian. English summary inserts) *Kibernetika* (*Kiev*) **1969**, *no.* 3, 1–10; *ibid.* **1969**, *no.* 5, 1–9. (Authors' summary) **46** #55 02J10

★Primzahlzerlegung. Übersetzung aus dem Russischen: G. Pfister und L. Boll. Kleine Ergänzungsreihe zu den Hochschulbüchern für Mathematik, No. XXIII. *Deutscher Verlag der Wissenschaften, Berlin*, 1971. 40 *pp.* (Editors) **48** #219

(*with* Klin, M. H.) Certain maximal subgroups of symmetric and alternating g (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 91–121. (József Pelikán) **45** #6906 20B10

(*with* Andrunakievič, V. A.; Baranovič, T. M.; Belousov, V. D.; Berman, Gluskīn, L. M.; Golovin, O. N.; Zavalo, S. T.; Plotkin, B. I.; Sadovskiĭ, L. E.; Skornjakov, L. A.; Suprunenko, D. A.; Ševrin, L. N.; Šmel'kin, A. L.) In mem Aleksandr Gennadievič Kuroš (January 19, 1908-May 18, 1971). (Russian) Coll of articles commemorating Akeksandr Gennadievič Kuroš. *Trudy Moskov. Mat.* **29** (1973), 3–4. (Editors) **51** #7787 01A70

(*with* Suščans'kiĭ, V. Ī.) Wreath products of abelian groups. (Russian) Collect articles commemorating Aleksandr Gennadievič Kuroš. *Trudy Moskov. Mat. Obs* (1973), 147–163. (Ja. G. Berkovič) **53** #13437 (EA **54**) 20K25

(*with* Klin, M. H.) Some numerical invariants of permutation groups. (Rus *Latviĭsk. Mat. Ežegodnik Vyp.* 18 (1976), 81–99, 222. (J. D. Dixon) **57** #3221

(*with* Litver, E. L.; Mokriščev, K. K.; Suprunenko, D. A.; Haplanov, M Vladimir Petrovič Vel'min. Obituary. (Russian) *Uspehi Mat. Nauk* 31 (1976), *no.* 1 229–235. (Editors) **53** #12842 01A70

(*with* Aleksandrov, P. S.; Kostrikin, A. I.; Šmel'kin, A. L.) Oleg Nikolaevič Golovin (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Na* (1976), *no.* 4 (190), 283–287. (1 *plate*) (Editors) **54** #30 01A70

See also **Aleksandrov, P. S.; et al.**, **52** #7783; **Transactions of the Moscow Mathematical Society**, **52** #10313; **Cybernetics encyclopedia**, **54** #9919 *and* **Cybernetics encyclopedia**, **54** #9920

Kalvaitis, Rimas *See* **Mathematical programming**, **48** #7956

Kalyayev, A. V. *See* **Kaljaev, A. V.**

Kalybaev, A. A. (*with* Eržanov, Ž. S.; Egorov, Al. K.) Slowing down over the centuri the rotation of an absolutely rigid earth. (Russian. Kazakh summary) *Izv. Akad. Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 5, 32–40, 92. (From the text) **58** #14987

Kalymon, Basil A. Bond refunding with stochastic interest rates. *Management Sc* (1971/72), 171–183. (G. Tintner) **50** #12148 90A05

Machine replacement with stochastic costs. *Management Sci.* **18** (1971/72), 288–298. (A. Bensoussan) **45** #6391 90B25

Stochastic prices in a single-item inventory purchasing model. *Operations Re* (1971), 1434–1458. (K. Hinderer) **46** #3098 90C45

A decomposition algorithm for arborescence inventory systems. *Operations Re* (1972), 860–874. (Author's summary) **56** #10858 (E **56** #10859) 90B05

Structured Markovian decision problems. *Naval. Res. Logist. Quart.* **20** (1 1–11. (J. Casti) **47** #10079 90C40

Errata: "A decomposition algorithm for arborescence inventory systems" (Operations Res. **20** (1972), 860–874). *Operations Res.* **21** (1973), *no.* 6, 1323. (Ed **56** #10859 90B05

An optimization algorithm for a linear model of a simulation system. *Manage Sci.* **21** (1974/75), *no.* 5, 516–530. (I. M. Stancu-Minasian) **53** #7455 90C05

Kalynjak, L. I. (*with* Slobodjan, Ju. S.) The structure of four-dimensional Rieman spaces that admit a three-parameter family of two-dimensional totally geodesic surf (Russian) *Ukrain. Geometr. Sb. No.* 7 (1969), 62–64, 184 (1970). (M. C. Cl **48** #1079 53B25

Kalžanov, K. The stability of a Poisson flow. (Russian) *Izv. Akad. Nauk UzSSR Fiz.-Mat. Nauk* **1975**, *no.* 2, 75–77. (O. K. Zakusilo) **55** #11431 60K25

The nearness of two Palm flows. (Russian. Uzbek summary) *Izv. Akad. N UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 4, 25–30, 82. (O. K. Zakusilo) **55** #114 60K25

(*with* Azlarov, T. A.) Estimation of the stability of a certain system with wa time. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 5, 68–69 Khalil) **57** #4354 60K25

(*with* Azlarov, T. A.) An estimate of the stability of a queueing system. (Russi *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 490 *Voprosy Matematiki* (1976), 21–26, (Authors' summary) **58** #3092 60K25

Kalzidu, D. (*with* v. Blumenthal, N.; Bock, H.-M.; Drechsler, J.; Erbe, H.; Giencke, Hieronimus, K.; Krause, Günter; Knothe, K.; Lehmann, Daniel; Petersen, J.; Rinneberg, Chr.) ★Einführung in finite Berechnungsverfahren. Redaktionelle Bearbeitung: Klaus Hieronimus, Klaus Knothe und Jürgen Petersen. *Abteilung Publikationen, Universitätsbibliothek, Technische Universität Berlin, Berlin*, 1972. xiii+394 *pp.* (Editors) **50** #9133 (EA **51**) 73.65 (65N30)

Kam, John B. (*with* Ullman, Jeffrey D.) Monotone data flow analysis frameworks. *Informat.* 7 (1976/77), *no.* 3, 305–317. (David B. Benson) **55** #6917 68A05

(*with* Ullman, Jeffrey D.) Global data flow analysis and iterative algorithms. *Assoc. Comput. Mach.* **23** (1976), *no.* 1, 158–171. (Karel Čulik) **53** #9697 68 (05C20, 06A20)

Kamačkin, A. M. Existence and uniqueness of the periodic solution of a relay system hysteresis. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1505–1506. (S. R. Bernf **46** #7634 34C25

Letters to the editors. (Russian) All-Union Symposium on Selected Questions Partial Differential Equations (Prièlbrus, 1972). *Differencial'nye Uravnenija* **9** (19 192. (S. R. Bernfeld) **48** #6555 (EA **49**) 34C25

Kamadžiev, Petko Rusev *See* **Mladžov, L.**, **58** #16033

Kamae, Teturo A topological invariant of substitution minimal sets. *J. Math. Soc. Ja* **24** (1972), 285–306. (H. Keynes) **45** #2688 54H20

Subsequences of normal sequences. *Israel J. Math.* **16** (1973), 121–149. (Mich Keane) **49** #3086 28A70

On Kolmogorov's complexity and information. *Osaka J. Math.* **10** (1973), 305–3 (John T. Gill) **49** #4302 68A20

On sets of natural numbers that cannot be recognized by a finite automat (Japanese) *Sûgaku* **25** (1973), 365–367. (Kenji Onaga) **55** #2408 94A30

(*with* Weiss, Benjamin) Normal numbers and selection rules. Conference on Ergodic Theory and Topological Dynamics (Kibbutz Lavi, 1974). *Israel J. Math.* (1975), *no.* 2-3, 101–110. (Keith M. Wilkinson) **53** #5522 10K25

Normal numbers and ergodic theory. *Proceedings of the Third Japan-USSR* *ymposium on Probability Theory* (*Tashkent*, 1975), *pp.* 253–269. *Lecture Notes in Math.*, *ol.* 550, *Springer*, *Berlin*, 1976. (Gérard Rauzy) **56** #586 28A65 (10K25)

Mutual singularity of spectra of dynamical systems given by "sums of digits" to ifferent bases. *Dynamical systems*, *Vol. I—Warsaw*, *pp.* 109–114. *Astérisque*, *No.* 49, *oc. Math. France*, *Paris*, 1977. (Gérard Rauzy) **58** #5566 10K10 (28A65)

(*with* Krengel, Ulrich; O'Brien, George) Stochastic inequalities on partially ordered paces. *Ann. Probability* **5** (1977), *no.* 6, 899–912. (R. M. Dudley) **58** #13308 0G10

(*with* Coquet, Jean; Mendès-France, Michel) Sur la mesure spectrale de certaines uites arithmétiques. (English summary) *Bull. Soc. Math. France* **105** (1977), *no.* 4, 69–384. (J.-P. Kahane) **57** #12439 10K35 (42A84)

See also **Daley, Robert P.**, **51** #12022 (E **55** #13871)

aev, D. A. (*with* Žirov, A. Ju.; Plykin, R. V.) One-dimensional plane solenoids and ome of their applications. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 4, 56–759. (Ju. E. Gliklih) **55** #13499 58F20

aeva, V. V. (*with* Bogoljubov, N. N. (ml.); Plečko, V. N.) The dynamical structure actor and the Green's function in nonclassical systems. (Russian. English summary) *eoret. Mat. Fiz.* **32** (1977), *no.* 1, 59–69. (Tetz Yoshimura) **56** #10661 82.46

agata, Toshio (*with* Ando, Hideo; Fukuhara, Kenzo) On mod $\mathfrak{C}$ excision theorems. *ôhoku Math. J.* (2) **25** (1973), 541–551. (J. C. Becker) **50** #5788 55D40

al, A. K. (*with* Singh, Harpreet; Puri, Satish; Nanda, N. K.) On the evaluation of ransition matrices in finite fields. *Internat. J. Systems Sci.* **6** (1975), 561–564. (Authors' ummary) **51** #7751 94A25

al', Ahmed Dib Linear equations with integral separation that are everywhere dense in he set of all linear differential equations of order n. (Russian) *Differencial'nye ravnenija* **9** (1973), 1417–1424, 1548. (E. Leimanis) **50** #2627 34D10

al, Samir *See* **Special issue: Fault-tolerant computing**, **54** #1693

ala, P. S. (*with* Lakshmikantham, V.) Asymptotic self invariant sets and functional ifferential equations in Banach spaces. *Ann. Mat. Pura Appl.* (4) **96** (1972), 217–231. Stefan Balint) **48** #6597 34G05

Nonlinear variation of constants formula and a functional inequality. (Romanian ummary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **21** (1975), 41–46. (T. . Burton) **53** #3385 34A05

alākara *See* **Gupta, Radha Charan**, **55** #5343 *and* **Gupta, Radha Charan**, **58** #26728

alamma, K. N. (*with* Harinath, K. S.) A few remarks on a binary structure. *Vignana harathi* **2** (1976), *no.* 2, 22–26. (V. Havel) **54** #445 20N99

(*with* Harinath, K. S.) Some elementary results in ring theory. *Vignana Bharathi* **4** 1978), *no.* 1, 55–61. (Authors' summary) **58** #22137 16–01

aletdinova, N. F. (*with* Piragas, K. A.) Stability of circular orbits in a gravitational ield of two centers. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 9 (1973), 115–126. RŽFiz **1974** #6 B181) **58** #32731 83.34

alitdinova, N. I. The asymptotic expansion of the solutions of integro-differential quations with slowly varying parameters. (Russian) *Izv. Akad. Nauk UzSSR Ser. iz.-Mat. Nauk* **17** (1973), *no.* 3, 94–96. (K. Seitz) **48** #11957 45J05

The construction of an asymptotic expansion for the solutions of integro-differential quations with slowly varying parameters (second approximation). (Russian) *Voprosy yčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 24 (1974), 11–16, 233. (Author's summary) 8 #23457 45M05 (45J05)

Solution by the asymptotic method of the dynamical problem of a cylinder with a lowly changing interior boundary. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR er. Fiz.-Mat. Nauk* **1975**, *no.* 5, 8–10. (V. Gheorghiţă) **53** #9800 73.34

The freezing method for systems with fast and slow variables. (Russian) *Voprosy yčisl. i Prikl. Mat.* (*Tashkent*) *No.* 42 (1976), 89–103, 189. (RŽMat **1977** #4 B384) 8 #29977 45M05 (45J05)

alov, F. F. Q-groups and Fuchs 5 groups. (Russian) *Izv. Vysš. Učebn. Zaved. atematika* **1974**, *no.* 10(149), 29–36. (A. I. Moskalenko) **51** #5803 20K25

Fuchs5 groups with cardinality $\aleph_1$. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **975**, *no.* 8(159), 46–54. (L. Bican) **53** #10951 20K20

Intersections of direct summands of abelian groups. (Russian) *Izv. Vysš. Učebn. aved. Matematika* **1977**, *no.* 5(180), 45–56. (Editors) **58** #16912 20K25

ara, Morike (*with* Schweigert, Dietmar) Eine Charakterisierung polynomvollständiger olaritätsverbände. *Arch. Math.* (*Basel*) **30** (1978), *no.* 6, 661–664. (Ralph Freese) 8 #10637 06A20

Zur Konstruktion vollständiger Polaritätsverbände. *J. Reine Angew. Math.* **299/300** 1978), 280–286. (Werner Poguntke) **58** #416 06A30 (06A23)

Treillis continus et treillis complètement distributifs. *Semigroup Forum* **16** (1978), *o.* 3, 387–388. (R. Piziak) **58** #21881 06A35

at, P. S. (*with* Martz, Harry F., Jr.) Empirical Bayes state estimation in discrete time near systems. *AIAA J.* **9** (1971), 1654–1656. (J. J. Deely) **48** #3573 93E10

Comments on: "A note on the inversion of complex matrices" (IEEE Trans. utomatic Control **AC-19** (1974), 64) by Winthrop W. Smith, Jr. and Stephen Erdman. ith a reply by Winthrop W. Smith, Jr. and Stephen Erdman. *IEEE Trans. Automatic ontrol* **AC-20** (1975), 301–302. (Ralph E. Carlson) **51** #7262c 65F05

ata, Kazuo (*with* Tsujii, Shigeo; Tsurumi, Yasuo) A unified study on multiple nformation transmission systems with respect to mutual information and mean square rror criteria. *Electron. Commun. Japan* **58** (1975), *no.* 5, 28–35. (S. Guiaşu) **55** #7570 94A05

ata, Masayoshi On the complex bordism group of semi-direct product $S^1\cdot Z_2$. *Math. ep. College General Ed. Kyushu Univ.* **8** (1971/72), 21–27. (A. Liulevicius) **48** #1232 E **52** #6760) 55F45

On the differential $d_\xi^{p,0}$ of U-cobordism spectral sequence. *Osaka J. Math.* **8** (1971), 33–241. (P. S. Landweber) **45** #6019 57D90

Notes on the cobordism group $U^*(L^n(m))$. *Osaka J. Math.* **9** (1972), 287–292. (R. . Stong) **47** #7728 55B20

(*with* Minami, Haruo) Bordism groups of dihedral groups. *J. Math. Soc. Japan* **25** 1973), 334–341. (J. P. Levine) **47** #9655 57D85

(*with* Fujino, Tsutomu; Ishikawa, Nobuhiro) On the complex K-group of certain anifold. *Math. Rep. College General Ed. Kyushu Univ.* **9** (1973/74), 1–6. (D. urghelea) **49** #6219 55B15

On complex cobordism groups of classifying spaces for dihedral groups. *Osaka J. Math.* **11** (1974), 367–378. (R. E. Stong) **50** #5825 57D85

Correction to "On the complex bordism group of a semi-direct product $S^1\cdot Z_2$" (Math. Rep. College General Ed. Kyushu Univ. **8** (1971/72), 21–27). *Math. Rep. College General Ed. Kyushu Univ.* **10** (1975), *no.* 1, 85–89. (A. Liulevicius) **52** #6760 57D90

(*with* Sugawara, Tamio) A note on Landweber-Novikov operations on the complex cobordism ring U^*. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 1, 51–58. (P. S. Landweber) **51** #9089 57D90 (55B20)

Kambartel, Friedrich Frege und die axiomatische Methode. Zur Kritik mathematikhistorischer Legitimationsversuche der formalistischen Ideologie. *Studien zu Frege, Band I*, *pp.* 215–228. *Problemata*, *No.* 42, *Frommann-Holzboog*, *Stuttgart*, 1976. (Editors) **58** #27230 02A05 (01A60, 02–03)

See also **Gesamtausgabe: Bolzano, Bernard**, **58** #21347a *and* **Frege, Gottlob**, **58** #27146

Kambayashi, Tatsuji Plücker coordinates for regular chain groups. *Canad. J. Math.* **25** (1973), 117–126. (W. Dörfler) **47** #1639 05A99

(*with* Miyanishi, Masayoshi; Takeuchi, Mitsuhiro) ★Unipotent algebraic groups. Lecture Notes in Mathematics, Vol. 414. *Springer-Verlag*, *Berlin-New York*, 1974. v + 165 *pp.* (Lucile Bégueri) **51** #12871 14L15 (14G05, 14M20)

On the absence of nontrivial separable forms of the affine plane. *J. Algebra* **35** (1975), 449–456. (T. Oda) **51** #5613 14M20

On certain algebraic groups attached to local number-fields. *J. Reine Angew. Math.* **273** (1975), 41–48. (J. E. Bertin) **51** #8128 14L15 (20G25)

(*with* Miyanishi, Masayoshi) ★On forms of the affine line over a field. Lectures in Mathematics, Kyoto University, No. 10. *Kinokuniya Book-Store Co., Ltd.*, *Tokyo*, 1977. i + 80 *pp.* (Andy R. Magid) **57** #6040 14M20 (14L15)

Kambayashi, Yahiko Sequential machines classified by input-output relations. *Systems-Computers-Controls* **1** (1970), *no.* 4, 49–57 (1971). (J. D. Rutledge) **46** #5079 94A30

(*with* Yajima, Shuzo) The upper bound of k in k-lossless sequential machines. *Information and Control* **19** (1971), 432–438. (W. Wechler) **46** #10517 94A25

(*with* Yajima, Shuzo) Finite memory machines satisfying the lower bound of memory. *Information and Control* **20** (1972), 150–157. (N. Zierler) **48** #1826 94A30

(*with* Yajima, Shuzo) Controllability of sequential machines. *Information and Control* **21** (1972), 306–328. (Authors' summary) **55** #14440 94A25

(*with* Yajima, Shuzo) Finite-memory sequential machines and information-lossless sequential machines. *Systems-Computers-Controls* **4** (1973), *no.* 3, 9–16. (Forbes D. Lewis) **49** #7033 94A25

(*with* Yamasaki, Susumu) Control of pushdown automata. *Systems-Computers-Controls* **5** (1974), *no.* 5, 36–42 (1975). (Authors' summary) **55** #4789 68A25 (93B05)

Optimum logic design using memory-type arrays. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci.*, *Tokyo*, 1975), *pp.* 199–205. *IEEE Computer Soc.*, *New York*, 1975. (Izzet Cem Göknar) **58** #15716 94A20 (68A10)

(*with* Yamasaki, Susumu) Control of pushdown automata and related topics. *2nd USA-Japan Computer Conference Proceedings* (*Tokyo*, 1975), *pp.* 321–323. *AFIPS Press*, *Montvale, N.J.*, 1975. (Etsuro Moriya) **57** #8166 68A25

(*with* Agusa, Kiyoshi) Synthesis of a hazardless NAND network. *Systems-Computers-Controls* **6** (1975), *no.* 2, 13–21. (Krzysztof Sapiecha) **56** #18125 94A20

See also **Cybernetics collection**, **52** #16085

Kambe, Ryouichi On quantum field theory. I. Quantum field theory as quantum mechanics. *Progr. Theoret. Phys.* **52** (1974), 688–706. (Author's summary) **53** #9977 81.46

Kamber, Franz W. (*with* Tondeur, Philippe) ★Invariant differential operators and the cohomology of Lie algebra sheaves. Memoirs of the American Mathematical Society, No. 113. *American Mathematical Society*, *Providence*, *R. I.*, 1971. i + 125 *pp.* (D. B. Fuks) **54** #1250 57D30 (57E99, 22E45)

(*with* Tondeur, Philippe) Invariant differential operators and cohomology of Lie algebra sheaves. *Differentialgeometrie im Großen* (*Tagung*, *Math. Forschungsinst.*, *Oberwolfach*, 1969), *pp.* 177–230. *Ber Math. Forschungsinst. Oberwolfach*, *Heft* 4, *Bibliographisches Inst.*, *Mannheim*, 1971. (D. B. Fuks) **51** #6843 57D30

(*with* Tondeur, Philippe) Cohomologie des algèbres de Weil relatives tronquées. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A459–A462. (H. Suzuki) **47** #9660 57F15 (17B55, 18G40, 22E60, 57D30)

(*with* Tondeur, Philippe) Algèbres de Weil semi-simpliciales. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1177–A1179. (H. Suzuki) **47** #9661 57F15 (17B55, 18G40, 22E60, 57D30)

(*with* Tondeur, Philippe) Homomorphisme caractéristique d'un fibré principal feuilleté. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1407–A1410. (H. Suzuki) **47** #9662 57F15 (17B55, 18G40, 22E60, 57D30)

(*with* Tondeur, Philippe) Classes caractéristiques dérivées d'un fibré principal feuilleté. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1449–A1452. (H. Suzuki) **51** #4271 57D30

(*with* Tondeur, Philippe) Classes caractéristiques généralisées des fibrés feuilletés localement homogènes. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 847–850. (H. Suzuki) **51** #4272 57D30

(*with* Tondeur, Philippe) Quelques classes caractéristiques généralisées non triviales de fibrés feuilletés. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 921–924. (H. Suzuki) **51** #14095 57D30 (57D20)

(*with* Tondeur, Philippe) Characteristic invariants of foliated bundles. *Manuscripta Math.* **11** (1974), 51–89. (H. Suzuki) **48** #12556 57D30

(*with* Tondeur, Philippe) ★Foliated bundles and characteristic classes. Lecture Notes in Mathematics, Vol. 493. *Springer-Verlag*, *Berlin-New York*, 1975. xiv + 208 *pp.* (D. B. Fuks) **53** #6587 57D30

(*with* Tondeur, Philippe) Semisimplicial Weil algebras and characteristic classes for foliated bundles in Čech cohomology. *Differential geometry* (*Proc. Sympos. Pure Math.*, *Vol. XXVII*, *Stanford Univ.*, *Stanford*, *Calif.*, 1973), *Part* 1, *pp.* 283–294. *Amer. Math. Soc.*, *Providence*, *R.I.*, 1975. (D. B. Fuks) **52** #6745 57D30 (57D20) (*with* Tondeur, Philippe) Non-trivial characteristic invariants of homogeneous foliated bundles. *Ann. Sci. École Norm. Sup.* (4) **8** (1975), *no.* 4, 433–486. (D. B. Fuks) **52** #15499 57D30

(*with* Tondeur, Philippe) Classes caractéristiques et suites spectrales d'Eilenberg-Moore. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 12, Ai, A883–A886. (D. B. Fuks) **55** #4203 57D30 (55H20)

Kambo, N. S. Error bounds for the Clenshaw-Curtis quadrature formulas. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **11** (1971), 299–309. (Author's summary) **45** #1388 65D30

(*with* Singh, Samar) Best exponential upper bounds to error probability obtainable by random coding for binary symmetric channels. *Information and Control* **21** (1972), 261–279. (A. D. Wyner) **48** #8103 94A10

(*with* Singh, Samar) Best asymptotic value of the error exponent with random coding on discrete memoryless channels. *J. Appl. Probability* **9** (1972), 327–336. (L. L. Campbell) **49** #4660 94A15

(*with* Singh, Samar) Best exponential upper bounds to error probability obtainable by random coding for binary erasure channels. *Sankhyā Ser. A* **34** (1972), 275–284. (P. W. Mielke, Jr.) **49** #4650 94A10

A note on asymptotic minimal weights for an integration rule. *J. Inst. Math. Appl.* **12** (1973), 159–164. (James Howland) **49** #8288 65D30

Error bounds for a Chebyshev quadrature scheme. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 30–37. (D. B. Hunter) **48** #7553 65D30

Optimal quadrature formulas. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 415–422. (J. Kofroň) **49** #8289 65D30

(*with* Singh, Samar) The capacities of certain special channels with arbitrarily varying channel probability functions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **29** (1974), 331–344. (Suguru Arimoto) **58** #26536 94A15

(*with* Singh, Samar) Kraft inequality for decoding with respect to non-balanced distortion measures. *IEEE Trans. Information Theory* **IT-21** (1975), 102–104. (L. L. Campbell) **52** #10238 94A15

(*with* Singh, Samar) Source code error bound in the excess rate region. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 1, 65–70. (Authors' summary) **58** #26524 94A10

Kambouzia, Mehri (*with* Fortet, Robert) Ensembles aléatoires, répartitions ponctuelles aléatoires, problèmes de recouvrement. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **11** (1975), *no.* 4, 299–316 (1976). (Pamela J. Davy) **54** #3796 60D05 (60G55)

(*with* Fortet, Robert) Ensembles aléatoires induits par une répartition ponctuelle aléatoire. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aii, A1447–A1450. (F. W. Steutel) **52** #1874 60G55 (60D05)

(*with* Fortet, Robert) Recouvrement par un ensemble aléatoire. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 11, Aii, A397–A398. (Leopold Flatto) **52** #6827 60D05

(*with* Fortet, Robert) Ensembles aléatoires et ensembles flous. *Publ. Économétriques* **9** (1976), *no.* 1, 1–23, 101. (Authors' summary) **55** #13525 60D05

Kameda, Hiroyuki On the probability distribution of the number of crossings of a certain response level in random vibration. *Mem. Fac. Engrg. Kyoto Univ.* **34** (1972), 68–83. (D. R. Brillinger) **47** #4331 60G99

(*with* Koike, Takeshi) Reliability theory of structures with strength degradation in load history. *Mem. Fac. Engrg. Kyoto Univ.* **35** (1973), 331–360. (J. Murzewski) **50** #1609 73.60

Kameda, Hisao (*with* Gotlieb, Calvin C.) A feedback-coupled resource allocation policy for multiprogrammed computer systems. *Acta Informat.* **8** (1977), *no.* 4, 341–357. (Anita M. Goldner) **57** #8203 68A35

Kameda, Tsunehiko (*with* Vollmar, Roland) Zur Umkehrkomplexität von Sprachen. *Automatentheorie und formale Sprachen* (*Tagung Math. Forschungsinst., Oberwolfach,* 1969), *pp.* 327–339. *Bibliographisches Inst., Mannheim,* 1970. (H. Jürgensen) **49** #8424 68A20

(*with* Weiner, Peter) On the state minimization of nondeterministic finite automata. *IEEE Trans. Computers* **C-19** (1970), *no.* 7, 617–627. (Authors' summary) **53** #2556 94A30

Pushdown automata with counters. *J. Comput. System Sci.* **6** (1972), 138–150. (Michael Anshel) **55** #1824 68A25

(*with* Weihrauch, Klaus) ★Einführung in die Codierungstheorie. I. Skripten zur Informatik, Band 7. *Bibliographisches Institut, Mannheim-Vienna-Zurich,* 1973. vii + 215 *pp.* (Editors) **50** #4106 94A10

(*with* Toida, Shunichi) Efficient algorithms for determining an extremal tree of a graph (extended abstract). 14*th Annual IEEE Symposium on Switching and Automata Theory* (*Univ. Iowa, Iowa City, Iowa,* 1973), *pp.* 12–15. *IEEE Comput. Soc., Northridge, Calif.,* 1973. (Narsingh Deo) **56** #5341 05C05 (90B10, 68A10)

(*with* Munro, J. Ian) A $O(|V|\cdot|E|)$ algorithm for maximum matching of graphs. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **12** (1974), *no.* 1, 91–98. (Curtis R. Cook) **53** #4607 68A10 (05C99)

On the vector representation of the reachability in planar directed graphs. *Information Processing Lett.* **3** (1974/75), 75–77. (A. D. Koršunov) **53** #189 05C20

Note on Halin's theorem on minimally connected graphs. *J. Combinatorial Theory Ser. B* **17** (1974), 1–4. (D. L. Greenwell) **54** #5028 05C10

(*with* Allan, F. J.; Toida, Shunichi) An approach to the diagnosability analysis of a system. *IEEE Trans. Computers* **C-24** (1975), *no.* 10, 1040–1042. (S. L. Hakimi) **54** #12374 94A20

(*with* Toida, Shunichi; Allan, F. J.) A diagnosing algorithm for networks. *Information and Control* **29** (1975), *no.* 2, 141–148. (S. L. Hakimi) **54** #12387 94A20

On maximally distant spanning trees of a graph. (German summary) *Computing* **17** (1976), *no.* 2, 115–119. (R. L. Graham) **54** #12556 05C05

(*with* Abdel-Wahab, H. M.) Optimal code generation for machines with different types of instructions. *Information processing 77* (*Proc. IFIP Congr., Toronto, Ont.,* 1977), *pp.* 129–132. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam,* 1977. (Authors' summary) **58** #13856 68A05

A polynomial-time test for the deadlock-freedom of computer systems. *Theoretical computer science* (*Third GI Conf., Darmstadt,* 1977), *pp.* 282–291. *Lecture Notes in Comput. Sci., Vol.* 48, *Springer, Berlin,* 1977. (Author's summary) **57** #18297 (90B10)

(*with* Sadeh, E.) Bounds on the number of fuzzy functions. *Information and* **35** (1977), *no.* 2, 139–145. (Masaharu Mizumoto) **56** #15184 94A20

(*with* Abdel-Wahab, H. M.) Scheduling to minimize maximum cumulati subject to series-parallel precedence constraints. *Operations Res.* **26** (1978). 141–158. (John C. Gittins) **58** #4278 90B35

See also **Complexity of computations and algorithms**, **51** #2325

Kamefuchi, Susumu (*with* Ohnuki, Yoshio) The locality condition in parafermi fielc theory. *International Symposium on Mathematical Problems in Theoretical Physic* (*Kyoto Univ., Kyoto,* 1975), *pp.* 107–110. *Lecture Notes in Phys.*, 39. *Springer,* 1975. (Editors) **58** #32596 81.47

(*with* Omote, Minoru) Supersymmetry and the para-Bose algebra. *Lett. Cimento* (2) **17** (1976), *no.* 6, 220–224. (From the authors' text) **57** #4867 8

(*with* Omote, Minoru; Ohnuki, Yoshio) Fermi-Bose similarity. *Progr. Phys.* **56** (1976), *no.* 6, 1948–1964. (Authors' summary) **54** #12013 81.22

(*with* Ohnuki, Yoshio) On the wave-mechanical representation of a Bose-like oscillator. *J. Mathematical Phys.* **19** (1978), *no.* 1, 67–78. (W. Güttinger) **57** # 81.47

Kamei, Eiichi Idealquotient chain condition in commutative rings. *Res. Bull. Fac. Univ.* **4** (1971/74), *no.* 3, 1–4. (Anthony E. Hoffman) **49** #4999 13E99

Kamei, Eizaburo (*with* Kato, Yoshinobu; Watatani, Yasuo) Pseudoradical of a operator algebra. *Math. Japon.* **21** (1976), *no.* 4, 381–386. (P. Saworotnow) **55** # 46L10

(*with* Kato, Yoshinobu) Partial isometries of the Calkin algebra. *Math. Ja* (1977), *no.* 1, 73–78. (Authors' review (Zbl **366** #46044)) **58** #7118 46M20 58G10)

(*with* Kato, Yoshinobu) Homotopical properties of partial isometries of the algebra. *Math. Japon.* **22** (1977), *no.* 1, 83–87. (Robert S. Doran) **56** #16401 (46L15, 55D99)

Topological properties of normal elements of the Calkin algebra. *Math. Ja* (1977), *no.* 2, 239–241. (Z. Takeda) **58** #12422 46M20 (46L99)

(*with* Kato, Yoshinobu) On operator equations $AB+BA^*=A^*B+BA=1$. *Japon.* **23** (1978), *no.* 1, 129–130. (George P. Barker) **58** #2385 47A60 (15A

Quasitriangularity in C^*-algebras. *Math. Japon.* **23** (1978), *no.* 1, 141–145 White) **58** #12402 46L05

Kamejima, Koji (*with* Sunahara, Yoshifumi; Aihara, Shin'ichi; Kishino, Kiyota stochastic observability and controllability for nonlinear distributed parameter sy *Information and Control* **34** (1977), *no.* 4, 348–371. (Pierre-Louis Lions) **58** # 93E15

Kamel, A. A. (*with* Hassan, S. D.) A perturbation treatment for optimal slightly n systems with linear control and quadratic criteria. *J. Optimization Theory* (1973), 386–404. (V. F. Dem′janov) **51** #6540 49D99

Kamel, Ahmed Aly Lie transforms and the Hamiltonization of non-Hamiltonian sy *Celestial Mech.* **4** (1971), 397–405. (F. V. Pohle) **47** #1343 70.34 (85.34)

(*with* Breakwell, John V.; Ratner, Martin J.) Station-keeping for a tra communication station. *Celestial Mech.* **10** (1974), 357–373. (T. Zolezzi) **51** # 93C99

Kamel, M. T. (*with* Kaloni, P. N.) On the flow of a Cosserat fluid through a curve (French summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 4, 551–576. (Authors' summary) **58** #32336 76.35

Kamel, Osman Saïd Mostafa (*with* Meffroy, Jean) Sur les perturbations séculaire théorie planétaire générale du deuxième ordre construite à l'aide des variables canoniques de Poincaré et de la méthode de von Zeipel. *C. R. Acad. Sci. Paris* **279** (1974), 305–308. (L. F. Oster) **50** #12141 85.41

(*with* Meffroy, Jean; Hamid, Salah) Sur les perturbations séculaires d'une planétaire générale du deuxième ordre construite à l'aide des variables canoni Poincaré et de la méthode de Von Zeipel. *C. R. Acad. Sci. Paris Sér. A* **279** 671–674. (Authors' summary) **55** #9639 70.35 (85.35)

Kamelin, V. V. The transition solutions of differential equations. (Russian) *Pern Univ. Učen. Zap. No.* 218 (1969), 145–153. (Z. V. Kovarik) **45** #5441 34A10 (47H15)

On the question of the existence of transitional solution of differential eq (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 239 (1969), 234–245 (1971). (W. S. **45** #3819 34A10

Kamemori, Toshimasa On the time-optimal control for certain nonlinear system *Tokyo Gakugei Univ.* (4) **27** (1975), 40–54. (M. B. Suryanarayana) **52** #9052

Sensitivity for cost functionals of a controllable linear system and its e system. *Bull. Tokyo Gakugei Univ.* (4) **28** (1976), 33–38. (Claude Foulard) **56** # 93B35

Note on the linear transformation matrices appeared in a sensitivity. *Bull. Gakugei Univ.* (4) **28** (1976), 39–42. (Claude Foulard) **56** #2528 93B35

Kamen, Edward W. Control of linear continuous-time systems defined over r distributions. *Category theory applied to computation and control* (*Proc. First Sympos., San Francisco, Calif.,* 1974), *pp.* 180–185. *Lecture Notes in Comput. S* 25, *Springer, Berlin* 1975. (Roger Brockett) **51** #12361 93A10 (93B05)

On an operator theory of linear systems with pure and distributed delays. *Proceedings of the IEEE Conference on Decision and Control including the 14th Symposium on Adaptive Processes* (*Houston, Tex.,* 1975), *pp.* 77–80. *Inst. Electr. E Engrs., New York,* 1975. (From the summary) **58** #4507 93B99 (93B05)

On an algebraic theory of systems defined by convolution operators. *Math. Theory* **9** (1975), *no.* 1, 57–74. (J. William Helton) **52** #16744 93A10 (44A4

Finiteness in infinite-dimensional systems applied to regulation. *Mathe systems theory* (*Proc. Internat. Sympos., Internat. Centre Mech. Sci., Udine,* 19 252–265. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer, Berlin* (Author's summary) **58** #33224 93A99

Representation and realization of operational differential equations with time-varying coefficients. *J. Franklin Inst.* **301** (1976), *no.* 6, 559–571. (Author's summary) **58** #9448 93A10

Module structure of infinite-dimensional systems with applications to ontrollability. *SIAM J. Control Optimization* **14** (1976), *no.* 3, 389–408. (Christopher I. yrnes) **58** #4489 93B05 (49B35)

enarov, G. N. (*with* Božorov, E. E.) The existence of linear combinations that are ndependent of a certain σ-algebra and are composed of random vectors dependent on . (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* (1972), *no.* 2, 9–17 (1973). (B. Kronfeld) **53** #14564 60A10

(*with* Božorov, E. E.) Properties of the difference between the conditional and the nconditional probability of the events of a certain σ-algebra, and some related limit eorems. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. aved. Mat.* **8** (1972), *no.* 2, 19–29 (1973). (B. Kronfeld) **53** #14565 60A10

enarov, Sebastijan Certain optimization methods for flows in networks. (Bulgarian. ussian and English summaries) *Trudove Visš. Ikonom. Inst. "Karl Marks"–Sofija* 973, *no.* 1, 179–237. (Author's summary) **56** #10875 90B10 (05C35)

enarović, I. (*with* Tomašić, Vesna) Generalized Möbius *m*-structure. Papers presented t the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 05–608. (Robert L. Wilson, Jr.) **53** #5340 05B30

-Kameneckiĭ, A. D. *See* **Frank-Kameneckiĭ, A. D.**

eneckiĭ, A. Ja. A method for the solution of degenerate linear programming problems. Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1976**, *no.* 3, 57–60, 87. (C. Bergthaller) 7 #5073 90C05

eneckiĭ, A. M. A class of combinatorial problems of the theory of finite groups. Russian) *Combinatorial and asymptotic analysis* (*Russian*), *pp.* 53–69. *Krasnojarsk. Gos. niv., Krasnoyarsk*, 1975. (Editors) **58** #27544 05A99 (20D99)

-Kameneckiĭ, M. D. *See* **Frank-Kameneckiĭ, M. D.**

nev, I. V. A certain sufficient condition of the oscillatoriness of the solutions of a ifferential equation of higher order. (Russian) *Mat. Zametki* **9** (1971), 421–423. (J. W. acki) **45** #649 34C10

Some nonlinear oscillation theorems. (Russian) *Moskov. Inst. Èlektron. ašinostroenija—Trudy MIÈM No.* 15 *Funkcional. Anal. i Priložen.* (1971), 50–80. (See ŽMat **1971** #8 B159) 34C15

Asymptotic behavior of the solutions of certain systems of linear differential quations. (Russian) *Moskov. Inst. Èlektron. Mašinostroenija—Trudy MIÈM No.* 15 *unkcional. Anal. i Priložen.* (1971), 81–112. (See RŽMat **1971** #7 B283) 34C10

An integral comparison theorem for certain systems of linear differential equations. Russian) *Differencial'nye Uravnenija* **8** (1972), 778–784. (J. W. Macki) **46** #9441 4C10

The nonoscillatoriness of the solutions of a second order linear differential equation. Russian) *Differencial'nye Uravnenija* **8** (1972), 1108–1110. (A. D. Ziebur) **45** #8930 4C10

The integral comparison of two second order linear differential equations. (Russian) *spehi Mat. Nauk* **27** (1972), *no.* 3(165), 199–200. (A. D. Ziebur) **52** #11194 34C10

Oscillation critieria for a linear second order equation that are connected with the xistence of a "principal" solution. (Russian) *Differencial'nye Uravnenija* **9** (1973), 70–373, 398. (Z. Nehari) **48** #628 34C10

A certain specific nonlinear oscillation theorem. (Russian) *Differencial'nye ravnenija* **9** (1973), 574–576, 592. (A. D. Ziebur) **47** #3756 34C10

Integral nonoscillation criteria. (Russian) *Mat. Zametki* **13** (1973), 51–54. (A. D. iebur) **48** #2492 34C10

Oscillation criteria, connected with averaging, for the solutions of second order rdinary differential equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 46–252, 371. (J. W. Macki) **49** #718 34C10

A remark on a certain specifically nonlinear oscillation theorem. (Russian) *ifferencial'nye Uravnenija* **10** (1974), 2073–2074, 2088. (A. D. Ziebur) **50** #10436 4C10

A necessary and sufficient condition for the disconjugacy of the solutions of a ystem of two first order linear equations. (Russian) *Mat. Zametki* **16** (1974), 259–265. A. D. Ziebur) **51** #6038 34C10

The problem of the disconjugacy of the solutions of second order linear differential quations. (Russian) *Moskov. Inst. Èlektron. Mašinostroenija–Trudy MIÈM Vyp.* 30 *at. Anal. i Priložen.* (1974), 126–143. (Z. Nehari) **55** #3419 34C10

On Hartman's comparison theorem for second order linear equations. (Russian) *ifferencial'nye Uravnenija* **11** (1975), *no.* 6, 1136–1137, 1151–1152. (M. Ráb) **1** #13355 34C10

On the question of the disconjugacy of the solutions of a second order linear ifferential equation. (Russian) *Mat. Zametki* **18** (1975), *no.* 1, 51–56. (I. Kiguradze) **3** #13730 34C10

The integral comparison and the disconjugacy of the solutions of second order near equations. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 4(184), 247-248. (Á. Elbert) **3** #11153 34C10

Necessary and sufficient conditions for the disconjugacy of the solutions of a second rder linear equation. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 4, 751–753, 75. (G. B. Gustafson) **54** #639 34C10

On the question of the oscillation of the solutions of a second order differential quation with an "integrally small" coefficient. (Russian) *Differencial'nye Uravnenija* **13** 1977), *no.* 12, 2141–2148, 2300–2301. (G. V. Hmelevskaja-Plotnikova) **57** #16812 4C10

An integral comparison and the nonoscillatory property of solutions of second order near systems. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 6, 1136–1139, 1152. A. I. Kir'janen) **58** #11639 34C10

An integral test for conjugacy for second order linear differential equations. Russian) *Mat. Zametki* **23** (1978), *no.* 2, 249–251. (T. Čanturija) **58** #6497 34C10

njarž, Ja. A. The representation of models of plastic media by means of the issipation function. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 804–809. (J. Bejda) **0** #1599 73.35

On the existence of a field of stress rates in a hardening elastic-plastic medium. *rikl. Mat. Meh.* **38** (1974), *no.* 6, 1114–1121 (*Russian*); *translated as J. Appl. Math. ech.* **38** (1974), *no.* 6, 1055–1063 (1975). (P. Villaggio) **52** #7278 73.49

A plastic body under the action of an ultimate load: the stress field. (Russian) *okl. Akad. Nauk SSSR* **241** (1978), *no.* 1, 56–59. (Vladimir Kerchman) **58** #14187 3.46

Kamenkov, G. V. ★Избранные труды в двух томах. Том. I. (Russian) [Selected works in two volumes. Vol. I] Устойчивость движения. Колебания. Аэродинамика. [Stability of motion. Oscillations. Aerodynamics] With a biography of G. V. Kamenkov, a survey article on his works by V. G. Veretennikov, A. S. Galiullin, S. A. Gorbatenko and A. L. Kunicyn, and a bibliography. Edited by N. N. Krasovskiĭ. *Izdat. "Nauka", Moscow*, 1971. 258 *pp.* (1 *plate*) (Editors) **57** #9445 01A75

★Избранные труды в двух томах. Том II. (Russian) [Selected works in two volumes] Устойчивость и колебания нелинейных систем. [Stability and oscillations of nonlinear systems] Edited by N. N. Krasovskiĭ. *Izdat. "Nauka", Moscow*, 1972. 214 *pp.* (E. Leimanis) **58** #11694 34Dxx (34C15)

Kamenomostskaya, S. *See* **Kamin, S.**

Kamenskiĭ, A. G. A qualitative study of the spectra of differential-difference operators. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 6, 1249–1251. (R. C. Gilbert) **53** #8969 47E05 (34K10)

The representations of the *W*-group of a local field. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 4(184), 249–250. (S. P. Demuškin) **53** #10767 12B15

Boundary value problems for equations with formally symmetric differential-difference operators. (Russian) *Differencial'nye Uravenija* **12** (1976), *no.* 5, 815–824, 955. (Author's summary) **58** #6601 34K10

(*with* Kamenskiĭ, G. A.; Myškis, A. D.) The convergence of the finite difference method for the numerical solution of boundary value problems for linear differential-difference equations. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 2, 280–282. (Authors' introduction) **58** #13811 65Q05

Kamenskiĭ, G. A. (*with* Hvilon, E. A.) Necessary condition for the optimal control of systems with deviating argument of neutral type. *Avtomat. i Telemeh.* **1969**, *no.* 3, 20–32 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 3, 327–339. (See RŽMat **1969** #10 B379) 49B10

(*with* Myškis, A. D.) Boundary value problems with infinite defect for differential equations with deviating argument. (Russian) *Differencial'nye Uravnenija* **7** (1971), 2143–2150. (Authors' summary) **53** #13781 34K10 (47A50)

(*with* Myškis, A. D.) Boundary value problems for a nonlinear differential equation with deviating argument of neutral type. (Russian) *Differencial'nye Uravnenija* **8** (1972), 2171–2179. (V. M. Popov) **47** #7177 34K10 (47H10)

(*with* Zverkin, A. M.) The periodic solutions of a nonlinear differential equation with deviating argument of neutral type. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravneniĭ s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **8** (1972), 77–82. (C. Corduneau) **49** #11004 34K15

(*with* Hvilon, E. A.) The optimal processes for systems that are described by differential equations with deviating argument of neutral type. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravneniĭ s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **8** (1972), 83–88. (M. M. Konstantinov) **49** #1280 49B10 (34K99)

(*with* Vaĭnberg, N. G. M.; Myškis, A. D.) The differential equation of neutral type that has an integrating factor. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1956–1965, 2114. (Á. Elbert) **51** #1074 34K15

(*with* Vaĭnberg, N. G. M.; Myškis, A. D.) The behavior of the solutions of a differential equation with deviating argument of neutral type that has an integrating factor. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 785–788. (G. B. Gustafson) **51** #13401 34K05

(*with* Myškis, A. D.) On the formulation of boundary value problems for differential equations with deviating argument and several highest terms. (Russian) *Differencial'nye Uravnenija* **10** (1974), 409–418, 570. (M. Švec) **51** #1065 34K10

(*with* Myškis, A. D.) A boundary value problem for second order quasilinear differential equations in divergence form with deviating argument. (Russian) *Differencial'nye Uravnenija* **10** (1974), 2137–2146, 2308. (D. Wexler) **50** #13796 34K05

Variational problems for functionals with deviating argument. (Russian) *Dinamika Sistem Vyp.* 7 (1975), 69–78, 165. (Author's summary) **58** #12602 49B20

Extrema of functionals with deviating argument. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 6, 1252–1255. (M. M. Konstantinov) **52** #11707 49B35

The inverse operator to the operator of translation along the solutions of differential equations with lag. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravneniĭ s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **9** (1975), 87–93. (Pavol Marušiak) **53** #8605 34K05

A sufficient condition for a weak extremum for functionals with deviating argument. (Russian. English summary) *Trudy Sem. Teor. Differncial. Uravneniĭ s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **9** (1975), 94–97. (A. Halanay) **56** #1175 49B35

Variational problems for functionals with deviating argument. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp.* 139–148, 303. *Izdat. "Naukova Dumka", Kiev*, 1977. (Author's summary) **57** #13613 49A05

The variational method for the solution of boundary value problems for certain linear differential equations with deviating argument. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 7, 1185–1191, 1345–1346. (Author's summary) **58** #11784 34K10

(*with* Kamenskiĭ, A. G.; Myškis, A. D.) The convergence of the finite difference method for the numerical solution of boundary value problems for linear differential-difference equations. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 2, 280–282. (Authors' introduction) **58** #13811 65Q05

The conditional extremum of a functional with deviating argument. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 2, 266–268. (L. Mikołajczyk) **56** #13052 49B35

(*with* Kononenko, E. D.) The application of the collocation method to a boundary value problem for a linear equation with a deviating argument of neutral type. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 3, 306–312, 427. (R. R. Ahmerov) **58** #13740 65L10

See also **Proceedings: International Conference on Nonlinear Oscillations, 47** #8969

Kamenskiĭ, Ju. V. (*with* Lazarev, A. G.) Determination of the three- and four-center molecular integrals that are necessary for finding the derivative of the Fok-Dirac density matrix. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 1, 113–120, 177. (Authors' summary) **58** #8985 82.35

Kamenskiĭ, M. I. On the theory of the degree of a mapping. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 4 (1970), 54–60. (Alfonso Vignoli) **54** #6185 58C25 (47H10)

The computation of the rotation of a certain condensing vector field. (Russia) *Collection of papers by postgraduates, Vol.* 2 (*Russian*), *pp.* 32–36. *Voronež. Gos. Univ., Voronezh,* 1972. (See RŽMat **1974** #4 B849; MR **57** #9376) 47H10

On the Peano theorem in infinite-dimensional spaces. (Russian) *Mat. Zametki* **11** (1972), 569–576. (K. Goebel) **46** #3940 34G05 (47H15)

(*with* Ahmerov, R. R.) On the second theorem of N. N. Bogoljubov in the averaging principle for functional-differential equations of neutral type. (Russian) *Differencial'nye Uravnenija* **10** (1974), 537–540, 574. (D. Baĭnov) **49** #7560 34K15

(*with* Ahmerov, R. R.; Kozjakin, V. S.; Sobolev, A. V.) Periodic solutions of systems of autonomous functional-differential equations of neutral type with small lag. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1923–1931, 2081. (G. B. Gustafson) **51** #3644 34K15

On the Andronov-Witt theorem for functional differential equations of neutral type. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU No.* 12 *Sb. Stateĭ po Prikl. Anal.* (1974), 31–36. (RŽMat **1975** #10 B260) **57** #10165 34K05

(*with* Ahmerov, R. R.) The averaging principle, and the stability of periodic solutions of equations of neutral type. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 15 *Teor. Sb. Stateĭ Nelineĭn. Funkcional. Anal.* (1974), 9–13. (Editors) **57** #6731 34K15

An approach to the theory of periodic solutions for functional differential equations of neutral type. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 15 *Teor. Sb. Stateĭ Nelineĭn. Funkcional. Anal.* (1974), 44–52. (Editors) **57** #6738 34K15

(*with* Ahmerov, R. R.) A certain approach to the study of the stability of periodic solutions in the averaging principle for functional-differential equations of neutral type. (Russian) *Comment. Math. Univ. Carolinae* **16** (1975), 293–313. (G. B. Gustafson) **51** #6093 34K20

(*with* Ahmerov, R. R.) On the question of the stability of the equilibrium state of a system of functional-differential equations of neutral type with small deviation of the argument. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 2(182), 205–206. (R. F. Datko) **53** #8615 34K20

Measures of noncompactness and the perturbation theory of linear operators. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 430 (1977), 112–122. (Piero Bassanini) **58** #7151 47A55 (47H10)

Kamenskiĭ, N. P. (*with* Ruskol, D. E.) On the question of determining a minimal surface by giving the metric and a vector field of a special kind. (Russian) *Kaliningrad. Gos. Univ. Differencial'naja Geom. Mnogoobraz. Figur Vyp.* 3 (1973), 20–27. (R. N. Abdulaev) **57** #13711 53A10

Kamerina, L. A. A theorem on the multiplication of *J*-characteristic functions. (Russian) *Volž. Mat. Sb. No.* 13 (1972), 40–51. (E. Durszt) **48** #7008 47B50 (47A45)

Selfadjoint extensions of a symmetric operator in a space with involution. (Russian) *Functional analysis, No.* 2 (*Russian*), *pp.* 16–26. *Ul'janovsk. Gos. Univ., Ulyanovsk,* 1973. (T. Ja. Azizov) **56** #6461 47B50

A symmetric operator in the orthogonal sum of two Hilbert spaces with involution. (Russian) *Functional analysis, No.* 7 (*Russian*), *pp.* 86–94. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk,* 1976. (From the introduction) **58** #30469 47B50

Kameršteĭn, A. G. *See* **Calculation of three-dimensional constructions, 48** #7754

al-Kamessy, M. A. *See* **Al-Kamessy, M. A.**

Kametaka, Yoshinori (*with* Mimura, Masayasu; Yamaguti, Masaya) On a certain difference scheme for some semilinear diffusion system. *Proc. Japan Acad.* **47** (1971), 385–387. (H. M. Lieberstein) **47** #1299 65M10

On a nonlinear Bessel equation. *Publ. Res. Inst. Math. Sci.* **8** (1972), 151–200. (F. Odeh) **47** #8960 34B15 (78.34)

On nonlinear diffusion equations. (Japanese) *Sûgaku* **26** (1974), *no.* 2, 137–148. (Kiyosi Itô) **56** #6121 35K55

On the nonlinear diffusion equation of Kolmogorov-Petrovskii-Piskunov type. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto,* 1975), *pp.* 401–407. *Lecture Notes in Phys.*, 39. *Springer, Berlin,* 1975. (Editors) **58** #29086 35B40 (35K55)

A nonlinear diffusion equation of Kolmogorov-Petrovskiĭ-Piskunov type. (Japanese) Functional analysis and numerical analysis for nonlinear problems (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 258 (1975), 113–121. (Editors) **58** #17525 35K55 (92A05)

On the nonlinear diffusion equation of Kolmogorov-Petrovskii-Piskunov type. *Osaka J. Math.* **13** (1976), *no.* 1, 11–66. (Alan Jeffrey) **54** #10861 35K55 (35Q99)

Kameyama, Michitaka (*with* Higuchi, Tatsuo) Synthesis of multiple-valued logic networks based on tree-type universal logic modules. *Proceedings of the 1975 International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.,* 1975), *pp.* 121–130. *IEEE Comput. Soc., Long Beach, Calif.,* 1975. (Editors) **58** #15715 94A20

(*with* Higuchi, Tatsuo) Ternary logic system based on *T*-gate. *Proceedings of the 1975 International Symposium on Multiple-Valued Logic* (*Indiana Univ., Bloomington, Ind.,* 1975), *pp.* 290–304. *IEEE Comput. Soc., Long Beach, Calif.,* 1975. (Authors' summary) **58** #9842 94A20

(*with* Higuchi, Tatsuo) Static-hazard-free *T*-gate for ternary memory element and its application to ternary counters. *Proceedings of the Sixth International Symposium on Multiple-Valued Logic* (*Univ. Center, Utah State Univ., Logan, Utah,* 1976), *pp.* 127–134. *IEEE Comput. Soc., Long Beach, Calif.,* 1976. (Authors' summary) **58** #20846 94A20

(*with* Higuchi, Tatsuo) Practical state assignment for multiple-valued synchronous sequential circuits. *Proceedings of the Seventh International Symposium on Multiple-Valued Logic* (*Charlotte, N.C.,* 1977), *pp.* 70–76. *IEEE Comput. Soc., Long Beach, Calif.,* 1977. (B. Hazeltine) **57** #5458 94A20

(*with* Higuchi, Tatsuo) Static-hazard-free *T*-gate for ternary memory element and its application to ternary counters. *IEEE Trans. Computers* **C-26** (1977), *no.* 12, 1212–1221. (C. Moraga) **57** #2758 94A20

(*with* Higuchi, Tatsuo) Synthesis of multiple-valued logic networks based on tree-type universal logic module. *IEEE Trans. Computers* **C-26** (1977), *no.* 12, 1297–1302. (C. Moraga) **57** #2761 94A20

Kameyama, Yoshimasa (*with* Sayama, Hayatoshi; Nakayama, Hirotaka; Sawaragi, Yoshikazu) Iteration process in Lagrange multipliers for multiplier method. (Jap English summary) *Systems and Control* **17** (1973), 775–778. (M. Yamasaki) **49** 90C30

Kamga, Jean Wouafo (*with* Pradines, Jean) Composition et décomposition irréducib objets géométriques d'ordres supérieurs. (English summary) *C. R. Acad. Sci. Par A-B* **280** (1975), Aiii, A125–A128. (I. Kolář) **51** #8979 53C05 (58A99)

(*with* Pradines, Jean) Relations d'équivalence transversalement différentiables. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 2, *A*i, *A*25–*A*2 Kowalski) **54** #1254 57D30 (58A30)

Kami, Yoshio (*with* Kiyoto, Seiichi; Arakawa, Teruaki) Method for numerical calcu of the standard elliptic integrals of the first and second kind. (Japanese. E summary) *Rep. Univ. Electro-Commun.* **22** (1971), 99–108. (S. Hitotumatu) **47** #1 65D20

(*with* Kiyoto, Seiichi; Arakawa, Teruaki) Programming method on accurate of the elliptic integral of the third kind. (Japanese. English summary) *Rep. Electro-Commun.* **22** (1971), 109–118. (S. Hitotumatu) **47** #1248 65D20

Kamien, Morton I. (*with* Schwartz, Nancy L.) Optimal maintenance and sale age machine subject to failure. *Management Sci.* **17** (1970/71), B495–B504. (A. Benso **46** #6798 90B25

(*with* Schwartz, Nancy L.) Limit pricing and uncertain entry. *Econometri* (1971), 441–454. (Michael D. Intriligator) **52** #2532 90A10

(*with* Schwartz, Nancy L.) Sufficient conditions in optimal control theor *Econom. Theory* 3 (1971), 207–214. (From the authors' introduction) **56** #6517 49B99

(*with* Schwartz, Nancy L.) Theory of the firm with induced technical cha *Metroecon.* **23** (1971), 233–256. (Authors' summary) **53** #12530 90A15

(*with* Schwartz, Nancy L.) A note on resource usage and market structur *Econom. Theory* **15** (1977), *no.* 2, 394–397. (A. C. Williams) **56** #17727 90A1

Kamii, Masashi (*with* Narushima, Hiroshi) Further results on order maps. *Proc. Fa Tokai Univ.* **8** (1973), *no.* 1-2, 1–7. (E. Harzheim) **47** #8363 06A10

Kamijo, Takashi (*with* Wadati, Miki) On the extension of inverse scattering me *Progr. Theoret. Phys.* **52** (1974), 397–414. (Authors' summary) **53** #9964 81.3

Kamil, Mohammad On simple injective rings. (Italian summary) *Rend. Mat.* (6) **9** (*no.* 4, 613–615 (1977). (S. Elliger) **56** #3058 16A52

On quasi-Artinian rings. (Italian summary) *Rend. Mat.* (6) **9** (1976), *no.* 4, 61 (1977). (C. M. Ringel) **55** #5692 16A52

Kamilov, M. M. (*with* Aliev, È. M.; Kim, A. N.) Selection of an algorithm by the m of computing estimates. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 42 (1970), 8 **55** #1795 68A10

(*with* Žuravlev, Ju. I.; Tuljaganov, Š. E.) Formulas for computing the signifi of a symbol. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 44 (1970), 15–20. **55** 94A20

(*with* Žuravlev, Ju. I.; Tuljaganov, Š. E.) ★**Алгоритмы вычисления оценок применение.** (Russian) [Algorithms for the computation of estimates, and their application] *Izdat. "Fan" Uzbek. SSR, Tashkent,* 1974. 119 *pp.* (W. Greblicki) **52** #16190 68A45

Research on the problem of pattern recognition. (Russian) *Voprosy Kib* (*Tashkent*) *No.* 69 (1974), 44–54, 179–180. (Not reviewed) 68A45

See also **Problems of statistical optimization, 47** #6378

abū Kāmil Shujā', ibn Aslam ibn Muḥammad ibn Shujā' *See* **Schub, Pincus; et al.,** (Se **208**, 4) *and* **Schub, Pincus; et al., 57** #12030

Kamimura, Hideki On the almost admissibility of an estimator based on the fi distribution. *Bull. Fukuoka Univ. Ed. III* **21** (1971), 23–33. (R. J. Buehler) **51** #2 62C15 (62A05)

On the estimation problem with unknown prior distribution. *Bull. Fukuoka Ed. III* **24** (1974), 49–54. (Reinhard Michel) **51** #2109 62F10

(*with* Okuma, Akimichi) On an asymptotically most powerful test for a model a nuisance parameter. *Tamkang J. Math.* **5** (1974), 247–256. (G. Roussas) **51** #2 62F05

Kamimura, Kiyoshi Elimination of relative time in bilocal model. *Progr. Theoret. Ph* (1977), *no.* 6, 1947–1953. (G. Costa) **57** #4862 81.22

See also **Zav'jalov, O. I., 58** #25456

Kamin, S. The asymptotic behavior of the solution of the filtration equation. *Isr Math.* **14** (1973), 76–87. (D. L. Colton) **47** #3841 35K15

Similar solutions and the asymptotics of filtration equations. *Arch. Rational Anal.* **60** (1975/76), *no.* 2, 171–183. (R. Guenther) **53** #1061 35Q99

Some estimates for solution of the Cauchy problem for equations of a nonstatic filtration. *J. Differential Equations* **20** (1976), *no.* 2, 321–335. (From the introduc **57** #16984 35K15

On stabilisation of solutions of the Cauchy problem for parabolic equations. *Roy. Soc. Edinburgh Sect. A* **76** (1976/77), *no.* 1, 43–53. (Oscar Montaldo) **55** #13 35K15

(*with* Fasano, Antonio; Primicerio, Mario) Regularity of weak solutions of one-dimensional two-phase Stefan problems. (Italian summary) *Ann. Mat. Pura* (4) **115** (1977), 341–348 (1978). (K. Hawlitschek) **57** #16987 35K20

Perturbation elliptique d'un opérateur du premier ordre avec un point sing (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 10, A677– (Author's summary) **57** #3579 35B25 (35J15)

Source-type solutions for equations of nonstationary filtration. *J. Math. Anal.* **64** (1978), *no.* 2, 263–276. (From the introduction) **58** #19711 76.35 (35Q99)

See also **Lions, Jacques-Louis, 45** #5539

Kaminer, L. V. *See* **Nicolaus Copernicus. On the 500th anniversary of his birth, 50** #1 *and* **Grigor'jan, A. T.; et al., 58** #27007

Kaminetzky, Lee (*with* Keller, Joseph B.) Diffraction coefficients for higher order and vertices. *SIAM J. Appl. Math.* **22** (1972), 109–134. (Y. M. Chen) **46** #103 78.35

(*with* Keller, Joseph B.) Diffraction by edges and vertices of interfaces. *SIA Appl. Math.* **28** (1975), 839–856. (R. F. Millar) **51** #4856 78.35

Diffraction by a corner on the edge of a wedge. *Internat. J. Engrg. Sci.* **14** (1

2, 201–209. (J. Miklowitz) **56** #14058 76.35

er, F. P. The noncomputability of the channel capacity of context-sensitive guages. *Information and Control* **17** (1970), 175–182. (Author's summary) **54** #7113 4A15 (68A30)

Generation, recognition and parsing of context-free languages by means of recursive phs. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 1, -96. (R. N. Goss) **52** #2288 68A30 (05C20)

er, Jerome (*with* Schochet, Claude) Ext(X) from a homological point of view. *ceedings Conference Operator Theory* (*Dalhousie Univ., Halifax, N. S.*, 1973), *pp.* –140. *Lecture Notes in Math., Vol.* 345, *Springer, Berlin*, 1973. (J. W. Bunce) #6429 46M20 (55B35, 46L99, 58G10)

The tangent bundle of an H-manifold. *Proc. Amer. Math. Soc.* **41** (1973), 305–308. Stasheff) **47** #7732 55D45 (55F15)

(*with* Schochet, Claude) Steenrod homology and operator algebras. *Bull. Amer. th. Soc.* **81** (1975), *no.* 2, 431–434. (M. F. Atiyah) **56** #9287 46M20 (55B15, G10)

(*with* Schochet, Claude) Topological obstructions to perturbations of pairs of rators. *K-theory and operator algebras* (*Proc. Conf., Univ. Georgia, Athens, Ga.*, 5), *pp.* 70–77. *Lecture Notes in Math., Vol.* 575, *Springer, Berlin*, 1977. (M. F. Atiyah) #17625 55B35 (46L05, 46M20, 47B37)

(*with* Kahn, Daniel S.; Schochet, Claude) Generalized homology theories on npact metric spaces. *Michigan Math. J.* **24** (1977), *no.* 2, 203–224. (Harold Hastings) #13921 55B35

(*with* Schochet, Claude) K-theory and Steenrod homology: applications to the own-Douglas-Fillmore theory of operator algebras. *Trans. Amer. Math. Soc.* **227** 77), 63–107. (P. A. Fillmore) **55** #4138 55B15 (46M20)

go, Takashi (*with* Kikuchi, Norio; Hayashi, Kiyoshi) The boundary layer equation $+2xx''+2\lambda(1-x'^{2})=0$ for $\lambda>-0.19880$. *Keio Engrg. Rep.* **28** (1975), *no.* 9, 87–97. D. Fountain) **54** #7929 34A45 (34B15)

Boundary value problems for ordinary differential equations. *Tôhoku Math. J.* (2) (1977), *no.* 3, 449–461. (Krishna M. Das) **57** #769 34B15

ka, Anna A note on linear operations in Orlicz spaces. *Funct. Approximatio nment. Math.* **3** (1976), 121–124. (A. C. Zaanen) **56** #1047 46E30 (47B37)

On linear operations in Orlicz spaces. *Funct. Approximatio Comment. Math.* **4** 76), 135–139. (J. Albrycht) **56** #3628 46E30 (47B37)

amińska, Donata *See* **Matel-Kamińska, Donata**

kas, Vytautas (*with* Nemura, Antanas) Certain methods of identification of nlinear dynamical objects and their application for the definition of the consumption racteristics of power aggregates. (Russian. Lithuanian and English summaries) *dy Akad. Nauk Litov. SSR Ser. B* **1971**, *no.* 3(66), 205–213. (V. Polák) **45** #6475 (E #5685) 93B30

(*with* Nemura, Antanas) A certain mathematical model of a multidimensional nlinear dynamical object. (Russian. Lithuanian and English summaries) *Trudy Akad. uk Litov. SSR Ser. B* **1971**, *no.* 4(67), 175–182. (M. Cîrnu) **45** #8321 (E **48** #13323) 3C10

A stopping rule for certain sequential identification algorithms. (Russian) *Avtomat. yčisl. Tehn.* (*Riga*) **1972**, *no.* 4, 39–42. (F. M. Kirillova) **50** #1762 93E10

(*with* Nemura, Antanas) The determination of the nonstationarity of a certain form operator of dynamical objects. (Russian. Lithuanian and English summaries) *Trudy ad. Nauk Litov. SSR Ser. B* **1972**, *no.* 1(68), 107–111. (P. Neumann) **47** #4401 10

(*with* Nemura, Antanas) Errata: "Certain methods of identification of nonlinear namical objects and their application for the definition of the consumption racteristics of power aggregates" (Trudy Akad. Nauk Litov. SSR Ser. B **1971**, no. 6), 205–213). (Russian) *Trudy Akad. Nauk Litov. SSR Ser. B* **1972**, *no.* 3(70), 191. itors) **48** #5685 93B30

(*with* Nemura, Antanas) Computation of estimates of prescribed accuracy of the ameters of operators of dynamical systems. (Russian. Lithuanian and English nmaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1972**, *no.* 4(71), 137–143. (P. umann) **49** #1692 62J05

Some sufficient conditions for the unimodality of mean square quality tests in the ntification of dynamical objects. (Russian. English and Lithuanian summaries) *dy Akad. Nauk Litov. SSR Ser. B* **1972**, *no.* 4(71), 145–150. (S. P. Bingulac) #8035 93B30

(*with* Nemura, Antanas) Errata: "A certain mathematical model of a ltidimensional nonlinear dynamical object" (Trudy Akad. Nauk Litov. SSR Ser. B 1, no. 4(67), 175–182). (Russian) *Trudy Akad. Nauk Litov. SSR Ser. B* **1972**, *no.* 1), 199. (Editors) **48** #13323 93A15

Methods of statistical inference in problems of identification of dynamical systems. ssian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy n. No.* 3 (1973), 51–66. (V. N. Igolkin) **48** #13404 93E10

Identification of power blocks. (Russian. English and Lithuanian summaries) *tist. Problemy Upravlenija—Trudy Sem. No.* 3 (1973), 67–82. **48** #8077 93E99

(*with* Nemura, Antanas; Pukas, Val′das) Determination in the mean of the optimal mal regime of an electrical power system. (Russian. English and Lithuanian nmaries) *Statist. Problemy Upravlenija—Trudy Sem. No.* 3 (1973), 83–102. #8069 93E20

(*with* Nemura, Antanas) Estimability of the parameters of discrete systems. ssian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy n. Processy Optimal. Upravlenija. V Sekcija No.* 8 (1974), 9–27. (V. N. Igolkin) #15998 93B30

(*with* Šipienytė, D.) A study of two statistical tests for the detection of the nstationary state of dynamical systems. (Russian. Lithuanian and English summaries) *dy Akad. Nauk Litov. SSR Ser. B* **1974**, *no.* 3 (82), 141–149. (Authors' summary) #5288 93E10

Construction of mathematical models that describe the dependence of relative fuel sumption of power blocks on their loading. I. Difference equation with constant fficients. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. R Ser. B* **1974**, *no.* 3(82), 159–167. (Author's summary) **55** #2115 90B99

Construction of mathematical models that describe the dependence of relative fuel consumption of power blocks on their loading. II. Difference equation with variable coefficients. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1974**, *no.* 4(83), 157–162. (Author's summary) **55** #2116 90B99

(*with* Pupeikis, Rimantas) The sequential estimation of the parameters of linear dynamical systems. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1974**, *no.* 6(85), 123–129. (From the authors' summary) **55** #5287 93E10

(*with* Nemura, Antanas) ★Статистические методы в идентификации динамических систем. (Russian) [Statistical methods in dynamical systems identification] With Lithuanian and English summaries and an English table of contents. Техническая Кибернетика, Вып. 2. [Monographs in Engineering Cybernetics, No. 2] *Izdat. "Mintis", Vilnius*, 1975. 197 *pp.* (P. S. Knopov) **55** #2301 93E10

(*with* Nemura, Antanas) Estimability features for parameters of linear dynamic systems. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 58.6, 5 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33423 93E10

On the problem of estimating nonlinear parameters of discrete systems and processes. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija —Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 10 (1975), 9–34. (Author's summary) **57** #5295 93C55

(*with* Janickienė, Danguolė) A study of algorithms for the estimation of the parameters of the Hammerstein model. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 10 (1975), 35–55. (Authors' summary) **57** #5338 93E10

(*with* Pupeikis, Rimantas) Recurrent estimation of pure lag in linear discrete systems. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 10 (1975), 56–68. (Authors' summary) **57** #5304 93C99

(*with* Pupeikis, Rimantas) Sequential parameter estimation of linear dynamical systems in the case of noise with rational-fractional spectral density. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1975**, *no.* 3(88), 163–168. (Authors' summary) **55** #7540 93E10 (93C40)

(*with* Šipienytė, D.) Detection of a prameter change of an autoregression process. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1975**, *no.* 4 (89), 143–148. (Ju. I. Petunin) **53** #6940 62M10

Recurrent expressions for successive F-tests of significance. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1976**, *no.* 1(92), 113–118. (Lubomír Kubáček) **54** #8990 62J10

(*with* Šipienytė, D.) A nonparametric method for the detection of the unsteadiness of a linear dynamical system. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1976**, *no.* 2(93), 153–163. (Authors' summary) **58** #15626 93E25

(*with* Pupeikis, Rimantas) The sequential estimation of a pure lag in linear discrete systems. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1977**, *no.* 2(99), 99–107. (Authors' introduction) **58** #20709 93C55

(*with* Janickienė, Danguolė) Identification of nonlinear discrete systems of Hammerstein's class. I. Algorithms for the estimation of parameters. (Russian. Lithuanian summary) *Trudy Akad. Nauk Litov. SSR Ser. B* **1978**, *no.* 2(105), 121–130. (M. M. Konstantinov) **58** #9512a 93B30

(*with* Janickienė, Danguolė) Identification of nonlinear discrete systems of Hammerstein's class. II. The determination of the order of the model and generalizations. (Russian. Lithuanian summary) *Trudy Akad. Nauk Litov. SSR Ser. B* **1978**, *no.* 3(106), 75–82. (M. M. Konstantinov) **58** #9512b 93B30

Kaminskene, B. A. *See* **Kaminskienė, B.**

Kamiński, Andrzej Introduction to the theory of stationary processes. (Polish) *Functional equations in the theory of stochastic processes* (*Polish*), *pp.* 29–50. *Publ. Silesian Univ. Katowice, No.* 47. *Wydawn. Uniw. Śląsk., Katowice*, 1972. (Editors) **55** #9247 60G10

(*with* Mikusiński, Jan) On the entropy equation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 319–323. (B. Crstici) **49** #5620 39A30

On convolutions, products and Fourier transforms of distributions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 4, 369–374. (M. Cîrnu) **57** #7160 46F10

On the product $(1/x^{k})\cdot\delta^{(l-1)}(x)$. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 4, 375–379. (M. Cîrnu) **57** #7161 46F10

(*with* Kannappan, Pl.) A note on a theorem in information theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 9, 925–928. (J. Aczél) **56** #18115 94A15

On the exchange formula. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 1, 19–24. (Jan Mikusiński) **58** #12346 46F10

Remarks on delta- and unit-sequences. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 1, 25–30. (Jan Mikusiński) **58** #12347 46F10

Kamiński, Brunon (*with* Sąsiada, Edward) Spectrum of abelian groups of transformation with completely positive entropy. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 9, 683–689. (Douglas Lind) **54** #10561 28A65

Spectrum of two-dimensional dynamical systems with completely positive entropy. *Dynamical systems, Vol. I—Warsaw, pp.* 115–116. *Astérisque, No.* 49, *Soc. Math. France, Paris*, 1977. (Peter Walters) **58** #6159 28A65

A note on K-systems. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 2, 95–97. (Alan Saleski) **58** #1085 28A65

Kamiński, Franciszek Realization of the synthesis of a certain group of inhomogeneous lines by the algebraic method. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **20** (1971), 635–654. (Z. V. Kovarik) **46** #10194 65H10

Synthesis of narrow band graduated filtering lines with couplers of various kinds by the algebraic method. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **23** (1974), 763–780. (From the author's summary) **50** #6656 94A20

Loss functions of inhomogeneous lines composed of homogeneous sections with characteristic of Čebyšev and Butterworth type. (Polish. English, French, German and

Russian summaries) *Rozprawy Elektrotech.* **20** (1974), 171–193. (Author's summary) **52** #2704 94A05

The determinant form of the elements of the normalized chain matrix of a symmetric cascade of two-ports. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **24** (1975), *no.* 1, 155–161. (P. Vondráček) **52** #10254 94A20

The determinant form of the elements of the normalized chain matrix of an antimetric cascade of two-ports. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **24** (1975), *no.* 1, 163–169. (P. Vondráček) **52** #10255 94A20

Determinant forms of the elements of the normalized chain and transmission matrix of a cascade connection of two-ports. (Polish. English, French, German and Russian summaries) *Rozprawy Elektrotech.* **22** (1976), *no.* 1, 41–67. (Author's summary) **56** #18141 94A20

Kamiński, Józef (*with* Jakubowski, Zbigniew Jerzy) On some properties of the coefficients of regular functions with positive real part. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **29** (1975), 79–92 (1977). (Carl P. McCarty) **58** #1161 30A76

(*with* Jakubowski, Zbigniew Jerzy) On some properties of multivalent alpha-starlike functions. *Demonstratio Math.* **9** (1976), *no.* 2, 257–265. (M. Reade) **53** #8405 30A32

Kàminski, Stanislaw The development of logic and the philosophy of science in Poland after the Second World War. *Z. Allgemeine Wissenschaftstheorie* **8** (1977), *no.* 1, 163–171. (Editors) **56** #15309 01A65 (02–03)

Kaminskienė, B. Certain estimates for renewal functions. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 563–568. (B. Dimitrov) **48** #7408 60K05

Local limit theorems for renewal processes. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 2, 55–70, 259. (V. Fabian) **49** #8129 60K05

Kaminskiĭ, A. A. (*with* Savin, G. M.) A certain model of the destruction of visco-elastic media. (Russian) *Prikladna. Meh.* **7** (1971), *no.* 9, 3–12. (G. Rieder) **45** #8115 73.45

Kaminskiĭ, B. I. An estimate of the accuracy of analytic theories of the motion of artificial Earth satellites. (Russian. English summary) *Bull. Inst. Teoret. Astronom.* **12**, *no.* 4(137), 329–346 (1970). (Q. K. Ghori) **52** #4773 70.65

Kaminskiĭ, R. P. Statistics of the flow at the output of a photoelectronic amplifier in the case of the analog method of registering photoelectrons. (Russian) *Moskov. Aviacion. Inst. Ordžonikidze Trudy No.* 225 (1971), 126–139. (V. N. Igolkin) **50** #4131 94A20

Kaminskiĭ, T. È. On the theory of carriers in Riesz groups. (Russian) *Groups and modules; game theory* (*Russian*), *pp.* 19–25. *Moskov. Oblast. Ped. Inst., Moscow*, 1973. (F. Šik) **53** #233 06A55

A new proof of the Jaffard-Conrad theorem. (Russian) *Groups and modules; game theory* (*Russian*), *pp.* 26–31. *Moskov. Oblast. Ped. Inst., Moscow*, 1973. (R. Madell) **52** #13560 06A55

Kaminskiĭ, V. A. A "refinement" theorem in the problem of minimizing a convex functional in a space with a cone. (Russian) *Proceedings of the Fourth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1971), *No.* 2 (*Russian*), *pp.* 21–31. *Moskov. Inž.-Stroitel. Inst., Moscow*, 1971. (Ja. I. Al'ber) **57** #7300 49A25

The best approximation in the mean of continuous function by polynomials that are majorized by a given function. (Russian) *Mat. Zametki* **11** (1972), 365–374. (J. Szabados) **45** #7358 41A50

Theorems on "purification" in the problem of minimizing a convex functional in a space with a cone. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 495–496, 572. (Alexander M. Rubinov) **48** #4597 41A65 (46N05)

Kaminsky, Kenneth S. (*with* Nelson, Paul I.) Prediction intervals for the exponential distribution using subsets of the data. *Technometrics* **16** (1974), 57–59. (Ramesh C. Gupta) **49** #6482 62G30

(*with* Mann, Nancy R.; Nelson, Paul I.) Best and simplified linear invariant prediction of order statistics in location and scale families. *Biometrika* **62** (1975), *no.* 2, 525–527. (A. K. Md. Ehsanes Saleh) **52** #15836 62G30

(*with* Luks, Eugene M.; Nelson, Paul I.) An urn model and the prediction of order statistics. *Comm. Statist.* **4** (1975), 245–250. (G. Opfer) **51** #1904 60C05 (62G30)

(*with* Nelson, Paul I.) Best linear unbiased prediction of order statistics in location and scale families. *J. Amer. Statist. Assoc.* **70** (1975), 145–150. (H. L. Harter) **51** #14406 62G30 (62N05)

Best prediction of exponential failure times when items may be replaced. *Austral. J. Statist.* **19** (1977), *no.* 1, 61–62. (Lai K. Chan) **57** #10963 62N05

Comparison of prediction intervals for failure times when life is exponential. *Technometrics* **19** (1977), *no.* 1, 83–86. (Lai K. Chan) **57** #10964 62N05

Kamio, Makoto (*with* Kusaba, Ikuro) Approach for more fitted multiple regression modeling. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **21** (1969), 475–480. (C. Hayashi) **46** #4655 62J05

Kamionka-Mikula, Halina Synthesis of two-level minimal circuits that control flip-flops. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **19** (1974), 73–88. (Author's summary) **54** #9865 94A20

Synthesis of hazardless minimal TANT circuits that control flip-flops. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **19** (1974), 183–197. (Author's summary) **56** #11575 94A20

An optimal way of introducing additional intermediate elements into the unsolvable table of a switching sequence. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **22** (1977), *no.* 4, 421–432. (Author's summary) **56** #18142 94A20

Kamishima, Yoshinobu A remark on the index of *G*-manifolds in the representation theory. *Hokkaido Math. J.* **6** (1977), *no.* 1, 69–73. (R. Paul Beem) **56** #6681 57D85

Kamiya, Hisao Weighted trace functions as examples of Morse functions. *J. Fac. Sci. Shinshu Univ.* **6** (1971), 85–96. (I. Vaisman) **48** #7302 57D70

Kamiya, Noriaki The Frattini subalgebra of infinite-dimensional Lie algebras. *Comment. Math. Univ. St. Paul.* **24** (1975/76), *no.* 2, 113–117. (B. Hartley) **55** #12781 17B05

Kamiya, Shigeyasu On the fixed points of elliptic elements of *B*-groups. *Hiroshima Math. J.* **8** (1978), *no.* 2, 401–408. (B. Maskit) **58** #6224 30A58

Kamiyama, Shinichi (*with* Furuta, Katsuhisa) Decoupling by restricted state feedback. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 3, 413–415. (Takashi Yahagi) **54** #7022 93B25

(*with* Furuta, Katsuhisa) State feedback and inverse system. *Internat. J. Con* (1977), *no.* 2, 229–241. (Hans Blomberg) **56** #4964 93C15 (93B25)

(*with* Furuta, Katsuhisa) Integral invertibility of linear time-invariant sys *Internat. J. Control* **25** (1977), *no.* 3, 403–412. (Bradley W. Dickinson) **56** # 93B99

Kamke, Detlef *See* **Kamke, E., 57** #6549

Kamke, E. ★Справочник по обыкновенным дифференциальным уравнениям. (R [Manual of ordinary differential equations] Supplemented by translations by Rozov of excerpts of articles by D. S. Mitrinović and J. Zbornik. Fourth revised e Translated from the sixth German edition and revised in accordance with the German edition by S. V. Fomin. *Izdat. "Nauka", Moscow*, 1971. 576 *pp.* (E **54** #3061 34–XX

★Справочник по обыкновенным дифференциальным уравнениям. (Russia [Manual of ordinary differential equations] Supplemented by a translation by Rozov of excerpts of articles by D. S. Mitrinović and J. Zbornik. Fifth unrevised e Translated by S. V. Fomin from the sixth German edition and revised in acco with the eighth German edition. *Izdat. "Nauka", Moscow*, 1976. 576 *pp.* (E **54** #3062 34–XX

★Differentialgleichungen. Lösungsmethoden und Lösungen. I: Gewöhnliche Differentialgleichungen. Neunte Auflage. Mit einem Vorwort von Detlef Kamke. *Teubner, Stuttgart*, 1977. xxvi + 668 *pp. ISBN* 3-519-02017-3 (Editors) **57** #6549 34–XX (00A05, 00A20)

Kamlah, Andreas Hans Reichenbach's relativity of geometry. Hans Reichenbach, empiricist, Part III. *Synthese* **34** (1977), *no.* 3, 249–263. (V. Ja. Kreĭnovič) **58** #2 83.02 (00A25, 01A60)

See also **Reichenbach, Hans, 56** #5181 *and* **Reichenbach, Hans, 56** #5182

Kammatov, K. K. The existence of bounded oscillations in some essentially nor systems. *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **1** (1970), 264–26 (Author's summary) **56** #16053 34C15

Structure of the stationary solutions of nonlinear systems of differential equ and analysis of their stability. (Russian. Kazakh summary) *Vestnik Akad. Nauk SSR* **26** (1970), *no.* 7(303), 58–61. (RŽMat **1971** #2 B235) **58** #28922 34D1

Oscillations in essentially nonlinear nonautonomous systems. (Russian) *Akad. Kazah. SSR Trudy Inst. Mat. i Meh.* **2** (1971), 180–186, 348. (Author's sum **56** #16054 34C15

Oscillations in certain essentially nonlinear systems. (Russian) *Differenci Uravnenija* **7** (1971), 997–1006, 1138. (M. Švec) **45** #2256 34C15

Kammer, W. E. (*with* Butscher, W.) Modification of Davidson's method for the calc of eigenvalues and eigenvectors of large real-symmetric matrices: "root homing procedure". *J. Computational Phys.* **20** (1976), *no.* 3, 313–325. (E. G. D'jak **53** #4505 65F15

Kammerer, Albert Sur la surface d'écoulement des solides. (English summary) *C. R. Sci. Paris Sér. A-B* **284** (1977), *no.* 9, A513–A516. (Author's summary) **55** # 73.35

Kammerer, Jean-Bertrand Note sur une méthode mathématique d'étude des effects dynamiques dans une poutre soumise à une charge mobile. *C. R. Acad. Sci. Par A* **279** (1974), 895–897. (John M. Ball) **51** #4817 73.65

Sur une majoration de l'erreur commise par l'application de la méthode de Galerkine dans l'étude des effets dynamiques dans une poutre soumise à une mobile suspendue. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (197 15, Aii, A797–A800. (Author's summary) **55** #1919 73.65

Application de la méthode des différences finies à l'étude numérique des dynamiques dans un pont. (English summary) *C. R. Acad. Sci. Paris Sér. A-* (1977), *no.* 12, A805–A808. (Author's summary) **57** #11245 70.65

Kämmerer, Wilhelm ★Einführung in mathematische Methoden der Kybernetik. *Akademie-Verlag, Berlin*, 1971. viii + 443 *pp.* (K. Müller (Zbl **222** #94001)) **50** #6 94–02

Zu den Ungleichungen der Informationstheorie. *Acta Cybernet.* **1**, 255–256 ((Pl. Kannappan) **52** #16866 94A15

Ein Algorithmus zur Berechnung der Werte einer durch ihre charakteristische gegebenen *n*-wertigen und *k*-stelligen Booleschen Funktion. Eine Ergänzung zu Beitrag von W. Dörband. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 523–524. (John T. Gill) **47** #6398

(*with* Schütz, Karin; Gössel, Michael) The realization of the separation into c of a set of *N*-component binary vectors by means of representative elements. (Ru English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 2, 113–117. (W. Dörfler) **46** #1611 05A17

★Digitale Automaten. Theorie, Struktur, Technik Programmieren. Zweite, erweiterte Auflage. Elektronisches Rechnen und Regeln, Band 5. *Akademie-V Berlin*, 1973. viii + 528 *pp.* (Editors) **50** #6672 94A30 (68A25)

★Einführung in mathematische Methoden der Kybernetik. Zweite beric Auflage. *Akademie-Verlag, Berlin*, 1974. viii + 443 *pp.* (Editors) **50** #6618 94–

Über Graphenspiele. Eine mehrblättrige Erweiterung der Grundy-Funktion. (English and Russian summaries) *Elektron Informationsverarbeit. Kybernetik* **10** (3–16. (G. Bär) **50** #6513 90D05

Kammerer, William J. (*with* Nashed, M. Zuhair) A generalization of a matrix ite method of G. Cimmino to best approximate solution of linear integral equations first kind. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natu* **51** (1971), 20–25. (P. Linz) **46** #8458 65R05

(*with* Nashed, M. Zuhair) Iterative methods for best approximate solutions of l integral equations of the first and second kinds. *J. Math. Anal. Appl.* **40** (547–573. (S. L. Kalla) **47** #9213 45L10

(*with* Varga, Richard S.) On asymptotically best norms for powers of opera *Numer. Math.* **20** (1972/73), 93–98. (L. Hageman) **48** #1449 65F35

(*with* Nashed, M. Zuhair) On the convergence of the conjugate gradient metho singular linear operator equations. *SIAM J. Numer. Anal.* **9** (1972), 165–181. (Schuurmann) **47** #7912 65J05 (65K05)

(*with* Reddien, George W., Jr.) Local convergence of smooth cubic spline interpolates. *SIAM J. Numer. Anal.* **9** (1972), 687–694. (J. Buchanan) **47** #60 65D05 (*with* Reddien, George W., Jr.; Varga, Richard S.) Quadratic interpolatory splines. *umer. Math.* **22** (1974), 241–259. (G. Nielson) **52** #2132 65D05

(*with* Plemmons, Robert J.) Direct iterative methods for least-squares solutions to gular operator equations. *J. Math. Anal. Appl.* **49** (1975), 512–526. (L. J. Lardy) #4659 65J05 (47A50)

See also **Numerical solution of partial differential equations**, **58** #24837

eyer, K. D. Quantization error analysis of the distributed arithmetic. *IEEE Trans. rcuits and Systems* **CAS-24** (1977), *no.* 12, 681–689. (C. Tartia) **57** #11025 65G05

eyer, P. C. Periodic and quasi-periodic Earth satellite orbits. *Celestial Mech.* **14** 76), *no.* 2, 159–165. (C. Marchal) **57** #2019 70.34

Periodic orbits around a rotating ellipsoid. *Celestial Mech.* **17** (1978), *no.* 1, 37–48. . Barrar) **58** #8623 70.58 (58F05)

Periodic three body orbits in the case of small third mass. *Celestial Mech.* **17** (1978), . 2, 121–125. (Richard C. Churchill) **58** #14084 70.58 (58F05)

ler, David W. Existence of best approximations by exponential sums in several dependent variables. *Approximation theory* (*Proc. Internat. Sympos., Univ. Texas, stin, Tex.*, 1973), *pp.* 383–386. *Academic Press, New York*, 1973. (J. R. Rice) #11860 41A30

Existence of best approximations by sums of exponentials. *J. Approximation Theory* 1973), 78–90. (David A. Sprecher) **49** #9493 41A30

Characterization of best approximations by sums of exponentials. *J. Approximation eory* **9** (1973), 173–191. (Dietrich Braess) **49** #9501 41A50

Chebyshev polynomials corresponding to a semi-infinite interval and an exponential ight factor. *Math. Comp.* **27** (1973), 633–637. (Author's summary) **48** #7546 D20

Existence of best approximations by exponential sums in several independent riables. *J. Approximation Theory* **11** (1974), 143–148. (D. L. Colton) **51** #10965 A50

A minimal decay rate for solutions of stable *n*th order homogeneous differential uations with constant coefficients. *Proc. Amer. Math. Soc.* **48** (1975), 145–151. (T. G. allam) **51** #6039 34C10

An alternation characterization of best uniform approximations on noncompact tervals. *J. Approximation Theory* **16** (1976), *no.* 2, 97–104. (Jack Williams) **54** #13410 41A50

Approximation with sums of exponentials in $L_p[0,\infty)$. *J. Approximation Theory* **16** 976), *no.* 4, 384–408. (E. W. Cheney) **54** #13411 41A50

Chebyshev approximation of completely monotonic functions by sums of ponentials. *SIAM J. Numer. Anal.* **13** (1976), *no.* 5, 761–774. (H. Werner) **55** #8649 41A50

Existence of good and best approximations on unbounded domains by exponential ms in several independent variables. *J. Approximation Theory* **21** (1977), *no.* 3, 5–223. (David A. Sprecher) **58** #29643 41A30 (41A63)

Prony's method for completely monotonic functions. *J. Math. Anal. Appl.* **57** 977), *no.* 3, 560–570. (Dietrich Braess) **55** #13732 65D05

(*with* McGlinn, Robert J.) A bibliography for approximation with exponential ms. *J. Comput. Appl. Math.* **4** (1978), *no.* 2, 167–173. (From the introduction) #12112 41A30

ler, Ursula (*with* Fuchs, Dieter; Zieschang, H.) Unteralgebren von If(2, **R**) und ntergruppen von LF(2, **R**). *Math. Z.* **161** (1978), *no.* 3, 211–220. (Louis Solomon) #1014 22E40 (20H10)

ozev, N. F. (*with* Syčev, A. N.) Spectral interpretation of tuning operations for ultifunctional logic modules. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1978**, *no.* 1, –15, 91. (Authors' summary) **58** #20847 94A20

itzer, S. H. Topological aspects of relational algebras. *Math. Colloq. Univ. Cape own* **9** (1974), 23–59. (Václav Koubek) **57** #406 18C99

, Hideki (*with* Kawai, Toshiharu) Schwinger's variational principle in the theory of antized quasi-linear fields: the case of Hermitian scalar fields. *Nuclear Phys.* **B81** 974), 349–364. (Authors' summary) **50** #12081 81.49

, Shizuo Completeness theorem of a logical system on a complete Boolean algebra. *i. Rep. Tokyo Kyoiku Daigaku Sect. A* **13**, *no.* 347-365, 23–27 (1975). (Annalisa arcja) **52** #10405 02G20

Reduced powers and models for infinitely logic. *Comment. Math. Univ. St. Paul.* **26** 977/78), *no.* 2, 187–194. (Fred Halpern) **57** #5736 02H13

ckii, V. I. A representation of functions of class *S*. (Russian) *Theory of functions and nctional analysis* (*Russian*), *pp.* 60–66. *Leningrad. Gos. Ped. Inst., Leningrad*, 1975. ditors) **58** #28465 30A32

i, K. A divergence-free *S*-matrix theory in the instant form. *Lett. Nuovo Cimento* (2) (1973), 1001–1006. **56** #14310 81.47

ike, Osamu (*with* Sakashita, Noboru) National growth and regional income equality: a consistent model. *Internat. Econom. Rev.* **14** (1973), *no.* 2, 372–382. uthors' summary) **55** #14143 90A15

litdinov, D. (*with* Kraĭnova, L. I.) The rate of convergence of the Fourier integral nd of the conjugate integral of a certain class of functions. (Russian. Tajiki summary) *okl. Akad. Nauk Tadžik. SSR* **17** (1974), *no.* 4, 10–12. (R. P. Boas, Jr.) **50** #2806 2A76

(*with* Kraĭnova, L. I.) The rate of convergence of the Fourier integral and conjugate tegral of a function with a given modulus of smoothness on the interval. (Russian. ajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **18** (1975), *no.* 5, 7–10. (Editors) **8** #1975 42A40

(*with* Kraĭnova, L. I.) The speed of the (R, α)-summability of the Fourier integral nd the conjugate integral of a certain class of function. (Russian. Tajiki summary) *okl. Akad. Nauk Tadžik. SSR* **19** (1976), *no.* 12, 7–10. (Naza Tanović-Miller) **8** #1968 42A24

nt, Z. (*with* Pawelski, W.) On a certain case of asymptotic stability of the integral $=0$ of the differential equation $dy/dx=g(y/x)$. *Comment. Math. Prace Mat.* **17** 973), 229–235. (A. F. Izé) **49** #5484 34D05

(*with* Pawelski, W.) On the characteristics for a system of partial differential quations of the first order in a special case. Collection of articles dedicated to the emory of Tadeusz Ważewski, III. *Ann. Polon. Math.* **29** (1974), 215–228. (E. Kreyszig) **9** #11012 35A30

On mixed inequalities between solutions of an almost linear partial differential equation of the first order with a retarded argument. *Ann. Polon. Math.* **33** (1976/77), *no.* 3, 267–285. (K. Zima) **55** #10880 35R10

(*with* Pawelski, W.) On a special case of asymptotic stability in a uniform manner with respect to the initial conditions. *Comment. Math. Prace Mat.* **19** (1976), *no.* 1, 81–84. (K. B. Datta) **54** #10765 34D05

(*with* Kwapisz, Marian) On the Cauchy problem for differential-delay equations in a Banach space. *Math. Nachr.* **74** (1976), 173–190. (Russell C. Thompson) **54** #10787 34G05 (34K05)

On the Cauchy problem for linear partial differential-functional equations of first order. *Ann. Polon. Math.* **35** (1977/78), *no.* 1, 27–48. (J. A. Donaldson) **58** #12031 35R10

(*with* Pawelski, W.; Zacharek, S.) On a certain case of asymptotic stability of the solution $Y=0$ of a system of ordinary differential equations $Y'=F(x, Y)$. *Comment. Math. Prace Mat.* **20** (1977), *no.* 1, 87–96. (F. Brauer) **57** #808 34D20

On the existence and uniqueness of solutions of the Cauchy problem for linear partial differential-functional equations of the first order. *Math. Nachr.* **80** (1977), 183–200. (D. Ramakrishna Rao) **58** #17609 35R10

Kamoun, Farouk (*with* Kleinrock, Leonard) Analysis of shared storage in a computer network environment. *Proceedings of the Ninth Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1976), *pp.* 89–92. *Western Periodicals, North Hollywood, Calif.*, 1976. (Authors' summary) **57** #2762 94A20 (90B10, 68A99)

(*with* Kleinrock, Leonard) Hierarchical routing for large networks. Performance evaluation and optimization. *Comput. Networks* **1** (1976/77), *no.* 3, 155–174. (I. T. Frisch) **56** #11583 94A20

Kamowitz, Herbert The spectra of endomorphisms of the disc algebra. *Pacific J. Math.* **46** (1973), 433–440. (Joel H. Shapiro) **49** #5918 47B37

An inequality for analytic functions. *Proc. Amer. Math. Soc.* **46** (1974), 234–238. (W. C. Royster) **50** #4958 30A78

The spectra of composition operators on H^p. *J. Functional Analysis* **18** (1975), 132–150. (Joel H. Shapiro) **53** #11417 47B37

The spectra of endomorphisms of algebras of analytic functions. *Pacific J. Math.* **66** (1976), *no.* 2, 433–442. (J. Garnett) **58** #2426 47B37 (46J15)

The spectra of a class of operators on the disc algebra. *Indiana Univ. Math. J.* **27** (1978), *no.* 4, 581–610. (R. G. Douglas) **58** #2427 47B37 (46J15)

Kamp, J. A. W. Formal properties of "now". *Theoria* **37** (1971), 227–273. (N. B. Cocchiarella) **49** #2265 02C10

Free choice permission. *Proc. Aristotelian Soc.* **74** (1973/74), 57–74. (I. Ruzsa) **54** #7194 02A05 (02C10)

The philosophical significance of intensional logic. I. *Symposia read at the Joint Session of the Aristotelian Society and the Mind Association* (*Univ. Kent, Canterbury*, 1975), *pp.* 21–44. *Methuen, London*, 1975. (Editors) **58** #21390a 02A05 (02C10)

Kamp, Y. (*with* Genin, Yves V.) Algebraic properties of two-variable orthogonal polynomials on the hypercircle. *Philips Res. Rep.* **31** (1976), *no.* 5, 411–422. (G. Gasper) **55** #5926 33A65

Kamp, Yves G. (*with* Dierieck, C.) Polynomial Chebyshev approximation of a complex transfer function. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **8** (1971), 335–342. (C. W. Clenshaw) **45** #6153 65D15

(*with* Belevitch, Vitold) A class of multivariable positive real functions realizable by the Bott-Duffin method. *Philips Res. Rep.* **26** (1971), 433–442. (Authors' summary) **56** #11576 94A20

Realization of multivariable functions by a cascade of lossless two-ports separated by noncommensurate stubs. *Philips Res. Rep.* **26** (1971), 443–452. (P. R. Bryant) **52** #10257 94A20

(*with* Thiran, Jean P.) Maximally flat nonrecursive two-dimensional digital filters. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 437–449. (Authors' summary) **56** #5034 94A05

(*with* Thiran, Jean P.) Chebyshev approximation for two-dimensional nonrecursive digital filters. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), 208–218. (N. S. Kambo) **53** #10494 94A20

(*with* Delsarte, P.; Genin, Yves V.) Orthogonal polynomial matrices on the unit circle. *IEEE Trans. Circuits and Systems* **CAS-25** (1978), *no.* 3, 149–160. (A. E. Danese) **58** #1981 42A52

See also **Network theory**, **49** #12198

Kampé de Fériet, Joseph Mesure de l'information fournie par un événement. (English summary) *Les probabilités sur les structures algébriques* (*Actes Colloq. Internat. CNRS, No.* 186, *Clermont-Ferrand*, 1969), *pp.* 191–221. *Éditions Centre Nat. Recherche Sci., Paris*, 1970. (Author's summary) **53** #15560 94A15

Sur une loi de probabilité du champ des vitesses d'un fluide dans un état voisin de l'équilibre statistique. *Symposia Mathematica, Vol. IX* (*Convegno di Teoria della Turbolenza, INDAM, Rome*, 1971), *pp.* 273–298. *Academic Press, London*, 1972. (J. Gillis) **52** #2399 76.60

(*with* Nguyen-Trung Hung) Temps d'entrée d'un processus stochastique et mesure de l'information. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A721–A725. (P. M. Lee) **46** #10050 60G05 (94A15)

Remarks on the definition of a probability on a product-space with given marginal probabilities. *J. Mathematical and Physical Sci.* **6** (1972), 129–132. (D. L. Burkholder) **46** #8269 60A10

An ergodic property of the Brownian motion. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 35–37 (1974). (Martin Jacobsen) **53** #1759 60J65

(*with* Birkhoff, Garrett; Bona, Jerry L.) Statistically well-set Cauchy problems. *Probabilistic methods in applied mathematics, Vol.* 3, *pp.* 1–120. *Academic Press, New York*, 1973. (Editors) **58** #29493 35R99 (60H99)

Mesure de l'information par un ensemble d'observateurs indépendants. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 315–329. *Academia, Prague*, 1973. (Abe Sklar) **50** #6643 94A15 (*with* Nguyen-Trung Hung) Mesure de l'information, temps d'entrée et dimension de Hausdorff. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A807–A811; *erratum, ibid.* **276** (1973), A1145. (K. Jacobs) **47** #10143 94A15

(*with* Benvenuti, Pietro) Informations du type Inf, idéaux et filtres. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1123–A1128. (K. Jacobs) **48** #3615 94A15

Une équation fonctionnelle de la théorie de l'information généralisant l'équation de Cauchy. Collection of articles dedicated to Stanisław Gołąb on his 70th birthday, II. *Demonstratio Math.* **6** (1973), 665–685 (1974). (J. Aczél) **50** #1770 94A15 (22A15, 39A40)

La theorie généralisée de l'information et la mesure subjective de l'information. *Théories de l'information* (*Colloq. Information et Questionnaires, Marseille-Luminy*, 1973), *pp.* 1–35. *Lecture Notes in Math., Vol.* 398, *Springer, Berlin*, 1974. (Abe Sklar) **51** #7722 94A15

See also **Théories de l'information, 49** #12170; **Probabilistic methods in applied mathematics**, 52 #15582 *and* **Functional equations and inequalities, 58** #23210

Kampen, G. R. Orienting planar graphs. *Discrete Math.* **14** (1976), *no.* 4, 337–341. (S. Stein) **54** #5034 05C20

van Kampen, N. G. Transformation groups and the virial theorem. *Rep. Mathematical Phys.* **3** (1972), *no.* 3, 235–239. (C. A. Hurst) **46** #8499 70.49

Nonlinear irreversible processes. *Physica* **67** (1973), 1–22. (Kishin Mariwalla) **54** #9521 82.45

A cumulant expansion for stochastic linear differential equations. I, II. *Physica* **74** (1974), 215–238; *ibid.* **74** (1974), 239–247. (A. N. V. Rao) **54** #1378 60H10

(*with* Heilmann, Ole J.) Stochastic nonlinear differential equations. I. *Physica* **77** (1974), 279–289. (A. N. V. Rao) **54** #1377 60H10

Fluctuations in closed and open non-linear systems. *Statistical physics* (*Proc. IUPAP Internat. Conf. Statist. Phys., Budapest*, 1975), *pp.* 29–48. *North-Holland, Amsterdam*, 1976. (G. V. Ramanathan) **57** #15151 82.60

Fluctuations in continuous systems. *Topics in statistical mechanics and biophysics: a memorial to Julius L. Jackson*, *pp.* 153–186. *AIP Conf. Proc., No.* 27, *Amer. Inst. Phys., New York*, 1976. (G. V. Ramanathan) **58** #9016 82.60 (92A05)

Fluctuations and noise in physical theory. Proceedings of the Fourth International Conference on Physical Aspects of Noise in Solid State Devices (Noordwijkerhout, 1975). *Phys. B + C* **83** (1976), *no.* 1, 1–5. (J. J. Thomson) **54** #2066 82.60

Stochastic differential equations. *Phys. Rep.* **24** (1976), *no.* 3, 171–228. (Author's summary) **58** #32702 82.60

A soluble model for diffusion in a bistable potential. *J. Statist. Phys.* **17** (1977), *no.* 2, 71–88. (From the author's summary) **56** #17665 82.65

(*with* Groeneveld, J.) A simple proof of an identity of Good. *Math. Proc. Cambridge Philos. Soc.* **81** (1977), *no.* 2, 183–184. (D. S. Tracy) **55** #11462 62E15 (15A15)

The two expansions of the master equation. *Phys. Lett. A* **62** (1977), *no.* 6, 383–385. (Carlo Cercignani) **56** #7715 82.60

Master equation treatment of aging populations. *Rep. Mathematical Phys.* **11** (1977), *no.* 1, 111–122. (P. D. M. Macdonald) **55** #11413 60J80 (92A15)

Kamper, Dietmar *See* **Wissenschaftstheorie, 53** #2579

Kämpfe, Hansgerd Theoretische und praktische Probleme der Anwendung der Betaverteilung beim PERT-Verfahren. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **16** (1974), 447–453. (A. Prodon) **50** #15897 90B99

Zur kybernetischen Betrachtungsweise ökonomischer Erscheinungen. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **18** (1976), *no.* 2, 215–223. (M. Rössler) **55** #10080 93A10 (90A15)

(*with* Kliemt, Manfred; Kunze, Werner) Probleme der mathematischen Modellierung arbeitsteiliger Prozesse. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **18** (1976), *no.* 2, 225–233. (G. Tintner) **55** #9867 90A15

Kamps, H. J. L. (*with* van Lint, Jacobus H.) A covering problem. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 679–685. *North-Holland, Amsterdam*, 1970. (S. W. Golomb) **46** #78 94A10

See also **van Lint, Jacobus H., 50** #4311

Kamps, Klaus Heiner (*with* tom Dieck, Tammo; Puppe, Dieter) ★Homotopietheorie. Lecture Notes in Mathematics, Vol. 157. *Springer-Verlag, Berlin-New York*, 1970. vi + 265 *pp.* (Donald W. Kahn) **53** #11603 55Dxx

Zur Homotopietheorie von Gruppoiden. *Arch. Math.* (*Basel*) **23** (1972), 610–618. (D. Baladze) **47** #3571 20L99 (18G40)

Kan-Bedingungen und abstrakte Homotopiethoerie. *Math. Z.* **124** (1972), 215–236. (A. Dold) **45** #4412 55E99

On exact sequences in homotopy theory. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 136–141. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (Ronald Brown) **50** #5786 55D05

Fundamentalgruppoid und Homotopien. *Arch. Math.* (*Basel*) **24** (1973), 456–460. (D. Baladze) **49** #3908 55D05

Bemerkungen zum Homotopiesatz für semisimpliziale Faserungen. (English and Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 299–302. (A. Dold) **47** #9614 55F05 (18D30)

Die Einbettung von zweistelligen Mitteln. *Arch. Math.* (*Basel*) **25** (1974), 566–573. (H. Gross) **51** #1185 39A40 (46N05)

Zur Struktur der Puppe-Folge für halbexakte Funktoren. *Manuscripta Math.* **12** (1974), 93–104. (Raymond Barre) **50** #8514 55D40

★Vollkommene Zahlen. Konstanzer Universitätsreden. *Universitätsverlag GMBH, Konstanz*, 1975. i + 25 *pp.* (D. H. Lehmer) **55** #12623 10A25

A replacement property of Dold fibrations. *J. London Math. Soc.* (2) **11** (1975), *no.* 1, 32–34. (A. Dold) **52** #4284 55F05

(*with* Brinkmann, Hans-Berndt; Fritsch, Rudolf; Wolff, Gerhard) Werner Bos 1924–1973. *Jber. Deutsch. Math.-Verein.* **78** (1976/77), *no.* 2, 67–77. (Editors) **54** #7176 01A70

(*with* Heath, Philip R.) Induced homotopy in structured categories. (Italian summary) *Rend. Mat.* (6) **9** (1976), *no.* 1, 71–84. (Pierre J. Malraison, Jr.) **54** #13905 55D10 (18D20)

Operationen auf Homotopiemengen. *Math. Nachr.* **81** (1978), 233–241. (T. tom Dieck) **57** #7589 55E05

Kamša, V. P. *See* **Theory of languages and methods of construction of programming systems, 48** #7682

Kamthan, Pawan Kumar A remark on entire functions. *Proc. Rajasthan A* (1967), *no.* 1-2, 12–13. (S. D. Bajpai) **54** #2965 30A66

The derivatives of a meromorphic function and Nevanlinna's defic *Collect. Math.* **22** (1971), 5–17. (J. Winkler) **47** #8857 30A70

Various topologies on the space of entire functions. *Labdev—J. Sci. Te* (1971), 143–151. (V. Ganapathy Iyer) **47** #7050 30A98 (46E25)

(*with* Jain, Pawan Kumar) On Nevanlinna's proximity functions of a m function. *Ann. Polon. Math.* **26** (1972), 109–113. (V. Ganapathy Iyer) 30A70

(*with* Singh Gautam, S. K.) Certain operators in the space of analy transformations. *Collect. Math.* **23** (1972), 3–8. (R. Aguiló Fuster) **46** #970 (30A16)

(*with* Singh Gautam, S. K.) Bases in the space of analytic Dirichlet trans *Collect. Math.* **23** (1972), 9–16. (R. Aguiló Fuster) **46** #9701 46E10 (30

(*with* Jain, Pawan Kumar) Remarks on the geometric means of entire several complex variables. *Riv. Mat. Univ. Parma* (3) **1** (1972), 113– Agarwal) **51** #8450 32A15

A note on the geometric means of entire functions of several comple *Trans. Amer. Math. Soc.* **169** (1972), 503–508. (J. Kajiwara) **58** #22633

On a class of generalized convex functions. *Math. Japon.* **18** (1973), 265 Gross) **49** #7445 30A64

Monotone bases and orthogonal systems in Fréchet spaces. *Yokohama* (1973), 5–10. (W. H. Ruckle) **48** #4684 46A35

A study on the space of entire functions of several complex variables. *Math. J.* **21** (1973), 11–20. (L. Kaup) **49** #3211a 32E25 (46E25)

Homeomorphisms in the space of entire functions of several complex *Yokohama Math. J.* **21** (1973), 21–25. (L. Kaup) **49** #3211b 32E25 (46E

(*with* Gupta, Manjul) Space of entire functions of several variables in a non-Archimedean field. *Acta Mexicana Ci. Tecn.* **8** (1974), *no.* 1-3, 19–3 **56** #8889 32A15 (46E15)

Deficient values of meromorphic functions and their derivatives. *Collec* (1974), *no.* 3, 275–293. (Heinrich Begehr) **54** #551 30A70

(*with* Gupta, Manjul) Analytic functions in bicylinders. *Indian J. Pure* **5** (1974), *no.* 12, 1119–1126. (Authors' summary) **57** #13457 46E10 (32

(*with* Gupta, Manjul) Expansion of entire functions of several comple having finite growth. *Trans. Amer. Math. Soc.* **192** (1974), 371–382. (F **50** #10299 32A15 (30A64)

(*with* Ray, S. K.) On decomposition in barrelled spaces. *Colloq. Math.* 3 (1975/76), *no.* 1, 73–79. (W. H. Ruckle) **53** #8854 46A35

(*with* Ray, S. K.) Decompositions in topological vector spaces. *Indian J* *Math.* **6** (1975), *no.* 3, 237–246. (S. Tôgô) **55** #13206 46A35

(*with* Singh Gautam, S. K.) Bases in a certain space of Dirichlet entire transformations. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 8, 856–863. (**57** #3812 46A35

(*with* Singh Gautam, S. K.) Bases in a certain space of functions ana half-plane. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 9, 1066–1075. (R **56** #9243 46E10 (30A98)

(*with* Singh Gautam, S. K.) Restricted double automorphisms of th analytic Dirichlet functions. *J. Korean Math. Soc.* **12** (1975), *no.* 2, 79– Klopfenstein) **52** #3942 46E10 (30A98)

(*with* Gupta, Manjul) Space of entire functions of several complex varia finite order point. *Math. Japon.* **20** (1975), *no.* 1, 7–19. (Fred Gross) 5 32A15

(*with* Ray, S. K.) Equivalence of sequences of subspaces in topolog spaces. *Math. Japon.* **20** (1975), *no.* 4, 333–340 (1976). (Tosun Terzioğlu) 5 46A35

(*with* Singh Gautam, S. K.) Characterization of bounded sets in the spac Dirichlet functions of finite order (R). (Italian summary) *Boll. Un. Mat. Ita* (1976), *no.* 3, 568–575. (V. A. Tkačenko) **54** #13097 30A98

(*with* Gupta, Manjul; Ray, S. K.) Schauder decompositions in dual spaces. *Colloq. Math.* **36** (1976), *no.* 1, 109–115. (William Robinson) **56** 46A35

(*with* Ray, S. K.) Some characterisations of shrinking decompositions convex spaces. *Proc. Roy. Irish Acad. Sect. A* **76** (1976), *no.* 18, 181–190. (J **55** #13207 46A35

(*with* Gupta, Manjul) Linear homeomorphisms in the space of analytic fu bicylinders. *Riv. Mat. Univ. Parma* (4) **2** (1976), 69–75. (P. Lelong) 5 32A10

Bases in a certain class of a Fréchet space. *Tamkang J. Math.* **7** (19 41–49. (K. F. Klopfenstein) **54** #5814 46E10

(*with* Gupta, Manjul) Characterizations of bases in topological vecto *Tamkang J. Math.* **7** (1976), *no.* 1, 51–55. (R. H. Lohman) **55** #3734 46A

(*with* Gupta, Manjul; Rao, K. L. N.) The generalized sequence spaces C, l^∞, and their Köthe duals. *Tamkang J. Math.* **7** (1976), *no.* 2, 175–178. **56** 46A45

Regular and bounded bases. *Tamkang J. Math.* **7** (1976), *no.* 2, 20 Dubinsky) **56** #16316 46A35

(*with* Gupta, Manjul; Rao, K. L. N.) Generalized Köthe sequence s decompositions. *Ann. Mat. Pura Appl.* (4) **113** (1977), 287–301. (W. H **57** #7109 46A45

(*with* Gupta, Manjul; Rao, K. L. N.) Duality in certain generalized Köthe spaces. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 2, 285–298. (W. H **57** #7110 46A45

(*with* Gupta, Manjul) Schauder bases and sequential duals. *Bull. Soc.* *Liège* **46** (1977), *no.* 5-8, 153–155. (Robert Knowles) **57** #7111 46A45

(*with* Gupta, Manjul) Uniform bases in locally convex spaces. *J. Rei* *Math.* **295** (1977), 208–213. (M. S. Ramanujan) **57** #3813 46A35

An application of Riesz's decomposition theorem. *Rev. Roumaine Ma*

Appl. **23** (1978), *no.* 4, 557–560. (David R. Adams) **58** #6285 31A05

mykowski, Łukasz On a certain generalization of Schreier's theorem in lattices. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 16 (1974), 97–105. (R. P. Dilworth) **50** #12834 06A20

mynin, Ĭ. P. (*with* Ostrovskiĭ, I. V.) The zeros of entire ridge functions. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 24 (1975), 41–50, ii. (W. H. J. Fuchs) **53** #5871 30A70

mynin, L. I. On the Gevrey theory for parabolic potentials. III. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1473–1489, 1541. (H. Marcinkowska) **45** #5583 35K10

(*with* Himčenko, B. N.) The maximum principle for second order parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 282–285. (I. Łojczyk-Królikiewicz) **45** #3945 35K10

On the Gevrey theory for parabolic potentials. IV, V. (Russian) *Differencial'nye Uravnenija* **8** (1972), 318–332; *ibid.* **8** (1972), 495–509. (H. Marcinkowska) **46** #3996 35K35

On the Gevrey theory for parabolic potentials. VI. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1015–1025. (H. Marcinkowska) **46** #3997 35K35

(*with* Himčenko, B. N.) Applications of the maximum principle to second order parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 529–532. (O. Horáček) **47** #637 35K10

(*with* Himčenko, B. N.) The maximum principle for a second order elliptic-parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 773–789. (I. Łojczyk-Królikiewicz) **46** #9551 35M05

(*with* Himčenko, B. N.) The analogues of the Giraud theorem for a second order parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 86–110, 236. (J. Kačur) **48** #11778 35K20

(*with* Himčenko, B. N.) Lipschitz boundary estimates for a solution of a second order elliptic-parabolic equation. *Dokl. Akad. Nauk SSSR* **212** (1973), 544–547 (*Russian*); *translated as Soviet Math. Dokl.* **14** (1973), 1407–1412. (P. K. Wong (Zbl **308** #35052)) **55** #858 35J70

(*with* Himčenko, B. N.) The maximum principle and local regularity (in the sense of Lipschitz) of the solutions of a second order parabolic equation near the lateral part of the parabolic boundary. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 785–788. (I. Łojczyk-Królikiewicz) **52** #8655 35K20

(*with* Himčenko, B. N.) A maximum principle and Lipschitz boundary estimates for the solution of a second order elliptic-parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 343–367, 461. (M. A. Dow) **55** #10868 35M05

The solution by the method of potentials of the fundamental boundary value problems for a second order one-dimensional parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 806–834, 958. (A. Borzymowski) **50** #5191 35K20

(*with* Himčenko, B. N.) Theorems of Giraud type for a second order elliptic operator that isweakly degenerate near the boundary. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 4, 752–755. (G. Albinus) **53** #1019 35J70

(*with* Himčenko, B. N.) The maximum principle and local Lipschitz estimates near the lateral boundary for the solutions of a second order parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 6, 1172–1187, 1369. (Todor G. Genčev) **53** #11232 35K20

(*with* Himčenko, B. N.) Local estimates of the solution of a second order parabolic equation near the lower cap of the parabolic boundary. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 3, 543–546. (L. Łojczyk-Królikiewicz) **54** #8028 35K20

The uniqueness of the solution of a boundary value problem with A. A. Samarskiĭ's boundary conditions for a second order parabolic equation. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 6, 1480–1488, 1627. (I. Bock (Zbl **365** #35026)) **58** #6705 35K20

(*with* Himčenko, B. N.) A priori boundary estimates of the solutions of a second order equation with a nonnegative characteristic form. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 1, 16–19. (Ju. V. Kostarčuk) **55** #3533 35J70

(*with* Himčenko, B. N.) The strict extremum principle for degenerate second order parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 5, 1060–1063. (V. Djurikovič) **58** #1638 35K10

(*with* Himčenko, B. N.) Theorems of Giraud type for second order equations with a weakly degenerate non-negative characteristic part. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 1, 103–121, 238. (Ju. V. Kostarčuk) **55** #10831 35J25 (35K20)

(*with* Himčenko, B. N.) Giraud's theorems on the time derivative for a second order parabolic operator. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 5, 45–53. (J. F. Heyda) **58** #6701 35K10

Kamyšanskiĭ, N. R. (*with* Solodovnikov, A. S.) Poles of pseudo-Riemannian spaces. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 1, 47–50. (M. Kucharzewski) **52** #4204 53C50

(*with* Solodovnikov, A. S.) Poles of pseudo-Riemannian spaces. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 5, 1093–1129, 1219–1220. (A. Švec) **53** #6472 53C50

A classification of the complete and simply connected pseudo-Riemannian spaces V^n, $n \geqslant 3$, that contain at least one pole. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 4, 539–542. (V. G. Kopp) **56** #1238 53C50

Analytic pseudo-Riemannian spaces of dimension $n \geqslant 3$ with polars. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no.* 4(191), 109–112. (V. G. Kopp) **58** #12794 53B30

Classification of pseudo-Riemannian spaces V^n, $n \geqslant 3$, with poles. (Russian) *Mat. Sb.* (*N.S.*) **105(147)** (1978), *no.* 1, 28–62, 143. (V. G. Kopp) **57** #13806 53C50

(*with* Solodovnikov, A. S.) Pseudo-Riemannian spaces with poles (multidimensional case). (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **18** (1978), 300–320. (V. G. Kopp) **58** #18302 53C50

Kamyšnikov, V. M. (*with* Bahtin, I. A.; Gončarov, G. M.) Criteria for the continuability of continuous linear functionals in real locally convex spaces. (Russian) *Functional analysis, No.* 3 (*Russian*), *pp.* 29–34. *Ul'janovsk. Gos. Univ., Ulyanovsk*, 1974. (N. Popa) **57** #10405 46A40

Kamyšnikov, V. N. Spectral theory of completely linear bounded operators that act in *K*-spaces. (Russian) *Voronež. Gos. Univ. Trudy Sem. Funkcional. Anal. Vyp.* 10, 22–30 (1968). (Ju. A. Abramovič) **53** #14212 47B55

(*with* Bahtin, I. A.; Gončarov, G. M.) The extendibility of continuous positive linear functionals in real locally convex topological linear spaces. (Russian) *Proceedings of the Central Regional Association of Mathematics Departments, No. 2: Functional analysis and the theory of functions* (*Russian*), *pp.* 41–47. *Kalinin. Gos. Ped. Inst., Kalinin*, 1971. (S. Kutateladze) **51** #8784 46A40

Estimation of the spectrum of certain classes of linear operators acting in a locally convex space. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 6 (1972), 33–38. (RŽMat **1973** #3 B724) **58** #2445 47B55

Abelian sets of positive linear operators in a locally convex space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 7(134), 41–46. (Rosalind Reichard) **48** #7009 47B55 (46A40)

Indecomposable operators in locally convex spaces. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 7 (1973), 45–56. (Ju. Vladimirskiĭ (RŽMat **1974** #7 B733)) **57** #7246 47B55

Kamytov, T. Solution of nonlinear integro-differential equations by the method of oscillating functions and mechanical quadratures. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970), 88–92. (See RŽMat **1970** #12 B923) 45K05

Approximate solution of a partial integrodifferential equation. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 9 (1974), 13–17. (See RŽMat **1974** #9 B1208) 45L05

Approximate solution of a boundary value problem for an integrodifferential equation by the spline function method. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk Vyp.* 10 (1974), 28–32. (Editors) **54** #3328 45J05

Kamzolov, A. I. The Riesz interpolation formula and the Bernšteĭn inequality for functions on homogeneous spaces. (Russian) *Mat. Zametki* **15** (1974), 967–978. (A. Korányi) **50** #10695 43A85

The uniform approximation of the classes of functions $\tilde{W}_p^{\alpha}(M)$ by positive linear polynomial operators. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 5, 13–25. (Bl. Sendov) **54** #13412 41A50

The approximation of the classes of functions $\tilde{W}_p^{\alpha}(L)$ by Fejér's method in the spaces $\mathfrak{L}_s[-\pi,\pi]$. (Russian) *Mat. Zametki* **23** (1978), *no.* 3, 343–349. (Paul Nevai) **57** #10334 42A08

čanho Kan *See* **Čanho Kan**

le suan Kan *See* **Le Suan Kan**

ngo zuĭ Kan *See* **Ngo Zuĭ Kan**

rinnooy Kan, A. H. G. *See* **Rinnooy Kan, A. H. G.**

Kan, Daniel M. (*with* Bousfield, A. K.) Homotopy with respect to a ring. *Algebraic topology* (*Proc. Sympos. Pure Math., Vol. XXII, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 59–64. *Amer. Math. Soc., Providence, R.I.*, 1971. (W. M. Singer) **48** #5077 55H15

(*with* Bousfield, A. K.) Localization and completion in homotopy theory. *Bull. Amer. Math. Soc.* **77** (1971), 1006–1010. (E. B. Curtis) **45** #5994 55D99

(*with* Bousfield, A. K.) ★Homotopy limits, completions and localizations. Lecture Notes in Mathematics, Vol. 304. *Springer-Verlag, Berlin-New York*, 1972. v+348 *pp.* (Harold Hastings) **51** #1825 55J05

(*with* Bousfield, A. K.) The core of a ring. *J. Pure Appl. Algebra* **2** (1972), 73–81. (C. M. Knighten) **46** #7222 (E **48** #6085) 13D99 (55H99)

(*with* Bousfield, A. K.) Correction to "The core of a ring" (J. Pure Appl. Algebra **2** (1972), 73–81). *J. Pure Appl. Algebra* **3** (1973), 409. (Editors) **48** #6085 13D99

(*with* Bousfield, A. K.) A second quadrant homotopy spectral sequence. *Trans. Amer. Math. Soc.* **177** (1973), 305–318. (Donald M. Davis) **51** #9063 55H15

(*with* Bousfield, A. K.) Pairings and products in the homotopy spectral sequence. *Trans. Amer. Math. Soc.* **177** (1973), 319–343. (Donald M. Davis) **51** #9064 55H15

A Whitehead theorem. *Algebra, topology, and category theory* (*a collection of papers in honor of Samuel Eilenberg*), *pp.* 95–99. *Academic Press, New York*, 1976. (Jerrold W. Grossman) **53** #14482 55D10

(*with* Miller, Edward Y.) Sullivan's de Rham complex is definable in terms of its 0-forms. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 337–339. (Jean-Michel Lemaire) **53** #14483 55D15 (58A10)

(*with* Thurston, William P.) Every connected space has the homology of a $K(\pi,1)$. *Topology* **15** (1976), *no.* 3, 253–258. (J. P. May) **54** #1210 55D20

(*with* Dror, Emmanuel; Dwyer, William G.) An arithmetic square for virtually nilpotent spaces. *Illinois J. Math.* **21** (1977), *no.* 2, 242–254. (M. Mimura) **55** #11246 55D15

(*with* Miller, Edward Y.) Homotopy types and Sullivan's algebras of 0-forms. *Topology* **16** (1977), *no.* 2, 193–197. (Jean-Michel Lemaire) **55** #13413 55D10

(*with* Miller, Edward Y.) Splitting spaces with finite group actions. *Topology* **16** (1977), *no.* 4, 403–407. (J. P. May) **57** #7582 55C35

Kan, È. M. Invariant fiberings of a manifold of independent and dependent variables for quasilinear systems of first order partial differential equations. (Russian) *Geometry and topology, No.* 2 (*Russian*), *pp.* 99–111. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974. (W. Wrona) **57** #13706 53A05

Conservation laws for the equation of the longitudinal oscillation of a rod. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 10(173), 42–56. (V. Komkov) **57** #18370 73.34 (58A15)

Kan, Edwin P. F. (*with* Jury, Eliahu I.) On Popov criteria for ΣPFM systems. *Internat. J. Control* (1) **13** (1971), 1121–1129. (E. O. Roxin) **51** #2713 (E **55** #2273) 93D10

(*with* Jury, Eliahu I.) Errata: "On Popov criteria for ΣPFM systems" (Internat. J. Control (1) **13** (1971), 1121–1129). *Internat. J. Control* (1) **15** (1972), 1197–1198. (E. O. Roxin) **55** #2273 93D10

Stability of saturating nonlinear feedback systems. *J. Franklin Inst.* **293** (1972), 243–250. (J. M. Skowroński) **46** #10465 93D10

Adaptive training class statistics. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-3** (1973), 200–202. (R. M. Cormack) **50** #5993 62–01

Kan, Kit Keung (*with* Griffin, James J.) Single-particle Schrödinger fluid. I. Formulation. *Phys. Rev. C* (3) **15** (1977), *no.* 3, 1126–1151. (Authors' summary) **57** #8620 81.35

(*with* Griffin, James J.) Independent particle Schrödinger fluid: moments of inertia. *Nuclear Phys. A* **301** (1978), *no.* 2, 258–316. (Authors' summary) **57** #15028 81.35

Kan, V. E. (*with* Pešes, L. Ja.) Estimation of the reliability of systems, under an accumulation of failures, with allowance for preventive maintenance. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1975**, *no.* 5, 43–46. (Authors' summary) **58** #7904 60K20 (62N05)

Kan, Y. C. (*with* Dreyfus, Stuart E.) A general dynamic programming solution of discrete-time linear optimal control problems. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 3, 286–289. (Authors' summary) **55** #14312 93C05 (93C55)

Optimal search of a moving target. *Operations Res.* **25** (1977), *no.* 5, 864–870. (P. Neumann) **56** #10914 90B40

Kanada, Hajime (*with* Kajitani, Yoji) Orientation of a graph and its applications. *Electron. Commun. Japan* **54** (1971), *no.* 6, 25–32. (G. Chartrand) **47** #1677 05C99 (94A20)

(*with* Tanaka, Chiyozi) A formulation of fault diagnosis in logic circuits. *Systems-Computers-Controls* **2** (1971), *no.* 4, 78–79. (W. K. Chen) **48** #5738 94A25

Kanai, Hiroshi (*with* Ogawa, Kiyoshi) Number synthesis of kinematic chains with one general constraint. *Bull. JSME* **17** (1974), 959–966. (J. Hoschek) **50** #9101 70.53

Kanai, Kimio (*with* Ichikawa, Kunihiko) Computational algorithms for the optimization of distributed parameter system based on impulse response. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 8.5, 6 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33291 93C10

Kanai, Syôji On flat families of analytic spaces onto complex manifolds. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **11**, 16–19 (1971). (M. Herrera) **48** #6470 32G13

Kanakova, N. I. (*with* Moničev, A. Ja.) A qualitative study of a model of the interaction of two types of hemopoietic stem cells. (Russian) *Dinamika Sistem Vyp.* 8 (1975), 140–146, 164. (Authors' summary) **58** #20568 92A05

Kanal, Laveen N. (*with* Chandrasekaran, Balakrishnan) On linguistic, statistical and mixed models for pattern recognition. With an appendix by Chandrasekaran and K. Salter. *Frontiers of pattern recognition* (*Proc. Internat. Conf., Univ. Hawaii, Honolulu, Hawaii,* 1971), *pp.* 163–192. *Academic Press, New York,* 1972. (James C. Bezdek) **54** #11874 68A45

Patterns in pattern recognition: 1968-1974. *IEEE Trans. Information Theory* **IT-20** (1974), 697–722. (F. W. Stallmann) **50** #9079 68A45

(*with* Kulkarni, Ashok V.) An optimization approach to hierarchical classifier design. *Proceedings of the Third International Joint Conference on Pattern Recognition* (*Coronado, Calif.*, 1976), *pp.* 459–466. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Michael Bauer) **57** #1993 68A45 (90D35)

Kanal, Madhoo General theory of spherically symmetric boundary-value problems of the linear transport theory. *J. Mathematical Phys.* **13** (1972), 1013–1025. (E. H. Bareiss) **45** #9629 82.45

(*with* Moses, Harry E.) Direct-inverse problems in transport theory. I. The inverse problem. *J. Math. Phys.* **19** (1978), *no.* 8, 1793–1798. (Wolfgang Bühring) **58** #14802 82.45 (49B20)

Kanamori, A. Ultrafilters over a measurable cardinal. *Ann. Math. Logic* **10** (1976), *no.* 3-4, 315–356. (L. Bukovský) **58** #10451 02K25

Weakly normal filters and irregular ultrafilters. *Trans. Amer. Math. Soc.* **220** (1976), 393–399. (Alan D. Taylor) **58** #240 04A20 (02K35)

Some combinatorics involving ultrafilters. *Fund. Math.* **100** (1978), *no.* 2, 145–155. (N. H. Williams) **58** #16299 02K35 (04A20)

Kanarek, Paula *See* **Reliability and biometry: statistical analysis of lifelength**, **49** #1630

Kanarev, L. E. (*with* Bedrov, Ja. A.; Goričev, Ju. V.; Gorodeckiĭ, V. I.; Zaharov, V. N.; Kočetkov, V. I.; Krut′ko, P. D.; Letov, A. M.; Mogilevskiĭ, V. D.; Ponomarev, V. M.; Tret′jakov, V. E.) ★Нелинейная оптимизация систем автоматического управления. (Russian) [Nonlinear optimization of automatic control systems] Edited by V. M. Ponomarev. Nonlinear Automatic Control Systems, Vol. 5. *Izdat.* "*Mašinostroenie*", *Moscow*, 1970. 307 *pp.* (F. M. Kirillova) **50** #12363 93C10

Multivariable control systems. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 3, 559–560, 575. (Author's summary) **56** #14916 93B99

Kanatani, K. A theory of continua with projective microstructure as a model for large trusses. *J. Engrg. Math.* **12** (1978), *no.* 4, 341–356. (Author's summary) **58** #19567 73.35 (35Q99)

Kanatani, Ken Ichi (*with* Amari, Shun-ichi; Yoshida, Kiyonori) A mathematical foundation for statistical neurodynamics. *SIAM J. Appl. Math.* **33** (1977), *no.* 1, 95–126. (H. A. Lauwerier) **58** #20545 92A05

Kanatnikov, A. N. (*with* Aĭrapetjan, A. N.) The set of functions with summable derivative. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **62** (1976), *no.* 2, 72–74. (G. Piranian) **53** #13579 30A78

A theorem of Collingwood. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 4, 3–9. (C. Tanaka) **54** #5470 30A72

(*with* Gavrilov, V. I.) A characterization of the set $P(f)$ for meromorphic functions. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 6, 1237–1240. (C. Tanaka) **55** #10693 30A72

(*with* Gavrilov, V. I.) A characteristization of the set $M(f)$ for meromorphic functions. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 1, 15–17. (I. N. Baker) **55** #8362 30A72

A converse of Meier's theorem for meromorphic functions. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 5, 1043–1046. (I. N. Baker) **57** #16599 30A72

Kanatov, Ī. Ī. (*with* Vasil′ev, V. Ī.; Zaharov, Ju. E.; Kleščov, V. V.; Konovalenko, V. V.) Analysis and classification of situations generated by random processes using the group method of data handling. *Avtomatika* **1975**, *no.* 1, 57–65 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 1, 46–53. (Authors' summary) **54** #8983 62H30

Kanaun, S. K. The self-consistent field method in a problem concerning the effective properties of an elastic composite. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1975**, *no.* 4, 194–203. (J. Ignaczak) **55** #7065 73.60

Kanaya, Matao (*with* Kazama, Shun) On the CASMEL, an educational language of an electronic digital computer, its compiler and a tracer. *Rep. Univ. Electro-Commun. No.* 29 (1971), 155–174. (S. Huzino) **46** #6642 68A05

Kanayama, Yutaka Program schemas without gotos. Proceedings of the Third Symposium on Basic Theory of Programs (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1973) and of the Workshop for Proof Theory about Algorithms (Res. Inst. Math. Studies, Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 236 (1975), 31–37. (Author's introduction) **58** #8445 68A05

Kanazawa, Minoru On doubly transitive permutation groups of degree twelve. *Mem* *Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 5 (1970), *part* 1, 17–20. (J. D. **52** #5773 20B10

On a class of *p*-groups. *Kumamoto J. Sci.* (*Math.*) **10** (1973), *no.* 1, 1–24. (B Srinivasan) **49** #5163 20D15

Kanazawa, Mitsuyo A non-parametric classification rule for several multivariate populations. *Canad. J. Statist.* **2** (1974), *no.* 2, 145–156. (Margaret P. Gessa **53** #4382 62H30

(*with* Kariya, Takeaki) A locally most powerful invariant test for the equal means associated with covariate discriminant analysis. *J. Multivariate Anal.* **8** (*no.* 1, 134–140. (S. John) **58** #3201 62H15

Kanazawa, Takashi On a non-linear Volterra integral equation with singular kernel. *Japan Acad.* **47** (1971), *suppl. II*, 921–924. (H. E. Gollwitzer) **47** #5530 45D0

Kanbara, Hikoji (*with* Harada, Manabu) On categories of projective modules. *Osa* *Math.* **8** (1971), 471–483. (B. Stenström) **47** #6770 16A50 (18G05)

Note on Krull-Remak-Schmidt-Azumaya's theorem. *Osaka J. Math.* **9** (1 409–413. (F. DeMeyer) **47** #6777 16A64 (16A48)

Kancedal, S. A. (*with* Maksimov, Ju. B.) The computational efficiency of the meth asymptotic local extrema enumeration. (Russian) *Combinatorial geometry and op* *assignments* (*Russian*), *pp.* 22–28. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev,* (See RŽMat **1975** #1 V770; MR **57** #10986) 90C99 (68A20)

he Kan Čer *See* **He Kan Čer**

Kanchan, P. K. Linear fractional functional programming. *Acta Ci. Indica* **2**, 401–405 (1976). (Bruce D. Craven) **55** #14218 90C30

(*with* Shukla, D. P.) Sum of linear and linear fractional programming. *Acta C* *Indica* **4** (1978), *no.* 2, 199–201. (K. G. Murty) **58** #26018 90C30

Kanda, Mamoru Local comparison theorems for a certain class of multi-dimensi Markov processes of transient type. *Proc. Japan Acad.* **46** (1970), *no.* 7, *suppl.*, 789– (S. C. Port) **45** #1253 60J50

Comparison theorems on regular points for multi-dimensional Markov process transient type. *Nagoya Math. J.* **44** (1971), 165–214. (H. P. McKean, Jr.) **45** #27 60J60

Remarks on Markov processes having Green functions with isotropic singula *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto,* 1 *pp.* 170–175. *Lecture Notes in Math., Vol.* 330, *Springer, Berlin,* 1973. (P. W. Mi **55** #13585 60J45

Comparison theorems for regular points in Markov processes. (Japanese) *Sû* **25** (1973), 354–364. (Masatoshi Fukushima) **49** #1601 60J45

A remark on certain symmetric stable processes. *Hiroshima Math. J.* **4** (1 435–439. (D. Revuz) **50** #5949 60J45

A comparison theorem on generalized capacity. *Hiroshima Math. J.* **4** (1 501–507. (G. Albinus) **50** #13573 31B15

Some theorems on capacity for isotropic Markov processes with stationary independent increments. *Japan. J. Math.* (*N.S.*) **1** (1975/76), *no.* 1, 37–66. (S. J. Tay **52** #12092 60J30

Two theorems on capacity for Markov processes with stationary indepen increments. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** (1976), *no.* 2, 159– (Bert Fristedt) **53** #9386 60J30

Characterization of semipolar sets for processes with stationary independent increments. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **42** (1978), *no.* 2, 141– (Bert Fristedt) **58** #3068 60J45

Kanda, Shigeo Cosine families and weak solutions of second order differential equatio *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 5, 119–123. (Curtis C. Tra **58** #11749 34G05 (47D05)

Kanda, Shigeru The Genna edition of the Ryūkoku University's book "*San'yōki*" ("Hist of computation")—the oldest published mathematical book in Japan. (Japanese) *Sûgakushi Kenkyû* **6** (1968), *no.* 1, 48–54. (K. Inoue) **47** #8223 01A25 (01A45)

Notes on the history of wasan and calendar study. (Japanese) *Sûgakushi Ken* *No.* 64 (1975), 16–35. **58** #26736 (E **58** #26721) 01A25

Kandall, G. A. *See* **Hmelevskiĭ, Ju. I., 52** #14094

Kandel, Abraham Fuzzy functions and their applications to the analysis of switch hazards. *Computing systems* 1973 (*Proc. Second Texas Conf., Univ. Texas, Austin, T* 1973), *Paper No.* 42, 6 *pp. Univ. Texas, Austin, Tex.*, 1973. (Author's summa **56** #5070 94A20

Comments on: "Minimization of fuzzy functions" (IEEE Trans. Computers C (1972), 100–102) by P. Siy and C. S. Chen. *IEEE Trans. Computers* **C-22** (1973), 2 (Charles G. Morgan) **51** #12428 94A20

On minimization of fuzzy functions. *IEEE Trans. Computers* **C-22** (1973), 826–8 (Author's summary) **56** #11577 94A20

Comment on an algorithm that generates fuzzy prime implicants by Lee and Chan *Information and Control* **22** (1973), 279–282. (A. L. Rosenberg) **48** #5414 (E **51** #736 (E **53** #7116) (E **58** #9853b) (E **58** #9853a) 68A10 (02C05)

Fuzzy systems and their applications to simulations. *Proceedings of the Ni* *Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Haw* 1976), *pp.* 288–292. *Western Periodicals, North Hollywood, Calif.*, 1974. (Masaha Mizumoto) **57** #9347 94A25

(*with* Yelowitz, Lawrence) Fuzzy chains. *IEEE Trans. Systems, Man Cyber* **SMC-4** (1974), 472–475. (Koriolan Gilezan) **56** #2494 93A99

Corrigendum: "Comment on an algorithm that generates fuzzy prime implicants Lee and Chang" (Information and Control **22** (1973), 279–282). *Information and Con* **24** (1974), 100. (Editors) **51** #7360 68A10

On the minimization of incompletely specified fuzzy functions. *Information* *Control* **26** (1974), 141–153. (A. Paz) **50** #6657 94A20

Application of fuzzy logic to the detection of static hazards in combinatio switching systems. *Internat. J. Comput. Information Sci.* **3** (1974), 129–139. (Edward Lee) **53** #2535 94A20

On the properties of fuzzy switching functions. *J. Cybernet.* **4** (1974), *no.* 119–126. **56** #11579 94A20

A note on the simplification of fuzzy switching functions. *J. Cybernet.* **4** (1974), 4, 87–90. **56** #11578 94A20

Block decomposition of imprecise models. *Ninth Annual Asilomar Conference on cuits, Systems, and Computers* (*Pacific Grove, Calif.*, 1975), *pp.* 522–528. *Western iodicals, North Hollywood, Calif.*, 1976. (Author's summary) **58** #33610 04A99

Properties of fuzzy matrices and their applications to hierarchical structures. *Ninth nual Asilomar Conference on Circuits, Systems, and Computers* (*Pacific Grove, Calif.*, 75), *pp.* 531–538. *Western Periodicals, North Hollywood, Calif.*, 1976. (Author's nmary) **58** #33611 04A99 (68A45)

Fuzzy maps and their application in the simplification of fuzzy switching functions. *oceedings of the Sixth International Symposium on Multiple-Valued Logic* (*Univ. nter, Utah State Univ., Logan, Utah*, 1976), *pp.* 189–195. *IEEE Comput. Soc., Long ach, Calif.*, 1976. (Author's summary) **58** #20848 94A20

(*with* Yelowitz, Lawrence) New results and techniques in resolution theory. *IEEE ans. Computers* **C-25** (1976), *no.* 7, 673–677. (John K. Debenham) **55** #11738 A40

On the decomposition of fuzzy functions. *IEEE Trans. Computers* **C-25** (1976), *no.* , 1124–1130. (Michio Sugeno) **56** #11580 94A20

(*with* Rickman, Sharon M.) Tabular minimization of fuzzy switching functions. *EE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 11, 766–769. (Masaharu izumoto) **56** #8214 94A20

Inexact switching logic. *IEEE Trans. Systems, Man Cybernet.* **SMC-6** (1976), *no.* 3, 5–219. (Krzysztof Sapiecha) **52** #16887 94A20

(*with* Schwede, Gary W.) Fuzzy maps. *IEEE Trans. Systems Man Cybernet.* **MC-7** (1977), *no.* 9, 669–674. (Masaharu Mizumoto) **56** #11623 94A20

Comments on: "Comments on two theorems" (Information and Control **35** (1977), . 2, 106–108) by E. T. Lee—author's reply. *Information and Control* **35** (1977), *no.* 2, 09–113. (A. L. Rosenberg) **58** #9853b 94A20

(*with* Neff, Thomas P.) Simplification of fuzzy switching functions. *Internat. J. omput. Information Sci.* **6** (1977), *no.* 1, 55–70. (Masaharu Mizumoto) **55** #2386 4A20

(*with* Hughes, J. Steven) Applications of fuzzy algebra to hazard detection in ombinational switching circuits. *Internat. J. Comput. Information Sci.* **6** (1977), *no.* 1, 1–82. (Masaharu Mizumoto) **55** #7602 94A20

Fuzzy statistics and forecast evaluation. *IEEE Trans. Systems Man Cybernet.* **MC-8** (1978), *no.* 5, 396–401. (K. S. Fu) **57** #11654 86.60 (04A99)

See also **Negoiţă, Constantin Virgil; et al.**, **53** #7116 *and* **Lee, Edward T.**, 8 #9853a

elaki, N. P. (*with* Cercvadze, G. N.) Solution to the problem of localization of the haracteristic numbers of matrices of automata that have asymptotically optimal ehavior in stationary random media. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **9** (1969), *no.* 1, 144–149. (G. Blohina (RŽMat **1970** #3 V346)) **46** #10520 94A30

(*with* Vahanija, N. N.) An estimate of the rate of convergence in the central limit heorem in Hilbert space. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **9** (1969), *no.* 1, 150–160. (V. Sazonov (RŽMat **1970** #4 V14)) **46** #2722 0F05

A certain variational problem for probability distributions. (Russian) *Thbilis. Saḫelmç. Univ. Gamoqeneb. Math. Inst. Šrom.* **2** (1969), 221–222. (J. H. Kučkarov) **46** #4310 49A25 (28A30)

(*with* Cercvadze, G. N.) The rate of convergence of asymptotically optimal sequences of automata. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 3: *Automata, hybrid and control machines* (*Russian*), *pp.* 46–50, 262. *Izdat. "Nauka", Moscow*, 1972. (Editors) **48** #8137 94A30

Certain inequalities for a distribution in Hilbert space. (Russian) Problems of applied mathematics—Mushelišvili eightieth birthday collection. *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **11** (1972), *no.* 1, 58–61. (A. T. Bharucha-Reid) **48** #7322 60B05

(*with* Čantladze, T. L.) Langevin's equation in an infinite-dimensional space. (Russian) Problems of applied mathematics—Mushelišvili eightieth birthday collection. *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **11** (1972), *no.* 1, 62–64. (A. T. Bharucha-Reid) **48** #7374 60H10

ζ-normal distributions. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **16**, *no.* 2 *Mat. i Tehn. Kibernet.* (1976), 34–36. (G. N. Sytaja) **58** #2942 60B05 (10H05)

On a metric in a space of distributions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no.* 3, 549–552. (V. M. Kruglov) **56** #6794 60F05 (60E05)

See also **Selected translations in mathematical statistics and probability**, **48** #1276

delaki, T. K. Vector bundles, and K-theory over a commutative C^*-algebra with identity. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no.* 1, 25–28. (J. S. Joel) **54** #11333 55F50 (46L05, 58G10)

The equivalence of the categories of vector bundles and projective modules of finite type over a Banach algebra. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **83** (1976), *no.* 1, 33–36. (J. M. G. Fell) **55** #13423 55F50 (58G10, 46J99)

der, Zvi (*with* Raviv, A.) Maintenance policies when failure distribution of equipment is only partially known. *Naval Res. Logist. Quart.* **21** (1974), 419–429. (D. Hochstädter) **50** #15883 90B25

(*with* Luss, Hanan) A preparedness model dealing with N systems operating simultaneously. *Operations Res.* **22** (1974), *no.* 1, 117–128. (Henry W. Block) **54** #4009 62N05 (90B25)

ndidov, V. P. (*with* Landa, P. S.; Leontovič, M. A.; Fursov, V. S.; Harlamov, A. A.; Šmal′gauzen, V. I.; Jakovlev, I. A.) Sergeĭ Pavlovich Strelkov (obituary). *Uspehi Fiz. Nauk* **114** (1974), *no.* 1-2, 169–171 (*Russian*); *translated as Soviet Physics Uspekhi* **17** (1975), *no.* 5, 812–814. (Editors) **51** #7790 01A70

ndil, M. A. On abstract entire function of several variables of exponential types. (Arabic summary) *Bull. Fac. Sci. Assiut Univ.* **1** (1972), 111–119 (1973). (O. P. Juneja) **56** #15963 32A15

ndzia, Peter Zu den Übergangshalbgruppen linearer Automaten. *Automatentheorie und formale Sprachen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1969), *pp.* 79–95. *Bibliographisches Inst., Mannheim*, 1970. (W. Wechler) **48** #13518 94A30

(*with* Langmaack, Hans) ★Informatik: Programmierung. Teubner Studienbücher, Informatik. Leitfäden der angewandten Mathematik und Mechanik, Band 18. *B. G. Teubner, Stuttgart*, 1973. 234 *pp.* (Immo O. Kerner) **54** #14415 68–01

Zur Theorie der partiell-linearen Realisierungen endlicher Automaten. *Acta Informat.* **2** (1973), 253–282. (E. Ikaunieks) **48** #13519 94A30

On the most recent property of ALGOL-like programs. *Automata, languages and programming* (*Second Colloq., Univ. Saarbrücken, Saarbrücken*, 1974), *pp.* 97–111. *Lecture Notes in Comput. Sci., Vol.* 14, *Springer, Berlin*, 1974. (V. N. Agafonov) **58** #13857 68A05

Kane, Ian David A numerical investigation into the solution of the equations describing baroclinic-barotropic instability in the atmosphere. *J. Computational Phys.* **20** (1976), *no.* 1, 1–21. (Paul G. Arminjon) **55** #5179 86.65

Kane, J. Richard (*with* Yau, Stephen Sik-Sang) Concurrent software fault detection. *IEEE Trans. Software Engrg.* **SE-1** (1975), *no.* 1, 87–99. (A. D. Booth) **53** #7133 68A25

Kane, Jonathan M. Distribution of orders of abelian groups. *Math. Mag.* **49** (1976), *no.* 3, 132–135. (Delmar L. Boyer) **53** #8284 20K99 (10H25)

Kane, Richard On loop spaces without p torsion. *Pacific J. Math.* **60** (1975), *no.* 1, 189–201. (J. Stasheff) **52** #4277 55D45

Primitivity and finite H-spaces. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), 309–313. (A. H. Copeland, Jr.) **52** #9220 55D45

(*with* Hubbuck, J. R.) On π_3 of a finite H-space. *Trans. Amer. Math. Soc.* **213** (1975), 99–105. (J. Stasheff) **53** #1582 55D45

Torsion in homotopy associative H-spaces. *Illinois J. Math.* **20** (1976), *no.* 3, 476–485. (A. H. Copeland, Jr.) **54** #6131 55D45

The module of indecomposables for finite H-spaces. *Trans. Amer. Math. Soc.* **222** (1976), 303–318. (A. H. Copeland, Jr.) **54** #11320 55D45 (57F05)

Torsion in the homology of H-spaces. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 5, 1041–1042. (J. Stasheff) **55** #13415 55D45

On loop spaces without p torsion. II. *Pacific J. Math.* **71** (1977), *no.* 1, 71–88. (J. Stasheff) **56** #1299 55D45

Rational BP operations and the Chern character. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 1, 65–72. (P. S. Landweber) **57** #13948 55G25 (55B20)

On spherical homology classes. *Quart. J. Math. Oxford Ser.* (2) **29** (1978), *no.* 113, 57–61. (C. W. Patty) **57** #17626 55B99

The BP homology of H-spaces. *Trans. Amer. Math. Soc.* **241** (1978), 99–119. (Richard R. Patterson) **57** #17632 55D45

Kane, T. R. (*with* Marsh, E. L.) Attitude stability of a symmetric satellite at the equilibrium points in the restricted three-body problem. *Celestial Mech.* **4** (1971), *no.* 1, 78–90. (Authors' summary) **52** #4754 70.34

(*with* Taylor, D. L.) Multiparameter quadratic eigenproblems. *Trans. ASME Ser. E. J. Appl. Mech.* **42** (1975), 478–483. (Richard C. Allen, Jr.) **54** #11794 65L15 (15A18)

Kane, Vinay G. (*with* Basu, Sanat K.) On the depth of a planar graph. *Discrete Math.* **14** (1976), *no.* 1, 63–67. (F. Harary) **52** #10507 05C99

Kaneda, Masahiro A consideration on sub-optimal weighting in parameter estimation. *Mem. School Engrg. Okayama Univ.* **7** (1972), 43–48. (Author's summary) **56** #11376 93E10 (93E20)

Kaneff, S. *See* **Frontiers of pattern recognition**, **52** #9723

Kanegae, Shin Ichi (*with* Ohta, Yuzo; Kodama, Shinzo) Stability of nonlinear discrete feedback systems treated by the measure of an operator. *Systems-Computers-Controls* **7** (1976), *no.* 4, 59–68 (1977). **58** #26402 93D15

Kaneiwa, Ryūji (*with* Shiokawa, Iekata; Tamura, Jun-ichi) A proof of Perron's theorem on Diophantine approximation of complex numbers. *Keio Engrg. Rep.* **28** (1975), *no.* 12, 131–147. (L. C. Eggan) **55** #2783 10F20

(*with* Shiokawa, Iekata; Tamura, Jun-ichi) Some properties of complex continued fractions. *Comment. Math. Univ. St. Paul.* **25** (1976/77), *no.* 2, 129–143. (L. C. Eggan) **58** #27722 10A30 (10F20)

N-dimensional matrices and nth order invariant forms. (Japanese) Characteristics of arithmetic functions (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 274 (1976), 83–97. (J. B. Kim) **58** #10955 15A15

Kaneko, Akira On continuation of regular solutions of partial differential equations to compact convex sets. I, II. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **17** (1970), 567–580; *ibid.* **18** (1971/72), 415–433. (Manfred W. Kracht) **47** #5421 35E10

A new characterization of real analytic functions. *Proc. Japan Acad.* **47** (1971), 774–775. (V. Ganapathy Iyer) **46** #9731 26A90

On the structure of hyperfunctions with compact supports. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 956–959. (V. Ganapathy Iyer) **46** #9730 46F15 (47E05)

Representation of hyperfunctions by measures and some of its applications. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **19** (1972), 321–352. (Hikosaburo Komatsu) **49** #1103 46F15 (35N05)

On the structure of Fourier hyperfunctions. *Proc. Japan Acad.* **48** (1972), 651–653. (From the author's introduction) **55** #3270 30A92 (46F15)

Fundamental principle and extension of solutions of linear differential equations with constant coefficients. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf., Katata*, 1971; *dedicated to the memory of André Martineau*), *pp.* 122–134. *Lecture Notes in Math., Vol.* 287, *Springer, Berlin*, 1973. (Editors) **58** #1553 35E99 (46F15)

On continuation of regular solutions of partial differential equations with constant coefficients. *Proc. Japan Acad.* **49** (1973), 17–19. (Editors) **54** #700 35E10 (32D15)

(*with* Kawai, Takahiro) Hyperfunctions, and the theory of linear partial differential equations with constant coefficients. (Japanese) Collection of articles on hyperfunctions. *Sûgaku* **25** (1973), 239–253. (Editors) **57** #17734 58G99 (35H05, 46F15)

On continuation of regular solutions of partial differential equations with constant coefficients. *J. Math. Soc. Japan* **26** (1974), 92–123. (M. Hervé) **49** #5540 35E10

Remarks on hyperfunctions with analytic parameters. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **22** (1975), *no.* 3, 371–407. (A. G. Sergeev) **53** #1260 46F15 (32A10)

On continuation of regular solutions of linear partial differential equations with real analytic coefficients. *Proc. Japan Acad.* **51** (1975), *suppl.*, 798–801. (P. Schapira)

53 #8627 35A25

Note on continuation of real analytic solutions of partial differential equations with constant coefficients. *Proc. Japan Acad.* **51** (1975), *no.* 4, 262–264. (P. Schapira) **51** #10840 35C15

On linear exceptional sets of solutions of linear partial differential equations with constant coefficients. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 2. 441–460. (P. Schapira) **57** #6788 35E05 (32A30)

Singular spectrum of boundary values of solutions of partial differential equations with real analytic coefficients. *Sci. Papers College Gen. Ed. Univ. Tokyo* **25** (1975), *no.* 2, 59–68. (H. Marcinkowska) **53** #985 35B25 (32A10)

Remarks on continuation of real analytic solutions. Distributions and linear differential equations (Proc. Fourth Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 248 (1975), 170–174. (Maria Cinquini-Cibrario) **57** #13146 35G05 (32D15)

On estimating the singular spectrum of the boundary values of real analytic solutions to linear partial differential equations with constant coefficients. (Japanese) Distributions and linear differential equations (Proc. Fourth Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 248 (1975), 175–187. (Editors) **58** #17476 35E99 (32A30)

On continuation of regular solutions of linear partial differential equations. Proceedings of the Oji Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement*, 113–121. (P. Schapira) **57** #13149 35G15 (32D15)

Analyticity of minimal dimensional singularity of real analytic solutions. *Sci. Papers College Gen. Ed. Univ. Tokyo* **26** (1976), *no.* 1, 1–5. (P. Schapira) **53** #14550 58G05 (35L99, 35S05)

Local boundary value problems for general linear partial differential equations, and their applications. (Japanese) Various problems in algebraic analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 266 (1976), 176–188. **58** #29135 35G15

Prolongement des solutions analytiques réelles d'équations aux dérivées partielles à coefficients constants. *Séminaire Goulaouic-Schwartz* (1976/1977), *Équations aux dérivées partielles et analyse fonctionnelle*, *Exp. No.* 18, 7 *pp.*, *Centre Math.*, *École Polytech.*, *Palaiseau*, 1977. (R. N. Pederson) **58** #22991 35E99

On the singular spectrum of boundary values of real analytic solutions. *J. Math. Soc. Japan* **29** (1977), *no.* 3, 385–398. (P. Schapira) **57** #10205 35G15 (32A30)

Remarks on hyperfunctions with analytic parameters. II. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **25** (1978), *no.* 1, 67–73. (A. G. Sergeev) **57** #17279 46F15 (58G05)

See also **Theory of partial differential equations and theory of hyperfunctions**, **56** #16113

Kaneko, Ikuyo Isotone solutions of parametric linear complementarity problems. *Math. Programming* **12** (1977), *no.* 1, 48–59. (Claude Carasso) **57** #11729 90C05

Linear complementarity problems and characterizations of Minkowski matrices. *Linear Algebra and Appl.* **20** (1978), *no.* 2, 111–129. (R. J. Plemmons) **58** #713 15A06

A reduction theorem for the linear complementarity problem with a certain patterned matrix. *Linear Algebra and Appl.* **21** (1978), *no.* 1, 13–34. (Thomas H. Foregger) **58** #727 15A21

A maximization problem related to parametric linear complementarity. *SIAM J. Control Optimization* **16** (1978), *no.* 1, 41–55. (Torrence D. Parsons) **57** #5122 90C99

Kaneko, Makoto The absolute Cesàro summability and the Littlewood-Paley function. Collection of articles dedicated to Gen-ichirô Sunouchi on his sixtieth birthday *Tôhoku Math. J.* (2) **24** (1972), 223–232. (Hubert Tietz) **48** #4325 30A78 (40G05)

Maximal singular integrals. *Bull. Yamagata Univ. Natur. Sci.* **8** (1973), *no.* 2, 145–157. (Author's summary) **55** #3693 44A25

(*with* Yano, Shigeki) Weighted norm inequalities for singular integrals. *J. Math. Soc. Japan* **27** (1975), *no.* 4, 570–588. (B. Muckenhoupt) **53** #3582 42A40

Kaneko, Mamoru Necessary and sufficient conditions for the existence of a nonempty core of a majority game. *Internat. J. Game Theory* **4** (1975), *no.* 4, 215–219. (R. E. Stearns) **53** #5011 90D10

Necessary and sufficient conditions for transitivity in voting theory. *J. Econom. Theory* **11** (1975), *no.* 3, 385–393. (Maurice Salles) **53** #10178 90A05 (90D12)

Note on transferable utility. *Internat. J. Game Theory* **5** (1976), *no.* 4, 183–185. (James W. Friedman) **58** #15027 90A10

On the core and competitive equilibria of a market with indivisible goods. *Naval Res. Logist. Quart.* **23** (1976), *no.* 2, 321–337. (A. C. Williams) **56** #7843 90A15

The ratio equilibria and the core of the voting game $G(N, W)$ in a public goods economy. *Econometrica* **45** (1977), *no.* 7, 1589–1594. (Author's summary) **57** #2618 90D35 (90A05, 92A20)

The ratio equilibrium and a voting game in a public goods economy. *J. Econom. Theory* **16** (1977), *no.* 2, 123–136. (Author's review) **58** #26107 90D35 (90A05)

Kaneko, Shuji (*with* Munakata, Tsunehiro) Directional convexity and the directional discrete maximum principle for quantized control systems. *Keio Engrg. Rep.* **29** (1976), *no.* 2, 7–22. (R. N. P. Singh) **55** #2254 93C55

(*with* Hayashi, Yoshio; Munakata, Tsunehiro) A study of a control technique for discrete quantized optimal control systems. (Japanese. English summary) *Systems and Control* **21** (1977), *no.* 5, 285–294. (Masao Ikeda) **58** #33332 93C55 (49A35, 93C10)

Kaneko, T. *See* **Frontiers of pattern recognition**, **52** #9723

Kaneko, Tetsuo The immigration between branching processes. *Sci. Rep. Niigata Univ. Ser. A No.* 12 (1975), 47–53. (Anthony G. Pakes) **51** #11685 60J80

Kaneko, Toshinobu (*with* Miyakawa, Hiroshi) Decoding algorithm of error-correcting codes by use of analog weights. *Electron. Commun. Japan* **58** (1975), *no.* 1, 18–27. (Nguyen Quang Duc) **54** #9838 94A10

Kaneko, Toyohisa (*with* Liu, Bede) On local roundoff errors in floating-point arithmetic. *J. Assoc. Comput. Mach.* **20** (1973), 391–398. (V. V. Ivanov) **49** #8318 65G05

Kaneku, Seiko (*with* Tanaka, Hatsukazu) A fuzzy decoding procedure for error-correcting codes. *Electron. Commun. Japan* 57 (1974), *no.* 7, 26–31. (Author's summary) **56** #15147 94A10

(*with* Tanaka, Hatsukazu) High speed processing of cyclic codes using digital computers. *Electron. Commun. Japan* **58** (1975), *no.* 4, 1–7. (J. J. Stiffler) **56** # 94A10

Kanel', Ja. I. A certain system of quasilinear parabolic equations with splitting parts. (Russian) *Differencial'nye Uravnenija* **8** (1972), 2029–2037, 2112. (G. W. Hedstrom) **47** #2191 35K55

Stabilization of the solutions for a certain quasilinear parabolic system of eq in divergence form. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1078–1090, 1149–1150. (P. C. Fife) **52** #1019 35K55

Asymptotic behavior with respect to time for the solutions of a strongly pa system with discontinuous coefficients. (Russian) *Differencial'nye Uravnenija* **12** *no.* 2, 325–330, 380–381. (R. Guenther) **53** #11201 35B40 (35K50)

Kanellopoulos, E. J. (*with* Kanellopoulos, Th. V.; Wildermuth, K.) Solution of the order linear differential equation. *Comm. Math. Phys.* **24** (1972), 225–232. (A. **45** #3824 34A25

(*with* Kanellopoulos, Th. V.; Wildermuth, K.) Exact solution of the Schr equation with a central potential. *Comm. Math. Phys.* **24** (1972), 233–242. (A. **45** #5436 34A05 (35J10)

(*with* Kanellopoulos, Th. V.) Expressions of the S-matrix for a large c potentials over the complex k-plane. *Lett. Math. Phys.* **2** (1977/78), *no.* 2, 119– Achuthan) **57** #15071 81.47

(*with* Kanellopoulos, Th. V.) The Dirac S-matrix in the k-plane. *Lett. Math* **2** (1977/78), *no.* 3, 187–193. (Not reviewed) 81.35 (81.30)

Kanellopoulos, Th. V. (*with* Kanellopoulos, E. J.; Wildermuth, K.) Solution of the order linear differential equation. *Comm. Math. Phys.* **24** (1972), 225–232. (A. A **45** #3824 34A25

(*with* Kanellopoulos, E. J.; Wildermuth, K.) Exact solution of the Schrö equation with a central potential. *Comm. Math. Phys.* **24** (1972), 233–242. (A. A **45** #5436 34A05 (35J10)

(*with* Kanellopoulos, E. J.) Expressions of the S-matrix for a large class of potentials over the complex k-plane. *Lett. Math. Phys.* **2** (1977/78), *no.* 2, 119–1 Achuthan) **57** #15071 81.47

(*with* Kanellopoulos, E. J.) The Dirac S-matrix in the k-plane. *Lett. Math.* (1977/78), *no.* 3, 187–193. (Not reviewed) 81.35 (81.30)

Kanellos, S. G. Kurze Beschreibung der Theorie und der Anwendungen der H-Transformation. *Bull. Soc. Math. Grèce* (*N.S.*) **11** (1970), *no.* 1, 78–96. (Fro author's introduction) **50** #558 26A24

Kanemaki, Kazuo (*with* Matsumoto, Tadashi) New topological necessary and suf conditions for N-port parameters to be nonzero. *Electron. Comm. Japan* **60** (197 12, 1–9. (From the summary) **58** #33566 94A20

Kanemaki, Shôji Noninvariant submanifolds of codimension 2 in almost contact manifolds. *Tensor* (*N.S.*) **23** (1972), 233–239. (Y. Mutô) **46** #4431 53C15

Twisted f-structures. I, II. *Tensor* (*N.S.*) **27** (1973), 63–69; *ibid.* (*N.S.*) **27** (70–72. (R. S. Millman) **48** #12389 53C10

On submanifolds of codimension 2 of almost contact metric manifolds. I. (*N.S.*) **27** (1973), 281–286. (A. Martínez Naveira) **49** #1372 53B25

Products of f-manifolds. *TRU Math.* **10** (1974), 11–17. (Samuel I. Gol **52** #6607 53C15

(*with* Adati, Tyuzi) On torsion tensor fields of twisted f-structures. *Tensor* **30** (1976), *no.* 3, 213–218. (R. S. Millman) **55** #1245 53C15

A non-Kaehler Hermitian structure on the hemisphere. *TRU Math.* **12** (1976), 9–16. (Bill Watson) **58** #18304 53C55

Hermitian manifolds with structures satisfying $d\Omega-2\varepsilon\wedge\Omega$. *TRU Math.* **12** *no.* 2, 13–17. (P. Stavre) **57** #1323 53B35

Quasi-Sasakian manifolds. *Tôhoku Math. J.* **29** (1977), *no.* 2, 227–233. (David **57** #17554 53C15

Almost contact metric manifolds with global fields of k-frames. *TRU Mat* (1977), *no.* 1, 43–52. (David Blair) **58** #18256 53C15 (53B20)

Kanemaru, Tadayoshi A remark for the unitary matrix of analytic function. *Mem. Fac Kumamoto Univ. Sect.* 1 **16** (1968), 1–2. (C. G. Cullen) **46** #9077 15A54

On the integral representation of holomorphic functions of several complex variables. *Mem. Fac. Ed. Kumamoto Univ. Sect.* 1 **21** (1972), 1–3. (J. Kaji **48** #6460 32A25

On the 2nd-A-representative domain. *Mem. Fac. Ed. Kumamoto Univ. Sect.* (1974), 1–4. (Klas Diederich) **52** #14394 32H05

Kanemasu, H. (*with* Draper, Norman R.; Guttman, Irwin) The distribution of ce regression statistics. *Biometrika* **58** (1971), *no.* 2, 295–298. (Authors' summary) 53 #9524 62J05 (62E15)

Kanematsu, H. *See* **Instability of continuous systems**, **49** #10495

Kanemitsu, Shigeru (*with* Shiratani, Katsumi) An application of the Bernoulli functio character sums. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 65–73. Israilov) **54** #249 10G05

(*with* Shiratani, Katsumi) Applications of Bernoulli functions to Dirichlet char sums. (Japanese) Characteristics of arithmetic functions (Proc. Sympos., Res. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 274 (148–151. (Akira Takaku) **56** #15578 10G05

On some bounds for the value of Dirichlet's L-function $L(s,\chi)$ at the point *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 1, 15–23. (W. Narkiewicz) **55** #12655 10H10 (12A35)

On a kind of divisor problem. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **32** (1978), 81–89. (Dieter Leitmann) **58** #552 10H20 (10A40)

Kanenobu, Masatsugu (*with* Funato, Mitsuharu) Note on the variable gradient metho generating Liapounov functions. *Math. Japon.* **17** (1972), 55–58. (F. Brauer) **49** # 34D20

Kanesaki, Nobuo (*with* Hasegawa, Munetake) Description of pairing correlation base a new Dyson-like representation. *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1405– (Authors' summary) **56** #14309 81.47

Kaneshiro, C. (*with* Bennett, B. M.) On the small-sample properties of the Mantel-Haenszel test for relative risk. *Biometrika* **61** (1974), 233–236. (Reginald Worthley) **53** #6837 62F05

Kaneta, Hitoshi On the asymptotic behaviour of a diffusion process with singular d agoya *Math. J.* **57** (1975), 87–106. (A. D. Wentzell (Ventcel')) **51** #11674 60J60

Decomposition of the unitary representations of $SL(2, C)$ induced by the discrete ries of $SU(1, 1)$. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 4, 139. (J. F. ornwell) **56** #8753 22E45 (22E43)

kar, S. V. (*with* Wagh, Meghanad) A multiplexing theorem and generalisation of -transform. *Internat. J. Comput. Math.* **5** (1975), *no.* 2, 163–171. (Dieter Ebner) #16188 68A45

o, Takeshi On isotopy groups of holed spheres. *Sci. Rep. Tokyo Kyoiku Daigaku ect. A* **13**, *no.* 347–365, 46–51 (1975). (Kenneth C. Millett) **53** #6569 57A35

On isotopy groups of simply connected holed manifolds. *Sci. Rep. Tokyo Kyoiku aigaku Sect. A* **13**, *no.* 347–365, 52–58 (1975). (Kenneth C. Millett) **53** #6570 A35

skiĭ, A. Ja. *See* **Kanevskis, A.**

skiĭ, D. S. Classes of points of cubic hypersurfaces defined over finite fields. ussian) *Mat. Zametki* **20** (1976), *no.* 1, 121–130. (M. Bašmakov) **57** #16305 G15

The structure of groups that are associated with automorphisms of cubic surfaces. ussian) *Mat. Sb.* (*N.S.*) **103(145)** (1977), *no.* 2, 293–308, 320. (Daniel Coray) #6025 14E05 (14M20)

The structure of groups associated with cubic surfaces. (Russian) *Uspehi Mat. Nauk* (1977), *no.* 1(193), 165–166. (Michiel Hazewinkel) **56** #15656 14J25

Automorphisms of groups connected with cubic surfaces. (Russian) *Uspehi Mat. auk* **32** (1977), *no.* 3(195), 163–164. (Daniel Coray) **56** #12003 14E05 (10B10)

skiĭ, V. A. (*with* Lev, G. Š.) The simulation of an exit point of a Brownian motion on e surface of a sphere. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 3, 763–764, 6. (Authors' summary) **58** #13616 65C99 (60J65)

skis, A. (*with* Reiziņš, L. È.) Construction of homogeneous Ljapunov-Krasovskiĭ nctions. (Russian) *Differencial'nye Uravnenija* **9** (1973), 251–259, 393. (H. I. reedman) **47** #5387 34D20

Construction of energy functions and Ljapunov-Krasovskiĭ functions. (Russian) *atviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 115–122, 245. (M. Švec) **57** #13031 34C35 4D20)

Nonautonomous equations with locally conservative sets. (Russian) *Latviĭsk. Mat. žegodnik Vyp.* 21 (1977), 54–61, 235. (Author's summary) **58** #22761 34C05

yama, Tamafumi On equivariant vector bundles on an almost homogeneous variety. *agoya Math. J.* **57** (1975), 65–86. (S. Ramanan) **51** #12855 14F05

yori, S. (*with* Kitahashi, Tadahiro; Tanaka, Kohkichi) On multi-valued perfect odes. *Proceedings of the Sixth International Symposium on Multiple-Valued Logic Univ. Center, Utah State Univ., Logan, Utah*, 1976), *pp.* 169–174. *IEEE Comput Soc., ong Beach, Calif.*, 1976. (Authors' summary) **58** #20787 94A10

yuki, Soji ★Homogeneous bounded domains and Siegel domains. Lecture Notes in athematics, Vol. 241. *Springer-Verlag, Berlin-New York*, 1971. v+89 *pp.* (A. Korányi) 9 #3231 32M15 (22E99, 32M10)

(*with* Tsuji, Tadashi) Classification of homogeneous bounded domains of lower imension. *Nagoya Math. J.* **53** (1974), 1–46. (E. Vinberg) **50** #5039 32M15 32M10)

Classifying maps in fiberings of homogeneous bounded domains. *Proc. Amer. ath. Soc.* **52** (1975), 283–288. (E. Vinberg) **53** #8514 32M10

, Andy N. C. Effective operators with no strong gaps. *J. Comput. System Sci.* **6** (1972), 7–87. (Forbes D. Lewis) **46** #6647 68A20

On the efficiency of universal machines. *IEEE Trans. Computers* **C-24** (1975), *no.* 0, 1010–1012. (Forbes D. Lewis) **54** #6552 68A20

(*with* Ault, David A.) Some properties of a centroid of a free tree. *Information rocessing Lett.* **4** (1975/76), *no.* 1, 18–20. (P. E. O'Neil) **53** #176 05C05

(*with* Lee, Richard Char Tung; Chang, Chin Liang; Chang, Shi Kuo) Storage eduction through minimal spanning trees and spanning forests. *IEEE Trans. omputers* **C-26** (1977), *no.* 5, 425–434. (J. I. Moore, Jr.) **56** #11581 94A20 (68A50)

, Bong Koo (*with* Kim, Jong Joo) Note on $(f, U_{(k)}, u_{(k)}, \alpha_{(k)})$-structures. *Kyungpook ath. J.* **12** (1972), 253–262. (C. S. Houh) **48** #4958 53C15

, Dae Sik Stability and boundedness of the solutions of nonlinear differential quations with delayed arguments. (Korean. English summary) *Su-hak kwa Mul-li* **21** 1977), *no.* 1, 20–32. (D. H. Chyung) **57** #16919 34K20

, H. S. (*with* Rao, B. V. Raja; Mahalanabis, Amarendra K.) Optimal control of onlinear stochastic systems. *Proc. Inst. Elec. Engrs.* **118** (1971), 377–380. (Authors' ummary) **56** #11432 93E20

, Hi Chŏl An expression for the symbol of a singular boundary integral in a general lliptic boundary value problem. (Korean. English summary) *Su-hak kwa Mul-li* **20** 1976), *no.* 3, 13–25. (From the summary) **58** #23034 35J55

, J. S. (*with* Greenberg, O. W.; Woo, C. H.) Infrared regularization of the massless calar free field in two-dimensional space-time via Lorentz expansion. *Phys. Lett. B* **71** (1977), *no.* 2, 363–366. (Hsin-Yang Yeh) **56** #17553 81.22

, Kyungsik (*with* Kim, Jihn E.) Difficulty of $V(e)V(q)+A(e)A(q)$ neutral currents in $SU(2)\times U(1)\times U(1)$ theory. *Phys. Rev. D* (3) **18** (1978), *no.* 9, 3467–3471. (Authors' summary) **58** #25481 81.22

, Sung Mo (*with* Chua, Leon O.) Memristive devices and systems. *Proc. IEEE* **64** (1976), *no.* 2, 209–223. (T. Kaczorek) **52** #16871 94A20 (93C15)

gasabapathy, P. (*with* Ponnudurai, Tharmambikai) The simultaneous Diophantine equations $y^2-3x^2=-2$ and $z^2-8x^2=-7$. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), *no.* 103, 275–278. (E. L. Cohen) **52** #8027 10B05

ger, Stig Equational calculi and automatic demonstration. *Logic and value* (*essays dedicated to Thorild Dahlquist on his fiftieth birthday*), *pp.* 220–226. *Filosofiska Studier, No.* 9, *Filosof. Föreningen och Filosof. Inst., Uppsala Univ., Uppsala*, 1970. (G. E. Minc) **53** #12897 02D99

Measurement: an essay in philosophy of science. *Theoria* **38** (1972), 1–44. (P. Suppes) **52** #16737 92A99 (02A05)

Law and logic. *Theoria* **38** (1972), 105–132. (Zbl **265** #02020) **58** #16151 02C10

Entailment. *Modality, morality and other problems of sense and nonsense, pp.* 168–179. *CWK Gleerup Bokförlag, Lund*, 1973. (H. C. Wasserman) **56** #8325 02C10

See also **Proceedings: Scandinavian Logic Symposium, 51** #5256 *and* **Deontic logic: introductory and systematic readings, 56** #2790 (EA **55/56**)

Kangro, Gunnar The λ-perfectness of summability methods, and applications of it. I. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **20** (1971), 111–120. (Hubert Tietz) **45** #2372 40D99

The λ-perfectness of summability methods and applications of it. II. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **20** (1971), 375–385. (Hubert Tietz) **45** #4004 40D99

Summability factors for series that are λ-bounded by the Riesz and Cesàro methods. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 277 (1971), 136–154. (M. R. Parameswaran) **53** #3539 40D15

A Tauberian theorem with a remainder term for the Riesz method. I, II. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 277 (1971), 155–160; *ibid. Vih.* 305 (1972), 156–166. (M. R. Parameswaran) **53** #3540 40E05

Theory of summability of sequences and series. (Russian) *Mathematical analysis, Vol.* 12 (*Russian*), *pp.* 5–70, 468. (*loose errata*) *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1974. (H.-H. Körle) **54** #3209 40–02

The rate of summability of orthogonal series by triangular regular methods. I. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **23** (1974), 3–11. (J. Németh) **58** #6883a 42A24

The rate of summability of orthogonal series by triangular regular methods. II. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **23** (1974), 107–112. (J. Németh) **58** #6883b 42A24

See also **Baron, S. A.; et al., 50** #12580; **Baron, S. A.; et al., 52** #7789; **Baron, S. A.; et al., 53** #12837; **Baron, S. A.; et al., 55** #7686 *and* **Baron, S. A.; et al., 57** #5623

Kangro, H. Die Unabhängigkeit eines Beweises: John Pells Beziehungen zu Joachim Jungius und Johann Adolph Tassius (aus unveröffentlichten Mss.). Collection of articles dedicated to J. E. Hofmann on the occasion of his seventieth birthday. *Janus* **56** (1969), 203–209. (Editors) **58** #26897 01A45

Kania, M. (*with* Barcz, E.; Moszner, Zenon) Sur les automates commutatifs. *Zeszyty Nauk. Uniw. Jagielloń.* **475** *Prace Mat. Zeszyt* 19 (1977), 195–199. (E. M. Kublanova) **58** #33592 94A30 (20M99)

Kaniauskas, J. (*with* Kičkinas, I.; Rudzikas, Z. B.) Algebraic expressions for certain matrix elements of the operators of atomic quantities. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **15** (1975), *no.* 2, 183–196, 299. (Authors' summary) **57** #4904 81.47

(*with* Rudzikas, Z. B.) Application of generalized spherical functions in the theory of many-electron atoms. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **15** (1975), *no.* 5, 693–706, 863. (Tetz Yoshimura) **55** #1960 81.33

(*with* Špakauskas, V. V.; Rudzikas, Z. B.) Tensorial properties of operators in a quasi-spin space as applied to the theory of many-electron atoms. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **17** (1977), *no.* 5, 563–574, 678. (Authors' summary) **56** #14336 81.47

Kanie, Morihiko An inequality for a generalized Mill's ratio. *Bull. Nagoya Inst. Tech.* **20** (1968), 123–124. (S. M. Samuels) **47** #7846 62E10

Kanie, Yukihiro Cohomologies of Lie algebras of vector fields with coefficients in adjoint representations. Hamiltonian case. *Publ. Res. Inst. Math. Sci.* **10** (1974/75), *no.* 3, 737–762. (D. B. Fuks) **51** #11595 58H05 (57D25)

Cohomologies of Lie algebras of vector fields with coefficients in adjoint representations case of classical type. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 1, 213–245. (M. S. Raghunathan) **55** #9179 58H05 (57D25)

Kaniel, Shmuel (*with* Har-El, Jonathan) Linear programming method for rational approximation. *Israel J. Math.* **16** (1973), 343–349. (J. Falk) **49** #11768 65D15 (41A20)

(*with* Stein, J.) Least-square acceleration of iterative methods for linear equations. *J. Optimization Theory Appl.* **14** (1974), 431–437. (G. Maess) **51** #2266 65F10

(*with* Dax, A.) Pivoting techniques for symmetric Gaussian elimination. *Numer. Math.* **28** (1977), *no.* 2, 221–241. (F. Szidarovsky) **56** #9926 65F05

(*with* Shinbrot, Marvin) The Boltzmann equation. I. Uniqueness and local existence. *Comm. Math. Phys.* **58** (1978), *no.* 1, 65–84. (H. Wakita) **57** #15133 82.46

See also **Advances in differential and integral equations, 50** #10389

Kaniewska, J. (*with* Bromek, Tadeusz; Łoś, Jerzy) Equilibria of von Neumann models in ordered spaces and eigenvectors of monotone transformations. Announcement of results. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 707–709. (David Schmeidler) **50** #3884 90A10

(*with* Bromek, Tadeusz; Łoś, Jerzy) Contributions to the theory of existence of von Neumann equilibria. *Computing equilibria: how and why* (*Proc. Internat. Conf., Comput. Centre, Polish Acad. Sci., Toruń*, 1974), *pp.* 103–131. *North-Holland, Amsterdam*, 1976. (Georg Bol) **58** #20294 90A15

Kaniewski, Janusz (*with* Pol, Roman) Borel-measurable selectors for compact-valued mappings in the non-separable case. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 10, 1043–1050. (Ashok Maitra) **53** #14405 54C65 (04A15)

(*with* Bromek, Tadeusz) Linear images and sums of closed cones in Euclidean spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 4, 231–238. (Jacques Dubois) **55** #2121 90C05 (52A20)

A generalization of Kondô's uniformization theorem. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 6, 393–398. (Ashok Maitra) **54** #2468 04A15 (54H05)

A selection theorem for partitions of Borel sets into compact subsets. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 11, 1073–1081. (Michel Smith) **58** #239 04A15 (54H05)

Kaniovskiĭ, Ju. M. The asymptotic normality of a stochastic minimization method. (Russian) *Methods of operations research and of reliability theory in systems analysis* (*Russian*), *pp.* 63–69. *Akad. Nauk. Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (Vladimir Katkovnik) **58** #9250 90C15

The application of limit theorems for random processes to the study of the asymptotic properties of a certain stochastic minimization method. (Russian) *Theory of optimal solutions* (*Russian*), *pp.* 66–71. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev,*

1977. (Vladimir Katkovnik) **58** #13551 62L20 (62E20)

Limiting behavior of random processes that are generated by the Robbins-Monro procedure. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* **19** (1978), 81–87, 158. (V. Fabian) **58** #13552 62L20

Kaniovskiĭ, S. S. *See* **Control in space**, **48** #13320

Kanitani, Jôyô Sur une variété localement applicable dans l'espace projectif à dimension infinie. *Res. Bull. Meisei Univ. No.* 5 (1970), 1–13. (Akira Asada) **54** #8695 58B20

Sur l'ensemble des transformations projectives normales dans l'espace projectif à dimension infinie. *Res. Bull. Meisei Univ. No.* 6 (1971), 1–14. (Author's summary) **57** #7363 50D20

Sur l'espace fibré tensoriel à une variété différentiable admettant les homéomorphismes locaux agrave l'espace projectif à dimension infinie. *Res. Bull. Meisei Univ No.* 9 (1973), 1–16. (Akira Asada) **54** #8696 58B20

Sur les champs de vecteurs au dessus d'une variété différentiable admettant les homéomorphismes locaux à l'espace projectif à dimension infinie. *Res. Bull. Meisei Univ. No.* 10 (1974), 1–13. (Akira Asada) **54** #8697 58B20

Sur l'existence des intégrales d'un système d'équations différentielles aux fonctions inconnues de nombre infini. *J. Math. Kyoto Univ.* **16** (1976), *no.* 1, 123–136. (Akira Asada) **54** #1280 58C20 (58B99)

Kanitscheider, Bernulf ★Geometrie und Wirklichkeit. Erfahrung und Denken, Band 36. *Duncker & Humblot, Berlin*, 1971. 389 *pp.* (J. A. Coffa) **56** #7732 83.50 (02A05)

Geochronometrie und Geometrodynamik. Zum Problem des Konventionalismus. *Z. Allgemeine Wissenschaftstheorie* **4** (1973), *no.* 2, 261–302. (A. L. Hiskes) **56** #4668 83.53

★Vom absoluten Raum zur dynamischen Geometrie. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1976. 139 *pp.* (George Leibbrandt) **57** #8837 83.01 (01A55, 01A60)

Kaniuth, Eberhard (*with* Schlichting, Günter) Zur harmonischen Analyse klassenkompakter Gruppen. II. *Invent. Math.* **10** (1970), 332–345. (H. Leptin) **47** #5521 43A20 (43A35)

Die Struktur der regulären Darstellung lokalkompakter Gruppen mit invarianter Umgebungsbasis der Eins. *Math. Ann.* **194** (1971), 225–248. (A. Kleppner) **45** #2082 22D12 (46J25)

(*with* Steiner, Detlef) On complete regularity of group algebras. *Math. Ann.* **204** (1973), 305–329. (A. Hulanicki) **57** #10361 43A20 (22D15)

Topology in duals of SIN-groups. *Math. Z.* **134** (1973), 67–80. (Ky Fan) **48** #4197 22D35 (43A35)

On maximal ideals in group algebras of SIN-groups. *Math. Ann.* **214** (1975), 167–175. (A. Hulanicki) **52** #6325 43A20 (22D25)

(*with* Hauenschild, Wilfried) Harmonische Analyse auf Gruppen mit endlich-dimensionalen irreduziblen Darstellungen. *Math. Z.* **144** (1975), *no.* 3, 239–256. (H. Leptin) **52** #10951 22D15 (43A40)

A note on reduced duals of certain locally compact groups. *Math. Z.* **150** (1976), *no.* 2, 189–194. (Joseph Max Rosenblatt) **54** #5386 22D35

On separation in reduced duals of groups with compact invariant neighbourhoods of the identity. *Math. Ann.* **232** (1978), *no.* 2, 177–182. (Pierre Eymard) **58** #6053 22D10

Kanjauskas, Ju. M. *See* **Kaniauskas, J.**

Kanji, G. K. Permutation theory in the study of robustness of power in the analysis of variance. *Internat. J. Math. Ed. Sci. Tech.* **7** (1976), *no.* 4, 401–405. (M. Atiqullah) **56** #7035 62J10

Kanjin, Yûichi A convolution measure algebra on the unit disc. *Tôhoku Math. J.* (2) **28** (1976), *no.* 1, 105–115. (A. Schwartz) **53** #1178 43A85

Kan-Kagans, I. *See* **Latvian mathematical yearbook**, **50** #6718

Kann, Edgar An elementary proof of a finite rigidity problem by infinitesimal rigidity methods. *Proc. Amer. Math. Soc.* **60** (1976), 252–258 (1977). (C. S. Weaver) **54** #8532 53C45

Kannai, Yakar On the asymptotic behavior of resolvent kernels, spectral functions and eigenvalues of semi-elliptic systems. *Ann. Scuola Norm. Sup. Pisa* (3) **23** (1969), 563–634. (Editors) **54** #3183 35P20

Continuity properties of the core of a market. *Econometrica* **38** (1970), 791–815; *correction, ibid.* **40** (1972), 955–958. (Birgit Grodal) **55** #7316 90A15

Hypoelliptic ordinary differential operators. Proceedings of the International Symposium on Partial Differential Equations and the Geometry of Normed Linear Spaces (Jerusalem, 1972). *Israel J. Math.* **13** (1972), 106–134 (1973). (Stefan Balint) **49** #10951 34A30

(*with* Helffer, Bernard) Determining factors and hypoellipticity of ordinary differential operators with double "characteristics". *Colloque International CNRS sur les Équations aux Dérivées Partielles Linéaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp.* 197–216. *Astérisque*, 2 *et* 3. *Soc. Math. France, Paris*, 1973. (L. Cattabriga) **53** #6081 35H05

Approximation of convex preferences. *J. Math. Econom.* **1** (1974), *no.* 2, 101–106. (Zvi Artstein) **54** #6901 90A10

Construction d'une fonction concave à surfaces de niveau données. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 23, Aii, *A*1355–*A*1358. (Ivar Ekeland) **54** #4582 90A10 (58E15)

Hypoellipticity of certain degenerate elliptic boundary value problems. *Trans. Amer. Math. Soc.* **217** (1976), 311–328. (H. Kumano-go) **53** #11211 35H05

Off diagonal short time asymptotics for fundamental solutions of diffusion equations. *Commun. Partial Differ. Equations* **2** (1977), *no.* 8, 781–830. (Louis Boutet de Monvel) **58** #29247 35K15 (58E10, 58G15)

Concavifiability and constructions of concave utility functions. *J. Math. Econom.* **4** (1977), *no.* 1, 1–56. (Ryuzo Sato) **56** #17715 90A10 (90A05)

Kannan, D. (*with* Bharucha-Reid, Albert T.) Probability measures on H_p spaces. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **7** (1971), 205–217. (R. Jajte) **46** #4576 60B05 (28A40)

(*with* Bharucha-Reid, Albert T.) An operator-valued stochastic integral. *Proc. Japan Acad.* **47** (1971), 472–476. (J. J. Uhl, Jr.) **46** #2741 60H05

An operator-valued stochastic integral. II. *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **8** (1972), 9–32. (W. A. Woyczyński) **47** #9709 60H05

An operator-valued stochastic integral. III. (French summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **8** (1972), 217–228. (W. A. Woyczyński) **50** #8694 60H

(*with* Bharucha-Reid, Albert T.) Random integral equation formulation of a generalized Langevin equation. *J. Statist. Phys.* **5** (1972), 209–233. (G. Papanicol **50** #14931 60H20 (82.45)

Expectations in normed *-algebras. *J. Math. Anal. Appl.* **41** (1973), 14–19. (Ro S. Doran) **47** #4007 46K05

Martingales in Banach spaces with Schauder bases. *J. Mathematical and Phy Sci.* **7** (1973), 93–100. (R. M. Dudley) **50** #8688 60G45

Wave propagation in one-dimensional random media. *J. Mathematical and Phy Sci.* **8** (1974), 201–217. (A. N. V. Rao) **50** #6327 78.60 (60H15)

(*with* Kannappan, Pl.) On a characterization of Gaussian measures in a Hi Space. (French summary) *Ann. Inst. H. Poincaré Sect. B.* (*N.S.*) **11** (1975), *n* 397–404 (1976). (V. M. Kruglov) **52** #15586 60B05

On some Markov models of certain interacting populations. *Bull. Math. Biolog* (1976), *no.* 6, 723–738. (From the summary) **58** #15305 92A15 (60J85)

(*with* Gard, Thomas C.) On a stochastic differential equation modeling of prey-predator evolution. *J. Appl. Probability* **13** (1976), *no.* 3, 429–443. (Stanley Saw **54** #14099 60H10 (92A15)

(*with* Gootman, Elliot C.) Zero-one laws in finite W^*-algebras. *J. Math. Anal.* **55** (1976), *no.* 3, 743–756. (Robert S. Doran) **55** #3805 46L10

On the generalized Langevin equation. *J. Mathematical and Physical Sci.* **11** (1 *no.* 1, 1–24. (Author's summary) **57** #2387 82.60

Random integrodifferential equations. *Probabilistic analysis and related topics*, 1, *pp.* 87–167. *Academic Press, New York*, 1978. (W. J. Padgett) **58** #3047 60 (45J05)

Kannan, Rangachary Some results on fixed points. IV. *Fund. Math.* **74** (1972), *no* 181–187. (W. A. Kirk) **45** #9310 54H25

(*with* Cesari, Lamberto) Functional analysis and nonlinear differential equatic *Bull. Amer. Math. Soc.* **79** (1973), 1216–1219. (J. Mawhin) **48** #12183 47H15

Construction of fixed points of a class of nonlinear mappings. *J. Math. Anal. A* **41** (1973), 430–438. (M. Edelstein) **47** #9370 47H10

Fixed point theorems in reflexive Banach spaces. *Proc. Amer. Math. Soc.* **38** (19 111–118. (I. A. Rus) **47** #2448 47H10

Periodically perturbed conservative systems. *J. Differential Equations* **16** (1974), 3, 506–514. (W. S. Loud) **54** #5543 34C25

Existence of solutions of a nonlinear problem in potential theory. *Michigan M J.* **21** (1974), 257–263. (Ileana Toma) **53** #1015 35J65 (47H15)

(*with* Salehi, Habib) Random solutions of nonlinear differential equations. (Ita summary) *Boll. Un. Mat. Ital.* (4) **12** (1975), *no.* 1-2, 209–213. (J. A. Goldst **52** #15148 47H15 (60H99)

(*with* Salehi, Habib) Mesurabilité du point fixe d'une transformation aléat séparable. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 15, A663–A664. (A. T. Bharucha-Reid) **52** #4413 60H99 (47H10)

(*with* Cesari, Lamberto) Periodic solutions in the large of nonlinear ordi differential equations. (Italian summary) Collection of articles dedicated to M Picone on the occasion of his ninetieth birthday, II. *Rend. Mat.* (6) **8** (1975), *n* 633–654. (R. A. Struble) **52** #895 34C25

(*with* Cesari, Lamberto) Errata corrige relativa alla nota: "Periodic solutions in large of nonlinear ordinary differential equations" (Rend. Mat. (6) **8** (1975), no 633–654). *Rend. Mat.* (6) **8** (1975), *no.* 4, 989 (1976). (Editors) **52** #14478 34C

Nonlinear perturbations at resonance. *Dynamical systems* (*Proc. Internat. Sym Brown Univ., Providence, R.I.*, 1974), *Vol. II*, *pp.* 67–71. *Academic Press, New Y* 1976. (Editors) **58** #30556 47H15 (34G05)

Perturbation methods for nonlinear problems at resonance. *Nonlinear functi analysis and differential equations* (*Proc. Conf., Mich. State Univ., East Lansing, M* 1975), *pp.* 209–225. *Lecture Notes in Pure and Appl. Math., Vol.* 19, *Marcel Dekker, York*, 1976. (J. Bebernes (Zbl **356** #34057)) **58** #11594 34B10

(*with* Salehi, Habib) Measurability of solutions of nonlinear equations. *Nonli functional analysis and differential equations* (*Proc. Conf., Mich. State Univ., East Lansing, Mich.*, 1975), *pp.* 227–244. *Lecture Notes in Pure and Appl. Math., Vol. Marcel Dekker, New York*, 1976. (G. Hetzer (Zbl **341** #47044)) **58** #12555 47 (60H10)

(*with* Cesari, Lamberto) Solutions in the large of Liénard systems with forc terms. *Ann. Mat. Pura Appl.* (4) **111** (1976), 101–124. (Yiannis Sficas) **55** #78 34C25

(*with* Schuur, Jerry D.) Boundary value problems for even order nonlinear ordin differential equations. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 1, 80–82. (Š. Schwa **52** #14441 34B15

(*with* Locker, John) Operators J^*J and nonlinear Hammerstein equations. *J. M Anal. Appl.* **53** (1976), *no.* 1, 1–6. (From the introduction) **57** #17417 47H15

(*with* Locker, John) Continuous dependence of least squares solutions of lin boundary value problems. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 1, 107–110. (C. Putnam) **53** #13699 34B05

Existence of periodic solutions of nonlinear differential equations. *Trans. An Math. Soc.* **217** (1976), 225–236. (H. Amann) **53** #951 34C25

Random operator equations. *Dynamical systems* (*Proc. Internat. Sympos., U. Florida, Gainesville, Fla.*, 1976), *pp.* 113–137. *Academic Press, New York*, 1977. (A. Bharucha-Reid) **57** #17832 60H99 (47H15, 60H20)

Monotonicity and measurability. *Nonlinear systems and applications* (*Proc. Inter Conf., Univ. Texas, Arlington, Tex.*, 1976), *pp.* 189–198. *Academic Press, New York*, 19 (A. T. Bharucha-Reid) **57** #17833 60H99 (47H15, 60H20)

(*with* Schuur, Jerry D.) Nonlinear boundary value problems and Orlicz spa (Italian summary) *Ann. Mat. Pura Appl.* (4) **113** (1977), 245–254. (Simeon Re **57** #12981 34B20 (47H15)

(*with* McKenna, P. J.) An existence theorem by alternative methods for semilin abstract equations at resonance. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (197 *no.* 2, 355–358. (From the text) **58** #18006 47H15

(*with* Locker, John) On a class of nonlinear boundary value problems. *J. Differential Equations* **26** (1977), *no.* 1, 1–8. (S. Ahmad) **58** #1349 34B15

(*with* Salehi, Habib) Random nonlinear equations and monotonic nonlinearities.

'ath. Anal. Appl. **57** (1977), *no.* 1, 234–256. (Ludwig Arnold) **55** #1468 60H99 7H15)

(*with* Cesari, Lamberto) An abstract existence theorem at resonance. *Proc. Amer. 'ath. Soc.* **63** (1977), *no.* 2, 221–225. (Eugene Allgower) **56** #6489 47H15

Tikhonov regularization and nonlinear problems at resonance—deterministic and ,ndom. *Nonlinear analysis* (*collection of papers in honor of Erich H. Rothe*), *pp.*)9–124. *Academic Press, New York*, 1978. (Miroslav Krbec) **58** #22880 34G05 4F05, 35J60, 60H10)

(*with* Locker, John) Nonlinear boundary value problems and operators TT^*. *J. 'ifferential Equations* **28** (1978), *no.* 1, 60–103. (S. Fučík) **57** #17418 47H15 (34B15)

See also **Nonlinear analysis**, **57** #9381 *and* **Nonlinear functional analysis and ifferential equations**, **57** #17314

ın, V. (*with* Rajagopalan, M.) On rigidity and groups of homeomorphisms. *General pology and its relations to modern analysis and algebra, III* (*Proc. Third Prague ɔpological Sympos.*, 1971), *pp.* 231–234. *Academia, Prague*, 1972. (Bernard L. Madison)) #8479 54H10

(*with* Rajagopalan, M.) Regularity and dispersion in countable spaces. *Duke Math.* **39** (1972), 729–734. (F. Burton Jones) **46** #9928 54D15

Reflexive cum coreflexive subcategories in topology. *Math. Ann.* **195** (1972), 58–174. (H. Herrlich) **45** #142 08A15

A countable connected Urysohn space containing a dispersion point. *Proc. Amer. lath. Soc.* **35** (1972), 289–290. (J. Martin) **45** #5967 54D05

An extension that nowhere has the Fréchet property. *Michigan Math. J.* **20** (1973), 25–234. (Z. Frolík) **48** #3006 54D55

A note on countable generated spaces. *Arch. Math.* (*Basel*) **25** (1974), 657–658. (G. . M. Thomas) **50** #11160 54D55 (54D20)

(*with* Rajagopalan, M.) On countable locally connected spaces. *Colloq. Math.* **29** 974), 93–100, 159. (F. Burton Jones) **49** #3831 54D05

(*with* Rajagopalan, M.) On scattered spaces. *Proc. Amer. Math. Soc.* **43** (1974),)2–408. (R. Telgársky) **48** #12469 54D20 (54A25)

A note on countable compact spaces. *Publ. Math. Debrecen* **21** (1974), 113–114. (H. errlich) **50** #8466 54F05

Ordinal invariants in topology. I. On two questions of Arhangel'skiĭ and Franklin. *eneral Topology and Appl.* **5** (1975), *no.* 4, 269–296. (Paul R. Meyer) **52** #15375 ID50 (54A25)

(*with* Thrivikraman, T.) Lattices of Hausdorff compactifications of a locally ɔmpact space. *Pacific J. Math.* **57** (1975), *no.* 2, 441–444. (K. D. Magill, Jr.) **52** #9183 54D35

Coreflective subcategories in topology. *J. Madurai Univ.* **5** (1976), 93–96. (Paul R. leyer) **57** #10668b 54A10

Ordinal invariants in topology. Summary. *General topology and its relations to ɔdern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague,* 976), *Part B*, *pp.* 197–206. *Soc. Czechoslovak Mathematicians and Physicists, Prague,* 977. (Paul R. Meyer) **57** #10668a 54A10

(*with* Rajagopalan, M.) Scattered spaces. II. *Illinois J. Math.* **21** (1977), *no.* 4, 35–751. (R. Telgársky) **57** #13830 54C10

On a problem of Herrlich. *J. Madurai Univ.* **6** (1977), *no.* 1, 101–104. (Worthen unsaker) **58** #2681 54B30

ıappan, Pl. (*with* Baker, John A.) A functional equation on a vector space. *Acta lath. Acad. Sci. Hungar.* **22** (1971/72), 199–201. (S. Kurepa) **45** #5615 39A40

(*with* Kurepa, Svetozar) Some relations between additive functions. II. *Aequationes lath.* **6** (1971), 46–58. (M. Kuczma) **45** #2353 39A15

(*with* Horinouchi, Sôichi) On the system of functional equations $x+y)=f(x)+f(y)$ and $f(xy)=p(x)f(y)+q(y)f(x)$. *Aequationes Math.* **6** (1971), 95–201. (R. A. Rosenbaum) **45** #7338 39A40

(*with* Aczél, János; Baker, John A.; Djoković, Dragomir Ž.; Radó, F.) Extensions certain homomorphisms of subsemigroups to homomorphisms of groups. *Aequationes lath.* **6** (1971), 263–271. (M. Yamada) **45** #2004 20M30

(*with* Rathie, P. N.) On a functional equation connected with Shannon's entropy. *unkcial. Ekvac.* **14** (1971), 153–159. (V. Prelov (RŽMat **1972** #7 V439)) **50** #16112 4A15

Remark on a paper of R. Dacić. *Mat. Vesnik* **8(23)** (1971), 199–200. (P. Javor) 5 #3995 39A40

A note on cosine functional equation for groups. *Mat. Vesnik* **8(23)** (1971), 17–319. (P. Javor) **45** #5616 39A40

(*with* Rathie, P. N.) An application of a functional equation to information theory. *nn. Polon. Math.* **26** (1972), 95–101. (B. Choczewski) **46** #4040 39A30 (94A15)

(*with* Rathie, P. N.) A directed-divergence function of type β. *Information and 'ontrol* **20** (1972), 38–45. (L. L. Campbell) **54** #2337 94A15

On weak inverse property loops. *J. London Math. Soc.* (2) **5** (1972), 298–302. (R. rtzy) **46** #9219 20N05

Loops with the property of weak invertibility. (Russian) *Mat. Issled.* **7** (1972), *no.* (23), 198–203. (M. Csikós) **46** #7425 20N05

On some identities. Collection of articles dedicated to Professor P. L. Bhatnagar on is sixtieth birthday. *Math. Student* **40** (1972), 260–264 (1974). (V. D. Belousov) 4 #7686 20N99 (39A40)

On Shannon's entropy, directed divergence and inaccuracy. *Z. Vahrscheinlichkeitstheorie und Verw. Gebiete* **22** (1972), 95–100. (A. Smajdor) **46** #7749 39A30 (94A15)

On directed divergence and inaccuracy. *Z. Wahrscheinlichkeitstheorie und Verw. iebiete* **25** (1972/73), 49–55. (D. Bollman) **55** #10143 94A15

(*with* Rathie, P. N.) On various chacterizations of directed-divergence. *Transactions the Sixth Prague Conference on Information Theory, Statistical Decision Functions, andom Processes* (*Tech. Univ., Prague,* 1971; *dedicated to the memory of Antonín pаček*), *pp.* 331–339. *Academia, Prague,* 1973. (T. N. Bhargava) **52** #2741 94A15

(*with* Rathie, P. N.) On a new characterization of directed-divergence in ıformation theory. *Transactions of the Sixth Prague Conference on Information Theory, tatistical Decision Functions, Random Processes* (*Tech. Univ., Prague,* 1971; *dedicated to ıe memory of Antonín Špaček*), *pp.* 733–745. *Academia, Prague,* 1973. (T. N. Bhargava) 2 #2742 94A15

(*with* Rathie, P. N.) An inaccuracy function of type β. *Ann. Inst. Statist. Math.* **25** (1973), 205–214. (O. Gulyás) **48** #13476 94A15

On inverse property loops. Collection of articles dedicated to Stanisław Gołąb on his 70th birthday, I. *Demonstratio Math.* **6** (1973), 137–141. (R. Artzy) **49** #5215 20N05

On generalized directed divergence. *Funkcial. Ekvac.* **16** (1973), 71–77. (B. Choczewski) **48** #10669 94A15 (39A15)

(*with* Rathie, P. N.) On a characterization of directed divergence. *Information and Control* **22** (1973), 163–171. (Usha Ahuja) **48** #8108 94A15

Groupoids and groups. *Jber. Deutsch. Math.-Verein.* **75** 1973, *No.* 2, *Part* 1, 94–100. (See Zbl **273** #20043) 20–01 (20L05)

(*with* Rathie, P. N.) An axiomatic characterization of generalized directed-divergence. *Kybernetika* (*Prague*) **9** (1973), 330–337. (A. D'jačkov (RŽMat **1974** #3 V440)) **51** #15191 94A15

(*with* Ng, Che That) Measurable solutions of functional equations related to information theory. *Proc. Amer. Math. Soc.* **38** (1973), 303–310. (Roman Ger) **47** #672 39A30 (94A15)

Characterization of certain groupoids and loops. *Proc. Amer. Math. Soc.* **40** (1973), 401–406. (D. A. Robinson) **47** #6929 20N99

On a functional equation connected with generalized directed-divergence. *Aequationes Math.* **11** (1974), 51–56. (W. Smajdor) **50** #814 39A30 (94A15)

(*with* Kuczma, Marek) On a functional equation related to the Cauchy equation. *Ann. Polon. Math.* **30** (1974), 49–55. (J. G. Dhombres) **49** #9466 39A40

(*with* Ng, Che That) A functional equation and its application to information theory. *Ann. Polon. Math.* **30** (1974), 105–112. (J. Aczél) **49** #5621 39A30 (94A15)

(*with* Rathie, P. N.) On a generalized directed-divergence function. *Czechoslovak Math. J.* **24(99)** (1974), 5–14. (Authors' review (Zbl **316** #94022)) **58** #9795 94A15 (39A15)

On a generalization of some measures in information theory. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 81–93. (A. D. Wyner) **50** #16109 94A15 (39A15)

On the measurable solutions of two functional equations. *Mathematica* (*Cluj*) **16(39)** (1974), *no.* 2, 275–280 (1977). (Karol Baron) **58** #33615 94A15 (39A15)

(*with* Ng, Che That) On functional equations connected with directed divergence, inaccuracy and generalized directed divergence. *Pacific J. Math.* **54** (1974), 157–167. (B. Choczewski) **51** #10939 39A30 (94A15)

On Rényi-Shannon entropy and related measures. *Entropy and ergodic theory*, *pp.* 65–76. *Selecta Statistica Canadiana, Vol.* 2, *Univ. Press Canada, Toronto, Ont.*, 1975. (P. N. Rathie) **52** #10233 94A15

(*with* Kannan, D.) On a characterization of Gaussian measures in a Hilbert Space. (French summary) *Ann. Inst. H. Poincaré Sect. B.* (*N.S.*) **11** (1975), *no.* 4, 397–404 (1976). (V. M. Kruglov) **52** #15586 60B05

On various characterizations of generalized directed divergence. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 6, 655–667. (Suguru Arimoto) **56** #5055 94A15

(*with* Rathie, P. N.) On the solution of a functional equation connected with inaccuracy. *J. Indian Math. Soc.* (*N.S.*) **39** (1975), 131–147 (1976). (R. A. Rosenbaum) **54** #8063 39A15 (94A15)

(*with* Rathie, P. N.) On generalized information function. *Tôhoku Math. J.* (2) **27** (1975), *no.* 2, 207–212. (J. Aczél) **53** #1082 39A30 (94–XX)

(*with* Taylor, M. A.) On closure conditions. *Canad. Math. Bull.* **19** (1976), *no.* 3, 291–296. (Miklós Csikós) **55** #5767 20L05

On Moufang and extra loops. *Publ. Math. Debrecen* **23** (1976), *no.* 1-2, 103–109. (Orin Chein) **54** #2859 20N05

(*with* Kamiński, Andrzej) A note on a theorem in information theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 9, 925–928. (J. Aczél) **56** #18115 94A15

On Shannon's entropy and a functional equation of Abel. *Period. Math. Hungar.* **8** (1977), *no.* 1, 41–44. (B. D. Sharma) **56** #16190 39A15 (94A15)

(*with* Rathie, P. N.) On a characterization of inaccuracy. *Trabajos Estadíst. Investigación Oper.* **28** (1977), *no.* 1, 97–107. (L. L. Campbell) **58** #33534 94A15

See also **Bibliography: Functional equations**, **52** #1073

Kannemann, K. An incidence test for k related samples. (German summary) *Biometrische Z.* **18** (1976), *no.* 1, 3–11. (Editors) **58** #24704a 62G10

A unifying analytic model for certain linear rank tests. I. (German summary) *Biometrische Z.* **18** (1976), *no.* 3, 179–192. (W. J. Conover) **56** #4043 62G10

See also **Schach, Siegfried**, **58** #24704b

Kanninen, M. F. *See* **Applied mechanics**, **50** #11914

Kanno, Kôsi (*with* Watanabe, Satoshi) On the absolute summability of factored Fourier series. *Bull. Yamagata Univ. Natur. Sci.* **9** (1976/77), *no.* 2, 197–203. (H. P. Dikshit) **57** #1007 42A28

(*with* Okuyama, Yasuo) On the absolute Nörlund summability factors of Fourier series. *Tôhoku Math. J.* (2) **29** (1977), *no.* 3, 439–448. (Prem Chandra) **57** #1008 42A28

Kanno, Ryuzo (*with* Tumura, Yosiro) Estimation in mixture of two mulitvariate normal distributions. *TRU Math.* **9** (1973), 91–97. (A. C. Cohen) **51** #4519 62F10

A rank sum test in the analysis of variance. *TRU Math.* **10** (1974), 55–64. (James N. Adichie) **52** #6997 62G10

Estimation of parameters for a mixture of two normal distributions. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **22** (1975), *no.* 4, 1–15. **54** #8963 62F10

Asymptotic efficiency of certain test based on the method of n rankings. *TRU Math.* **11** (1975), 57–63. (K. M. Lal Saxena) **54** #1475 62G20

On the approximate formula to the distribution of the two sample Smirnov test. *TRU Math.* **11** (1975), 65–73. (From the author's introduction) **55** #6680 62G10

The distributions of quadratic forms related to the problem of n rankings. *TRU Math.* **13** (1977), *no.* 1, 89–110. (P. K. Sen) **56** #13446 62G99 (62H10)

Tests for n rankings when the hypotheses not being limited to random ranking. *TRU Math.* **13** (1977), *no.* 2, 83–92. **57** #4439 62J15

Kanno, Tsuneo Automorphisms of the Galois group of the algebraic closure of the rational number field. *Kōdai Math. Sem. Rep.* **25** (1973), 446–448. (Jack Sonn) **49** #4981 12F10

Kano, Chotaro On metric tensors in special Kawaguchi spaces. *J. Hokkaido Univ. Ed. Sect. II A* **19** (1968/69), *no.* 1, 3–6. (From the introduction) **58** #30878 53B40

Connection parameters in a special Kawaguchi space. *J. Hokkaido Univ. Ed. Sect. II A* **21** (1970/71), *no.* 1, 1–7. (Author's introduction) **58** #30879 53B40

On the conformal differential in a higher order space. *J. Hokkaido Univ. Ed. Sect. II A* **21** (1970/71), *no.* 1, 8–11. (Author's introduction) **58** #30842 53B15

On an intrinsic differential in the higher order space. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 83–91. (T. Ohkubo) **49** #1362 53B15

Kano, Mikio (*with* Nagao, Hirosi; Nobusawa, Nobuo) On finite homogeneous symmetric sets. *Osaka J. Math.* **13** (1976), *no.* 2, 399–406. (D. A. Robinson) **54** #2840 20L10 (20D99)

Kanō, Seigo Stochastic learning by means of controlled stochastic processes. *Pattern recognition and machine learning* (*Proc. Japan-U.S. Sem. Learning Process in Control Systems, Nagoya*, 1970), *pp.* 150–159. *Plenum Press, New York*, 1971. (U. Herkenrath) **55** #9338 60K99 (93E99, 92A25)

Sequences of stochastic automata. *Res. Inst. Fund. Information Sci. Res. Rep. No.* 40 (1974), 17 *pp.* (A. Salomaa) **52** #10282 94A35

Kano, Tadayoshi Une remarque sur l'hyperbolicité stricte. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A974–A977. (J. Vaillant) **45** #5571 35L10

Les systèmes strictement hyperboliques. Une condition nécessaire. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1116–A1119. (Homer F. Walker) **46** #7722 35L45

Une caractérisation de l'hyperbolicité stricte. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1173–A1176. (Homer F. Walker) **46** #9539 35L10

(*with* Nishida, Takaaki) Sur les ondes de surface de l'eau. Problème de Cauchy non-stationnaire. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 2, A83–A86. (Editors) **58** #23090a 35L05 (76.35)

(*with* Nishida, Takaaki) Sur les ondes de surface de l'eau. Une justification mathématique des équations des ondes en eau peu profonde. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 3, A137–A140. (Editors) **58** #23090b 35L05 (76.35)

Kano, Takashi (*with* Udoguchi, Teruyoshi; Okamura, Hiroyuki; Nozue, Yasuhiro) An error analysis of various finite element patterns. With discussion by J. Suhara and Y. Yamamoto. *Bull. JSME* **16** (1973), 1803–1813. (Authors' summary) **51** #7322 65N15

Kano, Takeshi Criteria for uniform and weighted uniform distribution mod 1. *Seminar on Modern Methods in Number Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No.* 18, 3 *pp. Inst. Statist. Math., Tokyo*, 1971. (Editors) **51** #10249 10F40

Criteria for uniform and weighted uniform distribution mod 1. *Comment. Math. Univ. St. Paul.* **20** (1971/72), 83–91. (J. Chauvineau) **45** #6769 10F40

Note on the special sine series. *J. Fac. Sci. Shinshu Univ.* **7** (1972), 1–3. (S. Baron) **47** #9149 42A32

Remark to a Tauberian theorem for Borel summability. *J. Fac. Sci. Shinshu Univ.* **7** (1972), 5–6. (L. Hoischen) **48** #2617 40E05

On the Bessel-series expression for $\sum n^{-1}\sin(x/n)$. *Math. J. Okayama Univ.* **16** (1973/74), 129–136. (S. L. Segal) **50** #881 42A56 (10H25, 10J10)

On Hardy's exponential series related to the divisor problem. *Math. J. Okayama Univ.* **18** (1975/76), *no.* 1, 1–11. (Henri Joris) **54** #259 (EA **54**) 10H25 (10K20)

Remarks to some Tauberian conditions of mean type. *Math. J. Okayama Univ.* **18** (1975/76), *no.* 1, 87–97. (D. Gaier) **52** #14732 40E05

Elementary proofs of some theorems on special Fourier series. *Math. J. Okayama Univ.* **19** (1976/77), *no.* 1, 19–23. (L. Lorch) **55** #8673 42A32

Some applications of the character analogue of the Poisson summation formula. *Math. J. Okayama Univ.* **19** (1976/77), *no.* 2, 111–119. (Bruce C. Berndt) **56** #8506 10G05 (10H10)

Arithmetic functions and summation formulas. (Japanese) Characteristics of arithmetic functions (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 274 (1976), 50–68. (S. Ikehara) **56** #15586 10H25

(*with* Uchiyama, Saburô) On the convergence in L of some special Fourier series. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 2, 72–77. (Masako Izumi) **58** #1962 42A20

On the Bellman transform of the coefficients of some special sine-series. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 3, 91–94. (J. S. Byrnes) **56** #12748 42A16

Kanofsky, Paul (*with* Srinivasan, R.) An approach to the construction of parametric confidence bands on cumulative distribution functions. *Biometrika* **59** (1972), 623–631. (P. K. Sen) **50** #11628 62G15

(*with* Srinivasan, R.; Wharton, R. M.) Simultaneous confidence intervals for exponential distributions. *Sankhyā Ser. B* **37** (1975), *no.* 3, 271–292. (Authors' summary) **58** #31561 62F25

Kanoh, Hikeaki (*with* Masubuchi, Masami; Sekiguchi, T.; Kawashima, Y.; Matsui, W.) Determination of the unique optimal trajectories in the second order optimal control systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 48, *Paper* 24*G*, 8 *pp. Inst. Mech. Engrs., London*, 1967. (From the authors' introduction) **55** #11128 49A99

(*with* Itō, Akira; Takashima, Satoshi) Recent trends in the study of distributed parameter systems. II. Process dynamics of a distributed system, and its control. (Japanese) *Systems and Control* **18** (1974), *no.* 11, 605–612. (K. Kanai) **52** #16739 93–02 (93C99)

Design of suboptimal control system by using degree of optimality. *Tech. Rep. Osaka Univ.* **24** (1974), 677–691. (Stanislav K. Myškov) **52** #4072 49B10

(*with* Furushoo, Junji; Masubuchi, Masami) Design of dynamic compensators and observers by using degree of optimality. *Tech. Rep. Osaka Univ.* **24** (1974), 693–708. (M. J. Davies) **51** #9937 93E20

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360b

Kanoh, Satoru (*with* Sawa, Takamitsu) Categorical control in regression. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 354, 361–365. (Takeshi Amemiya) **54** #1492 62J05

Kanoknukulchai, Worsak (*with* Hughes, Thomas J. R.; Taylor, Robert Lee) A finite element method for large displacement contact and impact problems. *Formulation computational algorithms in finite element analysis* (*U.S.-Germany Sympos., Mass. Tech., Cambridge, Mass.*, 1976), *pp.* 468–495. *M.I.T. Press, Cambridge, Mass.*, (Authors' summary) **57** #14814 73.65

Kanold, Hans-Joachim Über einige elementare Abschätzungen von e. *Elem. Math* (1973), 65–67. (Editors) **48** #242 10F10

Über eine neue asymptotische Abschätzung bei Stirlingschen Zahlen 2. Art. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday. *J. Angew. Math.* **262/263** (1973), 179–182. (Horst Wegner) **49** #62 05A10

Über eine zahlentheoretische Funktion von E. Jacobsthal. *Abh. Braunschweig. Gesellsch.* **25** (1975), 7–10. (P. Erdős) **52** #5543 10A20

Elementare Betrachtungen über arithmetische Folgen. *Elem. Math.* **31** (1976), 88–90. (I. Niven) **56** #2907 10A40

Abschätzungen der zahlentheoretischen Funktion $g(n)$. *Abh. Braunschweig. Ges.* **28** (1977), 65–68. (E. Grosswald) **58** #27713 10A20

Über einige Abschätzungen von $g(n)$. *J. Reine Angew. Math.* **290** (1977), 142- (S. Ikehara) **55** #2802 10H15

Neuere Untersuchungen über die Jacobsthal-Funktion $g(n)$. (English summ *Monatsh. Math.* **84** (1977), *no.* 2, 109–124. (Dieter Leitmann) **56** #11932 10H2

See also **Zahlentheorie, 50** #12875

Kanoui, Henry (*with* Bergman, Marc) Axiomatisation des manipulations symbolique calcul des prédicats. Utilisation des calculateurs en mathématiques pures (C Limoges, 1975). *Bull. Soc. Math. France Mém. No.* 49-50 (1977), 15–30. (Dieter Eb **58** #13908 68A15

Kanoveĭ, V. G. The problem of singular cardinals. (Russian) *Mat. Zametki* **13** (1 717–724. (M. Benda) **48** #8231 02K05

The degrees of constructivity and the descriptive properties of the set of numbers in an initial model and in its extensions. (Russian) *Dokl. Akad. Nauk S.* **216** (1974), 728–729. (P. Štěpánek) **51** #143 02K05 (02K30)

The independence of certain propositions of descriptive set theory and of sec order arithmetic. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 3, 552–554. Marek) **52** #10416 02K05

The majorization of initial segments of degrees of constructivity. (Russian) *Zametki* **17** (1975), *no.* 6, 939–946. (W. Marek) **56** #11784 02K05 (02F30)

Definability by means of degrees of constructibility. (Russian) *Studies in set th and nonclassical logics* (*Russian*), *pp.* 5–95. *Izdat. "Nauka", Moscow*, 1976. (W. Ma **58** #5209 02K05 (02K30)

A proof of a theorem of Luzin. (Russian) *Mat. Zametki* **23** (1978), *no.* 1, 61–66. V. Ostrovskiĭ) **58** #16308 04A15 (54H05)

Kanovič, Max I. Complexity of the restricted decision of semi-enumerable sets. (Russi *Dokl. Akad. Nauk SSSR* **203** (1972), 1246–1248. (G. Wechsung) **45** #4978 0 (68A25)

The universality of strongly undecidable sets. (Russian) *Dokl. Akad. Nauk S.* **204** (1972), 533–535. (E. Mendelson) **46** #3279 02F25 (02E10)

Complexity of the restricted solution of algorithms. (Russian) *Studies in the th of algorithms and mathematical logic, Vol. I* (*Russian*), *pp.* 3–41. *Vyčisl. Centr A Nauk SSSR, Moscow*, 1973. (Vladimir Lifšic) **49** #2298 02E10 (02F25, 68A20)

The complexity of the approximation of arithmetic sets. (Russian) *Dokl. A Nauk SSSR* **211** (1973), 1038–1041. (G. Wechsung) **49** #31 02F35 (02F25)

Irreducibility of the languages of a step-by-step semantic system. (Russian) *D Akad. Nauk SSSR* **212** (1973), 800–803. (Vladimir Lifšic) **50** #4275 02G99 (02 68A30)

A certain extension of the step-by-step semantic system of A. A. Markov. (Russi *Theory of algorithms, and mathematical logic* (*dedicated to A. A. Markov on the occa of his seventieth birthday*) (*Russian*), *pp.* 62–70, 215. *Vyčisl. Centr Akad. Nauk SS Moscow*, 1974. (Author's summary) **57** #16000 02E10

Complexity of the limit of Specker sequences. (Russian) *Dokl. Akad. Nauk S* **214** (1974), 1020–1023. (G. Wechsung) **49** #4765 02E99 (02E10)

"Complex" and "simple" numbers. (Russian) *Dokl. Akad. Nauk SSSR* **218** (19 276–277. (V. B. Kudrjavcev) **51** #7838 02E10 (68A05)

On sets of complex-programmed numbers. *Mathematical foundations of comp science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp.* 271–272. *Lecture Note Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (Settimo Termini) **54** #11846 68A

A step-by-step semantic system with variables for sets. (Russian) *Dokl. Akad. N SSSR* **221** (1975), *no.* 6, 1256–1259. (Vladimir Lifšic) **52** #5385 02E05

Dekker's construction, and effective nonrecursiveness. (Russian) *Dokl. Akad. N SSSR* **222** (1975), *no.* 5, 1028–1030. (G. Asser) **52** #10390 02F25 (68A20)

The relation between upper and lower bounds for the reduction complexity enumerable sets. (Russian) *Studies in the theory of algorithms and mathematical lo Vol.* 2 (*Russian*), *pp.* 66–72, 158. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1 (Author's summary) **58** #19351 68A20 (02F25)

(*with* Kušner, B. A.) Complexity of algorithms, and Specker sequences. (Russi *Studies in the theory of algorithms and mathematical logic, Vol.* 2 (*Russian*), *pp.* 73–160. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1976. (Authors' summary) **58** #1620 02E10 (68A20)

Complexity of complete systems of equivalent transformations in programm languages. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 2, 273–276. (G. E. Ceĭt **55** #9601 68A20 (68A05)

The accuracy of a complexity test for nonrecursiveness and universaility. (Russia *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 6, 1249–1252. (Robert P. Daley) **57** #1601 02F25 (02F30, 68A20, 02E10)

Complex properties of context-sensitive languages. (Russian) *Dokl. Akad. Na SSSR* **233** (1977), *no.* 3, 289–292. (V. Ju. Meĭtus) **58** #19352 68A20 (02E10, 68A

See also **Studies in constructive mathematics and mathematical logic, 46** #88 **Rogers, Hartley, Jr., 50** #4262 *and* **Complexity of computations and algorithms, 51** #2325

Kansa, Edward J. Method of successive approximations for many-electron wave functio *Phys. Rev. A* (3) **9** (1974), 1555–1563. **53** #12355 81.47

Kansy, Klaus ★Ableitungsverträgliche Verallgemeinerung der Intervallpolynome. Gesellschaft für Mathematik und Datenverarbeitung, Bonn, Ber. No. 70. *Gesellschaft* *athematik und Datenverarbeitung*, *Bonn*, 1973. 44 *pp*. (H. Ratschek) **50** #3554 G05

Elementare Fehlerdarstellung für Ableitungen bei der Hermite-Interpolation. nglish summary) *Numer. Math.* **21** (1973/74), 350–354. (H. E. Fettis) **49** #1734 D15

Bestimmung der Krümmung von digitalisierten Linienzügen. Vorträge der issenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und echanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no*. 3, T295–T296. rom the text) **58** #3308 65D10

E. A multicommodity flow problem. *Networks* **4** (1974), 267–280. (F. Giannessi) #5039 90B10 (90A15)

Immanuel ★Logic. Translated from the German edition of 1800 (edited by Gottlob enjamin Jäsche), with an introduction by Robert S. Hartman and Wolfgang Schwarz. he Library of Liberal Arts, No. 189. *The Bobbs-Merrill Co., Inc., Indianapolis, Ind.*, 974. cxv + 164 *pp*. (Editors) **50** #12620 01A75 (02–03)

See also **Horstmann, Rolf P.**, **56** #8257

P. *See* **Control in space**, **48** #8041

rdžieva, Elena (*with* Pirgov, Dimit″r) Certain generalizations of criteria for the reducibility of integer polynomials. (Bulgarian. Russian and French summaries) *odišnik Visš. Tehn. Učebn. Zaved. Mat.* **4** (1967), *no*. 1, 31–35 (1971). (R. Finkelstein) 5 #5114 12A20

(*with* Pirgov, Dimit″r) Certain theorems on the indecomposability of integer olynomials in the field of rational numbers whose values are powers of a prime umber. (Bulgarian. Russian and German summaries) *B″lgar. Akad. Nauk. Otdel. Mat. iz. Nauk. Izv. Mat. Inst.* **11** (1970), 273–278. (J. W. S. Cassels) **45** #8639 12B05 12A20)

A certain test for the irreducibility of integer polynomials in the field of rational umbers. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **7** (1971), *no*. 1, 17–22 (1973). (R. Finkelstein) **48** #11067 12D05

ardžjan, G. L. (*with* Rafaeljan, R. S.) Calculation of the influence of monotone erturbations in step systems of extremal control of inertial objects. (Russian. Armenian ummary) *Akad. Nauk Armjan. SSR Dokl.* **57** (1973), 212–217. **48** #13324 93A15

arija, G. V. Optimal choice in problems of synthesis and analysis. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **66** (1972), 45–48. (D. Obradović) **45** #8243 90B30

Optimal choice with reconciliation of alternative hypotheses. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **68** (1972), 553–555. (D. Obardović) **50** #12342 93A99 (65K05)

Optimal choice algorithms in the microprogram synthesis of operations. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no*. 2, 143–144. (Author's introduction) **49** #1826 68A20

Algorithms for tabular arithmetic. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no*. 2, 325–328. (M. I. Dehtjar′) **52** #9674 68A10

The use of tabular arithmetic in electronic computers. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **80** (1975), *no*. 1, 65–67. (M. I. Dehtjar′) **53** #4608 68A10

Optimal two-level compromise-coordinated choice. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no*. 3, 581–584. (A. Rapoport) **54** #12254 92A25

tel, Irmhild (*with* Nawrotzki, Kurt) Stationäre Anfangsverteilungen stochastischer Automaten. I. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **11** (1975), *no*. 3, 151–164. (P. Turakainen) **52** #5233 94A35

ntemir, I. I. (*with* Grobov, V. O.) The stability of the motion of a free body that carries a rotor revolving on a flexible shaft. (Russian) *Problems of analytical mechanics, stability and control theories* (*Proc. Second Četaev Conf., Kazan*, 1973), *Vol*. 2 (*Russian*), *pp*. 86–94, 402. *Kazan. Aviacion. Inst., Kazan*, 1976. (Authors' summary) **58** #14078 70.49

See also **Mathematical physics**, **46** #1531

nter, Irving The probability density function of the monopulse ratio for *N* looks at a combination of constant and Rayleigh targets. *IEEE Trans. Information Theory* **IT-23** (1977), *no*. 5, 643–648. (Author's summary) **58** #33487 94A05

nter, Marek Linear sample spaces and stable processes. *J. Functional Analysis* **9** (1972), 441–459. (E. J. Hannan) **45** #4518 60K99

On the spectral representation for symmetric stable random variables. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 1–6. (H. H. Stratton) **47** #2674 60J30

Stable laws and the imbedding of L^p spaces. *Amer. Math. Monthly* **80** (1973), 403–407. (R. Jajte) **47** #7821 60J30 (46E30)

The L^p norm of sums of translates of a function. *Trans. Amer. Math. Soc.* **79** (1973), 35–47. (Y. Katznelson) **50** #14062 43A15

(*with* Steiger, William L.) Regression and autoregression with infinite variance. *Advances in Appl. Probability* **6** (1974), 768–783. (M. M. Siddiqui) **51** #2215 62M10 (62J05)

(*with* Dudley, Richard M.) Zero-one laws for stable measures. *Proc. Amer. Math. Soc.* **45** (1974), 245–252. (J. Pickands, III) **51** #6901 60B05 (60F20)

Some martingales associated with sample spacings. *Proceeding of the Symposium on Statistics and Related Topics* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No*. 20, 8 *pp*. *Carleton Univ., Ottawa, Ont.*, 1975. (Editors) **52** #9367 60G45 (62G30)

Correction to: "On distinguishing translates of measures" (Ann. Math. Statist. **40** (1969), 1773–1777). *Ann. Probability* **3** (1975), 189–190. (Editors) **54** #3836 60G30

Some martingales associated with sample spacings. *Ann. Probability* **3** (1975), *no*. 3, 569–572. (I. Vincze) **52** #6866 60G45 (62G30)

Stable densities under change of scale and total variation inequalities. *Ann. Probability* **3** (1975), *no*. 4, 697–707. (Barthel W. Huff) **55** #9212 60E05

Autoregression for discrete processes mod 2. *J. Appl. Probability* **12** (1975), 371–375. (Tata Subba Rao) **51** #7202 62M10

On the unimodality of stable densitites. *Ann. Probability* **4** (1976), *no*. 6, 1006–1008. (F. W. Steutel) **55** #6520 60E05

Additive functions and singular measures. *Colloq. Math.* **36** (1976), *no*. 2, 319–328. (Patrick L. Brockett) **58** #12056 39A15 (60G30)

Probability inequalities for convex sets and multidimensional concentration functions. *J. Multivariate Anal.* **6** (1976), *no*. 2, 222–236. (Author's summary) **57** #17812 60G50 (60E05)

On quotients of moving average processes with infinite mean. *Proc. Amer. Math. Soc.* **56** (1976), 281–287. (E. J. Hannan) **53** #6704 (E **57** #7746) 60G10 (62M10)

(*with* Steiger, William L.) Estimating linear relationships for models based on random variables with infinite variance. *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp*. 317–323. *Editura Acad. R.S.R., Bucharest*, 1977. (E. J. Hannan) **56** #16963 62M10 (62J05)

On the boundedness of stable processes. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp*. 317–323. *Reidel, Dordrecht*, 1977. (S. J. Taylor) **58** #7820 60G17 (60J30)

Completion measurable linear functionals on a probability space. *Colloq. Math.* **38** (1977/78), *no*. 2, 277–304. (W. A. Woyczyński) **58** #18641 60B10

(*with* Hannan, Edward James) Autoregressive processes with infinite variance. *J. Appl. Probability* **14** (1977), *no*. 2, 411–415. (Kenneth N. Berk) **55** #9448 62M10

(*with* Proppe, Harold) Reduction of variance for Gaussian densities via restriction to convex sets. *J. Multivariate Anal.* **7** (1977), *no*. 1, 74–81. (M. D. Perlman) **55** #4335 60E05 (26A86, 62H05)

Equivalence singularity dichotomies for a class of ergodic measures. *Math. Proc. Cambridge Philos. Soc.* **81** (1977), *no*. 2, 249–252. (V. S. Mandrekar) **55** #9253 60G30

Continuous ergodic measures on R^∞ have disjoint powers. *Proc. Amer. Math. Soc.* **65** (1977), *no*. 2, 332–337. (A. Fuchs) **56** #1440 60G30

Erratum to: "On quotients of moving average processes with infinite mean" (Proc. Amer. Math. Soc. **56** (1976), 281–287). *Proc. Amer. Math. Soc.* **67** (1977), *no*. 2, 362. (Editors) **57** #7746 60G10 (62M10)

Unimodality and dominance for symmetric random vectors. *Trans. Amer. Math. Soc.* **229** (1977), 65–85. (Rashid Ahmad) **56** #3917 60E05

Information inequalities for the sum of independent random vectors. *IEEE Trans. Inform. Theory* **24** (1978), *no*. 5, 649–650. (From the introduction) **58** #20811 94A15

Kanthack, Lothar (*with* Wegener, Ursula) Zum Zusammenhang zwischen Projektionsoperatoren und Eigenschaften. *Z. Allgemeine Wissenschaftstheorie* **7** (1976), *no*. 2, 249–257. (U. Cattaneo) **57** #8530 81.06

Kanton, Marian *See* **Statistical-mathematical methods in economics**, **50** #12147 *and* **Dictionary: Economics**, **51** #5228

Kantor, B. E. (*with* Bakel′man, I. Ja.) Uniform estimates of the solutions of quasilinear elliptic equations of general form. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **541** (1972), 7–14. (A. Haimovici) **46** #9523 35J60 (53C45)

(*with* Bakel′man, I. Ja.; Verner, A. L.) ★Введение в дифференциальную геометрию "в целом". (Russian) [Introduction to differential geometry "in the large"] *Izdat. "Nauka", Moscow*, 1973. 440 *pp*. (K. Radziszewski) **52** #6618 53C45

(*with* Bakel′man, I. Ja.) Estimates of the solutions of quasilinear elliptic equations that are connected with problems of geometry "in the large". (Russian) *Mat. Sb.* (*N.S.*) **91(133)** (1973), 336–349, 471. (H. Jacobowitz) **48** #11766 35J60 (53A99)

(*with* Bakel′man, I. Ja.) Existence of a hypersurface homeomorphic to the sphere in Euclidean space with a given mean curvature. (Russian) *Geometry and topology, No.* 1 (*Russian*), *pp*. 3–10. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (A. V. Pogorelov) **54** #11246 53C45

The nondeformability of surfaces of negative curvature. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no*. 5, 1052–1057, 1197. (A. V. Pogorelov) **57** #7470 53C45

Kantor, I. L. An example of a transitive-differential group of order three. (Russian) *Jaroslav. Gos. Ped. Inst. Učen. Zap. No.* 61 *Geometrija* (1967), 52–59. (H. Freudenthal) **51** #798 22E05

Graded Lie algebras. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **15** (1970), 227–266. (D. Miličić) **45** #6879 17B55

Certain generalizations of Jordan algebras. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **16** (1972), 407–499. (V. A. Artamonov) **48** #351 17A30

(*with* Solodovnikov, A. S.) ★Гиперкомплексные числа. (Russian) [Hypercomplex numbers] *Izdat. "Nauka", Moscow*, 1973. 144 *pp*. (M. Slater) **50** #371 16–01

Models of the exceptional Lie algebras. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1276–1279. (Robert Lee Wilson) **50** #2272 17B25

Invariants of homogeneous spaces with parabolic isotropy subgroups. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 249–252. (V. L. Popov) **49** #2772 14M15 (15A72, 20G15)

Formulas for the infinitesimal operators of the Lie algebra of a homogeneous space. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **17** (1974), 243–249. (H. Freudenthal) **51** #799 22E05

Cross-ratio of four points and other invariants on homogeneous spaces with parabolic isotropy subgroups. I. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **17** (1974), 250–313. (V. L. Popov) **50** #7176 14M15

(*with* Solodovnikov, A. S.) ★Hyperkomplexe Zahlen. Übersetzt aus dem Russischen von W. Hintzsche. Mathematische Schülerbücherei, No. 95. *BSB B. G. Teubner Verlagsgesellschaft, Leipzig*, 1978. 156 *pp*. (A. O. Morris) **58** #5773 16A40 (30A97)

The cross ratio of four points and other invariants on homogeneous spaces with parabolic isotropy sub-groups. II. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **18** (1978), 234–249. (V. L. Popov) **58** #22215 17C99 (14N99, 32M10)

Kantor, Jean-Michel Hyperfonctions cohérentes. *Séminaire Pierre Lelong* (*Analyse*) (*année* 1969), *pp*. 75–100. *Lecture Notes in Math., Vol.* 116, *Springer, Berlin*, 1970. (J. S. Joel) **57** #690 32B99

Introduction à la théorie des résidus. *Séminaire Pierre Lelong* (*Analyse*), *Année* 1970, *pp*. 1–10. *Lecture Notes in Math., Vol.* 205, *Springer, Berlin*, 1971. (J. S. Joel) **55** #8396 32A25

(*with* Schapira, Pierre) Hyperfonctions associées aux faisceaux analytiques réels cohérents. *An. Acad. Brasil. Ci.* **43** (1971), 299–306. (J. Mitchell) **47** #823 46F15 (32C35, 46M15)

Opérateurs différentials sur les espaces analytiques. *Séminaire Pierre Lelong (Analyse) (année 1970-1971), pp.* 147–157. *Lecture Notes in Math., Vol.* 275, *Springer, Berlin,* 1972. (Thomas Bloom) **51** #13284 32C40

Classes non-quasi analytiques et décomposition des supports des ultradistributions. *An. Acad. Brasil. Ci.* **44** (1972), 171–180. (Jaime Lesmes) **48** #2750 46F05

Analyse fonctionnelle sur les espaces analytiques. *Fonctions analytiques de plusieurs variables et analyse complexe (Colloq. Internat. C.N.R.S. No.* 208, *Paris,* 1972), *pp.* 89–94. *"Agora Mathematica", No.* 1, *Gauthier-Villars, Paris,* 1974. (Thomas Bloom) **56** #15978 32C99

Opérateurs différentiels sur les singularités quotients. *Fonctions de plusieurs variables complexes (Sém. François Norguet,* 1970-1973; *à la mémoire d'André Martineau), pp.* 335–340. *Lecture Notes in Math., Vol.* 409, *Springer, Berlin,* 1974. (J. Stutz) **52** #797 (E **58** #1230) 32C40 (32B05, 32M05)

Prolongement méromorphe de f^{λ}, et division des distributions, d'après I. N. Bernstein. *Séminaire Goulaouic-Schwartz* 1973-1974: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 9, 16 *pp. Centre de Math., École Polytech., Paris,* 1974. (J. S. Joel) **56** #12308 32C40 (32B05, 46F10, 58C25)

Le complexe de Dolbeault-Grothendieck sur les espaces analytiques. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 855–858. (Y.-T. Siu) **50** #640 32C35

Courants sur les espaces analytiques complexes: généralisation du lemme de Dolbeault-Grothendieck. *Fonctions de plusieurs variables complexes, II (Sém. François Norguet,* 1974–1975), *pp.* 159–167. *Lecture Notes in Math., Vol.* 482, *Springer, Berlin,* 1975. (M. Herrera) **53** #5931 32C40 (32C30)

Erratum: "Opérateurs différentiels sur les singularités quotients" (Fonctions de plusieurs variables complexes (Sém. François Norguet, Octobre 1970–Décembre 1973; à la mémoire d'André Martineau), pp. 335–340, Lecture Notes in Math., Vol. 409, Springer, Berlin, 1974). *Fonctions de plusieurs variables complexes, II (Sém. François Norguet,* 1974–1975), *p.* 367. *Lecture Notes in Math., Vol.* 482, *Springer, Berlin,* 1975. (Editors) **58** #1230 32B99

Le complexe de Dolbeault-Grothendieck sur les espaces analytiques. *Séminaire Pierre Lelong (Analyse), Année* 1973–1974, *pp.* 142–154. *Lecture Notes in Math., Vol.* 474, *Springer, Berlin* 1975. (Y.-T. Siu) **53** #858 32C35

Torsion du complexe de de Rham d'un espace analytique complexe. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 13, Aii, A893–A896. (Thomas Bloom) **51** #3510 32C35

Singularities and Newton polygons. Proceedings of the Oji Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement,* 123–129. (Helmut Hamm) **58** #11501 32C40 (14B05)

Formes et opérateurs différentiels sur les espaces analytiques complexes. *Bull. Soc. Math. France Mém. No.* 53 (1977), 5–80. (Thomas Bloom) **58** #6332 32C40 (32B05, 32C30, 32C35)

Sur les automorphismes des algèbres d'opérateurs différentiels. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 284, A369–A371. (Author's summary) **55** #709 32C35

Kántor, K. (*with* Kátai, Imre) Distinct values of number-theoretic functions. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 83–86 (1977). (D. Rearick) **58** #21912 10A20

Kántor, S. Über die Konstruktion überall stetiger, nirgends differenzierbarer Funktionen. II. *Publ. Math. Debrecen* **22** (1975), *no.* 1-2, 7–22. (M. Kuczma) **51** #13150 26A27

Über die Zerlegungsgleichheit. *Publ. Math. Debrecen* **23** (1976), *no.* 3-4, 255–261. (H. Freudenthal) **55** #1225 52A50

Kantor, S. A. A certain application of Strang's theorem to the weak approximation method. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **2** (1971), *no.* 3, 47–53. (G. C. Barozzi) **48** #12862 65M10

(*with* Demidov, G. V.) Certain theorems on the convergence of the weak approximation method. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **3** (1971), *no.* 1, 35–45. (G. C. Barozzi) **49** #11823 65M10 (35K99)

The solution of certain mixed problems by the weak approximation method. (Russian) *Čisl. Metody Meh. Splošnoi Sredy* **3** (1972), *no.* 3, 51–63. (J. Kopáček) **50** #7766 35A35

(*with* Janenko, N. N.; Demidov, G. V.) Evolutionary double-layer difference schemes. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **3** (1972), *no.* 5, 95–114. (Leo F. Boron) **50** #2955 47A50 (47D05, 65J05)

The convergence of difference schemes in Banach spaces. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 45–48. (Raičo Lazarov) **52** #2195 65J05

Kantor, S. L. (*with* Prokop'ev, V. P.) On the question of the stability in the critical case on n zero roots. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1972), *no.* 2, 40–48, 171. (E. Leimanis) **49** #5492 34D20

Kantor, William M. On unitary polarities of finite projective planes. *Canad. J. Math.* **23** (1971), 1060–1077. (M. Esser) **45** #2568 50D30

(*with* Seitz, Gary M.) Some results on 2-transitive groups. *Invent. Math.* **13** (1971), 125–142. (H. Nagao) **47** #5113 20D99

(*with* Pankin, Mark D.) Commutativity in finite planes of type I-4. *Arch. Math. (Basel)* **23** (1972), 544–547. (D. Gallarati) **47** #9416 50D35

(*with* Hering, Christoph; Seitz, Gary M.) Finite groups with a split BN-pair of rank 1. I. *J. Algebra* **20** (1972), 435–475. (J. H. Walter) **46** #243 20C30

(*with* Seitz, Gary M.) Finite groups with a split BN-pair of rank 1. II. *J. Algebra* **20** (1972), 476–494. (J. H. Walter) **46** #244 20C30

(*with* O'Nan, Michael E.; Seitz, Gary M.) 2-transitive groups in which the stabilizer of two points is cyclic. *J. Algebra* **21** (1972), 17–50. (A. Kostrikin (RŽMat **1972** #9 A156)) **50** #10029 20B20

On 2-transitive groups in which the stabilizer of two points fixes additional points. *J. London Math. Soc.* (2) **5** (1972), 114–122. (F. A. Sherk) **45** #6907 20B20

k-homogeneous groups. *Math. Z.* **124** (1972), 261–265. (C. Hering) **46** #5422 20B10

On incidence matrices of finite projective and affine spaces. *Math. Z.* **124** (1972), 315–318. (C. Hering) **51** #13850 50D30 (05B20)

Those nasty Baer involutions. *Proceedings of the International Conference Projective Planes (Washington State Univ., Pullman, Wash.,* 1973), *pp.* 145–155. *Washington State Univ. Press, Pullman, Wash.,* 1973. (Robert A. Liebler) **50** #14479 50D35

Line-transitive collineation groups of finite projective spaces. *Israel J. Math* (1973), 229–235. (F. C. Piper) **48** #4908 50D35

On homologies of finite projective planes. *Israel J. Math.* **16** (1973), 351–361. Cofman) **52** #6566 50D35

On 2-transitive collineation groups of finite projective spaces. *Pacific J. Math.* (1973), 119–131. (M. V. D. Burmester) **48** #11351 20H15 (50D30)

2-transitive designs. *Combinatorics (Proc. NATO Advanced Study Inst., Breuke* 1974), *Part* 3: *Combinatorial group theory, pp.* 44–97. *Math. Centre Tracts, No.* 57, *M Centrum, Amsterdam,* 1974. (Cheryl E. Praeger) **51** #12558 05B05

Projective planes of type I-4. *Geometriae Dedicata* **3** (1974), 335–346. (J. Yaq **52** #4114 (E **57** #10584) 50D35

Primitive groups having transitive subgroups of smaller, prime power degree. *Is J. Math.* **18** (1974), 141–143. (A. R. Camina) **50** #13211 20B10

Dimension and embedding theorems for geometric lattices. *J. Combinatorial The Ser. A* **17** (1974), 173–195. (Ann Miller) **49** #10581 05B35

(*with* McDonough, Thomas) On the maximality of PSL$(d+1,q), d>2$. *J. Lon Math. Soc.* (2) **8** (1974), 426. (C. Hering) **51** #13071 20H15 (50D30)

Symplectic groups, symmetric designs, and line ovals. *J. Algebra* **33** (1975), 43– (Jane W. Di Paola) **51** #189 05B05

Rank 3 characterizations of classical geometries. *J. Algebra* **36** (1975), *no.* 309–313. (Donald E. Taylor) **52** #8229 20B25 (50D30)

Plane geometries associated with certain 2-transitive groups. *J. Algebra* **37** (197 *no.* 3, 489–521. (Donald E. Taylor) **53** #8207 20B25 (05B25)

Envelopes of geometric lattices. *J. Combinatorial Theory Ser. A* **18** (1975), 12– (Ann Miller) **50** #9632 05B35

Some highly geometric lattices. (Italian summary) *Colloquio Internazionale su Teorie Combinatorie (Roma,* 1973), *Tomo I, pp.* 183–191. *Atti dei Convegni Lincei,* 17, *Accad. Naz. Lincei, Rome,* 1976. (Curtis Greene) **56** #11832 05B35

The existence of translation complements. *Geometriae Dedicata* **5** (1976), *no.* 71–78. (M. V. D. Burmester) **57** #1265 50D35

Addendum: "Projective planes of type I-4" (Geometriae Dedicata 3 (1974), 335–346). *Geometriae Dedicata* **5** (1976), *no.* 3, 411–412. (J. Yaqub) **57** #10584 50D35

Generalized quadrangles having a prime parameter. *Israel J. Math.* **23** (1976), *no.* 8–18. (N. Ito) **53** #12996 05B25 (20B25)

Axial automorphisms of designs. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Inda Math.* **38** (1976), *no.* 5, 426–439. (Spyros S. Magliveras) **56** #8390 05B05

On the structure of collineation groups of finite projective planes. *Proc. Lond Math. Soc.* (3) **32** (1976), *no.* 3, 385–402. (F. C. Piper) **55** #6301 50D35

(*with* Curtis, Charles W.; Seitz, Gary M.) The 2-transitive permutation representations of the finite Chevalley groups. *Trans. Amer. Math. Soc.* **218** (197 1–59. (Edward Cline) **54** #10429 20G05

Moore geometries and rank 3 groups having $\mu = 1$. *Quart. J. Math. Oxford Ser.* (**28** (1977), *no.* 111, 309–328. (Peter J. Cameron) **57** #6153 20B15 (05B25)

(*with* Cameron, Peter J.) Rank 3 groups and biplanes. *J. Combinatorial Theory Se A* **24** (1978), *no.* 1, 1–23. (Cheryl E. Praeger) **57** #9814 20B20 (05B05)

See also **Combinatorics, 52** #7912

Kantorovič, L. V. (*with* Krylov, V. I.; Černin, K. E.) ★Tables for the numerical solutio of boundary value problems of the theory of harmonic functions. Translated from th Russian by Alexis N. Obolensky. *Frederick Ungar Publishing Co., New York,* 1963. 46 *pp.* (Editors) **46** #6621 65N20

(*with* Makarov, V. L.) Control parameters in an economic system. *Proceedings the IFAC Fifth World Congress (Paris,* 1972), *Part* 3: *Ecology and systems engineerin Large scale sensitivity optimization and adaptation theory, Paper No.* 28.4, 5 *pp. Interna Fed. Automat. Control., Düsseldorf,* 1971 [1972]. (Trout Rader) **54** #6906 90A15

(*with* Žijanov, V. I.) A one-product dynamical model of economics that takes int account the change in the structure of the capital when technological progress exists (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 1280–1283. (Vladimir Strnad) **48** #10441 90A15

(*with* Makarov, V. L.; Romanovskiĭ, I. V.; Kaplan, A. A.; Kutateladze, S. S. Rubinšteĭn, Gennadiĭ Solomonovič (Šlemovič) (on the occasion of his fiftieth birthday) (Russian) *Optimizacija Vyp.* 9(26) (1973), 5–12. **58** #21304 01A70

(*with* Efimov, N. V.; Kreĭn, S. G.; Iohvidov, I. S.; Krasnosel'skiĭ, M. A.; Ljusternik, L. A.) Vladimir Ivanovič Sobolev (on the occasion of his sixtieth birthday) (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 1(175), 247–250. (1 *plate*) (Editors) **52** #7798 01A70

Perspectives of the large-block approach in applied mathematics, programming and computer technology. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)* **48** (1974), 5–11, 212. (R. N. Goss) **50** #15415 68–02

(*with* Akilov, G. P.) ★Функциональный анализ. (Russian) [Functional analysis] Second edition, revised. *Izdat. "Nauka", Moscow,* 1977. 742 *pp.* (F. Smithies) **58** #23465 46–01 (47–01, 65J05)

(*with* Akilov, G. P.) ★Funktionalanalysis in normierten Räumen. Übersetzt aus dem Russischen von Heinz Langer und Rolf Kühne. In deutscher Sprache herausgegeben von P. Heinz Müller. *Verlag Harri Deutsch, Thun-Frankfurt am Main,* 1978. xv + 622 *pp. ISBN* 3-87114-327-1 (Editors) **56** #16402 47–01 (46–01, 47Axx, 47Hxx, 65J05)

(*with* Buhvalov, A. V.; Veksler, A. I.; Vladimirov, D. A.; Vulih, B. Z.; Lozinskiĭ, S. M.; Semenov, E. M.) Grigoriĭ Jakovlevič Lozanovskiĭ: an obituary. (Russian) *Uspehi Mat. Nauk* 33 (1978), *no.* 1(199), 199–202. (Editors) **58** #16018 01A70

See also **Collection: Kantorovič, L. V., 48** #5780; **Biography: Kantorovič, L. V., 48** #5802; **Makarov, V. L.; et al., 48** #7916; **Anwendung der Mathematik bei ökonomischen Untersuchungen. 48** #10434; **Birthday: Kantorovič, L. V., 50** #4224; **Dictionary: Cybernetics, 51** #7767; **Vulih, B. Z.; et al., 52** #5328; **Nobel laureates, 53** #5234; **Čaplygin, S. A., 54** #9963 *and* **Nobel laureates, 56** #5180

Kantorovič, V. L. The structure of amortization payments in certain models of the use of machinery stock. (Russian) *Optimizacija No.* 4(21) (1971), 7–20. (Alexander Rubinov) **49** #4551 90B25

orovich, L. V. *See* **Kantorovič, L. V.**

orovitz, Shmuel Formule exponentielle pour les éléments Volterra d'une algèbre de anach. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1876–A1877. (B. Yood) 5 #9137 46H05 (47D05)

Spectral equivalence and Volterra elements. *Indiana Univ. Math. J.* **22** (1972/73), 51–957. (F.-H. Vasilescu) **53** #8957 47B40 (46H05)

Commutation de Heisenberg-Volterra et similarité de certaines perturbations. *C. R. cad. Sci. Paris Sér. A-B* **276** (1973), A1501–A1504. (T. T. Long) **47** #7501 47B47

(*with* Pei, Kai Jaung) Pairs of operators satisfying the Volterra commutation elation. *Indiana Univ. Math. J.* **23** (1973/74), 1177–1197. (T. T. Long) **49** #1209 7B47

(*with* Pei, Kai Jaung) Representation of C^n-operators. *Proc. Amer. Math. Soc.* **48** 1975), 152–156. (J. B. Miller) **51** #3934 47A60

Characterization of C^n-operators. *Indiana Univ. Math. J.* **25** (1976), *no.* 2, 119–133. J. B. Miller) **54** #3458 47A60

Intertwining certain operators in l^p. *J. London Math. Soc.* (2) **16** (1977), *no.* 3, 14–516. (E. R. Deal) **57** #1183 47B37

Similarity of certain operators in l^p. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 9–104. (E. R. Deal) **56** #12967 47B37

orowitsch, L. W. *See* **Kantorovič, L. V.**

owski, R. (*with* Dwivedi, Pt. I. H.) The luminosity of a collapsing star. *Methods of ocal and global differential geometry in general relativity* (*Proc. Regional Conf. on Relativity, Univ. Pittsburgh, Pittsburgh, Pa.*, 1970), *pp.* 126–136. *Lecture Notes in Physics, Vol.* 14, *Springer, Berlin*, 1972. (Kenneth Dunn) **54** #9598 85.53

nov, N. F. A first sketch of the theory of algebras of T. Molien. (Russian) *Istor.-Mat. Issled. Vyp.* 20 (1975), 150–170, 379. (A. Blokh) **58** #15952 01A55 (01A70)

wal, Ram P. (*with* Jain, D. L.) Williams integral equation technique with applications to mathematical physics. Special issue presented to Professor Bibhutibhusan Sen on the occasion of his seventieth birthday, Part II. *Indian J. Mech. Math. Special Issue* (1968/69), *part II*, 43–73 (1971). (Authors' summary) **50** #10713 45B05

Applications of the technique of matched asymptotic expansions to various fields of mathematical physics. *Analytic methods in mathematical physics* (*Sympos., Indiana Univ., Bloomington, Ind.*, 1968), *pp.* 479–485. *Gordon and Breach, New York*, 1970. (Editors) **50** #15489 69.00

★Linear integral equations. Theory and technique. *Academic Press, New York-London*, 1971. xii + 296 *pp.* (See Zbl **219** #45001) 45–01

The existence and completeness of various potentials for the equations of Stokes flow. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **9** (1971), 375–386. (Author's summary) **45** #9576 73.35

(*with* Jain, D. L.) Three-part boundary value problems in potential and generalized axially symmetric potential theories. *J. Analyse Math.* **25** (1972), 107–158. (R. P. Srivastav) **46** #3819 31B20

(*with* Sachdeva, B. K.) Approximate solutions of certain integral equations for the diffraction by two strips. (French summary) *Z. Angew. Math. Phys.* **24** (1973), 111–119. **47** #9959 78.45

(*with* Jain, D. L.) An integral equation perturbation technique in applied mathematics. II. Applications to diffraction theory. *Applicable Anal.* **4** (1974/75), *no.* 4, 297–329. (G. P. Bava) **55** #999 45A05

(*with* Jain, D. L.) Scattering of acoustic, electromagnetic and elastic *SH* waves by two-dimensional obstacles. *Ann. Physics* (*New York*) **91** (1975), 1–39. (J. Miklowitz) **54** #9355 78.35 (73.35, 76.35)

(*with* Sharma, Darbari L.) Singularity methods for elastostatics. (French summary) *J. Elasticity* **6** (1976), *no.* 4, 405–418. (A. Radu) **58** #19568 73.35

(*with* Sachdeva, B. K.) The solution of some integral equations and their connection with dual integral equations over a multiple interval. *IJAA Internat. J. Appl. Anal.* **1** (1977), *no.* 1, 71–86. (Editors) **58** #29916 45E10

(*with* Alawneh, A. D.) Singularity methods in mathematical physics. *SIAM Rev.* **19** (1977), *no.* 3, 437–471. (Maurice Bouix) **55** #11762 69.00 (78.35)

nyár, B. (*with* Tóth, J.) The fitting of a system of linear differential equations by the gradient method. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **2** (1976), *no.* 3–4, 259–268 (1977). (Authors' summary) **57** #18124 65L99

nygin, V. S. Questions of approximation by discrete transformations in finite-dimensional vector spaces. (Russian) *Application of functional analysis in approximation theory, No.* 5 (*Russian*), *pp.* 37–44. *Kalinin. Gos. Univ., Kalinin*, 1975. (Editors) **58** #33488 94A05

nz, Heinrich *See* **Wissenschaftstheorie**, (Not reviewed) *and* **Wissenschaftstheorie**, 53 #2579

nzaki, Teruo On bilinear module and Witt ring over a commutative ring. *Osaka J. Math.* **8** (1971), 485–496. (R. B. Warfield, Jr.) **46** #5363 15A63 (13K05)

Some dual properties on modules. *Proc. Japan Acad.* **47** (1971), 765–768. (R. A. Wiegand) **46** #7309 16A52

(*with* Kitamura, Kazuo) On prime ideals of a Witt ring over a local ring. *Osaka J. Math.* **9** (1972), 225–229. (Joel Cunningham) **47** #8534 13K05

On the quadratic extensions and the extended Witt ring of a commutative ring. *Nagoya Math. J.* **49** (1973), 127–141. (C. Small) **48** #11104 13K05 (13B99)

On non-commutative quadratic extensions of a commutative ring. *Osaka J. Math.* **10** (1973), 597–605. (Kazuo Kishimoto) **51** #3225 16A56

A note on the orthogonal group of a quadratic module of rank two over a commutative ring. *Osaka J. Math.* **10** (1973), 607–609. (James C. Pomfret) **48** #11345 20G15

On Galois extension with involution of rings. *Osaka J. Math.* **12** (1975), *no.* 3, 691–702. (A. Rosenberg) **53** #5638 15A63 (16A74)

(*with* Kitamura, Kazuo) On odd type Galois extension with involution of semi-local rings. *Proc. Japan Acad.* **51** (1975), 117–122. (A. Rosenberg) **51** #8091 13B05 (13H99, 15A63)

Note on quaternion algebras over a commutative ring. *Osaka J. Math.* **13** (1976), *no.* 3, 503–512. (S. Yuan) **55** #3000 16A56 (16A74)

(*with* Kitamura, Kazuo) Note on Hermitian forms over a non commutative ring. *Proceedings of the 10th Symposium on Ring Theory* (*Shinshu Univ., Matsumoto*, 1977), *pp.* 26–37. *Dept. Math., Okayama Univ., Okayama*, 1978. (E. Hornix) **58** #16754 16A28 (10C05, 16A50)

fam Kan' Zyong *See* **Fam Kan' Zyong**

Kao, B. G. (*with* Fosdick, Roger L.) Transverse deformations associated with rectilinear shear in elastic solids. *J. Elasticity* **8** (1978), *no.* 2, 117–142. (Cornelius O. Horgan) **58** #8672 73.41

Kao, Chung Siung Some methods of linear boundary crossing probabilities with results on exponential and normal distributions. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 151–159. (Madanlal T. Wasan) **52** #15685 60J15 (62L10)

On the time and the excess of linear boundary crossings of sample sums. *Ann. Statist.* **6** (1978), *no.* 1, 191–199. (Tze Leung Lai) **58** #13299 60F15 (60G50)

Kao, Edward P. C. Optimal replacement rules when changes of state are semi-Markovian. *Operations Res.* **21** (1973), *no.* 6, 1231–1249. (Author's summary) **56** #10893 90B25

A note on the first two moments of times in transient states in a semi-Markov process. *J. Appl. Probability* **11** (1974), 193–198. (Author's summary) **50** #5970 60K15

A discrete time inventory model with arbitrary interval and quantity distributions of demand. *Operations Res.* **23** (1975), *no.* 6, 1131–1142. (See Zbl **315** #90022) 90C50 (90B05)

On incremental analysis in resource allocations. *Operational Res. Quart.* **27** (1976), *no.* 3, *part* 2, 759–763. (Author's summary) **55** #14187 90B99

A preference order dynamic program for a stochastic traveling salesman problem. *Oper. Res.* **26** (1978), *no.* 6, 1033–1045. (Author's summary) **58** #20473 90C40

Kao, Peichuen Limiting diffusion for random walks with drift conditioned to stay positive. *J. Appl. Probability* **15** (1978), *no.* 2, 280–291. (Noël Veraverbeke) **57** #14152 60J15

Kao, Robert Approximate solutions by utilizing hill functions. *Computers & Structures* **3** (1973), 397–412. (Jacob Steinberg) **48** #7611 65L10

(*with* Perrone, Nicholas) A general finite difference method for arbitrary meshes. *Comput. & Struct.* **5** (1975), 45–57. (Sean McKee) **51** #9514 65N05

Kao, Shinji (*with* Goto, Motinori; Ninomiya, Tomoko) Determination of many-valued truth tables for undefined operators in axioms by a computer and their applications. *Proceedings of the Seventh International Symposium on Multiple-Valued Logic* (*Charlotte, N.C.*, 1977), *pp.* 20–28. *IEEE Comput. Soc., Long Beach, Calif.*, 1977. (Tôru Miyama) **57** #15953 02C05 (02–04)

Kao, Ti-jeun (*with* Jacobs, Marc Q.) An optimum settling problem for time lag systems. *J. Math. Anal. Appl.* **40** (1972), 687–707. (From the introduction) **58** #12580 49A30

Kapadia, Asha Seth The general N server finite queue. *J. Appl. Probability* **8** (1971), 828–834. (J. F. C. Kingman) **45** #2822 60K25

A k-server queue with phase input and service distribution. *Operations Res.* **21** (1973), 623–628. (Micha Yadin) **50** #8749 60K25

The correlated random walk in continuous time with barriers. *Canad. J. Statist.* **3** (1975), *no.* 1, 45–56. (A. Fuchs) **52** #15686 60J15

(*with* McInnis, Bayliss C.) A stochastic compartmental model with continuous infusion. *Bull. Math. Biology* **38** (1976), *no.* 6, 695–700. (Mario Primicerio) **58** #15572 93E10

(*with* Hsi, Bartholomew P.; Diamond, Harvey) Renewal processes with restriction on success runs. *SIAM J. Appl. Math.* **33** (1977), *no.* 4, 575–580. (John G. Basterfield) **56** #16818 60K05

Kapadia, C. H. (*with* Jones, G. M.; Owen, Donald B.; Bland, R. P.) On the distributions of the quasi-range and midrange for samples from a normal population. *Trabajos Estadist.* **24** (1973), *no.* 1-2, 115–121. (P. K. Sen) **50** #6020 62E15

(*with* Thomasson, R. L.) On estimating the parameter of a truncated geometric distribution by the method of moments. *Ann. Inst. Statist. Math.* **27** (1975), *no.* 2, 269–272. (Divakar Sharma) **52** #15800 62F10

(*with* Patel, Jagdish K.; Owen, Donald B.) ★Handbook of statistical distributions. Statistics Textbooks and Monographs. *Marcel Dekker, Inc., New York-Basel*, 1976. xiv + 302 *pp.* (Ramesh C. Gupta) **56** #9771 62E15

A note on triangular designs. *Gujarat Statist. Rev.* **4** (1977), *no.* 2, 60–63. (M. Atiqullah) **57** #1789 62K10

Kapadia, R. Paradox found. *Mind* **83** (1974), 296–297. (Editors) **58** #27231 02A05

Kapalin, V. I. (*with* Pupkov, K. A.) Application of Volterra series for the investigation of nonlinear systems. *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 2, 1–11; *translated as Problems of Control and Information Theory* (*English translation of the Communications in Russian*) **3** (1974), *no.* 2, 105–115. (Authors' summary) **57** #15618 93B99

(*with* Pupkov, K. A.; Juščenko, A. S.) ★**Функциональные ряды в теории нелинейных систем.** (Russian) [Functional series in the theory of nonlinear systems] **Теоретические Основы Технической Кибернетики.** [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat. "Nauka", Moscow*, 1976. 448 *pp.* (V. Komkov) **56** #14938 93C10

Kapanadze, Dž. V. A theorem on the continuity of W-functionals, and the strong convergence of W-measures. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **60** (1970), 21–24. (W. A. Woyczyński) **46** #2751 60J55

Riesz potentials and the Cartan topology. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **64** (1971), 267–268. (B. Walsh) **45** #5396 31C15 (60J45)

Newtonian potentials and a conjecture of E. B. Dynkin. (Russian) Questions of computational mathematics (collection dedicated to the memory of M. B. Gagua). *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **12** (1973), *no.* 1, 10–17. (J. G. Wendel) **48** #9862 60J45 (31B15)

A remark on linear and nonlinear potentials. (Russian) Questions on numerical mathematics and programming. *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Štrom.* **13/14** (1974/75), *no.* 2, 32–40. (M. A. Atahodžaev) **53** #11071 31A15

Nonlinear potentials. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **75** (1974), 45–48. (J. L. Doob) **50** #13574 31B15

S. Ja. Havinson's conjectures. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **15** (1975), *no.* 1 *Vyčisl. Mat. i Programmirovanie*, 35–40. (*loose errata*) (M. A. Atahodžaev) **57** #9985 31A10

The equilibrium and balayage principles. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **15** (1975), *no.* 1 *Vyčisl, Mat. i Programmirovanie*, 41–46. (*loose errata*) (J. Ławrynowicz) **54** #5483 31B15

Certain properties of α-harmonic functions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), *no.* 3, 537–540. (G. Albinus) **52** #8462 31B99

α-harmonic functions and their removable singularities. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **16**, *no.* 1 *Vyčisl. Mat. i Programmirovanie* (1976), 72–78. (*loose errata*) (M. A. Atahodžaev) **56** #15957 31B05

The balayage principle and the Dirichlet problem for a second order linear elliptic equation. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **17** (1977), *no.* 1, *Vyčisl. Mat. i Programmirovanie*, 114–119. (E. Schechter) **58** #6667 35J25

Equilibrium potentials and the weak topology. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **87** (1977), *no.* 3, 529–532. (M. A. Atahodžaev) **58** #6289 31A25

Kapanadze, G. A. A generalized Hilbert boundary value problem for several unknown functions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **72** (1973), 537–540. (E. Ungureanu-David) **49** #5368 30A88

A certain generalized Hilbert boundary value problem for several unknown functions in the case of a disc of unit radius. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **74** (1974), 25–28. (N. K. Karapetjanc) **49** #7461 30A88

A certain generalized Hilbert boundary value problem for several unknown functions with shifts. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **75** (1974), 25–28. (N. K. Karapetjanc) **50** #7537 30A88

A certain generalized Hilbert boundary value problem for several unknown functions with shifts. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 2, 277–280. (V. G. Kravčenko) **53** #5894 30A88

Kapanadze, R. V. The complete continuity of a certain integral operator. (Russian. Georgian summary) *Thbilis. Sahelmc. Univ. Gamoqeneb. Math. Inst. Šrom.* **3** (1972), 109–114. (N. K. Karapetjanc) **56** #6474 47G05

(*with* Čičinadze, R. K.) ★Некоторые граничные задачи динамики моментной теории упругости. (Russian) [Some boundary value problems of the dynamics of the moment theory of elasticity] Работы по Задачам Механики Сплошных Сред. [Publications on Problems of Continuum Mechanics] *Izdat. Tbilis. Univ., Tbilisi*, 1976. 96 *pp.* (J. Ignaczak) **55** #11774 73.35

Boundary value problems of elasticity theory for anisotropic homogeneous media. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **88** (1977), *no.* 2, 305–308. (Author's summary) **58** #14175 73.45

Boundary value problems of the dynamics of elasticity theory for anisotropic homogeneous media. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **90** (1978), *no.* 1, 41–44. (Author's summary) **58** #19569 73.35 (35Q99)

Kapcia, Andrzej Compléments aux traités de Kamke et de Murphy. I. Une généralisation des équations différentielles de Clairaut et de d'Alembert transformée aux équations différentielles des types connus. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **12(26)** (1971), 51–61. (From the author's introduction) **46** #2122 34A05

Les familles de fonctions conduisant aux équations différentielles implicites par rapport à la dérivée. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **13(27)** (1972), 43–49. (A. G. Kartsatos) **50** #665 34A05

Sur une généralisation des équations différentielles de Clairaut et de d'Alembert et sur ses solutions paramétriques. *Comment. Math. Prace Mat.* **17** (1973/74), 399–410. (R. E. Fennel) **49** #10945 34A05

Les équations différentielles implicites par rapport à la dérivée des familles de fonctions définies paramétriquement. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **16(30)** (1973), 75–83. (N. Hayek Calil) **52** #3638 34A05

Sur l'existence des solutions singulières d'une généralisation des équations différentielles de Clairaut et de d'Alembert. *Comment. Math. Prace Mat.* **18** (1974/75), 21–35. (N. Hayek Calil) **52** #6073 34A05

Compléments aux traités de Kamke et de Murphy. III. Quelques critères suffisants de l'intégrabilité effective de l'équation de Riccati avec deux coefficients arbitraires. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 119–126. (Author's summary) **58** #22714 34A05

Kaper, Bob (*with* Hoogstraten, H. W.) Propagation of sound waves in a moving medium. *J. Engrg. Math.* **5** (1971), 295–305. (N. Zitron) **50** #15564 76.35

(*with* Hoogstraten, H. W.) An asymptotic theory for a class of weakly nonlinear oscillations. *Arch. Rational Mech. Anal.* **58** (1975), *no.* 3, 239–260. (F. Brauer) **51** #13387 34E05

Asymptotics for a class of perturbed initial value problems. *New developments in differential equations* (*Proc. 2nd Scheveningen Conf., Scheveningen*, 1975), *pp.* 125–133. *North-Holland Math. Studies, Vol.* 21, *North-Holland, Amsterdam*, 1976. (F. Brauer) **57** #813 34E05

Nonlinear dispersive wave problems. *J. Math. Anal. Appl.* **54** (1976), *no.* 3, 865–879. (Clarence M. Ablow) **55** #3443 35E05 (35Q99)

Perturbed nonlinear oscillations. *SIAM J. Appl. Math.* **31** (1976), *no.* 3, 519–546. (Clarence M. Ablow) **55** #3442 34E05

Kaper, Hans G. (*with* Lindeman, Arthur J.; Leaf, Gary K.) A computational analysis and evaluation of the finite element method for a class of nuclear reactor configurations. *Comput. Methods Appl. Mech. Engrg.* **4** (1974), *no.* 1, 97–117. (O. Widlund) **52** #2244 65N25

(*with* Leaf, Gary K.) L^∞-error bounds for multivariate Lagrange approximation. *SIAM J. Numer. Anal.* **11** (1974), 363–381. (G. Nielson) **51** #1233 41A63

(*with* Leaf, Gary K.; Lindeman, Arthur J.) Formulation of a Ritz-Galerkin type procedure for the approximate solution of the neutron transport equation. *J. Math. Anal. Appl.* **50** (1975), 42–65. (C. V. Pao) **51** #2555 82.45 (65J05)

(*with* Zweifel, Paul F.) A report on the Fourth Conference on Transport Theory (Blacksburg, Va., March 10-13, 1975). *Transport Theory Statist. Phys.* **4** (1975), *no.* 3, 105–123. (C. V. Pao) **56** #14395 82.00

(*with* Leaf, Gary K.; Lindeman, Arthur J.) Interpolation and approximation properties of rational coordinates over quadrilaterals. *J. Approximation Theory* **16** (1976), *no.* 1, 1–15. (Eugene L. Wachspress) **54** #797 41A10 (65D05)

Integral operators generated by exponential integrals. *J. Math. Anal. Appl.* **59** (1977), *no.* 2, 216–226. (Toader Jucan) **56** #16458 47G05 (45H05)

Asymptotic evaluation of two families of integrals. *J. Math. Anal. Appl.* **59** (1977), *no.* 3, 415–422. (Norman Bleistein) **55** #13136 41A60

(*with* Kellogg, R. Bruce) Asymptotic behavior of the solution of the in transport equation in slab geometry. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 191–20 V. Pao) **56** #7682 82.45

(*with* Kellogg, R. Bruce) Continuity and differentiability properties of the sol of the linear transport equation. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 201–214. (Pao) **56** #7683 82.45

(*with* Hangelbroek, Rutger Jan; Leaf, Gary K.) Collocation methods for integro-differential equations. *SIAM J. Numer. Anal.* **14** (1977), *no.* 3, 377–390. (Manfred Feilmeier) **55** #9577 65R05

See also **Mathematical foundations of the finite element method with applicatio partial differential equations, 49** #11824 *and* **Conference: Transport Theory, 57** #

Kapetanović, Milorad On a class of sentential functions. *Publ. Inst. Math.* (*Beo* (*N.S.*) **22(36)** (1977), 127–129. (János Bagyinszki) **57** #9479 02C05 (02B05)

Kaphengst, Heinz (*with* Reichel, Horst) Operative Theorien und Kategorien von operativen Systemen. *Studien zur Algebra und ihre Anwendungen* (*mit Anwendung der Mathematik, Physik und Rechentechnik*), *pp.* 41–56. *Schr. Zentralinst. Math. Akad. Wissensch. DDR, No.* 16. *Akademie Verlag, Berlin*, 1972. (A. Pultr) **50** #46 18C10

(*with* Reichel, Horst) Initial algebraic semantics for non context-free langua *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977) 120–126. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (Edi **58** #25075 68A05 (68A30)

Kapica, P. L. (*with* Veselov, M. G.; Leontovič, M. A.) Vladimir Aleksandrovich (obituary). *Uspehi Fiz. Nauk* **117** (1975), *no.* 2, 375–376 (*Russian*); *translated as S Physics Uspekhi* **18** (1975), *no.* 10, 840–841. (Not reviewed) 01A70

Kapičin, I. I. *See* **Mathematical simulation and the theory of electrical circuits, 48** #32

Kapilevič, M. B. Radial transformation operators. (Russian) *Differencial'nye Uravneni* (1971), 1042–1056, 1140. (From the author's introduction) **55** #11606 65J05 (35A30)

Transformation formulae of radial type. (Russian) *Differencial'nye Uravneni* (1971), 1235–1249, 1341. (A. Haimovici) **45** #606 33A40

Radial couplings of equations of Bessel class. (Russian) *Dokl. Akad. Nauk S* **201** (1971), 1041–1044. (A. Haimovici) **47** #7246 35Q99

Kapiška, A. (*with* Ivanov, K. P.) A variational-difference scheme for the Navier-Sto equations in the stream functions in an arbitrary domain. (Russian) *Metody Vyčisl* (1976), 138–143, 188. (Authors' summary) **57** #11346 76.65

Kapitanova, M. Periodic oscillations of quasi-linear non-autonomous systems. (Bulga Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 1, 383– (1977). (Author's summary) **58** #11669 34C25

Kapitonenko, V. V. (*with* Savvin, A. B.) Restoration experiments in identification. *Avtomat. i Telemeh.* **1972**, *no.* 1, 155–160 (*Russian. English summary*); *translated Automat. Remote Control* **33** (1972), *no.* 1, *part* 2, 137–141. (Authors' summary) **56** #11178 93B30

See also **Csáki, Frigyes, 58** #9551

Kapitonov, B. V. On some properties of solutions of an operator equation related to problem of Sobolev. (Russian) *Dinamika Splošn. Sredy Vyp.* 17 *Bystroprotekaju Processy* (1974), 24–30, 116. (V. Komkov) **56** #16171 35Q99

The asymptotic behavior as $t\to\infty$ of the solution of a certain boundary va problem for S. L. Sobolev's equation. (Russian) *Dinamika Splošn. Sredy Vyp.* 21 *Teče. Židkost. so Svobod. Granicami* (1975), 48–54, 189. (M. S. Agranovič) **57** #678 35B40

Solvability in potential form of boundary value problems for the Sobolev equati (Russian) *Dinamika Splošn. Sredy Vyp.* 25 *Dinamika Tverd. Tela* (1976), 40–54, 1 (Author's introduction) **58** #12024 35Q99

Estimates of the solutions of boundary value problems as $t\to\infty$ for a system equations of gas dynamics. (Russian) *Dinamika Splošn. Sredy Vyp.* 27 *Dinami Neodnorodn. Židkosti* (1976), 45–50, 160. (Author's summary) **56** #14059 76.35

The solvability of the Dirichlet problem for the telegrapher's equation. (Russia *Sibirsk. Mat. Ž.* **17** (1976), *no.* 2, 273–281, 477. (A. Haimovici) **53** #13881 35Q99

Kapitonov, V. M. The rate of convergence of a sequence of distributions defined by autoregression scheme on a compact group. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 608–615. (I. Csiszár) **48** #9792 60B15

Kapītonova, Ju. V. On the question of estimating the length of a microprogram in a certa microprogram algebra. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, 1, 101–102. (From the author's introduction) **46** #3235 94A30

(*with* Gluškov, V. M.) Automatization of the search for proofs of theorems mathematical theories, and intelligence machines. (Russian. English summary insert *Kibernetika* (*Kiev*) **1972**, *no.* 5, 2–6. (Authors' summary) **47** #6158 68A45 (68A4

(*with* Ljaleckiĭ, A. V.; Malašonok, A. I.; Asel'derov, Z. M.; Kostyrko, V. Degtjarev, A. I.; Anufriev, F. V.) A brief survey and a bibliography of works on th automatization of the search for proofs of theorems in formal theories. (Russian. Englis summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 5, 7–18. (Authors' summary) **47** #6150 68A40

(*with* Gluškov, V. M.; Letičevs'kiĭ, O. A.; Malevanyĭ, N. P.; Veršinin, K. P.) O the construction of a practical formal language for the transcription of mathematic theories. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 5, 19–2 (Authors' summary) **47** #6149 68A40 (02H99)

(*with* Asel'derov, Z. M.; Anufriev, F. V.) Organization of data for the evidenc algorithm in the search for proofs of theorems in formalized theories. (Russian. Englis summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 5, 61–67. (Authors' summary) **47** #614 68A40

(*with* Gorohovskiĭ, S. S.; Letičevs'kiĭ, O. A.) The means of programming an solving logical problems in software systems (fundamental concepts of the language *L*2) (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 4, 27–47. (Hor Reichel) **48** #10180 68A05

(*with* Degtjarev, A. I.; Ljaleckiĭ, A. V.) Use of heuristic procedures in programs fo the search for proofs of theorems (a survey). (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 4, 76–89. (L. W. Szczerba) **48** #10220 68A40

(*with* Mihalēvič, V. S.; Ljaško, Ī. Ī.; Stognīĭ, A. O.; Sergiēnko, Ī. V.) ★Віктор ихайлович Глушков. (Ukrainian) [Viktor Mihaĭlovič Gluškov] Біобібліографія чених Українскої PCP. [Biobibliography of Ukrainian Scientists] *Vidavn. "Naukova umka", Kiev*, 1975. 62 *pp*. (Editors) **57** #5634 01A70

Discrete systems, and problems of their realization. I. (Russian. English summary sert) *Kibernetika* (*Kiev*) **1975**, *no*. 4, 7–10. (J. S. Joel) **58** #15736a 94A30 (93–01)

Discrete systems, and problems of their realization. II. (Russian. English summary sert) *Kibernetika* (*Kiev*) **1975**, *no*. 5, 21–26. (J. S. Joel) **58** #15736b 94A30 93–01)

(*with* Gluškov, V. M.; Letičevs'kiĭ, O. A.) The theory of data structures and ynchronous parallel computations. (Russian. English summary insert) *Kibernetika Kiev*) **1976**, *no*. 6, 2–15. (W. Kwasowiec) **57** #8119 68A05

See also **Software of electronic digital computers**, **50** #15253 *and* **Mathematical uestions of the theory of machine intelligence**, **56** #4211

za, P. L. *See* **Kapica, P. L.**

n, A. A. On the question of the realization of the method of feasible directions. Russian) *Optimizacija No*. 5(22) (1972), 99–105, 159. (B. T. Poljak) **49** #4571 0C25

On the characterization of penalty functions. (Russian) *Optimizacija No*. 8(25) 1972), 13–22, 126. (B. T. Poljak) **49** #2098 90C25

Characteristic properties of penalty functions. (Russian) *Dokl. Akad. Nauk SSSR* **10** (1973), 1018–1021. (From the author's introduction) **55** #12091 90C25 (65K05)

(*with* Kantorovič, L. V.; Makarov, V. L.; Romanovskiĭ, I. V.; Kutateladze, S. S.) ubinšteĭn, Gennadiĭ Solomonovič (Šlemovič) (on the occasion of his fiftieth birthday). Russian) *Optimizacija Vyp*. 9(26) (1973), 5–12. **58** #21304 01A70

(*with* Bulavskiĭ, V. A.; Zvjagina, R. A.; Šmyrev, V. I.) Studies in numerical ethods of mathematical programming. (Russian) *Optimizacija Vyp*. 13(30) (1974), 1–99, 168. (A. B. Pevnyĭ) **53** #15363 90C25

An example of "jamming" in the method of feasible directions. (Russian) *ptimizacija Vyp*. 14(31) (1974), 66–70, 183–184. (C. Bergthaller) **55** #9946 90C05

Some applications of mathematical programming to problems of mathematical hysics. (Russian) *Sibirsk. Mat. Ž*. **15** (1974), 1163–1170. (V. Komkov) **50** #5587 49D45 (90C30)

A remark on the Stone-Weierstrass theorem. (Russian) *Sibirsk. Mat. Ž*. **16** (1975), *no*. 5, 1113–1115, 1132. (Rosalind Reichard) **54** #5817 46E15

The rate of convergence of the penalty method. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no*. 2, 288–291. (Stefan Tigan) **54** #11149 49D30

(*with* Großmann, Christian) Penalty method in nonlinear programming (survey). (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no*. 2, 281–298. (Authors' summary) **56** #14720 90C30

On the question of the realization of the penalty method. (Russian) *Optimizacija No*. 19(36) (1977), 58–73, 154–155. (M. G. Dmitriev) **58** #33354 93C99 (90C25)

lan, A. V. The F. Browder theorem in linear topological spaces. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp*. 6 (1972), 38–42. (From the author's introduction) **56** #13001 47H10

lan, Alan E. *See* **Whitehead, Earl Glen, Jr.**, **50** #12736

lan, Alan J. (*with* Kruse, W. Karl) On a paper: "Stationary properties of a two-echelon inventory model for low demand items" (Operations Res. **19** (1971), no. 3, 761–773), by R. M. Simon. *Operations Res*. **21** (1973), *no*. 6, 1318–1322. (Authors' summary) **56** #10864 90B05

(*R.Q*) inventory problem with unknown mean demand and learning. *Naval Res. Logist. Quart*. **23** (1976), *no*. 4, 687–695. (N. U. Prabhu) **56** #4772 90B05

(*with* Orr, Donald A.) Data enrichment for simulation. *Simulation* **26** (1976), *no*. 6, 177–183. (Alfred E. Tong) **53** #9761 68A55

lan, Aroldo G. (*with* Putz, Robert Byrne) Harmonic forms and Riesz transforms for rank one symmetric spaces. *Bull. Amer. Math. Soc*. **81** (1975), 128–132. (Editors) **58** #29862 43A85

(*with* Cattani, Eduardo H.) Extension of period mappings for Hodge structures of weight two. *Duke Math. J*. **44** (1977), *no*. 1, 1–43. (A. L. Oniščik) **55** #5904 32J25 (32G20, 14C30, 14D05)

(*with* Putz, Robert Byrne) Boundary behavior of harmonic forms on a rank one symmetric space. *Trans. Amer. Math. Soc*. **231** (1977), *no*. 2, 369–384. (A. Korányi) **57** #16715 32M15 (22E30, 43A85)

plan, D. M. A mapping of spin matrices on polynomials. *Transport Theory Statist. Phys*. **1** (1971), *no*. 2, 81–100. (Martin Kummer) **58** #8862 81.15 (15A78)

plan, E. L. Algorithms for the solution of transportation-production problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 4, 136–141. (J. Terno) **58** #9237 90C10

plan, G. A. A certain class of integer programming problems. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 336–338. (C. Bergthaller) **48** #1695 90C10

plan, I. B. (*with* Pankov, A. S.) ★Ряды Фурье. (Russian) [Fourier series] *Vsesojuz. Zaočn. Inž.-Stroitel. Inst., Moscow*, 1967. 44 *pp*. (*errata inside back cover*) (Editors) **52** #14798 42–01

plan, I. G. ★Симметрия многоэлектронных систем. (Russian) [The symmetry of multielectron systems] *Izdat. "Nauka", Moscow*, 1969. 407 *pp*. (Editors) **53** #9913 81.22

The exclusion principle and indistinguishability of identical particles in quantum mechanics. *Uspehi Fiz. Nauk* **117** (1975), *no*. 4, 691–704 (*Russian*); *translated as Soviet Physics Uspekhi* **18** (1975), *no*. 12, 988–994. (Daniel A. Akyêampong) **56** #14223 81.22

aplan, Ignacio (*with* O'Brien, Horacio H.) The Witt group of certain classes of rings of integers. (Spanish) *Rev. Un. Mat. Argentina* **27** (1974/75), *no*. 1, 27–32. (J.-P. Lafon) **52** #3054 10C05

aplan, James L. Absolutely stable differential equations which are not integrally stable. *Seminar on Differential Equations and Dynamical Systems, II* (*Univ. Maryland, College Park, Md*., 1969), *pp*. 115–120. *Lecture Notes in Math., Vol*. 144, *Springer, Berlin*, 1970. (Editors) **52** #6122 34D20

(*with* Devinatz, Allen) Asymptotic estimates for solutions of linear systems of ordinary differential equations having multiple characteristic roots. *Indiana Univ. Math. J*. **22** (1972/73), 355–366. (R. E. O'Malley, Jr.) **46** #2168 34D05

Absolutely stable differential equations which are not integrally stable. *J. Differential Equations* **12** (1972), 21–33. (H. O. Tejumọla) **48** #11697 34D20

On the asymptotic behavior of Volterra integral equations. *SIAM J. Math. Anal*. **3** (1972), 148–156. (R. K. Miller) **46** #7827 45M05 (45D05)

Quickly oscillating solutions of autonomous differential delay equations. *Funkcial. Ekvac*. **16** (1973), 181–188. (R. E. O'Malley, Jr.) **50** #7740 34K15

Converse theorems for finite-time stability and practical stability. *IEEE Trans. Circuit Theory* **CT-20** (1973), 66–67. (See RŽMat **1973** #7 B207) 93D99

(*with* Jerome, Joseph W.) A unified approach to certain nonlinear initial value and boundary value problems. *J. Math. Anal. Appl*. **48** (1974), 31–42. (L. Erbe) **51** #985 34B15

(*with* Yorke, James A.) Ordinary differential equations which yield periodic solutions of differential delay equations. *J. Math. Anal. Appl*. **48** (1974), 317–324. (S. P. Hastings) **51** #1069 34K15

(*with* Lasota, Andrzej; Yorke, James A.) An application of the Waśewski retract method to boundary value problems. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No*. 16 (1974), 7–14. (J. W. Bebernes) **51** #986 34B15

(*with* Yorke, James A.) oward a unification of ordinary differential equations with nonlinear semi-group theory. *International Conference on Differential Equations* (*Proc., Univ. Southern California, Los Angeles, Calif*., 1974), *pp*. 424–433. *Academic Press, New York*, 1975. (Stefan Balint) **54** #670 34G05

(*with* Freedman, Marvin I.) Use of a non-linear clock in the perturbation analysis of time optimal control problems. *J. Comput. Appl. Math*. **1** (1975), *no*. 4, 219–228. (Claude-Michel Brauner) **57** #7317 49B50 (34E10)

(*with* Yorke, James A.) On the stability of a periodic solution of a differential delay equation. *SIAM J. Math. Anal*. **6** (1975), 268–282. (N. Onuchic) **50** #13812 34K15

(*with* Yorke, James A.) Existence and stability of periodic solutions of $x'(t)=-f(x(t),x(t-1))$. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I*., 1974), *Vol. II, pp*. 137–141. *Academic Press, New York*, 1976. (Editors) **58** #29009 34K15

(*with* Cooke, Kenneth L.) A periodicity threshold theorem for epidemics and population growth. *Math. Biosci*. **31** (1976), *no*. 1-2, 87–104. (Authors' summary) **58** #33129 92A15 (45D05)

(*with* Freedman, Marvin I.) Singular perturbations of two-point boundary value problems arising in optimal control. *SIAM J. Control Optimization* **14** (1976), *no*. 2, 189–215. (Mark D. Ardema) **53** #6037 34E15 (49E25)

(*with* Marotto, Frederick R.) Chaotic behavior in dynamical systems. *Nonlinear systems and applications* (*Proc. Internat. Conf., Univ. Texas, Arlington, Tex*., 1976), *pp*. 199–210. *Academic Press, New York*, 1977. (F. Hoppensteadt) **57** #4251 58F15

(*with* Yorke, James A.) On the nonlinear differential delay equation $x'(t)=-f(x(t),x(t-1))$. *J. Differential Equations* **23** (1977), *no*. 2, 293–314. (N. Onuchic) **55** #807 34K15

(*with* Freedman, Marvin I.) Perturbation analysis of an optimal control problem involving bang-bang controls. *J. Differential Equations* **25** (1977), *no*. 1, 11–29. (Gregory Knowles) **56** #9028 34H05 (49A35)

See also **Dynamical systems**, **58** #22710

Kaplan, L. I. (*with* Slobodnik, S. G.) Monotone transformations, and differentiability properties of functions. (Russian) *Mat. Zametki* **22** (1977), *no*. 6, 859–871. (J. S. Lipiński) **57** #6321 26A24

On the relative position of the sets on which the derivative is finite or infinite. (Russian) *Sibirsk. Mat. Ž*. **18** (1977), *no*. 4, 806–820, 956. (D. Preiss) **57** #553 26A27

Kaplan, M. A. (*with* Papetti, R. A.) A note on quadrilateral interpolation. *J. Assoc. Comput. Mach*. **18** (1971), 576–585. (N. N. Abdelmalek) **45** #9448 65D05

Kaplan, M. H. *See* **Control in space**, **48** #13320

Kaplan, Michael (*with* Fine, Terrence L.) Joint orders in comparative probability. *Ann. Probability* **5** (1977), *no*. 2, 161–179. (I. J. Good) **55** #4322 60A05

Kaplan, Norman A theorem on compositions of random probability generating functions and applications to branching processes with random environments. *J. Appl. Probability* **9** (1972), 1–12. (Author's summary) **45** #1273 60J80

Composition limit theorems for multidimensional probability generating functions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **25** (1972/73), 109–122. (F. Papangelou) **48** #9810 60F05 (60J80)

A continuous time Markov branching model with random environments. *Advances in Appl. Probability* **5** (1973), 37–54. (P. Jagers) **49** #4107 60J80

(*with* Karlin, Samuel) Criteria for extinction of certain population growth processes with interacting types. *Advances in Appl. Probability* **5** (1973), 183–199. (D. J. Daley) **49** #1605 60J85

The multitype Galton-Watson process with immigration. *Ann. Probability* **1** (1973), *no*. 6, 947–953. (E. Seneta) **50** #5955 60J80

Some results about multidimensional branching processes with random environments. *Ann. Probability* **2** (1974), 441–455. (K. B. Athreya) **51** #14296 60J80

A note on the supercritical branching processes with random environments. *Ann. Probability* **2** (1974), 509–514. (E. Seneta) **50** #8736 60J80

Multidimensional age-dependent branching processes allowing immigration: the limiting distribution. *J. Appl. Probability* **11** (1974), 225–236. (Anthony G. Pakes) **50** #11498 60J80

(*with* Pakes, Anthony G.) On the subcritical Bellman-Harris process with immigration. *J. Appl. Probability* **11** (1974), 652–668. (E. Seneta) **50** #14977 60J80

The supercritical p-dimensional Galton-Watson process with immigration. *Math. Biosci*. **22** (1974), 1–18. (K. B. Athreya) **51** #14297 60J80

Limit theorems for the integral of a population process with immigration. *Stochastic Processes Appl*. **2** (1974), 281–294. (Anthony G. Pakes) **50** #11499 60J80

(*with* Pakes, Anthony G.) Supercritical age-dependent branching processes with immigration. *Stochastic Processes Appl*. **2** (1974), *no*. 4, 371–389. (John Radcliffe) **52** #1914 60J80

Limit theorems for a $GI/G/\infty$ queue. *Ann. Probability* **3** (1975), *no*. 5, 780–789. (Douglas P. Kennedy) **54** #1420 60K25

(*with* Sudbury, Aidan; Nilsen, Trygve S.) A branching process with disasters. *J. Appl. Probability* **12** (1975), 47–59. (A. Agresti) **50** #14971 60J80

A note on the age-dependent branching process with immigration. *J. Appl. Probability* **12** (1975), 130–134. (Anthony G. Pakes) **50** #14972 60J80

A note on the supercritical generalized age-dependent branching process. *J. Appl. Probability* **12** (1975), 341–345. (Anthony G. Pakes) **51** #7028 60J80

The supercritical multitype age-dependent branching process. *J. Math. Anal. Appl.* **50** (1975), 164–182. (Anthony G. Pakes) **50** #14973 60J80

(*with* Athreya, Krishna B.) Convergence of the age distribution in the one-dimensional supercritical age-dependent branching process. *Ann. Probability* **4** (1976), *no.* 1, 38–50. (Thomas G. Kurtz) **53** #4264 60J80

(*with* Athreya, Krishna B.) Limit theorems for a branching process with disasters. *J. Appl. Probability* **13** (1976), *no.* 3, 466–475. (Torgny Lindvall) **54** #6302 60J80

(*with* Asmussen, Søren) Branching random walks. I. *Stochastic Processes Appl.* **4** (1976), *no.* 1, 1–13. (H. Kesten) **53** #4263a 60J80

(*with* Asmussen, Søren) Branching random walks. II. *Stochastic Processes Appl.* **4** (1976), *no.* 1, 15–31. (H. Kesten) **53** #4263b 60J80

Two applications of a Poisson approximation for dependent events. *Ann. Probability* **5** (1977), *no.* 5, 787–794. (Leopold Flatto) **56** #3918 60F05 (60D05)

A generalization of a result of Erdős and Rényi. *J. Appl. Probability* **14** (1977), *no.* 1, 212–216. (S. G. Mohanty) **55** #1398 60C05

A limit theorem for random coverings of a circle which do not quite cover. *J. Appl. Probability* **15** (1978), *no.* 2, 443–446. (F. W. Steutel) **58** #7775 60D05 (60F05)

Kaplan, Pierre Divisibilité par 8 du nombre des classes des corps quadratiques réels dont le 2-sous-groupe des classes est cyclique. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A887–A890. (Paul Hartung) **46** #9002 12A25

Cycles d'ordre au moins 8 dans le 2-groupe des classes des corps quadratiques. *Séminaire Delange-Pisot-Poitou* (14*e année*: 1972/73), *Théorie des nombres*, *Fasc.* 1, *Exp. No.* 11, 1 *p. Secrétariat Mathématique*, *Paris*, 1973. (Editors) **53** #2895 12A65

2-groupe des classes et facteurs principaux de $\mathbf{Q}(\sqrt{(pq)})$ où $p\equiv -q\equiv 1 (\mathrm{mod}\ 4)$. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A89–A92. (Paul Hartung) **47** #8479 12A25

Représentation de nombres premiers par des formes quadratiques binaires de discriminant $-\pi$, où $\pi\equiv 1$ (mod 4). *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1535–A1537. (Paul Hartung) **47** #8429 10B35 (10C05)

Divisibilité par 8 du nombre des classes des corps quadratiques dont le 2-groupe des classes est cyclique, et réciprocité biquadratique. réciprocité biquadratique. *J. Math. Soc. Japan* **25** (1973), 596–608. (Harvey Cohn) **48** #2113 12A50 (10C05)

Sur le 2-groupe des classes des corps quadratiques. *Journées Arithmétiques* (*Grenoble*, 1973), *pp.* 115–116. *Bull. Soc. Math. France Mém.* 37, *Soc. Math. France*, *Paris*, 1974. (Editors) **53** #2896 12A65

Comparaison des 2-groupes des classes d'idéaux au sens large et au sens étroit d'un corps quadratique réel. *Proc. Japan Acad.* **50** (1974), 688–693. (Paul Hartung) **52** #5626 12A50 (12A25)

Sur le 2-groupe des classes d'idéaux des corps quadratiques. *J. Reine Angew. Math.* **283/284** (1976), 313–363. (Jacques Martinet) **53** #8009 12A50 (12A65, 12A55)

Unités de norme -1 de $Q(\sqrt{p})$ et corps de classes de degré 8 de $Q(\sqrt{-p})$ où p est un nombre premier congru à 1 modulo 8. *Acta Arith.* **32** (1977), *no.* 3, 239–243. (Pierre Damey) **55** #2839 12A45 (12A25)

Cycles d'ordre au moins 16 dans le 2-groupe des classes d'idéaux de certains corps quadratiques. Utilisation des calculateurs en mathématiques pures (Conf., Limoges, 1975). *Bull. Soc. Math. France Mém. No.* 49-50 (1977), 113–124. (Jacques Martinet) **58** #5591 12A55 (12A65)

Kaplan, R. E. *See* **Applied mechanics**, **50** #11914

Kaplan, Robert S. Stochastic growth models. *Management Sci.* **18** (1971/72), 249–264. (A. L. Nagar) **45** #4803 90A99

(*with* Taylor, Howard M.; Gourley, Robert S.; Lawrence, Charles E.) Natural selection of life history attributes: an analytical approach. *Theoret. Population Biology* **5** (1974), 104–122. (Colin W. Clark) **48** #13308 92A05

Kaplan, S. A. *See* **Kurth, R.**, **53** #12506

Kaplan, Samuel Riemann and Lebesgue integrability. *J. London Math. Soc.* (2) **5** (1972), 459–464. (F. Cunningham, Jr.) **47** #7399 46E05 (26A42, 28A30, 46A40)

The unbounded bidual of $C(X)$. *Illinois J. Math.* **17** (1973), 619–645. (A. J. Lazar) **48** #12010 46E05

An example in the space of bounded operators from $C(X)$ to $C(Y)$. *Proc. Amer. Math. Soc.* **38** (1973), 595–597. (R. C. Buck) **47** #7505 47B55 (46A40, 46E05)

Kaplan, Seymour Readiness and the optimal redeployment of resources. *Naval Res. Logist. Quart.* **20** (1973), 625–638. (F. Giannessi) **48** #10451 90B05

Kaplan, Stanley An analogue of Gårding's inequality for parabolic operators and its applications. *J. Math. Mech.* **19** (1969/70), 171–187. (From the introduction) **58** #29251 35K25 (47F05)

Kaplan, T. A. (*with* Argyres, P. N.) Theory of the thermal single-determinant approximation. *Ann. Physics* **92** (1975), *no.* 1, 1–24. (J. V. Greenman) **52** #7418 82.49

Kaplan, V. M. Attainable classes of groupoids, quasigroups and loops. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 3, 604–616, 717. (N. I. Sandu) **58** #22369 20N05 (08A15)

Kaplan, V. S. Invariant solutions for the equations of a three-dimensional laminar boundary layer on developable surfaces. (Russian) *Izv. Akad. Nauk SSSR Ser. Meh. Židk. Gaza* **1975**, *no.* 4, 33–40. (Djordje Djukić) **56** #7460 76.35

Kaplan, Wilfred Analytic first integrals of ordinary differential equations. *Comment. Math. Helv.* **47** (1972), 205–212. (J. Rausen) **48** #602 34A20

★Advanced calculus. Second edition. *Addison-Wesley Publishing Co.*, *Reading*, *Mass.-London-Don Mills*, *Ont.*, 1973. xv + 709 *pp.* (Editors) **50** #2410 26–01

On partial differential equations of first order. *Topics in analysis* (*Colloq. Math. Anal.*, *Jyväskylä*, 1970), *pp.* 221–231. *Lecture Notes in Math.*, *Vol.* 419, *Springer*, *Berlin*, 1974. (E. Kreyszig) **51** #10847 35F05

Broadening the scope of mathematics and its applications. *Appl. Math. Notes* **1** (1975), *no.* 2, 47–63. (Editors) **52** #10289 (E **53** #12812) 00A05

On the three pole theorem. *Math. Nachr.* **75** (1976), 299–309. (I. I. Kolodner) **56** #16046 34C05 (30A52, 58F15, 55A10)

See also **Davis, Chandler**, **53** #12812

Kaplansky, Irving ★Algebraic and analytic aspects of operator algebras. Conference Board of the Mathematical Sciences Regional Conference Series in Mathematics, No. 1. *American Mathematical Society*, *Providence*, *R.I.*, 1970. iv + 20 *pp.* (G. A. Reid) **47** # 46L05 (46H05)

★Fields and rings. Second edition. Chicago Lectures in Mathematics. *The University of Chicago Press*, *Chicago*, *Ill.-London*, 1972. x + 206 *pp.* (Editors) **50** #2 13–02 (12–02, 16–02)

★Set theory and metric spaces. Allyn and Bacon Series in Advanced Mathemat *Allyn and Bacon*, *Inc.*, *Boston*, *Mass.*, 1972. xii + 140 *pp.* (From the author's prefa **56** #11795 04–01 (54–01)

Commutative rings. *Conference on Commutative Algebra* (*Univ. Kansas*, *Lawre Kan.*, 1972), *pp.* 153–166. *Lecture Notes in Math.*, *Vol.* 311, *Springer*, *Berlin*, 1973. (W Vasconcelos) **50** #12998 13–03

(*with* Butler, William) A curious property of three-by-three matrices and an application to orders. *Linear Algebra and Appl.* **6** (1973), 269–272. (G. L. Ca **47** #3417 15A30

Infinite-dimensional Lie algebras. Collection of articles dedicated to the memor Abraham Adrian Albert. *Scripta Math.* **29**, *no.* 3-4, 237–241 (1973). (Ralph K. Ama **53** #8170 17B65

★Commutative rings. Revised edition. *The University of Chicago Press*, *Chic Ill.-London*, 1974. ix + 182 *pp.* (Editors) **49** #10674 13–02

★Topics in commutative ring theory. Lecture notes. *Department of Mathemat University of Chicago*, *Chicago*, *Ill.*, 1974. ii + 99 *pp.* (W. V. Vasconcelos) **55** #32 13–XX

(*with* Brudno, Simcha) Equal sums of sixth powers. *J. Number Theory* **6** (19 401–403. (J. Blass) **51** #8026 10B15 (10B10)

★Bialgebras. Lecture Notes in Mathematics. *Department of Mathematics*, *University of Chicago*, *Chicago*, *Ill.*, 1975. iv + 57 *pp.* (S. I. Gel'fand) **55** #808 16A24 (14L05, 17B50)

Three-dimensional division algebras. II. *Houston J. Math.* **1** (1975), *no.* 1, 63–79. Goldman) **55** #5689b 16A46 (17A99)

(*with* Kibler, Robert E.) Infinite-dimensional Lie algebras. II. Collection of artic dedicated to Olga Taussky-Todd. *Linear and Multilinear Algebra* **3** (1975/76), *no.* 1, 61–65. (Ralph K. Amayo) **53** #8171 17B65

★An introduction to differential algebra. Second edition. Actualités Scientifiq et Industrielles, No. 1251. Publications de l'Institut de Mathématique de l'Université Nancago, No. V. *Hermann*, *Paris*, 1976. 64 *pp.* *ISBN* 2-7056-1252-3 (Editors) **57** #2 12H05

Three-dimensional division algebras. *J. Algebra* **40** (1976), *no.* 2, 384–391. Goldman) **55** #5689a 16A46 (17A99)

(*with* Freund, Peter G. O.) Simple supersymmetries. *J. Mathematical Phys.* (1976), *no.* 2, 228–231. (Anthony J. Bracken) **53** #7249 81.22 (22E70)

★Set theory and metric spaces. Second edition. *Chelsea Publishing Co.*, *New Yo* 1977. xii + 140 *pp.* *ISBN* 0-8284-0298-1 (Editors) **56** #5297 04–01 (54–01)

The Engel-Kolchin theorem revisited. *Contributions to algebra* (*collection of pap dedicated to Ellis Kolchin*), *pp.* 233–237. *Academic Press*, *New York*, 1977. (R. Thompson) **57** #3156 15A21 (20H20)

(*with* Herstein, Israel Nathan) ★Matters mathematical. *Chelsea Publishing* C *New York*, 1978. viii + 246 *pp.* (B. Artmann) **58** #15763 00A05

Infinite-dimensional Lie algebras. III. Memorial issue for Marston Morse. *Bu Inst. Math. Acad. Sinica* **6** (1978), *no.* 2, *part* 1, 363–377. (Ralph K. Amayo) **58** #221 17B05 (17B20)

Kaplinskaja, I. M. The discrete groups that are generated by reflections in the faces simplicial prisms in Lobačevskiĭ spaces. (Russian) *Mat. Zametki* **15** (1974), 159–164. S. Joel) **50** #13305 20H15 (50C15)

(*with* Vinberg, Ernest B.) The groups $O_{18,1}(Z)$ and $O_{19,1}(Z)$. (Russian) *Dokl. Aka Nauk SSSR* **238** (1978), *no.* 6, 1273–1275. (A. A. Bondarenko) **57** #16199 10C (20G20)

Kaplinskiĭ, A. I. (*with* Devjaterikov, I. P.; Cypkin, Ja. Z.) Convergence of learning algorithms. *Avtomat. i Telemeh.* **1969**, *no.* 10, 83–89 (*Russian. English summary translated as Automat. Remote Control* **1969**, *no.* 10, 1619–1626. **56** #10184 68A

(*with* Cypkin, Ja. Z.; Larionov, K. A.) Adaptation and learning algorithms und nonstationary conditions. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1970**, *no.* 5, 9– (*Russian*); *translated as Engrg. Cybernetics* **8** (1970), *no.* 5, 829–840. (Gerard G. Meyer) **46** #8487 68A45

Stochastic conditions for optimality. (Russian) *Operations research* (*models*, *system solutions*), *No.* 2 (*Russian*), *pp.* 119–124. *Vyčisl. Centr Akad. Nauk SSSR*, *Moscow*, 197 (C. Bergthaller) **47** #6375 93E20

(*with* Geršt, A. M.) Convergence of the continuous variant of thhe Robbins-Mon procedure. *Avtomat. i Telemeh.* **1971**, *no.* 1, 80–84 (*Russian. English summary*); *translated as Automat. Remote Control* **1971**, *no.* 1, *part* 1, 71–75. (See Zbl **225** #9302 62L20

(*with* Propoĭ, A. I.) Relationships among stochastic multistage games. *Izv. Aka Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 45–50 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 978–984. (R. L. Kashyap) **52** #2610 90D15

(*with* Devjaterikov, I. P.) A certain optimal algorithm of search for a root of th regression equation. (Russian) *Optimization*, *Operations research*, *Bionics* (*Russian*), *p* 66–69, 269. *Izdat. "Nauka"*, *Moscow*, 1973. (E. Nadaraja) **48** #12812 65H05 (62J05)

(*with* Propoĭ, A. I.) On multistep stochastic games. *Izv. Akad. Nauk SSSR Teh Kibernet.* **1973**, *no.* 2, 19–23 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 203–208. (Jaap Wessels) **52** #5060 90D15 (90D05)

(*with* Cypkin, Ja. Z.; Krasnenker, A. S.) Methods of local improvement in stochastic optimization problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 3–11 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 6, 889–897. (B. Bereanu **51** #5002 90C15

(*with* Černyšova, G. D.) Construction of probabilistic iterative algorithms for th solution of integer programming problems. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 9 *Sb. Rabot Prikl. Anal.* (1973), 34–38. (RŽMa **1974** #8 V522) **57** #9060 90C10

(*with* Krasnenker, A. S.; Cypkin, Ja. Z.) Randomization and smoothing in adaptation problems and algorithms. *Avtomat. i Telemeh.* **1974**, *no.* 6, 47–57 (*Russian*) nslated as *Automat. Remote Control* **35** (1974), *no.* 6, *part* 1, 913–921. (B. Bereanu) #16615 90C15 (65K05)

(*with* Krasnenker, A. S.) The multitest approach to the formation of multilevel orithms for stochastic optimization. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1975**, 4, 14–21. (Authors' summary) **57** #15441 90C15

(*with* Černyšova, G. D.) Method of adaptive algorithms for solving optimization oblems with Boolean variables. *Avtomat. i Telemeh.* **1976**, *no.* 10, 66–77 (*Russian. glish summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 10, *part* 1, 23–1532 (1977). (Authors' summary) **58** #20419 90C10

(*with* Krasnenker, A. S.) The formation of dialogue algorithms for vector timization. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 5, 32–37, 92. (Authors' mmary) **58** #9279 90C30

ović, G. Ja. (*with* Juzvinskiĭ, S. A.) The classification two-dimensional algebras thout zero divisors. (Russian) *Geometry and topology, No.* 2 (*Russian*), *pp.* 112–121. *ningrad. Gos. Ped. Inst., Leningrad*, 1974. (P. S. Landweber) **56** #15697 16A48 5F99)

ović, Ja. Š. On the question of finding limit cycles. (Russian) *Sverdlovsk. Gos. Ped. st. Naučn. Trudy Sb.* 185 *Mat. Vyp.* 6 (1974), 55–59. (L. Reiziņš) **54** #7946 34C05

Finding limit cycles by means of asymptotes. (Russian) *Sverdlovsk. Gos. Ped. Inst. učn. Trudy Sb.* 185 *Mat. Vyp.* 6 (1974), 60–64. (L. Reiziņš) **54** #7947 34C05

evatsky, Y. Generalization of Frobenius's method for stability analysis of orthotropic nular plates. (German summary) *Acta Mech.* **22** (1975), *no.* 3-4, 295–307. (J. azumdar) **53** #7189 73.35

r, Govind P. A note on the proximate order of functions analytic in the unit disc. urkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **36** (1971), 35–40 (1974). (L. Sons) **50** #10263 30A68

(*with* Juneja, Om P.) On the lower order of entire functions. *J. London Math. Soc.*) **5** (1972), 310–312. (Günter Frank) **47** #2059 30A64

(*with* Juneja, Om P.) On the lower order of an entire Dirichlet series. *Math. Ann.* 7 (1972), 128–132. (A. G. Azpeitia) **46** #2057 30A66

On the lower order of functions analytic in the unit disc. *Math. Japon.* **17** (1972), –54. (S. M. Shah) **49** #578 30A64

On the proximate order and maximum term of analytic functions in the unit disc. *ev. Roumaine Math. Pures Appl.* **18** (1973), 1207–1215. (S. Hellerstein) **48** #11503 A64

A new characterization of the exponential function. *Amer. Math. Monthly* **81** 974), 380–381. (T. H. MacGregor) **50** #13519 30A64 (33A10)

(*with* Bajpai, Shyam K.; Juneja, Om P.) On coefficients of entire Dirichlet series of st growth. (Italian summary) *Rend. Mat.* (6) **7** (1974), 457–479 (1975). (M. E. Noble) **1** #3439 30A62

(*with* Juneja, Om P.) Polynomial coefficients of entire series. *Yokohama Math. J.* **2** (1974), 125–133. (T. Kövari) **50** #10255 30A64

(*with* Bajpai, Shyam K.; Juneja, Om P.) On entire functions of fast growth. *Trans. mer. Math. Soc.* **203** (1975), 275–297. (Y. Komatu) **51** #8416 30A64

(*with* Juneja, Om P.) On the lower order of functions analytic in the unit disc. II. *ndian J. Pure Appl. Math.* **7** (1976), *no.* 3, 241–248. (S. M. Shah) **58** #6188 30A10

(*with* Juneja, Om P.; Bajpai, Shyam K.) On the (p,q)-order and lower (p,q)-order f an entire function. *J. Reine Angew. Math.* **282** (1976), 53–67. (Fred Gross) **54** #5464 30A64

On extreme rates of growth of functions analytic in a finite disc. *Riv. Mat. Univ. arma* (4) **2** (1976), 101–106. (L. R. Sons) **56** #3296 30A68

Two sufficient conditions for the MacLane class $\mathcal{A}$. *Colloq. Math.* **37** (1977), *no.* 1, 23–129. (A. Baillette) **57** #636 30A72

(*with* Juneja, Om P.; Bajpai, Shyam K.) On the (p, q)-type and lower (p, q)-type of n entire function. *J. Reine Angew. Math.* **290** (1977), 180–190. (R. P. Boas, Jr.) 5 #3255 30A66

or, J. n-square matrices which, under row permutations, leave the $(n-1)$th lementary symmetric function invariant. *Linear Algebra and Appl.* **5** (1972), 113–121. C. G. Cullen) **45** #6840 15A21

Orthogonal matrices as linear combinations of permutation matrices. *Linear lgebra and Appl.* **12** (1975), *no.* 3, 189–196. (R. A. Brualdi) **52** #8166 15A57

Matrices which, under row permutations, give specified values of trace function. *inear and Multilinear Algebra* **5** (1977/78), *no.* 2, 129–137. (M. Shafqat Ali) **58** #16722 15A21

or, K. (*with* Roy, S. R.) A finite axially symmetric electrostatic model in the general heory of relativity. *Progr. Math.* (*Allahabad*) 3 (1969), *no.* 1-2, 171–181. (P. S. Florides) **54** #4517 83.35

or, K. R. (*with* Kapur, P. K.) Correction to a paper by S. S. Srivastava, R. C. Garg, N. K. Malhotra, and S. Kumar: "Stochastic behaviour of a parallel redundant complex ystem with three types of components" (Computing (Arch. Elektron. Rechnen) 7 (1971), 83–90). *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), *no.* 3-4, 385–387. (D. Hochstädter) **53** #15325 90B25

(*with* Kapur, P. K.) A note on a paper by A. K. Govil and Santosh Kumar: "On the behaviour of an intermittently working system with three types of components" (Apl. Mat. **16** (1971), 1–9). (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 3, 168–172. (Editors) **53** #2335 90B25

oor, N. M. (*with* Jain, Pawan Kumar) On bases and projections in non-Archimedean Banach spaces. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 109–113. (L. Narici) **58** #2184 46B99

oor, Om Parkash (*with* Sundaresan, Kondagunta) T-orthogonality and nonlinear functionals on topological vector spaces. *Canad. J. Math.* **25** (1973), 1121–1131. (R. C. James) **48** #9330 46A15

Two applications of an intersection lemma. *J. Math. Anal. Appl.* **41** (1973), 226–233. (Ky Fan) **47** #3951 46B05 (52A40)

(*with* Panda, B. B.) Approximative compactness and continuity of metric projections. *Bull. Austral. Math. Soc.* **11** (1974), 47–55. (Ivan Singer) **50** #7916 (E **51** #8708) 41A65 (46B05)

(*with* Panda, B. B.) On equidistant sets in normed linear spaces. *Bull. Austral. Math. Soc.* **11** (1974), 443–454. (Bor-Luh Lin) **50** #10763 46B05

On an intersection lemma. *J. Math. Anal. Appl.* **45** (1974), 354–356. (V. Zizler) **50** #5420 46A99

(*with* Panda, B. B.) Corrigendum: "Approximative compactness and continuity of metric projections" (Bull. Austral. Math. Soc. **11** (1974), 47–55). *Bull. Austral. Math. Soc.* **12** (1975), 319–320. (Ivan Singer) **51** #8708 41A65 (46B05)

(*with* Panda, B. B.) A generalization of local uniform convexity of the norm. *J. Math. Anal. Appl.* **52** (1975), *no.* 2, 300–308. (E. J. Barbeau) **52** #1265 46B05

(*with* Panda, B. B.) On farthest points of sets. *Rev. Roumaine Math. Pures Appl.* **21** (1976), *no.* 10, 1369–1377. (M. Balanzat) **55** #11041 46G99 (46B05)

(*with* Panda, B. B.) On farthest points of sets. *J. Math. Anal. Appl.* **62** (1978), *no.* 2, 345–353. (S. Swaminathan) **57** #13455 46B99 (41A65)

Kapoor, S. F. Invert sets in complexes and their suspensions. *Indian J. Math.* **13** (1971), 75–82. (W. Metzler) **49** #3952 57C05

(*with* Bhat, Vasanti N.) The powers of a connected graph are highly Hamiltonian. *J. Res. Nat. Bur. Standards Sect. B* **75B** (1971), 63–66. (F. Harary) **47** #1673 05C99

(*with* Theckedath, K. K.) Highly traceable graphs. *Sankhyā Ser. A* **33** (1971), 211–216. (M. Aigner) **47** #3254 05C99

(*with* Lick, Don R.) A note on the powers of 2-connected graphs. *Elem. Math.* **27** (1972), 109–110. (J. Mitchem) **48** #1982 05C35

Expanding stars. *Colloq. Math.* **27** (1973), 63–68, 162. (Jane W. Di Paola) **49** #4847 05C30

Hypo-eulerian and hypo-traversable graphs. *Elem. Math.* **28** (1973), 111–116. (L. V. Quintas) **48** #3798 05C35

(*with* Bhat, Vasanti N.) Minimally n-Hamiltonian graphs. *J. Indian Math. Soc.* (*N.S.*) **37** (1973), 277–284 (1974). (D. R. Lick) **53** #2743 05C35

(*with* Chartrand, Gary; Kronk, Hudson V.) The many facets of Hamiltonian graphs. *Math. Student* **41** (1973), *no.* 3/4, 327–336 (1974). (F. Harary) **53** #5367 05C35

(*with* Stewart, M. James) A note on the Hamiltonian index of graphs. *Studia Sci. Math. Hungar.* **8** (1973), 307–308. (G. Chartrand) **50** #12805 05C35

(*with* Chartrand, Gary) On hamiltonian properties of powers of special hamiltonian graphs. *Colloq. Math.* **29** (1974), 113–117. (E. A. Nordhaus) **49** #132 05C35

(*with* Chartrand, Gary; Hobbs, Arthur M.; Jung, H. A.; Nash-Williams, C. St. J. A.) The square of a block is Hamiltonian connected. *J. Combinatorial Theory Ser. B* **16** (1974), 290–292. (R. L. Hemminger) **49** #10595 05C35

(*with* Bhat, Vasanti N.) Minimally $(p-6)$-Hamiltonian graphs. *J. Indian Math. Soc.* (*N.S.*) **38** (1974), *no.* 1,2,3,4, 207–214 (1975). (G. Chartrand) **54** #7307 05C35

(*with* Lesniak-Foster, Linda M.) On the domination of functions by graphs. *Colloq. Math.* **36** (1976), *no.* 1, 157–162. (D. P. Geller) **55** #10328 05C99

(*with* Polimeni, Albert D.; Wall, Curtiss E.) Degree sets for graphs. *Fund. Math.* **95** (1977), *no.* 3, 189–194. (J. A. Kabell) **58** #381 05C99

Kapoor, V. K. Some theorems on integral transforms. *Gaṇita* **22** (1971), *no.* 2, 17–26. (U. C. Jain) **48** #2678 44A15

Some theorems on a generalized Stieltjes transform. *J. Sci. Res. Banaras Hindu Univ.* **22** (1971/72), *no.* 2, 41–49. (P. C. Golas) **58** #12219 44A10

(*with* Masood, S.) On a generalization of Hankel transform and self-reciprocal functions. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 1, 32–40. (V. P. Mainra) **45** #9066 44A15

Kapos, Demetrios A. Georges Sterghiou (1907–1977). (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **20(53)** (1977), *no.* 4, 347–348. (Editors) **58** #85 01A70

Kapp, Kenneth M. Bi-ideals in associative rings and semigroups. *Acta Sci. Math.* (*Szeged*) **33** (1972), 307–314. (S. Lajos) **47** #8630 16A66 (20M10)

(*with* Bacławski, Kenneth) Induced topologies for quasigroups and loops. *Pacific J. Math.* **45** (1973), 393–402. (D. R. Brown) **49** #3018 22A99

On n°-regular semigroups. *Czechoslovak Math. J.* **24(99)** (1974), 171–175. (Joseph Chacron) **50** #2374 20M10

Kappauf, Charles H. A note on: "The equivalence of integer programs to constrained recursive systems" (Management Sci. **19** (1972/73), 809–824) by P. S. Nanda. *Management Sci.* **21** (1974/75), *no.* 12, 1471–1476. (Author's summary) **57** #11737b 90C10

Kappe, Luise-Charlotte Coverings by word subgroups. *Arch. Math.* (*Basel*) **22** (1971), 117–127. (C. Y. Tang) **46** #9182 20F99

On Levi-formations. *Arch. Math.* (*Basel*) **23** (1972), 561–572. (Peter M. Neumann) **47** #3517 20D15

(*with* Kappe, Wolfgang P.) On three-Engel groups. *Bull. Austral. Math. Soc.* **7** (1972), 391–405. (H. Heineken) **47** #3550 20F45

(*with* Kappe, Wolfgang P.) Metabelian Levi-formations. *Arch. Math.* (*Basel*) **25** (1974), 454–462. (Peter M. Neumann) **51** #3294 20D10

Kappe, Wolfgang P. (*with* Kappe, Luise-Charlotte) On three-Engel groups. *Bull. Austral. Math. Soc.* **7** (1972), 391–405. (H. Heineken) **47** #3550 20F45

(*with* Kappe, Luise-Charlotte) Metabelian Levi-formations. *Arch. Math.* (*Basel*) **25** (1974), 454–462. (Peter M. Neumann) **51** #3294 20D10

Automorphisms and abelian subgroups. *Symposia Mathematica, Vol. XVII* (*Convegno sui Gruppi Infiniti, INDAM, Rome*, 1973), *pp.* 301–312. *Academic Press, London*, 1976. (Seymour Bachmuth) **53** #13421 20F55

Kappel, Franz Systeme mit linearem Hauptteil und linearen Abschätzungen für die Störfunktion. (English and Russian summaries) *Z. Angew. Math. Mech.* **52** (1972), 213–225. (D. Schmidt) **46** #9465 34D10

Some remarks to the problem of degeneracy for functional-differential equations. *Équations différentielles et fonctionnelles non linéaires* (*Actes Conf. Internat. "Equa-Diff 73", Brussels/Louvain-la-Neuve*, 1973), *pp.* 463–471. *Hermann, Paris*, 1973. (Editors) **55** #8515 34K15

(*with* Knobloch, H. W.) ★Gewöhnliche Differentialgleichungen. Mathematische Leitfäden. *B. G. Teubner, Stuttgart*, 1974. 332 *pp.* (U. Simon (Zbl **283** #34001)) **58** #28735 34–01 (49–01, 58–01)

Degeneracy of functional differential equations. *International Conference on Differential Equations* (*Proc., Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 434–448. *Academic Press, New York*, 1975. (S. Leela) **54** #683 34K15

(*with* DiPasquantonio, F.) Stability criteria for kinetic reactor equations. *Arch. Rational Mech. Anal.* **58** (1975), *no.* 4, 317–338. (V. M. Popov) **53** #8617 34K20

A stability criterion for linear autonomous functional differential equations.

Dynamical systems (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. II, pp.* 103–107. *Academic Press, New York*, 1976. (Editors) **58** #29020 34K20

Laplace-transform methods and linear autonomous functional-differential equations. *Ber. Math.-Statist. Sekt. Forsch. Graz No.* 64 (1976), 1–62. (R. S. Dahiya (Zbl **352** #34058)) **58** #29029 34K99

(*with* Wimmer, Harald K.) An elementary divisor theory for autonomous linear functional differential equations. *J. Differential Equations* **21** (1976), *no.* 1, 134–147. (Robert M. Bullock) **53** #11188 34K05

On degeneracy of functional-differential equations. *J. Differential Equations* **22** (1976), *no.* 2, 250–267. (B. Stephan) **54** #13259 34K15

Degenerate difference-differential equations: algebraic theory. *J. Differential Equations* **24** (1977), *no.* 1, 99–126. (A. Halanay) **55** #5977 34K05 (58F99)

Kappenman, Russell F. (*with* Geisser, Seymour; Antle, Charles E.) Bayesian and fiducial solutions for the Fieller-Creasy problem. *Sankhyā Ser. B* **32** (1970), 331–340. (R. J. Buehler) **47** #1188 62F15

(*with* Geisser, Seymour) A posterior region for parallel profile differentials. *Psychometrika* **36** (1971), 71–78. (A. K. Gayen) **47** #7883 62P15

Conditional confidence intervals for double exponential distribution parameters. *Technometrics* **17** (1975), 233–235. (I. Guttman) **51** #7125 62F25

Tolerance intervals for the double exponential distribution. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 360, *part* 1, 908–909. (I. Guttman) **57** #1751 62F25 (62N05)

Kappos, Dēmētrios A. ★Probability algebras and stochastic spaces. Probability and Mathematical Statistics, 7. *Academic Press, New York-London*, 1969. x+267 *pp.* (Editors) **57** #4271 60A05 (28A60)

Generalized stochastic integral. (French summary) *Les probabilités sur les structures algébriques* (*Actes Colloq. Internat. du CNRS, No.* 186, *Clermont-Ferrand*, 1969), *pp.* 223–232. *Éditions Centre Nat. Recherche Sci., Paris*, 1970. (Author's summary) **54** #8860 60H05 (28A55)

Generalized probability with applications to the quantum mechanics. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 253–270. *Greek Math. Soc., Athens*, 1974. (M. J. Mączyński) **57** #18646 81.60 (81.06)

Measure theory on orthomodular posets and lattices. *Measure theory* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 323–343. *Lecture Notes in Math., Vol.* 541, *Springer, Berlin*, 1976. (Beloslav Riečan) **58** #28423 28A60 (81.06)

Kapral, Raymond (*with* Hynes, James T.; Weinberg, Michael) Nonlinear momentum relaxation of an impurity in a harmonic chain. *J. Statist. Phys.* **13** (1975), *no.* 5, 427–449. (A. K. Rajagopal) **56** #7714 82.60

(*with* Hynes, James T.; Weinberg, Michael) Particle rotation and translation in a fluid with spin. *Phys. A* **87** (1977), *no.* 3, 427–452. (M. Drăganu) **57** #8378 76.35

(*with* Bedeaux, Dick; Mazur, P.) The effective shear viscosity of a uniform suspension of spheres. *Phys. A* **88** (1977), *no.* 1, 88–121. (Authors' summary) **56** #10677 82.53

Kapralov, N. S. On the estimation of the quality of a control. (Russian) *Trudy Rjazan. Radiotehn. Inst. No.* 28 (*Differencial'nye Uravnenija*) (1971), 77–82. (Wolfdietrich Müller) **51** #13382 34D20

Kapranov, Ju. I. Fresh water lens produced by uniform infiltration. *Prikl. Mat. Meh.* **38** (1974), *no.* 6, 1048–1055 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), *no.* 6, 994–1001 (1975). (Author's summary) **54** #4280 76.30

Kapšivii, O. O. (*with* Masljuk, G. F.) An application of p-analytic functions to the solution of a mixed axially symmetric problem of elasticity theory for half-space. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 5 (1968), 60–71. (N. Pahareva (RŽMat **1969** #4 B359)) **45** #8082 73.30

(*with* Masljuk, G. F.) Solution of a certain axially symmetric problem of elasticity theory for halfspace by the method of p-analytic functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 6 (1968), 125–130. (Authors' summary) **45** #8083 73.30

Solution of a certain axially symmetric problem of a system of two presses by the method of p-analytic functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 7 (1969), 94–101. (Author's summary) **45** #8110 73.45

(*with* Masljuk, G. F.) The solution of the first fundamental problem of axially symmetric elasticity theory for a space with plane fissures by the method of p-analytic functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 8 (1969), 65–79. **45** #4719 73.30

(*with* Položiĭ, G. M.) Problems of linear conjugation of p-analytic functions with the characteristic $p=x$. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 10 (1970), 49–66. (J. G. Krzyż) **45** #7084 30A94

On a solution of the fundamental mixed axially symmetric problem of elasticity theory for half space by the method of p-analytic functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 11 (1970), 3–15. (Author's summary) **45** #4720 73.30

(*with* Lomonos, L. N.) The solution of axially symmetric problems of elasticity theory for a ball and for space with a spherical cavity, by the method of p-analytic functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 11 (1970), 96–107. (Authors' summary) **45** #4721 73.30

On the solution of axially symmetric problems of potential theory and of elasticity theory for a space with a plane circular aperture. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 12 (1970), 23–37. **45** #2965 73.31

(*with* Nogīn, M. V.) On the solution of the fundamental problems of axially symmetric elasticity theory for the space with a spherical slit. (Russian) *Mathematical physics, No.* 9 (*Russian*), *pp.* 38–47. *Naukova Dumka, Kiev*, 1971. (J. L. Nowinski) **45** #6240 73.30

The solvability of certain boundary value problems for p-analytic functions with the characteristic $p=x$. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv.* **1971**, *no.* 13, 24–32, 146. (B. A. Bondarenko) **46** #7526 30A94

(*with* Lomonos, L. N.) Certain representations of p-analytic functions with the characteristic $p=x$ and their application to the solution of axially symmetric problems of elasticity theory. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 13 (1971), 53–63. (Authors' summary) **46** #2945 73.30

(*with* Nogīn, M. V.) A solution of the problem of the complex x-analytic potential of two spherical discs. (Russian. German summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 15 (1971), 37–47. (R. P. Boas, Jr.) **46** #5646 30A94 (31B20)

(*with* Lomonos, L. N.) On the solution of axially symmetric problems of potent theory and elasticity theory for a ball and for a space with a spherical cavity. (Russi English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 15 (1971), 129–140. (Authors' summary) **46** #2946 73.30

The fundamental integral representation of x-analytic functions, and applications it to the solution of certain integral equations. (Russian) *Mathematical physics, No.* (*Russian*), *pp.* 38–46, 167. *Izdat. "Naukova Dumka", Kiev*, 1972. (V. Mićić) **48** #115 30A94

(*with* Jakovenko, V. M.) A certain problem of linear conjugacy of p-analy functions with characteristic $p=x^k$. (Ukrainian. English and Russian summarie *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 14 (1972), 72–80, 149. (M. Ī. Nagnibi **56** #5905 30A94

(*with* Jakovenko, V. M.) Solution of boundary value problems of x^k-analy functions for a half plane with a slit along an arc of a circle. (Russian. English summar *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 20 (1973), 32–44, 163. (G. Wildenhain) **47** #8877 30A94

(*with* Kopystyra, N. P.) Axially symmetric problems for an elastic space with system of coaxial circular cuts. (Russian) *Prikl. Meh.* **10** (1974), *no.* 10, 113–119, 14 (Authors' summary) **54** #9236 73.30

(*with* Jakovenko, V. M.) A mixed boundary value problem of x^k-analytic functio for a half-disk and for a half-plane with a half-disk removed. (Russian. Englis summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 23 (1974), 105–115, 175. (N. K. Karapetjan **49** #10890 30A88

(*with* Jakovenko, V. M.) A mixed boundary value problem of x^k-analytic functio for a half-plane with a cut along the real axis. (Russian. English summary) *Vyčisl. Prik Mat.* (*Kiev*) *No.* 24 (1974), 3–10, 157. (Authors' summary) **50** #4969 30A88

The application of p-analytic functions in the mechanics of a viscous incompressibl fluid. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 24 (1974), 62–68, 15 (E. Ungureanu-David) **51** #9632 76.30

(*with* Kopystyra, M. P.) The problem of the complex x-analytic potential of system of coaxial circular discs. (Ukrainian. English and Russian summaries) *Dopovi Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 110–113, 187. (P. T. Mocanu) **53** #2102 73.31

Problems on the complex x-analytic potential of a system of concentric spherica discs. (Russian) *Mat. Fiz. Vyp.* 17 (1975), 120–128, 190. (Author's summary) **56** #15955 30A94

(*with* Stojan, N. M.) Solution of the axially symmetric problems of elasticity theor for a two-sheeted hyperboloid and for a half-space with a hyperboloidal sheet by th method of p-analytic functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev No.* 25 (1975), 3–13, 142. (M. Mişicu) **52** #9749 73.30

Problems on the complex x-analytic potential of a system of balls. (Russian. Englis summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 27 (1975), 3–10, 152. (S. V. Temko) **52** #355 31A30

(*with* Bīlonosov, S. M.; Čornous, K. A.) A certain nonstationary problem of axiall symmetric flow of a viscous incompressible fluid. (Russian. English summary) *Dokl Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 2, 131–134, 191. (Simona Popp) **55** #4899 76.35

(*with* Bīlonosov, S. M.; Čornous, K. A.) The axially symmetric flow of a viscou incompressible fluid. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 3 (1976), 116–125, 157. (M. Yanowitch) **57** #8364 76.35

(*with* Stojan, N. M.) The approximate solution of complex x-analytic potential problems for a half-plane with a cut. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 30 (1976), 126–134, 158. (Authors' summary) **56** #12288 31A25

(*with* Stojan, N. M.) The fundamental mixed axially symmetric problem for an elastic two-sheeted hyperboloid of revolution. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 11, 1005–1011, 1056. (Authors' summary) **57** #8325 73.45

(*with* Stojan, N. M.) A mixed axially symmetric problem for an elastic half-space with a hyperboloidal sheet. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 19 (1977), 130–139, 153. (Authors' summary) **58** #25234 73.30

(*with* Kopystyra, N. P.) The first fundamental axially symmetric problem for an elastic space with two circular coaxial cuts. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 33 (1977), 3–10, 158. (Authors' summary) **57** #8281 73.30

(*with* Stojan, N. M.) Solution of certain axially symmetric problems of the theory of elasticity for a one-sheeted hyperboloid using the method of p-analytic functions. (Russian) *Mat. Fiz. Vyp.* 23 (1978), 56–63, 114. (Authors' summary) **58** #19520 73.30

Kapturkiewicz, K. On the mixed problem for the Poisson equation in the quart-plane. *Comment. Math. Prace Mat.* **20** (1977), *no.* 1, 97–109. (R. B. Kelman) **57** #858 35J05 (35J25)

Kapuano, I. Connexité et propriété de Baire. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **14(62)** (1970), 353–366 (1971). (S. A. Naimpally) **50** #4849 26A21 (54F20)

Kapur, J. N. On transition from deterministic to stochastic model. I. *J. Math. Sci.* 6 (1971), 55–66 (1974). (From the introduction) **58** #4395 92–XX

On transition from deterministic to stochastic models. I. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 17–27 (1974). (T. Kaczorek) **53** #5072 93A10 (92A05)

Mathematical models in biology and medicine. *Math. Student* **41** (1973), *nos.* 3/4, 225–242 (1974). (Editors) **51** #9852 92–XX

Generalised entropies for a continuous random variate. *Math. Student* **42** (1974), 353–360 (1975). (Suguru Arimoto) **53** #7613 94A15

Generalised Pascal's triangles. *Math. Education* **9** (1975), *no.* 4, B80–B86. (Heiko Harborth) **54** #223 10A30

Some identities for generalised Fibonacci numbers. *Acta Ci. Indica* **2**, *no.* 2, 134–143 (1976). (Author's summary) **55** #255 10A35

Culture, excitement and relevance of mathematics. *Internat. J. Math. Ed. Sci. Tech.* 7 (1976), *no.* 2, 161–180. (Editors) **58** #4751 00A05

Generalised Pascal's triangles and generalised Fibonacci numbers. *Pure Appl. Math. Sci.* 3 (1976), *no.* 1-2, 93–100. (R. N. Jain) **53** #13101 10A35

Professor P. L. Bhatnagar (1912–1976). *Math. Education* **11** (1977), *no.* 1, B1–B4. Editors) **55** #5356 01A70

Professor P. L. Bhatnagar (1912–1976). *Pure Appl. Math. Sci.* **5** (1977), *no.* 1-2, i–iii. Editors) **58** #16029 01A70

Stability analysis of continuous and discrete population models. *Indian J. Pure ppl. Math.* **9** (1978), *no.* 7, 702–708. (Howard B. Stauffer) **58** #15306 92A15 34D99, 39A12)

(*with* Khan, Q. J. A.) Bifurcation theory for two population models. *Indian J. Pure ppl. Math.* **9** (1978), *no.* 8, 787–796. (Authors' summary) **58** #20607 92A15

Limiting optimal exploitation of multispecies community. *Indian J. Pure Appl. Math.* **9** (1978), *no.* 9, 876–880. (Author's summary) **58** #20608 92A15

Some problems in biomathematics. *Internat. J. Math. Ed. Sci. Tech.* **9** (1978), *no.* 3, 87–306. (Abraham Boyarsky) **58** #9355 92–02

r, Kailash C. An algorithm for linear optimal control systems with state-space onstraints. *Internat. J. Control* (1) **14** (1971), 873–879. (Bojan Popović) **47** #4680 3C05

(*with* Beckmann, Martin J.) Conjugate duality: some applications to economic heory. *J. Econom. Theory* **5** (1972), *no.* 2, 292–302. (Authors' summary) **56** #10784 0A15 (90C30)

On project cost-duration analysis problem with quadratic and convex cost functions. ncorporating the results of discussion by Gerald L. Thompson. *Symposium on the Theory of Scheduling and its Applications* (*North Carolina State Univ., Raleigh, N.C.,* 972), *pp.* 324–358. *Lecture Notes in Economics and Mathematical Systems, Vol.* 86, *Springer, Berlin,* 1973. (Jacques A. Ferland) **52** #16661 90C50 (90B35)

On cutoff optimization methods in infinite-dimensional spaces and applications. *J. Optimization Theory Appl.* **12** (1973), 16–31. (Paul Binding) **48** #12827 65K05

On max-min problems. *Naval Res. Logist. Quart.* **20** (1973), 639–644. (Abraham Berman) **51** #13816 49A40 (90C30)

(*with* Belenson, Sheldon M.) An algorithm for solving multicriterion linear programming problems with examples. *Operational Res. Quart.* **24** (1973), 65–77. (M. Mañas) **49** #2077 90C05

See also **Optimization and design**, **48** #3456

r, P. K. (*with* Kapoor, K. R.) Correction to a paper by S. S. Srivastava, R. C. Garg, N. K. Malhotra, and S. Kumar: "Stochastic behaviour of a parallel redundant complex system with three types of components" (Computing (Arch. Elektron. Rechnen) 7 (1971), 83–90). *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), *no.* 3-4, 385–387. (D. Hochstädter) **53** #15325 90B25

(*with* Kapoor, K. R.) A note on a paper by A. K. Govil and Santosh Kumar: "On the behaviour of an intermittently working system with three types of components" (Apl. Mat. **16** (1971), 1–9). (Czech and loose Russian summaries) *Apl. Mat.* **21** (1976), *no.* 3, 168–172. (Editors) **53** #2335 90B25

ścik, E. The multiplication law in quantum physics. I. The non-relativistic quantum mechanics. *Acta Phys. Polon. B* **5** (1974), 497–505. (Editors) **55** #1982 81.47

The multiplication law in quantum physics. II. The relativistic quantum field theory. *Acta Phys. Polon. B* **5** (1974), 663–675. (Editors) **55** #1983 81.47

usta, A. B. (*with* Britov, N. A.) The absence of two-dimensional flows between concentric rotating cylinders. (Russian) *Mat. Fiz. Vyp.* 17 (1975), 85–89, 189. (D. A. Lee) **57** #8369 76.35

ustin, V. F. (*with* Abramov, L. M.) ★Математическое программирование. (Russian) [Mathematical programming] *Izdat. Leningrad. Univ., Leningrad,* 1976. 183 *pp.* (Ştefan Ţigan) **57** #15405 90Cxx

ustinskas, Aloyzas (*with* Baltrūnas, Jonas) The applicability of a partial autocorrelation function to the determination of the order of an autoregression process with noise in the observations. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 10 (1975), 69–84. (Authors' summary) **57** #5328 93E10

Expressions of the Mehra method that are recurrent with respect to the number of parameters of the autoregression model. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1976**, *no.* 5(96), 125–129. (Author's summary) **58** #9669 93E10

Estimation of the parameters of a periodically nonstationary autoregression process. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1977**, *no.* 4(101), 115–121. (Ju. I. Petunin) **57** #4453 62M10

ustka, Emanuel Remarques sur les propriétés fondamentales de géométrie sous-affinée diagonale. *Demonstratio Math.* **8** (1975), *no.* 3, 281–293. (M. Kucharzewski) **52** #4150 53A40

ustnikov, A. A. Effective Lagrangian of the $\rho\pi$ system in a theory of the Yang-Mills type. *Jadernaja Fiz.* **24** (1976), *no.* 4, 831–834 (*Russian*); *translated as Soviet J. Nuclear Phys.* **24** (1976), *no.* 4, 433–435. (Author's summary) **56** #1983 81.22

Gauge fields on a subgroup of vacuum stability in nonlinear realization. (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no.* 2, 268–272. (Author's summary) **56** #7533 81.22

put, James J. Locally adjunctable functors. *Illinois J. Math.* **16** (1972), 86–94. (G. Georgescu) **45** #334 18A40

puy, Ede *See* **Reduced density operators with applications to physical and chemical systems**, **52** #7399

pylov, A. K. (*with* Čerdyncev, V. A.) Optimum filtering of signals with discontinuous and discrete stochastic parameters. *Radiotehn. i Èlektron.* **22** (1977), *no.* 5, 941–950 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **22** (1977), *no.* 5, 40–48. (Seihaku Higuchi) **57** #17807 60G35

pyrin, V. A. (*with* Ivnickiĭ, V. A.) On the time of first overflow of a queue in an unreliable servicing system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 5, 100–108 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 5, 75–83. (Authors' summary) **57** #1700 60K25

A study of the stationary characteristics of a queueing system with recurring demands. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 4, 106–110. (Bruce D. Craven) **58** #7912 60K25

r, A. K. (*with* Lahiri, B. K.) On certain spaces of transformations of integral functions. *Indian J. Mech. Math.* **13** (1975), *no.* 1-2, 19–27. (K. F. Klopfenstein) **58** #11404 30A66

Kar, Samir The (φ, 1) rectifiable subsets of Euclidean space. *Trans. Amer. Math. Soc.* **237** (1978), 353–371. (Jean E. Taylor) **58** #7340 49F20

Kara, H. (*with* Mandrekar, Vidyadhar; Park, G. L.) Wide-sense martingale approach to linear optimal estimation. *SIAM J. Appl. Math.* **27** (1974), 293–302. (T. Kailath) **52** #2691 93E10

Karabanov, A. P. A class of (*b*)-complete *KN*-spaces. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 3, 708–710, 720. (Ju. A. Abramovič) **56** #9222 46A40

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region**, **46** #1532

Karabanov, V. A. (*with* Voronov, E. M.; Maslov, A. P.) On the solution of a certain class of game problems. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1973**, *no.* 11, 1189–1194. (A. B. Kuržanskiĭ) **49** #4590 90D25

(*with* Voronov, E. M.; Maslov, A. P.) A game approach to solution of the problem of mutual counteraction of two moving objects. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, 22–29 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 3, 19–25. (A. B. Kuržanskiĭ) **55** #7507 93C15 (90D45, 93E10)

Karabinta, Amadou (*with* Székely, Eugêne) Sur les empilements optimaux de cercles congruents sur la sphère. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **16** (1973), 143–154 (1974). (H. Groemer) **51** #13874 52A45

Karaçay, Timur On the existence of weak solutions for quasilinear equations. *Proc. Roy. Irish Acad. Sect. A* **72**, 109–112 (1972). (M. H. Protter) **46** #7692 35D05 (47F05)

Karačenec, D. V. (*with* Massal′skiĭ, G. È.) An investigation of the problem of statistical synthesis that is close to the optimal system of control of a certain class of Markov objects. (Russian) *Adaptive systems of automatic control* (*Proc. Sem., Kiev,* 1968), *No.* 1 (*Russian*), *pp.* 42–62. *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (RŽKibernet **1970** #1 G174) **46** #1439 93E20

(*with* Andrēēv, M. V.; Massal′skiĭ, G. È.) On the question of seeking an optimal Markov strategy. (Russian) *Adaptive systems of automatic control* (*Proc. Sem., Kiev,* 1968), *No.* 1 (*Russian*), *pp.* 108–117. *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (RŽKibernet **1970** #1 G315) **46** #1435 93E20

(*with* Andrēēv, M. V.; Massal′skiĭ, G. È.) Optimal control with partial interaction for two Markov processes with discrete time. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 6, 120–125. (See RŽMat **1976** #6 V112) 93E20

Optimal control of a pipeline. (Russian. English summary) *US i M—Upravljajuščie Sistemy i Mašiny* **1975**, *no.* 1(15), 102–106, iii. (Editors) **58** #25922 90B25 (93C55)

Karácsony, J. Relativistic electron beam interaction with a plasma in the presence of an external magnetic field. I. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no.* 1-2, 71–94 (1976). (V. P. Milant′ev) **56** #14140a 78.35

Relativistic electron beam interaction with a plasma in the presence of an external magnetic field. II. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **19(67)** (1975), *no.* 3-4, 323–341 (1977). (V. P. Milant′ev) **56** #14140b 78.35

Karacuba, A. A. A certain arithmetic sum. *Dokl. Akad. Nauk SSSR* **199** (1971), 770–772 (*Russian*); *translated as Soviet Math. Dokl.* **12** (1971), 1172–1174. (N. G. de Bruijn) **45** #196 10H10

Estimates of trigonometric sums by the method of I. M. Vinogradov, and their applications. (Russian) Collection of articles dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, I. *Trudy Mat. Inst. Steklov.* **112** (1971), 241–255, 388. (*errata insert*) (J. Kubilius) **48** #8407 10G05 (10H05, 10H25)

The problem of Dirichlet divisors in number fields. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 540–541. (H.-E. Richert) **46** #1753 12A40

A uniform estimate for the remainder term in Dirichlet's problem of divisors. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 475–483. (H.-E. Richert) **47** #6626 10H15

Mean value of the modulus of a trigonometric sum. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 1203–1227. (A. I. Vinogradov) **49** #2586 10G05

Lower bounds for sums of the characters of polynomials. (Russian) *Mat. Zametki* **14** (1973), 67–72. (A. I. Vinogradov) **48** #11007 10G05

Certain problems in the theory of prime numbers connected with the method of I. M. Vinogradov. (Russian) Proceedings of the International Conference Number Theory (Moscow, 1971). *Trudy Mat. Inst. Steklov.* **132** (1973), 257–261, 266. (Editors) **50** #2101 10J15 (10H35)

★Основы аналитической теории чисел. (Russian) [Principles of analytic number theory] *Izdat. "Nauka", Moscow,* 1975. 183 *pp.* (Matti Jutila) **55** #12653 10Hxx (10Jxx)

Trigonometric sums and their applications. (Russian) *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.,* 1974), *Vol.* 1, *pp.* 365–368. *Canad. Math. Congress, Montreal, Que.,* 1975. (Karl-Heinz Indlekofer) **55** #2796 10G05 (10H25)

Some arithmetical problems with numbers having small prime divisors. (Russian) Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 489–492. (W. Schwarz) **51** #3076 10G05 (10B30, 10H25, 10J10)

Character sums for a sequence of shifted primes, and their applications. (Russian) Presented at the All-Union Conference on Number Theory (Vilnius, 1974). *Mat. Zametki* **17** (1975), 155–159. (J. W. Porter) **51** #382 10G05

Certain problems of modern analytic number theory. (Russian) *Mat. Zametki* **17** (1975), 341–350. (Karl-Heinz Indlekofer) **53** #308 10H25

A certain system of congruences. (Russian) *Mat. Zametki* **19** (1976), *no.* 3, 389–392. (Ekkehard Krätzel) **53** #13149 10J20 (10G05)

Distribution of values of nonprincipal characters. (Russian) Number theory, mathematical analysis and their applications. *Trudy Mat. Inst. Steklov.* **142** (1976), 156–164, 269. (Author's summary) **58** #27833 10G05

(*with* Arhipov, G. I.; Čubarikov, V. N.) An upper bound of the modulus of a multiple trigonometric sum. (Russian) Analytic number theory, mathematical analysis and their applications (dedicated to I. M. Vinogradov on his 85th birthday). *Trudy Mat. Inst. Steklov.* **143** (1977), 3–31, 209. (Karl-Heinz Indlekofer) **58** #5543 10G05

Distribution of the values of Legendre symbols in polynomials with prime numbers. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 3, 524–526. (P. Roquette) **58** #16569 10H35 (10G05, 14G10)

(*with* Arhipov, G. I.) I. M. Vinogradov's integral. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 4, 764–765. (András Sárközi) **58** #561 10J10

Sums of Legendre symbols of quadratic polynomials with prime numbers. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **42** (1978), *no.* 2, 315–324, 470. (Karl-Heinz Indlekofer) **58** #5546 10G05

See also **Collection: Vinogradov, I. M., 47** #4744; **Collection: Vinogradov I. M., 47** #4745; **Proceedings: International Conference on Number Theory, 48** #213; **Collection: Vinogradov, I. M., 49** #7049; **Collection: Vinogradov, I. M., 49** #7050 *and* **Proceedings: International Conference on Number Theory, 51** #5463

Karačun, V. Ja. (*with* Bīlonosov, S. M.) Solution of a certain boundary value problem for the kinetic Boltzmann equation. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 25 (1975), 55–59, 143. (Authors' summary) **57** #11527 82.35

A certain boundary value problem of nonstationary free convection. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 27 (1975), 77–81, 154. (A. Borzymowski) **53** #8661 35K50

A boundary value problem for an equation of parabolic type. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 18 (1976), 24–25, 141. (Author's summary) **58** #6698 35K05 (80.35)

A method for the solution of exterior boundary value problems for the heat equation. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 28 (1976), 75–78, 153. (From the introduction) **58** #14424 80.35

(*with* Bīlonosov, S. M.) Boundary value problems for the heat equation inside a trihedral angle. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 30 (1976), 113–116, 157. (Authors' summary) **57** #10234 35K05

(*with* Čornous, K. A.) A mixed boundary value problem for the heat conduction equation in a layer. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 35 (1978), 117–122, 166. (Authors' summary) **58** #19887 80.65 (65P05)

Karade, T. M. (*with* Borikar, S. M.) Thermodynamic equilibrium of a gravitating sphere in Lyra's geometry. *General Relativity and Gravitation* **9** (1978), *no.* 5, 431–436. (Edward N. Glass) **58** #14934 83.53

Karadžov, D. (*with* Mihaĭlov, I. N.; Nadžakov, E.) The theory of nuclear rotational bands. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **4** (1973), *no.* 2, 311–356. (Authors' summary) **57** #4940 82.47

Karadžov, G. I. Certain classes of combinatorial identities. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **7** (1971), *no.* 3, 13–23 (1973). (Jaroslav Nešetřil) **52** #5437 05A19

The construction of a certain class of determinants. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **7** (1971), *no.* 3, 25–32 (1973). (D. Cvetković) **49** #63 05A10

An application of the variable scale method to a certain mechanical system. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 127–138 (1974). (Author's summary) **57** #6567 34A25

A generalization of the variable scale method to a certain class of systems of differential equations. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 139–152 (1974). (Author's summary) **57** #6568 34A25

A generalization of the variable scale method to a certain class of nonlinear systems of second order differential equations. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 153–162 (1974). (Author's summary) **57** #6569 34A25

Karadžov, Georgi E. The inclusion of integral operators in the classes S_p for $p \geqslant 2$. (Russian) *Problems of mathematical analysis, No.* 3: *Integral and differential operators. Differential equations* (*Russian*), *pp.* 28–33. *Izdat. Leningrad. Univ., Leningrad*, 1972. (H. Triebel) **49** #9684 47G05 (46M35)

Interpolation between spaces of the type of O. V. Besov's space. (Russian. French summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **67** (1972/73), 431–450 (1976). (Jöran Bergh) **56** #9290 46M35 (46E35)

The application of the theory of interpolation spaces to the estimation of the singular values of integral operators. (Russian) *Problems of mathematical analysis, No.* 4: *Integral and differential operators. Differential equations* (*Russian*), *pp.* 37–45, 143. *Izdat. Leningrad. Univ., Leningrad*, 1973. (H. Triebel) **49** #9685 47G05 (46M35)

The interpolation method of "means" for quasinormed spaces. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 33–36. (S. D. Riemenschneider) **48** #4763 46M35

Quasinormed and p-normed lattices of measurable functions. (Russian. Bulgarian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 4, 31–42 (1974). (Author's summary) **57** #10417 46E30 (46M35)

The interpolation method of "means" for quasinormed spaces. (Russian. Bulgarian and English summaries) *B"lgar. Akad. Nauk. Izv. Mat. Inst.* **15** (1974), 191–207. (Jöran Bergh) **51** #6448 46M35

Extensions of functions of the Besov spaces $B_N^\alpha L^P$. (Russian) *C. R. Acad. Bulgare Sci.* **27** (1974), 603–606. (A. Kufner) **51** #1374 46E35

Reiteration in spaces of "means". (Russian) *C. R. Acad. Bulgare Sci.* **27** (1974), 1033–1036. (A. Kufner) **52** #1346 46M35

Interpolation between spaces of the type of O. V. Besov's space. (Russian) *C. R. Acad. Bulgare Sci.* **28** (1975), *no.* 8, 1011–1014. (A. Kufner) **56** #12868 46E35 (46M35)

The commutativity of two interpolation functors. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 2, 292–294. (J. Peetre) **53** #3728 46M35

Estimates of the singular numbers of integral operators. (Russian. Bulgarian and English summaries) Conference on Differential Equations and Applications (Ruse, 1975). *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (1975), *no.* 3, 209–222 (1977). (Author's summary) **57** #13581 47G05

The correlation between the complex interpolation method and the "mean" interpolation method. (Bulgarian. Russian and French summaries) *Mathematics and mathematical education* (*Proc. Third Spring Conf. Bulgar. Math. Soc., Burgas,* 1974) (*Bulgarian*), *pp.* 173–180, *B"lgar. Akad. Nauk, Sofia*, 1976. (See Zbl **354** #46022) 46E35

The membership of integral operators in the classes S_p for $0<p<2$. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 2, 155–158. (Alan Shuchat) **54** #3512 47G05 (47B10)

The membership of integral operators in the classes S_q for $0<q<2$. (Russian) *Serdica* 3 (1977), *no.* 1, 52–70. (M. Cotlar) **58** #23771 47G05 (46E35)

The behavior at infinity of a function from the spaces $\dot{B}^{\alpha}_{p,b}$. (Russian) *Serd* 3 (1977), *no.* 4, 327–335. (From the text) **58** #30137 46E35

See also **Problems in mathematical analysis, 49** #4724

Karaev, D. I. (*with* Karataev, G. I.; Odekov, O. A.) A generalization of the metho initial functions. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1975**, *no.* 2, 3–10. (P. P. Teodor **53** #12158 73.35

Karaev, N. N. (*with* Kasymžanov, A. H.) The Bratislava manuscript of al-Fārābī's *Treatises on logic*. (Russian. Kazakh summary) *Vestnik Akad. Nauk Kazah. SS* (1973), *no.* 10(342), 11–17. (Editors) **57** #5575 01A30

Karaev, P. T. Solution of certain problems of the optimal control of processes tha described by a system of hyperbolic equations. (Russian. Azerbaijani and En summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *n* 22–26. (Author's summary) **58** #12577 49A20

Karaeva, È. M. (*with* Babaev, D. A.) The solution of certain nonlinear problem mathematical programming by the introduction of a parameter. (Russian) *Question mathematical cybernetics and applied mathematics, No.* 2 (*Russian*), *pp.* 54–64. *I.* "*Èlm*", *Baku*, 1976. (C. Bergthaller) **57** #5107 90C30

Karafiat, Andrzej On the continuity of a mapping inverse to a vector measure. *Comm Math. Prace Mat.* **18** (1974/75) 37–43. (Igor Kluvánek) **50** #10199 28A45

A generalization of a theorem of Landis. (Russian summary) *Bull. Acad. Polon. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 9, 691–695. (I. Łojczyk-Królikiew **55** #864 35K20

The problem of the number of switches in parabolic equations with control. *Polon. Math.* **34** (1977), *no.* 3, 289–316. (Klaus Glashoff) **57** #13624 49A35

Karagaeva, T. (*with* Cankova, M. G.) Kronecker's Tauberian theorem on summability means of the Bessel polynomials. (Bulgarian. Russian and German summaries) *Godi Visš. Tehn. Učebn. Zaved. Mat.* **4** (1967), *no.* 3, 39–45 (1972). (Authors' summa **47** #678 40E05

Karagezov, Z. A. (*with* Abdullaev, A. A.; Rzaev, T. G.) Construction of a mathemat model and optimization of the production schedule of oil refineries. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Te Mat. Nauk* **1974**, *no.* 1, 134–141. **50** #3917 90B99

A decomposition algorithm for the solution of a certain ill-posed scheduling problem. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 5, 1004–1009. **58** #2593 90B35

Karagodov, A. I. The stability of Becker's solution of the Navier-Stokes equations fo weak shock wave. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 2(1 58–63. (J. P. Guiraud) **50** #3747 76.35

Karahanjan, M. I. (*with* Grigorjan, S. A.) The ε-normality of function algebras. (Russi Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **9** (19 *no.* 6, 456–458, 510. (S. J. Sidney) **52** #1316 46J10

(*with* Gorin, E. A.) Some certain characteristic properties of the algebra of continuous functions on a locally connected compactum. (Russian. Armenian a English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **11** (1976), *no.* 3, 237–2 288. (T. W. Gamelim) **54** #8294 46J10 (32E30)

(*with* Gorin, E. A.) An asymptotic variant of the Fuglede-Putnam commuta theorem for the elements of a Banach algebra. (Russian) *Mat. Zametki* **22** (1977), *no.* 179–188. (L. Longdon) **57** #1123 46H05

Algebras of continuous functions on a locally connected compactum. (Russia *Funkcional. Anal. i Priložen.* **12** (1978), *no.* 2, 82–83. (T. W. Gamelin) **58** #12381 46J10

Karahanjan, V. M. (*with* Aslanjan, L. A.) A general description of the solutions of discrete isoperimetric problem. (Russian. Armenian summary) *Akad. Nauk Armj SSR Dokl.* **65** (1977), *no.* 4, 211–215. (Authors' introduction) **58** #18157 52A40

(*with* Aslanjan, L. A.; Torosjan, B. E.) Solution of a discrete isoperimetric proble (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **65** (1977), *no.* 257–262. (E. Hertel) **58** #18158 52A40

al-Karajī, Abū Bakr Muḥammad ibn al-Ḥuṣain *See* **Abrarova, M. A., 54** #12436; **Al-Daffa', Ali Abdullah, 56** #42; **Nadji, Mehdi, 56** #2736; **Sesiano, Jacques, 58** #4817; **History of Arabic arithmetic, 58** #15851; **Vogel, K., 58** #21077 *and* **Abrarova, M. A., 58** #26774

Karakaş, H. İbrahim On Noetherian modules. (Turkish summary) *METU J. Pure Ap Sci.* **5** (1972), *no.* 2, 165–168. (M. B. Boisen, Jr.) **52** #13793 13C10

On Rosenlicht's generalization of Riemann-Roch theorem and generalized Weierstrass points. *Arch. Math.* (*Basel*) **27** (1976), *no.* 2, 134–147. (Tetsuo Kodan **53** #5601 14H05

On generalized Weierstrass points. (Turkish summary) *METU J. Pure Appl. Sci* (1976), *no.* 1, 1–14. (R. F. Lax) **54** #12782 14H05

Application of generalized Weierstrass points: divisibility of divisor classes. *J. Re Angew. Math.* **299/300** (1978), 388–395. (J. Mašek) **58** #684 14H20 (14C20)

Karaki, Yukihiko New theorems on algebraic equation and its application to statisti physics. *International Symposium on Mathematical Problems in Theoretical Phys* (*Kyoto Univ., Kyoto*, 1975), *pp.* 524–527. *Lecture Notes in Phys.*, 39. *Springer, Berl* 1975. (Editors) **58** #32703 82.60

Rigorous results on ferromagnetic lattice spin systems. I. *J. Mathematical Phys.* (1978), *no.* 3, 675–682. (Masuo Suzuki) **58** #14868 82.65

Karakulin, A. F. (*with* Efimov, A. V.) The continual analogue of periodic multiplicat orthonormal systems. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 268–271. Peetre) **50** #14042 42A56 (33A65, 94A05)

Karakulin, M. L. (*with* Adamovič, Ju. F.) A general approach to the separation vector-roots and to the method of determining all vector-roots of a system of nonlin algebraic equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 5, 1328–13 1374. (Authors' summary) **57** #18065 65H10

Karal, F. (*with* Bazer, J.) Multiple scattering in one dimension. III. *SIAM J. Appl. Ma* **35** (1978), *no.* 2, 379–400. (Authors' summary) **58** #19781 76.60

Karam, Albert J. Strong Lie ideals. *Pacific J. Math.* **43** (1972), 157–169. (T. de W. Joos **47** #6781 16A68

Karam, Samir Nombres irrationnels. *Séminaire sur les Nombres Transcendants* (*Univ. Pa XI, Orsay*, 1972–1973), *Exp. No.* 5, 7 *pp. Publ. Math. Orsay, No.* 57, *U. E. R. Ma*

Jniv. Paris XI, Orsay, 1973. (S. V. Kotov) **53** #2849 10F35

mardian, Stepan Generalized complementarity problem. *J. Optimization Theory Appl.* (1971), 161–168. (M. Dragomirescu) **47** #10073 90C30

A further generalization of Kirszbraun's theorem. *Inequalities, III* (*Proc. Third Sympos., Univ. California, Los Angeles, Calif.*, 1969; *dedicated to the memory of Theodore S. Motzkin*), *pp.* 145–148. *Academic Press, New York*, 1972. (H. Debrunner) **49** #5792 46C10 (52A05)

The complementarity problem. *Math. Programming* **2** (1972), *no.* 1, 107–129. (A. C. Villiams) **45** #4827 90C30

(*with* Juberg, R. K.) On variational type inequalities. (Italian summary) *Boll. Un. Mat. Ital.* (4) **7** (1973), 336–338. (P. M. Fitzpatrick) **48** #12175 47H10

Complementarity problems over cones with monotone and pseudomonotone maps. *J. Optimization Theory Appl.* **18** (1976), *no.* 4, 445–454. (Suresh Chandra) **57** #11765 0C30

An existence theorem for the complementarity problem. *J. Optimization Theory Appl.* **19** (1976), *no.* 2, 227–232. (I. Maruşciac) **53** #15366 90C25

(*with* Bowman, Christopher) Error bounds for approximate fixed points. *Fixed points: algorithms and applications* (*Proc. First Internat. Conf., Clemson Univ., Clemson, S.C.*, 1974), *pp.* 181–191. *Academic Press, New York*, 1977. (Bernard Lemaire) 57 #4476 65D15 (65G05)

See also **Fixed points: algorithms and applications**, **55** #8

mcheti, Krishnamurty (*with* Sentman, Lee H.) Kinetic equations for a gas under the action of nonconservative forces. *J. Chem. Phys.* **48** (1968), 2181–2184. (A. Berroir) 47 #6246 82.45

myškin, V. V. *See* **Collection: Al′muhamedov, M. I.**, **50** #1795

mzadeh, O. A. S. Projective maximal right ideals of self-injective rings. *Proc. Amer. Math. Soc.* **48** (1975), 286–288. (A. Zaks) **50** #13152 16A52

mzin, Ju. N. Difference schemes for computations of three-frequency interactions of electromagnetic waves in a nonlinear medium with quadratic polarization. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1058–1062, 1079. (J. E. Rosenthal) **50** #15601 78.35

Difference schemes for the computation of three-frequency interactions of quasimonochromatic waves with allowance made for diffraction. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 2, 429–435, 541. (A. S. Alekseev) **52** #16298 78.65

(*with* Azimov, B. S.; Suhorukov, A. P.; Suhorukova, A. K.) Generation of waves on summary and difference frequencies by short impulses in dispersive media. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 78 (1978), 29 *pp.* (From the summary) **58** #25394 78.35

anam, V. R. (*with* Mohler, Ronald R.; Barton, C. F.) BLS identification by orthogonal functions with application to immunology. *Proceedings of the IEEE Conference on Decision and Control and the* 15*th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 143–147. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #17894 92A05 (93B30)

anda, Husseĭn M. Conformally euclidean spaces of constant scalar curvature. (Russian) *Collection of scientific works of postgraduates, No. XI: Mathematics and physics* (*Russian*), *pp.* 84–87. *Univ. Družby Narodov, Moscow*, 1972. (C. Simionescu) **49** #6066 53B20

Quasi-symmetric spaces and birecurrent spaces. *Acta Ci. Indica* **3**, *no.* 2, 192 (1977). (Samuel I. Goldberg) **57** #7424 53B20

andaev, I. S. ★Решение двойственных задач в оптимальном планировании. (Russian) [Solution of dual problems in optimal planning] Методы Оптимальных Решений. [Monographs in Methods for Optimal Decisions] *Izdat.* "*Statistika*", *Moscow*, 1976. 88 *pp.* (From the publisher's description) **56** #2352 90C05 (90C30)

ande, B. K. (*with* Thakare, Nimbakrishna) Some properties of orthogonal polynomials related to Hermite polynomials. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **17(65)** (1973), *no.* 1, 57–69 (1974). (S. K. Chatterjea) **50** #13669 33A65

(*with* Thakare, Nimbakrishna) Some results for orthogonal polynomials related to ultraspherical polynomials. *J. Shivaji Univ.* **6** (1973), *no.* 11-12, 39–43. (Not reviewed) 33A45

(*with* Thakare, Nimbakrishna) Remarks on the operational formulas for orthogonal polynomials. *Mat. Vesnik* **10(25)** (1973), 139–144. (W. A. Al-Salam) **48** #8900 33A65 (44A45)

(*with* Thakare, Nimbakrishna) Generating function in the unified form for the classical orthogonal polynomials by using Lagrange's theorem. *J. Shivaji Univ.* (*Sci.*) **7** (1974), *no.* 14, 63–66. (From the summary) **57** #16744 33A65

(*with* Thakare, Nimbakrishna) Generating functions and modified polynomial sets. *Proc. Nat. Acad. Sci. India Sect. A* **44** (1974), *no.* 3, 231–236. (R. A. Askey) **52** #8537 33A70

(*with* Thakare, Nimbakrishna) On the unification of Bernoulli and Euler polynomials. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 1, 98–107. (K. N. Srivastava) **54** #110 10A15 (33A70)

(*with* Thakare, Nimbakrishna) Results involving generalized hypergeometric polynomials and orthogonal polynomials related to Hermite polynomials. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 6, 637–647. (S. K. Chatterjea) **56** #16005 33A30

(*with* Thakare, Nimbakrishna) Note on the generating function for generalized hypergeometric polynomials. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 10, 1185–1187. (Authors' summary) **57** #12925 33A30

(*with* Thakare, Nimbakrishna) On polynomials related to Konhauser-biorthogonal polynomials. *Math. Student* **43** (1975), 67–72 (1976). (Y. L. Luke) **56** #709 33A65

(*with* Thakare, Nimbakrishna) Some results for Konhauser-biorthogonal polynomials and dual series equations. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 6, 635–646. (Authors' summary) **58** #23413 45F10

(*with* Thakare, Nimbakrishna) On certain q-orthogonal polynomials. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 7, 728–736. (L. Carlitz) **58** #22706 33A70 (40B05)

On polynomials related to pseudo-Laguerre polynomials and related functions. *J. Shivaji Univ.* (*Sci.*) **16** (1976), 21–22. (D. P. Gupta) **58** #6400 33A65

arandeev, K. B. *See* **Cybernetics—in the service of Communism**, **48** #10432

aranikolov, Hristo Nikolov Sur un cas particulier d'une hypothese de H. Minkowski. (Russian and Bulgarian summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **4** (1967), *no.* 1, 27–30 (1971). (W. Ljunggren) **45** #3325 10E05

A certain generalization of the Lagrange and Clairaut differential equations. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **5** (1968/69), *no.* 1, 7–10 (1971). (Author's summary) **46** #5706 34A05

A certain problem of localization of the zeros of a given polynomial. (Bulgarian. Russian and English summaries) *B″lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **12** (1970), 115–119. (T. T. Tonkov) **46** #7486 30A08

On some properties of function $\pi(x)$. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357–380 (1971), 29–30. (L. Carlitz) **45** #6771 10H10

Some complements to the theorem of Thue. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 2, 35–38 (1973). (W. Narkiewicz) **53** #5467 10B15

Estimates of the least common multiple of certain natural numbers. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 2, 39–44 (1973). (W. Narkiewicz) **53** #5450 10A25

Certain second order ordinary differential equations. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 2, 75–81 (1974). (Author's summary) **57** #6556 34A05

On an ordinary differential equation of second order. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 123–124. (A. Averna) **49** #681 34A05

On a generalization of a generalized Emden equation. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 317–318. (H. A. DeKleine) **51** #8505 34A05

See also **Tonkov, T.**, **56** #2762

Karapandžić, G. Contribution à l'application de la méthode de Poisson. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 194–203. (Howard A. Levine) **50** #13835 35A25

Karapenev, Hristo K. (*with* Dimitrov, Bojan N.) Queueing systems with a finite source and an unreliable server. (Russian. English summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **67** (1972/73), 483–505 (1976). (H. T. Tašmanov) **54** #14146 60K25

Certain problems of queueing theory that can be solved by geometric probability. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 1, 145–157 (1973). (From the author's summary) **54** #11559 60K25

(*with* Dimitrov, Bojan N.) A certain queueing system with a finite source and an unreliable instrument. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 173–186 (1974). (Authors' summary) **54** #14147 60K25

(*with* Dimitrov, Bojan N.) Certain characteristics of queueing systems with finite sources, an unreliable server and absolute priority. (Russian) *Serdica* **1** (1975), *no.* 2, 158–166. (H. T. Tašmanov) **53** #6781 60K25

Karapetjan, A. V. The converse of Routh's theorem. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 5, 65–69. (Gh. Silaş) **49** #11895 70.35

On stability of equilibrium of nonholonomic systems. *Prikl. Mat. Meh.* **39** (1975), 1135–1140 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), 1088–1094 (1976). (Ljubomir Lilov) **57** #8246 70.34

The stability of nonconservative systems. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 4, 109–113. (Ljubomir Lilov) **52** #9732 70.34 (93D05)

(*with* Rumjancev, V. V.) Stability of motion of nonholonomic systems. (Russian) *General mechanics, Vol.* 3 (*Russian*), *pp.* 5–42, 127. (*loose errata*) *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1976. (Editors) **58** #8608 70.34 (34C35)

Karapetjan, I. A. Critical and essential edges in perfect graphs. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **63** (1976), *no.* 2, 65–70. (Zbl **357** #05062) **58** #21757 05C15

(*with* Markosjan, S. E.) Perfect graphs. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **63** (1976), *no.* 5, 292–296. (B. Zelinka) **56** #8427 05C35

Karapetjan, K. S. Theoretical and experimental studies in the field of creep theory. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **29** (1976), *no.* 1, 27–38, 81. (Editors) **56** #10268 73.00

Karapetjan, S. E. On multidimensional projective differential geometry. (Russian. Bulgarian and English summaries) *B″lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **12** (1970), 65–85. (M. Decuyper) **45** #4296 53A20

Topology of asymptotic lines on closed linear surfaces. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 283–286. (I. Kolář) **47** #9496 54C45 (53A20)

Karapetjan, S. T. (x_0, m)-minimal cut and partitioning of a tree. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **63** (1976), *no.* 3, 129–135. (M. Gol′dberg (RŽMat **1977** #10 V376)) **58** #27576 05C05 (05C35)

Karapetjanc, N. K. On the formulation of equations of convolution type in spaces of smooth functions. (Russian) *Mathematical analysis and its applications, Vol. II* (*Russian*), *pp.* 28–40. *Izdat. Rostov. Univ., Rostov-on-Don*, 1970. (V. Komkov) **56** #9326 47G05 (45E10)

On the question of formulating the Wiener-Hopf equation in spaces of smooth functions. (Russian) *Proceedings of a Conference on Boundary Value Problems* (*Kazan*, 1969) (*Russian*), *pp.* 122–126. *Izdat. Kazan. Univ., Kazan*, 1970. (Jürgen Leiterer) **50** #5402 45J05

(*with* Samko, S. G.) A certain new approach to the investigation of singular integral equations with a shift. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 273–276. (T. G. Gegelia) **45** #9207 47G05 (45E99)

(*with* Samko, S. G.) Singular integral operators with shift on an open contour. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 536–539. (F. Smithies) **46** #7814 45E05 (47B30, 47G05)

(*with* Samko, S. G.) Singular integral operators on the axis with a fractional linear shift of Carleman type and the Noether property for operators containing an involution. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* 7

(1972), *no.* 1, 68–77. (D. Przeworska-Rolewicz) **46** #733 47G05 (45E05)

(*with* Samko, S. G.) A certain boundary value problem with a shift in the theory of analytic functions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 11(126), 18–22. (A. D. Solomon) **47** #3689 30A88

(*with* Samko, S. G.) Singular integral equations with Carleman shift in the case of discontinuous coefficients, and a study of whether a certain class of linear operators with involution is Noetherian. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 281–284. (D. Przeworska-Rolewicz) **48** #12165 47G05 (45E05)

(*with* Samko, S. G.) The index of certain classes of integral operators. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **8** (1973), *no.* 1, 26–40, 88. (D. Przeworska-Rolewicz) **48** #9457 47G05 (45E10)

A certain class of discrete convolution operators with oscillating coefficients. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 28–31. (D. Przeworska-Rolewicz) **49** #9675 47B35

A class of discrete convolution operators with oscillating coefficients. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1974**, *no.* 4, 77–81, 138. (R. V. Dudučava) **55** #6230 47B35

(*with* Samko, S. G.) Convolution operators and singular integral operators with reflection. (Russian. Georgian summary) A collection of articles on the equations of mathematical physics. 4. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **44** (1974), 100–112. (G. S. Litvinčuk) **53** #14039 44A35

(*with* Samko, S. G.) Singular convolution operators with a discontinuous symbol. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 6, 1260–1263. (D. Przeworska-Rolewicz) **53** #3797 47G05 (45E10)

Factorization with the shift $x+\alpha$ on the real line. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk* **1975**, *no.* 4, 98–100, 119. (S. G. Samko) **57** #3905 47B35 (45E10)

(*with* Samko, S. G.) Singular integral operators with Carleman shift in the case of piecewise continuous coefficients. I, II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 2(153), 43–54; *ibid.* **1975**, *no.* 3(154), 34–42. (F. Smithies) **53** #3616 45E05

(*with* Samko, S. G.) Singular convolution operators with discontinuous symbol. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 44–61, 195. (D. Przeworska-Rolewicz) **51** #6500 47G05 (45E05)

A class of shift operators. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1976**, *no.* 3, 11–12, 116. (From the text) **58** #2386 47A60 (47B30)

A certain class of convolution type equations with shift. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 3, 541–544. (L. G. Mihaĭlov) **57** #10385 45E05

The Wiener-Hopf integral equation with a symbol that has a zero of fractional order. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 8, 1471–1478, 1541. (M. Cotlar) **58** #23410 45E99

A class of singular functional operators. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **12** (1977), *no.* 3, 165–177, 241. (G. S. Litvinčuk) **57** #3778 45E99

(*with* Samko, S. G.) A study of the Noethericity of operators with an involution of order n, and its application. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 11(186), 15–26. (Authors' introduction) **58** #29917 45E10 (47B30)

(*with* Samko, S. G.) Discrete convolution operators with coefficients that become almost stable. (Russian) *Mat. Zametki* **22** (1977), *no.* 3, 339–344. (M. Cotlar) **58** #23729 47B37 (47G05)

The boundedness of integral operators with quasihomogeneous kernels. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 3, 549–552. (M. Cotlar) **58** #23772 47G05

Karapiperis, L. *See* **Addresses: I. Xanthakis, L. Karapiperis, I. Argirakos and A. Makridis, 49** #7102

Karasalo, Ilkka A criterion for truncation of the *QR*-decomposition algorithm for the singular linear least squares problem. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 156–166. (M. Lotkin) **58** #3372 65F20

Minimum norm solutions of single stiff linear analytic differential equations. *J. Math. Anal. Appl.* **51** (1975), *no.* 3, 516–538. (Clarence M. Ablow) **51** #13322 34A20

(*with* Anderson, Ned) On computing bounds for the least singular value of a triangular matrix. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **15** (1975), *no.* 1, 1–4. (See Zbl **301** #65018) 65F30

Karásek, Jiří Induced algebras. *Arch. Math.* (*Brno*) **6** (1970), 79–87 (1971). (B. Csákány) **45** #1818 08A25

A remark on the system of congruence relations on a generalized algebra. (Russian summary) *Spisy Přírod. Fak. Univ. Brno* **1970**, *no.* 518, 461–464 (1971). (J. Froemke) **46** #7122 08A05

Nondeterministic and deterministic k-machines. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 4, 295–298. (W. Vollmerhaus) **55** #9606 68A25 (94A30)

Sets of sequences constructed by nondeterministic k-machines and deterministic k-machines. *Fund. Informat.* (4) **1** (1977), *no.* 2, 243–250. (Itsuo Takanami) **57** #5509 94A30

Karasek, Mirek *See* **Compstat, 49** #9990

Karasenko, E. Ī. On the theory of complexes in a three-dimensional projective-axial space. (Ukrainian. German and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 15 (1973), 94–99, 146. (Josef Vala) **50** #14526 53A25

Karasev, A. I. ★Теория вероятностей и математическая статистика. (Russian) [Probability theory and mathematical statistics] Third edition, revised and augmented. *Izdat. "Statistika", Moscow*, 1977. 279 *pp.* (Editors) **57** #7710 60–01 (62–01)

Karasev, D. D. (*with* Astahov, Ju. N.; Venikov, V. A.; Gordievskiĭ, I. G.; Kiselev, Ju. N.; Svešnikov, V. I.; Fedoseev, A. A.) Certain questions of the optimization of large systems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1145–1158, 1363. (Alexander M. Rubinov) **47** #8115 90C30

Karasev, G. A. Certain properties of n-invariant subgroups and N_n-groups. (Russian) Algebra and number theory. *Moskov. Gos. Ped. Inst. Učen. Zap. No.* 375 (1971), 56–67. (Sergei A. Syskin) **48** #2245 20B15

Karasev, I. M. (*with* Kumykova, S. K.) On the question of the integration in K' differential equations with a generalized Čebyšev operator. (Russian) *Differencial'n Uravnenija* **8** (1972), 2080–2081, 2114. (W. Słowikowski) **47** #3726 34A05 (46F1

The solvability of the Dirichlet problem in the spaces $C^{(\alpha)}(G)$ and $L_q^{(\alpha)}(G)$. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 996–998. (G. Geymonat) **47** #621 35D10 (35J25)

(*with* Murzakanova, M. H.) A finite integral transformation with a kernel generalized associated Čebyšev functions. (Russian) *Differential and integral equatio No.* 1 (*Russian*), *pp.* 72–81. *Kabardino-Balkarsk. Gos. Univ., Nal'chik*, 1973. (Edito **58** #29876 44A15

Solvability of the Dirichlet problem in the spaces $C^{(\alpha)}(G)$ and $L_q^{(\alpha)}(G)$. (Russia All-Union Symposium on Selected Questions of Partial Differential Equations (Priėlbrus, 1972). *Differencial'nye Uravnenija* **9** (1973), 180–182, 199. (P. C. Fif **48** #2558 35J25

On the theory of the solvability of the Dirichlet problem in the spaces $C^{\alpha}(G)$ a $L_q^{(\alpha)}(G)$. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 539–541. (H. Triebel) **51** #6127 35J25

The first boundary value problem for equations with nonnegative characterist form in the spaces $C^{(\alpha)}(G)$ and $L_q^{(\alpha)}(G)$. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976 *no.* 1, 38–39. (Ju. V. Kostarčuk) **52** #14622 35J25

See also **Differential and integral equations, 58** #28738

Karasev, I. P. An effective method of determining the numbers d_p. (Russian) Differenti equations. *Trudy Rjazan. Radiotehn. Inst. No.* 20 (1969), 33–38. (See RŽMat **1970** #1 B301; MR **52** #13071) 34H05

Investigation of the accessibility in the small of the origin for a system of thre nonlinear equations by means of higher derivatives. (Russian) *Trudy Rjazan. Radiotehn Inst. No.* 28 *Differencial'nye Uravnenija* (1971), 42–48. (J. Jarník) **52** #1484 49E1

(*with* Mitrohin, Ju. S.) Controllability of a system of three nonlinear differentia equations. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 42 *Differencial'nye Uravnenij* (1972), 39–52. (RŽMat **1975** #8 B542) **57** #9170 93B05

A study of the attainability of the origin for nonlinear systems by geometr methods. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 53 *Differencial'nye Uravnenij* (1974), 50–61, 185. (Author's summary) **58** #33248 93B05 (49B10)

The effectiveness of a definition of "controllability in the small" for the study of th controllability of systems of differential equations. (Russian) *Trudy Rjazan. Radiotehn Inst. Vyp.* 62 *Differencial'nye Uravnenija* (1975), 35–43, 178. (Author's summary) **57** #11856 93B05

See also **Differential equations, 52** #13071

Karasev, M. V. Expansion of functions of noncommuting operators. (Russian) *Dokl Akad. Nauk SSSR* **214** (1974), 1254–1257. (H. Baumgärtel) **50** #1033 47A55

An ordered operator calculus on a factor algebra. (Russian) *Mat. Zametki* 1 (1974), 775–786. (Boris Pavlov) **53** #1314 47A60

A calculus of ordered, almost deriving operators. (Russian) *Moskov. Inst. Èlektron Mašinostroenija—Trudy MIÈM Vyp.* 38 *Asimpt. Metody v Teorii Uravn. s Častn Proizvodnymi* (1974), 73–115. (J. S. Joel) **57** #17340 47A60 (58G15)

A problem with a nonsmooth Hamiltonian. (Russian) *Moskov. Inst. Èlektron Mašinostroenija—Trudy MIÈM Vyp.* 38 *Asimpt. Metody v Teorii Uravn. s Častn Proizvodnymi* (1974), 116–127. (J. S. Joel) **57** #18491 78.35 (58G15)

Certain formulae for functions of ordered operators. (Russian) *Mat. Zametki* **18** (1975), *no.* 2, 267–277. (J. S. Joel) **57** #7228 47A60 (58E99, 58G15)

(*with* Mosolova, M. V.) Infinite products and T-products of exponents. (Russian. English summary) *Teoret. Mat. Fiz.* **28** (1976), *no.* 2, 189–200. (B. R. Gelbaum) **56** #12940 47A60 (81.47)

On the theory of the path integral. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2(188), 213–214. (Woodford W. Zachary) **53** #14185 47A60 (81.47)

The path integral, and quasiclassical asymptotic analysis on a Lie group. (Russian. English summary) *Teoret. Mat. Fiz.* **31** (1977), *no.* 1, 41–47. (A. J. Coleman) **57** #4863 81.22 (22E30, 58D99)

Karasev, S. N. (*with* Galimov, K. Z.; Artjuhin, Ju. P.; Sačenkov, A. V.; Daragan, V. I.; Kostin, V. A.; Jakušev, N. Z.) ★Теория оболочек с учетом поперечного сдвига. (Russian) [The theory of shells with account taken of transverse shift] *Izdat. Kazan. Univ., Kazan*, 1977. 211 *pp.* (Editors) **58** #25229 73.00

Karasev, V. P. (*with* Šelepin, L. A.) Finite differences, Clebsch-Gordan coefficients and hypergeometric functions. (Russian. English summary) *Teoret. Mat. Fiz.* **17** (1973), 67–78. (Authors' summary) **57** #8603 81.33

Group-theoretic analysis of complex physical systems. (Russian) Group-theoretical methods in physics. *Trudy Fiz. Inst. Lebedev.* **70** (1973), 147–220, 272. (V. I. Fuščič) **49** #8533 81.22

(*with* Šelepin, L. A.) Hidden couplings and relationships in the theory of angular momentum. (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no.* 1, 71–81. (C. A. Hurst) **57** #2234 81.22

(*with* Šelepin, L. A.) Difference methods and their role in the theory of coherence phenomena. (Russian) *Trudy Fiz. Inst. Lebedev.* **87** (1976), 55–91. (V. P. Kalašnikov) **58** #32649 82.22

(*with* Šelepin, L. A.) Construction of the Wigner-Racah algebra of the group SU(3). (Russian. English summary) *Teoret. Mat. Fiz.* **36** (1978), *no.* 2, 279–288. (Authors' summary) **58** #25482 81.22 (22E70)

Karaševa, K. Asymptotic representation of the solutions of a second order differential equation with retarded argument. (Russian) *Vologod. Gos. Ped. Inst. Učen. Zap.* **36** *Sb. Rabot Aspirantov Vyp.* 2 (1968), 153–173. (Pavol Marušiak) **53** #3468 34K25

Karaseva, L. I. The German school of mathematical education according to the scientific methodology of F. Klein. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **282**, 250–270 (1970). (Kenneth May) **45** #6558 01A55

Karaseva, T. M. The rate of growth and the boundedness of solutions of second order differential equations with periodic coefficients. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 277–279. (J. W. Macki) **45** #3847 34C10

Karasik, A. Ju. (*with* Burgin, M. S.) Operators of a multidimensional, structure-oriented, parallel-processing model. *Avtomat. i Telemeh.* **1976**, *no.* 8, 179–185 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 8, *part* 2, 1295–1300 (1977). (A. M. Slin'ko) **57** #11218 68A99

, B. G. (*with* Jakubov, S. Ja.; Mamedov, K. Š.) The Fredholm nature of boundary ue problems for higher order linear operator-differential equations. (Russian. erbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. ıt. Nauk* **1976**, *no.* 2, 76–82. (From the text) **58** #11747 34G05 (47B30)

Regularization of an ill-posed Cauchy problem for operator-differential equations of bitrary order. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk erbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 6, 9–14. (P. Talpalaru) **56** #9020 34G05 (65J05)

, I. A. (*with* Kotčenko, F. F.) Non-oscillating and quasi-oscillating optimal systems. *v. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 2, 167–174 (*Russian*); *translated as ngrg. Cybernetics* **9** (1971), *no.* 2, 353–359. (E. Ar) **45** #6492 93C15

in, A. N. (*with* Grač, S. M.; Mitjakov, N. A.; Rapoport, V. O.; Trahtengerc, V. Ju.) rametric interaction of electromagnetic radiation with ionospheric plasma. (Russian. nglish summary) Studies of the ionosphere (All-Union Conf. "Questions of adiowave Propagation in the Ionosphere and in Space", Gorki, 1976). *Izv. Vysš. čebn. Zaved. Radiofizika* **20** (1977), *no.* 12, 1827–1833. (Authors' summary) **58** #14375 78.35

tojanov, A. S. Basic principles of quasi-temporal relative mechanics of a mass point in lipsoidal light waves. (Bulgarian. Russian and English summaries) *Godišnik Visš. ehn. Učebn. Zaved. Fiz.* **5** (1968), *no.* 1, 89–96 (1970). (R. I. Pimenov) **45** #9644 .53

aev, G. I. (*with* Odekov, O. A.; Karaev, D. I.) A generalization of the method of itial functions. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk urkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1975**, *no.* 2, 3–10. (P. P. Teodorescu) **3** #12158 73.35

aev, M. K. *See* **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān,** **6** #5132

aev, R. N. A certain case of the point approximation of a multidimensional function. Russian) *Trudy Kazan. Aviacion. Inst. Vyp.* 169 (1975), 85–89, 94. (Bl. Sendov) **4** #13422 41A63

ay, A. B. A generalization of the characterization theorem of Boolean extensions. *lgebra Universalis* **4** (1974), 185–189. (M. Gould) **50** #2035 08A25

topraklıev, G. D. Equations of mixed type in multidimensional domains and positive ymmetric systems. (Russian) *C. R. Acad. Bulgare Sci.* **24** (1971), 995–998. (S. A. ersenov) **45** #7293 35M05

Certain equations of mixed type in multidimensional domains. (Russian) *C. R. cad. Bulgare Sci.* **24** (1971), 1597–1600. (S. A. Tersenov) **45** #7294 35M05

Equations of mixed type and degenerate hyperbolic equations in multidimensional domains. (Russian) *Differencial'nye Uravnenija* **8** (1972), 55–67. (G. W. Hedstrom) **46** #541 35M05

A certain equation of mixed type in multidimensional domains. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 528–530. (R. N. Goss) **47** #2197 35M05

A class of mixed type equations in multidimensional domains. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 4, 769–772. (A. Džuraev) **54** #10882 35M05

A mixed problem for multidimensional equations of mixed type. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 5, 645–647. (A. M. Nahušev) **58** #17568 35M05

On the theory of boundary value problems for mixed type equations in multidimensional domains. I. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 1, 64–75, 188. (Author's summary) **58** #17569 35M05

ova-Karatopraklieva, Ivanka *See* **Ivanova-Karatopraklieva, Ivanka**

atygin, V. A. (*with* Rozov, V. A.) A stationary phase method for a double integral with an arbitrarily placed stationary point. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1391–1405, 1627. (Walter Gautschi) **47** #3887 41A60

(*with* Rozov, V. A.) Asymptotic behavior of sums with rapidly oscillating terms. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 5, 1172–1182, 1333. (Authors' summary) **58** #23296 41A60

(*with* Rozov, V. A.; Sokolova, N. O.) A case of asymptotic summability in a two-dimensional case. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 3, 554–562, 809. (Authors' summary) **58** #19018 65B10

aul'naja, L. F. On the justification of the operational method of solving certain problems of mathematical physics. (Russian) *Mat. Zametki* **13** (1973), 125–134. (J. Chabrowski) **47** #7222 35K20 (35R05)

avanova, L. V. (*with* Ignatuščenko, V. V.) One method of static parallelization of serial programs. *Avtomat. i Telemeh.* **1977**, *no.* 6, 176–191 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 6, *part* 2, 921–933. (K. W. Han) **57** #1954 68A05 (94A20)

rbovskaja, G. M. (*with* Karbovskiĭ, I. N.) Optimal generators for convolutional codes with the rate $R=1/2$. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 4, 63–69. (I. E. Strazdiņš) **57** #11922 94A10

rbovskiĭ, I. N. (*with* Karbovskaja, G. M.) Optimal generators for convolutional codes with the rate $R=1/2$. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 4, 63–69. (I. E. Strazdiņš) **57** #11922 94A10

rcanias, N. (*with* Shaked, Uri) The use of zeros and zero-directions in model reduction. *Internat. J. Control* **23** (1976), *no.* 1, 113–135. (A. S. C. Sinha) **54** #9754 93B25

(*with* MacFarlane, A. G. J.) Poles and zeros of linear multivariable systems: a survey of the algebraic, geometric and complex-variable theory. *Internat. J. Control* **24** (1976), *no.* 1, 33–74. (Eliahu I. Jury) **54** #7023 (E **58** #9534) 93B25

(*with* MacFarlane, A. G. J.) Reply to: "Comments on: 'Poles and zeros of linear multivariable systems: a survey of the algebraic, geometric and complex-variable theory' " (Internat. J. Control **26** (1977), no. 1, 157–161) by H. H. Rosenbrock. *Internat. J. Control* **26** (1977), *no.* 1, 163. (Eliahu I. Jury) **58** #9535 93B99

(*with* Kouvaritakis, B.) The use of frequency transmission concepts in linear multivariable system analysis. *Internat. J. Control* **28** (1978), *no.* 2, 197–240. (Peter J. Moylan) **58** #26263 93B25

See also **Rosenbrock, Howard H., 58** #9534

rčev, N. I. (*with* Aneva, B. L.; Rizov, V. A.) Two-component quasipotential equation for spin 1/2 particles. (Russian summary) *Bulgar. J. Phys.* **2** (1975), *no.* 5, 409–419. (Author's summary) **54** #12018 81.31

arcev, V. P. The Edinburgh period of Maxwell's work. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1977**, *no.* 1(58), 105–108, 131, 142. (Editors) **58** #27013 01A55

Karčevskiĭ, M. M. Iteration schemes for equations with monotone operators. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 5(108), 32–37. (A. Buraczewski) **45** #2911 65H05 (47H05)

(*with* Ljaško, A. D.) Difference schemes for quasilinear elliptic equations on a polar net. (Russian) *Čisl. Metody Meh. Splošnoi Sredy* 3 (1972), *no.* 4, 77–88. (I. Aganović) **51** #9511 65N05

(*with* Lapin, A. V.; Ljaško, A. D.) Efficient difference schemes for quasilinear parabolic equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 3(118), 23–31. (C. Ilioi) **45** #8036 65N05

(*with* Ljaško, A. D.) Difference schemes for nonlinear multidimensional elliptic equations. I, II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 11(126), 23–31; *ibid.* **1973**, *no.* 3(130), 44–52. (V. Thomée) **47** #7930 65N10

An iterative scheme for a quasilinear Neumann problem. (Russian) *Applied mathematics and electronic computers* (*Russian*), *pp.* 39–47. *Izdat. Kazan. Univ., Kazan,* 1974. (M. Zlámal) **57** #4539 65N20

(*with* Ljaško, A. D.) Difference schemes for quasilinear elliptic equations with discontinuous coefficients. (Russian) Collection of articles dedicated to Aleksandr Petrovič Norden on the occasion of his seventieth birthday. *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 5(144), 128–137. (G. I. Sulhanišvili) **52** #7148 65N05

(*with* Ljaško, A. D.) A study of nonlinear problems of filtration theory. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 11 (1974), 64–72. (M. Yanowitch) **57** #8380 76.35 (35Q99)

The stable iteration methods for the solution of problems of Neumann type. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 254–259, 272. (Author's summary) **58** #3410 65J05 (47H15)

(*with* Ljaško, A. D.) An estimate of the accuracy of difference schemes for nonlinear elliptic equations. (Russian) *Issled. Prikl. Mat. Vyp.* 3 (1975), 82–86. (G. I. Sulhanišvili) **57** #11092 65N10

(*with* Ljaško, A. D.) The solution of certain nonlinear problems of filtration theory. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 6(157), 73–81. (Miloš Kojić) **53** #2128 76.35 (76.47)

(*with* Vološanovskaja, S. N.) The approximation of the strain tensor in curvilinear coordinates. A difference scheme for the problem of the equilibrium of an elastic cylinder. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 10(185), 70–80. (D. P. Rašković) **57** #8348 73.65

(*with* Vološanovskaja, S. N.) A difference scheme for the problem of the strong bending of thin plates. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 1, 183–195, 286. (Authors' summary) **58** #8717 73.65

Karčevskiĭ, V. P. Diagnosis of the electronic automation of ships. (Russian. English summary) *Cybernetics in marine transportation, No.* 4 (*Russian*), *pp.* 29–33, 147. *Izdat. Ob"ed. "Višča Škola" Izdat. pri Kiev. Gos. Univ., Kiev,* 1974. **54** #12411 94A99

Karch, Robert I. (*with* Desloge, Edward A.) Noether's theorem in classical mechanics. *Amer. J. Phys.* **45** (1977), *no.* 4, 336–339. (Benjamin Plybon) **56** #7392 70.49

Karcher, Hermann Pinching implies strong pinching. *Comment. Math. Helv.* **46** (1971), 124–126. (W. Klingengberg) **45** #1076 53C20

On Shikata's distance between differentiable structures. *Manuscripta Math.* **6** (1972), 53–69. (S. Takizawa) **45** #7730 57D55

(*with* Grove, Karsten) On pinched manifolds with fundamental group Z_2. *Compositio Math.* **27** (1973), 49–61. (M. Sugimoto) **48** #12563 57D50 (53C20)

(*with* Grove, Karsten) How to conjugate C^1-close group actions. *Math. Z.* **132** (1973), 11–20. (H.-T. Ku) **50** #8575 57E15 (53C30)

(*with* Grove, Karsten; Ruh, Ernst A.) Group actions and curvature. *Invent. Math.* **23** (1974), 31–48. (Midori Goto) **52** #6609 53C20

(*with* Grove, Karsten; Ruh, Ernst A.) Jacobi fields and Finsler metrics on compact Lie groups with an application to differentiable pinching problems. *Math. Ann.* **211** (1974), 7–21. (Midori Goto) **50** #8391 53C60

Analysis mit Lipschitz-stetigen Funktionen. *Math.-Phys. Semesterber.* **21** (1974), 96–121. (N. Passell) **50** #4844 26A06

(*with* Grove, Karsten; Ruh, Ernst A.) Group actions and curvature. *Bull. Amer. Math. Soc.* **81** (1975), 89–92. (M. do Carmo) **51** #4104 53C20

Globale Riemannsche Geometrie. *Jber. Deutsch. Math.-Verein.* **77** (1975), *no.* 2, 66–77. (Editors) **58** #7411 53–01 (53C20)

Riemannian center of mass and mollifier smoothing. *Comm. Pure Appl. Math.* **30** (1977), *no.* 5, 509–541. (S. Takizawa) **56** #1350 58E10 (53C20)

(*with* Bourguignon, Jean-Pierre) Curvature operators: pinching estimates and geometric examples. *Ann. Sci. École Norm. Sup.* (4) **11** (1978), *no.* 1, 71–92. (D. G. Ebin) **58** #12829 53C20 (58G99)

See also **Flaschel, P.; et al., 49** #6275 *and* **Schwartz, Jacob T., 55** #6457 (EA 55/56)

Karchev, N. I. *See* **Karčev, N. I.**

Karčicka, D. L. A variant of the principal pivot method. (Macedonian summary) *Makedon. Akad. Nauk. Umet. Oddel. Prirod.-Mat. Nauk. Prilozi* **5** (1973), *no.* 1, 17–23. (Charles R. Johnson) **50** #6506 90C99

On the linear complementarity problem for matrices of Leontief type. *Prirod.-Mat. Fak. Univ. Kiril i Metodij Skopje Godišen Zb.* **25/26** (1975/76), 35–40. (Zbl **366** #90105) **58** #20489 90C99 (15A57)

Karčjauskas, K. K. A generalized Lefschetz theorem. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 4, 80–81. (P. Orlik) **57** #12900 32C40

Kard, P. ★Erirelativsusteooria. II. (Estonian) [Special relativity theory. II] *Tartu Riikl. Ülikool, Tartu,* 1972 266 *pp.* (Editors) **54** #4501b 83.00

★Erirelatiivsusteooria. I. (Estonian) [Special relativity theory. I] *Tartu Riikl. Ülikool, Tartu,* 1972 193 *pp.* (Editors) **54** #4501a 83.00

A new method of teaching the principles of relativity theory. (Russian. Estonian and German summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 3, 305–311. (Michael P. Ryan, Jr.) **53** #10096 83.00

On the question of the relation of relativistic and classical mechanics. (Russian. Estonian and German summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 1, 15–22. (Pavel Winternitz) **54** #2073 83.00

A verification of special relativity theory without Einstein's second postulate.

(Russian. Estonian and German summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 3, 227–233. (Editors) **58** #20147 83.00

One-dimensional wave equations that are solvable in closed form. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **26** (1977), *no.* 3, 252–259. (B. S. Popov) **57** #6557 34A05

Kardakov, V. B. (*with* Garipov, R. M.) The Cauchy problem for the wave equation with a nonspatial initial manifold. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 1047–1050. (N. Cristescu) **48** #11790 35L05

(*with* Buhgeĭm, A. L.) Solution of an inverse problem for an elastic wave equation by the method of spherical means. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 4, 749–758, 953. (N. Cristescu) **58** #12040 35R30 (73.35)

Kardaš, A. Ī. (*with* Čulik, Ī. Ī.) The domain of convergence of the Dirichlet series of a function of two complex variables and of its Newton majorant. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 804–807. (A. Peyerimhoff) **52** #3574 32A05 (30A16)

(*with* Čulik, Ī. Ī.) Investigation of the limit properties of the Newton majorant and diagram of functions of two complex variables. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 316–319, 381. (J. G. Krzyż) **46** #7541 32A05

(*with* Čulik, Ī. Ī.) Investigation of the boundary of the domain of convergence of power series for functions of two complex variables. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 411–414, 476. (G. K. Kiremidjian) **46** #5661 32A05

(*with* Kostovs′kiĭ, O. M.; Čulik, Ī. Ī.) Determination of the domain of convergence of the power series of a function of two complex variables. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 18 (1972), 163–168. (A. Peyerimhoff) **49** #9249 32A05

Kardaš, S. N. (*with* Erofeenko, V. T.) Formulas for the mutual re-expansion of spherical and cylindrical solutions of Maxwell equations. (Russian) *Differencial′nye Uravnenija* **14** (1978), *no.* 6, 1060–1064, 1150. (Authors' summary) **58** #17464 35C10 (78.35)

Kardaš, V. A. (*with* Rapoport, È. O.) The optimal irrigation policy under conditions of drainage regulation. (Russian) *Optimizacija No.* 7(24) (1972), 35–44, 145. (Alexander M. Rubinov) **49** #10326 90A15

(*with* Virčenko, M. I.) Studies of optimizational economic planning problems in agriculture. (Russian) *Optimizacija Vyp.* 13(30) (1974), 44–70, 168. (M. Maňas) **53** #15386 90C50 (90A99)

An approach to formulations of stochastic problems of production optimization. (Russian) *Èkonom. i Mat. Metody* **13** (1977), *no.* 6, 1312–1316. (E. A. Nurminskiĭ) **57** #11781 90C50 (90B30)

Kardaševskiĭ, A. M. (*with* Vasil′ev, V. Ī.; Ohlopkov, N. M.) A multiparameter difference scheme for an evolution equation. (Russian) *Differential and integral equations, No.* 3 (*Russian*), *pp.* 17–26, 296. *Irkutsk. Gos. Univ., Irkutsk*, 1975. (Authors' summary) **58** #31873 65M05

Kardašov, V. R. Properties of homogeneous functionals, and imbedding theorems. (Russian) *Functional analysis, theory of functions, and their applications, No.* 2, *Part* 1 (*Russian*), *pp.* 162–174, 181. *Dagestan. Gos. Univ., Makhachkala*, 1975. (Author's summary) **57** #7171 46G99 (46E35, 49A25)

Kardestuncer, H. On the generalization of equicofactor matrices. *Internat. J. Numer. Methods Engrg.* 7 (1973), 491–496. (Author's summary) **56** #9951 65F99

Finite element methods via tensors. *Matrix Tensor Quart.* **26** (1975/76), *no.* 4, 129–140. (M. Mişicu) **54** #4271 73.53

Finite element methods via tensors (continued). *Matrix Tensor Quart.* **27** (1976/77), *no.* 1, 1–14. (M. Mişicu) **55** #9676 73.53

Karel, Martin L. Fourier coefficients of certain Eisenstein series. *Bull. Amer. Math. Soc.* **78** (1972), 823–830. (J. Spilker) **45** #6760 10D99

Fourier coefficients of certain Eisenstein series. *Ann. of Math.* (2) **99** (1974), 176–202. (F. van der Blij) **49** #8935 10D15 (32N15)

Karelin, A. A. *See* **Karelīn, O. A.**

Karelin, A. G. (*with* Danović, A. A.) Profiling over a batch of parallel vertically falling layers. (Russian) *Taškent. Politehn. Inst. Naučn. Trudy* (*N.S.*) *No.* 56 (1970), 130–142. (Not reviewed) 76.33

Karelīn, O. A. (*with* Kerekeša, P. V.) On the theory of the Carleman problem for a strip with an analytic shift in the domain. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 12, 1070–1073, 1149. (S. G. Samko) **54** #2982 30A88

(*with* Vasilevskiĭ, N. L.; Kerekeša, P. V.; Litvinčuk, G. S.) A class of singular integral equations with involution, and its applications in the theory of boundary value problems for partial differential equations. I. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 9, 1692–1700, 1735. (Authors' summary) **58** #12244 45E10

(*with* Vasilevskiĭ, N. L.; Kerekeša, P. V.; Litvinčuk, G. S.) A class of singular integral equations with involution, and its applications to the theory of boundary value problems for partial differential equations. II. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 11, 2051–2062, 2109. (From the introduction) **58** #12245 45E10 (35M05)

(*with* Vasilevskiĭ, N. L.) Investigation of a boundary value problem for a partial differential equation of mixed type by means of reduction to a singular integral equation with a Carleman shift. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no.* 3(190), 15–19. (O. John) **58** #11987 35M05 (45E10)

Karelin, V. P. (*with* Melihov, A. N.; Beršteĭn, L. S.; Paškevič, A. P.) Graphs of regular expressions, and abstract synthesis of automata. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 4, 1–6. (A. Mučnik (RŽMat **1970** #3 V331)) **46** #1512 94A30

(*with* Melihov, A. N.; Beršteĭn, L. S.) Decomposition of abstract automata. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 3, 20–26. (Authors' summary) **46** #1511 94A30

(*with* Melihov, A. N.; Guzik, V. F.; Mironov, B. N.) The optimization of the design of linear digital integrating structures. (Russian) *Vyčisl. Sistemy No.* 47 (1971) 18–31. (Not reviewed) 94A20

(*with* Melihov, A. N.; Kureĭčik, V. M.) Dissection of graphs into subgraphs. (Russian) *Mathematical simulation and the theory of electrical circuits, No.* 10 (*Proc. Sem.*) (*Russian*), *pp.* 70–75, 203. *Izdat. "Naukova Dumka", Kiev*, 1973. (Jaroslav Nešetřil) **51** #5412 05C99

(*with* Mironov, B. N.) An algorithm for determining an isomorphism of a homogeneous nonoriented graph. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no* 145–148 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 2, 117–121. (Mi Chein) **54** #5050 05C99 (94A20)

Karelin, V. V. (*with* Afanas′ev, V. A.) Determination of the possible minimum time completion of a complex of jobs. (Russian. English summary insert) *Kibernetika* (*K* **1974**, *no.* 1, 89–90. (I. Gh. Ciobanu) **50** #15890 90B35

Karelina, A. V. (*with* Pečerskiĭ, Ju. N.; Negadaev-Nikonov, K. N.) ★Математичес методы в микро-палеонтологии. (Russian) [Mathematical methods in micropaleontology] *Izdat. "Ştiinca", Kishinev*, 1972. 106 *pp.* (From the publish description) **55** #2187 92A05

Karenin, L. Ja. A certain asymptotic property of the summability methods of Fou series. (Russian) *Proceedings of the Central Regional Association of Mathematics Departments, No.* 2: *Functional analysis and the theory of functions* (*Russian*), *pp.* 52– *Kalinin. Gos. Ped. Inst., Kalinin*, 1971. (Yung-ming Chen) **51** #10980 42A24

Relations between the values of the modulus of a polynomial and the modulus of derivative at certain points of the circle. (Russian) *Application of functional analysis approximation theory, No.* 2 (*Russian*), *pp.* 53–58. *Kalinin. Gos. Univ., Kalinin*, 1974. (L Hedberg) **53** #5837 30A06

Interpolation on countable sets of the unit circle. (Russian) *Application of functio analysis in approximation theory, No.* 5 (*Russian*), *pp.* 45–46. *Kalinin. Gos. Univ., Kali* 1975. (Editors) **58** #29589 41A05

Kareńska, Zofia (*with* Kucharzewski, Mieczysław) Geometric objects of the type [3,2 with a linear homogeneous transformation formula. Collection of articles dedicated Stanisław Gołąb on his 70th birthday, I. *Demonstratio Math.* **6** (1973), 143–169. (Mutô) **49** #6059 53A55

On some functional equation occurring in the theory of geometric objects. *Demonstratio Math.* **9** (1976), *no.* 3, 379–391. (J. Aczél) **54** #10911 39A35

Karetko, N. P. Thermoelastic state in a half-plane on the boundary of which a temperat is maintained that depends on time. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **19** *no.* 1, 79–81, 96. (A. Radu) **54** #9248 73.35

Karetnyĭ, O. Ja. (*with* Kaz′min, O. N.) Identification of the domain of exponent stability in the parameter plane. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehani* **1972**, *no.* 11, 1260. (P. Brunovský) **49** #7244 12D10

(*with* Gafijatullin, R. H.; Judkevič, M. L.) Strengthening of the frequency criteri for stability of pulse width and pulse frequency modulation systems. *Avtomat. Telemeh.* **1975**, *no.* 6, 174–175 (*Russian. English summary*); *translated as Autom Remote Control* **36** (1975), *no.* 6, *part* 2, 1038–1040. (Peter A. Cook) **52** #12919 93D99

(*with* Judkevič, M. L.; Gafijatullin, R. H.) On the problem of the analysis control systems that contain two automatic impulse elements. (Russian) *Izv. Vy Učebn. Zaved. Èlektromehanika* **1975**, *no.* 8, 867–870, 907. (J. S. Joel) **57** #2691 93D05

Analysis of the absolute stability of systems with differentiable nonlineariti (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromeh.* **1976**, *no.* 6, 694–695. **57** #5315 93D10

(*with* Judkevič, M. L.) Stability of systems with combined pulse modulatio *Avtomat. i Telemeh.* **1977**, *no.* 4, 43–48 (*Russian. English summary*); *translated Automat. Remote Control* **38** (1977), *no.* 4, *part* 1, 487–491. (A. S. C. Sinha) **58** #155 93D15

(*with* Jukevič, M. L.) Stability of control systems with an impulsive element and o nonlinearity or with two impulsive elements. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* (1977), 53–57, 114. (K. B. Datta) **58** #9630 93D10

Karev, G. P. Extinction probabilities for certain population models. (Russian) *Problem Kibernet. No.* 25 (1972), 55–61. (K. Dietz) **45** #7833 60J85 (92A15)

The convergence of functionals of a Markov chain. (Russian) *Dokl. Akad. Nau SSSR* **209** (1973), 778–781. (M. Skalsky) **47** #9717 60J05

Kareva, O. V. (*with* Gur′janov, V. M.) Introduction of a global radial coordinate system the method of travelling waves. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **197** *no.* 2(165), 97–100. (J. Kopáček) **56** #6127 35L20

Karganjan, Ī. R. (*with* Valēēv, Kim G.) A generalization of the Weierstrass theore (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **57** (1973), 257–263. (Mitrović) **49** #7428 30A08

(*with* Valēēv, Kim G.) The construction of an integral manifold of a linear differential equation with deviating argument. (Russian) *Functional and differential-difference equations* (*Russian*), *pp.* 41–55. *Izdanie Inst. Mat. Akad. Nau Ukrain. SSR, Kiev*, 1974. (M. M. Konstantinov) **51** #8589 34K15

(*with* Valēēv, Kim G.) The construction of the boundaries of the regions instability of a canonical system of linear differential equations. (Russian) *Mathematica physics, No.* 15 (*Russian*), *pp.* 26–34, 178. *Izdat. "Naukova Dumka", Kiev*, 1974. (K. W Chang) **50** #10468 34D99

(*with* Valēēv, Kim G.) The applicability of a certain implicit function theore (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **58** (1974), 135–138. (Mitrović) **50** #10310 32B05

(*with* Valēēv, Kim G.) A study of the stability of the oscillations of linear periodi recurring systems. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **6** (1975), *no.* 1, 23–29. (D. Bobrowski) **52** #11200 34C15

(*with* Valēēv, Kim G.) The reduction of a canonical system of linear differentia equations with periodic coefficients. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **62** (1976), *no.* 5, 275–281. (D. Bobrowski) **55** #780 34C20

(*with* Valēēv, Kim G.) The reduction of a canonical system of linear differentia equations with periodic coefficients. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 5 637–642, 709. (M. Švec) **57** #13017 34C20 (47H15)

Kargapolov, M. I. (*with* Merzljakov, Ju. I.; Remeslennikov, V. N.) ★Основы теории групп. Часть I. (Russian) [Foundations of group theory. Part I] Publications of the Department of Algebra and Mathematical Logic of the Novosibirsk State University. No. 3. *Novosibirsk. Gosudarstv. Univ., Novosibirsk*, 1968. *pp.* 1–196. (R. Kochendörffer) **48** #8606a 20–02

(*with* Merzljakov, Ju. I.) ★Основы теории групп. Часть 2. (Russian) [Foundations of group theory. Part 2] Publications of the Department of Algebra and Mathematical Logic of the Novosibirsk State University, No. 4. *Novosibirsk. Gosudarstv. Univ.,* *ovosibirsk*, 1969. *pp.* 199–365. (R. Kochendörffer) **48** #8606b 20–02

(*with* Čurkin, V. A.) Varieties of solvable groups. (Russian) *Algebra i Logika* **10** 971), 651–657. (I. D. Macdonald) **47** #1952 20E10

(*with* Merzljakov, Ju. I.) ★Основы теории групп. (Russian) [Fundamentals of oup theory] *Izdat. "Nauka", Moscow*, 1972. 240 *pp.* (O. H. Kegel) **56** #3096a –01

(*with* Širšov, A. I.; Bokut′, L. A.; Kuz′min, E. N.; Slin′ko, A. M.; Šestakov, I. P.) onstantin Aleksandrovič Ževlakov. (Russian) *Mat. Zametki* **12** (1972), 233–237. ditors) **47** #3138 01A70 (17D05)

(*with* Zaĭcev, D. Ī.; Čarīn, V. S.) Infinite groups with prescribed properties of bgroups. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 618–633, 716. (L. Dornhoff) **47** #1956 20E20 (01A70)

(*with* Marčuk, G. I.; Kulikov, L. Ja.; Taĭmanov, A. D.; Plotkin, B. I.; Kemhadze, S.; Andrunakievič, V. A.; Eršov, Ju. L.; Janovskiĭ, R. G.; Širšov, A. I.) From eeches at the opening of the Tenth All-Union Algebra Colloquium dedicated to the emory of Academician A. I. Mal′cev. (Russian) *Selected questions of algebra and logic ollection dedicated to the memory of A. I. Mal′cev*) (*Russian*), *pp.* 300–314. *Izdat. Nauka" Sibirsk. Otdel., Novosibirsk*, 1973. (Editors) **58** #21310 01A70

(*with* Eremin, I. I.; Zaĭcev, D. Ī.; Čarīn, V. S.) Sergeĭ Nikolaevič Černikov (on the ccasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 1(169), 59–263 (1 *plate*). (Editors) **52** #5301 01A70

Some questions in the theory of soluble groups. *Proceedings of the Second nternational Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), p. 389–394. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin*, 1974. (A. H. Rhemtulla) 1 #707 20E15

(*with* Merzljakov, Ju. I.) ★Podstawy teorii grup. (Polish) [Fundamentals of group heory] Translated from the Russian by Tadeusz Józefiak. *Państwowe Wydawnictwo Naukowe, Warsaw*, 1976. 238 *pp.* (Editors) **56** #3097 20–01

(*with* Merzljakov, Ju. I.) ★Основы теории групп. (Russian) [Fundamentals of group theory] Second edition. *Izdat. "Nauka", Moscow*, 1977. 240 *pp.* (O. H. Kegel) 6 #3096b 20–01

See also **Biography: Mal′cev, A. I.**, (Not reviewed); **Selected questions of algebra nd logic**, **48** #16; **Kourovka notebook: unsolved problems in the theory of groups**, 0 #2316; **Kourovka notebook: unsolved problems in the theory of groups**, **51** #10443; **Obituary: Kargapolov, M. I.**, **53** #2610; **Eršov, Ju. L.; et al.**, **53** #12839; **Obituary: Kargapolov, M. I.**, **54** #9957; **Eršov, Ju. L.; et al.**, **55** #5352; **All-Union Symposium: Group Theory**, **57** #3220; **All-Union Colloquium: Algebra**, **58** #15767a *and* **All-Union Colloquium: Algebra**, **58** #15767b

ažanov, Z. K. (*with* Konurbaeva, B. M.) Determination of the costs and economy of complex-forming industries. (Russian) *Coding theory and information modeling, No.* 2 (*Russian*), *pp.* 76–81, 245. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1975. (Bojan Popović) **58** #20535 90D40 (90A15)

ger, Adolf Kinematic geometry in n-dimensional Euclidean and spherical space. *Czechoslovak Math. J.* **22(97)** (1972), 83–107. (J. Hoschek) **45** #2601 53A35

Kinematic geometry of regular motions in homogeneous space. *Czechoslovak Math. J.* **28(103)** (1978), *no.* 2, 327–338. (A. Švec) **57** #13792 53C30

gin, B. A. (*with* Mihaĭlov, G. A.) An investigation of the effectiveness of the use of asymptotic solutions in computations by the Monte Carlo method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 150–158. (M. Nosal) **45** #7913 65C05

(*with* Marčuk, G. I.; Mihaĭlov, G. A.; Nazaraliev, M. A.; Darbinjan, R. A.; Elepov, B. S.) ★Метод Монте-Карло в атмосферной оптике. (Russian) [The Monte Carlo method in atmospheric optics] *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1976. 283 *pp.* (I. Văduva) **58** #14993 86.65 (65C05, 78.45)

gon, Robert Newton, Barrow and the hypothetical physics. *Centaurus* **11** (1965/66), *no.* 1, 46–56. (M. Kline) **58** #10050 01A45

hov, A. N. (*with* Ščedrin, N. I.) ★Математические методы программирования в экономике. (Russian) [Mathematical programming methods in economics] Математическая Статистика для Экономистов. [Mathematical Statistics for Economists] *Izdat. "Statistika", Moscow*, 1974. 143 *pp.* (K. Zimmermann) **53** #10173 90–01

rhumäki, Juhani Some growth functions of context-dependent L-systems. *L-systems* (*Third Open House, Comput. Sci. Dept., Aarhus Univ., Aarhus*, 1974), *pp.* 127–135, 327–338. *Lecture Notes in Computer Science, Vol.* 15, *Springer, Berlin*, 1974. (Branislav Rovan) **55** #4797 68A30 (92A05)

The family of PDOL growth-sets is properly included in the family of DOL growth-sets. *Ann. Acad. Sci. Fenn. Ser. A I Math. No.* 590 (1974), 9 *pp.* (Branislav Rovan) **51** #14655 68A30

Two theorems concerning recognizable N-subsets of σ. *Theoret. Comput. Sci.* **1** (1975/76), *no.* 4, 317–323. (Pavel Strnad) **53** #14996 68A30 (68A25)

On length sets of informationless L systems. *Automata, languages, development*, *pp.* 227–242. *North-Holland, Amsterdam*, 1976. (Branislav Rovan) **58** #13973 68A30

Studies of informationless L systems. Summary of dissertation. *Ann. Univ. Turku. Ser. A I No.* 171 (1976), 7 *pp.* (A. Salomaa) **56** #10167 68A30 (94A30)

The decidability of the equivalence problem for polynomially bounded D0L sequences. (French summary) *RAIRO Informat. Théor.* **11** (1977), *no.* 1, 17–28, iii. (K. P. Lee) **57** #4648 68A30

Remarks on commutative N-rational series. *Theoret. Comput. Sci.* **5** (1977/78), *no.* 2, 211–217. (M. L. Laplaza) **58** #3696 68A25 (94A30)

arian, Z. A. The covering problem for the fields $Q(-1)^{1/2}$ and $Q(-3)^{1/2}$. *J. Number Theory* **8** (1976), *no.* 2, 233–244. (Peter Gruber) **58** #530 10E35 (10E25)

aribaev, S. K. Asymptotic formulas for the distribution of the elementary Abelian fields of type (l, l, l, l, l, l) in the classes Q_r. (Russian) *Collection of Reports of the Algebraic Seminar of the Department of Algebra and Number Theory, No.* 2 (*Russian*), *pp.* 12–20. *Kazah. Gos. Ped. Inst., Alma-Ata*, 1972. (W. Narkiewicz) **55** #2831 12A35 (10H15)

Asymptotic formulae for the distribution of the elementary abelian fields of degree 1^6 and type (l,l,l,l,l). (Russian) *Collection of Reports of the Algebraic Seminar of the Faculty of Algebra and Number Theory, No.* 1 (*Russian*), *pp.* 21–32. *Kazah. Gos. Ped. Inst., Alma-Ata*, 1972. (Matti Jutila) **50** #4533 12A35 (10H15)

arigl, Günther Die Verbände mit nichteinfacher Funktionenalgebra. *Monatsh. Math.* **84** (1977), *no.* 4, 289–302. (Hartmut Höft) **57** #3018 06A20

Karim, Fazlul Analysis of residuals. *J. Statist. Res.* **9** (1975), *no.* 2, 87–92. (Author's summary) **58** #8050 62J10

Karim, M. R. (*with* Chirlian, Paul M.) Synthesis of resistive n-port networks on linear 2-tree port structures. *IEEE Trans. Circuit Theory* **CT-19** (1972), 284–286. (Authors' summary) **56** #8197 94A20

Karim, R. I. A. *See* **Abdel Karim, Rahmi Ibrahim Ibrahim**

Karimbaev, T. D. (*with* Eržanov, Ž. S.) ★Метод конечных элементов в задачах механики горных пород. (Russian) [The finite element method in problems of rock mechanics] *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1975. 238 *pp.* (H. G. Hopkins) **54** #14536 73.65

Karimberdieva, S. Solution of Poisson's equation in a spherical coordinate system. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 22 (1973), 69–74, 197. (Author's summary) **58** #19245 65N99

Karimov, A. U. (*with* Kurbatkin, G. P.; Islamov, K. A.) Solution of equations of baroclinic atmosphere dynamics by means of spherical functions. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), *no.* 2, 80–106. (RŽMat **1976** #3 B1034) **58** #32837 86.35 (35C99)

Some stability theorems for systems whose motions are described by integro-differential equations. (Russian) *Problems of analytical mechanics, stability and control theories* (*Proc. Second Četaev Conf., Kazan*, 1973), *Vol.* 2 (*Russian*), *pp.* 163–166, 406–407. *Kazan. Aviacion. Inst., Kazan*, 1976. (Author's summary) **58** #8616 70.49

Karimov, B. A certain estimate of the solutions of simultaneous Diophantine approximations. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **16** (1972), *no.* 4, 29–33, 79. (F. Schweiger) **48** #243 10F10

Karimov, D. H. *See* **Economic-mathematical methods in the planning of the national economy**, **55** #5183

Karimov, I. (*with* Presman, V. S.) The oscillations of a nonideal lattice. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1975**, *no.* 3, 71–74, 97. (Vladimir Šips) **52** #12656 82.45

Karimov, R. N. (*with* Volgin, V. V.) Certain properties of the amplitude frequency characteristics of linear systems of automatic regulation and the quality of regulation in the case of random actions. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1973**, *no.* 2, 197–205, 255. (W. M. Wonham) **48** #13368 93C05

Karimov, S. The characteristic numbers of a second order linear homogeneous equation with periodic coefficient. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 9(124), 44–47. (L. Pintér) **48** #6516 34A30

Asymptotic behavior of the solutions of a system of differential equations with a small parameter multiplying the derivatives in the case of instability of the focus. (Russian) *Studies in integro-differential equations in Kirgizia* (*Russian*), *pp.* 77–95, 430. *Izdat. "Ilim", Frunze*, 1977. (Author's summary) **58** #28933 34E15 (34D15)

(*with* Imanaliev, M. I.) Asymptotic theory of a system of differential equations with a small parameter multiplying the derivatives. (Russian) *Studies in integro-differential equations in Kirgizia* (*Russian*), *pp.* 96–116, 431. *Izdat. "Ilim", Frunze*, 1977. (Editors) **58** #22864 34E15

Asymptotic behavior of the solutions of a system of differential equations with a small parameter multiplying the derivatives in the case of instability of the focus. (Russian) *Studies in integro-differential equations in Kirgizia* (*Russian*), *pp.* 405–412, 437. *Izdat. "Ilim", Frunze*, 1977. (From the text) **58** #22731 34A45

(*with* Imanaliev, M. I.) Asymptotic theory of a certain system of differential equations with a small parameter multiplying the derivatives. (Russian) *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Teil* 1, *pp.* 351–357. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (Frederick A. Howes) **58** #22848 34D15 (34E15)

(*with* Imanaliev, M. I.) Optimal determination of the parameter of regularization for nonlinear integral equations of the first kind. (Russian) *Izv. Akad. Nauk Kirgiz. SSR* **1977**, *no.* 6, 8–16. (Stefan Balint) **57** #3762 45B05

Karimov, U. I. Abū'l-Rayḥān al-Bīrūnī (life and works). (Uzbek) *Collection dedicated to the* 1000*th anniversary of the birth of al-Bīrūnī* (*Uzbek*), *pp.* 19–31. *Ŭzbekiston SSR "Fan" Našriëti, Tashkent*, 1973. (Editors) **58** #21048 01A30

See also **al-Bīrūnī, Abū'l-Rayḥān Muḥammad ibn Aḥmad**, **50** #43 *and* **Collection: Anniversary of the birth of al-Bīrūnī**, **58** #4821

Karimov, Z. Š. The estimation of a function represented by a Dirichlet series. (Russian) *Mat. Sb.* (*N.S.*) **96(138)** (1975), *no.* 4, 560–567, 645. (G. Halász) **52** #5962 30A64

The estimation of a Dirichlet polynomial in the case of sparse exponents. (Russian) *Mat. Zametki* **19** (1976), *no.* 5, 691–698. (H. J. Landau) **55** #3265 30A82 (41A10)

Karimova, H. H. (*with* Vladimirov, V. S.; Mihaĭlov, V. P.; Vašarin, A. A.; Sidorov, Ju. V.; Šabunin, M. I.) ★Сборник задач по уравнениям математической физики. (Russian) [Collection of problems on the equations of mathematical physics] *Izdat. "Nauka", Moscow*, 1974. 271 *pp.* (Editors) **52** #14556 35–02

(*with* Vladimirov, V. S.; Mihaĭlov, V. P.; Šabunin, M. I.; Sidorov, Ju. V.; Vašarin, A. A.) ★Recueil de problèmes d'équations de physique mathématique. Traduit du russe par Irina Pétrova. *Éditions Mir, Moscow*, 1976. 264 *pp.* (Editors) **55** #5988 35–01

Karimova, M. M. L_p approximation of functions of two variables by polynomials, and theorems of Tauberian type for double integrals and series. (Russian) *Dušanbin. Gos. Ped. Inst. Učen. Zap.* **53** (1966), *Ser. Mat. no.* 5, 58–67. (See RŽMat **1968** #1 B126) 41A63 (40E05)

(*with* Subhankulov, M. A.) A sharpening of the Hardy-Littlewood theorem and the Knopp theorem on double power series. (Russian) *Dušanbin. Gos. Ped. Inst. Učen. Zap.* **53** (1966), *Ser. Mat. no.* 5, 68–76. (See RŽMat **1967** #12 B29) 40B05

Kariotis, Constantine A. (*with* Bartle, Robert G.) Local spectral mapping theorems. *Bull. Amer. Math. Soc.* **79** (1973), 414–415. (F. Smithies) **47** #4038 47B40 (47A60)

(*with* Bartle, Robert G.) Some localizations of the spectral mapping theorem. *Duke Math. J.* **40** (1973), 651–660. (Henry R. Dowson) **47** #7495 47B40

Kariv, O. (*with* Even, Shimon) On $O(N^{2.5})$ algorithm for maximum matching in general graphs. 16*th Annual Symposium on Foundations of Computer Science* (*Berkeley, Calif.*, 1975), *pp.* 100–112. *IEEE Computer Society, Long Beach, Calif.*, 1975. (Narsingh Deo) **55** #1800 68A10 (05C35)

Karivaratharajan, P. (*with* Thulasiraman, K.) K-sets of a graph and vulnerability of communication nets. *Matrix Tensor Quart.* **25** (1974/75), 63–66. (Takao Ozawa)

54 #7317a 05C99 (94A20)

(*with* Thulasiraman, K.) K-sets of a graph and vulnerability of communication nets. II. *Matrix Tensor Quart.* **25** (1974/75), 77–86. (Takao Ozawa) **54** #7317b 05C99 (94A20)

Kariya, Takeaki (*with* Eaton, Morris L.) Robust tests for spherical symmetry. *Ann. Statist.* **5** (1977), *no.* 1, 206–215. (Christine Waternaux) **55** #1611 62G35 (62H15, 62A05)

A robustness property of the tests for serial correlation. *Ann. Statist.* **5** (1977), *no.* 6, 1212–1220. (Christine Waternaux) **57** #7870 62H20 (62H15)

The general MANOVA problem. *Ann. Statist.* **6** (1978), *no.* 1, 200–214. (T. D. Dwivedi) **57** #14265 62H15 (62C07)

(*with* Kanazawa, Mitsuyo) A locally most powerful invariant test for the equality of means associated with covariate discriminant analysis. *J. Multivariate Anal.* **8** (1978), *no.* 1, 134–140. (S. John) **58** #3201 62H15

Kariyama, Kazutoshi Some remarks on representations of p-adic Chevalley groups. *Hiroshima Math. J.* 7 (1977), *no.* 3, 731–741. (A. J. Silberger) **58** #16986 22E50

Karjakin, Ju. E. (*with* Karjakin, V. E.; Demidova, T. V.) Application of the method of characteristics to the solution of the universal equation for a plane boundary layer in a conducting fluid. *Magnit. Gidrodinamika* **9** (1973), *no.* 1, 49–55 (*Russian*); *translated as Magnetohydrodynamics* **9** (1973), 42–47 (1974). (R. Nardini) **50** #15567 76.35

Karjakin, V. E. (*with* Karjakin, Ju. E.; Demidova, T. V.) Application of the method of characteristics to the solution of the universal equation for a plane boundary layer in a conducting fluid. *Magnit. Gidrodinamika* **9** (1973), *no.* 1, 49–55 (*Russian*); *translated as Magnetohydrodynamics* **9** (1973), 42–47 (1974). (R. Nardini) **50** #15567 76.35

(*with* Popov, F. D.) Calculation of the spatial supersonic flow of a viscous and heat conducting gas stream around blunt bodies. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1545–1555, 1628. (Authors' summary) **56** #17481 76.65

Karjakin, V. P. *See* **Coding theory and information modeling, 49** #6994

Kar′jus, V. V. (*with* Petrenko, A. F.) Coding of the states of an asynchronous automaton that is realized on the basis of a model with a two-stage memory. (Russian) *Theory of finite automata and its applications, No.* 1 (*Russian*), *pp.* 35–46, 65. *Izdat. "Zinatne", Riga*, 1973. (R. N. Goss) **50** #12477 94A25

Karkar, M. T. (*with* Green, J. A.) A theorem on the restriction of group characters, and its application to the character theory of SL(n,q). *Math. Ann.* **215** (1975), 131–134. (G. I. Lehrer) **52** #554 20C15

Karkheck, J. P. The exact nonlinear driven response of a one-dimensional gas. *Phys. A* **89** (1977), *no.* 1, 57–72. (Author's summary) **56** #14060 76.35

Karkīnbaēv, Ī. Application of the averaging method to the study of a system with switching. (Russian) *Analytic methods in the theory of differential equations* (*Russian*), *pp.* 51–62. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (From the text) **58** #22823 34C30

Karklin′, I. P. *See* **Kārkliņa, I.**

Karklin′, V. B. (*with* Karklin′š, B. B.) Universally automorphically inverse loops. (Russian) Nets and quasigroups. *Mat. Issled. Vyp.* 39 (1976), 82–86, 232. (K. Drbohlav) **57** #507 20N05

(*with* Karklin′š, B. B.) Inverse loops. (Russian) Nets and quasigroups. *Mat. Issled. Vyp.* 39 (1976), 87–101, 232. (V. A. Artamonov) **56** #516 20N05

Kārkliņa, I. Topological equivalence in the large of systems of Pfaffian differential equations. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 95–104. *Izdat. "Zinatne", Riga*, 1971. (A. Haimovici) **47** #7187 35A30 (34C99)

Topological equivalence of linear systems of Pfaffian equations in neighborhoods of their one-dimensional closed characteristics. (Russian) *Differencial′nye Uravnenija* **8** (1972), 1943–1949, 2110. (L. Reiziņš) **47** #2633 35A30 (34C99, 58A15)

Topological equivalence of certain linear systems of Pfaffian equations. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 12 (*Russian*), *pp.* 93–98. *Izdat. "Zinatne", Riga*, 1973. (D. Newton) **49** #7529 34C35

Reduction of the linear Pfaff equation with periodic coefficients to an equation with constant coefficients. (Russian. Latvian summary) *Latvian mathematical yearbook*, 16 (*Russian*), *pp.* 208–212, 275. *Izdat. "Zinatne", Riga*, 1975. (E. Leimanis) **52** #3643 34A25 (58A15)

The isolatedness of singular points of Pfaffian systems. (Russian. Latvian summary) *Latvian mathematical yearbook*, 16 (*Russian*), *pp.* 213–217, 275. *Izdat. "Zinatne", Riga*, 1975. (E. Leimanis) **52** #3644 34A25 (34C05, 58A15)

Singularity of an orbit that contains a singular point. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 8, 1506–1507, 1533. (V. Lakshmikantham) **52** #915 34C99

See also **Reiziņš, L. È.; et al., 56** #15332

Karklin′š, B. B. (*with* Karklin′, V. B.) Universally automorphically inverse loops. (Russian) Nets and quasigroups. *Mat. Issled. Vyp.* 39 (1976), 82–86, 232. (K. Drbohlav) **57** #507 20N05

(*with* Karklin′, V. B.) Inverse loops. (Russian) Nets and quasigroups. *Mat. Issled. Vyp.* 39 (1976), 87–101, 232. (V. A. Artamonov) **56** #516 20N05

Kārkliņš, I. (*with* Levčenkov, V. S.) Invariance of the index of linear homomorphisms in Banach spaces under sequentially compact approximation. (Russian) *Latvian mathematical yearbook*, 17 (*Russian*), *pp.* 3–23, 276. *Izdat. "Zinatne", Riga*, 1976. (Authors' summary) **57** #17342 47A65 (65J05)

Karkovskiĭ, Ju. I. (*with* Meškov, S. I.) The transmission function of the theory of response. (Russian) *Prikl. Mat. i Programmirovanie Vyp.* 13 (1975), 84–92, 148–149. (Authors' summary) **57** #15633 93C10

Karkuzašvili, K. N. (*with* Karkuzašvili, N. N.) Construction of the solution of the first auxiliary problem for solid confocal ellipses. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 19–27. *Naukova Dumka, Kiev*, 1971. (M. Mişicu) **46** #4826 73.30

Karkuzašvili, N. N. (*with* Karkuzašvili, K. N.) Construction of the solution of the first auxiliary problem for solid confocal ellipses. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 19–27. *Naukova Dumka, Kiev*, 1971. (M. Mişicu) **46** #4826 73.30

(*with* Aziev, A. A.) A problem of heat conduction in an infinite plate. (Russian) *Moskov. Oblast. Ped. Inst. Sb. Trudov* **15** (1972), *no.* 2 *Teor. Funkcii Funkcional. Anal. i Priložen.*, 149–152 (1973). (Not reviewed) 35K05

See also **Mathematical physics, 46** #1531 *and* **Questions in applied mathematics, 48** #5448

Karl, B. *See* **Carl, B.**

Karl, H. *See* **Struik, Dirk J., 50** #1810 (EA **50**)

Karl, Irmhild (*with* Jugel, Albert) Übertragungsverhalten zellularer Strukturen mit Schwellenwertelementen. *Wiss. Z. Techn. Univ. Dresden* **22** (1973), 797–802. Wechler) **50** #16163 94A30

Ausbreitungsverhalten von L-Anfangskonfigurationen in linearen zellularen Strukturen mit 0, L-Zustandszellen. *Nachrichtentech. Elektronik* **24** (1974), 11–12 Wechler) **50** #16164 94A30

(*with* Wunsch, Gerhard; Jugel, Albert) Definition und Grundgleichungen für Raum-Zeit-Systeme. *Z. Elek. Informations- und Energietech.* **4** (1974), 5–8. (Robe Baer) **50** #6682 94A30

Karleson, L. *See* **Carleson, Lennart**

Karlgren, Hans Multi-index syntactical calculus. *Comput. Linguist.* **8** (1969), 5–24. (Edmundson) **52** #16151 68A30

Categorial expressions of the Nth power. Kalmár-Festschrift. *CL&CL—Co Linguist. Comput. Lang.* **9** (1973), 99–105. (Ronald E. Prather) **56** #10168 68A

Karlin, Alessandro (*with* Locatelli, Arturo; Zanardini, Claudio) On the synthesis of trajectory insensitive linear systems. *Sensitivity, adaptivity and optimality* (*Proc. IFAC Sympos. on Sensitivity, Adaptivity and Optimality, Ischia*, 1973), *pp.* 183- *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (Authors' summary) **56** #11183 9 (93C45)

(*with* Locatelli, Arturo; Zanardini, C.) Trajectory insensitivity via feedback. (French, German and Russian summaries) *Automatica—J. IFAC* **10** (1974), 517– **56** #14964 93C45

Karlin′, I. P. *See* **Kārkliņa, I.**

Karlin, Maurice (*with* MacWilliams, F. Jessie) On finding low weight vectors in quad residue codes for $p=8m-1$. *SIAM J. Appl. Math.* **25** (1973), 95–104. (R. J. McEl **47** #10137 94A10

(*with* Bhargava, Vijay K.; Tavares, Stafford E.) A note on extended quater quadratic residue codes and their binary images. *Inform. and Control* **38** (1978), *n* 148–153. (F. J. MacWilliams) **58** #9767 94A10

Karlin, Samuel (*with* McGregor, James) Iteration of analytic functions of several varia *Problems in analysis* (*Sympos. in honor of Salomon Bochner, Princeton Univ., Princ N.J.*, 1969), *pp.* 81–92. *Princeton Univ. Press, Princeton, N.J.*, 1970. (J. Kajiw **49** #11570 58F99 (60J80)

(*with* Feldman, Marcus W.) Linkage and selection: two locus symmetric viab model. *Theoret. Population Biology* **1** (1970), *no.* 1, 39–71. (Authors' summary) **52** #16714 92A10 (92A15)

★Основы теории случайных процессов. (Russian) [Fundamentals of the theor random processes] Translated from the English by V. V. Kalašnikov. Edited by I Kovalenko. *Izdat. "Mir", Moscow*, 1971. 536 *pp.* (Editors) **50** #3349 60Jxx (60 62Mxx)

(*with* Athreya, Krishna B.) On branching processes with random environmen Extinction probabilities. *Ann. Math. Statist.* **42** (1971), 1499–1520. (P. Jagers) **45** #7829 60J80

(*with* Athreya, Krishna B.) Branching processes with random environments Limit theorems. *Ann. Math. Statist.* **42** (1971), 1843–1858. (P. Jagers) **45** #78 60J80

(*with* Karon, John M.) Poised and non-poised Hermite-Birkhoff interpolati *Indiana Univ. Math. J.* **21** (1971/72), 1131–1170. (T. J. Rivlin) **47** #3877 41A0

(*with* McGregor, James) On mutation selection balance for two-locus haploid diploid populations. *Theoret. Population Biology* **2** (1971), 60–70. (P. Tautu) **49** #10 92A10

(*with* Feldman, Marcus W.) The evolution of dominance: a direct approach through the theory of linkage and selection. *Theoret. Population Biology* **2** (19 482–492. (L. A. Bunimovič) **49** #4594 92A10

(*with* McGregor, James) Equilibria for genetic systems with weak interacti *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probab* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. IV: Biology and health, pp.* 79- *Univ. California Press, Berkeley, Calif.*, 1972. (Edward Pollak) **53** #12643 92A1

Some extremal problems for eigenvalues of certain matrix and integral operato *Advances in Math.* **9**, 93–136 (1972). (John W. Lee) **48** #947 47B99 (15A48)

Some mathematical models of population genetics. *Amer. Math. Monthly* **79** (19 699–739. (D. Ludwig) **53** #7533 92A10

On a class of best nonlinear approximation problems. *Bull. Amer. Math. Soc.* (1972), 43–49. (L. L. Schumaker) **45** #786 41A50

(*with* Micchelli, Charles A.) The fundamental theorem of algebra for monospli satisfying boundary conditions. *Israel J. Math.* **11** (1972), 405–451. (L. L. Schumak **46** #2312 41A15

(*with* Karon, John M.) On Hermite-Birkhoff interpolation. Collection of artic dedicated to J. L. Walsh on his 75th birthday, V (Proc. Internat. Conf. Approximati Theory, Related Topics and their Applications, Univ. Maryland, College Park, M 1970). *J. Approximation Theory* **6** (1972), 90–115. (A. K. Varma) **49** #3375 41A

(*with* McGregor, James) Addendum to a paper of W. Ewens. *Theoret. Populat Biology* 3 (1972), 113–116. (Edward D. Rothman) **48** #3527 92A15

(*with* McGregor, James) Application of method of small parameters to multi-ni population genetic models. *Theoret. Population Biology* 3 (1972), 186–209. (P. Tau **49** #10400 92A10

(*with* McGregor, James) Polymorphisms for genetic and ecological systems w weak coupling. *Theoret. Population Biology* 3 (1972), 210–238. (P. Tautu) **49** #10399 92A10

Sex and infinity: a mathematical analysis of the advantages and disadvantages genetic recombination. *The mathematical theory of the dynamics of biological populatio* (*Proc. Conf., Oxford*, 1972), *pp.* 155–194. *Academic Press, London*, 1973. (From introduction) **58** #20591b 92A10

(*with* Kaplan, Norman) Criteria for extinction of certain population growth processes with interacting types. *Advances in Appl. Probability* **5** (1973), 183–199. (D. Daley) **49** #1605 60J85

Some variational problems on certain Sobolev spaces and perfect splines. *Bu Amer. Math. Soc.* **79** (1973), 124–128. (Hansgeorg Jeggle) **46** #7883 46E35 (41A

To I. J. Schoenberg and his mathematics. Collection of articles dedicated to Isa

Schoenberg on his 70th birthday, I. *J. Approximation Theory* **8** (1973), vi–ix.
ors) **49** #2234 01A70

nequalities for symmetric sampling plans. I. *Ann. Statist*. **2** (1974), 1065–1094. (P.
en) **51** #9287 62D05

with Pinkus, Allan) Oscillation properties of generalized characteristic polynomials
otally positive and positive definite matrices. *Linear Algebra and Appl*. **8** (1974),
312. (M. F. Smiley) **49** #7284 15A48

with Carmeli, D.) Some population genetic models combining artificial and natural
tion pressures. *Proc. Nat. Acad. Sci. U.S.A.* **71** (1974), 4727–4731. (Edward Pollak)
14810 92A10

with McGregor, James) Towards a theory of the evolution of modifier genes.
ret. Population Biology **5** (1974), 59–103. (Ivar Heuch) **53** #15418 92A10

with Lieberman, Uri) Random temporal variation in selection intensities: case of
population size. *Theoret. Population Biology* **6** (1974), 335–382. (L. Demetrius)
4718 92A15

with Levikson, Benny) Temporal fluctuations in selection intensities: case of small
lation size. *Theoret. Population Biology* **6** (1974), 383–412. (L. Demetrius)
4719 92A15

with Taylor, Howard M.) ★A first course in stochastic processes. Second edition.
emic Press [*A subsidiary of Harcourt Brace Jovanovich, Publishers*], *New*
-London, 1975. xvii + 557 *pp*. (Editors) **50** #8668 60Gxx (60Jxx, 60Kxx)

with McGregor, James) Linear growth models with many types and
idimensional Hahn polynomials. *Theory and application of special functions* (*Proc.*
nced Sem., Math. Res. Center, Univ. Wisconsin, Madison, Wis., 1975), *pp*. 261–288.
Res. Center, Univ. Wisconsin, Publ. No. 35, *Academic Press, New York*, 1975.
vard Pollak) **53** #10361 92A15 (60J25)

with McGregor, James) Some properties of determinants of orthogonal
nomials. *Theory and application of special functions* (*Proc. Advanced Sem., Math.*
Center, Univ. Wisconsin, Madison, Wis., 1975), *pp*. 521–550. *Math. Res. Center,*
Wisconsin, Publ. No. 35, *Academic Press, New York*, 1975. (Jozef Miklośko)
3586 42A52

with Friedland, Shmuel) Some inequalities for the spectral radius of non-negative
ices and applications. *Duke Math. J*. **42** (1975), *no*. 3, 459–490. (R. A. Brualdi)
12892 15A42 (47B99)

(*with* Ziegler, Zvi) Some inequalities for generalized concave functions. Collection
ticles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, III. *J.*
roximation Theory **13** (1975), 276–293. (J. Calvert) **51** #13156 26A51 (41A50)

(*with* Liberman, Uri) Random temporal variation in selection intensities: one-locus
allele model. *J. Math. Biol*. **2** (1975), *no*. 1, 1–17. (Edward Pollak) **52** #12842
10

(*with* Carmelli, Dorit) Some population genetic models combining artificial and
ral selection pressures. I. One-locus theory. *Theoret. Population Biol*. **7** (1975),
122. (K. Dietz) **51** #12353 92A10

(*with* Carmelli, Dorit) Some population genetic models combining artificial and
ral selection pressures. II. Two-locus theory. *Theoret. Population Biol*. **7** (1975),
-148. (K. Dietz) **51** #12354 92A10

(*with* Avni, Haim) Derivation of the eigenvalues of the configuration process
ced by a labeled direct product branching process. *Theoret. Population Biology* **7**
5), 221–228. (Edward Pollak) **57** #11835 92A15 (92A10)

General two-locus selection models: some objectives, results and interpretations.
oret. Population Biology **7** (1975), 364–398. (Ilan Eshel) **52** #5080 92A10

(*with* Carmelli, Dorit) Numerical studies on two-loci selection models with general
ilities. *Theoret. Population Biology* **7** (1975), 399–421. (Ilan Eshel) **52** #5081
10

(*with* Levikson, Benny) Random temporal variation in selection intensities acting
nfinite diploid populations: diffusion method analysis. *Theoret. Population Biology* **8**
5), *no*. 3, 292–300. (Ivar Heuch) **53** #15419 92A10

Interpolation properties of generalized perfect splines and the solutions of certain
emal problems. I. *Trans. Amer. Math. Soc*. **206** (1975), 25–66. (L. L. Schumaker)
#3754 41A15

(*with* Studden, William J.) ★**Чебышевские системы и их применение в анализе и**
истике. (Russian) [Čebyšev systems and their applications in analysis and statistics]
aslated from the English by V. A. Egorov, V. B. Melas and E. V. Sedunov. Edited by
Ermakov. *Izdat. "Nauka", Moscow*, 1976. 568 *pp*. (Editors) **56** #920 41–02

Population subdivision and selection migration interaction. *Population genetics and*
ogy (*Proc. Conf., Israel*, 1975), *pp*. 617–657. *Academic Press, New York*, 1976. (Byron
. Morgan) **56** #8078 92A10 (92A15)

(*with* Richter-Dyn, Nira) Some theoretical analyses of migration selection
raction in a cline: a generalized two range environment. *Population genetics and*
ogy (*Proc. Conf., Israel*, 1975), *pp*. 659–706. *Academic Press, New York*, 1976. (Ju. I.
bič) **56** #11090 92A15 (92A10)

On a class of best nonlinear approximation problems and extended monosplines.
dies in spline functions and approximation theory, *pp*. 19–66. *Academic Press, New*
k, 1976. (Author's summary) **58** #1895 41A50 (41A55)

A global improvement theorem for polynomial monosplines. *Studies in spline*
tions and approximation theory, *pp*. 67–82. *Academic Press, New York*, 1976.
thor's summary) **58** #1861 41A15

(*with* Pinkus, Allan) Gaussian quadrature formulae with multiple nodes. *Studies in*
ne functions and approximation theory, *pp*. 113–141. *Academic Press, New York*, 1976.
thors' summary) **57** #17094 41A55 (65D30)

(*with* Pinkus, Allan) An extremal property of multiple Gaussian nodes. *Studies in*
ne functions and approximation theory, *pp*. 143–162. *Academic Press, New York*, 1976.
thors' summary) **58** #1862 41A15 (41A55)

(*with* Pinkus, Allan) Interpolation by splines with mixed boundary conditions.
dies in spline functions and approximation theory, *pp*. 305–325. *Academic Press, New*
k, 1976. (Authors' summary) **58** #1830 41A05 (41A15)

(*with* Pinkus, Allan) Divided differences and other nonlinear existence problems at
emal points. *Studies in spline functions and approximation theory*, *pp*. 327–352.
demic Press, New York, 1976. (Authors' summary) **58** #1846 41A10

Oscillatory perfect splines and related extremal problems. *Studies in spline functions*
approximation theory, *pp*. 371–460. *Academic Press, New York*, 1976. (Author's
summary) **58** #1863 41A15

Generalized Markov Bernstein type inequalities for spline functions. *Studies in spline functions and approximation theory*, *pp*. 461–484. *Academic Press, New York*, 1976. (Author's summary) **58** #1864 41A15

Some one-sided numerical differentiation formulae and applications. *Studies in spline functions and approximation theory*, *pp*. 485–500. *Academic Press, New York*, 1976. (Author's summary) **58** #3329 65D25

(*with* Ziegler, Zvi) Some applications to inequalities of the method of generalized convexity. *J. Analyse Math*. **30** (1976), 281–303. (Roy M. Rakestraw) **55** #11152 52A40 (26A51)

(*with* Liberman, Uri) A phenotypic symmetric selection model for three loci, two alleles: the case of tight linkage. *Theoret. Population Biology* **10** (1976), *no*. 3, 334–364. (Ju. I. Ljubič) **57** #5176 92A10

See also **Studies in spline functions and approximation theory**, **52** #14741; **Sharma, Divakar**, **53** #14741; **Population genetics and ecology**, **54** #2238 *and* **Problems: Population genetics**, **56** #17911

Karlof, John K. The subclass algebra associated with a finite group and subgroup. *Trans. Amer. Math. Soc*. **207** (1975), 329–341. (William H. Gustafson) **51** #3282 20C05

(*with* Downey, Charles P.) On the existence of $[M, n]$ group codes for the Gaussian channel with M and n odd. *IEEE Trans. Information Theory* **IT-23** (1977), *no*. 4, 500–503. (Ezio M. Biglieri) **57** #5400 94A10

(*with* Downey, Charles P.) Odd group codes for the Gaussian channel. *SIAM J. Appl. Math*. **34** (1978), *no*. 4, 715–716. (Ezio M. Biglieri) **58** #4611 94A10

Karloukovski, V. *See* **Karlukovski, V. I.**

Karlov, L. (*with* Rindler, W.) Torsion-free world lines in curved space-time. *Phys. Rev. D* (3) **3** (1971), 1035–1036. (P. S. Florides) **49** #12021 83.34

Karlovič, Ju. I. Integral operators with a shift of the contour of integration into the domain. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 32–35. (S. G. Samko) **49** #11320 47G05 (45E05)

(*with* Baškarev, P. G.; Nečaev, A. P.) On the theory of singular integral operators with a finite group of shifts. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 272–274. (N. K. Karapetjanc) **51** #6497 47G05 (45E05)

(*with* Šapīro, M. V.) On an algebra of operators with a Carleman shift that permutes the components of the contour. (Russian) *Mat. Issled*. **9** (1974), *no*. 3(33), 95–104, 214–215. (D. Przeworska-Rolewicz) **51** #6501 47G05 (45E05)

Singular integral operators with a shifting of the contour support into the domain. (Russian. Georgian summary) A collection of articles on the equations of mathematical physics, 4. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom*. **44** (1974), 113–124. (G. S. Litvinčuk) **56** #9202 45E05

(*with* Kravčenko, V. G.) The Noether theory of a singular integral operator with a shift that has periodic points. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no*. 2, 277–280. (N. K. Karapetjanc) **55** #1143 47G05 (45E05)

(*with* Kravčenko, V. G.) A singular integral operator with non-Carleman shifts on an open contour. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no*. 4, 792–795. (N. K. Karapetjanc) **57** #1204 47G05 (45E10)

(*with* Kravčenko, V. G.) Systems of functional and integro-functional equations with non-Carleman shift. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no*. 5, 1064–1067. (N. K. Karapetjanc) **57** #7240 47B37 (47G05)

(*with* Kravčenko, V. G.) An algebra of singular integral operators with non-Carleman shift. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no*. 1, 38–41. (R. V. Dudučava) **58** #7217 47G05 (45E10)

Karlovitz, L. A. On the duals of flat Banach spaces. *Math. Ann*. **202** (1973), 245–250. (K. Sundaresan) **55** #8756 46B05

(*with* Harrell, R. E.) On tree structures in Banach spaces. *Pacific J. Math*. **59** (1975), *no*. 1, 85–91. (T. A. Cook) **53** #3646 46B05

Some fixed point results for nonexpansive mappings. *Fixed point theory and its applications* (*Proc. Sem., Dalhousie Univ., Halifax, N.S.*, 1975), *pp*. 91–103. *Academic Press, New York*, 1976. (P. M. Fitzpatrick) **56** #9336 47H10

On the geometry and structure of Banach spaces. *Functional analysis* (*Proc. Brazilian Math. Soc. Sympos., Inst. Mat. Univ. Estad. Campinas, São Paulo*, 1974), *pp*. 215–234. *Lecture Notes in Pure and Appl. Math*., 18. *Dekker, New York*, 1976. (Editors) **58** #30070 46B05

(*with* Duffin, Richard J.) Orbits of most action on a convex billiard table. *Houston J. Math*. **2** (1976), *no*. 4, 453–470. (Donald G. Saari) **55** #7031 70.49 (49H05)

Existence of fixed points of nonexpansive mappings in a space without normal structure. *Pacific J. Math*. **66** (1976), *no*. 1, 153–159. (Simeon Reich) **55** #8902 (EA **55/56**) 47H10

On nonexpansive mappings. *Proc. Amer. Math. Soc*. **55** (1976), *no*. 2, 321–325. (Kok-Keong Tan) **53** #8976 47H10

Karlovitz, Les Andrew (*with* Harrell, R. E.) Nonreflexivity and the girth of spheres. *Inequalities, III* (*Proc. Third Sympos., Univ. California, Los Angeles, Calif*., 1969; *dedicated to the memory of Theodore S. Motzkin*), *pp*. 121–127. *Academic Press, New York*, 1972. (K Sundaresan) **49** #7734 46B10

On a class of Kolmogorov n-width problems. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur*. (8) **53** (1972), 241–245 (1973). (Y. Ikebe) **49** #948 41A45

The construction and application of contractive retractions in 2-dimensional normed linear spaces. *Indiana Univ. Math. J*. **22** (1972/73), 473–481. (J. S. W. Wong) **46** #7869 46B99 (47H99)

(*with* de Figueiredo, Djairo Guedes) The extension of contractions and the intersection of balls in Banach spaces. *J. Functional Analysis* **11** (1972), 168–178. (M. Edelstein) **51** #8794 46B05 (52A05)

(*with* Chow, Shui Nee; Lasota, Andrzej) An integral form of the mean value theorem for nondifferentiable mappings. *J. Math. Anal. Appl*. **38** (1972), 214–222. (R. A. Tapia) **46** #4196 46G05 (26A24)

(*with* Harrell, R. E.) The geometry of flat Banach spaces. *Trans. Amer. Math Soc*. **192** (1974), 209–218. (R. C. James) **49** #3501 46B05

Remarks on variational characterizations of eigenvalues and n-width problems. *J. Math. Anal. Appl*. **53** (1976), *no*. 1, 99–110. (Norman P. Coleman, Jr.) **52** #9064 49G05 (47A70)

Karlsson, Bengt R. (*with* Zeiger, Enrique M.) Minimal hierarchy of Faddeev-type equations for N-particle scattering. *Phys. Rev. D* (3) **9** (1974), 1761–1768. (Authors' summary) **53** #12356 81.47

A simple reduction procedure for the three- and N-body scattering equations. *Phys. Lett. B* **69** (1977), *no.* 1, 13–16. (T. Sasakawa) **56** #14281 81.45

On-shell three-body multiple scattering equations. *Nuclear Phys. A* **295** (1978), *no.* 3, 463–481. (John Zorbas) **57** #11486 81.47

Karlsson, Bert Generalization of a theorem of Everitt. *J. London Math. Soc.* (2) **9** (1974/75), 131–141. (H. O. Cordes) **51** #6024 34B25

Karlsson, Georg *See* **Scientists at work, 53** #9

Karlsson, Jan-Erik A stochastic model for time lag in reporting of claims. *J. Appl. Probability* **11** (1974), 382–387. (Jacques Janssen) **50** #11509 60K10 (62P05)

Karlsson, Johan (*with* von Sydow, Björn) The convergence of Padé approximants to series of Stieltjes. *Ark. Mat.* **14** (1976), *no.* 1, 43–53. (Charles K. Chui) **54** #3237 41A20

Rational interpolation and best rational approximation. *J. Math. Anal. Appl.* **53** (1976), *no.* 1, 38–52. (Gerhard Merz) **52** #14762 41A20

(*with* Wallin, Hans) Rational approximation by an interpolation procedure in several variables. *Padé and rational approximation* (*Proc. Internat. Sympos., Univ. South Florida, Tampa, Fla.*, 1976), *pp.* 83–100. *Academic Press, New York*, 1977. (Wiesław Pleśniak) **58** #1877 41A20 (41A63)

Karlsson, Per W. Some reduction formulas for hypergeometric functions. *Math. Scand.* **31** (1972), 248–256. (S. Saran) **47** #7072 33A30

Reduction of certain hypergeometric functions of three variables. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **8(28)** (1973), 199–204. (Harold Exton) **48** #11589 33A30

Reduction of certain generalized Kampé de Fériet functions. *Math. Scand.* **32** (1973), 265–268 (1974). (Harold Exton) **48** #11590 33A30

Some hypergeometric transformations and generating functions. *Math. Scand.* **33** (1973), 193–204 (1974). (H. M. Srivastava) **49** #9270 33A30

On a formula by Srivastava. *Nordisk Mat. Tidskr.* **21** (1973), 10. (H. M. Srivastava) **48** #3747 05A10

Regions of convergence for hypergeometric series in three variables. *Math. Scand.* **34** (1974), 241–248. (V. L. Deshpande) **51** #947 33A30

Reduction of hypergeometric functions with integral parameter differences. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 195–198. (H. M. Srivastava) **49** #9271 33A30

On the convergence of certain hypergeometric series in several variables. *Jñānabha Sect. A* **5** (1975), 125–127. (From the introduction) **57** #16728 33A30

Some generating functions of several variables. *Z. Angew. Math. Mech.* **55** (1975), *no.* 7/8, 439. (H. M. Srivastava) **51** #13306 33A30

★On certain generalizations of hypergeometric functions of two variables. *Physics Laboratory II, Technical University of Denmark, Lyngby*, 1976. 47 *pp.* (Harold Exton) **53** #13671 33A30

On the representation of Lauricella functions by Eulerian integrals. *Math. Scand.* **39** (1976), *no.* 1, 56–58. (H. L. Manocha) **55** #8424 33A30

A class of hypergeometric functions. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 1, 36–40. (Harold Exton) **52** #11133 33A30

Regions of convergence for some of Exton's hypergeometric series. *Nederl. Akad. Wetensch. Proc. Ser. A* **81** = *Indag. Math.* **40** (1978), *no.* 1, 72–75. (H. Exton) **57** #10013 33A30

See also **Srivastava, Hari M., 53** #5324

Karlström, Gunnar A new approach to variational CI calculations on systems containing non-interacting molecules. *Theoret. Chim. Acta* **44** (1977), *no.* 2, 165–169. **56** #14351 81.49

Karlukovski, V. I. Scattering on δ-function potentials in two dimensions. (Bulgarian summary) *Annuaire Univ. Sofia Fac. Phys.* **66** (1974/75), 35–41 (1978). (Author's summary) **58** #20008 81.47

Non-relativistic scattering on cylinders and spheres. (Bulgarian summary) *Annuaire Univ. Sofia Fac. Phys.* **66** (1974/75), 43–48 (1978). (From the introduction) **58** #14668 81.47

Scattering on δ-function potentials. *Rep. Mathematical Phys.* **10** (1976), *no.* 1, 87–105. (R. G. Newton) **55** #1984 81.47

Exact solutions of a local quasipotential equation. (Russian summary) *Bulgar. J. Phys.* **4** (1977), *no.* 6, 595–609. (K. Kumar) **57** #15072 81.47

Karma, O. Determination of waiting time in a branching system of warehouses. (Russian) *Trudy Vyčisl. Centra Tartu Gos. Univ. No.* 13 (1968), 39–53. (Author's introduction) **45** #9663 90B05

The compact approximation of operator-valued functions. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 277 (1971), 194–204. (S. Burýšek) **52** #1366 47A55 (65J05)

Karma, O. O. The approximation of operator-valued functions, and the convergence of approximate eigenvalues. (Russian) *Trudy Vyčisl. Centra Tartu Gos. Univ. Vyp.* 24 (1971), 3–143. (Roman Andrushkiw) **55** #6834 65J05 (47A55)

The convergence of discretization methods for finding the eigenvalues of integral and differential operators that depend holomorphically on a parameter. (Russian) *Trudy Vyčisl. Centra Tartu Gos. Univ. Vyp.* 24 (1971), 144–159. (Roman Andrushkiw) **54** #4091 65J05 (47A50)

(*with* Vaĭnikko, G.) The convergence of approximate methods for the solution of linear and nonlinear operator equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 828–837, 1074. (J. W. Schmidt) **51** #11959 65J05 (47H15, 47A50)

(*with* Vaĭnikko, G.) The rate of convergence of approximation methods for an eigenvalue problem in which the parameter occurs nonlinearly. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1393–1408, 1628. (J. W. Schmidt) **52** #16015 65J05 (47A70)

The convergence of a difference method in nonlinear eigenvalue problems for linear differential equations. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 374 (1975), 211–228. (E. L. Albasiny) **54** #9098 65L15

Karmakar, R. Slip flow over a porous flat plate with a variable suction under transverse magnetic field and heat transfer. *Defence Sci. J.* **27** (1977), *no.* 4, 187–196. (R. P. Kanwal) **58** #8738 76.35

von Kármán, Theodore *See* **Taylor, Geoffrey Ingram, 52** #13237

Karmann, A. Stochastische Interaktionsökonomien. Tauschwirtschaften mit grosser Agentenzahl. (English summary) *Operations Research Verfahren, Band XXII, pp.* *Hain, Meisenheim am Glan*, 1976. (G. Morton) **58** #4233 90A15

Zur topologischen Beschreibung stochastischer Felder mit verallgemeinerten Spezifikationen. (English summary) *Statist. Hefte (N.F.)* **19** (1978), *no.* 1, (Hermann Rost) **58** #13406 60K35

Karmanov, Ju. T. Application of game theory to the synthesis of consistent fi conditions of a priori indeterminacy with respect to the noise spectrum. (Russian *Politehn. Inst. Sb. No.* 240 (1975), 47–52, 134. (Author's summary) **55** #7564 (90D45)

Karmanov, V. G. Methods of one-dimensional minimization. (Bulgarian) *Fiz.-M B"lgar. Akad. Nauk.* **16(49)** (1973), 294–300. (From the introduction) **58** # 65K05

The convergence of the random search method in convex minimization pr (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 817–8 Bergthaller) **52** #5025 90C25

Estimates for the convergence of iteration methods of minimization. (Russ *Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 3–14, 266. (S.-F. Sburlan) **49** #6611 65K

A certain approach to the investigation of the convergence of relaxation minimization processes. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 158 1631. (J. S. Kowalik) **51** #2285 65K05

★Математическое программирование. (Russian) [Mathematical progran *Izdat. "Nauka", Moscow*, 1975. 272 *pp.* (S. Zlobec) **53** #15292 90–02 (90C05, 90C30)

★Programmation mathématique. Translated from the Russian by Valentin Polonski. *Éditions Mir, Moscow*, 1977. 221 *pp.* (*errata insert*) (Editors) **57** # 90Cxx

(*with* Bogomolov, N. A.) A method for the calculation of stationary points general problem of nonlinear programming. (Russian) *Ž. Vyčisl. Mat. i Mat.* (1977), *no.* 1, 72–78, 284. (Jürgen Guddat) **56** #7998 90C30

Karmarkar, J. S. Graphical stability criterion for linear systems. *Proc. Inst. Elec.* **117** (1970), 1430–1433. (K. Magnus) **46** #6890 (EA **46**) 93D99

(*with* Šiljak, Dragoslav D.) Maximization of absolute stability regions by mathematical programming methods. (German summary) *Regelungstech.* **23** (19 2, 59–61. (R. Leonard Brown) **53** #10412 93D05 (93C50)

Karmarkar, Uday S. (*with* Patel, Nitin R.) The one-period, N-location distribution problem. *Naval Res. Logist. Quart.* **24** (1977), *no.* 4, 559–575. (Siegfried Sc **57** #11688 90B05 (90C05)

Karmazin, A. P. Quasiconformality conditions for direct products of homeomor (Russian) *Some problems in modern function theory* (*Proc. Conf. Modern Prob Geometric Theory of Functions, Inst. Math., Acad. Sci. USSR, Novosibirsk*, 1976) (*Russian*), *pp.* 79–81. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat., Novosibirsk* (Editors) **58** #22546 30A60

Karmazina, L. N. ★Таблицы функций Лежандра от мнимого аргумента. (R [Tables of Legendre functions of an imaginary argument] *Vyčisl. Centr Akad SSSR, Moscow*, 1972. x + 392 *pp.* (Editors) **50** #11711 65A05

Karmeshu Motion of a particle in a velocity-dependent random force. *J. Appl. Pro* **13** (1976), *no.* 4, 684–695. (G. Papanicolaou) **54** #6615 70.60

Karnauhov, A. V. *See* **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

Karnauhov, V. G. (*with* Kovalenko, A. D.) Dynamical problems for a reinforced visco-elastic cylinder and sphere. (Russian) *Prikladna. Meh.* 7 (1971), *no.* 12, 3– Kączkowski) **45** #8112 73.45

(*with* Senčenkov, I. K.) Approximate methods for the calculation of critical t states. (Russian) *Prikl. Meh.* **12** (1976), *no.* 4, 18–25, 140. **56** #17381 73.65

(*with* Senčenkov, I. K.) Variational principles for isothermal problems of no viscoelasticity. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR* **1977**, *no.* 10, 914–917, 960. (D. P. Rašković) **57** #14798 73.49

(*with* Senčenkov, I. K.) A variational principle for coupled dynamic probl linear viscoelasticity. (Russian) *Prikl. Meh.* **13** (1977), *no.* 8, 113–117, 144. (A summary) **58** #14200 73.49

Nonlinear viscoelasticity theory for a generalized thermorheologically simple material. (Russian) *Prikl. Meh.* **14** (1978), *no.* 1, 16–24, 140. (Vadim Komkov) **58** #19570 73.35

Thermomechanical theory of viscoelasticity for a generalized thermorheolo simple incompressible material. (Russian) *Prikl. Meh.* **14** (1978), *no.* 2, 24–3 (Author's summary) **58** #25295 73.53

(*with* Senčenkov, I. K.) Variational principles of linearized viscoelasticity (Russian) *Prikl. Meh.* **14** (1978), *no.* 3, 14–20, 140. (W. Kecs) **58** #14205 73

Karnaukov, V. G. (*with* Senčenkov, I. K.) A minimum principle for the transformed in dynamical problems of the linear theory of viscoelasticity. (Russian. English summary) *Dokl. Akad. Nauk Ukrain, SSR Ser. A* **1976**, *no.* 8, 712–715, 768. Teodorescu) **56** #1904 73.49

Karnauško, V. S. *See* **Studies in contemporary problems of summability and approxi of functions and their applications, 58** #26659

Karnec'oi, Elia *See* **Abrahamyan, A. G., 58** #26860

Karney, D. (*with* Glover, Fred; Klingman, Darwin; Napier, Al) A computation st start procedures, basis change criteria, and solution algorithms for transpo problems. Mathematical programming. *Management Sci.* **20** (1973/74), 793–81 M. Flood) **50** #6478 90C05

Karni, Edi (*with* Weissman, Ishay) A consistent estimator of the slope in a reg model with errors in the variables. *J. Amer. Statist. Assoc.* **69** (1974), 211 *corrigenda, ibid* **69** (1974), 840. (Federico O'Reilly) **52** #2051 62J05

(*with* Schmeidler, David) Independence of nonfeasible alternatives, and independence of nonoptimal alternatives. *J. Econom. Theory* **12** (1976), *no.* 3, 48 (B. G. Mirkin) **54** #9613 90A05

The probability distribution of the duration of the game in the classica problem. *J. Appl. Probability* **14** (1977), *no.* 2, 416–420. (J. H. B. Kemperman) **56** #3951 60J15

(*with* Schwartz, Aba) Two theorems on optimal stopping with backward solicitation. *J. Appl. Probability* **14** (1977), *no.* 4, 869–875. (Nagata Furukawa)

1794 62L15

(*with* Schwartz, Aba) Search theory: the case of search with uncertain recall. *J. nom. Theory* **16** (1977), *no.* 1, 38–52. (P. Neumann) **57** #5063 90B40

Period analysis and continuous analysis in Patinkin's macroeconomic model. *J. nom. Theory* **17** (1978), *no.* 1, 134–140. (John Roberts) **58** #15052 90A15

S. M. On boundedness. *Math. Japon.* **19** (1974), *no.* 3, 165–172. (N. Hindman) #9153 54D99

, Dean What is so rare as a stable system? *J. Franklin Inst.* **299** (1975), *no.* 6, -451. (P. Brunovský) **52** #2685 93D99

The energetic structure of multibody dynamic systems. *J. Franklin Inst.* **306** (1978), 2, 165–181. (Cornelius O. Horgan) **58** #14053 70.34

kiĭ, A. G. A multicomponent version of the van Hove theorem. (Russian. uanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 2, 71–77, 259. thor's summary) **53** #15233 82.60

ky, A. (*with* Rubinstein, Y.) Local and integral properties of a search algorithm of stochastic approximation type. *Stochastic Processes Appl.* **6** (1977/78), *no.* 2, 134. (Vladimir Katkovnik) **57** #14296 62L20 (65K05)

, A. Asymptotic expansions in local theorems. (Russian. Lithuanian and English maries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 4, 53–68, 233. (M. Iosifescu) **47** #5925 05

Asymptotic expansions with a nonuniform estimate of the remainder term. (Russian. uanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 4, 69–73, 235. (M. fescu) **47** #4308 60F05

Local limit theorems for sums of identically distributed random vectors. I. (Russian. uanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 3, 101–112, 233. (J. ambos) **48** #7344 60F05

An estimate of the remainder term in Ljapunov's theorem. (Russian. Lithuanian and lish summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 1, 49–55, 225–226. (Author's mary) **55** #6531 60F05

A nonuniform estimate of the remainder term in local limit theorems. (Russian. uanian and English summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 1, 131–155, -254. (M. U. Gafurov) **53** #4181 60F05

(*with* Dubinskaitė, J.) Local limit theorems for sums of identically distributed dom vectors. II. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** 6), *no.* 1, 89–102, 245. (J. Galambos) **54** #11454 60F05

(*with* Dubinskaitė, J.) Local limit theorems for sums of identically distributed dom vectors. III. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** 6), *no.* 4, 113–119, 254. (J. Galambos) **54** #11455 60F05

(*with* Dubinskaitė, J.) The derivatives of a multivariate characteristic function. ssian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 4, 104, 222. (G. P. Čistjakov) **58** #2964 60E05

(*with* Dubinskaitė, J.) Local limit theorems for sums of identically distributed dom vectors. V. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **18** 78), *no.* 1, 93–106, 242. (J. Galambos) **57** #17773 60F05

John M. (*with* Karlin, Samuel) Poised and non-poised Hermite-Birkhoff rpolation. *Indiana Univ. Math. J.* **21** (1971/72), 1131–1170. (T. J. Rivlin) **47** #3877 1A05

(*with* Karlin, Samuel) On Hermite-Birkhoff interpolation. Collection of articles icated to J. L. Walsh on his 75th birthday, V (Proc. Internat. Conf. Approximation ory, Related Topics and their Applications, Univ. Maryland, College Park, Md., 0). *J. Approximation Theory* **6** (1972), 90–115. (A. K. Varma) **49** #3375 41A05

(*with* Ralston, James V.) Double integrals as initial value problems. *Amer. Math. nthly* **84** (1977), *no.* 3, 201–204. (Henryk Fast) **55** #8277 26A57

ki, M. (*with* Palka, Z.) On Marczewski-Steinhaus type distance between ergraphs. (Polish summary) *Zastos. Mat.* **16** (1977), *no.* 1, 47–57. (G. O. H. Katona) #16143 05C99

ki, Michał On a definition of cluster and pseudocluster for multivariate normal ulations. (French summary) Proceedings of the 39th Session of the International tistical Institute (Vienna, 1973), Vol. 1. *Bull. Inst. Internat. Statist.* **45** (1973), *book* 1, -598. (Byron J. T. Morgan) **51** #7161 62H30

, I. B. An asymptotic time distribution law of the failures of a system. (Russian. glish summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 2, 86–87. (I. Văduva) **46** #4671 2N10

i, Max ★*K*-théorie. Séminaire de Mathématiques Supérieures, No. 36 (Été, 1969). *Presses de L'Université de Montréal, Montreal, Que.*, 1971. 182 *pp.* (J. Siegel) #11218 55B15

Fondements de la *K*-théorie. *Actes du Congrès International des Mathématiciens ce,* 1970), *Tome* 2, *pp.* 27–32. *Gauthier-Villars, Paris*, 1971. (From the author's oduction) **54** #11309 55B15 (58G15, 18F25)

Périodicité de la *K*-théorie hermitienne. Les théories $_{\varepsilon}V^{n}$ et $_{\varepsilon}U^{n}$. *C. R. Acad. Sci. is Sér. A-B* **273** (1971), A802–A805. (J. Siegel) **45** #7704a 55B15

Périodicité de la *K*-théorie hermitienne. Les théorèmes fondamentaux. *C. R. Acad. . Paris Sér. A-B* **273** (1971), A840–A843. (J. Siegel) **45** #7704b 55B15

Périodicité de la *K*-théorie hermitienne. Théorie de Quillen et homologie du groupe hogonal. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A1030–A1033. (J. Siegel) #7704c 55B15

(*with* Villamayor, Orlando E.) *K*-théorie algébrique et *K*-théorie topologique. I. *th. Scand.* **28** (1971), 265–307 (1972). (J. P. May) **47** #1915 18F25 (55G25)

(*with* Anderson, Donald W.; Wagoner, John B.) Relations between higher ebraic *K*-theories. *Algebraic K-theory, I: Higher K-theories* (*Proc. Conf., Battelle morial Inst., Seattle, Wash.*, 1972), *pp.* 73–81. *Lecture Notes in Math. Vol.* 341, *inger, Berlin*, 1973. (J. A. Schafer) **50** #7291 18F25

Some problems and conjectures in algebraic *K*-theory. *Algebraic K-theory, III: mitian K-theory and geometric applications* (*Proc. Conf., Battelle Memorial Inst., ttle, Wash.*, 1972), *pp.* 52–56. *Lecture Notes in Math., Vol.* 343, *Springer, Berlin*, 1973. F. Adams) **52** #3283 18F25

Périodicité de la *K*-théorie hermitienne. *Algebraic K-theory, III: Hermitian K-theory geometric applications* (*Proc. Conf., Battelle Memorial Inst., Seattle, Wash.*, 1972), *pp.* –411. *Lecture Notes in Math., Vol.* 343, *Springer, Berlin*, 1973. (Laurence Taylor) #3284 18F25 (57D65)

Cobordisme et groupes formels (d'après D. Quillen et T. tom Dieck). *Séminaire Bourbaki,* 24$^{\text{ème}}$ *année* (1971/1972), *Exp. No.* 408, *pp.* 141–165. *Lecture Notes in Math., Vol.* 317, *Springer, Berlin*, 1973. (R. E. Stong) **54** #1263 57D90 (14L05)

(*with* Villamayor, Orlando E.) *K*-théorie algébrique et *K*-théorie topologique. II. *Math. Scand.* **32** (1973), 57–86. (J. P. May) **48** #6214 18F25

K-théorie équivariante des fibrés en sphères. *Topology* **12** (1973), 275–281. (J. P. May) **48** #5074 55F50

Localisation de formes quadratiques. I, II. *Ann. Sci. École Norm. Sup.* (4) **7** (1974), 359–403 (1975); *ibid.* (4) **8** (1975), 99–155. (Horst Pfeuffer) **52** #5764 18F25 (10C05)

K-théorie algébrique. Sur l'ordre de $K_3(\mathbf{Z})$. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 67–69. (Keith Dennis) **49** #2892 18F25

K-théorie algébrique. Localisation de formes quadratiques. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 215–217. (Keith Dennis) **49** #2893 18F15

K-théorie algébrique. Localisation de formes quadratiques. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 311–312. (Keith Dennis) **49** #2894 18F25

K-théorie algébrique. Localisation de formes quadratiques. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 487–490. (A. A. Ranicki) **52** #10850 18F25 (10C05)

(*with* de la Harpe, Pierre) Perturbations compactes des représentations d'un groupe dans un espace de Hilbert. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 21, Aii, A901–A904. (Claude Schochet) **52** #10948 58G10 (22D10, 46L15)

(*with* de la Harpe, Pierre) Perturbations compactes des représentations d'un groupe dans un espace de Hilbert. Journées sur la Géométrie de la Dimension Infinie et ses Applications à l'Analyse et à la Topologie (Univ. Claude-Bernard—Lyon I, Lyon, 1975). *Bull. Soc. Math. France Suppl. Mém. No.* 46 (1976), 41–65. (Alain Guichardet) **54** #12964 22D10

Torsion of the Witt group. Colloque sur les Formes Quadratiques (Montpellier, 1975). *Bull. Soc. Math. France Suppl. Mem. No.* 48 (1976), 45–46. (From the text) **58** #2833 57D20

(*with* de la Harpe, Pierre) Représentations approchées d'un groupe dans une algèbre de Banach. (English summary) *Manuscripta Math.* **22** (1977), *no.* 3, 293–310. (A. Hulanicki) **58** #16948 22D10 (58D05)

(*with* Anderson, Donald W.; Wagoner, John B.) Higher algebraic *K*-theories. *Trans. Amer. Math. Soc.* **226** (1977), 209–225. (J. A. Schafer) **56** #3092 18F25 (16A54)

★*K*-theory. An introduction. Grundlehren der Mathematischen Wissenschaften, Band 226. *Springer-Verlag, Berlin-New York*, 1978. xviii + 308 *pp.* *ISBN* 3-540-08090-2 (V. P. Snaith) **58** #7605 55B15 (55F50)

(*with* de la Harpe, Pierre) Perturbations compactes des représentations d'un groupe dans un espace de Hilbert. II. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **28** (1978), *no.* 1, ix, 1–25. (Alain Guichardet) **58** #6052 22D10

el Karoui, Nicole *See* **El Karoui, Nicole**

Karowski, M. (*with* Berg, B.; Weisz, P.; Kurak, V.) Factorized U(n) symmetric *S*-matrices in two dimensions. *Nuclear Phys. B* **134** (1978), *no.* 1, 125–132. (Authors' summary) **58** #19917 81.22

Karp, Carol Infinite-quantifier languages and ω-chains of models. *Proceedings of the Tarski Symposium* (*Proc. Sympos. Pure Math., Vol. XXV, Univ. California, Berkeley, Calif.*, 1971), *pp.* 225–232. *Amer. Math. Soc., Providence, R.I.*, 1974. (J. Stavi) **51** #12517 02H13 (02B25)

See also **López-Escobar, E. G. K., 52** #7813 *and* **Infinitary logic: in memoriam Carol Karp, 52** #7837

Karp, Leon Parallel vector fields and the topology of manifolds. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 5, 1051–1053. (A. Gray) **56** #9544 57D25

Karp, Richard M. A simple derivation of Edmonds' algorithm for optimum branching. *Networks* **1** (1971/72), 265–272. (W.-K. Chen) **45** #3251 05C20 (94A20)

Reducibility among combinatorial problems. *Complexity of computer computations* (*Proc. Sympos., IBM Thomas J. Watson Res. Center, Yorktown Heights, N.Y.*, 1972), *pp.* 85–103. *Plenum, New York*, 1972. (John T. Gill) **51** #14644 68A20

(*with* Edmonds, Jack) Theoretical improvements in algorithmic efficiency for network flow problems. *J. Assoc. Comput. Mach.* **19** (1972), 248–264. (Zbl **318** #90024) 90B10

(*with* Gale, David) A phenomenon in the theory of sorting. *J. Comput. System Sci.* **6** (1972), 103–115. (Petre Preoteasa) **48** #7647 68A05

Two combinatorial problems associated with external sorting. *Combinatorial algorithms* (*Courant Comput. Sci. Sympos.* 9, *New York Univ., New York*, 1972), *pp.* 17–29. *Algorithmics Press, New York*, 1973. (Petre Preoteasa) **51** #7400 68A50 (05A99)

(*with* Hopcroft, John E.) An $n^{5/2}$ algorithm for maximum matchings in bipartite graphs. *SIAM J. Comput.* **2** (1973), 225–231. (Torrence D. Parsons) **49** #2468 05C99

The fast approximate solution of hard combinatorial problems. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 15–31. *Congressus Numeratium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (A. K. Dewdney) **53** #7121 68A20 (05A99)

(*with* Li, Shuo-Yen Robert) Two special cases of the assignment problem. *Discrete Math.* **13** (1975), *no.* 2, 129–142. (Torrence D. Parsons) **52** #4963 90B05

(*with* McKellar, A. C.; Wong, C. K.) Near-optimal solutions to a 2-dimensional placement problem. *SIAM J. Comput.* **4** (1975), *no.* 3, 271–286. (M. Tetruašvili) **51** #14678 68A50

The probabilistic analysis of some combinatorial search algorithms. *Algorithms and complexity* (*Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1976), *pp.* 1–19. *Academic Press, New York*, 1976. (Nicos Christofides) **56** #4231 68A20

(*with* Glassey, C. Roger) On the optimality of Huffman trees. *SIAM J. Appl. Math.* **31** (1976), *no.* 2, 368–378. (C. Tartia) **54** #12224 90C47

Probabilistic analysis of partitioning algorithms for the traveling-salesman problem in the plane. *Math. Oper. Res.* **2** (1977), *no.* 3, 209–224. (Daniel J. Rosenkrantz) **57** #11694 90B10 (05C35)

See also **Complexity of computation, 50** #3631; **Proceedings: Symposium on Large-Scale Networks, 50** #15871 *and* **Cybernetics collection, 52** #16086

Karp, Samuel N. (*with* Morgan, Richard C.) Surface wave incidence on a plane structure having a multi-mode discontinuity in impedance. *Quart. Appl. Math.* **30** (1972/73), 299–310. (V. H. Weston) **53** #4749 78.45

(*with* Shamma, Shawky E.) Asymptotic eigenfunctions of a scattering problem. *SIAM J. Appl. Math.* **22** (1972), 14–21. (Y. I. Kannai) **46** #4012 35P20

(*with* Shamma, Shawky E.) Asymptotic eigenfunctions of a singular integro-differential equation. *SIAM J. Math. Anal.* **4** (1973), 116–127. (M. I. Imanaliev) **48** #4669 45J05

(*with* Zitron, N. R.) A plane wave expansion theorem for cylindrically radiated fields. *J. Engrg. Math.* **8** (1974), 291–296. (M. G. F. Boella) **51** #12138 78.41

(*with* Morgan, Richard C.) Multi-mode surface wave diffraction by a wedge. *SIAM J. Appl. Math.* **26** (1974), 531–538. (C. J. Bouwkamp) **50** #3777 78.35

(*with* Morgan, Richard C.) Multi-mode surface wave phenomena. (French, German and Italian summaries) *Internat. J. Engrg. Sci.* **13** (1975), 687–698. (Norman Bleistein) **55** #13944 76.35

(*with* Machover, M.) Curves along which plane waves can interfere. *Quart. Appl. Math.* **35** (1977/78), *no.* 2, 193–201. (N. Zitron) **58** #19832 78.35 (35L05)

(*with* Morgan, Richard C.) Multi-mode cylindrical surface wave excitation. *Internat. J. Engrg. Sci.* **16** (1978), *no.* 2, 155–171. (Rishi Ram) **58** #3929 76.35

Karpačev, Ju. A. (*with* Korenīvs′kiĭ, D. G.) ★Некоторые задачи инерциального управления. (Russian) [Some problems in inertial control] *Izdat. "Naukova Dumka", Kiev*, 1977. 152 *pp.* (V. Komkov) **56** #10256 70.49

(*with* Korenīvs′kiĭ, D. G.) Treatment of the distance controlling functional in an oblique coordinate system. (Russian) *Cosmic research in the Ukraine, No.* 10 (*Russian*), *pp.* 59–67, 107. *Izdat. "Naukova Dumka", Kiev*, 1977. (Editors) **58** #19496b 70.45 (85.00)

Karpasjuk, V. K. A certain property of the characteristic exponent of the solution of Hill's equation. (Russian) *Izv. Vysš. Učebn. Zaved. Matematica* **1975**, *no.* 1(152), 39–40. (M. Bertolino) **51** #8563 34D05

Karpe, Robert Zahlentheoretische Funktionen für die Zerteilung der Nummer n in k Summanden; $k=2,3,4,5,6$. *Arch. Math.* (*Brno*) **6** (1970), 193–202. (W. H. Simons) **47** #125 10A45

Verallgemeinerung der Stirling'schen Zahlen der 2. Art. *Arch. Math.* (*Brno*) **7** (1971), 29–30. (A. Zajta) **46** #1598 05A05

Algorithmus für Bell'sche Polynome. *Arch. Math.* (*Brno*) **8** (1972), 45–50 (1973). (H. W. Gould) **47** #6504 05A19

Zwei Typen der Kombinationen zur bestimmten Summe, deren Anzahl durch direkte Formel festgestellt werden kann. *Arch. Math.* (*Brno*) **8** (1972), 51–56 (1973). (H. J. Kanold) **47** #3186 05A05 (10A40)

Verallgemeinerung der goniometrischen Funktionen. *Arch. Math.* (*Brno*) **9** (1973), 26–48. (R. N. Jain) **50** #14449 50B10

On a certain analogy of Stirling's numbers of the 2nd kind. *Arch. Math.* (*Brno*) **9** (1973), 57–60. (R. E. Greenwood) **50** #1899 05A10

Die Kombinationen gegebenen Profils. I. *Arch. Math.* (*Brno*) **9** (1973), *no.* 4, 183–202. (Walter A. Deuber) **56** #15448a 05A15

Die Kombinationen gegebenen Profils. II. *Arch. Math.* (*Brno*) **10** (1974), *no.* 1, 27–53 (1975). (Walter A. Deuber) **56** #15448b 05A15

Die Kombinationen gegebenen Profils. III. *Arch. Math.* (*Brno*) **10** (1974), *no.* 4, 199–220 (1975). (Walter A. Deuber) **56** #15448c 05A15

Einige kombinatorische Identitäten. *Arch. Math.* (*Brno*) **11** (1975), *no.* 1, 53–66. (Michael Henle) **53** #10604 05A19

Über gewisse Zerlegung einer Funktion $f(x)$ in n trigonometrische Reihen; $n \geqslant 3$. *Arch. Math.* (*Brno*) **12** (1976), *no.* 1, 9–14. (Manfred v. Golitschek) **55** #3661 42A20

The theory of 3-complex numbers. (Czech. English and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učeni Tech. v Brně A* **10** (1976), 269–288 (1978). (V. Havel) **58** #30693a 50A05

Analytic geometry in the plane β_3. I. (Czech. English and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učeni Tech. v Brně A* **10** (1976), 289–299 (1978). (V. Havel) **58** #30693b 50A05

Karpelevič, F. I. (*with* Berezin, F. A.) Associative algebras of functions. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 1, 33–38. (J. Śniatycki) **54** #1295 58F05

Karpenko, D. Ja. (*with* Borgardt, O. O.) Hyperaxial symmetry of relativistic wave equations. (Russian. English summary) *Ukrain. Fiz. Ž.* **20** (1975), *no.* 4, 566–573, 695. (Authors' summary) **57** #8846 83.35

(*with* Borgardt, O. O.) The Fourier-Bessel transformation in problems of hyperaxial symmetry. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 8, 1305–1310, 1401. (R. F. Biljalov) **57** #15022 81.35

(*with* Borgardt, O. O.) Solutions of relativistic wave equations in an inhomogeneous longitudinal magnetic field with axial symmetry. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 9, 1541–1549, 1580. (Authors' summary) **56** #2022 81.35

Karpenko, G. P. Construction of program controls in certain nonlinear systems. (Russian) *Differencial'nye Uravnenija* 7 (1971), 2276–2278. (V. N. Igolkin) **45** #5520 34H05

Karpenko, L. D. (*with* Afanas'eva, L. G.; Petunīn, Ju. Ī.; Čorajan, O. G.) The statistical verification of the nature of spontaneous activity of neurons. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp.* 5–13. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (From the authors' introduction) **54** #14803 92A05 (94A20)

Karpenko, L. M. The representation of functions by means of Jacobi polynomials, and the computation of certain Cauchy type integrals. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv.* **1971**, *no.* 13, 74–79, 148. (J. Švejda) **46** #6563 65D30

(*with* Vaĭnikko, G.; Šilman, A.) Solution of integral equations with exponential kernels. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 2, 118–123. (G. F. Miller) **54** #6532 65R05

Karpenko, S. F. (*with* Dzjadik, V. K.; Zaric'ka, Z. V.; Kononova, N. F.) ★Об эффективном приближении многочленами элементарных функций. (Russian) [Efficient approximation by polynomials of elementary functions] Preprint IM-77-21. *Akad. Nauk Ukrain. SSR Inst. Mat., Kiev*, 1977. 42 *pp.* (B. D. Donevski) **57** #11075 65L99

(*with* Dzjadik, V. K.) Tables of polynomials for the approximate solution of elementary functions. (Russian) *Akad. Nauk Ukrain. SSR Inst. Mat. Preprint* (1977), 28 *pp.* **58** #19016 65A05 (65D20)

Karpenko, V. L. Hypercomplexes of lines with identical coincidence base points and points in four-dimensional projective space. (Russian) *Ukrain. Geometr. Sb. N* (1968), 85–92. (C. Simionescu) **45** #7631 53A25

An invariant of the second differential neighborhood of a line complex. (Rus *Ukrain. Geometr. Sb. No.* 15 (1974), 59–62, ii. (M. Decuyper) **52** #11756 53A

Properties of an invariant of the second differential neighborhood of a line cor (Russian) *Ukrain. Geometr. Sb. No.* 16 (1974), 8–14, i. (B. Rozenfel'd) **51** #13 53A25

Karpf, Armin D. (*with* Liehl, Hermann J.) Analytic continuation of the Regge pole r function. *Z. Physik* **235** (1970), 463–473. (Vijendra Singh) **46** #8568 81.30

(*with* Liehl, Hermann J.; Schuhmacher, Heinz F.) A new derivation of loop amplitudes by direct integration. *Nuclear Phys.* **B56** (1973), *no.* 2, 565–588. (Au summary) **58** #4071 81.47

Factorization of dual loop amplitudes by functional methods. I. *Nuclear Phy.* (1974), 440–458. (A. C. Manoharan) **54** #6730 81.32

(*with* Liehl, Hermann J.) Factorization of dual loop amplitudes. II. Unitary corrections to leading trajectory. *Nuclear Phys.* **B74** (1974), 459–481. (A. C. Manoharan) **54** #6731 81.32

Gauge theory of dual resonance models and spontaneous breaking. *Current problems in elementary particle and mathematical physics* (*Proc. XV. Internat. Universitätswochen Kernphysik, Univ. Graz, Schladming*, 1976), *pp.* 591–628. *Acta Austriaca, Suppl. XV, Springer, Vienna*, 1976. (Author's summary) **58** #25589

See also **Elementary particle physics: multiparticle aspects, 48** #1597

Karpičev, A. M. The continuous dependence on a parameter of the optimal solution certain control problem. (Russian) *Methods and models of control, No.* 7 (*Russiar* 3–8, 119. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1974. (L. Mikołaj **52** #9047 49D05

Certain properties of the function infinimum. (Russian) *Methods and mod control, No.* 7 (*Russian*), *pp.* 72–77, 122. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Riga*, 1974. (L. Janos) **52** #1464 49A99

Karpievič, N. A. Stability in the case of constantly acting perturbations for a c nonlinear system. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1971**, *no.* 2, 12–1 (M. Švec) **48** #641 34D05

The stability of a certain class of integro-differential equations. (Russian) *V Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 1, 12–15, 94. (A. Filatov) **48** #6863 45M

Karpilovskaja, È. B. Application of the collocation method to the solution of l two-dimensional integral equations. (Russian) *Questions in applied mathematic geometric simulation* (*Abstracts, 27th Scientific Conf., Leningrad*, 1969) (*Russian*), *pp* *Leningrad. Inž.-Stroitel. Inst., Leningrad*, 1968. (E. Schechter) **57** #14546 65R

The collocation method for integro-differential equations with a biharmonic principle part. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **10** (1970), 1537–1541. (J. K **45** #9529 65R05 (45K05)

The convergence of the collocation method in an eigenvalue problem. (Rus *Differencial'nye Uravnenija* **11** (1975), *no.* 12, 2249–2260, 2302–2303. (J. Milota) **53** #9689 65R05 (65J05)

Karpilovskaja, E. I. Simplicial codes. (Russian. English summary insert) *Kibernetika* **1977**, *no.* 5, 147–148. (Author's summary) **58** #15679 94A10

Karpilovskiĭ, G. I. On a class of finite soluble groups. *Bull. Austral. Math. Soc.* **12** (277–282. (J. F. Humphreys) **51** #8227 20C15

On linearizable irreducible projective representations of finite groups. *J. Math Japan* **28** (1976), *no.* 3, 541–549. (Mark Benard) **54** #10389 20C25

Some results in group representation theory. *Group theory* (*Proc. Miniconf., Australian Nat. Univ., Canberra*, 1975), *pp.* 143–146. *Lecture Notes in Math., Vol Springer, Berlin*, 1977. (Reinhard Knörr) **56** #15751 20C25

On representations of finite groups over skewfields. *J. Math. Soc. Japan* **30** (*no.* 3, 505–508. (Larry C. Grove) **58** #22268 20C15

The number of representations of a group induced from the irreducible representations of a normal subgroup. *Math. Scand.* **42** (1978), *no.* 1, 5–8. (G. D. J **58** #5882 20C20

Karpinskaja, N. N. (*with* Rybašov, M. V.) On continuous algorithms of solution of c programming problems. *Avtomat. i Telemeh.* **1976**, *no.* 2, 26–30 (*Russian. E summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 2, *part* 1, 143–14 Rössler) **55** #2136 90C25

Continuous algorithm for solving dual pair of linear-programming problems. *Avtomat. i Telemeh.* **1977**, *no.* 7, 197–204 (*Russian. English summary*); *translat Automat. Remote Control* **38** (1977), *no.* 7, *part* 2, 1106–1112. (Nobuo Sanno **58** #4330 90C25

Karpinski, K. F. Interpretation of cap sigmas. *Proceedings of the Symposium on Sta and Related Topics* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 21, 20 *pp. Ca Univ., Ottawa, Ont.*, 1975. (E. J. Williams) **51** #9384 62J10

Karpinski, Louis Charles *See* **Jones, Phillip S., 58** #27112

Karpiński, Marek Free structure tree automata. I. Equivalence. (Russian summary) *Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 441–446. (David C. **58** #9908a 94A30

Free structure tree automata. II. Nondeterministic and deterministic regul (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (447–450. (David C. Rine) **58** #9908b 94A30

Free structure tree automata. III. Normalized climbing automata. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 567 (David C. Rine) **58** #9908c 94A30

An algorithm for the determination of the optimal structure of a simplex auton in a sequential adaptive system. (Polish. English summary) *Studia Automat.* **1**, 23–33 (1973). (W. Kwasowiec) **48** #3644 94A30

Free structure tree automata. IV. Sequential representation. (Russian summ *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 87–91. (David C. **51** #2351 68A25 (94A25)

Probabilistic climbing and sinking languages. (Russian summary) *Bull. Acad. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1057–1061. (M. Magidor) **52** #5 94A35

Decision algorithms for Havel's branching automata. *Mathematical foundations of uter science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp*. 273–279. *Lecture s in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (Johnson M. Hart) **53** #5196 30 (68A20, 02G05)

Almost deterministic ω-automata with existential output condition. *Proc. Amer. h. Soc.* **53** (1975), *no*. 2, 449–452. (Klaus Indermark) **55** #10253 02F10 (68A30, 25)

Valued probabilistic tree functions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Math. Astronom. Phys.* **24** (1976), *no*. 10, 927–930. (Author's summary) **58** #26618 A35

The equivalences problems for binary EOL-systems are decidable. *Fundamentals of putation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp*. 423–434. *Lecture s in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (K. P. Lee) **58** #3731 68A30

Equivalence results on probabilistic tree languages. *Comment. Math. Prace Mat.* **20** 7), *no*. 1, 111–131. (Author's summary) **57** #11190 68A30 (94A35)

See also **Fundamentals of computation theory**, **57** #11147

kiĭ, F. G. (*with* Larin, V. B.) The solution of algebraic and differential Riccati tions. (Russian) *Mat. Fiz. Vyp.* 19 (1976), 36–41, 122. (Authors' summary) #26306 93C10

Lowering the order of a Riccati equation by the introduction of a small parameter. ssian) *Mat. Fiz. Vyp.* 20 (1976), 33–37, 112. (E. S. Cičkin) **56** #4184 65L99

B. V. (*with* Efimenko, V. V.) Quasi-equidistant binary-decimal codes for mutation coders. (Russian) *Automatic control and methods of electrical surements* (*Proc. Eighth All-Union Conf., Novosibirsk*), *Vol.* 1, (*Russian*), *pp*. 192–200. t. "*Nauka*" *Sibirsk. Otdel., Novosibirsk*, 1971. (E. R. Berlekamp) **48** #13455 10

K. S. Diffraction of ion-sound waves by a conducting half plane. (Russian. lish summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no*. 3, 413–421. thor's summary) **56** #17421 76.35

Martin (*with* Gerber, R. B.) On the determination of the phases of tromagnetic scattering amplitudes from experimental data. *J. Chem. Phys.* **56** 2), 1921–1936. (Authors' summary) **52** #7327 78.45

(*with* Langhoff, P. W.; Epstein, Saul T.) Aspects of time-dependent perturbation ry. *Rev. Modern Phys.* **44** (1972), 602–644. (L. Navarro) **55** #11864 81.49

(*with* Rossky, Peter J.) The enumeration of Goldstone diagrams in many-body urbation theory. *J. Chem. Phys.* **64** (1976), *no*. 4, 1596–1603. (Editors) **56** #7633 7

(*with* Rossky, Peter J.) Model perturbation theoretic calculations with finite tinuum basis sets. *J. Chem. Phys.* **67** (1977), *no*. 12, 5419–5427. (Authors' summary) #10602 81.47

n, G. Discrete symmetries and the Einstein principle of relativity. *Rep. hematical Phys.* **9** (1976), *no*. 1, 83–94. (S. Deser) **54** #4373 81.20

, V. I. (*with* Kadomcev, B. B.) Nonlinear waves. *Uspehi Fiz. Nauk* **103** (1971), –232 (*Russian*); *translated as Soviet Physics Uspekhi* **14** (1971), 40–60. (Alan Jeffrey) #7453 76.00 (78.35)

★Нелинейные волны в диспергирующих средах. (Russian) [Nonlinear waves in persive media] *Izdat.* "*Nauka*", *Moscow*, 1973. 175 *pp*. (J. P. Guiraud) **54** #9311 5

★Non-linear waves in dispersive media. Revised edition. Translated from the ssian by F. F. Cap. International Series of Monographs in Natural Philosophy, Vol. *Pergamon Press, Oxford-New York-Toronto, Ont.*, 1975. xi + 183 *pp*. (Editors) #14026 76.00

Nonlinear effects of the interaction of waves with the particles of a plasma. ssian) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no*. 5-6, 812–821. (J. S. Joel) #14924 78.35

(*with* Maslov, E. M.) A perturbation theory for the Korteweg-de Vries equation. s. *Lett. A* **60** (1977), *no*. 4, 307–308. (G. L. Lamb, Jr.) **58** #23186 35Q99

(*with* Maslov, E. M.) Inverse problem method for the perturbed nonlinear rödinger equation. *Phys. Lett. A* **61** (1977), *no*. 6, 355–357. (Authors' summary) #14270 81.35

(*with* Maslov, E. M.) Perturbation theory for solitons. *Ž. Èksper. Teoret. Fiz.* **73** 77), *no*. 2, 281–291 (*Russian. English summary*); *translated as Soviet Phys. JETP* **46** 77), *no*. 2, 537–559. (Authors' summary) **58** #29454 35Q99 (76.35)

E. A. (*with* Rjadinskih, A. S.) Introduction to the synthesis of nonlinear sformers. (Russian. English summary) *Teoret. Èlektrotehn. Vyp.* 19 (1975), 75–82. thors' summary) **57** #15757 94A20

See also **Mathematical simulation and the theory of electrical circuits**, **48** #3287

I. I. *See* **Control in space**, **48** #8041

Ju. G. (*with* Karpovsky, Mark G.) The optimal methods of introducing code undance for error correction in finite automata. (Russian. English summary insert) *ernetika* (*Kiev*) **1971**, *no*. 1, 62–67. (G. M. Tenengol′c) **45** #4907 94A10

Group of automorphisms of a finite automaton. *Avtomat. i Telemeh.* **1973**, *no*. 8, –74 (*Russian. English summary*); *translated as Automat. Remote Control* **34** (1973), *no*. *art* 1, 1261–1265 (1974). (I. Peák) **52** #16152 68A30 (68A25)

(*with* Karpovsky, Mark G.) Decomposition of algebras, and synthesis of reliable crete devices from integral modules. (Russian. English summary insert) *Kibernetika iev*) **1973**, *no*. 3, 6–13. (Heinrich Seidel) **49** #7038 94A30

A method for increasing the reliability of discrete devices in micro-electronic eration. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no*. 3, 21–26. (A. Koršunov) **53** #2536 94A20 (93C55)

, Ju. N. (*with* Kagan, A. M.) A Bayesian formulation of the problem of estimating a ation parameter. (Russian) Problems in the theory of probability distributions. *Zap. učn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **29** (1972), 62–73. (V. rotschka) **49** #10026 62F15

See also **Problems in the theory of probability distributions**, **52** #4355

, V. G. (*with* Moščenskiĭ, V. A.) ★Математическая логика и дискретная тематика. (Russian) [Mathematical logic and discrete mathematics] *Izdat.* "*Vyšèĭšaja ola*", *Minsk*, 1977. 256 *pp*. (S. J. Surma) **57** #51 02–01

, V. V. A way of improving the solution obtained by the method of successive loads. ussian) *Volž. Mat. Sb. No.* 15 (1973), 106–111. **48** #10287 73.65

Karpov, Yu. G. *See* **Karpov, Ju. G.**

Karpova, L. M. (*with* Boguslavskaja, T. M.) Symmetry forms of unitary semi-non-Euclidean spaces. (Russian) *Trudy Kolomen. Fil. Vsesojuz. Zaočn. Politehn. Inst. No.* 2 (1968), 103–112. (See RŽMat **1969** #7 A454) 50C25

(*with* Markina, L. M.) Dual elliptic spaces. (Russian) *Trudy Kolomen. Fil. Vsesojuz. Zaočn. Politehn. Inst. Vyp.* 3 (1969), 40–48. (Editors) **57** #3975 50C25

(*with* Sergeeva, N. D.) al-Fergani's proof of the fundamental theorem of stereographic projection. (Russian) *Voprosy Istor. Estestvoznan. i Tehn.* **1972**, *no*. 3(40), 50–53, 122. (Editors) **58** #26799 01A30

Karpova, Ludmila (*with* Rosenfeld, Boris A.) The treatise of Thābit ibn Qurra on sections of a cylinder, and on its surface. *Arch. Internat. Hist. Sci.* **24** (1974), *no*. 94, 66–72. (R. Rashed) **58** #15844 01A30

Karpova, N. A. A certain inequality for the Shannon function. (Russian) *Diskret. Analiz No.* 20 (1972), 16–21. (RŽMat **1973** #2 V379) **57** #19128 94A20

The possible asymptotic behavior of the Shannon functions in the realization of the functions of the algebra of logic by formulas. (Russian) Collection of articles dedicated to the memory of Èduard Ivanovič Nečiporuk. *Problemy Kibernet. No.* 26 (1973), 37–51, 327. (Pavel Strnad) **49** #4679 94A20

Minimal schemes from closure contacts for monotone functions of five variables. (Russian) Collection of articles dedicated to the memory of Èduard Ivanovič Nečiporuk. *Problemy Kibernet. No.* 26 (1973), 53–94, 327. (Pavel Strnad) **49** #4680 94A20

Some remarks on the asymptotic behavior of Shannon's function. (Russian) *Problemy Kibernet. No.* 30 (1975), 313–318. (S. Kotz) **53** #10495 94A20

Karpova, N. V. The Carnot theorem for the general case of a collision of free bodies. (Russian) *Prikl. Meh.* **11** (1975), *no*. 10, 129–132, 144. **56** #13859 70.34

Karpova, V. S. Certain classes of surfaces in the elliptic space S_3^n. (Russian) *Proceedings of the Seminar of the Department of Geometry, No. VII* (*Russian*), *pp*. 43–47. *Izdat. Kazan. Univ., Kazan*, 1974. (M. C. Chaki) **53** #1449 53A35

Karpovič, V. N. Hypotheses introduced by reduction sentences. (Russian) *Philosophy and logic* (*Russian*), *pp*. 168–176. *Nauka, Moscow*, 1974. (Editors) **58** #27428 02G99

Karpovsky, Mark G. (*with* Danilov, V. V.; Moskalev, È. S.) Tests for nonoriented graphs. *Avtomat. i Telemeh.* **1970**, *no*. 4, 160–168 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no*. 4, 656–664. (Authors' summary) **46** #1460 94A20

(*with* Moskalev, È. S.) Realization of partially-defined Boolean functions by expansions in orthogonal series. *Avtomat. i Telemeh.* **1970**, *no*. 8, 89–99 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no*. 8, 1278–1287. (H. Rohleder) **46** #6948 94A20 (02C05)

(*with* Karpov, Ju. G.) The optimal methods of introducing code redundance for error correction in finite automata. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no*. 1, 62–67. (G. M. Tenengol′c) **45** #4907 94A10

(*with* Karpov, Ju. G.) Decomposition of algebras, and synthesis of reliable discrete devices from integral modules. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no*. 3, 6–13. (Heinrich Seidel) **49** #7038 94A30

(*with* Trojanovskiĭ, A. A.) Methods for the analysis of the correcting capacity of automata. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no*. 1, 25–29. (M. Tetruašvili) **50** #9442 94A30

(*with* Moskalev, È. S.; Trojanovskiĭ, A. A.) Methods of estimating the correcting capacity of functions of the algebra of logic. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no*. 1, 155–161, 238 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 124–130. (E. L. Cohen) **52** #12966 94A10 (94A20)

★Finite orthogonal series in the design of digital devices. Analysis, synthesis and optimization. *Halsted Press* [*John Wiley & Sons*], *New York-Toronto, Ont.*; *Israel Universities Press, Jerusalem*, 1976. xi + 251 *pp*. (*appendix insert*) (G. Robert Redinbo) **53** #10496 94A20 (94A25, 94A30)

(*with* Trachtenberg, E. A.) Linear checking equations and error-correcting capability for computation channels. *Information processing* 77 (*Proc. IFIP Congr., Toronto, Ont.*, 1977), *pp*. 619–623. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam*, 1977. (Authors' summary) **58** #33526 94A15

Error detection in digital devices and computer programs with the aid of linear recurrent equations over finite commutative groups. *IEEE Trans. Computers* **C-26** (1977), *no*. 3, 208–218. (Author's summary) **58** #26565 94A20

Fast Fourier transforms on finite non-abelian groups. *IEEE Trans. Computers* **C-26** (1977), *no*. 10, 1028–1030. (From the summary) **58** #15646 94A05 (68A10)

Harmonic analysis over finite commutative groups in linearization problems for systems of logical functions. *Information and Control* **33** (1977), *no*. 2, 142–165. (I. E. Strazdiņš) **55** #5315 94A20 (43A32)

(*with* Trachtenberg, E. A.) Some optimization problems for convolution systems over finite groups. *Information and Control* **34** (1977), *no*.3, 227–247. (Edward W. Kamen) **56** #4952 93B99

Karppinen, J. (*with* Blomsnes, B.) An application of optimization methods to spatial control of nuclear reactor cores. *New trends in systems analysis* (*Proc. Internat. Sympos., Versailles*, 1976), *pp*. 474–498. *Lecture Notes in Control and Informat. Sci., Vol.* 2, *Springer, Berlin*, 1977. (Authors' summary) **58** #15468 93C50

Karpuhin, Ju. P. A discontinuous problem for an equation of the second kind with two lines of degeneracy. (Russian) Partial differential equations. *Volž. Mat. Sb. No.* 19 (1973), 116–124. (V. V. Kovrižkin) **52** #6203 35M05

Karpuhina, A. M. (*with* Īvahnenko, O. G.; Sīrbīladze, D. D.) Optimization of nonlinear transformation of continuous features into discrete (binary) code by sifting according to analytic formulas. *Avtomatika* **1976**, *no*. 5, 3–13 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **9** (1976), *no*. 5, 1–10. (Hidemitsu Ogawa) **56** #10195 68A45

Karpuk, A. A. (*with* Ivanov, E. A.) A diffraction problem for the radiation field of a biased magnetic dipole on two coaxial circular disks. I, II. (Russian) *Differencial′nye Uravnenija* 7 (1971), 892–901; *ibid* 7 (1971), 1031–1035. (A. Nikodémusz) **46** #2994 78.35

The field of a displaced horizontal electric dipole in the presence of two coaxial discs. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no*. 3, 55–62. (J. E. Rosenthal) **45** #8140 78.35

Diffraction of the radiation field of a horizontal dipole by a circular opening in a plane screen in the presence of a circular disc that is coaxial to it. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1805–1815, 1911; *errata, ibid.* **9** (1973), 1161. (J. E. Rosenthal) **47** #9956 78.35

A spheroidal antenna over an ideally conducting plane. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 2, 28–33, 139. (A. S. Alekseev) **52** #16288 78.35

Karpuk, V. V. The structure of a certain class of pointwise degenerate systems with lag. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 1, 75–77, 95. (M. I. Kamenskiĭ) **58** #11774 34K05

On the theory of pointwise degeneracy of systems with lag. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 3, 18–21, 92. (Author's summary) **58** #11795 34K15

A criterion for the finiteness of the spectrum of systems with lag. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 3, 212–213, 284. (Ju. I. Ljubič) **58** #1477 34K10

Karpukhina, A. M. *See* **Karpuhina, A. M.**

Karpušenko, E. Ja. (*with* Semenov, V. S.) The optimal distribution of preventive maintenance tasks among the components of an information system. (Russian) *Automatic control and methods of electrical measurement* (*Proc. Seventh All-Union Conf., Novosibirsk*, 1965) (*Russian*), *pp.* 106–111. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1971. (M. Maňas) **48** #3474 90B25

Karpuškin, V. N. The asymptotic behavior of the eigenvalues of symmetric manifolds, and the "most probable" representations of finite groups. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 2, 9–13. (H. Moscovici) **50** #7843 35P20 (20C99, 58G99)

Karpyčeva, Z. F. A certain property of the exponential integral function and its repeated integrals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 1(116), 33–41. (H. A. Lauwerier) **46** #3842 33A10

Karr, Alan F. (*with* Bracken, Jerome; Falk, James E.) Two models for optimal allocation of aircraft sorties. *Operations Res.* **23** (1975), *no.* 5, 979–995. (J. Moulen) **55** #10023 90D05 (90D45)

Weak convergence of a sequence of Markov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **33** (1975/76), *no.* 1, 41–48. (Douglas P. Kennedy) **52** #15681 60J10 (60B10)

Stability of one-dimensional systems of colliding particles. *J. Appl. Probability* **13** (1976), *no.* 1, 155–158. (Olav Kallenberg) **52** #15738 60K35

Two extreme value processes arising in hydrology. *J. Appl. Probability* **13** (1976), *no.* 1, 190–194. (S. K. Srinivasan) **54** #6335 60K99

Lévy random measures. *Ann. Probability* **6** (1978), *no.* 1, 57–71. (Olav Kallenberg) **56** #13355 60G55

(*with* Pittenger, Arthur O.) The inverse balayage problem for Markov chains. *Stochastic Process. Appl.* 7 (1978), *no.* 2, 165–178. (Hermann Rost) **58** #7873 60J45

Karr, Michael Affine relationships among variables of a program. *Acta Informat.* **6** (1976), *no.* 2, 133–151. (Steven S. Muchnick) **53** #12058 68A05

Karras, A. *See* **Karrass, Abraham**

Karras, U. (*with* Kreck, Matthias; Neumann, Walter D.; Ossa, Erich) ★Cutting and pasting of manifolds; SK-groups. Mathematics Lecture Series, No. 1. *Publish or Perish, Inc., Boston, Mass.*, 1973. vii+70 *pp.* (K. H. Mayer) **50** #14802 57D80 (57D25, 57D90)

Karras, Ulrich Klassifikation 2-dimensionaler Singularitäten mit auflösbaren lokalen Fundamentalgruppen. *Math. Ann.* **213** (1975), 231–255. (J. A. Morrow) **52** #799 32C45

Eigenschaften der lokalen Ringe in zweidimensionalen Spitzen. *Math. Ann.* **215** (1975), 117–129. (H. B. Laufer) **51** #10679 32C40 (10D20)

Deformations of cusp singularities. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 37–44. *Amer. Math. Soc., Providence, R.I.*, 1977. (Henry C. Pinkham) **57** #12501 14B05 (14D15, 32C40)

Karrass, Abraham (*with* Solitar, Donald) Subgroups of HNN groups and groups with one defining relation. *Canad. J. Math.* **23** (1971), 627–643. (Stephen Meskin) **46** #260 20E30

(*with* Solitar, Donald) The free product of two groups with a malnormal amalgamated subgroup. *Canad. J. Math.* **23** (1971), 933–959. (F. Levin) **47** #3541 20E30

(*with* Solitar, Donald) On a theorem of Cohen and Lyndon about free bases for normal subgroups. *Canad. J. Math.* **24** (1972), 1086–1091. (K. Appel) **47** #8690 20E30

(*with* Hoare, A. Howard M.; Solitar, Donald) Subgroups of infinite index in Fuchsian groups. *Math. Z.* **125** (1972), 59–69. (A. M. Macbeath) **45** #2029 20H10 (10D05)

(*with* Fischer, Jerrold; Solitar, Donald) On one-relator groups having elements of finite order. *Proc. Amer. Math. Soc.* **33** (1972), 297–301. (C. F. Miller, III) **47** #342 20F05

(*with* Hoare, A. Howard M.; Solitar, Donald) Subgroups of NEC groups. Collection of articles dedicated to Wilhelm Magnus. *Comm. Pure Appl. Math.* **26** (1973), 731–744. (F. A. Sherk) **49** #437 20H10

(*with* Pietrowski, Alfred; Solitar, Donald) Finite and infinite cyclic extensions of free groups. Collection of articles dedicated to the memory of Hanna Neumann, IV. *J. Austral. Math. Soc.* **16** (1973), 458–466. (Stephen Meskin) **50** #2343 20F05

(*with* Solitar, Donald) On finitely generated subgroups which are of finite index in generalized free products. *Proc. Amer. Math. Soc.* **37** (1973), 22–28. (K. Appel) **47** #8692 20F05 (20E30)

(*with* Magnus, Wilhelm; Solitar, Donald) ★Комбинаторная теория групп. (Russian) [Combinatorial group theory] Представление групп в терминах образующих и соотношений [Presentation of groups in terms of generators and relations] Edited by M. D. Grindlinger [Martin Greendlinger]. Translated from the English by D. I. Moldvanskiĭ, A. A. Fridman and Ju. I. Hmelevskiĭ. *Izdat. "Nauka", Moscow*, 1974. 455 *pp.* (Editors) **51** #10480 20Fxx (20Exx)

(*with* Pietrowski, Alfred; Solitar, Donald) An improved subgroup theorem for HNN groups with some applications. *Canad. J. Math.* **26** (1974), 214–224. (From authors' introduction) **55** #5749 20E30 (20E05, 20F15)

(*with* Magnus, Wilhelm; Solitar, Donald) ★Combinatorial group theory. Presentations of groups in terms of generators and relations. Second revised edi *Dover Publications, Inc., New York*, 1976. xii+444 *pp.* (Editors) **54** #10423 20

(*with* Solitar, Donald) Subgroups with centre in HNN groups. *J. Austral.* *Soc. Ser. A* **24** (1977), *no.* 3, 350–361. (D. E. Cohen) **58** #5934 20F05 (20F25)

(*with* Solitar, Donald) One relator groups having a finitely presented normal subgroup. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 2, 219–222. (Ian M. Chis **57** #6203 20F05

Karreman, George *See* **Meeting: Society for Mathematical Biology**, **57** #5154

Karrer, Guido Algebraische Operationen auf Faserbündeln. *Math. Z.* **122** (1971), 177- (M. Postnikov (RŽMat **1972** #3 A496)) **52** #9224 55F10

Darstellung von Cliffordbündeln. *Ann. Acad. Sci. Fenn. Ser. A I No.* 521 (197 *pp.* (T. J. Willmore) **47** #7641 53C05

Graded division algebras. *Math. Z.* **133** (1973), 67–73. (A. Yaqub) **48** #4 16A40

(*with* Mühlethaler, Roland) Reelle funktionenringe. *Topics in analysis* (*C* *Math. Anal., Jyväskylä*, 1970), *pp.* 232–236. *Lecture Notes in Math., Vol.* 419, *Spr* *Berlin*, 1974. (L. Gillman) **57** #1404 54C40

Invariant traces on algebras. *Proc. Amer. Math. Soc.* **42** (1974), 369–372. (R Gordon) **48** #6180 16A64

Karshtedt, I. M. *See* **Karštedt, I. M.**

Karšiev, A. K. The generalized divisor problem of Titchmarsh. (Russian) *Taškent.* *Univ.—Buharsk. Ped. Inst. Naučn. Trudy No.* 4(18) (1969), 36–61. (RŽMat **1969** A57) **58** #27842 10H15

Karst, Edgar (*with* Root, S. C.) Teilfolgen von Primzahlen in arithmetischer Progress *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1972**, *no.* 1, 19–20. (Donal Goldsmith) **53** #13086a 10A05

(*with* Root, S. C.) Mehr Teilfolgen von Primzahlen in arithmetischer Progress *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1972**, *no.* 8, 178–179. (Dona Goldsmith) **53** #13086b 10A05

New quadratic forms with high density of primes. *Elem. Math.* **28** (1973), 116- (G. Purdy) **49** #2539 10C05 (10–04)

Iteration algorithms for certain sums of squares. *Fibonacci Quart.* **12** (1974), 8 (S. L. G. Choi) **50** #222 10A30

Karštedt, I. M. (*with* Kogan, L. M.) Optimal stand-by with a choice of set-ups. *Izv.* *Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 2, 41–45 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 2, 241–245. (D. H. Chyung) **45** #8278 90C25

(*with* Gal'perin, A. M.; Kogan, L. M.) Application of duality theory to the sol of discrete optimization problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, 35–40 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 5, 780–786. (Davies) **48** #10502 90C25

Karsten, Wenceslaus Johann Gustav *See* **Dobrzycki, Stanisław**, **58** #59

Kartahov, V. V. Boundary value problems with parameter for certain degenerate el equations. (Russian) *Collection of papers by postgraduates, Vol.* 2 (*Russian*), *pp.* 3 *Voronež. Gos. Univ., Voronezh*, 1972. (See RŽMat **1974** #5 B392; MR **57** #93 35J70

The spectrum, eigenfunctions and spectral function of singular elliptic oper (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 5, 1000–1003. (M. M. Skriga **52** #11370 35P20

Karták, Karel Continuous dependence on parameters and generalized solutions of ord differential equations. *Beiträge Anal. Heft* 9 (1976), 39–41. (H. I. Freedman) **56** 34A10

Kartamyševa, D. S. (*with* Černyšenko, V. M.) A certain method of constructing iter formulae that do not contain inverse operators. (Russian. French summary) *Prikl. Mat.* (*Kiev*) *No.* 15 (1971), 102–107. (G. Vainikko) **46** #6581 65H05

Kartan, H. *See* **Cartan, H.**

Kartašev, A. P. (*with* Roždestvenskiĭ, B. L.) ★Обыкновенные дифференциальные уравнения и основы вариационного исчисления. (Russian) [Ordinary differ equations and the foundations of the calculus of variations] *Izdat. "Nauka", Mo* 1976. 255 *pp.* (Editors) **53** #915 34–02 (49–01)

Kartašev, Ju. V. *See* **Kartašov, Ju. V.**

Kartaševa, L. V. A singular equation with a degenerate symbol on an open contour space of generalized functions. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra* *Školy Ser. Estestv. Nauk.* **1975**, *no.* 4, 73–76, 118. (T. G. Gegelia) **58** #12240 4

(*with* Rogožin, V. S.) A singular integral equation in spaces of test functions generalized functions on a closed contour in the exceptional case. (Russian) *Izv.* *Učebn. Zaved. Matematika* **1975**, *no.* 6(157), 114–123. (R. V. Dudučava) **53** #36 45E99

A singular integral equation in a class of fundamental and generalized functio an open contour. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 11 89–92. (R. V. Dudučava) **54** #875 45E05 (46F10)

(*with* Rogožin, V. S.) Sohockiĭ formulas in a space of generalized functions segment of the real line. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **197** 5(180), 91–102. (D. Mitrović) **57** #7163 46F10 (30A88)

Kartashev, Steven I. (*with* Kartashev, Svetlana P.) On modular networks satisfying shift-register rule. *IEEE Trans. Comput.* **27** (1978), *no.* 12, 1153–1176. (From the **58** #26566 94A20

Kartashev, Svetlana P. Generalized canonical graphs and efficient state assignment. *Avtomat. i Telemeh.* **1969**, *no.* 6, 132–137 (*Russian. English summary*); *translate* *Automat. Remote Control* **1969**, *no.* 6, 951–955. **56** #11582 94A20

State assignment for realizing modular input-free sequential logical networks without invertors. *J. Comput. System Sci.* 7 (1973), 522–542. (J. C. Muzio) **48** #18 94A20

Theory and implementation of *p*-multiple sequential machines. *IEEE Trans. Computers* **C-23** (1974), *no.* 5, 500–523. (K. Vairavan) **53** #10514 94A25

Parallel computation in modular computing systems. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Adv. Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 184–190. *IEEE Computer Soc.*, *k*, 1975. (Author's summary) **58** #32006 68A05

(*with* Kartashev, Steven I.) On modular networks satisfying the shift-register rule. *EE Trans. Comput.* **27** (1978), *no.* 12, 1153–1176. (From the text) **58** #26566 A20

ov, G. D. *See* **Kartašov, G. D.**

v, È. M. (*with* Mos'jakov, V. E.) A certain class of heat conduction problems with time-variable coefficient of heat exchange. (Russian) *Izv. Vysš. Učebn. Zaved. iacion. Tehn.* **1973**, *no.* 1, 75–81, 121. (A. D. Solomon) **48** #5516 80.35

(*with* Nečaev, V. M.) The method of Green's functions in the solution of boundary ue problems for the heat equation in noncylindrical domains. (Russian. German and glish summaries) *Z. Angew. Math. Mech.* **58** (1978), *no.* 4, 199–208. (Authors' nmary) **58** #14425 80.35 (35K05)

ov, G. D. Application of methods of the theory of optimal control for an estimate of iability. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 3, 43–46. (E. rzilovič (RŽMat **1969** #1 V198)) **45** #8353 93E20

Accelerated testing in the case of an unstable production process. *Izv. Akad. Nauk SSR Tehn. Kibernet.* **1971**, *no.* 4, 84–90 (*Russian*); *translated as Engrg. Cybernetics* **9** 971), *no.* 4, 664–669 (1972). (A. K. Gayen) **47** #4406 62N05

An estimate of the reliability of items operating in a variable regime. *Izv. Akad. uk SSSR Tehn. Kibernet.* **1972**, *no.* 4, 60–66 (*Russian*); *translated as Engrg. bernetics* **10** (1972), *no.* 4, 614–620. (N. U. Prabhu) **48** #13221 90B25

An estimate of the reliability in a two-step regime of trials. *Izv. Akad. Nauk SSSR hn. Kibernet.* **1972**, *no.* 5, 67–73 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), . 5, 809–816. (N. U. Prabhu) **48** #13222 90B25

Additively-Markovian models of resource consumption. *Izv. Akad. Nauk SSSR ehn. Kibernet.* **1974**, *no.* 2, 53–58 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), –43. (Z. Khalil) **54** #12185 90B05

ov, Ju. V. (*with* Dorogovcev, A. Ja.) The estimation of the mean value of a ationary process when there is a given time of observation. I. (Russian. English mmary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 8 (1973), 50–58, 175. (Jiři Anděl) #14279a 62M10

(*with* Dorogovcev, A. Ja.) The estimation of the mean value of a stationary process the case of given duration of observation time. II. (Russian. English summary) *Teor. erojatnost. i Mat. Statist. Vyp.* 9 (1973), 73–81, 175. (Jiři Anděl) **54** #14279b 2M10

(*with* Šabranskiĭ, V. A.) The relative distribution of random points on a line. Russian. French summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 21 (1973), 145–151, 161. (E. M. Klimko) **48** #9798 60E05

(*with* Dorogovcev, A. Ja.) Least square estimations of the regression coefficient of a andom process with prescribed observation time. (Russian. English summary) *Teor. erojatnost. i Mat. Statist. Vyp.* 10 (1974), 82–87, 175. (Jiří Anděl) **54** #11692 2M10

Estimation of the expectation of a random field on the basis of observations in a domain of given area. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 17 (1975), 104–110, 180. (G. M. Molčan) **55** #1681 62M99 62F10)

See also **Selected translations in mathematical statistics and probability**, **49** #4728

ašov, L. M. On the question of inverse theorems of the theory of approximation of functions in domains with sharp exterior angles. (Russian) *Metric questions of the theory of functions and mappings, No.* 2 (*Russian*), *pp.* 165–172. *Izdat. "Naukova Dumka", Kiev*, 1971. (R. P. Boas, Jr.) **45** #5373 30A82

(*with* Kovalenko, S. P.) A certain method of solution of a loaded linear integro-differential equation. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 688–691, 763. (J. Muszyński) **46** #2498 47G05

(*with* Kovalenko, S. P.) A certain multi-point boundary value problem. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 1063–1067, 1148. (J. Muszyński) **46** #2499 47G05

Application of certain types of integral transforms to the problem of the approximation of functions of a complex variable. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 878–882, 957. (V. L. Makarov) **47** #8869 30A82

(*with* Kovalenko, S. P.) Certain analytic solutions of the Cauchy problem for a perturbed linear loaded integro-differential equation. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 17 (1972), 71–77. (M. I. Imanaliev) **46** #7822 45J05

A certain method for the approximation of functions in a complex domain. (Russian) *Metric questions of the theory of functions and mappings, No. IV* (*Russian*), *pp.* 92–101. *Izdat. "Naukova Dumka", Kiev*, 1973. (L. I. Hedberg) **51** #10642 30A82

(*with* Kovalenko, S. P.) The Cauchy operator in a Banach space. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 11, 978–982, 1051. (H. Baumgärtel) **54** #3453 47A50

rtašov, M. V. The convergence of the iterations of the function $\sqrt{(z+\alpha+i\beta)}$. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 15 (1973), 118–123, 146. (J. G. Krzyż) **50** #7496 30A20

A certain generalization of the Bernšteĭn polynomials. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 12 (1975), 54–61, 171. (G. Sîmboan) **53** #11721 60F99 (41A35)

A limit theorem for random fields stopped at a time of Markov type. (Russian) *Studies in the theory of random processes* (*Russian*), *pp.* 69–76. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (J. H. Kučkarov) **56** #9643 60F05

Explicit estimates of the rate of convergence in the renewal theorem. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 18 (1978), 74–79, 181. (H.-J. Rossberg) **58** #7896 60K05

artašova, O. E. (*with* Burkov, V. N.; Kacnel'son, M. B.; Nurhaĭdarov, B. H.) A problem on the control of the sale of finished production, and an algorithm for solving it. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no.* 1, 7–13, 91. (Marcel Rădulescu) **52** #7499 90B05

artašova, S. P. (*with* Oskolkov, A. P.) Convergent difference schemes for the equations of motion of water solutions of polymers. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **35** (1973), 21–35. (V. Thomée) **49** #4268 65N10

Kárteszi, Ferenc Su certi grafi estremali. *Atti del Convegno di Geometria Combinatoria e sue Applicazioni* (*Univ. Perugia, Perugia*, 1970), *pp.* 301–305. *Ist. Mat., Univ. Perugia, Perugia*, 1971. (T. Zamfirescu) **49** #8899 05C35

Contributo al pentagono equilatero ed isogonale. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **16** (1973), 63–64 (1974). (B. d'Orgeval) **50** #5601 50B10

Finite Möbius planes as solutions of a combinatorial extremum problem. (Hungarian) *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.* **21** (1973), 73–76. (J. Cofman) **47** #6516 (EA **47**) 05B25 (50D45)

(*with* Corradi, K.) Contributi al legame fra campi finiti e gruppi di Frobenius. *Ann. Mat. Pura Appl.* (4) **103** (1975), 121–126. (N. Ito) **51** #12925 16A40

★Introduction to finite geometries. Translated from the Hungarian by L. Vekerdi. North-Holland Texts in Advanced Mathematics, Vol. 2. *North-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publishing Co., Inc., New York*, 1976. xiii+266 *pp.* (Francis Buekenhout) **54** #11156 50–02 (05B25)

Configurazioni inscritte in un ovale. (English summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Rome*, 1973), *Tomo II*, *pp.* 57–60. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (Francis Buekenhout) **57** #2946 05B25 (55D10)

Su una proprietà combinatoria dei poligoni regolari. (English summary) *Boll. Un. Mat. Ital.* (5) **13A** (1976), *no.* 1, 139–141. (H. S. M. Coxeter) **54** #3573 50B30 (50D05)

Su una congettura di Seppo Ilkka. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **20** (1977), 167–175. (Brian J. Wilson) **57** #17501 50D99

Kartsaklis, Anastase On the Carnap's C—T axiomatic system of space-time and the Basri's deductive theory of space and time. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 142–146. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (P. Suppes) **51** #9729 83.02

Kartsatos, Athanassios G. (*with* Onose, Hiroshi) On the maintenance of oscillations under the effect of a small nonlinear damping. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 4, 3–11 (1972). (Ernest True) **47** #3764 34C15

On the relationship between a nonlinear system and its nonlinear perturbation. *J. Differential Equations* **11** (1972), 582–591. (N. Onuchic) **45** #5503 34E10

(*with* Bacopoulos, A.) On polynomials approximating the solutions of nonlinear differential equations. *Pacific J. Math.* **40** (1972), 1–5. (F. Max Stein) **46** #2309 34A45 (41A10)

Maintenance of oscillations under the effect of a periodic forcing term. *Proc. Amer. Math. Soc.* **33** (1972), 377–383. (G. A. Bogar) **48** #8959 34C10

Convergence in perturbed nonlinear systems. *Tôhoku Math. J.* (2) **24** (1972), 539–546. (T. G. Hallam) **48** #2508 34D15

(*with* Onose, Hiroshi) Remarks on oscillation of second order differential equations. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 5 (1973), 23–31. (Curtis C. Travis) **48** #4411 34C10

Existence of solutions of heavily nonlinear Volterra integral equations. *Hiroshima Math. J.* **3** (1973), 243–249. (C. Avramescu) **49** #11168 45D05

The Leray-Schauder theorem and the existence of solutions to boundary value problems on infinite intervals. *Indiana Univ. Math. J.* **23** (1973/74), 1021–1029. (L. Erbe) **49** #5448 34B15

(*with* Michaelides, George J.) Existence of convergent solutions to quasilinear systems and asymptotic equivalence. *J. Differential Equations* **13** (1973), 481–489. (R. P. de Figueiredo) **50** #2628 34D10

(*with* Saff, E. B.) Hyperpolynomial approximation of solutions of nonlinear integro-differential equations. *Pacific J. Math.* **49** (1973), 117–125. (W. T. Reid) **48** #11958 45J05

Hyperpolynomials approximating solutions to boundary value problems. (German summary) *Z. Angew. Math. Phys.* **24** (1973), 747–754. (F. Max Stein) **48** #10169 65R05

(*with* Zigler, William R.) On a new method for studying the stability of Volterra integral equations. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), 22–29. (V. Lakshmikantham) **51** #8769 45M10

Almost periodic solutions to nonlinear systems. (Italian summary) *Boll. Un. Mat. Ital.* (4) **9** (1974), 10–15. (David L. Lovelady) **50** #7677 34C25

Stability via Tychonov's theorem. *Internat. J. Systems Sci.* **5** (1974), 933–937. (C. S. Coleman) **50** #7708 34D99

On positive solutions of perturbed nonlinear differential equations. *J. Math. Anal. Appl.* **47** (1974), 58–68. (N. P. Bhatia) **50** #13722 34C10

A stability property of the solution to a boundary value problem on an infinite interval. *Math. Japon.* **19** (1974), *no.* 3, 187–194. (S. Leela) **53** #3441 34D10

Existence of bounded solutions and asymptotic relationships for nonlinear Volterra integral equations. *Math. Systems Theory* **8** (1974/75), *no.* 3, 266–275. (C. Corduneanu) **52** #8828 45D05

Nonzero solutions to boundary value problems for nonlinear systems. *Pacific J. Math.* **53** (1974), 425–433. (L. Erbe) **51** #13337 34B15

Global controllability of perturbed quasi-linear systems. (Russian summary) *Problems of Control and Information Theory/Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 2, 137–145. (Edward J. Davison) **56** #4941 93B05

(*with* Manougian, Manoug N.) Perturbations causing oscillations of functional-differential equations. *Proc. Amer. Math. Soc.* **43** (1974), 111–117. (Hugo Teufel, Jr.) **48** #6612 34K15

A boundary value problem on an infinite interval. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 245–252. (H. K. Wilson) **51** #13338 34B15

Banach space-valued solutions of differential equations containing a parameter. *Arch. Rational Mech. Anal.* **57** (1975), 142–149. (R. Showalter) **51** #3634 34G05

(*with* Ward, James R.) Boundedness and existence of periodic solutions of quasi-linear systems. *J. Inst. Math. Appl.* **15** (1975), 187–194. (T. A. Burton) **53** #3426 34C25

On the *n*th-order differential inequalities. *J. Math. Anal. Appl.* **52** (1975), *no.* 1, 1–9. (J. W. Bebernes) **52** #11195 34C10

Bounded solutions to perturbed nonlinear systems and asymptotic relationships. *J. Reine Angew. Math.* **273** (1975), 170–177. (C. Avramescu) **51** #8564 34D05

The Hildebrandt-Graves theorem and the existence of solutions of boundary value problems on infinite intervals. *Math. Nachr.* **67** (1975), 91–100. (G. B. Gustafson) **51** #13339 34B15

On the stabilization of solutions of nonlinear systems. *Math. Notes and Sympos., Vol.* 2: *Differential equations* (*Third Mexico-U.S. Sympos., Mexico City*, 1975) (*Spanish*), *pp.* 275–280. *Fondo de Cultura Económ., Mexico City*, 1976. (Wolfgang Hahn) **56** #9002 34D05

(*with* Onose, Hiroshi) A comparison theorem for functional differential equations. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 3, 343–347. (V. Staikos) **54** #684 34K15

Oscillation and existence of unique positive solutions for nonlinear *n*th order equations with forcing term. *Hiroshima Math. J.* **6** (1976), *no.* 1, 1–6. (A. D. Ziebur) **53** #944 34C10

On the oscillation problem of nonlinear equations. *Hiroshima Math. J.* **6** (1976), *no.* 2, 257–263. (Bhagat Singh) **54** #5583 34K15

(*with* Manougian, Manoug N.) Further results on oscillation of functional-differential equations. *J. Math. Anal. Appl.* **53** (1976), *no.* 1, 28–37. (Yiannis Sficas) **52** #11252 34K15

(*with* Zigler, William R.) Rothe's method and weak solutions of perturbed evolution equations in reflexive Banach spaces. *Math. Ann.* **219** (1976), *no.* 2, 159–166. (S. Fučík) **52** #11679 47H15 (34G05)

*N*th order oscillations with middle terms of order $N-2$. *Pacific J. Math.* **67** (1976), *no.* 2, 477–488. (E. Leimanis) **55** #13002 34C15

Locally invertible operators and existence problems in differential systems. *Tôhoku Math. J.* (2) **28** (1976), *no.* 2, 167–176. (G. J. Etgen) **55** #3390 34B15

Recent results on oscillation of solutions of forced and perturbed nonlinear differential equations of even order. *Stability of dynamical systems, theory and applications* (*Proc. Regional Conf., Mississippi State Univ., Mississippi State, Miss.*, 1975), *pp.* 17–72. *Lecture Notes in Pure and Appl. Math., Vol.* 28, *Dekker, New York*, 1977. (From the introduction) **58** #28853 34C10

Analysis of the effect of certain forcings on the nonoscillatory solutions of even order equations. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 2, 234–244. (Wadi Mahfoud) **58** #11640 34C10

Oscillation of *n*th order equations with perturbations. *J. Math. Anal. Appl.* **57** (1977), *no.* 1, 161–169. (K. Kreith) **54** #13212 34C10

Oscillation and nonoscillation for perturbed differential equations. *Hiroshima Math. J.* **8** (1978), *no.* 1, 1–10. (S. Ahmad) **57** #13008 34C10

Kartus, Jesse S. (*with* Haralick, Robert M.) Arrangements, homomorphisms, and discrete relaxation. *IEEE Trans. Systems Man Cybernet.* **8** (1978), *no.* 8, 600–612. (P. Štěpánek) **58** #14002 68A45

Kartuzov, V. V. Continued approximation schemes for dynamical processes. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 2, 175–179. (From the introduction) **58** #9846 94A20

Kartvelishvili, N. A. *See* **Kartvelišvili, N. A.**

Kartvelišvili, K. M. (*with* Aleksidze, M. A.; Gelašvili, M. S.) ★Исследование некоторых вопросов трансформации потенциальных полей. (Russian) [Studies of certain questions of the transformation of potential fields] *Izdat. "Mecniereba", Tbilisi*, 1972. 282 *pp.* (E. Lanckau (Zbl **252** #65092)) **50** #15860 86.35 (65N99)

Kartvelišvili, N. A. (*with* Kumsiašvili, G. P.) Flow stability and criteria for assessing it. *Izv. Vsesojuz. Naučn.-Issled. Inst. Gidrotehniki im. Vedeneeva* **99** (1972), 48–55; *translated in Fluid Mechanics–Soviet Res.* **4** (1975), *no.* 3, 1–10. (R. M. Gundersen) **53** #4719 76.35

Kartvelišvili, V. M. (*with* Baničuk, N. V.; Černous'ko, F. L.) Difference-quadrature approximations of convex integral functionals. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 2, 269–272. (Ja. I. Al'ber) **55** #6786 65D30

(*with* Baničuk, N. V.; Mironov, A. A.) Numerical solution of two-dimensional optimization problems for elastic plates. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **19j77**, *no.* 1, 68–78 (*Russian*); *translated as Mechanics of Solids* **12** (1977), *no.* 1, 65–74. (Authors' summary) **56** #10333 73.65

Karube, Takashi Uniformities for function spaces and continuity conditions. *Proc. Japan Acad.* **47** (1971), 285–290. (S. A. Naimpally) **45** #2654 54E15

Local compactness for families of continuous mappings and homeomorphism groups. *Sci. Bull. Fac. Ed. Nagasaki Univ. No.* 25 (1974), 11–19. (R. W. Bagley) **49** #6128 54C05

A simple proof that the space of orientation preserving transformations of an interval is homeomorphic to l_2. *Sci. Bull. Fac. Ed. Nagasaki Univ. No.* 28 (1977), 9–10. (J. E. Keesling) **56** #3865 57E05 (57A17)

Hilbert subgroups of the full homeomorphism group of a topological group. *Sci. Bull. Fac. Ed. Nagasaki Univ. No.* 28 (1977), 11–22. (T.-S. Wu) **55** #13455 57E05

Karumidze, G. V. (*with* Thinvaleli, V. G.) Solution of a certain class of stochastic programming problems. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **67** (1972), 565–568. (B. Bereanu) **49** #8656 90C15

(*with* Kordzaja, È. V.) Solution of a class of mathematical programming problems using the decomposition principle. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **88** (1977), *no.* 1, 49–52. (I. V. Romanovskiĭ) **58** #4361 90C99

Karunakaran, V. On the arithmetic mean of certain classes of analytic functions. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **10(30)** (1975), *no.* 2, 249–256. (M. S. Robertson) **52** #14261 30A32

Certain classes of regular univalent functions. *Pacific J. Math.* **61** (1975), *no.* 1, 173–182. (R. J. Libera) **53** #8406 30A32

Radius of starlikeness for a class of meromorphic functions. *Comment. Math. Univ. St. Paul.* **25** (1976/77), *no.* 2, 153–157. (Carl P. McCarty) **55** #643 30A32

On a class of meromorphic starlike functions in the unit disc. *Math. Chronicle* **4** (1976), *no.* 2-3, 112–121. (Selden Trimble) **53** #5843 30A32

A certain radius of convexity problem. *Publ. Math. Debrecen* **24** (1977), *no.* 1–2, 1–3. (M. S. Robertson) **56** #3271 30A32

Radius of starlikeness for a certain class of analytic functions. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 7, 927–931. (A. W. Goodman) **57** #605 30A32

Karunin, A. B. On Rossby waves in barotropic atmosphere in the presence of zonal flow. *Izv. Akad. Nauk SSSR Ser. Fiz. Atmosfer. i Okeana* **6** (1970), *no.* 11, 1091–1100 (*Russian*); *translated as Izv. Acad. Sci. USSR Atmospher. Ocean Phys.* **6** (1970), *n*
653–658 (1971). (Author's summary) **56** #10740 86.35

Karupu, E. V. ★Модули гладкости конформных гомеоморфизмов. (Russian) [Mod
smoothness of conformal homeomorphisms] Preprint IM-77-11. *Akad. Nauk Uk*
SSR Inst. Mat., Kiev, 1977. 12 *pp.* (S. V. Hruščev) **57** #16560 30A30

Karush, Jack I. (*with* Madsen, Niel K.; Rodrigue, Garry H.) Matrix multiplicatio
diagonals on a vector/parallel processor. *Information Processing Lett.* **5** (1976),
41–45. (Jozef Mikloško) **55** #11689 68A10

(*with* Herbert, Nick) Generalization of Bell's theorem. *Found. Phys.* **8** (1978
3-4, 313–317. (Authors' summary) **57** #8525 81.02

See also **Key papers in the development of information theory**, **52** #5177

Karvelishvili, V. M. *See* **Kartvelišvili, V. M.**

Karvellas, Paul H. Additive divisibility in compact topological semirings. *Canad. J.*
26 (1974), 593–599. (H. E. Stone) **51** #5682 16A80

Inversive semirings. *J. Austral. Math. Soc.* **18** (1974), 277–288. (D. R. LaT
51 #3236 16A78

A note on compact semirings which are multiplicative semilattices. *Pacific J.*
55 (1974), 195–205. (W. Wiley Williams.) **51** #5839 22A99

Extension of a semigroup embedding theorem to semirings. *Canad. Math. Bu*
(1975), *no.* 2, 297–298. (S. M. Yusuf) **52** #3253 16A78

Karwat, A. Sterna A note on polyhedral convex processes. (Russian summary) *Bull.*
Polon. Sci. Sér. Sci. Math. Astronom. Phys. **23** (1975), *no.* 8, 899–906. (P. R. Go
52 #6575 52A20

Karwowski, Witold On Borchers class of Markoff fields. *Proc. Cambridge Philos. So*
(1974), 457–463. (Jean Michel Combes) **50** #6357 81.46

A class of quantum fields constructed from Markoff fields. *Rep. Mathem*
Phys. **7** (1975), *no.* 3, 411–416. (Author's summary) **55** #7219 81.60

On the symmetrization of positive elements in the algebra of test functions.
Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys. **24** (1976), *no.* 9, 803–806.
Loupias) **54** #12034 81.46

(*with* Streit, Ludwig) A renormalization group model with non-Gaussian
point. *Rep. Mathematical Phys.* **13** (1978), *no.* 1, 1–12. (Gerhard C. Hegerfeldt) **58** #4104 81.60

Karyakin, V. E. *See* **Karjakin, V. E.**

Karyakin, Yu. E. *See* **Karjakin, Ju. E.**

Kary-Nijazov, T. N. *See* **Mŭminov, I. M.; et al., 58** #16034

Karzanov, A. V. The problem of finding the maximal flow in a network by the meth
preflows. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 49–52. (M. Maňas) **49** #
90B10

(*with* Dinic, E. A.; Zaĭcev, M. A.) An economical algorithm for separating b
in a graph. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1309–1316, 1366. (H. S
52 #5485 05C99

(*with* Adel'son-Vel'skiĭ, G. M.; Dinic, E. A.) ★Потоковые алгоритмы. (Rus
[Flow algorithms] *Izdat. "Nauka", Moscow*, 1975. 119 *pp.* (M. Tetruašvili) **56** #47
90B10

An economical algorithm for finding the maximal flow in a network. (Russ
Èkonom. i Mat. Metody **11** (1975), *no.* 4, 723–729. (See RŽMat **1976** #1 V8
90B10

(*with* Faradžev, I. A.) Planning computational procedures in the solution of problems of using computational models. (Russian) *Programmirovanie* **1975**, *n*
19–24, 94. (Karel Čulík) **56** #13762 68A10

(*with* Dinic, E. A.; Lomonosov, M. V.) The structure of a system of minimal
cuts of a graph. (Russian) *Studies in discrete optimization* (*Russian*), *pp.* 290–306.
"Nauka", Moscow, 1976. (Editors) **58** #16395 05C35

Economical realization of the Edmonds algorithms for matching maximal p
and maximal weight. (Russian) *Studies in discrete optimization* (*Russian*), *pp.* 306–
Izdat. "Nauka", Moscow, 1976. (Author's introduction) **58** #16401 05C35 (68A

Directory for the selection of the maximal element and its applications. (Russ
Studies in discrete optimization (*Russian*), *pp.* 348–359. *Izdat. "Nauka", Moscow*,
(V. I. Rublineckiĭ) **56** #2335 90B40

Karzel, Helmut (*with* Pieper-Seier, Irene) Bericht über geschlitzte Inzidenzgruppen.
Deutsch. Math.-Verein. **72** (1970/71), *no.* 1, 70–114. (See Zbl **202**, 510) 20H15

(*with* Sörensen, Kay) Projektive Ebenen mit einem pascalschen Oval. Collectio
articles dedicated to Lothar Collatz on his sixtieth birthday. *Abh. Math. Sem. U*
Hamburg **36** (1971), 123–125. (R. Artzy) **48** #7108 50D35

(*with* Ellers, Erich W.) Involutory incidence spaces. *J. Geometry* **1** (1971), 117–
(F. Bachmann) **47** #5699 50A15

(*with* Sörensen, Kay) Die lokalen Sätze von Pappus und Pascal. *Mitt. M*
Gesellsch. Hamburg **10**, *no.* 1, 28–55 (1971). (R. Lingenberg) **46** #6149 50D20

(*with* Heise, Werner) Eine Charakterisierung der ovoidalen Kettengeometrien. (English summary) *J. Geometry* **2** (1972), 69–74. (K.-A.Schmitt) **46** #2540 50D

(*with* Heise, Werner) Laguerre- und Minkowski-*m*-Strukturen. (Italian and En
summaries) *Rend. Ist. Mat. Univ. Trieste* **4** (1972), 139–147. (G. D. Chakerian) **48** #9545 50D45

(*with* Sörensen, Kay; Windelberg, Dirk) ★Einführung in die Geometrie. St
mathematica/Mathematische Lehrbücher, Taschenbuch 1. Uni-Taschenbücher, No. 184. *Vandenhoeck & Ruprecht, Göttingen*, 1973. 219 *pp.* (F. Bachmann) **54** #137
50–01

Kinematic spaces. *Symposia Mathematica, Vol. XI* (*Convegno di Geometria, INDAM, Rome*, 1972), *pp.* 413–439. *Academic Press, London*, 1973. (O. Botte
48 #12229 50A15

(*with* Heise, Werner) Symmetrische Minkowski-Ebenen. (English summary)
Geometry **3** (1973), 5–20. (J. André) **48** #7110 50D45

(*with* Heise, Werner) Vollkommen fanosche Minkowski-Ebenen. (English summa
J. Geometry **3** (1973), 21–29. (J. André) **48** #7111 50D45

(*with* Kroll, Hans-Joachim; Sörensen, Kay) Invariante Gruppenpartitionen
Doppelräume. Collection of articles dedicated to Helmut Hasse on his seventy-f
birthday. *J. Reine Angew. Math.* **262/263** (1973), 153–157. (A. Cronheim) **48** #709
50A15

Endliche 2-gelochte Ebenen. *Abh. Math. Sem. Univ. Hamburg* **40** (1974), 187–

ne Pieper) **51** #1600 50D35

Kinematische Algebren und ihre geometrischen Ableitungen. *Abh. Math. Sem. v. Hamburg* **41** (1974), 158–171. (O. Bottema) **50** #372 16A18 (50A20)

(*with* Kroll, Hans-Joachim; Sörensen, Kay) Projektive Doppelräume. *Arch. Math. sel)* **25** (1974), 206–209. (A. Cronheim) **49** #9730 50D25 (50D30)

Fanosche metrische affine Ebenen. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), –178. (E. J. F. Primrose) **52** #6553 50A15

(*with* Stanik, Rotraut; Wähling, Heinz) Zum Anordnungsbegriff in affinen ometrien. *Abh. Math. Sem. Univ. Hamburg* **44** (1975), 24–31(1976). (R. Artzy) #3861 50D05

(*with* Kroll, Hans-Joachim) Eine inzidenzgeometrische Kennzeichnung projektiver ematischer Räume. *Arch. Math. (Basel)* **26** (1975), 107–112. (E. W. Ellers) #4038 50D20

Some recent results on incidence groups. *Foundations of geometry (Proc. Conf., iv. Toronto, Toronto, Ont.,* 1974), *pp.* 114–143. *Univ. Toronto Press, Toronto, Ont.,* 76. (E. W. Ellers) **53** #3846 50B05

Symmetrische Permutationsmengen. (English summary) *Aequationes Math.* **17** 78), *no.* 1, 83–90. (A. Schleiermacher) **58** #22253 20B05 (50D35)

See also **Fundamentals of mathematics,** **49** #8787

rnold (*with* Andreotti, Aldo) Serre duality on complex analytic spaces. (Italian nmary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **50** (1971), 7–401. (W. Thimm) **47** #504 32C35

(*with* Schlessinger, Michael) On the versal deformation of a complex space with an lated singularity. *Math. Ann.* **196** (1972), 23–29. (G. K. Kiremidjian) **45** #3769 G05

(*with* Andreotti, Aldo) Duality on complex spaces. *Ann. Scuola Norm. Sup. Pisa* (3) (1973), 187–263. (C. Bănică) **54** #13117 32C35

(*with* Bloch, Spencer; Lieberman, David I.) Zero cycles on surfaces with $p_g = 0$. *mpositio Math.* **33** (1976), *no.* 2, 135–145. (R. T. Hoobler) **55** #8035 14C25

On the deformation types of regular elliptic surfaces. *Complex analysis and gebraic geometry, pp.* 107–111. *Iwanami Shoten, Tokyo,* 1977. (Tatsuo Suwa) #27973 14D15 (14J25)

Ordinary double points and obstructed surfaces. *Topology* **16** (1977), *no.* 1, 51–64. Henry C. Pinkham) **55** #12955 32G13 (32C40)

Weierstrass normal forms and invariants of elliptic surfaces. *Trans. Amer. Math. oc.* **225** (19777), 259–266. (Jonathan M. Wahl) **54** #10276 14J25 (14K05)

Péter On quadratic minimal cost flow problems. (Hungarian. English summary) *lkalmaz. Mat. Lapok* **1** (1975), *no.* 1-2, 101–108. (András Recski) **54** #9637 90B10 0C20)

On problems of preemptive scheduling interpreted by network flow problems. Hungarian. English summary) *Alkalmaz. Mat. Lapok* **3** (1977), *no.* 1-2, 131–138. Author's summary) **58** #20383 90B35

(*with* Bakó, András) Determining the *k*th shortest path by the matrix method. Hungarian. English and Russian summaries) *Szigma—Mat.-Közgazdasági Folyóirat* **10** 1977), *no.* 1–2, 61–67. (F. Szidarovszky) **57** #15471 90C35

, Zoltán On *k*-thin sets and their relation to generalised Ramsey number. (Romanian ummary) *Studia Univ. Babeş-Bolyai Math.* **20** (1975), 55–59. (Aviezri S. Fraenkel) 3 #2810 10A30 (05C15)

ck, U. Orthogonale lineare Regression: Stichprobenparameter. (English summary) *Computing (Arch. Elektron. Rechnen)* **13** (1974), *no.* 1, 17–20. (Frederick N. Fritsch) 2 #15960 65D10 (62J05)

hara, Akira *See* **Methods in computational physics,** **58** #9109

hara, Isamu (*with* Fujii, Masatoshi) A remark on the spectral order of operators. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 986–988. (E. R. Deal) **47** #873 47B15

(*with* Sakaguchi, Takako) A note on nuclear operators in Hilbert space. *Proc. Japan Acad.* **47** (1971), *suppl.* II, 1012–1014. (S. R. Caradus) **47** #872 47B10

(*with* Takai, Hiroshi) Approximate propervalues and characters of C^*-algebra. *Proc. Japan Acad.* **48** (1972), 91–93. (Berrien Moore, III) **48** #926 47A70

(*with* Choda, Marie; Nakamoto, Ritsuo) Dependent elements of an automorphism of a C^*-algebra. *Proc. Japan Acad.* **48** (1972), 561–565. (Horst Behnke) **49** #5859 46L05

(*with* Nakamoto, Ritsuo) On the preceding paper of H. W. Kim: "On the unilateral shift and the norm closure of the range of a derivation" (Math. Japon. **19** (1974), no. 3, 251–256). *Math. Japon.* **19** (1974), *no.* 3, 257–258. (T. Rolf Turner) **53** #3784 47B47

ahara, Koji On weak well-posedness of mixed problems for hyperbolic systems. *Publ. Res. Inst. Math. Sci.* **6** (1970/71), 503–514. (S. I. Rosencrans) **45** #8994 35L40

ahara, Masao (*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) The construction of sequences by interleaving method. *Electron. Comm. Japan* **55** (1972), *no.* 11, 35–42. (Not reviewed) 94A10

(*with* Fujiwara, Chikato; Tamura, Hiroshi; Namekawa, Toshihiko) Notes on the error detection capability of selected *L*-ary codes. *Electron. Commun. Japan* **55** (1972), *no.* 2, 16–22. (From the authors' summary) **49** #12155 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) A class of asymptotically good algebraic codes using second-order concatenation. *Electron. Commun. Japan* **57** (1974), *no.* 2, 47–53. (Ian Blake) **52** #5194 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) A modification of the constructive asymptotically good codes of Justesen for low rates. *Information and Control* **25** (1974), 341–350. (Philippe Piret) **53** #10474 94A10

(*with* Tatebayashi, Makoto; Namekawa, Toshihiko) Characteristics of decoding error in discrete-memory channel. *Electron. Commun. Japan* **58** (1975), *no.* 4, 16–24. (Ezio M. Biglieri) **55** #14399 94A05

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) Some efficient binary codes constructed using Srivastava codes. *IEEE Trans. Information Theory* **IT-21** (1975), *no.* 5, 581–582. (Authors' summary) **53** #15555 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) A new class of binary codes constructed on the basis of BCH codes. *IEEE Trans. Information Theory* **IT-21** (1975), *no.* 5, 582–585. (Authors' summary) **53** #15551 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) A method for solving key equation for decoding Goppa codes. *Information and Control* **27** (1975), 87–99. (H. F. Mattson, Jr.) **52** #2728 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) An erasures-and-errors decoding algorithm for Goppa codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 2, 238–241. (N. J. Patterson) **52** #12976 (E **55** #7579) 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) New classes of binary codes constructed on the basis of concatenated codes and product codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 4, 462–468. (Philippe Piret) **53** #12746 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) Further results on Goppa codes and their applications to constructing efficient binary codes. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 5, 518–526. (Authors' summary) **57** #19083 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) Correction to "An erasures-and -errors decoding algorithm for Goppa codes" (IEEE Trans. Information Theory **IT-22** (1976), no. 2, 238–241). *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 6, 765. (Editors) **55** #7579 94A10

(*with* Sugimura, Tatsuo; Sato, Masashi; Namekawa, Toshihiko) Construction of efficient error-correcting codes for a compound-error channel. *Electron. Comm. Japan* **60** (1977), *no.* 12, 51–58. (Authors' summary) **58** #33508 94A10

(*with* Sugiyama, Yasuo; Hirasawa, Shigeichi; Namekawa, Toshihiko) A new class of asymptotically good codes beyond the Zyablov bound. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 2, 198–204. (F. J. MacWilliams) **58** #4620 94A10

Kasahara, Shouro A characterization of nonstandard real fields. *Math. Sem. Notes Kobe Univ.* **1** (1973), *paper no. VI*, 8 *pp.* (Editors) **53** #10768 12D15 (02H25)

On formulations of topological linear spaces by topological semifields. *Math. Sem. Notes Kobe Univ.* **1** (1973), *paper no. II*, 22 *pp.* (Editors) **53** #11337 46A99

Characterizations of compactness and countable compactness. *Proc. Japan Acad.* **49** (1973), 523–524. (G. L. Cain, Jr.) **48** #7207 54D30

On formulations of topological linear spaces by topological semifields. *Math. Japon.* **19** (1974), 121–134. (R. H. Lohman) **51** #3846 46A05

On Naito's chart method for simplifying Boolean polynomials. *Math. Japon.* **19** (1974), *no.* 3, 303–314. (T. C. Wesselkamper) **53** #7889a (E **53** #7889b) 06A40

Closeness spaces and convergence spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper no.* 11, 10 *pp.* (Editors) **54** #1143 54A05

On Naito's chart method for simplifying Boolean polynomials. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 1, *paper no.* 7, 16 *pp.* (Editors) **54** #196 06A40

Another version of convergence structure. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no.* XVIII, 6 *pp.* (H. J. Biesterfeldt, Jr.) **53** #9120 54A20

Surjectivity and fixed points of nonlinear mappings. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no.* XX, 8 *pp.* (R. Kannan) **53** #6525b 54H25

A proximity version of closeness and convergence structure. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 2, *paper no.* XVII, 12 *pp.* (H. J. Biesterfeldt, Jr.) **53** #9119 54A20

On functional equations in metric spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *Paper No.* XXVI, 4 *pp.* (R. Kannan) **53** #6525c 54H25

A remark on nonstandard real fields. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *Paper No. XXX*, 4 *pp.* (Paul C. Eklof) **53** #8028 12D15 (02H25)

Functional equations and some fixed point theorems in metric spaces. *Math. Sem. Notes Kobe Univ.* **2** (1974), *no.* 3, *paper no.* XXVIII, 6 *pp.* (Ronald Knill) **53** #14460 54H25

A characterization of nonstandard real fields. *Proc. Japan Acad.* **50** (1974), 53–56. (Paul C. Eklof) **51** #12804 12D15 (02H15)

Closeness spaces and convergence spaces. *Proc. Japan Acad.* **50** (1974), 303–308. (H. J. Biesterfeldt, Jr.) **51** #6685 54A05

Surjectivity and fixed points of nonlinear mappings. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 57–64. (E. Lami Dozo) **54** #11306 54H25 (47H10)

Common fixed point theorems in metric spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no. XIII*, 4 *pp.* (Chi-Song Wong) **55** #9060 54H25

Fixed point theorems and some abstract equations in metric spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 1, *paper no.* XIV, 22 *pp.* (R. Kannan) **53** #6525a 54H25

On fixed points in partially ordered sets and Kirk-Caristi theorem. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no.* XXXV, 4 *pp.* (R. E. Smithson) **53** #9190 54H25

A remark on simplifications of Boolean polynomials. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no.* XXI, 7 *pp.* (Dorothy Bollman) **53** #10497 94A20

Some fixed point and coincidence theorems in *L*-spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXVIII*, 7 *pp.* (S. K. Kaul) **54** #3678b 54H25

On linear bornologies and linear convergence structures. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XX*, 8 *pp.* (H. Hogbe-Nlend) **54** #8207 46A09

Boundedness in convergence spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXII*, 9 *pp.* (H. Hogbe-Nlend) **54** #8208 46A09

On some generalizations of the Banach contraction theorem. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXIII*, 10 *pp.* (S. K. Kaul) **54** #3678a 54H25

Common fixed point theorems for mappings in *L*-spaces. *Math. Sem. Notes Kobe Univ.* **3** (1975), *no.* 2, *paper no. XXXI*, 10 *pp.* (S. K. Kaul) **54** #3678c 54H25

Boundedness in convergence spaces. *Proceedings of the Conference on Convergence Spaces (Univ. Nevada, Reno, Nev.,* 1976), *pp.* 83–92. *Dept. Math., Univ. Nevada, Reno, Nev.,* 1976. (From the author's introduction) **55** #1267 54A20

Correction to: "On Naito's chart method for simplifying Boolean polynomials" (Math. Japon. **19** (1974), no. 3, 303–314). *Math. Japon.* **20** (1976), *no.* 4, 341–342. (T. C. Wesselkamper) **53** #7889b 06A40

Fixed point theorems and some abstract equations in metric spaces. *Math. Japon.* **21** (1976), *no.* 2, 165–178. (I. A. Rus) **54** #13887 54H25

A fixed point theorem in star-shaped subsets of convergence linear spaces. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 11–16. (From the author's introduction) **55** #1155 47H10 (54H25)

Remarks on some fixed point theorems. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.*

1, 43–50. (L. Janos) **54** #13888 54H25 (04A25)

Characterizations of convergence structures. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 51–66. (H. J. Biesterfeldt, Jr.) **55** #6342 54A20

(*with* Iseki, Kiyoshi) On pairwise contractivities of mappings. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 1, 91–100. (R. F. Dickman, Jr.) **58** #2773 54H25

Fixed points of some pairwise contractive mappings on compact L-spaces. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 121–133. (Gilles Fournier) **55** #6402 54H25

Common fixed points of multivalued mappings in L-spaces. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 181–193. (Simeon Reich) **55** #4123 54H25

Iff fixed point criteria in L-spaces. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 205–210. (T. C. Lim) **56** #3816 54H25

A remark on a fixed point theorem in ranked spaces. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 233–236. (Jerry F. Williams) **55** #6403 54H25

On some generalizations of the Banach contraction theorem. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 2, 427–437. (From the author's introduction) **57** #13897 54H25

Fixed point theorems in certain L-spaces. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 1, 29–35. (Ivan L. Reilly) **56** #3817 54H25

Common fixed point theorems in certain L-spaces. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 173–178. (L. Górniewicz) **57** #7565 54H25

(*with* Ray, Barada Kinkar) On common fixed points of two mappings. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 3, 415–418. (T. C. Lim) **58** #2478 47H10

An L-space version of a coincidence theorem of Dugundji. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 3, 485–488. (J. Dugundji) **58** #2774 54H25

A coincidence theorem in L-spaces. *Math. Sem. Notes Kobe Univ.* **6** (1978), *no.* 1, 15–18. (V. V. Obuhovskiĭ) **58** #7588 54H25

On some common fixed point theorems for contractive mappings. *Math. Sem. Notes Kobe Univ.* **6** (1978), *no.* 1, 57–75. (I. A. Rus) **58** #12977 54H25

Fixed point iterations using linear mappings. *Math. Sem. Notes Kobe Univ.* **6** (1978), *no.* 1, 87–90. (Bal Kishan Dass) **58** #2479 47H10 (54H25)

See also **Notes and comments from Math. Mag.**, **55** #2446

Kasahara, Yoshiro (*with* Kitahashi, Tadahiro; Tezuka, Yoshikazu) The orthogonal expansion of multi-valued functions and its application to realization with threshold elements. *Electron. Commun. Japan* **52** (1969), *no.* 9, 108–116. (Not reviewed) 94A05 (65D20)

(*with* Kitahashi, Tadahiro; Tezuka, Yoshikazu; Nomura, Hirosato) Monotonicity of ternary logical functions and its applications to the analysis of ternary threshold functions. *Systems-Computers-Controls* **1** (1970), *no.* 1, 55–63. (A. Rose) **48** #56 02C05

(*with* Kitahashi, Tadahiro; Tezuka, Yoshikazu; Nomura, Hirosato) Complete monotonicity as the necessary and sufficient condition for a ternary logical function to be a threshold function. *Systems-Computers-Controls* **1** (1970), *no.* 4, 34–40 (1971). (B. Hazeltine) **46** #6949 94A20

(*with* Uchinami, Seiichi; Tezuka, Yoshikazu) A model of linguistic information algebra. *Tech. Rep. Osaka Univ.* **20** (1970), 711–723. (R. N. Goss) **48** #10217 68A30

Kasahara, Yuji Spectral theory of generalized second order differential operators and its applications to Markov processes. *Japan. J. Math.* (*N.S.*) **1** (1975/76), *no.* 1, 67–84. (S. R. S. Varadhan) **53** #9407 60J99 (47E05)

Limit theorems of occupation times for Markov processes. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 3, 801–818. (A. Darling) **56** #6881 60J25

Kasai, Takumi On analytic languages. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **14(62)** (1970), 41–50 (1971). (Michel Fliess) **48** #3306 68A30

Covering-languages of grammars. *Proc. Japan Acad.* **47** (1971), *suppl.* II, 1025–1029. (M. A. Harrison) **47** #1332 68A30

On analytical models of languages. (Japanese) *Sûgaku* **23** (1971), *no.* 3, 214–219. **58** #32101 68A30

Translatability of flowcharts into while programs. *J. Comput. System Sci.* **9** (1974), 177–195. (W. D. Maurer) **50** #9035 68A05

A universal context-free grammar. *Information and Control* **28** (1975), 30–34. (Etsuro Moriya) **51** #4736 68A30

Computational complexity of multitape Turing machines and random access machines. *Publ. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 2, 469–496. (Pavel Strnad) **57** #8149 68A20 (68A25)

See also **Complexity of computations and algorithms**, **51** #2325

Kasai, Tamotsu (*with* Tanaka, Eiichi) A note on the longest path problem. *Bull. Univ. Osaka Prefecture Ser. A* **18** (1969), *no.* 2, 395–399. **45** #6531 94A20

(*with* Shintani, Hiroshi; Imai, Mitsuru) Number of Hamiltonian circuits in basic series of incomplete graphs. *Bull. Univ. Osaka Prefecture Ser. A* **20** (1971), *no.* 2, 245–260. (R. C. Read) **46** #8908 05C99

(*with* Tanaka, Eiichi; Fujino, Mitsuhiro) A correcting method of garbled languages using language information. *Systems-Computers-Controls* **2** (1971), *no.* 2, 50–57 (1972). (S. Huzino) **46** #8494 68A45

(*with* Kuroda, Kohmei) Number of Hamiltonian circuits containing specified edges in an incomplete graph and its application to multigraphs. *Bull. Univ. Osaka Prefecture Ser. A* **24** (1975), *no.* 1, 87–100. (R. W. Robinson) **55** #12564 05C30

(*with* Sasaki, Itsuo) Algebraic-topological interpretations for basic equations of electromagnetic fields. *Bull. Univ. Osaka Prefecture Ser. A* **25** (1976), *no.* 1–2, 49–57. (P. R. Bryant) **55** #7132 78.55

(*with* Okuda, Teruo; Tanaka, Eiichi) A method for the correction of garbled words based on the Levenshtein metric. *IEEE Trans. Computers* **C-25** (1976), *no.* 2, 172–178. (Arnold Griffith) **52** #16183 68A45

(*with* Tanaka, Eiichi) Synchronization and substitution error-correcting codes for the Levenshtein metric. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 2, 156–162. (Robert P. Kurshan) **53** #2509 94A05 (94A10)

(*with* Seno, Atsuro; Fukunaga, Kunio) An algorithm for graph isomorphism. *Bull. Univ. Osaka Prefecture Ser. A* **26** (1977), *no.* 2, 61–74. (D. Ja. Kesel'man) **58** #10626 05C99 (68A10)

Kasakoff, Alice Bee How many relatives? *Genealogical mathematics* (*Proc. MSSB Conf., Univ. Texas, Houston, Tex.*, 1974), *pp.* 215–235. *Mouton, Paris*, 1974. (A. Rapoport) **52** #10088 92A10

Kasami, Tadao (*with* Taniguchi, Ken-ichi) Macro expansions of context-free langu *Electron. Commun. Japan* **53** (1970), *no.* 7, 120–127. (R. Cori) **47** #6145 68A3

(*with* Taniguchi, Ken-ichi; Tokura, Nobuki) A subclass of deterministic context-free languages (the class of Null (M)'s for ε-input free deterministic push automata M). *Systems-Computers-Controls* **1** (1970), *no.* 3, 10–16 (1971). (Rona Book) **48** #13524 94A30 (68A30)

(*with* Izawa, Kimio; Fujii, Mamoru; Takeuchi, Hajime) Equivalence probler serial program schemata. *Systems-Computers-Controls* **1** (1970), *no.* 6, 46–55 (1971 Taylor) **46** #1506 94A30 (68A05)

(*with* Lin, Shu) On majority-logic decoding for duals of primitive polynomial c *IEEE Trans. Information Theory* **IT-17** (1971), 322–331. (J.-M. Goethals) **52** #2 94A10

(*with* Lin, Shu) On the construction of a class of majority-logic decodable c *IEEE Trans. Information Theory* **IT-17** (1971), 600–610. (J.-M. Goethals) **52** #2 94A10

(*with* Yamabe, Naoki; Taniguchi, Ken-ichi) Minimizing the number of states sequential machine with don't care conditions. *J. Cybernet.* **1** (1971), *no.* 1, 114–11 Paz) **46** #10518 94A25

(*with* Nakamura, Keijiro; Tokura, Nobuki) Minimal decomposition of a l function into monotonic functions. *Systems-Computers-Controls* **2** (1971), *no.* 1, (1972). (Authors' summary) **46** #3219 94A20

(*with* Taniguchi, Ken-ichi) Some decision problems for two-dimensional nonw automata. *Systems-Computers-Controls* **2** (1971), *no.* 4, 42–48. (A. L. Rosenberg) **48** #8211 02F10 (68A25, 02G05)

(*with* Tokura, Nobuki) Equivalence problem of programs without loops. *Systems-Computers-Controls* **2** (1971), *no.* 4, 83–84. (H. R. Strong) **48** #3715 0 (68A15)

(*with* Taniguchi, Ken-ichi) A linear-time syntax analyzer for context-free gramm *Electron. Commun. Japan* **55** (1972), *no.* 7, 131–139. (Eugene S. Santos) **48** #129 68A30

(*with* Nakamura, Keijiro; Tokura, Nobuki) Minimal negative gate networks. *I Trans. Computers* **C-21** (1972), 5–11. (Authors' summary) **47** #3119 94A20

(*with* Lin, Shu) Some results on the minimum weight of primitive BCH co *IEEE Trans. Information Theory* **IT-18** (1972), 824–825. (Hermann J. Helgert) **52** #7705 94A10

(*with* Peterson, W. W.; Tokura, Nobuki) On the capabilities of while, repeat, exit statements. *Comm. ACM* **16** (1973), 503–512. (J. E. L. Peck) **51** #4707 6

(*with* Taniguchi, Ken-ichi; Kikuno, Toru) Equivalence and simplification of analyzers. *Systems-Computers-Controls* **4** (1973), *no.* 4, 37–45. (Armin Cremers) **50** #11840 68A05

(*with* Tokura, Nobuki; Furuta, Shukichi) Ianov schemas augmented by a pushdown memory. *15th Annual Symposium on Switching and Automata Theory* (*New Orleans, New Orleans, La.*, 1974), *pp.* 84–94. *IEEE ocmput. Soc., Long B Calif.*, 1974. (Klaus Indermark) **58** #3645 68A05

A Gilbert-Varshamov bound for quasi-cyclic codes of rate 1/2. *IEEE T Information Theory* **IT-20** (1974), 679. (Bart Rice) **51** #7712 94A10

Construction and decomposition of cyclic codes of composite length. *IEEE T Information Theory* **IT-20** (1974), 680–683. (H. F. Mattson, Jr.) **52** #5191 94A

(*with* Taniguchi, Ken-ichi; Kikuno, Toru) Lexical analysis using context information. *Systems-Computers-Controls* **5** (1974), *no.* 2, 97–105 (1975). (Leon **52** #7192 68A05 (68A30)

(*with* Tokura, Nobuki) Automata with labeled tree inputs. *Systems-Computers-Controls* **5** (1974), *no.* 3, 88–95 (1975). (Authors' summary) **57** #14609 68A25

(*with* Tokura, Nobuki) Some program schemas operating on tree data structu *Systems-Computers-Controls* **5** (1974), *no.* 4, 81–89 (1975). (Stephen Soule) **52** #123 68A05

(*with* Taniguchi, Ken-ichi) An $O(N)$ algorithm for computing the IN functio D-charts. *Systems-Computers-Controls* **5** (1974), *no.* 6, 64–72 (1975). (A. L. Rosenb **54** #9148 68A10

(*with* Taniguchi, Ken-ichi) A result on the equivalence problem for determin pushdown automata. *Proceedings of the Eighth Hawaii International Conference System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1975), *pp.* 10–12. *Western Period Co., North Hollywood, Calif.*, 1975. (Kenneth B. Salomon) **56** #4246 68A25

(*with* Azumi, Saburo) On optimal modified Hamming codes. *Electron. Comm Japan* **58** (1975), *no.* 6, 9–15. (F. J. MacWilliams) **54** #7102 94A10

(*with* Tokura, Nobuki) Program schemas with tree data structures. Proceeding the Third Symposium on Basic Theory of Programs (Res. Inst. Math. Studies, K Univ., Kyoto, 1973) and of the Workshop for Proof Theory about Algorithms (Res. Math. Studies, Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* (1975), 197–203. (From the introduction) **58** #8461 68A05

(*with* Taniguchi, Ken-ichi; Sugiyama, Yuji) On the decidability of equivalence deterministic pushdown automata. *Systems-Computers-Controls* **6** (1975), *no.* 1, 36 (From the summary) **57** #18235 68A25

(*with* Lin, Shu) Coding for a multiple-access channel. *IEEE Trans. Informa Theory* **IT-22** (1976), *no.* 2, 129–137. (J.-M. Goethals) **53** #5152 94A10

(*with* Tokura, Nobuki; Azumi, Saburo) On the weight enumeration of weights than 2.5d of Reed-Muller codes. *Information and Control* **30** (1976), *no.* 4, 380– (Vera Pless) **53** #5153 94A10

(*with* Taniguchi, Ken-ichi) A result on the equivalence problem for determin pushdown automata. *J. Comput. System Sci.* **13** (1976), *no.* 1, 38–50. (Kenneth Salomon) **53** #15595 94A30 (68A25)

(*with* Araki, Toshiro) Some undecidable problems for Petri nets. *Systems-Computers-Controls* **7** (1976), *no.* 1, 20–28 (1977). (Guy Vidal-Naquet) **56** #17209 68A25

(*with* Katsuyama, Yoshiki; Taniguchi, Ken-ichi) Shortening the length of progr by using subroutines. *Systems-Computers-Controls* **7** (1976), *no.* 3, 19–26 (1977). (A Anīsimov) **56** #17182 68A05

(*with* Sugiyama, Yuji; Okui, Jun) Deadlock avoidance in an environment with resource of each type. *Systems-Computers-Controls* **7** (1976), *no.* 6, 10–18 (1977). min Cremers) **57** #8226 68A50

(*with* Katsuyama, Yoshiki; Taniguchi, Ken-ichi) Merging program modules to alize scopes of effects. *Systems-Computers-Controls* **7** (1976), *no.* 6, 37–44 (1977). thors' summary) **58** #25076 68A05 (05C05)

(*with* Taniguchi, Ken-ichi) A result concerning the equivalence problem for nadic recursion schemas. *Systems-Computers-Controls* **7** (1976), *no.* 6, 45–49 (1977). kira Nakamura) **57** #4634 68A25

(*with* Araki, Toshiro) Some decision problems related to the reachability problem Petri nets. *Theoret. Comput. Sci.* **3** (1976), *no.* 1, 85–104 (1977). (Rüdiger Valk) #11666 68A05 (02G05)

(*with* Lin, Shu; Yamamura, S.) Further results on coding for a multiple-access annel. *Topics in information theory* (*Second Colloq., Keszthely*, 1975), *pp.* 369–392. lloq. *Math. Soc. János Bolyai, Vol.* 16, *North-Holland, Amsterdam*, 1977. (J.-M. ethals) **56** #15141 94A10

(*with* Sugiyama, Yuji; Araki, Toshiro; Okui, Jun) Complexity of the deadlock oidance problem. *Systems-Comput.-Controls* **8** (1977), *no.* 2, 44–51 (1978). (Authors' mmary) **58** #25086 68A05 (68A20)

(*with* Araki, Toshiro) Decidable problems on the strong connectivity of Petri net achability sets. *Theoret. Comput. Sci.* **4** (1977), *no.* 1, 99–119. (Rüdiger Valk) #15728 94A30 (68A05)

(*with* Lin, Shu) Bounds on the achievable rates of block coding for a memoryless ultiple-access channel. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 2, 187–197. . Dueck) **58** #4639 94A15

See also **Cybernetics collection**, **47** #6379; **Algebraic coding theory: history and velopment**, **51** #9958 *and* **Key papers in the development of coding theory**, **52** #5176

drova, Iv. The distribution of the zeros of a class of entire functions of exponential pe. (Bulgarian. Russian and English summaries) *Plovdiv. Univ. Naučn. Trud.* **13** 975), *no.* 1, 339–345 (1977). (Author's summary) **58** #11400 30A64 (30A08)

The Hermite-Biehler theorem for a class of entire functions. (Russian) *C. R. Acad. ulgare Sci.* **29** (1976), *no.* 9, 1245–1248. (R. P. Boas, Jr.) **55** #3253 30A64

Certain results for a class of entire functions with real zeros. (Russian) *C. R. Acad. ulgare Sci.* **30** (1977), *no.* 7, 965–968. (C. Tanaka) **57** #16590 30A64

ov, I. A. The structure of the ground states in the three-dimensional Ising model with ree-step interaction. (Russian. English summary) *Teoret. Mat. Fiz.* **33** (1977), *no.* 1, 10–118. (Author's summary) **56** #14396 82.00

a, I. A certain generalization of the Selberg formula. (Russian) *Trudy Samarkand. os. Univ.* (*N.S.*) *No.* 181 (1970), 44–49. (A. I. Vinogradov) **45** #3341 10H15

An estimate of an arithmetic sum. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *yp.* 235 *Voprosy Algebry, Teorii Čisel, Differencial. i Integral. Uravnenii̮* (1973), 64–66. From the text) **58** #10792 10H25

An elementary approach to the proof of Hadamard's theorem. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 235 *Voprosy Algebry, Teorii Čisel, Differencial. i ntegral. Uravnenii̮* (1973), 66–69. (From the text) **57** #16226 10H15

rabada, C. (*with* Shenoi, B. A.) On the zeros of polynomials used in digital filters. *EEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 7, 423–429. (Authors' summary) **6** #15185 94A20

de las Kasas, È. *See* **Bravo de las Kasas, È.**

tkin, A. M. (*with* Amosov, N. M.; Kasatkina, L. M.; Talaev, S. A.) ★**Автоматы и разумное поведение: опыт моделирования.** (Russian) [Automata and intelligent behavior: an attempt at simulation] *Izdat. "Naukova Dumka", Kiev*, 1973. 375 *pp.* (A. D. Koršunov) **58** #3760 68A45

tkin, V. N. *See* **Theory of languages and methods of construction of programming systems**, **48** #7682

tkina, L. M. (*with* Amosov, N. M.; Kasatkin, A. M.; Talaev, S. A.) ★**Автоматы и разумное поведение: опыт моделирования.** (Russian) [Automata and intelligent behavior: an attempt at simulation] *Izdat. "Naukova Dumka", Kiev*, 1973. 375 *pp.* (A. D. Koršunov) **58** #3760 68A45

tschkow, W. D. *See* **Kazačkov, V. D.**

čeev, S. N. Optimal inventory control in the case of random supply deliveries and proportional costs. (Russian) *Cybernetics—in the service of Communism, Vol.* 4 (*Russian*), *pp.* 90–96. *Izdat. "Ènergija", Moscow*, 1967. (E. V. Bulinskaja) **52** #4964 90B05

Optimal control of inventories in nonstationary dynamic systems in the case of restrictions on orders. (Russian) *Èkonom. i Mat. Metody* **5** (1969), 431–439. (Author's summary) **45** #9664 90B05

čeev, V. N. Time asymptotic behavior of spin correlators in an ordered phase. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1975**, *no.* 6, 27–35, 119. (Vladimir Šips) **53** #10080 82.47

The dynamics of the spin system of the Ising model in a transverse field. (Russian) *Latvijas PSR Zinātņ. Akad. Vēstis Fiz. Tehn. Zinātņ. Sēr.* **1976**, *no.* 1, 8–14, 125. (J. Fritz) **56** #4585 82.45

ščenko, Ju. D. A variational problem. (Russian) *Imbedding theorems and their applications* (*Proc. Sympos., Baku*, 1966) (*Russian*), *pp.* 105–107, 245. *Izdat. "Nauka", Moscow*, 1970. (V. Djuriković) **47** #9046 35J20

ščenko, N. A. (*with* Kiprijanov, I. A.) The averaging operator that is connected with a generalized shift. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 21–23. (J. Muszyński) **51** #1492 47G05 (35G99)

ščenko, S. A. The stability of an almost periodic system of linear differential equations with a small factor multiplying part of the derivatives, in the simplest critical case. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 5 (1973), 3–14. (J. W. Macki) **57** #3533 34D15

(*with* Kolesov, Ju. S.) A test for the stability of the solutions of singularly perturbed second order equations with periodic coefficients. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 4(178), 171–172. (D. Bobrowski) **53** #956 34D15

Limit values of the eigenvalues of the first boundary value problem for a singularly perturbed second order differential equation with turning points. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 10 (1974), 3–39. (M. Kakabadze) **58** #28809a 34B25 (34C99)

Asymptotic behavior of the eigenvalues of the first boundary value problem for a singularly perturbed second order differential equation with turning points. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 10 (1974), 40–64. (M. Kakabadze) **58** #28809b 34B25 (34C99)

Asymptotic behavior of the eigenvalues of the periodic and the antiperiodic boundary value problem for singularly perturbed second order differential equations with turning points. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 13 (1975), 20–83. (M. Kakabadze) **58** #28809c 34B25 (34C99)

Asymptotic distribution laws for the eigenvalues of periodic and antiperiodic boundary value problems for second order differential equations with turning points. (Russian) *Studies in stability and the theory of oscillations* (*Russian*), *pp.* 95–113. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the text) **58** #22748 34B25 (34E20)

An algorithm for investigating the stability of the solutions of *n*th order linear differential equations with near constant almost periodic coefficients. (Russian) *Studies in stability and the theory of oscillations* (*Russian*), *pp.* 60–69. *Jaroslav. Gos. Univ., Yaroslavl*, 1977. (From the introduction) **58** #22853 34D20

(*with* Maĭorov, V. V.) An algorithm for investigating the stability of solutions of linear differential equations with lag and fast oscillating almost periodic coefficients. (Russian) *Studies in stability and the theory of oscillations* (*Russian*), *pp.* 70–81. *Jaroslav. Gos. Univ., Yaroslavl*, 1977. (From the introduction) **58** #29021 34K20

Kasch, Friedrich (*with* Oberst, Ulrich) Das Zentrum von Ringen mit Kettenbedingungen. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1970** *part II*, 161–179 (1971) (Z. Papp) **46** #1837 16A46

(*with* Pareigis, Bodo) Einfache Untermoduln von Kogeneratoren. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1972**, *Abt. II*, 45–76 (1973). (K. R. Goodearl) **53** #8140 16A52

★Moduln und Ringe. Mathematische Leitfäden. *B. G. Teubner, Stuttgart*, 1977. 328 *pp.* (G. Michler) **55** #2971 16–02

Käschel, Joachim Ein Ressourcenaufspaltungsverfahren. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **19** (1977), *no.* 4, 505–512. (Ferenc Forgó) **58** #9280 90C30

Kaschlik, K. *See* **Tjablikov, S. V.**, **53** #2243

Kaschluhn, F. (*with* Wieczorek, E.; Zoellner, W.) Singular equal-time behaviour of current commutators in perturbation theory. *Nuclear Phys.* **B8** (1968), 84–94. (M. E. Mayer) **49** #1977 81.46

See also **Axiomatic approach to quantum field theory and many body problem**, **49** #11975

Kascic, M. J., Jr. (*with* Dostál, Miloš A.) On a class of De Wilde spaces. *Bull. Soc. Roy. Sci. Liège* **41** (1972), 450–457. (T. L. Hicks) **47** #7367 46A05

Kasčiev, Mihail The approximation of a certain class of complex functions with respect to a metric of Hausdorff type. (Bulgarian. Russian and German summaries) *B″lgar. Akad. Nauk Izv. Mat. Inst.* **14** (1973), 105–113. (T. Bojanov) **49** #7664 41A35

Kasdan, Harvey L. A distribution-free pattern classification procedure with performance monitoring capability. *Techniques of optimization* (*Fourth IFIP Colloq. Optimization Techniques, Los Angeles, Calif.*, 1971), *pp.* 21–38. *Academic Press, New York*, 1972. (James C. Bezdek) **52** #15758 62C10 (68A45)

Kasday, L. *See* **Foundations of quantum mechanics**, **52** #7333

Kase, Shigeo (*with* Ohta, Hiroshi) Corrective plan for semi-Markov model of production process—Application of single sampling inspection plan having desired operating characteristics. (Japanese. English summary) *Systems and Control* **17** (1973), 315–323. (Authors' summary) **47** #4617 90B30

(*with* Ohta, Hiroshi; Noda, Hiroshi) An extension of the application of information theory to forecasting. *Internat. J. Systems Sci.* **6** (1975), *no.* 10, 909–917. (Seihaku Higuchi) **52** #16805 93E10 (94A15)

(*with* Ohta, Hiroshi; Noda, Hiroshi) Forecasting based on time series with correlated errors by information preserving filter. Demand forecasting from information theory. *Internat. J. Systems Sci.* **7** (1976), *no.* 7, 779–790. (William D. Ray) **55** #4367 60G35 (93E10)

Kasemratanasunti, W. (*with* Klein, R. L.) Implementation of non-linear estimators using quadrature formulae. *Internat. J. Control* **20** (1974), 835–848. (R. S. Bucy) **50** #4068 93E10

Kasemset, C. (*with* Nishino, F.; Lee, S. L.) Variational formulation of stability problems for thin-walled members. (German summary) *Ing.-Arch.* **43** (1973/74), *no.* 1, 58–68. (F. V. Pohle) **54** #1815 73.49

Kashef, Bayesteh (*with* Bellman, Richard; Casti, John) Differential quadrature: a technique for the rapid solution of nonlinear partial differential equations. *J. Computational Phys.* **10** (1972), 40–52. (David F. Griffiths) **49** #1792 65M05

(*with* Bellman, Richard; Vasudevan, R.) Splines via dynamic programming. *J. Math. Anal. Appl.* **38** (1972), 471–479. (M. Marsden) **46** #8376 65D05 (49C99)

(*with* Bellman, Richard; Vasudevan, R.) A useful approximation to e^{-t^2}. *Math. Comp.* **26** (1972), 233–235. (Authors' summary) **45** #7933 65D20

(*with* Bellman, Richard; Vasudevan, R.) Application of differential approximation to the solutions of integro-differential equations. *Utilitas Math.* **2** (1972), 283–290. (D. F. Mayers) **48** #3277 65R05

(*with* Bellman, Richard; Vasudevan, R.) A note on mean square spline approximation. Collection of articles dedicated to Salomon Bochner. *J. Math. Anal. Appl.* **42** (1973), 427–430. (G. D. Taylor) **47** #9800 65D15

(*with* Bellman, Richard; Vasudevan, R.) Dynamic programming and bicubic spline interpolation. *J. Math. Anal. Appl.* **44** (1973), 160–174. (M. Marsden) **48** #12774 65D05

(*with* Bellman, Richard; Vasudevan, R.) Mean square spline approximation. *J. Math. Anal. Appl.* **45** (1974), 47–53. (M. Marsden) **48** #10046 65D10

(*with* Bellman, Richard) Solution of the partial differential equation of the Hodgkin-Huxley model using differential quadrature. *Math. Biosci.* **19** (1974), 1–8. (Clarence M. Ablow) **48** #12864 65M20

(*with* Bellman, Richard; Sugiyama, Hiroshi) Applications of dynamic programming and scan-rescan processes to nuclear medicine and tumor detection. *Math. Biosci.* **21** (1974), 1–29. (Authors' summary) **49** #12099 90C50

(*with* Bellman, Richard; Lee, E. Stanley; Vasudevan, R.) Solving hard problems by easy methods: differential and integral quadrature. *Comput. Math. Appl.* **1** (1975), *no.* 1, 133–143. (R. E. Barnhill) **52** #7088 65D30

(*with* Bellman, Richard; Lee, E. Stanley; Vasudevan, R.) Differential quadrature and splines. *Computers and mathematics with applications*, *pp.* 371–376. *Pergamon*, *Oxford*, 1976. (Abbas I. Abdel Karim) **57** #4485 65D30 (65N99)

Kashef, R. Sohrab (*with* McGhee, Robert B.) Augmented parity check codes for encoding of asynchronous sequential machines. *IEEE Trans. Computers* **C-22** (1973), 891–896. (Authors' summary) **50** #6638 94A10

(*with* Hyman, Edward) An optimum cellular realization of synchronous sequential machines with uniform interconnections. *Proceedings of the Seventh Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), *pp*. 167–170. *Western Periodicals, North Holywood, Calif*., 1974. (Bolesław Mikołajczak) **56** #11638 94A25

Kasher, Asa Sentences and utterances reconsidered. *Found. Language* **8** (1972), 313–345. **47** #4488 68A30

Mood implicatures: a logical way of doing generative pragmatics. *Theoret. Linguist.* **1** (1974), *no*. 1-2, 6–38. (Author's summary) **58** #21429 02B99 (02A05, 02H10)

(*with* Gabbay, Dov M.) On the semantics and pragmatics of specific and non-specific indefinite expressions. I. *Theoret. Linguist*. **3** (1976), *no*. 1-2, 145–190. (U. Wybraniec-Skardowska) **58** #21391 02A05 (02C10)

Kashiwabara, Shōbin 3-dimensional Riemannian manifolds with dense orbits. *Tôhoku Math. J*. (2) **25** (1973), 503–507. (P. Molino) **50** #11302 57E25

Kashiwada, Toyoko A note on a Riemannian space with Sasakian 3-structure. *Natur. Sci. Rep. Ochanomizu Univ*. **22** (1971), 1–2. (C. B. Allendoerfer) **46** #2586 53B20

On a Riemannian manifold admitting a framed *f*-3-structure. *Natur. Sci. Rep. Ochanomizu Univ*. **22** (1971), 91–99. (M. Klingmann) **47** #2522 53C25

On a characteristic property of Sasakian manifolds with constant φ-holomorphic sectional curvature. *Hokkaido Math. J*. **1** (1972), 250–253. (S. Takizawa) **47** #5784 53C25

(*with* Tachibana, Shun-ichi) On a characterization of spaces of constant holomorphic curvature in terms of geodesic hypersphere. *Kyungpook Math. J*. **13** (1973), 109–119. (J. D. Zund) **47** #9468 53B35

Some characterizations of vanishing Bochner curvature tensor. *Hokkaido Math. J*. **3** (1974), 290–296. (W. Wrona) **51** #1641 53B35

Notes on infinitesimal HP-transformations in Kähler manifolds with constant scalar curvature. *Natur. Sci. Rep. Ochanomizu Univ*. **25** (1974), *no*. 2, 67–68. (Koichi Ogiue) **51** #11382 53C55

On the induced almost contact structure of a Brieskorn manifold. *Geometriae Dedicata* **6** (1977), *no*. 4, 415–418. (Y. Tashiro) **57** #13788 53C25 (57D15)

Kashiwagi, Sadao Note on fixed point theorems for contractive mappings. Collection of articles dedicated to Sadao Kashiwagi. *Collect. Papers Math. Soc. Wakayama Univ. No.* 1 (1970), 1–4. (L. F. Guseman, Jr.) **52** #15421 54H25

(*with* Maki, Haruo) Generalizations of fixed point theorems. Collection of articles dedicated to Sadao Kashiwagi. *Collect. Papers Math. Soc. Wakayama Univ. No*. 1 (1970), 5–9. (Kok-keong Tan) **52** #11885 54H25

See also **Collection: Kashiwagi, Sadao**, **51** #7764

Kashiwagi, Takao On $(\mathfrak{m}, A)$-implicational classes. *Math. Japon*. **17** (1972), 1–12. (B. Węglorz) **48** #5846 02H05 (08A20)

Note on locally definable classes of structures. *Proc. Japan Acad*. **50** (1974), 436–439. (J. A. Makowsky) **52** #78 02H05

On certain compactness properties for classes of structures. *Math. Japon*. **21** (1976), *no*. 4, 327–332. (Editors) **58** #27453 02H13

Kashiwamura, Shohei (*with* Asahi, Takashi) Spectral theory of the difference equations in isotopically disordered harmonic chains. *Progr. Theoret. Phys*. **48** (1972), 361–371. (F. R. N. Nabarro) **48** #7877 82.60

Kashiwara, Masaki (*with* Kawai, Takahiro) Pseudo-differential operators in the theory of hyperfunctions. *Proc. Japan Acad*. **46** (1970), 1130–1134. (V. Guillemin) **47** #4295 58G15 (35S05, 46F15, 47G05)

(*with* Sato, Mikio; Kawai, Takahiro) On the structure of single linear pseudo-differential equations. *Proc. Japan Acad*. **48** (1972), 643–646. (P. Schapira) **49** #11076 35S05 (47G05, 58G15)

(*with* Kawai, Takahiro) On the boundary value problem for elliptic system of linear differential equations. I. *Proc. Japan Acad*. **48** (1972), 712–715. (P. Schapira) **54** #1319a 58G15 (58G05, 35J55)

Vanishing theorems on the cohomologies of solution sheaves of systems of pseudo-differential equations. *Colloq. Internat. C.N.R.S. sur les Équations aux Dérivées Partielles Linéaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp*. 222–223. *Astérisque*, 2 *et* 3. *Soc. Math. France, Paris*, 1973. (P. Schapira) **54** #3770 58G15 (32C35, 35N10)

(*with* Sato, Mikio; Kawai, Takahiro) Microfunctions and pseudo-differential equations. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf., Katata*, 1971; *dedicated to the memory of André Martineau*), *pp*. 265–529. *Lecture Notes in Math., Vol*. 287, *Springer, Berlin*, 1973. (P. Schapira) **54** #8747 58G15 (32C35, 35N10)

(*with* Kawai, Takahiro) On the boundary value problem for the elliptic system of linear differential equations. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No*. 19, 6 *pp. Centre de Math., École Polytech., Paris*, 1973. (Editors) **54** #1320 58G15 (58G05, 35J55)

(*with* Kawai, Takahiro) On the boundary value problem for elliptic system of linear differential equations. II. *Proc. Japan Acad*. **49** (1973), 164–168. (P. Schapira) **54** #1319b (EA **54**) 58G15 (58G05, 35J55)

Index theorem for a maximally overdetermined system of linear differential equations. *Proc. Japan Acad*. **49** (1973), 803–804. (R. Gérard) **51** #4327 58G10 (35N10)

(*with* Sato, Mikio; Kawai, Takahiro) The theory of pseudodifferential equations in the theory of hyperfunctions. (Japanese) Collection of articles on hyperfunctions. *Sûgaku* **25** (1973), 213–238. (Editors) **57** #17726 58G05 (35N10, 35S05)

(*with* Kawai, Takahiro; Ōshima, Toshio) Structure of cohomology groups whose coefficients are microfunction solution sheaves of systems of pseudo-differential equations with multiple characteristics. I, II. *Proc. Japan Acad*. **50** (1974), 420–425; *ibid*. **50** (1974), 549–550. (R. D. Moyer) **52** #6794 58G15 (35S05)

On the maximally overdetermined system of linear differential equations. I. *Publ. Res. Inst. Math. Sci*. **10** (1974/75), 563–579. (P. Schapira) **51** #6891 58G15 (32C35, 35N05)

(*with* Kawai, Takahiro) Micro-hyperbolic pseudo-differential operators. *Hyperfunctions and theoretical physics* (*Rencontre, Nice* 1973; *dédié à la mémoire de A. Martineau*), *pp*. 70–82. *Lecture Notes in Math., Vol*. 449, *Springer, Berlin*, 1975. Vaillancourt) **52** #15115 47G05 (58G15)

Micro-local calculus. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp*. 30–37. *Lecture Notes in Phy Springer, Berlin*, 1975. (D. Sundararaman (Zbl **355** #34033)) **58** #31298 (35S05)

Sur la *b*-fonction. *Séminaire Goulaoui-Lions-Schwartz* 1974–1975: *Équatio dérivées partielles linéaires et non linéaires, Exp. No*. 25, 5 *pp. Centre Math., Polytech., Paris*, 1975. (M. F. Atiyah) **54** #590 32C40 (14B05, 58G99)

(*with* Kawai, Takahiro) Micro-hyperbolic pseudo-differential operators. I. *J. Soc. Japan* **27** (1975), *no*. 3, 359–404. (P. Schapira) **51** #14167 58G15 (35S10)

(*with* Sato, Mikio) The determinant of matrices of pseudo-differential oper *Proc. Japan Acad*. **51** (1975), 17–19. (Bert-Wolfgang Schulze) **52** #12010 (35S05)

(*with* Kawai, Takahiro) Micro-local properties of $\prod_{j=1}^{n} f_j{+}^{s}$. *Proc. Japan Ac* (1975), *no*. 4, 270–272. (P. Schapira) **54** #13113 32C05 (35N10, 58G15)

(*with* Kawai, Takahiro) Theory of elliptic boundary value problems and its applications. (Japanese) Theory of prehomogeneous vector spaces and its applic (Short Courses, Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1974). *Sûrikaisekiken Kôkyûroku No*. 238 (1975), 1–59. (Akira Asada) **56** #1372 58G05 (35J55)

(*with* Miwa, Tetsuji) Microlocal calculus and Fourier transforms of relative invariants of prehomogeneous vector spaces. (Japanese) Theory of prehomoge vector spaces and its applications (Short Courses, Res. Inst. Math. Sci., Kyoto Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No*. 238 (1975), 60–147. (Tatsuo Ki **58** #31299 58G15

(*with* Sato, Mikio; Miwa, Tetsuji; Muro, Masayori) The Fourier transform case of an imaginary Lagrangian. (Japanese) Distributions and linear differ equations (Proc. Fourth Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, *Sûrikaisekikenkyûsho Kôkyûroku No*. 248 (1975), 212–260. (Editors) **58** #13224a #13224b) 58G15 (22E30)

(*with* Sato, Mikio; Miwa, Tetsuji) Microlocal study of infinite systems. (Japa Distributions and linear differential equations (Proc. Fourth Sympos., Res. Inst. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No*. 248 (261–292. (Editors) **58** #4127 82.58 (58G15)

B-functions and holonomic systems. Rationality of roots of *B*-functions. *Math*. **38** (1976/77), *no*. 1, 33–53. (Helmut Hamm) **55** #3309 32C40 (58G15)

(*with* Kawai, Takahiro; Ōshima, Toshio) Structure of a single pseudo-differ equation in a real domain. *J. Math. Soc. Japan* **28** (1976), *no*. 1, 80–85. (Louis Bou Monvel) **54** #8749 58G15 (35S05)

(*with* Kawai, Takahiro) On a conjecture of Regge and Sato on Feynman inte *Proc. Japan Acad*. **52** (1976), *no*. 4, 161–164. (Gérard G. Emch) **55** #9749 (32L10)

(*with* Kawai, Takahiro) Finiteness theorem for holonomic systems of micro-differential equations. *Proc. Japan Acad*. **52** (1976), *no*. 7, 341–343. (P. Sch **54** #8750 58G15

(*with* Kawai, Takahiro) Holonomic systems of linear differential equation Feynman integrals. Proceedings of the Oji Seminar on Algebraic Analysis an RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res Math. Sci*. **12** (1976/77), *supplement*, 131–140. (C. S. Sharma) **58** #14611 (58G15)

(*with* Kawai, Takahiro; Stapp, Henry P.) Micro-analytic structure of the *S*- and related functions. Proceedings of the Oji Seminar on Algebraic Analysis an RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res Math. Sci*. **12** (1976/77), *supplement*, 141–146. (D. Iagolnitzer) **58** #14739 (58G05)

(*with* Sato, Mikio; Miwa, Tetsuji; Muro, Masayori) Erratum: "The Fourier transform in the case of an imaginary Lagrangian" (Sûrikaisekikenkyûsho Kôky No. 248 (1975), 212–260). (Japanese) Various problems in algebraic analysis (Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No*. 266 (1976), 235. (Editors) **58** #13224b 58G15 (22E30)

Micro-local calculus of simple microfunctions. *Complex analysis and alg geometry, pp*. 369–374. *Iwanami Shoten, Tokyo*, 1977. (R. D. Moyer) **56** #16 58G15 (58A15)

(*with* Vergne, Michèle) Remarque sur la covariance de certains opérateurs différentiels. *Non-commutative harmonic analysis* (*Actes Colloq., Marseille-Luminy*, 1976), *pp*. 119–137. *Lecture Notes in Math., Vol*. 587, *Springer, Berlin*, 1977. (Way Holman, III) **58** #28289 22E45 (58G99)

(*with* Schapira, Pierre) Problème de Cauchy pour les systèmes d'équations différentielles et microdifférentielles dans le domaine complexe. *Séminaire Goulaouic-Schwartz* (1976/1977) *Équations aux dérivées partielles et analyse fonction Exp. No*. 20, 12 *pp. Centre Math., École Polytech., Paliseau*, 1977. (Akira A **57** #14074 58G15 (35S10)

Analyse micro-locale du noyau de Bergman. *Séminaire Goulaouic-Schwartz* (1976/1977), *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No*. 8, *Centre Math., École Polytech., Palaiseau*, 1977. (Editors) **58** #28685 32H10 (5

(*with* Schapira, Pierre) Systèmes micro-hyperboliques. *Séminaire Goulaouic-Schwartz* (1976/1977), *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No*. 24, 16 *pp. Centre Math., École Polytech., Palaiseau*, 1977. (Ed **58** #31300 58G15

(*with* Ōshima, Toshio) Systems of differential equations with regular singul and their boundary value problems. *Ann. Math*. (2) **106** (1977), *no*. 1, 145–20 Gérard) **58** #2914 58G15 (34A20)

(*with* Kawai, Takahiro) Holonomic character and local monodromy structu Feynman integrals. *Comm. Math. Phys*. **54** (1977), *no*. 2, 121–134. (Authors' sum **58** #19954 81.32 (58G15)

(*with* Kawai, Takahiro) Feynman integrals and pseudodifferential equations. conjecture of Regge and Sato). (Japanese) *Sûgaku* **29** (1977), *no*. 3, 254–26 Nakanishi) **58** #8898 81.35 (32C40, 58G05)

(*with* Kawai, Takahiro; Ōshima, Toshio) A study of Feynman integrals by ro-differential equations. *Comm. Math. Phys.* **60** (1978), *no.* 2, 97–130. (P. Schapira) #24405 58G15 (35N10, 35S10, 81.58)

(*with* Vergne, Michèle) On the Segal-Shale-Weil representations and harmonic ynomials. *Invent. Math.* **44** (1978), *no.* 1, 1–47. (A. U. Klimyk) **57** #3311 22E45

(*with* Vergne, Michèle) The Campbell-Hausdorff formula and invariant erfunctions. *Invent. Math.* **47** (1978), *no.* 3, 249–272. (Jouko Mickelsson) #11232 22E45

See also **Conference: Singular Points of Hypersurfaces and *b*-functions,** **54** #578 **Theory of partial differential equations and theory of hyperfunctions,** **56** #16113

, V. B. *See* **Kaškin, V. B.**

ov, V. A. *See* **Kaštanov, V. A.**

p, B. R. K. Busy periods for the double-ended queue with general arrivals. *J. Math.* . **5** (1970), 11–17. (F. G. Foster) **47** #5986 60K25

(*with* Gaur, K. N.) The double-ended queue with limited waiting space. *Indian J. re Appl. Math.* **4** (1973), *no.* 1, 73–81. (R. L. Kashyap) **47** #7829 60K25

(*with* Srivastava, H. M.) ★On distribution-free analysis of *M/G/*1 and *G/M/*1 eues. Working Paper Series, No. 9. *Indian Institute of Management, Calcutta*, 1974. 14 . (U. Narayan Bhat) **54** #6322 60K25

(*with* Gaur, K. N.) Double-ended queueing process with arrival rates depending on eue size. *Labdev—J. Sci. Tech. Part A* **13** (1975), *no.* 3-4, 204–211 (1978). (Authors' mmary) **58** #3102 60K25

(*with* Gaur, K. N.) The number served in a head-of-the-line priority queue with neral service. *Defence Sci. J.* **27** (1977), *no.* 2, 67–74. (U. Narayan Bhat) **57** #1698 K25

p, J. N. S. (*with* Pant, D. N.) An axially symmetric electromagnetic field in nstein's unified field theory. *Progr. Math.* (*Allahabad*) **3** (1969), *no.* 1-2, 57–68. (W. B. nnor) **45** #9645 83.53

(*with* Tiwari, Ramji) A spatially flat space-time in Einstein's unified field theory. *dian J. Pure Appl. Math.* **3** (1972), *no.* 3, 455–459. (M. Sachs) **46** #4908 83.53

(*with* Tiwari, Ramji) A composite field exhibiting plane symmetry in Einstein's ified field theory. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 6, 1250–1255. (M. Sachs) #10322 83.53

(*with* Upadhyay, V. D.) A cylindrically symmetric electrostatic field in Einstein's ified field theory. *Indian J. Pure Appl. Math.* **4** (1973), *no.* 3, 253–258. (M. Sachs) #10018 83.53

(*with* Ram, Shri) On the gravitational field of a charged particle. *Acta Phys. Acad. ci. Hungar.* **41** (1976), *no.* 2, 87–93. (Kenneth Dunn) **58** #4158 83.35

(*with* Ram, Shri) Cosmological universes with spherical symmetry. *Acta Phys. cad. Sci. Hungar.* **42** (1977), *no.* 3, 245–250. **58** #14963 83.53

ap, Rangasami L. (*with* Rao, A. R.) Real time recursive prediction of river flows for ptimal operation of water resource systems. *Proceedings of the IFAC Fifth World ongress* (*Paris*, 1972), *Part* 3: *Ecology and systems engineering, Large scale sensitivity timization and adaptation theory, Paper No.* 9.4, 6 *pp. Internat. Fed. Automat. Control, üsseldorf*, 1971 [1972]. (A. B. Schwarzkopf) **51** #12391 93E10

Prior probability and uncertainty. *IEEE Trans. Information Theory* **IT-17** (1971), 41–650. (M. Stone) **48** #5243 65F15

(*with* Utgoff, V. A.) On behavior strategy solutions in two-person zero-sum finite xtended games with imperfect information. I. A method for determination of minimally omplex behavior strategy solutions. *SIAM J. Appl. Math.* **22** (1972), 648–664. (H. W. uhn) **47** #3019 90D10 (90D05)

(*with* Utgoff, V. A.) On behavior strategy solutions in two-person zero-sum finite xtended games with imperfect information. II. Determination of a minimally complex ehavior strategy solution in a medical decision process. *SIAM J. Appl. Math.* **22** 1972), 665–675. (H. W. Kuhn) **47** #3020 90D10 (90D05)

(*with* Oberlin, Thomas L.) Bayes decision rules based on objective priors. *IEEE rans. Systems, Man, and Cybernet.* **SMC-3** (1973), 359–364. (D. V. Lindley) **50** #1367 62C10 (62K99)

(*with* Poza, H. B.) A solution for a class of stochastic cooperative games. *Internat. . Control* (1) **17** (1973), 705–720. (Marcel Rădulescu) **48** #13399 (E **52** #16793) 3E05

Estimation of parameters in a partially whitened representation of a stochastic process. *IEEE Trans. Automatic Control* **AC-19** (1974), 13–21. (I. M. Stojanov) **51** #4598 62M10 (93E10)

(*with* Nasburg, Robert E.) Parameter estimation in multivariate stochastic difference equations. System identification and time-series analysis. *IEEE Trans. Automatic Control* **AC-19** (1974), 784–797. (From the authors' summary) **56** #11377 (E **56** #11378) (E **56** #11379) 93E10 (62M10)

Minimax estimation with divergence loss function. Estimation theory (Special issue of Information Sci. dedicated to Norbert Wiener and R. E. Kalman). *Information Sci.* 7 (1974), 341–364. (V. N. Igolkin) **51** #2054 62C05 (93E10)

(*with* Mittal, M. C.) Picture reconstruction from projections. *IEEE Trans. Computers* **C-24** (1975), *no.* 9, 915–923. (F. W. Stallman) **52** #2299 68A45

A Bayesian comparison of different classes of dynamic models using empirical data. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 715–727. (A. N. Širjaev) **57** #5364 93E20

Optimal feature selection and decision rules in classification problems with time series. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 3, 281–288. (M. Arató) **58** #24740 62H30 (62M99, 68A45)

See also **Sandell, Nils R., Jr.; et al.,** **52** #16793; **Goodwin, G. C.; et al.,** **56** #11378 *and* **Akashi, Hajime; et al.,** **56** #11379

hyap, S. C. Diffraction characteristics of a slit formed by two staggered parallel planes. *J. Mathematical Phys.* **15** (1974), 1944–1949. (E. Meister) **50** #9180 78.45

lewicz, Stanisław (*with* Gruszczyński, Marek) Estimation of a certain econometric model with decomposition of the random component. (Polish. Russian and English summaries) Statistical-mathematical methods in economics. *Zeszyty Nauk. Szkoły Głown. Planowania i Statyst. No.* 86 (1972), 53–69. (Z. W. Birnbaum) **51** #14503 62P20

simov, È. I. The properties of sequences of linear combinations of functions close to exponential functions. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no.* 2, 9–13. (J. Musielak) **47** #8830 30A18

A certain basic system. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1023–1025. (D. A. Brannan) **48** #511 (E **49** #3097) 30A18

Letter to the editors: "A certain basic system" (Dokl. Akad. Nauk SSSR **208** (1973), 1023–1025). (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), *no.* 4-6, vii. (D. A. Brannan) **49** #3097 30A18

(*with* Ibragimov, I. I.) A certain basic system of analytic functions, and its application to the Abel-Gončarov interpolation problem. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 3, 527–529. (P. M. Tamrazov) **57** #3394 30A80

(*with* Ibragimov, I. I.) A basis system of analytic functions, and its application to the convergence of the interpolation process of Abel-Gončarov. (Russian) *Special questions in the theory of functions* (*Russian*), *pp.* 72–83. *Izdat.* "*Èlm*", *Baku*, 1977. (Paul Nevai) **58** #1111 30A18 (30A80)

Linear combinations of systems of functions that are nearly exponential. (Russian) *Special questions in the theory of functions* (*Russian*), *pp.* 97–110. *Izdat.* "*Èlm*", *Baku*, 1977. (D. M. Campbell) **58** #6180 30A04

Kasimov, F. A. A general complex representation of the regular solutions of a certain class of partial differential equations. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1970**, *no.* 2, 39–43. (B. Szafirski) **45** #5553 35E99

A general complex representation of the solution of a certain class of sixth order partial differential equations. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1970**, *no.* 4, 18–23. (B. Szafirski) **45** #5554 35E99

A general complex representation for the solution of a certain class of second order partial differential equations. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1972**, *no.* 3, 41–45. (A. Haimovici) **55** #8528 35C99

Abstract equations in normed rings with noncommuting singular operators. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1972**, *no.* 4, 58, 59–62. (D. Przeworska-Rolewicz) **53** #8934 47A50 (46H99)

The complex representation of the solution of a fifth order equation. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1973**, *no.* 1, 22–27. (G. Wildenhain) **51** #3666 35C05

Equations in a normed ring with noncommuting singular operators with order of singularity equal to *N*. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1975**, *no.* 1, 11–15. (From the introduction) **58** #7087 46H05 (47A50)

Kasimov, Ju. F. (*with* Amerbaev, V. M.; Baranov, Ju. N.) Certain questions of operations control. (Russian) *Coding theory and information modeling, No.* 2 (*Russian*), *pp.* 3–12, 243. *Izdat.* "*Nauka*" *Kazah. SSR, Alma-Ata*, 1975. (Authors' summary) **58** #20654 93A99

(*with* Maksimenkov, A. V.) Program representation in multistage parallel form in asynchronous realization. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 1, 115–121, 221–222 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 1, 90–95. (V. A. Val′kovskiĭ) **53** #7103 68A05

(*with* Amerbaev, V. M.) Formula expressibility of order relations in algebraic systems. (Russian. Kazakh summary) *Vestnik Akad. Nauk Kazah. SSR* **1978**, *no.* 10, 55–59. (Editors) **58** #21582 02H15 (06A70)

mir-Kasimov, R. M. *See* **Mir-Kasimov, R. M.**

Kasimov, Yu. F. *See* **Kasimov, Ju. F.**

Kasim-Zade, O. M. Simultaneous minimization of the complexity and capacity of circuits of functional elements. (Russian) *Problemy Kibernet. No.* 33 (1978), 215–220, 232. (Author's summary) **58** #13930 68A20 (94A20)

Kašin, B. S. A certain property of function series. (Russian) *Mat. Zametki* **11** (1972), 481–490. (T. Šalát) **46** #4045 40A05

The stability of unconditional almost everywhere convergence. (Russian) *Mat. Zametki* **14** (1973), 645–654. (V. Ficker) **48** #8737 28A20 (40A05)

Kolmogorov diameters of octahedra. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 1024–1026. (P. Wojtaszczyk) **49** #3510 46B99

Unconditional convergence in the space L_1. (Russian) *Mat. Sb.* (*N.S.*) **94(136)** (1974), 540–550, 655. (W. C. Connett) **52** #6398 46E30 (40J05)

Weyl multipliers. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 5, 1031–1032. (F. Móricz) **52** #3856 42A18 (42A60)

The diameters of octahedra. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 4(184), 251–252. (R. A. Rankin) **53** #1234 49B99 (52A25)

On Weyl's multipliers for almost everywhere convergence of orthogonal series. (Russian summary) *Anal. Math.* **2** (1976), *no.* 4, 249–266. (Satoru Igari) **55** #13148 42A52

Orthogonal convergence systems. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 2, 285–286. (F. Móricz) **54** #846 42A60

A certain complete orthonormal system. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 3, 356–365, 479. (K. Karták) **53** #13998 42A62

The widths of certain finite-dimensional sets and classes of smooth functions. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 2, 334–351, 478. (T. Bojanov) **58** #1891 41A45

The coefficients of the expansion of a certain class of functions in complete systems. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 1, 122–131, 238. (B. S. Mitjagin) **57** #3736 42A60

Some properties of orthogonal convergence systems. (Russian) Analytic number theory, mathematical analysis and their applications (dedicated to I. M. Vinogradov on his 85th birthday). *Trudy Mat. Inst. Steklov.* **143** (1977), 68–87, 209. (F. Móricz) **58** #1998 42A60

Orders of the widths of certain classes of smooth functions. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1(193), 191–192. (J. Albrycht) **58** #29664 41A45 (46E35)

On the mean value of certain functions connected with the convergence of orthogonal series. (Russian summary) *Anal. Math.* **4** (1978), *no.* 1, 27–35. (G. Sunouchi) **57** #13357 42A52

Remarks on the estimation of Lebesgue functions of orthonormal systems. (Russian) *Mat. Sb.* (*N.S.*) **106(148)** (1978), *no.* 3, 380–385, 495. (W. R. Wade) **58** #29787 42A52

Kašin, Ju. A. Problems of the dynamics of free and restricted thin rods. (Russian) *Teoret. i Prikl. Meh.* (*Minsk*) *Vyp.* 3 (1976), 101–112, 5-6. (M. Mişicu) **56** #13981 73.53

Kašin, V. I. (*with* Bočko, G. D.; Makarov, L. I.) Algorithms for successive allocation and shortest tracing. (Russian) *Vyčisl. Sistemy Vyp.* 64 (1975), 73–81, 181. (Authors' summary) **58** #15135 90C10 (90C50)

Kašincev, E. V. Generalization of a result of Greendlinger. (Russian) *Ivanov. Gos. Ped. Inst. Učen. Zap.* **61** (1969), *no. mat.*, 152–155. (D. Moldavanskiĭ (RŽMat **1970** #1 A198)) **50** #479 20E05

On the word problem. (Russian) *Tul. Gos. Ped. Inst. Učen. Zap. Mat. Kaf. Vyp.* 2 *Geometr. i Algebra* (1970), 185–214. (Juri A. Bahturin) **53** #627 20F10

Graphs and the word problem for finitely presented semigroups. (Russian) *Tul. Gos. Ped. Inst. Učen. Zap. Mat. Kaf. No.* 2 *Geometr. i Algebra* (1970), 290–302. (A. A. Iskander) **52** #14097 20M05

Kašinov, V. V. Necessary optimality conditions in certain control and filtration problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 6, 148–149. (Constantin Vîrsan) **47** #7551 49B05

Kaširin, V. V. Compact operators on Köthe spaces. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1974**, *no.* 4, 117–118, 140. (G. J. O. Jameson) **55** #1035 46A45 (47B55)

Subspaces of a finite center of an absolute Riesz scale that are isomorphic to an infinite center. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 4, 863–865, 887. (J. Peetre) **52** #8878 46A45

Kasjan, A. A. (*with* Pogosjan, I. A.) A study of the system $M/G/1$ with constraints and absolute priority. (Russian) *Systems analysis and algorithmization of production processes* (*Russian*), *pp.* 115–124. *Inst. Kibernet. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (Z. Khalil) **53** #4293 60K25

(*with* Brodi, S. M.; Pogosjan, I. A.) An algorithm of optimal dynamic dispatching in computer systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 4, 44–48. (Authors' summary) **56** #10993 90C40 (60K20)

Kas′janjuk, S. A. A certain problem of a connected extremum for a linear Stieltjes functional. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 5, 79–83. **45** #7945 65K05

(*with* Tkačuk, G. I.) A certain class of extremal problems of the mathematical theory of elasticity. (Russian) *Prikladna. Meh.* **7** (1971), *no.* 9, 57–63. (L. Janos) **46** #4833 73.45

Extremal stresses in the first basic plane problem in the theory of elasticity for a half-plane. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1972**, 73–80 (*Russian*); *translated as Mechanics of Solids* **7** (1972), *no.* 5, 65–71 (1973). (F. Erdogan) **52** #2358 73.49

The reconstruction of signal functions from prescribed elements at a finite number of points. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 2, 24–30. (W. Hoeffding) **48** #3592 94A05

(*with* Tkačuk, G. I.) A certain class of extremal problems for a circular disc that is subjected to the action of concentrated forces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 4 (143), 32–38. (Editors) **57** #18366 73.30 (30A40)

Extremal problems in a subclass of the entire functions of finite order. (Russian) *Mat. Zametki* **19** (1976), *no.* 1, 19–28. (R. P. Boas, Jr.) **53** #11057 30A64

Approximation and interpolation by functions with finite spectrum. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 2, 508–514. (Paul Nevai) **54** #806 41A30

(*with* Varjuhin, V. A.) A class of iterative procedures for the solution of systems of nonlinear equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no*, 5, 1123–1131, 1332. (S. Măruşter) **57** #1871 65H10

Kas′janov, V. I. The finite-dimensional approximation of singular integrals over the real line. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 11(186), 27–33. (Editors) **58** #23292 41A55 (44A15)

Kasjanov, V. N. Efficient transformation of irreducible graphs. (Russian) *System and theoretical programming* (*Russian*), 143–172. *Vyčisl. Centr Sibirsk. Otdel. Akad. Nauk SSSR*, *Novosibirsk*, 1973. (E. Ikaunieks) **51** #2329 68A05

Some properties of fully reducible graphs. *Information Processing Lett.* **2** (1973), 113–117. (William H. Burge) **56** #8416 05C20 (94A20, 68A05)

Finding the hammocks in a directed graph. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 5, 1020–1022. (B. Zelinka) **52** #7955 05C20

Finding operator arguments and results in schemes with indirect addressing. (Russian) *Programmirovanie* **1976**, *no.* 1, 6–15, 94. (A. V. Anīsīmov) **53** #12059 68A05

(*with* Val′kovskiĭ, V. A.) Segmentation into large blocks and parallelization of program schemes. (Russian) *Programmirovanie* **1976**, *no.* 1, 16–26, 94. (Jozef Miklośko) **55** #4767 68A05

On the question of the realization of circuits over a distributed memory. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 1, 63–68. (Author's summary) **58** #9847 94A20

Kaška, Josef A contribution to parametric programming. (Czech. English summary) *Ekonom.-Mat. Obzor* **10** (1974), 33–49. (Tomas Gal) **49** #2084 90C05

Kaškaha, V. E. (*with* Daniljuk, Ī. Ī.) A certain nonlinear spatial problem with a free boundary. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 119–123, 189. (V. Komkov) **47** #3833 35J65 (49A20)

(*with* Daniljuk, Ī. Ī.) A certain nonlinear Ritz system. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 870–873, 954. (V. Komkov) **48** #3270 65N30

The Ritz method for the study of a two-phase quasistationary problem of Stefan type. (Russian) *Mat. Fiz. Vyp.* 17 (1975), 128–137, 190. (N. N. Janenko) **56** #7257 65N30

See also **Mathematical physics**, **48** #5770

Kaškin, V. B. (*with* Ulanov, A. E.) Nonlinear transformation of the sum of two signals and Gaussian noise. *Radiotehn. i Èlektron.* **19** (1974), *no.* 11, 2419–2424 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **19** (1974), *no.* 11, 124–128. **56** #15121 94A05

Kaškinbaēv, B. Solution of a system of three linear differential equations with periodic coefficients that describe the performance of a dynamic frequency transformer. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 309–313, 380. (M. Bertolino) **47** #7133 34C15

See also **Mathematics and mechanics**, **48** #17 *and* **Differential equations and their application**, **50** #13681

Kaśkosz, Barbara On a nonlinear evasion problem. *SIAM J. Control Optimization* **15** (1977), *no.* 4, 661–673. (G. J. Olsder) **58** #9335 90D25

Kasma, S. (*with* Wetterling, Wolfgang) Überbestimmte Eigenwertaufgaben. (English summary) *Numerische Methoden der Approximationstheorie, Band* 3 (*Tagung,* *Forschungsinst., Oberwolfach*, 1975), *pp.* 197–206. *Internat. Ser. Numer. Math., Vo* *Birkhäuser, Basel*, 1976. (Authors' summary) **58** #24883 65F15 (65F20)

Kasoev, S. G. (*with* Ljamšev, L. M.) Theory of laser-pulse generation of sound in a li *Akust. Ž.* **23** (1977), *no.* 6, 890–898 (*Russian*); *translated as Soviet Phys. Acou* (1977), *no.* 6, 510–514. (Authors' summary) **58** #14279 76.35

Kasparek, Erwin (*with* Lorens, Michał) Remarks on differential concomitants of dens *Ann. Polon. Math.* **25** (1971/72), 215–220. (St. Gołąb (Zbl **225** #53012)) **50** #14 53A55

(*with* Lorens, Michał) Comitants différentiels de l'objet Λ_γ. *Uniw. Śląski w Katowicach—Prace Mat.* **3** (1973), 31–35. (*errata insert*) (Aristide Sanini) **48** #1 53A55

(*with* Lorens, Michał) Rotationel et divergence des densités p-vectorielles l'espace avec connexion Λ_l. (Polish summary) *Uniw. Śląski w Katowicach—Prace* **4** (1973), 27–29. (*loose errata*) (Virgil Obădeanu) **48** #4942 53B15

(*with* Kurcius, Eryk) Covariant derivative of the second order of scalars. (summary) *Uniw. Śląski w Katowicach Prace Naukowe No.* 158 *Prace Mat. No.* 7 (7–11. (Leo Boček) **55** #3997 53A55

Kasparov, G. G. A generalized index for elliptic operators. (Russian) *Funkcional.* *Priložen.* **7** (1973), *no.* 3, 82–83. (J. S. Joel) **56** #3899 58G10 (46L05, 46M20)

Topological invariants of elliptic operators. I. K-homology. (Russian) *Izv.* *Nauk SSSR Ser. Mat.* **39** (1975), *no.* 4, 796–838 (*Russian*); *translated as Math. USSR-Izv.* **9** (1975), *no.* 4, 751–792 (1976). (Claude Schochet) **58** #7603 (46M20, 57D20, 58G10)

Kasparson, V. A. Sliding stand-by with rapid renewal. *Izv. Akad. Nauk SSSR* *Kibernet.* **1971**, *no.* 1, 65–70 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), 54–59. (S. K. Srinivasan) **45** #9665 90B25

The convergence of the iterative aggregation process for matrices with small (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 1, 190–192. (Jan Zítke) **56** #10 65R05

Convergence of a modified single-level iterative aggregation process for m with small norm. *Avtomat. i Telemeh.* **1977**, *no.* 3, 107–110 (*Russian. English sum* *translated as Automat. Remote Control* **38** (1977), *no.* 3, *part* 2, 389–392. (Hannah **56** #13556 65F10

(*with* Vahutinskiĭ, I. Ja.) A proof of the convergence of modified proces iterative aggregation for matrices with a small norm. (Russian) *Èkonom. i Mat.* **13** (1977), *no.* 4, 779–781. (C. de Boor) **56** #9934 65F10

Kasper, J. F., Jr. *See* **Control in space**, **48** #13320

Kasper, Joseph F., Jr. *See* **Applied optimal estimation**, **49** #10419

Kasper, Uwe (*with* v. Borzeszkowski, Horst-Heino; Kreisel, Eckhard; Liebscher, Dierck-Ekkehard; Treder, Hans-Jürgen) ★Gravitationstheorie und Äquivalenzpr Lorentz-Gruppe, Einstein-Gruppe und Raumstruktur. Herausgegeben von H.-J. T Mathematische Lehrbücher und Monographien. II. Abteilung: Mathematische Monographien, Band XXVI. *Akademie-Verlag*, *Berlin*, 1971. viii + 122 *pp.* (E **56** #14505 83.53

Zur Interpretation der Trederschen Tetradentheorie der Gravitation. (English summary) *Monatsb. Deutsch. Akad. Wiss. Berlin* **13** (1971), 177–184. (H. Rund) **45** #6361 83.53

Zur Struktur der Feldgleichungen des Gravitationsfeldes in der Trederschen Tetradentheorie. *Monatsb. Deutsch. Akad. Wiss. Berlin* **13** (1971), 184–188. (H. **46** #1273 83.53

Kovariante Superpotentiale in der allgemeinen Relativitätstheorie. (English summary) *Ann. Physik* (7) **30** (1973), 147–154. (Dieter Ebner) **53** #10139a 8

(*with* Liebscher, Dierck-Ekkehard) Feldgleichungen der Trederschen Gravitationstheorie, die aus einem Variationsprinzip ableitbar sind. I. (English summary) *Ann. Physik* (7) **30** (1973), *no.* 2, 129–144. (Authors' summary) **57** #49 83.53

(*with* Liebscher, Dierck-Ekkehard; Treder, Hans-Jürgen) Feldgleichungen de Trederschen Gravitationstheorie, die aus einem Gravitationstheorem herleitbar si (English summary) *Ann. Physik* (7) **30** (1973), *no.* 2, 145. (Authors' summary) **57** #4967b 83.53

Perihel-Bewegung und kosmologische Singularität in Treders Gravitationst (English summary) *Astronom. Nachr.* **294** (1973), 201–206. (A. H. Taub) **50** #9 83.35

(*with* Liebscher, Dierck-Ekkehard) On the post-Newtonian approximation of theories of gravity. (Russian summary) *Astronom. Nachr.* **295** (1974), 11–17. Vaidya) **49** #4512 83.35

Field equations of Treder's gravitational theory which are derivable from a variational principle. III. *Ann. Physik* (7) **32** (1975), 115–118. (Author's sum **57** #4967c 83.53

(*with* v. Borzeszkowski, Horst-Heino) Boundaries of space-times and singulari general relativity. (German summary) *Ann. Physik* (7) **32** (1975), 146–158. (Au summary) **57** #8871 83.53

Corrections and additional remarks to the paper "Kovariante Superpotentiale allgemeinen Relativitätstheorie" (Ann. Physik (7) **30** (1973), 147–154). *Ann. Phy* **32** (1975), *no.* 5, 351–352. (Dieter Ebner) **53** #10139b 83.53

Fermion fields in theories of gravitation. Symposium on Relativity and Grav (Brno, 1975). *Scripta. Fac. Sci. Natur. UJEP Brunensis–Phys.* **5** (1975), *no.* 3-4, 30 (Editors) **56** #4669 83.53

Fermion fields in theories of gravitation. (German summary) *Ann. Physik* (1976), *no.* 2, 113–124. (Edward N. Glass) **54** #14721 83.53

(*with* v. Borzeszkowski, Horst-Heino) Remarks on Khalatnikov-Lifshitz type theorems. (Russian summary) *Astronom. Nachr.* **297** (1976), *no.* 1, 29–31. (C Clarke) **53** #4875 83.53

The inversion of the Einstein-Straus theorem. (German summary) *Astronom.* **297** (1976), *no.* 3, 127–129. (C. V. Vishveshwara) **57** #15229 83.53

Cosmology and description of local space-time properties by Einstein's equ (German summary) *Ann. Physik* (7) **35** (1978), *no.* 1, 50–60. (N. Rosen) **58** #14 83.53

czuk, A. (*with* Paduch, M.; Pokora, L.; Wereszczyński, Z.) Numerical solution to el integral equation in optical diagnostics of axisymmetrical objects. (Polish and ssian summaries) *J. Tech. Phys.* **19** (1978), *no.* 1, 137–150. (V. H. Weston) #19274 65R05

kovitz, P. (*with* Dirl, R.) Irreducible tensorial sets within the group algebra of a npact group. *J. Mathematical Phys.* **15** (1974), 1203–1210. (Authors' summary) #2397 22E70

(*with* Dirl, R.) Verträglichkeitsbedingungen ohne Stetigkeitsannahmen. I. gemeine Formulierung. (English summary) *Acta Phys. Austriaca* **42** (1975), *no.* 1–2, –72. (Authors' summary) **57** #15123a 82.35

(*with* Dirl, R.) Verträglichkeitsbedingungen ohne Stetigkeitsannahmen. II. Ein ispiel. (English summary) *Acta Phys. Austriaca* **42** (1975), *no.* 3–4, 201–211. (Authors' nmary) **57** #15123b 82.35

ov, V. N. (*with* Šarkovs'kiĭ, O. M.) Orbital stability. (Russian. English summary) *oceedings of the Fifth International Conference on Nonlinear Oscillations* (*Kiev*, 1969). *l. 2: Qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 209–215. *danie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1970. (I. Kiguradze) **48** #2498 C35 (34D10)

(*with* Husaĭnov, D. Ja.) The study of stability by Ljapunov's second method. ussian) *Dynamical systems, and questions on the stability of the solutions of differential uations* (*Russian*), *pp.* 54–62. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. Talpalaru) **54** #5562 34D20

Haya (*with* Rubinovitch, Michael) The stochastic behavior of a buffer with n-identical input lines. *Stochastic Processes Appl.* **3** (1975), 73–88. (J. G. C. mpleton) **51** #7053 60K30 (68A50)

(*with* Turnbull, Bruce W.; Smith, Richard L.) Adaptive sequential procedures for lecting the best of several normal populations. *J. Statist. Comput. and Simulation* **7** 978), *no.* 2, 133–150. (Joseph A. Yahav) **58** #3239 62L10 (62F07)

zak, Andrzej (*with* Jakubowski, Ryszard) Regular expressions in application to the scription and recognition of machine element shapes. (Polish. English and Russian mmaries) *Podstawy Sterowania* **2** (1972), 279–291. (Authors' summary) **55** #14439 A25 (68A25, 94A30)

(*with* Jakubowski, Ryszard) Application of fuzzy programs to the design of achining technology. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** 973), 69–74. (K. Vairavan) **49** #12204 94A30

(*with* Jakubowski, Ryszard; Peschak, Ryszard) Automata that recognize the shapes machine elements. (Polish. English and Russian summaries) *Podstawy Sterowania* **3** 973), 209–219. (Authors' summary) **55** #12358 94A30

(*with* Jakubowski, Ryszard) A syntactic description of operations that shape ntours of rotary machine elements. (Polish. English and Russian summaries) *odstawy Sterowania* **6** (1976), *no.* 3, 277–284. (Authors' summary) **56** #17241 8A45

zak, Wacław (*with* Lysik, Bertold) On the computer oriented procedure for imensional analysis. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** 1974), 767–773. (A. R. Mitchell) **54** #1561 65D99

(*with* Lysik, Bertold; Szata, Mieczysław) Problems of the selection of a dimensional ase in experiment design and planning. (Russian summary) *Bull. Acad. Polon. Sci. Sér. ci. Tech.* **25** (1977), *no.* 8, 631–639. (A. R. Mitchell) **58** #8595 70.15

rzyk, Stanisław (*with* Bogusz, Władysław; Giergiel, J.; Zabawa, M.; Muszyńska, gnieszka; Muszyński, Jerzy; Radziszewski, Bogusław; Szadkowski, Jerzy) A study of tability in discrete systems. (Polish. Russian and English summaries) *Nonlinear ibration problems*, *No.* 12, *pp.* 9–52. *Państw. Wydawn. Nauk.*, *Warsaw*, 1971. (V. omkov) **56** #11290 93Dxx (34D99)

(*with* Głuch, Leszek) Asymptotic properties of the solutions of a certain nonlinear ystem. (Polish. Russian and English summaries) *Nonlinear vibration problems*, *No.* 12, p. 287–291. *Państw. Wydawn. Nauk.*, *Warsaw*, 1971. (Authors' summary) **56** #10239 0.34

(*with* Engel, Zbigniew) An investigation of the boundedness of the solutions of the motion of a vibro-shock system with two degrees of freedom. (Polish. Russian and nglish summaries) *Nonlinear vibration problems*, *No.* 12, *pp.* 293–297. *Państw. Wydawn. Nauk.*, *Warsaw*, 1971. (Authors' summary) **56** #10240 70.34

Stability in the large of certain non-linear systems of differential equations of order hree. *Ann. Polon. Math.* **25** (1971/72), 241–247. (J. O. C. Ezeilo) **46** #2169 34D05

(*with* Łopata, Andrzej) The global asymptotic stability of a certain nonlinear ystem. (Polish. Russian and English summaries) *Rozprawy Inż.* **19** (1971), 327–331. (J. M. Skowronski) **47** #5381 34D05

(*with* Myjak, Józef Wenety) On the existence of solutions on linear boundary-value problem for ordinary differential equations. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 15 (1971), 71–78. (J. W. Bebernes) **50** #13692 34B10

ic'ka, M. F. (*with* Sergiēnko, Ī. V.) The solution of a certain problem of the organization of the computing process on electronic computers. (Russian) *Mathematical provisioning of electronic digital computers and effective organization of the computing rocess* (*Proc. Sem.*, *Kiev*, 1968/1969), *No.* 4 (*Russian*), *pp.* 3–13. *Akad. Nauk Ukrain. SSR*, *Kiev*, 1969. (R. N. Goss) **46** #4780 (EA **46**) 68A20

(*with* Sergiēnko, Ī. V.) On the question of the construction of effective methods of solution of certain problems of organizing the computational process in an electronic computer. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 4, 67–74. (Authors' summary) **46** #1131 68A20

(*with* Sergiēnko, Ī. V.) The design of the process of solution of problems on a computer complex. (Russian) *Mathematical provisioning of electronic digital computers*, *No.* 1 (*Russian*), *pp.* 16–24. *Akad. Nauk Ukrain. SSR*, *Kiev*, 1970. (I. Šelihova (RŽMat **1971** #4 B1041)) **45** #9539 68A20

(*with* Sergiēnko, Ī. V.) The method of the sloping vector in an application to convex discrete functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 6, 107–108. (C. Bergthaller) **46** #4943 90C25

(*with* Sergiēnko, Ī. V.; Hil'čenko, V. I.) A certain approach to the solution of allocation problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 51–60. (R. Salia) **53** #2326 90B05 (90C50, 68A10)

(*with* Guljanickiĭ, L. F.; Sergiēnko, Ī. V.) Approaches and algorithms for the solution of optimization problems for the automation of computer and systems design. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 5, 61–71. (Authors' summary) **57** #18206 68A10 (90B05)

(*with* Dorodnicyn, A. A.; Sergiēnko, Ī. V.) An approach to the formalization of classification. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 6, 132–140. (Authors' summary) **57** #9109 92A05

(*with* Sergiēnko, Ī. V.) The concept of linearity and convexity in a discrete space. Combinatorial linear problems. I. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 5, 75–81. (Authors' summary) **58** #13710 65K05 (90C99)

Kašpurin, V. A. An extremal problem. (Russian) *Čečeno-Inguš. Gos. Ped. Inst. Učen. Zap.* **29** (1970), *Ser. Fiz. Mat. no.* 8, 20–22. (RŽMat **1971** #3 A36) **58** #30755 52A40

Kasriel, Robert H. Contractive actions with expansive reactions. *Delta* (*Waukesha*) **3** (1972/73), *no.* 4, 1–6. (B. F. Bryant) **50** #14721 54H25

(*with* Cain, George L., Jr.) Fixed and periodic points of local contraction mappings on probabilistic metric spaces. *Math. Systems Theory* **9** (1975/76), *no.* 4, 289–297. (V. Istrătescu) **56** #16600 54H25

★Undergraduate topology. Reprint. *Robert E. Krieger Publishing Co., Huntington, N. Y.*, 1977. xiv+285 *pp.* (Editors) **55** #4078 54–01

Kass, S. N. (*with* Elderkin, R. H.; Berkowitz, D. P.; Farris, F. A.; Gunn, C. F.; Hickernell, F. J.; Mansfield, F. I.; Taranio, R. G.) On the steady state or an age dependent model for malaria. *Nonlinear systems and applications* (*Proc. Internat. Conf.*, *Univ. Texas, Arlington, Tex.*, 1976), *pp.* 491–512. *Academic Press*, *New York*, 1977. (H. I. Freedman) **58** #4446 92A15

Kassam, Saleem A. (*with* Thomas, John B.) A class of nonparametric detectors for dependent input data. *IEEE Trans. Information Theory* **IT-21** (1975), 431–437. (S. Csibi) **56** #2625 94A05

(*with* Thomas, John B.) Asymptotically robust detection of a known signal in contaminated non-Gaussian noise. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 1, 22–26. (James C. Bezdek) **52** #12953 94A05

(*with* Thomas, John B.) Nonparametric weighted-signs tests for location. *SIAM J. Appl. Math.* **32** (1977), *no.* 3, 649–652. (G. E. Noether) **55** #4503 62G10

Locally robust array detectors for random signals. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 3, 309–316. (Author's summary) **58** #4598 94A05

Kassay, František One approach to sensitivity analysis of the transportation problem in linear programming. (Slovak. English summary) With a remark by Jaroslav Habr. *Ekonom.-Mat. Obzor* **13** (1977), *no.* 2, 213–223. (Authors' summary) **56** #10930 90C05

Sensitivity analysis of a transportation problem. A change of objective function coefficients c_{ij}. (Slovak. English summary) *Ekonom.-Mat. Obzor* **14** (1978), *no.* 2, 188–198. (Author's summary) **58** #25964 90C05

Kassel', M. V. An application of the differentiation method to the solution of linear integro-differential equations of Volterra type with kernel of singular form. (Russian) *Trudy Irkutsk. Gos. Univ.* **64** (1969), 53–57. (W. Żakowski) **47** #2295 45J05

Kassel, Simon ★Soviet cybernetics research: a preliminary study of organizations and personalities. R-909-ARPA. *Rand*, *Santa Monica*, *Calif.*, 1971. ix+201 *pp.* (Editors) **53** #5210 00A05 (00A15, 68–02, 93–02, 94–02)

Kassels, Dž. V. S. *See* **Cassels, J. W. S.**

Kassem, S. E. (*with* Gorgui, M. A.) On the generation of short internal waves by cylinders oscillating at the surface separating two infinite liquids. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 3, 481–494. (Authors' summary) **57** #14848 76.35

(*with* Gorgui, M. A.) Basic singularities in the theory of internal waves. *Quart J. Mech. Appl. Math.* **31** (1978), *no.* 1, 31–48. (L. M. Hocking) **57** #18438 76.35

Kassir, Mumtaz K. Stress-intensity factors for an insulated half-plane crack. *Trans. ASME Ser. E. J. Appl. Mech.* **43** (1976), *no.* 1, 107–111. (R. B. Kelman) **54** #4254 73.35

Kassos, Tony (*with* Szabo, Barna A.) Linear equality constraints in finite element approximation. *Internat. J. Numer. Methods Engrg.* **9** (1975), *no.* 3, 563–580. (Authors' summary) **56** #13641 65K05 (65N30)

Kassoy, D. R. The singularity at boundary layer separation due to mass injection. *SIAM J. Appl. Math.* **25** (1973), 105–123. (A. Pozzi) **48** #1585 76.35

Extremely rapid transient phenomena in combustion, ignition and explosion. *Asymptotic methods and singular perturbations* (*Proc. SIAM-AMS Sympos. Appl. Math.*, *New York*, 1976), *pp.* 61–72. *SIAM-AMS Proceedings, Vol. X*, *Amer. Math. Soc.*, *Providence, R.I.*, 1976. (Author's summary) **58** #25362 76.41 (80.35)

Kaštanov, V. A. (*with* Buzukin, V. G.) Investigation of queueing systems with losses and with priority servicing. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 2, 78–81 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 2, 276–279. (N. U. Prabhu) **45** #7848 60K25

(*with* Barzilovič, E. Ju.; Kovalenko, Ī. M.) On minimax criteria in reliability problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 3, 87–98 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 3, 467–477 (1972). (C. Ratiu-Suciu) **47** #1440 90B25

Kasteleyn, P. W. (*with* Fortuin, C. M.; Ginibre, J.) Correlation inequalities on some partially ordered sets. *Comm. Math. Phys.* **22** (1971), 89–103. (C. A. Hurst) **46** #8607 (EA **53**) 82.62

(*with* Fortuin, C. M.) On the random-cluster model. I. Introduction and relation to other models. *Physica* **57** (1972), 536–564. (S. V. Temko) **50** #12107 82.60

(*with* Richmond, L. Bruce) Asymptotic behaviour of the coefficients of a chromatic sum. *Ars Combinatoria* **1** (1976), *no.* 1, 253–259. (W. T. Tutte) **54** #5032 05C15

Kasten, Volker Zur Pseudokonvexität bei Koeffizientenkörpern schlichter Funktionen. *Math. Ann.* **227** (1977), *no.* 3, 243–245. (Author's review (Zbl **333** #32017)) **58** #28659 32D05 (32F05)

Kastenbaum, Marvin A. Analysis of categorical data: some well-known analogues and some new concepts. *Comm. Statist.* **3** (1974), 401–417. (A. Goldman) **50** #15014 62–02 (62J10)

(*with* Bowman, Kimiko O.) Sample size requirement: single and double classification experiments. *Selected tables in mathematical statistics, Vol. III*, *pp.* 111–232. *Amer. Math. Soc.*, *Providence, R. I.*, 1975. (Authors' summary) **53** #11936 62Q05

Kastenberg, William E. On asymptotic stability of non-linear distributed parameter energy systems. *Internat. J. Control* (1) **19** (1974), 73–79. (B. S. Lalli) **49** #2165 93C20 (93D99) (*with* Watson, Fernando V.) On the stability of a class of non-linear continuous systems. *Internat. J. Control* **20** (1974), 997–1014. (Peter J. Moylan) **55** #12233 93D05

Kastens, U. *See* **Fachtagung: Gesellschaft für Informatik, Programmiersprachen, 48** #10176

Kasti, Dž. *See* **Casti, John**

Kastl, Jan Die *K*-abgeschlossenen Teilmengen der Halbgruppen. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 1, 135–146. (G. Pollák) **53** #8311 20N15

(*with* Tichý, Tomáš) Die Darstellung von partiellen *K*-stelligen Operationen. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 1, 167–178. (G. Pollák) **53** #8312 20N15

Finite monoids having isotypical regular representations. *Semigroup Forum* **13** (1976/77), *no.* 3, 205–208. (Franco Migliorini) **55** #3125 20M30

One method of representations of inverse semigroups. Seminar on Semigroup Theory (Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 292 (1977), 73–89. (M. Kolibiar) **58** #22227 18B05 (20M10)

Kastler, Alfred Ampère et les lois de l'électrodynamique. (English summary) *Rev. Histoire Sci. Appl.* **30** (1977), *no.* 2, 143–157. (Editors) **58** #27014 01A55 (78.01)

Kastler, Daniel (*with* Kadison, Richard V.) Perturbations of von Neumann algebras. I. Stability of type. *Amer. J. Math.* **94** (1972), 38–54. (H. Halpern) **45** #5772 46L10

(*with* Mebkhout, M.; Loupias, G.; Michel, Louis) Central decomposition of invariant states applications to the groups of time translations and of Euclidean transformations in algebraic field theory. *Comm. Math. Phys.* **27** (1972), 195–222. (Franklin E. Schroeck, Jr.) **55** #5099 82.46

(*with* Haag, Rudolf; Kadison, Richard V.) Asymptotic orbits in a free Fermi gas. *Comm. Math. Phys.* **33** (1973), 1–22. (R. H. Herman) **49** #12015 (E **55** #2009) 82.46

(*with* Haag, Rudolf; Trych-Pohlmeyer, B.) Stability and equilibrium states. *Comm. Math. Phys.* **38** (1974), 173–193. (J.-P. Conze) **53** #7327 82.46

Stability and equilibrium in quantum statistical mechanics. *Non-commutative harmonic analysis* (*Actes Colloq., Marseille-Luminy*, 1974), 86–100. *Lecture Notes in Math., Vol.* 466, *Springer, Berlin*, 1975. (Etang Chen) **52** #9934 82.46

(*with* Haag, Rudolf; Kadison, Richard V.) Corrigendum: "Asymptotic orbits in a free Fermi gas" (Comm. Math. Phys. 33 (1973), 1–22). *Comm. Math. Phys.* **43** (1975), *no.* 2, 198. (Editors) **55** #2009 82.46

Equilibrium states of matter and operator algebras. *Symposia Mathematica, Vol. XX* (*Convegno sulle Algebre C* e loro Applicazioni in Fisica Teorica, Convegno Sulla Teoria degli Operatori Indice e Teoria K, INDAM, Rome*, 1975), *pp.* 49–107. *Academic Press, London*, 1976. (Etang Chen) **56** #17647 82.46 (46L10, 81.46)

(*with* Bratteli, Ola) Relaxing the clustering condition in the derivation of the KMS property. *Comm. Math. Phys.* **46** (1976), *no.* 1, 37–42. (S. Sakai) **53** #8918 81.46 (46L05)

(*with* Araki, Huzihiro; Takesaki, Masamichi; Haag, Rudolf) Extension of KMS states and chemical potential. *Comm. Math. Phys.* **53** (1977), *no.* 2, 97–134. (U. Cattaneo) **56** #2042 81.46

(*with* Herman, Richard H.) Energy spectrum of extremal invariant states. *Comm. Math. Phys.* **56** (1977), *no.* 1, 87–90. (Julian I. Palmore) **58** #12400 46L05 (81.46)

See also **C*-algebras and their applications to statistical mechanics and quantum field theory, 54** #9902 *and* **Cargèse lectures in physics, 55** #4962

Kastlunger, K. H. (*with* Wanner, Gerhard) Runge Kutta processes with multiple nodes. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **9** (1972), 9–24. (R. D. Riess) **46** #10210 65L05

(*with* Wanner, Gerhard) On Turan type implicit Runge-Kutta methods. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **9** (1972), 317–325. (Authors' summary) **46** #10211 65L05

Kästner, A. G. *See* **Folta, Jaroslav, 58** #10080 *and* **Sinaceur, Mohammed-Allal, 58** #21185

Kästner, Abraham Gotthelf ★Geschichte der Mathematik seit der Wiederherstellung der Wissenschaften bis an das Ende des achtzehnten Jahrhunderts. Bände I-IV. Mit einem Vorwort und Register von Joseph Ehrenfried Hofmann. *Georg Olms Verlag, Hildesheim-New York*, 1970. *Vol.* I: xviii + x + 780 *pp.* (1 *plate*); *Vol.* II: xiv + 759 *pp.*; *Vol.* III: xiv + 484 *pp.*; *Vol.* IV: xiv + 556 *pp.* (C. J. Scriba) **49** #8794 01A05

Kästner, Herbert (*with* Bachmann, Karl-Heinz; Beyer, Otfried; Boseck, Helmut; Göhler, Wilhelm; Heinrich, Winfried; Junge, Heinz; Lorenz, Günter; Oberländer, Siegfried; Pietzsch, Günter; Steger, Arndt; Thiele, Helmut; Walsch, Werner; Wussing, H.; Berthold, Günter; Bock, Hans; Dück, Werner; Görke, Lilly; Hellwich, Manfred; Neigenfind, Fritz; Peschel, Manfred; Rossberg, H.-J.; Sulanke, Rolf; Vahle, Hans; Wussing, Gerlinde) ★Handbuch der Mathematik Mit einer Einleitung von Hans Reichardt. *Buch und Zeit Verlagsgesellschaft M.B.H., Cologne*, 1972. 739 *pp.* (From the publisher's foreword) **56** #5108 00A20

See also **Kleine Enzyklopädie: Mathematik, 51** #7768; **Mathematics at a glance, 51** #7769; **Kleine Enzyklopädie: Mathematik, 56** #28 *and* **Lexikon der Mathematik, 57** #5553

Kastner, Marcia P. (*with* Ho, Yu Chi) Market signaling: an example of a two-person decision problem with a dynamic information structure. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 276–286. *Inst. Electr. Electron. Engrs., New York*, 1976. (From the authors' introduction) **56** #17880 90D35

Mixed versus pure strategies in many-person decision problems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 4, 661–662. (Tamer Başar) **56** #18033 93E05 (90D35)

(*with* Ho, Yu Chi; Wong, Eugene) Teams, signaling, and information theory. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 2, 305–312. (Tamer Başar) **57** #18755 90A05 (94A10)

(*with* Ho, Yu Chi) Market signaling: an example of a two-person decision problem with dynamic information structure. *IEEE Trans. Automatic Control* **AC-23** (1978), *no.* 2, 350–361. (Andrew P. Sage) **58** #9115 90A05 (90A15)

Kastrica, O. A. Estimation of the norm of the exponential of a matrix. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 1, 3–7, 94. (A. Lee) **46** #6578 65F35

The sensitivity of the logarithmic norm. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 2, 20–22, 96. (V. N. Igolkin) **48** #10086 65F35

(*with* Petrovskiĭ, G. N.) The integral configurations of linear differential sys

(Russian) *Differencial'nye Uravnenija* **9** (1973), 1019–1025, 1163. (Nicolae Luca) **48** #635 34C30

(*with* Petrovskiĭ, G. N.) The relative position of the integral tubes of two l differential systems. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1347–1348, (Nicolae Luca) **48** #2466 34A30

The structure of matrices of coefficients of linear spherically combined sys (Russian) *Differencial'nye Uravnenija* **9** (1973), 2248–2250, 2301. (Nicolae Luca) **49** #7497 34A30

The extremal elements of the matrizant of a two-dimensional stationary sy (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1973**, *no.* 1, 21–24, 103. (F. Szidarov **48** #2166 15A60 (34A30)

Comparison of the estimates of the norm of a matrix exponential. (Russian) *V* *Beloruss. Gos. Univ. Ser. I* **1974**, *no.* 1, 72–74, 90. (George P. Barker) **50** #11 65F35

Kastro, A. *See* **Castro, Alfonso**

Kastro, K. Val'des *See* **Castro, C. Valdez**

Kastrov, V. V. *See* **Control in space, 48** #8041

Kastrup, H. A. (*with* Go, Tjoe-hian; Mayer, D. H.) Properties of dilatations and conformal transformations in Minkowski space. *Rep. Mathematical Phys.* **6** (1974 3, 395–430. (Nicholas M. J. Woodhouse) **52** #7445 83.53

Carathéodory's canonical theory for fields and the problem of quark confinen *Phys. Lett. B* **70** (1977), *no.* 2, 195–200. (A. O. Barut) **58** #20038 81.53

Kasture, D. Y. (*with* Deo, S. G.) Inequalities of Gronwall type in two indepe variables. *J. Math. Anal. Appl.* **58** (1977), *no.* 2, 361–372. (J. Conlan) **55** #10 35B45

Kašu, A. I. Certain characterizations of the torsions and the stable radicals of mo (Russian) *Mat. Issled.* **8** (1973), *no.* 2(28), 176–182, 195. (L. A. Skornjakov) **48** # 16A21

Radicals and cogenerators in modules. (Russian) *Mat. Issled.* **9** (1974), *no.* 53–68, 249. (R. Wiegandt) **50** #2225 16A21

When is a radical associated to a module torsion? (Russian) *Mat. Zamet* (1974), 41–48. (B. J. Gardner) **50** #9937 16A21

Bicommutators and quotient rings. (Russian) *Mat. Zametki* **18** (1975), 429–435. (L. A. Koifman) **53** #507 16A21

Bicommutators of completely divisible modules. (Russian) *Mat. Sb.* (*N.S.*) **100** (1976), *no.* 4, 483–494, 647. (Ju. A. Drozd) **54** #10307 16A08

Preradicals in an adjoint situation. (Russian) Algebras and modules. *Mat.* *Vyp.* 48 (1978), 48–64, 168. (B. J. Gardner) **58** #5852 18E40 (16A64)

Kašuba, Ž. B. (*with* Kaliničenko, V. Ī.; Rvačov, V. L.) The derivatives of *R*-conju (-disjunctive) forms. (Ukrainian. English and Russian summaries) *Dopovīdī Akad.* *Ukraïn. RSR Ser. A* **1971**, 1061–1063, 1148. (K. Moszyński) **45** #8016 65D25

Kasue, Yasuo (*with* Ojika, Takeo; Teraishi, Minoru; Izumoto, Yoshiro) A computa algorithm for nonlinear two-point boundary-value problems. *Mem. Osaka Kyoiku* *III Natur. Sci. Appl. Sci.* **25** (1976), *no.* 1, 31–49. (R. S. Anderssen) **56** #17 65L10

(*with* Ojika, Takeo) Initial-value adjusting method for two-point boundary- problems for nonlinear ordinary differential equations. (Japanese summary) *Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* **26** (1977/78), *no.* 1, 37–46. (Ed **58** #13741 65L10

Kasumov, A. B. (*with* Ivnickiĭ, V. A.) An investigation of the nonstationary characte of a doubled system with an unreliable servicing instrument. (Russian. Azerb summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1972**, 81–89. (From the authors' introduction) **54** #8919 60K25 (90B25)

(*with* Ivnickiĭ, V. A.) Nonstationary characteristics of a stand-by system wi unreliable servicing device. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 4, 11 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 4, 639–646. (Authors' summary) **57** #11702 90B25

Investigation of a redundant system with different characteristics in the case unreliable servicing instrument. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 1, 44–51. (Viore Vodă) **56** #6908 60K10

(*with* Ivnickiĭ, V. A.; Ibragimov, M. N.) A study of a certain switching syste allows for the possibility of breakdown and repair of the control units. (Rus *Problemy Peredači Informacii* **10** (1974), *no.* 3, 104–113. (Authors' summary) **57** # 94A20

Kasumov, K. R. The existence and uniqueness of a solution of the mixed problem quasilinear hyperbolic equation. (Russian. Azerbaijani and English summaries) *Nauk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no.* 6-7, 3–7. (A. Pelczar) **48** #2582

Kasumov, R. K. Asymptotic behavior of the Green's function of a parabolic equati order 2n as $t \to 0$ and as $x \to \infty$. (Russian. Azerbaijani summary) *Azerbaĭdžan.* *Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1970**, *no.* 4, 11–17. (J. Wiesner) **45** #5 35P99

Kasuya, Masahiro On the gauge theory in the Einstein-Cartan-Weyl space-time. (and Russian summaries) *Nuovo Cimento B* (11) **28** (1975), *no.* 1, 127–137. (H. T **52** #7449 83.53

(*with* Hayashi, Kenji; Shirafuji, Takeshi) Elementary particles and Weyl's field. *Progr. Theoret. Phys.* **57** (1977), *no.* 2, 431–440. (Authors' summary) **55** #5 83.53 (81.22)

(*with* Hayashi, Kenji; Shirafuji, Takeshi) Conformal phase group and electromagnetism. *Progr. Theoret. Phys.* **57** (1977), *no.* 5, 1781–1794. (A. O. B **57** #8555 81.22

(*with* Omote, Minoru) The Hamiltonian formalism of the local scale inva gravitational theory. *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1627–1634. **57** #4 83.53

Kasvand, T. *See* **Frontiers of pattern recognition, 52** #9723

Kasyanov, V. N. *See* **Kasjanov, V. N.**

Kas'yanyuk, S. A. *See* **Kas'janjuk, S. A.**

Kasymdžanova, M. A. A local limit theorem for homogeneous Markov chains in th metric. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1978**, *no.* 2, 74–76. (S. A. Book) **58** #7795 60F05 (60J05)

ymov, E. K. Absolute instability of nonlinear control systems. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 3, 73–76, 91. **56** #4993 93D99

(*with* Maĭgarin, B. Ž.) Absolute instability of nonlinear control systems. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1978**, *no.* 3, 42–48, 93. (Authors' summary) **58** #26413 93D99

ymov, K. A. Asymptotic behavior of the solution of a problem with initial jumps for nonlinear systems of differential equations that contain a small parameter multiplying the highest derivative. (Russian) *Differential equations and their application* (*Russian*), *pp.* 39–43, 211. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1970. (C. Olech) **52** #8579 34D15

Asymptotic behavior of the solution of a problem with large initial conditions for nonlinear differential equations that contain a small parameter. (Russian) *Differential equations and their application* (*Russian*), *pp.* 44–46, 211. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1970. (C. Olech) **52** #8580 34D15

(*with* Kitapbaev, M. K.) Asymptotic behavior of the solution of the Cauchy problem with an initial jump for a certain third order integro-differential equation of Fredholm type with a small parameter multiplying the highest derivative. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 1, 37–41. (A. Corduneanu) **45** #5693 45M05

(*with* Kitapbaev, M. K.) The asymptotic behavior of the solution of the problem with initial jump for a certain nonlinear integro-differential equation with a small parameter. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 5, 53–60. (M. I. Imanaliev) **45** #7420 45M05 (45J05)

Asymptotic expansion of the solution of the problem with initial jump for a system of nonlinear ordinary differential equations with a small parameter multiplying the highest derivative. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1248–1263, 1341. (M. Ráb) **51** #1046 34E15

(*with* Esimov, T. A.) The asymptotic behavior of the solutions of a boundary value problem for nonlinear systems of integro-differential equations with a small parameter multiplying the highest derivative. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 1, 42–49, 91. (A. Corduneanu) **50** #10730 45M05

Asymptotic behavior of the solution of a singular-boundary value problem for second order nonlinear integro-differential equations that contain a small parameter. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 5, 13–19, 90. (M. Tvrdý) **51** #3831 45J05

(*with* Kadykenov, B. M.) Asymptotic expansion of the solution of the Cauchy problem for systems of linear hyperbolic equations with a small parameter. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 5, 74–77, 94. (J. Kopčéek) **50** #7835 35L45

(*with* Esimov, T. A.) Asymptotic behavior of the solution of a problem with an initial jump for singularly perturbed systems of nonlinear integro-differential equations. (Russian) *Questions of applied mathematics and mechanics, No.* 2, *pp.* 44–53, 337. *Kazah. Gos. Univ., Alma-Ata*, 1975. (RŽMat **1977** #6 B381) **58** #2093 45J05

(*with* Esimov, T. A.) A certain singular boundary value problem for a singularly perturbed nonlinear integrodifferential system. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 1, 38–44, 93. (M. Tvrdý) **51** #11036 45J05

(*with* Žakupov, Ž. N.) Asymptotic expansion of the solution of a boundary value problem for systems of nonlinear differential equations with a small parameter. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 3, 49–52, 92. (J. W. Macki) **52** #11230 34E15

Asymptotic behavior of the solutions of a boundary value problem for second order nonlinear differential equations with a small parameter. (Russian. Kazakh summary) *Vestnik Akad. Nauk Kazah. SSR* **1975**, *no.* 1, 46–51. (M. Švec) **53** #8591 34E15

(*with* Burkitbaev, Ž. I.) Asymptotic expansion of the solution of a singular boundary value problem for a singularly perturbed system of linear integro-differential equations of Volterra type. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 1, 13–18, 89. (M. Tvrdý) **58** #29939 45J05 (34K25, 45M05)

See also **Questions of applied mathematics and mechanics**, **57** #15811

Kasymov, S. Tests for the univalence of analytic functions, and their application. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 9(184), 38–42. (Z. Lewandowski) **58** #6212 30A36

Kasymova, S. S. (*with* Džavadov, M. A.) Hermitian quasi-non-Euclidean spaces over the algebra of complex matrices. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1972**, *no.* 3, 57–62. (C. Simionescu) **50** #14460 50C25

Hermitian Euclidean spaces over the algebra of complex matrices. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1973**, *no.* 2, 32–36. (M. C. Chaki) **51** #4015 50A05

Kasymžanov, A. H. (*with* Ošerovič, B. Ja.; Harenko, E. D.) al-Fārābī. The meanings of the (word) "intellect" of the Second Teacher al-Fārābī. (Russian) *Voprosy Filos.* **1970**, *no.* 8, 135–142. (Editors) **58** #10258 01A75 (01A30)

(*with* Karaev, N. N.) The Bratislava manuscript of al-Fārābī's *Treatises on logic*. (Russian. Kazakh summary) *Vestnik Akad. Nauk Kazah. SSR* **29** (1973), *no.* 10(342), 11–17. (Editors) **57** #5575 01A30

(*with* Ošerovič, B. Ja.; Harenko, E. D.) al-Fārābī. Introductory sections on logic. (Russian) *Voprosy Filos.* **1975**, *no.* 2, 102–108. (Editors) **58** #10259 01A75 (01A30)

See also **al-Fārābī, Abū Nasr Muhammad ibn Muhammad ibn Tarkhān**, **56** #5131; **al-Fārābī, Abū Nasr Muhammad ibn Muhammad ibn Tarkhān**, **56** #5132 *and* **al-Fārābī, Abū Nasr Muhammad ibn Muhammad ibn Tarkhān**, **57** #5573

Kasymžanov, M. A. Certain questions on the eigenfunction expansion of the kernel of the Lippmann-Schwinger integral equation for the scattering amplitude. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 379 *Trudy Aspirantov TašGU: Matematika. Fizika. Himija* (1970), 11–20. (I. K. Marek) **50** #12069 81.47

(*with* Hodžaev, L. Š.) Generalized Hamiltonian formulation of the strictly localizable Lagrangian field theory. (Russian. English summary) *Teoret. Mat. Fiz.* **16** (1973), *no.* 2, 213–223. (Authors' summary) **58** #14669 81.47

Kászonyi, L. A construction of cubic graphs, containing orthogonal edges. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **15** (1972), 81–87 (1973). (E. A. Nordhaus) **49** #113 05C15

On the nonplanarity of some cubic graphs. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **15** (1972), 123–131 (1973). (F. Bernhart) **48** #3783 05C15

On the structure of coloring graphs. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **16** (1973), 25–36 (1974). (Béla Bollobás) **52** #165 05C15

Kátai, Imre Convolutions of sequences. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **13** (1970), 73–76 (1971). (J. M. Gandhi) **48** #8430 10L99

On additive representation of integers. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **13** (1970), 77–81 (1971). (P. Scherk) **47** #8466 10J20 (10L05)

(*with* Daróczy, Zoltán) Additive zahlentheoretische Funktionen und das Mass der Information. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **13** (1970), 83–88 (1971). (J. Galambos) **46** #9583 39A30 (10A20, 94A15)

Local growth of the number of prime divisors of consecutive integers. *Publ. Math. Debrecen* **18** (1971), 171–175 (1972). (J. Knopfmacher) **46** #7183 10H25

(*with* Tandori, Károly) Bemerkung zur Konvergenz der Entwicklungen nach vorzeichensartigen orthonormierten Systemen. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 519–529. (A. Peyerimhoff) **48** #799 42A60

On random multiplicative functions. *Acta Sci. Math.* (*Szeged*) **33** (1972), 81–89. (J. Kubilius) **47** #1766 10K20

A note on a paper of E. Hlawka. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **15** (1972), 109–110 (1973). (Editors) **48** #2404 30A80 (10K30)

On number-theoretic functions. (Hungarian. English summary) *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.* **20** (1972), *no.* 3-4, 277–289. (G. Halász) **56** #8513 10A20 (10Hxx)

(*with* Iványi, Antal) On monotonic additive functions. *Acta Math. Acad. Sci. Hungar.* **24** (1973), 203–208. (E. M. Horadam) **47** #173 10J99

(*with* Szabó, J.) Canonical number systems for complex integers. *Acta Sci. Math.* (*Szeged*) **37** (1975), *no.* 3-4, 255–260. (J. M. Gandhi) **52** #10590 10B35 (10A10)

Maximum of number-theoretical functions in short intervals. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **18** (1975), 69–74 (1976). (O. P. Stackelberg) **54** #10179 10K20 (10H25)

A remark on q-additive and q-multiplicative functions. *Topics in number theory* (*Proc. Colloq., Debrecen*, 1974), *pp.* 141–151. *Colloq. Math. Soc. János Bolyai, Vol.* 13, *North-Holland, Amsterdam*, 1976. (J. Kubilius) **56** #5479 10K20

Distribution mod 1 of additive functions on the set of divisors. *Acta Arith.* **30** (1976), *no.* 2, 209–212. (H. G. Meijer) **54** #5144 10H20 (10K05)

The distribution of divisors mod 1. *Acta Math. Acad. Sci. Hungar.* **27** (1976), *no.* 1–2, 149–152. (J. H. B. Kemperman) **55** #2824 10K30 (10K05)

A result on consecutive primes. *Acta Math. Acad. Sci. Hungar.* **27** (1976), *no.* 1-2, 153–159. (N. G. de Bruijn) **54** #5140 10H15

On a transformation of power series. (Russian summary) *Anal. Math.* **2** (1976), *no.* 1, 3–10. (Charles K. Chui) **53** #8396 30A10

(*with* Menzer, H.) Convolution of sequences in Dirichlet-sense. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 79–82 (1977). (B. Garrison) **58** #21913 10A20

(*with* Kántor, K.) Distinct values of number-theoretic functions. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 83–86 (1977). (D. Rearick) **58** #21912 10A20

(*with* Környei, I.) On the distribution of lattice points on circles. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 87–91 (1977). (Ekkehard Krätzel) **58** #21985 10J05 (10E05)

(*with* Iványi, Antal) Estimates for speed of computers with interleaved memory systems. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 159–164 (1977). (A. D. Booth) **58** #25112 68A20 (10K05)

Integers with many prime factors in Diophantinely smooth sequences. (Lithuanian and Russian summaries) *Litovsk. Mat. Sb.* **16** (1976), *no.* 2, 93–102, 241. (Matti Jutila) **54** #5145 10H20

On a subsequence of primes. *Publ. Math. Debrecen* **23** (1976), *no.* 3–4, 267–269. (Ernst Heppner) **55** #2803 10H15

On consecutive primes. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 1-2, 163–167. (Karl-Heinz Indlekofer) **56** #15585 10H15

On the sum of digits of primes. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 1–2, 169–173. (Ernst Heppner) **57** #12437 10K20

Change of the sum of digits by multiplication. *Acta Sci. Math.* (*Szeged*) **39** (1977), *no.* 3-4, 319–328. (J. Kubilius) **57** #9660 10K10

(*with* Iványi, Antal) On the performance of computers with interleaved memory. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **3** (1977), *no.* 1-2, 1–11. (Authors' summary) **58** #19454 68A99

Distribution of digits in canonical representation of Gaussian integers. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **20** (1977), 183–189. (M. I. Israilov) **57** #16239 10K10

On additive functions having a non-decreasing normal order. *Colloq. Math.* **37** (1977), *no.* 1, 153–157. (W. Narkiewicz) **57** #9661 10K20

The distribution of additive functions on the set of divisors. *Publ. Math. Debrecen* **24** (1977), *no.* 1-2, 91–96. (J. Galambos (Zbl **375** #10034)) **58** #21999 10K20

Research problems in number theory. *Publ. Math. Debrecen* **24** (1977), *no.* 3-4, 263–276. (A. I. Vinogradov) **57** #5940 10K20

Katai, Osamu (*with* Iwai, Sousuke) On the characterization of balancing processes of social systems and the derivation of the minimal balancing processes. *IEEE Trans. Systems Man Cybernet.* SMC-8 (1978), *no.* 5, 337–348. (Stephen B. Seidman) **57** #18886 92A20 (05C99)

Kataoka, Kiyoomi A micro local approach to general boundary value problems. Proceedings of the Oji Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement*, 147–153. (P. Schapira) **56** #9601 58G15 (46F15)

On the well-posedness of microlocal mixed problems. (Japanese) Research on microlocal analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 295 (1977), 88–91. (Title) **58** #23120 35L99

Kataoka, M. *See* **Furuhashi, Rohzō**, **48** #7740

Kataoka, Shinji A note on statistical system dynamics. *Hitotsubashi J. Arts Sci.* **13** (1972), 30–36. (A. L. Nagar) **49** #2043 90A15

Kataoka, Shizuo (*with* Imai, Hideki; Miyakawa, Hiroshi) Theory of multistep coding and its application to multiphase-modulation communication systems. *Electron. Commun. Japan* **54** (1971), *no.* 11, 19–26. (From the authors' introduction) **47** #4708 94A10

Katarzyna, Litewska Generalized solutions of the first Fourier problem for a parabolic system. (Russian) *Demonstratio Math.* **9** (1976), *no.* 2, 271–279. (J. Kačur) **54** #5624 35K50

Kataškov, È. S. (*with* Blank, B. G.) An adaptive algorithm for information retrieval. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 3, 62–66. (From the authors' summary) **50** #6235 68A50

Katavolos, A. Isometric mappings of non-commutative L_p spaces. *Canad. J. Math.* **28** (1976), *no.* 6, 1180–1186. (Paul S. Muhly) **54** #5847 45L10 (46E30)

Katayama, Hisao (*with* Kurata, Yoshiki; Kutami, Mamoru) Projective modules and 3-fold torsion theories. *Proc. Japan Acad.* **50** (1974), 593–597. (M. Teply) **51** #8169 16A50 (18E40)

On the σ-socle of a module. *Proc. Japan Acad.* **51** (1975), *no.* 7, 528–529. (B. J. Müller) **52** #10789 16A21

(*with* Kurata, Yoshiki) On a generalization of *QF*-3′ rings. *Osaka J. Math.* **13** (1976), *no.* 2, 407–418. (Maureen H. Fenrick) **53** #13298 16A36

Katayama, Koji On zeta-theta functions. *Seminar on Modern Methods in Number Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No.* 19, 9 *pp. Inst. Statist. Math., Tokyo*, 1971. (Editors) **51** #12703 10C15 (10H10)

On zeta-theta functions. *J. Math. Soc. Japan* **24** (1972), 307–332. (Larry J. Goldstein) **51** #8050 (E **52** #301) 10H10

On Ramanujan's formula for values of Riemann zeta-function at positive odd integers. *Acta Arith.* **22** (1973), 149–155. (E. Grosswald) **48** #252 10H05

A supplement to my paper "On zeta-theta functions" (J. Math. Soc. Japan **24** (1972), 307–332). *J. Math. Soc. Japan* **25** (1973), 545–546. (Larry J. Goldstein) **52** #301 10H10 (10D15)

Ramanujan's formulas for L-functions. *J. Math. Soc. Japan* **26** (1974), 234–240. (A. I. Vinogradov) **49** #2594 10H10

Zeta-functions, Lambert series and arithmetic functions analogous to Ramanujan's τ-function. I. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, II. *J. Reine Angew. Math.* **268/269** (1974), 251–270. (E. Grosswald) **58** #27840a 10H10

On the values of ray-class L-functions for real quadratic fields. *J. Math. Soc. Japan* **28** (1976), *no.* 3, 455–482. (E. Grosswald) **53** #10763 12A70

Zeta-functions, Lambert series and arithmetic functions analogous to Ramanujan's τ-function. II. *J. Reine Angew. Math.* **282** (1976), 11–34. (E. Grosswald) **58** #27840b 10H10

Katayama, Takuya Enumeration of the linear dependence structure in n-cube. *Electron. Commun. Japan* **55** (1972), *no.* 2, 121–129. (R. J. McEliece) **49** #4651 94A10

Simplification of a context-free grammar by converting to a context-sensitive grammar. *Systems-Computers-Controls* **4** (1973), *no.* 2, 71–78. (I. M. Havel) **49** #4322 68A30

(*with* Enomoto, Hajime) Structural lines of images. *2nd USA-Japan Computer Conference Proceedings* (*Tokyo*, 1975), *pp.* 470–474. *AFIPS Press, Montvale, N.J.*, 1975. (Shinichi Tamura) **57** #1991 68A45

(*with* Enomoto, Hajime; Okamoto, Masayuki) Enumeration of strings in context-free languages. *Systems-Computers-Controls* **6** (1975), *no.* 1, 1–8. (R. G. Buharaev) **53** #12100 68A30

(*with* Enomoto, Hajime; Tsuchiya, Noboru) An algorithm for determining equivalence of two deterministic pushdown transducers. *Systems-Computers-Controls* **6** (1975), *no.* 6, 69–77. (Derick Wood) **58** #19369 68A25 (68A30)

(*with* Enomoto, Hajime) Structure lines of images. *Proceedings of the Third International Joint Conference on Pattern Recognition* (*Coronado, Calif.*, 1976), *pp.* 811–815. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Shinichi Tamura) **56** #17239 68A45

(*with* Okamoto, Masayuki; Enomoto, Hajime) On a characterization of structure-generating functions of regular sets. *Systems-Computers-Controls* **7** (1976), *no.* 5, 36–44 (1977). (Authors' summary) **57** #14623 68A30 (94A15)

(*with* Okamoto, Masayuki; Enomoto, Hajime) Characterization of the structure-generating functions of regular sets and the DOL growth functions. *Information and Control* **36** (1978), *no.* 1, 85–101. (P. Deussen) **58** #8526 68A30

Katayama, Tohru (*with* Sawaragi, Yoshikazu; Sunahara, Yoshifumi) Stochastic optimum synthesis of time-variant control systems by introducing non-linear elements. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 34, *Paper* 18A, 9 *pp. Inst. Mech. Engrs., London*, 1967. (From the summary) **51** #9945 93E20

(*with* Sawaragi, Yoshikazu) On the estimation of state variables and parameters for discrete-time noisy nonlinear dynamical systems. *Proceedings of the Sixteenth Japan National Congress for Applied Mechanics* (*Univ. Tokyo, Tokyo*, 1966), *pp.* 348–355. *Sci. Council of Japan, Tokyo*, 1967. (R. L. Kashyap) **50** #12405 93E10

(*with* Sawaragi, Yoshikazu; Fujishige, Satoru) Sequential state estimation with interrupted observation. *Information and Control* **21** (1972), 56–71. (M. Zakai) **48** #1773 93E10

(*with* Ikeda, Saburo) Optimal controls for first-order stochastic systems. (Japanese. English summary) *Systems and Control* **17** (1973), 241–248. (Authors' summary) **47** #3085 93E20

Quasilinearization method and its application. (Japanese) *Systems and Control* **17** (1973), 602–606. (H. Shintani) **48** #13359 93Cxx

(*with* Sawaragi, Yoshikazu; Fujishige, Satoru) State estimation for continuous-time system with interrupted observation. *IEEE Trans. Automatic Control* **AC-19** (1974), 307–314. (P. S. Knopov) **55** #2308 93E10

On the matrix Riccati equation for linear systems with a random gain. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 5, 770–771. (B. P. Molinari) **55** #5252 93E20

On a certain discrete-time matrix Riccati equation. (Japanese) *Systems and Control* **20** (1976), *no.* 2, 112–113. (Katsuji Uosaki) **53** #12719 93E15 (34D05, 34F05)

(*with* Kosaka, Michitaka) Smoothing algorithms for two-dimensional image processing. *IEEE Trans. Systems Man Cybernet.* **SMC-8** (1978), *no.* 1, 62–66. (Seih
Higuchi) **57** #5339 93E10 (94A10)

(*with* Kosaka, Michitaka) Addendum to: "Smoothing algorithms for two-dimensional image processing" (IEEE Trans. Systems Man Cybernet. **8** (1978),
1, 62–66). *IEEE Trans. Systems Man Cybernet.* **8** (1978), *no.* 7, 582. (Authors' summa
58 #20729 93E10 (94A05)

(*with* Fujii, Yasuo) Parameter identification for a two-dimensional image fie
Internat. J. Systems Sci. **9** (1978), *no.* 5, 543–562. (Seihaku Higuchi) **58** #455
93E10

See also **Proceedings: International Congress of the International Federation**
Automatic Control (IFAC), **51** #12360a

Katayama, Yoshikazu The tensor product of weights. *Proc. Japan Acad.* **50** (1974), 430–432. (François Combes) **52** #1341 46L10

Remarks on conditional expectations in von Neumann algebra. *J. Math. Soc. Ja*
30 (1978), *no.* 1, 1–6. (François Combes) **57** #7199 46L10

Katchalski, Meir The dimension of intersections of convex sets. *Israel J. Math.* **10** (197
465–470. (H. Hadwiger) **46** #4367 52A35

Intersecting all edges of convex polytopes by planes. *Discrete Math.* **19** (1977),
3, 273–279 (1978). (Bernd Kind) **58** #7396 52A25

The dimension of intersections of convex sets. II. *Israel J. Math.* **26** (1977), *no.* 3
209–213. (H. Hadwiger) **56** #6549 52A35

A Helly type theorem on the sphere. *Proc. Amer. Math. Soc.* **66** (1977), *no.*
119–122. (Marilyn Breen) **57** #10612 52A35

Some properties of families of convex cones. *Trans. Amer. Math. Soc.* **233** (197
235–240. (P. Scherk) **58** #12724 52A20

Reconstructing dimensions of intersections of convex sets. *Aequationes Math.*
(1978), *no.* 2-3, 249–254. (E. Baiada) **58** #18156 52A35

A Helly-type theorem for convex sets. *Canad. Math. Bull.* **21** (1978), *no.* 1, 121–1
(John D. Baildon) **58** #7400 52A35

ten Kate, A. Relativistic wave equations in a five-dimensional approach. *Nuclear Phys.*
(1968), 73–83. (R. L. Ingraham) **47** #4563 81.53

Decomposition of linear programs by direct distribution. *Econometrica* **40** (197
883–898. (I. Maruşciac) **52** #7526 90C05

Katekov, E. A. Boundary value problems for the generalized heat equation. (Russia
Differential equations and their application (*Russian*), *pp.* 163–168, 216. *Izdat. "Nauk
Kazah. SSR, Alma-Ata*, 1970. **51** #13454 35K05

A hyperbolic heat equation with small parameter. (Russian) *Izv. Akad. Na
Kazah. SSR Ser. Fiz.-Mat.* **1970**, *no.* 5, 81–85. (V. Djurikovič) **45** #740 35K05

Katerinočkina, N. N. The equivalence of certain computational equipment. (Russia
English summary insert) *Kibernetika* (*Kiev*) **1970**, *no.* 5, 27–31. (S. Waligórski) **45** #1766 02F10 (94A30)

Search for a maximal upper zero of a monotone function of the algebra of log
(Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 3, 557–560. (M. I. Dehtja
52 #10256 94A20

Search for the maximal upper zero of a certain class of monotone functions
k-valued logic. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 4, 746–749. (Ján
Demetrovics) **56** #11748 02C05

A search for the maximum upper zero for certain subclasses of monotone Boolea
functions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 2, 516–519, 528. (
Asser) **58** #20849 94A20

Katetov, Miroslav On certain aspects of the development of functional analysis. (Russian
Actes du Onzième Congrès International d'Histoire des Sciences (*Varsovie-Cracovi
1965*), *Sect. III: Histoire des Sciences Exactes* (*Astronomie, Mathématiques, Physique*
pp. 273–277. *Ossolineum, Wrocław*, 1968. (Author's review (Zbl **216**, 285)) **58** #27072 01A60 (46–03)

Certain aspects of the development of functional analysis. (Czech. English summary) *DVT—Dějiny Věd Tech.* **1** (1968), *no.* 1, 17–23. (Not reviewed) 01A5
(01A60)

On descriptive classification of functions. *General topology and its relations t
modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp*
235–242. *Academia, Prague*, 1972. (J. G. Ceder) **50** #8429 54C50 (26A21)

On descriptive classes of functions. *Theory of sets and topology* (*in honour of Feli
Hausdorff*, 1868–1942), *pp.* 265–278. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (J
G. Ceder) **49** #9799 54C50 (26A21)

Baire classification and infinite perceptrons. *Comment. Math. Univ. Carolinae* **1**
(1972), 373–396. (F. W. Stallmann) **49** #2469 05C99 (94A20)

On information in categories. *Comment. Math. Univ. Carolinae* **13** (1972), 777–781
(G. M. Kelly) **50** #4113 94A15

Mathematical methods in psychology. (Czech) *Pokroky Mat. Fyz. Astronom.* **1**
(1974), 187–199. (J. S. Joel) **57** #9140 92A25

P. S. Uryson and the beginnings of general topology. (Czech) *Pokroky Mat. Fyz.
Astronom.* **19** (1974), 251–261. (Editors) **58** #2668 54–03 (01A60)

Baire functions and classes bounded by filters. *Comment. Math. Univ. Carolinae* **1**
(1975), *no.* 4, 771–785. (J. G. Ceder) **52** #11828 54C50

N. N. Luzin and the theory of real functions. (Czech) *Pokroky Mat. Fyz. Astronom*
20 (1975), *no.* 3, 137–145. (Editors) **58** #10127 01A60

Descriptive complexity of functions. *General topology and its relations to
modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague,
1976*), *Part B, pp.* 214–219. *Soc. Czechoslovak Mathematicians and Physicists, Prague,*
1977. (G. G. Lorentz) **56** #16599 54H20

Quasi-entropy of finite weighted metric spaces. *Comment. Math. Univ. Carolinae* **17**
(1976), *no.* 4, 797–806. (James W. England) **55** #7583 94A15

Spaces defined by giving a family of centered systems. (Russian) *Uspehi Mat. Nauk*
31 (1976), *no.* 5 (191), 95–107. (Roman Frič) **56** #6586 54A05

On idempotent filters. (Czech and loose Russian summaries) *Časopis Pěst. Mat.* **102**
(1977), *no.* 4, 412–418, 427. (W. W. Comfort) **57** #12235 04A20

See also **Proceedings: International Symposium on Topology and its Applications**, **48** #7188

Katev, T. P. (*with* Lazarov, T. G.) A theorem on involutions in an ellipse. (Bulgarian.
Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **6** (1970), *no.*

135–142 (1972). (V. Topenčarov) **49** #1318 50D20

(*with* Koprinski, S. C.) Further remarks on the differential equation $'+\varphi(y)y'^{2}+f(x)y'+g(x)\psi(y)y'^{n}=0$. (Bulgarian. Russian and English summaries) *odišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 1, 69–76 (1973). (Author's ımmary) **57** #6577 34A45

On invariants of a certain second order non-linear differential equation and their se in solving it. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 3, 63–71 (1973). (Author's summary) **57** #3523 4C30

(*with* Danov, A. D.) Some properties of the solutions of a certain linear finite lifference equation. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 2, 143–156 (1974). (Author's summary) **56** #9120 9A05

al, P. D. (*with* Sharma, P. L.) A study of the matrix method of summability of the rigonometrical series. *Rend. Circ. Mat. Palermo* (2) **19** (1970), 243–270 (1971). (G. M. Petersen) **47** #9146 42A24

(*with* Chandra, Prem) Absolute Borel summability of Fourier series, its conjugate series and their derived series. *Ranchi Univ. Math. J.* **4** (1973), 37–49. (L. Gogoladze) **50** #7929 42A28

A new criterion for the Karmata summability of Fourier series. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **17** (1974), 105–114. (B. N. Sahney) **51** #1248 42A24

(*with* Holland, A. S. B.; Sahney, Badri N.) A class of continuous functions and their degree of approximation. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 3-4, 227–231. (Manfred v. Golitschek) **57** #7002 42A08

hanov, M. N. (*with* Burlakov, E. A.; Safronov, V. V.) An algorithm for the optimization of tolerances on a parameter of the elements of a complex system. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 3, 49–53, 93. (Ju. K. Dem′janovič) **58** #4356 90C50

kauskaitė, A. Random fields with independent increments. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 4, 75–85, 235. (M. I. Jadrenko) **49** #9958 60J30

Asymptotic behavior of stable random fields. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 2, 55–69, 249. (M. I. Jadrenko) **54** #8887 60J30 (60F15, 60G17)

tkauskaitė, Aldona (*with* Žilinskas, Antanas) Construction of statistical models of functions under incomplete information. (Russian. Lithuanian and English summaries) *Teor. Optimal. Rešeniĭ—Trudy Sem. Processy Optimal Upravlenija VI Sekcija Vyp.* 3 (1977), 19–29, 72. (Authors' summary) **57** #15679 93E05

tkov, A. F. (*with* Borkovskiĭ, B. A.; Vollerner, A. N.; Kulik, M. N.; Romancov, V. P.; Tjutin, A. A.) ★Моделирующие математические машины с переменной структурой. (Russian) [Simulating mathematical machines with variable structure] Edited by G. È. Puhov. *Izdat.* "*Naukova Dumka*", *Kiev*, 1970. 248 *pp.* (Table of contents) **47** #4501 68A55

(*with* Borkovskiĭ, B. A.; Romancov, V. P.) Additive formulas for the discrete Fourier transform. (Russian) *Mathematical simulation and the theory of electrical circuits, No.* 14 (*Russian*), *pp.* 80–84, 108. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (Authors' summary) **58** #6903 42A68 (94A05)

See also **Mathematical simulation and the theory of electrical circuits**, **48** #3287

Katkov, V. L. Groups classification of equations of hydrodynamics of a perfect fluid. *Prikl. Mat. Meh.* **37** (1973), 75–83 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 66–74. (S. I. Pai) **49** #8497 76.35

Katkov, V. M. (*with* Baĭer, V. N.; Strahovenko, V. M.) Operator approach to quantum electrodynamics in an external field: the mass operator. *Ž. Èksper. Teoret. Fiz.* **67** (1974), *no.* 2, 453–470 (*Russian. English summary*); *translated as Soviet Physics JETP* **40** (1974), *no.* 2, 225–232 (1975), (Alan D. Sloan) **52** #4886 81.47

(*with* Baĭer, V. N.; Mil′šteĭn, A. I.; Strahovenko, V. M.) The theory of quantum processes in the field of a strong electromagnetic wave. *Ž. Èksper. Teoret. Fiz.* **69** (1975), *no.* 3, 783-799 (*Russian. English summary*); *translated as Soviet Physics JETP* **42** (1975), *no.* 3, 400–407. (Kishin Mariwalla) **54** #9436 81.47

Katkovnik, V. Ja. (*with* Poluèktov, R. A.) To the theory of synthesis of the multidimensional linear control systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *pp.* 1–2, *Paper* 1*D*, 6 *pp. Inst. Mech. Engrs., London*, 1967. **56** #11155 93B15 (93C60, 93E99)

Certain questions of modeling of the spectrum of a multidimensional stationary random process. (Russian) *Cybernetics and computer technology. No.* 1: *Complex control systems* (*Russian*), *pp.* 97–104. *Naukova Dumka, Kiev*, 1969. (Ju. Polljak (RŽMat **1971** #4 V182)) **45** #9383 60G10

The contraction mapping principle in the problem of analyzing the convergence of discrete multistep processes. (Russian) *Cybernetics and computer technology, No.* 6: *Discrete control systems* (*Russian*), *pp.* 52–55. *Naukova Dumka, Kiev*, 1970. (S. Maloň) **46** #2904 65Q05

The method of least squares in a problem of estimation of the parameters of a nonlinear model. (Russian) *Cybernetics and computer technology, No.* 5: *Complex control systems* (*Russian*), *pp.* 79–91. *Naukova Dumka, Kiev*, 1970. (S. Zlobec) **45** #6476 93B30

Sensitivity of gradient networks. *Avtomat. i Telemeh.* **1970**, *no.* 12, 87–94 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 12, 1983–1989. (R. P. Brent) **46** #2862 65K05

(*with* Antonov, G. E.) Filtration and smoothing of functions of several variables for the targets of search for global extremum. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 4, 32–38. (L. I. Gal′čuk) **45** #2882 65D10 (65K05)

(*with* Antonov, G. E.) Filtration and smoothing in problems of search for the extremum of a function of several variables. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 6, 53–60. (V. F. Dem′janov) **45** #1360 65K05

Sensitivity of gradient schemes of steepest descent. (Russian) *Cybernetics and computer technology No.* 8: *Complex control systems* (*Russian*), *pp.* 58–67. "*Naukova Dumka*", *Kiev*, 1971. (V. Spiridonov) **47** #928 49D10

Problem of approximating functions of many variables. *Avtomat. i Telemeh.* **1971**, *no.* 2, 181–185 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 2, *part* 2, 336–340. (Author's summary) **49** #11119 41A63 (33A65)

(*with* Antonov, G. E.) Method of synthesis of a class of random search algorithms. *Avtomat. i Telemeh.* **1971**, *no.* 6, 154–157 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 6, *part* 2, 990–993. (A. Leonte) **49** #8669 90C99

Homogeneous integral averaging operators obtained by the method of least squares. *Avtomat. i Telemeh.* **1971**, *no.* 11, 76–85 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 11, *part* 1, 1767–1775 (1972). (From the author's introduction) **56** #11179 93B30 (93E10)

(*with* Pervozvanskiĭ, A. A.) Extremum search methods and the problem of synthesis of multidimensional control systems. (Russian) *Adaptive automatic systems* (*Russian*), *pp.* 17–42. *Izdat.* "*Sovetskoe Radio*", *Moscow*, 1972. (Editors) **57** #9184a 93B30

(*with* Kul′čickiĭ, O. Ju.) Convergence of a class of random search algorithms. *Avtomat. i Telemeh.* **1972**, *no.* 8, 81–87 (*Russian*); *translated as Automat. Remote Control* **1972**, *no.* 8, *part* 1, 1321–1326. (Ar. Leonte) **55** #2147 90C30

(*with* Antonov, G. E.) A generalization of the concept of statistical gradient. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, *no.* 4, 25–30. (V. F. Dem′janov) **47** #8112 90C15

(*with* Kul′čickiĭ, O. Ju.) Random search methods for the solution of a problem of optimal control of a discrete system. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, *no.* 5, 49–55. (V. N. Igolkin) **47** #9829 65K05

The method of averaging operators in iteration algorithms for the solution of stochastic extremal problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 4, 123–131. (M. Iosifescu) **46** #8659 90C15

The method of averaging operators in problems of statistical estimation of the characteristics of functionals. (Russian) *Cybernetics and computer technology. No.* 20: *Discrete control systems* (*Russian*), *pp.* 30–40, 126. "*Naukova Dumka*", *Kiev*, 1973. (V. Dupač) **48** #7531 65C05

Iteration algorithms for random search in stochastic extremal problems. (Russian) *Problems of random search*, 2 (*Russian*), *pp.* 31–42, 219. *Izdat.* "*Zinatne*", *Riga*, 1973. (M. Iosifescu) **52** #2583 90C15

Gradient rules for the control in problems of stabilization of multidimensional control systems. (Russian) *Theory and methods of construction of multivariable control systems* (*Russian*), *pp.* 84–93, 336. *Izdat.* "*Nauka*", *Moscow*, 1973. (È. G. Al′breht) **52** #10138 93C05

(*with* Pervozvanskiĭ, A. A.) Extremum search methods and multivariate control system synthesis. Translated from the Russian. *J. Cybernet.* **3** (1973), *no.* 2, 81–101. (Editors) **57** #9184b 93B30

(*with* Konson, E. D.) An iterative optimization method with sequential design of an experiment. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 6, 116–125. (N. L. Johnson) **48** #12751 62L05 (65K05)

The method of averaging operators in the problem of synthesis of an adaptive system for the identification of a multi-parametric non-linear static object. (Russian) *Sb. Trudov Inst. Problem Upravlen. Vyp.* 3 *Issled. i Optimizacija Složn. Mnogosvjaz Sistem* (1973), 93–103, 150. (RŽMat **1974** #3 V236) **57** #9208 93C40

(*with* Kul′čickiĭ, O. Ju.) Identification of linear dynamical systems with random perturbation. (Russian) *Cybernetics and computer technology, No.* 24: *Discrete control systems* (*Russian*), *pp.* 19–22, 123. *Izdat.* "*Naukova Dumka*", *Kiev*, 1974. (V. N. Igolkin) **52** #7669 93E10

(*with* Konson, E. D.) Algorithms for successive optimization that use procedures for the sequential design of extremal experiments. (Russian) *Cybernetics and computer technology, No.* 23: *Complex control systems* (*Russian*), *pp.* 58–64, 156. "*Naukova Dumka*", *Kiev*, 1974. (Valery Fedorov) **52** #12243 62K05 (93E10)

Parametric averaging operators in iterative algorithms for solving stochastic extremal problems. I. Averaging operators and statistical estimates. *Avtomat. i Telemeh.* **1974**, *no.* 3, 67–75 (*Russian*); *translated as Automat. Remote Control* **35** (1974), *no.* 3, *part* 1, 402–409. (Author's summary) **58** #4558a 93E10 (65K05)

Parametric averaging operators in iterative algorithms for solving stochastic extremal problems. II. Iterative optimization algorithms. *Avtomat. i Telemeh.* **1974**, *no.* 4, 107–115 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no.* 4, *part* 2, 613–620. (Author's summary) **58** #4558b 93E10 (65K05)

(*with* Ovčarova, L. V.) Majority iterative algorithms of optimization. *Avtomat. i Telemeh.* **1974**, *no.* 8, 67–72 (*Russian. English summary*); *translated as Automat. Remote Control* **1974**, *no.* 8, *part* 1, 67–72 (1975). (P. Vondráček) **53** #12010 65K05

(*with* Ovčarova, L. V.) Parametric statistical estimates in relay algorithms for random search. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 1, 69–71. (B. Bereanu) **51** #5003 90C15

(*with* Ovčarova, L. V.) Convergence and rate of convergence of the method of parametric statistical gradients. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 2, 115–118. (M. Iosifescu) **52** #16626 90C25

(*with* Ovčarova, L. V.) Parametric statistical estimates in multistep random search algorithms. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 3, 94–100. (Authors' summary) **55** #9932 90B40

(*with* Barabanov, A. T.; Nelepin, R. A.; Hlypalo, E. I.; Jakubovič, V. A.) ★Методы исследования нелинейных систем автоматического управления. (Russian) [Methods for the study of nonlinear automatic control systems] Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat.* "*Nauka*", *Moscow*, 1975. 447 *pp.* (V. Komkov) **56** #14934 93C10

(*with* Kul′čickiĭ, O. Ju.) Parametric statistical estimates in many-extremal optimization problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 6, 25–30, 219 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 6, 24–27. (Authors' summary) **58** #26438 93E10

(*with* Ivanov, S. L.) Design of experiments in the problem of tracking the drift of an extremum. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 27 (1975), 93–98, 158. (Valery Fedorov) **56** #7046 62K05

(*with* Kul′čickiĭ, O. Ju.) The identification of linear discrete dynamic systems with a random perturbation in the case of incomplete observability of the state vector. (Russian) *Kibernet. i Vyčisl. Tehn. No.* 28 (1975), 18–22, 126. (Authors' summary)

57 #18934 93B30

★Линейные оценки и стохастические задачи оптимизации. (Russian) [Linear estimations and stochastic optimization problems] Метод параметрических операторов усреднения. [The method of parametric averaging operators] Теоретические Основы Технической Кибернетики. [Series in the Theoretical Foundations of Engineering Cybernetics] *Izdat. "Nauka", Moscow*, 1976. 487 *pp.* (B. Bereanu) **56** #15038 93E10 (93E20)

(*with* Kul′čickiĭ, O. Ju.) Applicability of stochastic approximation methods for adaptive stabilization of discrete linear dynamical systems. *Avtomat. i Telemeh.* **1976**, *no.* 9, 113–123 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 9, *part* 2, 1392–1401 (1977). (Authors' summary) **58** #26463 93E15

(*with* Heĭsin, V. E.) Iterative algorithms of optimization for tracking the drift of an extremum. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no.* 6, 34–40, 92. (Authors' summary) **58** #15627 93E25

(*with* Gak, A. A.) Synthesis of optimal strategies in random-duration stochastic control problems. *Avtomat. i Telemeh.* **1977**, *no.* 2, 29–38 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 2, *part* 1, 184–192. (V. Kolmanovskiĭ) **56** #5018 93E20

See also **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics**, **47** #4666 (EA **47**) ; **Cybernetics and computer technology**, **48** #1733; **Cybernetics and computer technology**, **48** #1736 *and* **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360a

Kato, Akikuni Singularities of projective embedding (points of order n on an elliptic curve). *Nagoya Math. J.* **45** (1972), 97–107. (Allen B. Altman) **46** #5333 14E25 (12A90)

Kato, Akio Solution of Morita's problems concerning countably-compactifications. *General topology and Appl.* **7** (1977), *no.* 1, 77–87. (Thomas W. Rishel) **55** #11211 54D35

A note on pseudocompact spaces and k_R-spaces. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 1, 175–176. (W. W. Comfort) **55** #6360 54D30 (54G20)

Various countably-compact-ifications and their applications. *General Topology and Appl.* **8** (1978), *no.* 1, 27–46. (Russell C. Walker) **57** #4102 54D35

Kato, Akira A coincidence theorem for involutions on mod 2 homology spheres. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 461–463. (G. E. Bredon) **51** #11555 57E15

Kato, Fumio (*with* Saito, Masao; Okoshi, Takanori) Computer-aided synthesis of planar circuits. *IEEE Trans. Microwave Theory Tech.* **MTT-25** (1977), *no.* 10, 814–819. (Alwyn C. Scott) **57** #2763 94A20

Kato, Heizaemon *See* **Nakayama, Shunichi**, (Not reviewed)

Kato, Hiroshi (*with* Nakatsuji, Hiroshi; Yonezawa, Teijiro) On the unrestricted Hartree-Fock wavefunction. *J. Chem. Phys.* **51** (1969), 3175–3180. (T. Sasakawa) **51** #4878 81.33 (81.35)

(*with* Ohtsuki, Tatsuo) An accuracy test system for FORTRAN library functions. *NEC Res. Development No.* 24 (1972), 1–15. (Authors' summary) **47** #1250 65D20

Kato, Hisako (*with* Nanbu, Tokumori) The existence of a local classical solution of the initial-boundary value problem for $D_t^2u-\Delta u+(D_tu)^3=0$. *Math. Rep. College General Ed. Kyushu Univ.* **9** (1973/74), 11–25. (V.-V. Olariu) **49** #871 35L60

Kato, Junji On linear functional differential equations. *Seminar on Differential Equations and Dynamical Systems, II* (*Univ. Maryland, College Park, Md.*, 1969), *pp.* 121–123. *Lecture Notes in Math., Vol.* 144, *Springer, Berlin*, 1970. (J. M. Cushing) **52** #8606 34K05

Uniformly asymptotic stability and total stability. *Seminar on Differential Equations and Dynamical Systems, II* (*Univ. Maryland, College Park, Md.*, 1969), *pp.* 124–127. *Lecture Notes in Math., Vol.* 144, *Springer, Berlin*, 1970. (Editors) **52** #6119 34D05

On Liapunov-Razumikhin type theorems. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 54–65. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (B. Stephan) **52** #14550 34K20

On Liapunov-Razumikhin type theorems for functional differential equations. *Funkcial. Ekvac.* **16** (1973), 225–239. (S. Leela) **50** #7748 34K20

Favard's separation theorem in functional differential equations. *Funkcial. Ekvac.* **18** (1975), *no.* 1, 85–92. (Robert M. Bullock) **52** #11253 34K15

(*with* Yoshizawa, Taro) Stability under the perturbation by a class of functions. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I.*, 1974), *Vol. II*, *pp.* 217–222. *Academic Press, New York*, 1976. (Editors) **58** #28899 34D10

(*with* Nakajima, Fumio) On Sacker-Sell's theorem for a linear skew product flow. *Tôhoku Math. J.* (2) **28** (1976), *no.* 1, 79–88. (G. R. Sell) **53** #6028 34C35 (54H20)

(*with* Sibuya, Yasutaka) Catastrophic deformation of a flow and non-existence of almost periodic solutions. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 267–279. (R. K. Miller) **57** #6636 34C25 (58F10)

(*with* Hale, Jack K.) Phase space for retarded equations with infinite delay. *Funkcial. Ekvac.* **21** (1978), *no.* 1, 11–41. (Waldyr M. Oliva) **58** #11793 34K15 (58F10)

Stability problem in functional differential equations with infinite delay. *Funkcial. Ekvac.* **21** (1978), *no.* 1, 63–80. (N. Onuchic) **58** #11811 34K20

See also **Seminar: Differential Equations and Dynamical Systems**, **51** #6005

Kato, Kanemitsu Two-dimensional and three-dimensional BGK waves. *J. Phys. Soc. Japan* **41** (1976), *no.* 3, 1050–1053. (T. Kahan) **56** #17636 82.35

Kato, Kazuhisa (*with* Morimoto, Akihiko) Topological stability of Anosov flows and their centralizers. *Topology* **12** (1973), 255–273. (Clark Robinson) **48** #5122 58F15

Stochastic stability of Anosov diffeomorphisms. *Nagoya Math. J.* **69** (1978), 121–129. (Peter Walters) **57** #4252 58F15

Kato, Kazuya A generalization of local class field theory by using K-groups. I. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 4, 140–143. (Alan Candiotti) **57** #3103 12B25

Kato, Masaharu Stable manifolds of a map and a flow for a compact manifold. *Nagoya Math. J.* **44** (1971), 119–132. (N. Fenichel) **46** #4568 58F10 (34C40)

Kato, Masahide Complex structures on $S^1\times S^5$. *Proc. Japan Acad.* **49** (1973), 575–577. (Tatsuo Suwa) **48** #11572 32G05 (32C10, 32L05)

A generalization of Bieberbach's example. *Proc. Japan Acad.* **50** (1974), 329–333. (Thomas Bloom) **53** #11101 32H25

Topology of Hopf surfaces. *J. Math. Soc. Japan* **27** (1975), 222–238. (S. Ramanan) **53** #5949 32J15

Some remarks on subvarieties of Hopf manifolds. A Symposium on Comp Manifolds (Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 240 (1975), 64–87. Ramanan) **55** #8415 32J99

On the projectivity of compact complex spaces of dimension 2. *Comment. Ma Univ. St. Paul.* **25** (1976/77), *no.* 2, 125–127. (H. Tornehave) **55** #10732 32J (32J25)

Complex structures on $S^1\times S^5$. *J. Math. Soc. Japan* **28** (1976), *no.* 3, 550–576. Ramanan) **55** #8402 32C10

Riemann-Roch theorem for strongly pseudoconvex manifolds of dimension *Math. Ann.* **222** (1976), *no.* 3, 243–250. (H. B. Laufer) **54** #594 32C45 (32C10)

On a characterization of submanifolds of Hopf manifolds. *Complex analysis a algebraic geometry*, *pp.* 191–206. *Iwanami Shoten, Tokyo*, 1977. (S. Ramanan) **57** #16669 32C10

Compact complex manifolds containing "global" spherical shells. *Proc. Japan Ac* **53** (1977), *no.* 1, 15–16. (A. Hirschowitz) **55** #12957 32J15

Katō, Masakimi On exceptional linear combinations of entire functions. *Proc. Japan Ac* **49** (1973), 700–704. (D. F. Shea) **49** #5351 30A70

(*with* Toda, Nobushige) The degeneracy of systems and the exceptional lin combinations of entire functions. *J. Math. Soc. Japan* **29** (1977), *no.* 2, 341–353. Hellerstein) **56** #8849 30A66

Kato, Mikio Conjugates of $(p,q;r)$-absolutely summing operators. *Hiroshima Math. J* (1975), 127–134. (I. Stephani) **55** #13272 47B10

On Lorentz spaces $l_{p,q}\{E\}$. *Hiroshima Math. J.* **6** (1976), *no.* 1, 73–93. (Ber Rosenberger) **53** #3641 46A45 (47B10)

(*with* Miyazaki, Ken ichi) Factorable operators through a diagonal operator between l_p-spaces. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 24 (1977), 49– (Bernd Rosenberger) **56** #12954 47B10

Kato, Mitsuo Tangent cones and multiplicities of analytic spaces. *Bull. Sci. Engrg. D Univ. Ryukyus Math. Natur. Sci. No.* 19 (1975), 33–41. (J. A. Morrow) **53** #5932. 32C40

Kato, Mitsuyoshi Euler-Poincaré characteristics of complex projective hypersurfaces wi isolated singularities. *Geometry of manifolds* (*Proc. Sympos., RIMS, Kyôto Univ., Kyô* 1972), *pp.* 19–29. *R.I.M.S. Sem. Rep. No.* 158, *Res. Inst. Math. Sci. Kyôto Univ., Kyo* 1972. (John W. Wood) **53** #8483 32C40 (57D20)

(*with* Matsumoto, Yukio) Simply connected surgery of submanifolds in codimension two. I. *J. Math. Soc. Japan* **24** (1972), 586–608. (P. J. Kahn) **46** #63 (EA **47**) 57C45 (57D65)

(*with* Ichiraku, Shigeo) On higher-dimensional strings of codimension two. *Qua J. Math. Oxford Ser.* (2) **23** (1972), 239–248. (L. Neuwirth) **47** #5881 57C25

Classification of compact manifolds homotopy equivalent to a sphere. *Sci. Pape College Gen. Ed. Univ. Tokyo* **22** (1972), 1–26. (R. Z. Goldstein) **48** #3057 57C (57A35, 57D10)

Elementary topology of analytic sets. (Japanese) *Sûgaku* **25** (1973), *no.* 1, 38– (Editors) **58** #28658 32C40 (57C55)

Topological resolution of singularities. *Topology* **12** (1973), 355–372. (E. C. Turn **49** #3959 57D12 (32C40, 57C45)

A classification of simple spinnable structures on a 1-connected Alexander manifold. *J. Math. Soc. Japan* **26** (1974), 454–463. (J. P. Levine) **50** #14770 57D (57C45)

(*with* Matsumoto, Yukio) On the connectivity of the Milnor fiber of a holomorph function at a critical point. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf., Tokyo*, 197 *pp.* 131–136. *Univ. Tokyo Press, Tokyo*, 1975. (Louis H. Kauffman) **51** #9084 57D70 (32C40)

Topology of k-regular spaces and algebraic sets. *Manifolds—Tokyo* 1973 (*Pro Internat. Conf. on Manifolds and Related Topics in Topology*), *pp.* 153–159. *Univ. Tok Press, Tokyo*, 1975. (W. D. Neumann) **54** #6149 57C55 (32C40, 32C25, 14B05)

Approximating a complex hypersurface with isolated singularity by an almo complex submanifold. *Sci. Papers College Gen. Ed. Univ. Tokyo* **26** (1976), *no.* 2, 51–5 (Alan H. Durfee) **56** #9540 57C55 (32C40)

Partial Poincaré duality for k-regular spaces and complex algebraic sets. *Topolo* **16** (1977), *no.* 1, 33–50. (L. Kaup) **56** #8900 32C40 (57C45, 57C55, 32J99)

See also **Problems: Topology**, **57** #4172

Katô, Sadao (*with* Ozaki, Shigeo) Bergman minimal domains in several complex variables *Trans. Amer. Math. Soc.* **162** (1971), 63–69. (K. T. Hahn) **45** #3763 32H05

Katô, Shigeo A result on nonlinear semi-groups. *Mem. Kitami Inst. Tech.* **3**, 165–1 (1971). (A. Pazy) **47** #7515 47D05

A remark on a differential equation in Banach space. *Mem. Kitami Inst. Tech.* 505–508 (1972). (*loose errata*) (A. Pazy) **46** #9478 34G05 (47H15)

A result on integral equation in a Banach space. *Mem. Kitami Inst. Tech.* 243–248 (1974). (G. F. Webb) **49** #7840 47D05 (45G99)

(*with* Isu, Minoru) Notes on a conformal transformation and a special concircul scalar field in a Riemannian manifold. *Mem. Kitami Inst. Tech.* **6**, 55–58 (1974). (M. I Upadhyay) **51** #6629 53B20

A note on nonlinear differential equation in a Banach space. *Proc. Japan Acad.* (1974), 313–316. (J. E. Lagnese) **50** #13780 34G05

Some remarks on nonlinear differential equations in Banach spaces. *Hokkaid Math. J.* **4** (1975), *no.* 2, 205–226. (Sadakazu Aizawa) **52** #8597 34G05 (47H15)

On a uniqueness theorem for the differential equation $u'-f(t,u)$ in a Banach space *Mem. Kitami Inst. Tech.* **6**, 161–163 (1975). (A. Pazy) **51** #3635 (E **52** #937) 34G05

Addendum and corrigendum to the paper: "On a uniqueness theorem for th differential equation $u'=f(t,u)$ in a Banach space" (Mem. Kitami Inst. Tech. **6**, 161–16 (1975)). *Mem. Kitami Inst. Tech.* **7** (1975/76), *no.* 1, 195–196. (A. Pazy) **52** #937 34G05

On existence and uniqueness conditions for nonlinear ordinary differential equations in Banach spaces. *Funkcial. Ekvac.* **19** (1976), *no.* 3, 239–245. (J. E. Lagnese **55** #8497 34G05

On local and global existence theorems for a nonautonomous differential equatio in a Banach space. *Funkcial. Ekvac.* **19** (1976), *no.* 3, 279–286. (G. F. Webb) **55** #13029 34G05

On the convergence of the successive approximations for nonlinear ordinary differential equations in a Banach space. *Funkcial. Ekvac.* **21** (1978), *no.* 1, 43–52. Peter J. Bushell) **58** #17388 34G05

On the global existence of unique solutions of differential equations in a Banach space. *Hokkaido Math. J.* **7** (1978), *no.* 1, 58–73. (C. V. Pao) **57** #13052 34G05

, Takao On the uniqueness of the extremal function of harmonic length problem and its application. *Kōdai Math. Sem. Rep.* **23** (1971), 480–485. (M. H. Heins) **46** #3778 30A46

(*with* Suita, Nobuyuki) On harmonic length. (Japanese) *Sûgaku* **23** (1971), *no.* 1, 47–48. (Author's review (N.S.)) **58** #28478 30A50

On the number of automorphisms of a compact bordered Riemann surface. *Kōdai Math. Sem. Rep.* **24** (1972), 224–233. (A. M. Macbeath) **46** #5610 30A58

(*with* Kubota, Yoshihisa) A note on analytic self-mappings. *Kōdai Math. Sem. Rep.* **25** (1973), 104–110. (Ian Richards) **50** #5033 32H25 (30A50, 30A60)

Analytic self-mapping reducing to the identity mapping. *Comment. Math. Helv.* **49** (1974), 529–533. (H. H. Martens) **50** #7507 30A46 (14H99, 32H99)

On conformal rigidity of a Riemann surface. *Kōdai Math. Sem. Rep.* **26** (1975), *no.* 4, 498–502. (R. Osserman) **52** #14274 30A48

Analytic self-mapping inducing the identity on $H(W, Z/(mZ))$. *Kōdai Math. Sem. Rep.* **28** (1976/77), *no.* 4, 317–323. (L. Keen) **58** #1131 30A46

On the order of a zero of the theta function. *Kōdai Math. Sem. Rep.* **28** (1976/77), *no.* 4, 390–407. (H. M. Farkas) **56** #15661 14K25 (30A48)

o, Tomohisa A note on blowing up of an algebraic cocycle. *Comment. Math. Univ. St. Paul.* **26** (1977/78), *no.* 2, 161–164. (J. A. Morrow) **58** #6337 32C45 (14E15)

o, Tomokazu (*with* Ohteru, Sadamu; Nagano, Takashi) Learning machines and their applications. *Mem. School Sci. Engrg. Waseda Univ. No.* 35 (1971), 37–55. (K. D. Günther) **46** #10257 68A45

(*with* Hashimoto, Shuji; Ohteru, Sadamu) An analysis of the behavior of the stochastic computer. *Systems-Computers-Controls* **7** (1976), *no.* 6, 1–9 (1977). (From the summary) **57** #9322 94A20

to, Tosio (*with* Kuroda, Shige Toshi) Theory of simple scattering and eigenfunction expansions. *Functional analysis and related fields* (*Proc. Conf. for M. Stone, Univ. Chicago, Chicago, Ill.*, 1968), *pp.* 99–131. *Springer, New York*, 1970. (C. L. Dolph) **52** #6464a 47A40

Scattering theory and perturbation of continuous spectra. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 135–140. *Gauthier-Villars, Paris*, 1971. (Editors) **57** #13535 47A40 (35P25)

Scattering theory. *Studies in applied mathematics*, *pp.* 90–115. *MAA Studies in Math., Vol.* 7, *Math. Assoc. Amer.* (*distributed by Prentice-Hall, Englewood Cliffs, N.J.*), 1971. (Jean Michel Combes) **50** #6370 81.47 (47A40)

On an inequality of Hardy, Littlewood, and Pólya. *Advances in Math.* **7**, 217–218 (1971). (S. Kantorovitz) **45** #2531 47D05

(*with* Kuroda, Shige Toshi) The abstract theory of scattering. *Rocky Mountain J. Math.* **1** (1971), *no.* 1, 127–171. (C. L. Dolph) **52** #6464b 47A40

★Теория возмущений линейных операторов. (Russian) [Perturbation theory for linear operators] Translated from the English by G. A. Voropaeva, A. M. Stepin and I. A. Šišmarev. Edited by V. P. Maslov. *Izdat. "Mir", Moscow*, 1972. 740 *pp.* (Editors) **50** #5506 47A55

Asymptotic behavior of solutions of the functional differential equation $y'(x)=ay(\lambda x)+by(x)$. *Delay and functional differential equations and their applications* (*Proc. Conf., Park City, Utah*, 1972), *pp.* 197–217. *Academic Press, New York*, 1972. (J. Kato) **52** #11258 34K20

Schrödinger operators with singular potentials. Proceedings of the International Symposium on Partial Differential Equations and the Geometry of Normed Linear Spaces (Jerusalem, 1972). *Israel J. Math.* **13** (1972), 135–148 (1973). (Teruo Ikebe) **48** #12155 47F05 (35J10)

Nonstationary flows of viscous and ideal fluids in $\mathbf{R}^3$. *J. Functional Analysis* **9** (1972), 296–305. (R. Temam) **58** #1753 35Q10

(*with* Fitzpatrick, P. M.; Hess, Peter) Local boundedness of monotone-type operators. *Proc. Japan Acad.* **48** (1972), 275–277. (H. Amann) **47** #898 47H05

(*with* Alsholm, Preben) Scattering with long range potentials. *Partial differential equations* (*Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif.*, 1971), *pp.* 393–399. *Amer. Math. Soc., Providence, R.I.*, 1973. (Teruo Ikebe) **52** #6215 35P25

A remark to the preceding paper by Chernoff ("Essential self-adjointness of powers of generators of hyperbolic equations", J. Functional Analysis **12** (1973), 401–414). *J. Functional Analysis* **12** (1973), 415–417. (Michael E. Taylor) **51** #6120 35G10 (47F05)

Linear evolution equations of "hyperbolic" type. II. *J. Math. Soc. Japan* **25** (1973), 648–666. (J. A. Goldstein) **48** #4827 47D05 (34G05)

Continuity of the map $S\mapsto|S|$ for linear operators. *Proc. Japan Acad.* **49** (1973), 157–160. (Bernard B. Morrel) **53** #8943 47A65

A second look at the essential selfadjointness of the Schrödinger operators. *Physical reality and mathematical description*, *pp.* 193–201. *Reidel, Dordrecht*, 1974. (J. S. Joel) **57** #16958 35J10 (35P05)

On a coerciveness theorem by Schulenberger and Wilcox. *Indiana Univ. Math. J.* **24** (1974/75), 979–985. (S. T. Kuroda) **51** #6471 47A99 (35B45)

On the Trotter-Lie product formula. *Proc. Japan Acad.* **50** (1974), 694–698. (S. T. Kuroda) **54** #5900 47D05

Quasi-linear equations of evolution, with applications to partial differential equations. *Spectral theory and differential equations* (*Proc. Sympos., Dundee*, 1974; *dedicated to Konrad Jörgens*), *pp.* 25–70. *Lecture Notes in Math., Vol.* 448, *Springer, Berlin*, 1975. (C. Bardos) **53** #11252 35R20

The Cauchy problem for quasi-linear symmetric hyperbolic systems. *Arch. Rational Mech. Anal.* **58** (1975), *no.* 3, 181–205. (Frank J. Massey, III) **52** #11341 35L45

On a matrix limit theorem. Collection of articles dedicated to Olga Taussky-Todd. *Linear and Multilinear Algebra* **3** (1975/76), *no.* 1/2, 67–71. (S. Newberger) **53** #14220 47D10 (47A40)

★Perturbation theory for linear operators. Second edition. Grundlehren der Mathematischen Wissenschaften, Band 132. *Springer-Verlag, Berlin-New York*, 1976. xxi + 619 *pp.* (Editors) **53** #11389 47–XX

Singular perturbation and semigroup theory. *Turbulence and Navier-Stokes equations* (*Proc. Conf., Univ. Paris-Sud, Orsay*, 1975), *pp.* 104–112. *Lecture Notes in Math., Vol.* 565, *Springer, Berlin*, 1976. (James R. Dorroh) **56** #16447 47D05 (47A55, 35R99)

(*with* Hughes, Thomas J. R.; Marsden, Jerrold Eldon) Well-posed quasi-linear second-order hyperbolic systems with applications to nonlinear elastodynamics and general relativity. *Arch. Rational Mech. Anal.* **63** (1976), *no.* 3, 273–294 (1977). (M. Fabrizio) **54** #8041 35L55 (58D15)

Boundedness of some pseudo-differential operators. *Osaka J. Math.* **13** (1976), *no.* 1, 1–9. (Toader Jucan) **53** #14226 47G05 (35S05)

Two-space scattering theory, with applications to many-body problems. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 503–514. (Richard B. Lavine) **58** #23670 47A40

On some Schrödinger operators with a singular complex potential. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **5** (1978), *no.* 1, 105–114. (Richard B. Lavine) **58** #12008 35P99 (35J10)

Remarks on Schrödinger operators with vector potentials. *Integral Equations Operator Theory* **1** (1978), *no.* 1, 103–113. (C. A. Swanson) **57** #10267 35P05 (35J10)

(*with* Masuda, Kyûya) Trotter's product formula for nonlinear semigroups generated by the subdifferentials of convex functionals. *J. Math. Soc. Japan* **30** (1978), *no.* 1, 169–178. (Pierre-Louis Lions) **57** #17431 47H99

See also **Chatelin-Laborde, Françoise, 48** #4788 *and* **von Wahl, Wolf, 56** #12572

Kato, Toyonori Structure of left QF-3 rings. *Proc. Japan Acad.* **48** (1972), 479–483. (*loose errata*) (Robert Gordon) **49** #5083 16A36

Rings having dominant modules. *Tôhoku Math. J.* (2) **24** (1972), 1–10. (E. A. Rutter) **47** #8612 16A50

U-distinguished modules. *J. Algebra* **25** (1973), 15–24. (Robert Gordon) **49** #5100 16A64

Structure of dominant modules. *J. Algebra* **39** (1976), *no.* 2, 563–570. (Yutaka Kawada) **53** #3014 16A50

Kato, Yoshifumi On the semisimplicity of the algebra associated to a polarized algebraic variety. *Nagoya Math. J.* **55** (1974), 81–89. (Gerhard Pfister) **50** #2166 14C30

Kato, Yoshinobu (*with* Maeda, Shûichirô) The completion by cuts of an M-symmetric lattice. *Proc. Japan Acad.* **50** (1974), 356–358. (R. P. Dilworth) **50** #12835 06A20

An elementary proof of Sz.-Nagy's theorem. *Math. Japon.* **20** (1975), *no.* 3, 257–258. (Thomas Hoover) **53** #8924 47A05

(*with* Fujii, Masatoshi) On heminormal weighted shifts. *Math. Japon.* **21** (1976), *no.* 1, 43–49. (S. K. Berberian) **57** #13558 47B20

(*with* Fujii, Masatoshi; Kajiwara, Mitsuharu; Kubo, Fumio) Decompositions of operators in Hilbert spaces. *Math. Japon.* **21** (1976), *no.* 2, 117–120. (Bernard B. Morrel) **54** #11088 47A65

(*with* Nishitani, Izumi) A remark on a paper of Fumio Kubo: "On algebraically definite operators" (Math. Japon. **21** (1976), no. 1, 23–35). *Math. Japon.* **21** (1976), *no.* 2, 121–122. (Zbl **354** #47014) **58** #23744 47B50 (47A65)

A proof of Olsen's theorem. *Math. Japon.* **21** (1976), *no.* 2, 127–128. (P. A. Fillmore) **55** #3843 47A65

Some theorems on projections of von Neumann algebras. *Math. Japon.* **21** (1976), *no.* 4, 367–370. (Chandler Davis) **55** #11058 46L05

(*with* Kamei, Eizaburo; Watatani, Yasuo) Pseudoradical of a certain operator algebra. *Math. Japon.* **21** (1976), *no.* 4, 381–386. (P. Saworotnow) **55** #8816 46L10

(*with* Maeda, Shûichirô) Remarks on theorems of Szymanski. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1977), *special issue*, 89–94. (R. J. Greechie) **55** #222 06A30

(*with* Nakamura, Masahiro) A characterization of finiteness of von Neumann algebras. With an appendix by Ritsuo Nakamoto. *Math. Japon.* **22** (1977), *no.* 1, 69–71. (Peter Dixon) **56** #9281 46L10

(*with* Kamei, Eizaburo) Partial isometries of the Calkin algebra. *Math. Japon.* **22** (1977), *no.* 1, 73–78. (Authors' review (Zbl **366** #46044)) **58** #7118 46M20 (46L99, 58G10)

(*with* Kamei, Eizaburo) Homotopical properties of partial isometries of the Calkin algebra. *Math. Japon.* **22** (1977), *no.* 1, 83–87. (Robert S. Doran) **56** #16401 46M20 (46L15, 55D99)

(*with* Moriya, Nobuhiro) Maeda's inequality for pseudoinverses. *Math. Japon.* **22** (1977), *no.* 1, 89–91. (Chandler Davis) **56** #6434 47A30

(*with* Moriya, Nobuhiro) On operators considered by Campbell. *Math. Japon.* **22** (1977), *no.* 2, 233–238. (M. Nakamura) **57** #7233 47B20

(*with* Watatani, Yasuo) An infinite dimensional version of Bushell's theorem. *Math. Japon.* **22** (1977), *no.* 3, 365–368. (Teishirô Saitô) **57** #13554 47A99

On operators considered by Campbell. II. *Math. Japon.* **23** (1978), *no.* 1, 123–126. (M. Nakamura) **58** #2410 47B20

(*with* Kamei, Eizaburo) On operator equations $AB+BA^*=A^*B+BA=1$. *Math. Japon.* **23** (1978), *no.* 1, 129–130. (George P. Barker) **58** #2385 47A60 (15A24)

Kato, Yoshio The hypoellipticity of degenerate parabolic differential operators. *J. Functional Analysis* **7** (1971), 116–131. (From the author's introduction) **54** #704 35H05 (35K25)

Remarks on hypoellipticity of degenerate parabolic differential operators. *Proc. Japan Acad.* **47** (1971), 380–384. (Y. I. Kannai) **45** #7271 35H05

On the coerciveness for integro-differential quadratic forms. *J. Analyse Math.* **27** (1974), 118–158. (N. Weck (Zbl **305** #35004)) **58** #1525 35B45 (35J40)

Mixed-type boundary conditions for second order elliptic differential equations. *J. Math. Soc. Japan* **26** (1974), 405–432. (G. Albinus) **50** #13872 35J25

On a class of non-elliptic boundary problems. *Nagoya Math. J.* **54** (1974), 7–20. (R. C. MacCamy) **50** #7791 35J25

Another approach to a non-elliptic boundary problem. *Nagoya Math. J.* **66** (1977), 13–22. (Michael Wiegner) **55** #5999 35G15 (35J25)

Kato, Yusuke (*with* Jeffrey, Alan) Liapunov's direct method in stability problems for semilinear and quasilinear hyperbolic systems. *J. Math. Mech.* **18** (1968/69), 659–682. (Zbl **185**, 189) **58** #29080 35B35 (35L60) (*with* Mugibayashi, Nobumichi) Asymptotic fields in model field theories. I. $\lambda(\phi^4)_2$ with a space cutoff. *Progr. Theoret. Phys.* **45** (1971), 628–639. (M. J. Westwater) **46** #3022 81.47

(*with* Sekine, Katsuhiko) Bound states and asymptotic fields. *Progr. Theoret. Phys.* **52** (1974), 659–687. (E. Zeidler) **54** #1988 81.47

Inverse scattering method for the initial value problem of the nonlinear equation of evolution. *Progr. Theoret. Phys. Suppl. No.* 55 (1974), 247–283. (Mark J. Ablowitz) **57** #10274 35P25

Bound states and asymptotic fields in model field theories. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 170–174. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (Editors) **58** #32508 81.22

(*with* Asano, Naruyoshi) Spectrum method for a general evolution equation. *Progr. Theoret. Phys.* **58** (1977), *no.* 1, 161–174. (Stanly L. Steinberg) **56** #9059 35G20 (35Q99, 58F05)

Kato, Yutaka A note on a functional central limit theorem for uniform mixing sequence. *Keio Engrg. Rep.* **26** (1973), 131–145. (Don McLeish) **53** #1675 60B10

Functional central limit theorem for stationary processes. *Keio Engrg. Rep.* **28** (1975), *no.* 4, 23–39. (From the introduction) **58** #13281 60F05 (60B10)

Katok, A. B. Ergodic flows that are generated by a system of weakly interacting oscillators. (Russian. English summary) *Proceedings of the Fifth International Conference on Nonlinear Oscillations* (*Kiev*, 1969). *Vol.* 2: *Qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 216–221. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1970. (Zbigniew Nitecki) **48** #1270 58F99 (28A65, 70.58)

(*with* Anosov, D. V.) New examples in smooth ergodic theory. Ergodic diffeomorphisms. (Russian) *Trudy Moskov. Mat. Obšč.* **23** (1970), 3–36. (M. Eisenberg) **51** #6888 58F99 (28A65)

(*with* Alekseev, V. M.; Kušnirenko, A. G.) Smooth dynamical systems. (Russian) *Ninth Mathematical Summer School* (*Kaciveli*, 1971) (*Russian*), *pp.* 50–51. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (Editors) **52** #11993 58Fxx

Dynamical systems with hyperbolic structure. (Russian) Three papers on smooth dynamical systems. *Ninth Mathematical Summer School* (*Kaciveli*, 1971) (*Russian*), *pp.* 125–211. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (A. Morimoto) **51** #14160 58F15

Invariant measures of flows on orientable surfaces. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 775–778. (D. Newton) **48** #9771 58F99

Ergodic perturbations of degenerate integrable Hamiltonian systems. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 539–576. (K. Krzyżewski) **48** #9758 58F05 (28A65)

Dynamical production and exchange models. (Russian) *Mathematical economics and functional analysis* (*Russian*), *pp.* 69–93. *Izdat. "Nauka", Moscow*, 1974. (Editors) **56** #10817 90A15

(*with* Sinaĭ, Ja. G.; Stepin, A. M.) The theory of dynamical systems and general transformation groups with invariant measure. (Russian) *Mathematical analysis, Vol.* 13 (*Russian*), *pp.* 129–262. (*errata insert*) *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (L. A. Bunimovič) **58** #28430 28A65 (58F15)

Time change, monotone equivalence, and standard dynamical systems. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 4, 789–792. (R. K. Thomas) **54** #509 28A65

(*with* Zemljakov, A. N.) Topological transitivity of billiards in polygons. (Russian) *Mat. Zametki* **18** (1975), *no.* 2, 291–300. (D. Newton) **53** #3267 (E **55** #5842) 28A65 (58F15)

(*with* Sataev, E. A.) Standardness of rearrangement automorphisms of segments and flows on surfaces. (Russian) *Mat. Zametki* **20** (1976), *no.* 4, 479–488. (D. Newton) **55** #3217 28A65 (58F15)

(*with* Zemljakov, A. N.) Letter to the editors: "Topological transitivity of billiards in polygons" (Mat. Zametki **18** (1975), no. 2, 291–300). (Russian) *Mat. Zametki* **20** (1976), *no.* 6, 883. (Editors) **55** #5842 28A65

The special representation theorem for multi-dimensional group actions. *Dynamical systems, Vol. I—Warsaw, pp.* 117–140. *Astérisque, No.* 49, *Soc. Math. France, Paris*, 1977. (D. Newton) **58** #11327 28A65 (58F15)

The entropy conjecture. (Russian) *Smooth dynamical systems* (*Russian*), *pp.* 181–203. *Izdat. "Mir", Moscow*, 1977. (D. Newton) **58** #18596 58F15 (28A65)

Monotone equivalence in ergodic theory. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 1, 104–157, 231. (D. Newton) **56** #581 28A65

See also **Transactions of the Moscow Mathematical Society**, **50** #9474; **Smooth dynamical systems**, **57** #14005 *and* **Nitecki, Zbigniew**, **58** #31211

Katok, S. B. *See* **Smale, S.**, **52** #6785

Katona, E. Local and global reversibility of finite inhomogeneous cellular automaton. *Acta Cybernet.* **3** (1976/77), *no.* 4, 287–292. (Rolf Lindner) **58** #4730 94A30

Katona, Gyula A theorem of finite sets. *Theory of graphs* (*Proc. Colloq., Tihany*, 1966), *pp.* 187–207. *Academic Press, New York*, 1968. (P. Erdős) **45** #76 05A05

How many sums of vectors can lie in a circle of radius $\sqrt{2}$. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 687–694. *North-Holland, Amsterdam*, 1970. (D. J. Kleitman) **46** #1623 05B99

(*with* Szász, D. O. H.) Matching problems. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 695–703. *North-Holland, Amsterdam*, 1970. (N. G. de Bruijn) **46** #3351 05B40

(*with* Tusnády, Gábor) The work of Alfréd Rényi. IV. The pedagogical work of Alfréd Rényi. (Hungarian) *Mat. Lapok* **21** (1970), 243–244 (1971). (Editors) **46** #6985d 01A70

(*with* Szász, D. O. H.) Matching problems. *J. Combinatorial Theory Ser. B* **10** (1971), 60–92. (R. J. Hans-Gill) **46** #798 52A45 (05B40)

★Combinatorial search problems. Lectures held at the Department for Automation and Information, June 1972. International Centre for Mechanical Sciences, Udine. Courses and Lectures, No. 145. *Springer-Verlag, Vienna-New York*, 1972. 57 *pp.* (L. L. Campbell) **50** #15896 90B40 (05–XX, 94A10)

(*with* Lee, M. A.) Some remarks on the construction of optimal codes. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 439–442. (H. Jürgensen) **46** #10492 94A10

A simple proof of the Erdős-Chao Ko-Rado theorem. *J. Combinatorial Theory Ser. B* **13** (1972), 183–184. (J. E. Graver) **46** #3316 05A05

Families of subsets having no subset containing another one with small differe *Nieuw Arch. Wisk.* (3) **20** (1972), 54–67. (D. J. Kleitman) **46** #3317 05A05

Combinatorial search problems. *Survey of combinatorial theory* (*Proc. Inter Sympos., Colorado State Univ., Fort Collins, Colo.*, 1970), *pp.* 285–308. *North-Holl Amsterdam*, 1973. (H. F. Mattson, Jr.) **51** #4976 90B40 (05–XX)

Two applications (for search theory and truth functions) of Sperner type theore Collection of articles dedicated to the memory of Alfréd Rényi, II. *Period. M Hungar.* **3** (1973), 19–26. (R. E. Greenwood) **49** #53 05A05

A three part Sperner theorem. *Studia Sci. Math. Hungar.* **8** (1973), 379–390. (I Kleitman) **50** #9597 05A05

Extremal problems for hypergraphs. *Combinatorics* (*Proc. NATO Advanced S Inst., Breukelen*, 1974), *Part* 2: *Graph theory*; *foundations, partitions and combinat geometry, pp.* 13–42. *Math. Centre Tracts, No.* 56, *Math. Centrum, Amsterdam*, 1974 Bollobás) **50** #4378 05C35

Solution of a problem of A. Ehrenfeucht and J. Mycielski. *J. Combinatorial Th Ser. A* **17** (1974), 265–266. (Michael Henle) **49** #8870 05A05

(*with* Greene, Curtis; Kleitman, Daniel J.) Extensions of the Erdős-Ko-Rado theorem. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Pra* 1974), *pp.* 223–231. *Academia, Prague*, 1975. (P. Erdős) **53** #2694 05A05

The Hamming-sphere has minimum boundary. *Studia Sci. Math. Hungar.* (1975), *no.* 1-2, 131–140. (R. Ahlswede) **56** #11533 94A15 (52A40, 05A20)

(*with* Nemetz, Tibor O. H.) Huffman codes and self-information. *IEEE Tr Information Theory* **IT-22** (1976), *no.* 3, 337–340. (A. D. Wyner) **54** #9851 94A

(*with* Greene, Curtis; Kleitman, Daniel J.) Extensions of the Erdős-Ko-Rado theorem. *Studies in Appl. Math.* **55** (1976), *no.* 1, 1–8. (P. Erdős) **56** #15438 05

(*with* Ahlswede, R.) Contributions to the geometry of Hamming spaces. *Disc Math.* **17** (1977), *no.* 1, 1–22. (J.-M. Goethals) **57** #5769 05A05

Inequalities for the distribution of the length of a sum of random vectors. (Russ English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 3, 466–481. (G. Egoryčev) **56** #13307 60C05 (05A20)

See also **Problems: Graph theory**, **52** #2932 *and* **Combinatorics**, **52** #7912

Katona, Z. (*with* Braun, M. A.; Èĭdes, M. I.) An *N*-reggeon vertex for generalized Veneziano models. (Russian. English summary) *Teoret. Mat. Fiz.* **18** (1974), 212– (Authors' summary) **57** #8585 81.30

Katopis, G. A. (*with* Lin, Jiguan G.) Non-inferiority of controls under double performa objectives: minimal time and minimal energy. *Proceedings of the Seventh Ha International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), 129–131. *Western Periodicals, North Hollywood, Calif.*, 1974. (Authors' summary) **56** #4973 93C45 (93C05)

Katopodis, K. (*with* Ichtiaroglou, S.; Michalodimitrakis, M.) On the continuation of periodic orbits in the three-body problem. *Astronom. and Astrophys.* **70** (1978), *no* 531–536. (Authors' summary) **58** #19499 70.49 (49H05, 58F05)

Katrahov, V. V. The eigenvalue problem for singular elliptic operators. (Russian) *D Akad. Nauk. SSSR* **207** (1972), 284–287. (Boris Pavlov) **47** #3853 35P10 (47F0

The asymptotic properties of the spectral function of singular differential operat (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 272–275. (Stefan Balint) **49** #89 35P20

On the theory of partial differential equations with singular coefficients. (Russia *Dokl. Akad. Nauk SSSR* **218** (1974), 17–20. (D. K. Gvazava) **52** #14591 35G05

Boundary value problems for certain singular differential operators. (Russia *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 13 *Sb. Rabot. Prikl. M i Meh.* (1974), 33–41. (RŽMat **1975** #9 B281) **57** #6837 35J99

Asymptotic behavior of the spectral function of certain singular differential operators. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat VGU Vyp. Sb. Statei Teor. Operator. Uravnenií* (1974), 32–40. (RŽMat **1975** #6 B993) **57** #689 35P20

The spectral function of certain singular differential operators. I. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 7, 1256–1266, 1342. (P. Szeptycki) **55** #13093a 35P05

The spectral function of certain singular differential operators. II. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 9, 1605–1618, 1725. (P. Szeptycki) **55** #13093b 35P05

(*with* Kiprijanov, I. A.; Ljapin, V. M.) Boundary value problems in domains general form for singular parabolic systems of equations. (Russian) *Dokl. Akad. Na SSSR* **230** (1976), *no.* 6, 1271–1274. (A. Borzymowski) **54** #13322 35K50

(*with* Kiprijanov, I. A.) A class of one-dimensional singular pseudodifferent operators. (Russian) *Mat. Sb.* (*N.S.*) **104(146)** (1977), *no.* 1, 49–68, 175. (Ju. V. Egoro **58** #23773 47G05

Katranov, A. G. On the question of the asymptotic behavior of oscillatory solutions of second order nonlinear differential equation. (Russian) *Differencial'nye Uravnenija* (1972), 785–789. (T. Čanturija) **46** #5736 34C10

The asymptotic behavior of oscillating solutions of the equation $\ddot{x}+f(t,x)g(\dot{x})=$ (Russian) *Differencial'nye Uravnenija* **8** (1972), 1111–1115. (A. D. Ziebur) **45** #8931 34C10

A certain property of the oscillating solutions of nonlinear second order equatio (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 11, 2092–2093, 2111. (A. D. Ziebu **53** #945 34C10

Katričenko, Ju. S. (*with* Velikaja, S. M.) The life and work of Professor Vladimir Fom Bržečka (on the tenth anniversary of his death). (Russian) *Vestnik Har'kov. Politeh Inst. No.* 2(50) (1965), 56–61. (J. Burlak) **45** #1719 01A70

Katriel, Jacob An expansion theorem for products of generalized Hermite Gauss function *Chem. Phys. Lett.* 3 (1969), 624–628. (Not reviewed) 33A65

Molecular integrals over Gaussian functions. *Chem. Phys. Lett.* **4** (1969/7 397–400. (D. B. Fairlie) **48** #13046 81.33

(*with* Domany, E.) Simultaneous hypervirial relations for approximate wavefunctions. *Chem. Phys. Lett.* **21** (1973), 448–450. **50** #15715 81.47

Combinatorial aspects of boson algebra. *Lett. Nuovo Cimento* (2) **10** (197 565–567. (Not reviewed) 81.05

(*with* Meron, Ehud) A Hohenberg-Kohn theorem for non-local potentials. *Ph* tt. *A* **61** (1977), *no.* 1, 19–21. (Authors' summary) **56** #2067 81.47

(*with* Moiseyev, Nimrod) Generalized perturbation theory: quality of the first-order ive function. *Theoret. Chim. Acta* **44** (1977), *no.* 2, 201–213. (Authors' summary) #8910 81.41

ák, Tibor Charakterisierung der verallgemeinerten Stoneschen Halbverbände. (Loose nglish summary) *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 235–247. (S. Rudeanu) #3384 06A20

Remarks on the W. C. Nemitz's paper "Semi-Boolean lattices". *Notre Dame J. ormal Logic* **11** (1970), 425–430. (U. Felgner) **45** #40 02J05

Die freien Stoneschen Verbände und ihre Tripelcharakterisierung. *Acta Math. cad. Sci. Hungar.* **23** (1972), 315–326. (R. P. Dilworth) **47** #1695 06A20

Subdirectly irreducible modular *p*-algebras. *Algebra Universalis* **2** (1972), 166–173. Ronald P. Morash) **46** #8921 06A25

Die Kennzeichnung der beschränkten Brouwerschen Verbände. *Czechoslovak ath. J.* **22(97)** (1972), 427–434. (Ronald P. Morash) **46** #8919 06A20

(*with* Mitschke, Aleit) Stonesche Verbände der Ordnung *n* und Postalgebren. *ath. Ann.* **199** (1972), 13–30. (Ph. Dwinger) **47** #8379 06A35

Über eine Konstruktion der distributiven pseudokomplementären Verbände. *Math. achr.* **53** (1972), 85–99. (G. Grätzer) **47** #4882 06A35

(*with* Hecht, T.) Equational classes of relative Stone algebras. *Notre Dame J. ormal Logic* **13** (1972), 248–254. (G. Grätzer) **45** #5039 06A35

The structure of distributive double *p*-algebras. Regularity and congruences. *lgebra Universalis* **3** (1973), 238–246. (Joel Berman) **48** #10924 06A25

Construction of some subdirectly irreducible modular *p*-algebras. *Algebra niversalis* **3** (1973), 321–327. (Joel Berman) **50** #1997 06A25

The cardinality of the lattice of all equational classes of *p*-algebras. *Algebra Universalis* **3** (1973), 328–329. (Joel Berman) **50** #1998 06A25

Primitive Klassen von modularen *S*-Algebren. *J. Reine Angew. Math.* **261** (1973), 55–70. (A. C. Choudhury) **52** #13542 06A30

(*with* Neubrunn, Tibor) On certain generalized probability domains. *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 209–215. (S. Gudder) **49** #2474 60A10 (28A05)

A new proof of the construction theorem for Stone algebras. *Proc. Amer. Math. Soc.* **40** (1973), 75–78. (G. Grätzer) **47** #4883 06A35

Injective double Stone algebras. *Algebra Universalis* **4** (1974), 259–267. (Ralph Freese) **51** #10187 06A35

Congruence extension property for distributive double *p*-algebras. *Algebra Universalis* **4** (1974), 273–276. (Joel Berman) **50** #6953 06A35

(*with* Mederly, Peter) Construction of modular *p*-algebras. *Algebra Universalis* **4** (1974), 301–315. (Joel Berman) **50** #6948 06A30

Construction of regular double *p*-algebras. (French summary) *Bull. Soc. Roy. Sci. Liège* **43** (1974), 283–290. (Joel Berman) **51** #10184 06A25

Varieties of modular *p*-algebras. *Colloq. Math.* **29** (1974), 179–187. (Joel Berman) **48** #10926 06A30

Equational classes of modular *p*-algebras. Collection of papers on the theory of ordered sets and general algebra. *Acta Fac. Rerum Natur. Univ. Comenian. Math., Special No.* (1975), 19–21. (Ralph Freese) **50** #4426 06A30

A new description of the free Stone algebras. *Algebra Universalis* **5** (1975), *no.* 2, 179–189. (G. Bruns) **54** #7343 06A35

(*with* Hecht, T.) Free double Stone algebras. *Lattice theory* (*Proc. Colloq., Szeged,* 1974), *pp.* 77–95. *Colloq. Math. Soc. János Bolyai, Vol.* 14, *North-Holland, Amsterdam,* 1976. (R. Balbes) **56** #203 06A35

On a problem of G. Grätzer. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 19–24. (Jacques Lévy-Bruhl) **53** #5420 06A70

(*with* Hecht, T.) Principal congruences of *p*-algebras and double *p*-algebras. *Proc. Amer. Math. Soc.* **58** (1976), 25–31. (Evelyn Nelson) **53** #13053 06A25

(*with* Głazek, Kazimierz; Hecht, T.) On weak homomorphisms of Stone algebras. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged,* 1975), *pp.* 145–159. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam,* 1977. (James B. Nation) **58** #458 08A25

Essential extensions of Stone algebras. *Algebra Universalis* **7** (1977), *no.* 1, 1–3. (R. Beazer) **55** #224 06A35

Essential extensions and injective hulls of double Stone algebras. *Algebra Universalis* **7** (1977), *no.* 1, 5–23. (Ralph Freese) **55** #2695 06A35

Congruence lattices of distributive *p*-algebras. *Algebra Universalis* **7** (1977), *no.* 2, 265–271. (W. Nemitz) **55** #7872 06A35

Construction of modular double *S*-algebras. *Algebra Universalis* **8** (1978), *no.* 1, 15–22. (R. Beazer) **56** #8455 06A30

Congruence pairs on *p*-algebras with a modular frame. *Algebra Universalis* **8** (1978), *no.* 2, 205–220. (R. Beazer) **57** #5859 08A05

(*with* Mederly, Peter) Construction of *p*-algebras with a modular frame. *Houston J. Math.* **4** (1978), *no.* 1, 67–79. (S. A. Peregudov) **58** #460 08A25 (06A30)

ats, A. V. *See* **Kac, A. V.**

ats, Amoz Comments on the definition of homogeneous and homothetic functions. *J. Econom. Theory* **2** (1970), 310–313. **56** #8768 26A69

On the social welfare function and the parameters of income distribution. *J. Econom. Theory* **5** (1972), *no.* 3, 377–382. (From the author's introduction) **56** #7802 90A10 (92A20)

Some results on expected utility and consumption functions under uncertainty. *Differential games and control theory* (*Proc. NSF-CBMS Regional Res. Conf., Univ. Rhode Island, Kingston, R. I.,* 1973), *pp.* 365–409. *Lecture Notes in Pure Appl. Math., Vol.* 10, *Dekker, New York,* 1974.,(Editors) **56** #14571 90A10

Non-cooperative monopolistic games and monopolistic market games. *Internat. J. Game Theory* **3** (1974), 251–260. (Ivar Ekeland) **51** #15021 90D10

(*with* Slutsky, Steven) On partially continuous correspondences. *J. Econom. Theory* **15** (1977), *no.* 2, 376–380. (From the text) **58** #32844 90A05 (92A20)

Kats, B. A. *See* **Kac, B. A.**

Kats, Boris E. (*with* Reĭtbort, I. M.) Context-sensitive substitutions. *Naučn.-Tehn. Informacija* (2) *No.* 8 (1973), 38–39; *translated as Automat. Document. and Math. Linguistics* **7** (1973), *no.* 3, 34–36. (S. A. Greibach) **48** #12912 68A30

Synchronous left-context-sensitive transformations of regular languages. (Russian. English summary) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2 *Informacionnye Processy i Sistemy* **1974**, *no.* 4, 36–38, 40. (Branislav Rovan) **50** #15453 68A30

(*with* Stockiĭ, E. D.) Superstructures of generating grammars, and the property of semilinearity. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 2, 95–97. (T. Rus) **54** #4200 68A30

Kats, I. Ya *See* **Kac, I. Ja.**

Katsaras, A. K. Locally convex topologies on spaces of continuous vector functions. *Math. Nachr.* **71** (1976), 211–226. (R. A. Raimi) **56** #16346 46E10

Katsaras, Athanasios K. Continuous linear functionals on spaces of vector-valued functions. *Bull. Soc. Math. Grèce* (*N.S.*) **15** (1974), 13–19. (From the introduction) **58** #30159 46E40

Vector valued measures and strict topologies. *Ann. Mat. Pura Appl.* (4) **106** (1975), 259–272. (Richard Haydon) **52** #14985 46E40 (46G10)

Kernels and operators. (Italian summary) *Boll. Un. Mat. Ital.* (4) **12** (1975), *no.* 3, 280–294. (S. Goldberg) **53** #6350 47B37 (47G05)

(*with* Liu, Dar) Sur les dérivées fractionnaires des fonctions périodiques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 9, Ai, A265–A268. (W. A. Al-Salam) **52** #5900 26A33

On the strict topology in the locally convex setting. *Math. Ann.* **216** (1975), *no.* 2, 105–111. (M. Valdivia) **53** #1238 46E10 (46A40)

(*with* Liu, D. B.) Integral representations of weakly compact operators. *Pacific J. Math.* **56** (1975), *no.* 2, 547–556. (C. W. Swartz) **51** #11176 47B37

Spaces of vector measures. *Trans. Amer. Math. Soc.* **206** (1975), 313–328. (Richard Haydon) **51** #1364 46E27

Absolutely continuous functions on idempotent semigroups in the locally convex setting. *Trans. Amer. Math. Soc.* **206** (1975), 329–337. (L. Ja. Savel'ev) **51** #11100 46E40

On the product of operator-valued measures on topological spaces. *An. Acad. Brasil. Ci.* **48** (1976), *no.* 2, 165–170. (C. W. Swartz) **56** #3236 28A45

On the space $C(X,E)$ with the topology of simple convergence. *Math. Ann.* **223** (1976), *no.* 2, 105–117. (H. Buchwalter) **54** #3374 46E10

On the completion of a space of continuous vector functions. *Math. Nachr.* **74** (1976), 211–215. (J. J. Uhl, Jr.) **55** #13223 46E10

On a space of operator valued measures. (Italian summary) *Rend. Mat.* (6) **9** (1976), *no.* 1, 151–163. (Richard Haydon) **54** #907 46E27

Some locally convex spaces of continuous vector-valued functions over a completely regular space and their duals. *Trans. Amer. Math. Soc.* **216** (1976), 367–387. (R. B. Kirk) **52** #11556 46E10

Spaces of operator-valued measures on topological spaces. *Ann. Mat. Pura Appl.* (4) **115** (1977), 319–328 (1978). (R. B. Kirk) **58** #2237 46E40 (46E27)

On a space of continuous vector functions. *Ann. Soc. Sci. Bruxelles Sér. I* **91** (1977), *no.* 1, 27–38. (H. Buchwalter) **57** #7129 46E10 (46E40)

(*with* Liu, D. B.) Fuzzy vector spaces and fuzzy topological vector spaces. *J. Math. Anal. Appl.* **58** (1977), *no.* 1, 135–146. (C. K. Wong) **55** #13356 54A05

Continuous linear maps positive on increasing continuous functions. *Pacific J. Math.* **70** (1977), *no.* 1, 189–198. (Ivan Dobrakov) **58** #12354 46G10 (47B55)

Katseff, Howard P. (*with* Sipser, Michael) Several results in program size complexity. 18*th Annual Symposium on Foundations of Computer Science* (*Providence, R.I.,* 1977), *pp.* 82–89. *IEEE Comput. Soc., Long Beach, Calif.,* 1977. (A. V. Anīsīmov) **58** #25113 68A20

Katsube, Yutaka Principal oriented bordism algebra $\Omega_*(Z_2k)$. *Hiroshima Math. J.* **4** (1974), 265–277. (Vincent Giambalvo) **50** #1270 57D85

Principal oriented bordism modules of generalized quaternion groups. *Hiroshima Math. J.* **6** (1976), *no.* 1, 113–142. (R. E. Stong) **53** #6595 57D85

Principal oriented bordism modules of finite subgroups of S^3. *Hiroshima Math. J.* **7** (1977), *no.* 1, 71–91. (P. S. Landweber) **55** #4224 57D85

Katsuma, Shoichiro (*with* Sawaragi, Yoshikazu; Fukawa, Hiroshi) On conditions for optimality of boundary control. Optimization of nonlinear control systems with multiple control variables appearing linearly. (Japanese. English summary) *Systems and Control* **15** (1971), 619–626. (Authors' summary) **57** #18957 93C10

Katsumata, Osamu (*with* Koshi, Shozo; Otaki, Hiroshi) On the norm properties on function spaces. *Proc. Japan Acad.* **52** (1976), *no.* 1, 10–13. (Editors) **56** #16357 46E30 (60G25)

(*with* Otaki, Hiroshi; Koshi, Shozo) On Szegő's theorem. (Japanese) Approximation theory in functional analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 265 (1976), 38–47. (Kiyoku Nishizawa) **58** #7098 46J10

Katsura, Masashi (*with* Haneda, Hiromasa) Properties of operations on sets and estimation of error trajectories of linear systems. (Japanese. English summary) *Systems and Control* **22** (1978), *no.* 6, 351–357. (Authors' summary) **58** #15565 93E10

Katsura, Shigetoshi (*with* Abe, Yoshihiko) Lattice Green's function for the simple cubic and tetragonal lattices at arbitrary points. *Ann. Physics* **75** (1973), 348–380. (L. Finkelstein) **47** #9993 82.34

(*with* Inawashiro, Sakari) Asymptotic form of the lattice Green's function of the square lattice. *Ann. Physics* **77** (1973), 206–215. (L. Finkelstein) **48** #10398 82.34

(*with* Inawashiro, Sakari; Abe, Yoshihiko) Lattice Green's function for the simple cubic lattice in terms of a Mellin-Barnes type integral. II. *J. Mathematical Phys.* **14** (1973), 560–562. (L. Finkelstein) **48** #10354 81.35

(*with* Watanabe, Hiroshi) Lattice Green's function of the body-centered cubic lattice at arbitrary points. *J. Mathematical Phys.* **15** (1974), 1500–1504. (Authors' summary) **49** #8559 82.33

Katsura, Shinji A remark on the removable set for eigenvalues of the kernel 1. *Mem. Osaka Inst. Tech. Ser. A* **18** (1973), 53–55. (W. Watzlawek) **49** #7431 30A31

Katsura, Toshiyuki On the structure of singular abelian varieties. *Proc. Japan Acad.* **51** (1975), *no.* 4, 224–228. (T. Oda) **51** #12870 14K05

Katsurada, Yoshie (*with* Hopf, Heinz) Some congruence theorems for closed hypersurfaces in Riemann spaces. III. Method based on Voss' proof. *Comment. Math. Helv.* **46** (1971), 478–486. (C.-C. Hsiung) **46** #2609 53C40

Some congruence theorems for closed hypersurfaces in Riemann spaces. III (continued). *Hokkaido Math. J.* **3** (1974), 133–142. (C.-C. Hsiung) **49** #3779 53C40 (*with* Nagai, Tamao; Kôjyô, Hidemaro) ★On submanifolds with constant mean curvature in a Riemannian manifold. Publications of the Study Group of Geometry, Vol. 9. *Study Group of Geometry, Institute of Mathematics, Yoshida College, Kyoto University, Kyoto*, 1975. v + 137 *pp*. (David Blair) **52** #15313 53C40

A certain congruence theorem for closed hypersurfaces in a space of constant curvature. *Ann. Mat. Pura Appl.* (4) **102** (1975), 61–69. (K. Nomizu) **51** #1679 53C40

A certain congruence theorem for closed submanifolds of codimension 2 in a space of constant curvature. (Italian summary) Collection in memory of Enrico Bompiani. *Boll. Un. Mat. Ital.* (4) **12** (1975), *no.* 3, *suppl.*, 257–266. (K. Nomizu) **54** #1134 53C40

A certain congruence theorem for closed submanifolds of codimension 2 in a space of constant curvature. II. *Hokkaido Math. J.* **6** (1977), *no.* 1, 56–65. (K. Nomizu) **56** #3774 53C40

Katsuyama, Yoshiki (*with* Taniguchi, Ken-ichi; Kasami, Tadao) Shortening the length of programs by using subroutines. *Systems-Computers-Controls* **7** (1976), *no.* 3, 19–26 (1977). (A. V. Anisimov) **56** #17182 68A05

(*with* Taniguchi, Ken-ichi; Kasami, Tadao) Merging program modules to localize scopes of effects. *Systems-Computers-Controls* **7** (1976), *no.* 6, 37–44 (1977). (Authors' summary) **58** #25076 68A05 (05C05)

Kattawar, George W. (*with* Adams, C. N.) Solutions of the equations of radiative transfer by an invariant imbedding approach. *J. Quant. Spectrosc. Radiat. Transfer* **10** (1970), *no.* 5, 341–356. (Attay Kovetz) **55** #5170 85.65

Theorems on symmetries and flux conservation in radiative transfer using the matrix operator theory. *J. Quant. Spectrosc. Radiat. Transfer* **13** (1973), *no.* 2, 145–153. (D. ter Haar) **53** #12510 85.47

Katti, S. K. (*with* Warde, W. D.) Infinite divisibility of discrete distributions. II. *Ann. Math. Statist.* **42** (1971), 1088–1090. (R. A. Horn) **45** #2768 60E05 (62E10)

(*with* Arnold, J. C.) An application of the Rao-Blackwell theorem in preliminary test estimators. *J. Multivariate Anal.* **2** (1972), 236–238. **46** #4598 62H99 (62B05)

Exact distribution for the chi square test in the one way table. *Comm. Statist.* **2** (1973), 435–447. (M. A. Hamdan) **48** #12678 62E15

(*with* Huque, Fazle) A note on maximum conditional likelihood estimators. *Sankhyā Ser. B* **38** (1976), *no.* 1, 1–13. (Authors' summary) **58** #31542 62F10

(*with* Moore Shimizu, Iris) Study of small sample estimators. *Sankhyā Ser. B* **38** (1976), *no.* 1, 30–47. (Authors' introduction) **58** #31545 62F10

Kattsoff, Louis O. On the nature of mathematical entities. *Internat. Logic Rev. No.* 7 (1973), 29–45. (Not reviewed) 00A25

Kattwinkel, Ulrike Die grösste untergruppenabgeschlossene Teilklasse einer Schunckklasse endlicher auflösbarer Gruppen. *Arch. Math.* (*Basel*) **29** (1977), *no.* 4, 337–343. (T. R. Berger) **58** #5905 20D10

buï Kat Tyong *See* **Buï Kat Tyong**

Katunina, E. N. (*with* Èšukov, L. N.) The simplest two-point boundary value problems. (Russian) Differential equations. *Trudy Rjazan. Radiotehn. Inst. No.* 20 (1969), 30–33. (See RŽMat **1970** #12 B272; MR **52** #13071) 34B10

Simplest two-point boundary value problems. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 53 *Differencial'nye Uravnenija* (1974), 23–49, 184–185. (Author's summary) **58** #28778 34B10

On the first method of studying two-point boundary value problems of ordinary linear differential equations. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 62 *Differencial'nye Uravnenija* (1975), 21–26, 177–178. (Author's summary) **57** #12969 34B05

Solution of linear functional problems by the operational method. (Russian) *Trudy Rjazan. Radiotehn. Inst. No.* 69 *Differencial'nye Uravnenija* (1975), 11–21, 164. (Author's summary) **58** #22915 34K10 (44A45)

Katuta, Yûkiti On the normality of the product of a normal space with a paracompact space. *General Topology and Appl.* **1** (1971), 295–319. (K. Nagami) **45** #7666 54D15

Expandability and product spaces. *Proc. Japan Acad.* **49** (1973), 449–451. (Jack R. Porter) **49** #6150 54D20

On expandability. *Proc. Japan Acad.* **49** (1973), 452–455. (Jack R. Porter) **49** #6151 54D20

On spaces which admit closure-preserving covers by compact sets. *Proc. Japan Acad.* **50** (1974), 826–828. (James C. Smith) **51** #9023 54D20

Expandability and its generalizations. *Fund. Math.* **87** (1975), *no.* 3, 231–250. (James C. Smith) **51** #13986 54D20

Monotone increasing covers and paracompactness. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 220–222. *Soc. Czech. Mathematicians and Physicists, Prague*, 1977. (Robert A. McCoy) **57** #17590 54D20

Paracompactness, collectionwise normality and product spaces. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **13**, *no.* 366-382, 165–172 (1977). (C. M. Pareek) **56** #3793 54D20

Characterizations of paracompactness by increasing covers and normality of product spaces. *Tsukuba J. Math.* **1** (1977), 27–43. (Teodor Przymusinski) **58** #7555 54D20 (54A25)

Katys, G. P. *See* **Control in space**, **48** #8041 *and* **Control in space**, **48** #13320

Katyšev, Ju. V. (*with* Židkov, E. P.; Kadyševskiĭ, V. G.) On the problem of the $c \to \infty$ limit in the relativistic Schrödinger equation. (Russian. English summary) *Teoret. Mat. Fiz.* **3** (1970), *no.* 2, 191–196. (Authors' summary) **57** #11442 81.34

Katyšev, P. K. The optimal transmission of a Gaussian vector over a channel with noiseless feedback. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 4(178), 169–170. (From the text) **58** #9746 94A05

Transmission of a Gaussian vector over a channel with noiseless feedback. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), 188–196. (Masuyuki Hitsuda) **53** #2505 94A05

Transmission of a Gaussian process over a channel with feedback. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 1, 112–118. (Ezio M. Biglieri) **57** #2736 94A05

Katz, E. (*with* Helfenstein, H. G.) Intermediate flexibility of surfaces. *Compositio Math.* **25** (1972), 71–78. (R. L. Bishop) **47** #9495 53C45

Katz, Elyahu Free topological groups and principal fiber bundles. *Duke Math. J.* (1975), 83–90. (Ronald Brown) **54** #12953 22A05

Free products in the category of k_ω-groups. *Pacific J. Math.* **59** (1975), *no.* 493–495. (S. A. Morris) **52** #10945 22A05

Twisted Cartesian and free products. (Italian summary) *Atti Accad. Naz. Li Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no.* 3, 235–239. (John Roy Denn **57** #4168 55F15

A Künneth formula for coproducts of simplicial groups. *Proc. Amer. Math. Soc.* (1976), *no.* 1, 117–121 (1977). (Harold Hastings) **56** #3842 55J25 (18G15, 57F

Principal co-fiber bundles. *Trans. Amer. Math. Soc.* **222** (1976), 129–141. Lamotke) **54** #13913 55F10

Topological groups with co-monoid structures. *Glasgow Math. J.* **18** (1977), *no* 145–152. (S. A. Morris) **57** #510 22A05

Katz, Getulio Domains of existence in infinite dimension. *Infinite dimensional holomor and applications* (*Proc. Internat. Sympos., Univ. Estadual de Campinas, São Paulo*, 19 *pp*. 239–247. *North-Holland Math. Studies, Vol.* 12, *Notas de Mat., No.* 54, *North-Holland, Amsterdam*, 1977. (M. Hervé) **57** #3444 32D05

Reinhardt domains in $\mathbf{C}^\Lambda$. *J. Math. Anal. Appl.* **61** (1977), *no.* 3, 735–738. (Ma Schottenloher) **58** #6306 32A07 (46G20)

Katz, H. A large time expansion for the Stefan problem. *SIAM J. Appl. Math.* **32** (19 *no.* 1, 1–20. (R. N. Pandey) **55** #7144 80.35

Katz, I. Norman Local convergence in Fermat's problem. *Math. Programming* **6** (19 89–104. (J. Falk) **48** #12828 65K05 (90C50)

(*with* Cooper, Leon) An always-convergent numerical scheme for a random locational equilibrium problem. *SIAM J. Numer. Anal.* **11** (1974), 683–692. (P. Vondráček) **50** #15334 65K05 (90B05)

(*with* Cooper, Leon) Optimal facility location for normally and exponentially distributed points. *J. Res. Nat. Bur. Standards Sect. B* **80** (1976), *no.* 1, 53–73. (Kail C. Kapur) **58** #9185 90B15 (65K05)

(*with* Franklin, Mark A.; Sen, Amitava) Optimally stable parallel predictors Adams-Moulton correctors. *Comput. Math. Appl.* **3** (1977), *no.* 3, 217–233. (H. Shinta **57** #11055 65L05

Integration of triangular finite elements containing corrective rational function *Internat. J. Numer. Methods Engrg.* **11** (1977), *no.* 1, 107–114. (P. G. Ciarlet) **57** #8 65N30

(*with* Peano, Alberto G.; Rossow, Mark P.) Nodal variables for complete conforming finite elements of arbitrary polynomial order. *Comput. Math. Appl.* **4** (197 *no.* 2, 85–112. (Authors' summary) **58** #19660 73.65 (65N30)

Katz, Irving Jack Remarks on two recent results in matrix theory. *Linear Algebra a Appl.* **5** (1972), 109–112. (B. Levinger) **45** #1937 15A06

Theorems on products of EPr matrices. II. *Linear Algebra and Appl.* **10** (197 37–40. (M. Pearl) **51** #8134 15A09

(*with* Hartwig, Robert E.) Products of EP elements in reflexive semigroups. *Lin Algebra and Appl.* **14** (1976), *no.* 1, 11–19. (M. Pearl) **56** #8729 20M10 (15A09)

Katz, Jerome M. (*with* Noga, Milan) Lorentz-invariant algebraization of pion-hadr vertex functions. *Phys. Rev. D* (3) **2** (1970), 1657–1662. (A. O. Barut) **47** #9968 81.22

(*with* Genz, H.) Derivation of equal-time commutators involving the symmet energy-momentum tensor and applications. *Phys. Rev. D* (3) **2** (1970), 2225–22 (Kishin Mariwalla) **48** #7804 81.22

(*with* Jacobson, Nathan) Generically algebraic quadratic Jordan algebras. Collection of articles dedicated to the memory of Abraham Adrian Albert. *Scripta Ma* **29**, *no.* 3-4, 215–227 (1973). (Michel L. Racine) **53** #8172 17C10

Isomorphisms of the lattice of inner ideals of certain quadratic Jordan algebra *Trans. Amer. Math. Soc.* **185** (1973), 309–329. (E. J. Taft) **48** #4063 17A15

Semi-isotopies and the lattice of inner ideals of certain quadratic Jordan algebra *Trans. Amer. Math. Soc.* **199** (1974), 413–427. (E. J. Taft) **50** #2267 17A15

The radical of a Jordan algebra and extensions of the base field. *J. Algebra* (1976), *no.* 1, 31–45. (Robert Lewand) **53** #10885 17C10

Katz, Jose (*with* Thurber, James K.) Applications of fractional powers of delta function *Victoria Symposium on Nonstandard Analysis* (*Univ. Victoria, Victoria, B.C.*, 1972), *p* 272–302. *Lecture Notes in Math., Vol.* 369, *Springer, Berlin*, 1974. (Woodford Zachary) **58** #4005 81.02 (02H25)

Katz, Joseph A note on energy extremal properties for rotating stars in general relativity *J. Phys. A* **5** (1972), 781–785. (Author's summary) **54** #6866 83.53

(*with* Horwitz, Gerald) Thermodynamic stability of relativistic rotating stellar configurations and a maximum principle for the entropy. *Astrophys. J.* **194** (1974 439–449. (Kotik K. Lee) **50** #12142 85.49

Preferred frames and oscillating universes. *Internat. J. Theoret. Phys.* **10** (1974 165–173. (Author's summary) **54** #9577 83.53

(*with* Manor, Y.) Entropy extremum of relativistic self-bound systems: a geometr approach. *Phys. Rev. D* (3) **12** (1975), *no.* 4, 956–964. (N. D. Sengupta) **52** #16483 83.49

(*with* Horwitz, Gerald) Steepest-descent technique and stellar equilibrium statistic mechanics. I. Newtonian clusters in a box. *Astrophys. J.* **211** (1977), *no.* 1, *part* 226–243. (Attay Kovetz) **54** #9599 85.60

(*with* Horwitz, Gerald) Steepest descent technique and stellar equilibrium statistic mechanics. II. Relativistic clusters in a box. *Astrophys. J. Suppl. Ser.* **33** (1977), *no.* 251–268. (E. Lyttkens) **56** #7755 85.60

Katz, Leo (*with* Sobel, Milton) Coverage of generalized chess boards by randomly place rooks. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics an Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. III*: *Probability theory* *pp*. 555–564. *Univ. California Press, Berkeley, Calif.*, 1972. (R. G. Stanton) **53** #173 60C05 (05B40)

An efficient sequential ranking procedure. *J. Amer. Statist. Assoc.* **72** (1977), *no* 360, *part* 1, 841–844. (Joseph A. Yahav) **58** #8070a 62L05 (62F07)

Representation of disease etiologies by certain stochastic models. *J. Appl. Probability* **14** (1977), *no.* 4, 663–674. (K. Dietz) **57** #15569 92A15

See also **Problems: Combinatorial theory**, **46** #8855; **Fox, Martin**, **58** #8070b *an* **Olkin, Ingram**, **58** #10203

Morris W. (*with* Schnitzer, Franz) On a problem of J. Czipszer. *Rend. Sem. Mat. niv. Padova* **44** (1970), 85–90. (Calvin T. Long) **45** #8540 05A15

Moshe On the extreme points of the set of substochastic and symmetric matrices. *J. ath. Anal. Appl.* **37** (1972), 576–579. (R. A. Brualdi) **46** #3534 15A51

(*with* Converse, George) Symmetric matrices with given row sums. *J. Combinatorial heory Ser. A* **18** (1975), 171–176. (Marvin Marcus) **51** #200 05B20

Optimization of functionals containing functions and their inverses. *J. Math. Anal. ppl.* **59** (1977), *no.* 1, 163–168. (Jaroslav Smítal) **57** #6340 26A99

N. *See* **Mathematics: Periodical collection of translations of foreign articles, 0** #12535

Nicholas M. Nilpotent connections and the monodromy theorem: Applications of a esult of Turrittin. *Inst. Hautes Études Sci. Publ. Math. No.* 39 (1970), 175–232. (S. S. hatz) **45** #271 14A99 (32C15)

The regularity theorem in algebraic geometry. *Actes du Congrès International des athématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 437–443. *Gauthier-Villars, Paris*, 1971. (J. S. oel) **57** #12512 14D05

Introduction aux travaux récents de Dwork. *Number Theory Institute* (*Proc. ympos. Pure Math., Vol. XX, State Univ. New York, Stony Brook, N.Y.*, 1969), *pp.* 5–75. *Amer. Math. Soc., Providence, R.I.*, 1971. (J. S. Joel) **50** #13043 14G10

Algebraic solutions of differential equations (p-curvature and the Hodge filtration). *nvent. Math.* **18** (1972), 1–118. (T. Oda) **49** #2728 14D05 (14C30, 14F30, 34A20)

p-adic properties of modular schemes and modular forms. *Modular functions of one ariable, III* (*Proc. Internat. Summer School, Univ. Antwerp, Antwerp*, 1972), *pp.* 69–190. *Lecture Notes in Mathematics, Vol.* 350, *Springer, Berlin*, 1973. (V. V. Šokurov) **56** #5434 10D15 (14D20)

Travaux de Dwork. (English summary) *Séminaire Bourbaki, 24ème année* (1971/1972), *Exp. No.* 409, *pp.* 167–200. *Lecture Notes in Math., Vol.* 317, *Springer, Berlin*, 1973. (Editors) **58** #16672 14G13 (14G20)

A theorem on the De Rham cohomology of a hypersurface. *Symposia Mathematica, Vol. XI* (*Convegno di Geometria, INDAM, Rome*, 1972), *pp.* 285–297. *Academic Press, London*, 1973. (J. S. Joel) **57** #12510 14C30

(*with* Messing, William) Some consequences of the Riemann hypothesis for varieties over finite fields. *Invent. Math.* **23** (1974), 73–77. (S. S. Shatz) **48** #11117 14G10

p-adic L-functions via moduli of elliptic curves. *Algebraic geometry* (*Proc. Sympos. Pure Math., Vol. 29, Humboldt State Univ., Arcata, Calif.*, 1974), *pp.* 479–506. *Amer. Math. Soc., Providence, R. I.*, 1975. (V. V. Šokurov) **55** #5635 14G10 (10D10, 12A70)

Higher congruences between modular forms. *Ann. of Math.* (2) **101** (1975), 332–367. (Neal Koblitz) **54** #5120 10D05 (14K15)

The congruences of Clausen-von Staudt and Kummer for Bernoulli-Hurwitz numbers. *Math. Ann.* **216** (1975), 1–4. (M. Bašmakov) **52** #8136 14K15 (10A40, 14G25)

An overview of Deligne's proof of the Riemann hypothesis for varieties over finite fields. *Mathematical developments arising from Hilbert problems* (*Proc. Sympos. Pure Math., Vol. XXVIII, Northern Illinois Univ., De Kalb, Ill.*, 1974), *pp.* 275–305. *Amer. Math. Soc., Providence, R.I.*, 1976. (Neal Koblitz) **54** #12780 14G13

An overview of Deligne's work on Hilbert's twenty-first problem. *Mathematical developments arising from Hilbert problems* (*Proc. Sympos. Pure Math., Vol. XXVIII, Northern Illinois Univ., De Kalb, Ill.*, 1974), *pp.* 537–557. *Amer. Math. Soc., Providence, R. I.*, 1976. (J.-P. Jouanolou) **55** #5627 14D05 (34A20)

p-adic interpolation of real analytic Eisenstein series. *Ann. of Math.* (2) **104** (1976), *no.* 3, 459–571. (V. V. Šokurov) **58** #22071 14G10 (10D25)

Formal groups and p-adic interpolation. *Journées Arithmétiques de Caen* (*Univ. Caen, Caen*, 1976), *pp* 55–65. *Astérisque No.* 41–42, *Soc. Math. France, Paris*, 1977. (Neal Koblitz) **56** #319 12B30 (12B40, 10D15, 14L05)

A result on modular forms in characteristic p. *Modular functions of one variable, V* (*Proc. Second Internat. Conf., Univ. Bonn, Bonn*, 1976), *pp.* 53–61. *Lecture Notes in Math., Vol.* 601, *Springer, Berlin*, 1977. (V. V. Šokurov) **57** #3127 14D20 (10D05, 14K15)

The Eisenstein measure and p-adic interpolation. *Amer. J. Math.* **99** (1977), *no.* 2, 238–311. (V. V. Šokurov) **58** #5602 12B30 (10D15, 14G10)

See also **Groupes de monodromie en géométrie algébrique, 50** #7135

atz, Philip L. Reachable sets and singular arcs for minimum fuel problems based on norm-invariant systems. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 4, 557–559. (Author's summary) **56** #11225 93C10

Closed-form solutions for two optimal control problems having non-linear, norm-invariant systems. *Internat. J. Control* (1) **18** (1973), 129–137. (M. I. Imanaliev) **48** #7054 49A10

A general one-dimensional search algorithm for computing approximate solutions of some non-linear optimal control problems. *Internat. J. Control* **20** (1974), 655–672. **51** #15079 93C10

(*with* Wachtor, Thomas E.) Optimal solutions of a non-linear minimum fuel problem and minimum time orbital transfer problem, computed without prior knowledge of singular arcs' existence. *Internat. J. Control* **20** (1974), 673–688. (Gerard G. L. Meyer) **52** #2204 65K05 (93C10)

A geometric computing method for nonlinear optimal regulator problems with singular arcs. *J. Optimization Theory Appl.* **15** (1975), 249–284. (J. P. Babary) **54** #6504 65K05

atz, Richard W. (*with* Glasner, Moşes; Nakai, Mitsuru) Examples in the classification theory of Riemannian manifolds and the equation $\triangle u = Pu$. *Math. Z.* **121** (1971), 233–238. (K.-N. Chow) **45** #2613 53C20 (31B05)

An application of chain-dependent processes to meteorology. *J. Appl. Probability* **14** (1977), *no.* 3, 598–603. (George L. O'Brien) **57** #1680 60J99 (86.60)

Katz, Robert (*with* Grossman, Michael) ★Non-Newtonian calculus. *Lee Press, Pigeon Cove, Mass.*, 1972. viii + 94 *pp.* (Editors) **55** #3180 26A06

Katz, S. (*with* Naor, Pinhas Paul; Shinnar, R.) Moments of age and remaining life in renewal processes. *J. Appl. Probability* **10** (1973), 307–316. (L. de Haan) **50** #8739 60K05

Katz, Shmuel (*with* Manna, Zohar) A closer look at termination. *Acta Informat.* **5** (1975), *no.* 4, 333–352. (Gianni Aguzzi) **54** #4169 68A05

(*with* Manna, Zohar) Logical analysis of programs. *Comm. ACM* **19** (1976), *no.* 4, 188–206. (Authors' summary) **56** #17183 68A05

See also **Manna, Zohar; et al., 58** #8440

Katz, Steven (*with* Konheim, Alan G.) Priority disciplines in a loop system. *J. Assoc. Comput. Mach.* **21** (1974), 340–349. (F. Weinberg) **49** #9985 60K30

Katzan, Harry, Jr. ★Operating systems. A pragmatic approach. Computer Science Series. *Van Nostrand Reinhold Co., New York-Toronto, Ont.-London*, 1973. ix + 387 *pp.* (From the author's preface) **55** #9592 68A05 (68A50)

Katzenelson, Jacob The Markov algorithm as a language parser—linear bounds. *J. Comput. System Sci.* **6** (1972), 465–478. (Charles G. Morgan) **47** #4489 68A30

(*with* Barman, John Farhad) A generalized Nyquist-type stability criterion for multivariable feedback systems. *Internat. J Control* **20** (1974), 593–622. (Ljubomir Lilov) **50** #16031 93D99

See also **Nonlinear networks: theory and analysis, 52** #5178

Katzin, Gerald H. (*with* Levine, Jack) Related first integral theorem: a method for obtaining conservation laws of dynamical systems with geodesic trajectories in Riemannian spaces admitting symmetries. *J. Mathematical Phys.* **9** (1968), 8–15. (S. Deser) **50** #5847 58F05

(*with* Levine, Jack) Applications of Lie derivatives to symmetries, geodesic mappings, and first integrals in Riemannian spaces. Collection of articles commemorating Władysław Ślebodziński. *Colloq. Math.* **26** (1972), 21–38. (K. Yano) **51** #1686 53C50

Related integral theorem. II. A method for obtaining quadratic constants of the motion for conservative dynamical systems admitting symmetries. *J. Mathematical Phys.* **14** (1973), 1213–1217. (Author's summary) **58** #24361 58F10 (70.58)

(*with* Levine, Jack) Symmetry mappings of constrained dynamical systems and an associated related integral theorem. *J. Mathematical Phys.* **14** (1973), 1886–1891. (J. Charles-Renaudie) **48** #13153 83.53

(*with* Levine, Jack) Dynamical symmetries and constants of the motion for classical particle systems. *J. Mathematical Phys.* **15** (1974), 1460–1470. (J. Charles-Renaudie) **49** #11902 70.53

(*with* Levine, Jack) Time-dependent dynamical symmetries, associated constants of motion, and symmetry deformations of the Hamiltonian in classical particle systems. *J. Mathematical Phys.* **16** (1975), 548–555. (C. W. Kilmister) **51** #2385 70.22

(*with* Levine, Jack) A gauge invariant formulation of time-dependent dynamical symmetry mappings and associated constants of motion for Lagrangian particle mechanics. I. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1345–1350. (Helmuth K. Urbantke) **53** #9791 70.53

(*with* Levine, Jack; Sane, Robert N.) Time-dependent dynamical symmetry mappings and associated constants of motion for classical particle systems. II. *J. Mathematical Phys.* **18** (1977), *no.* 3, 424–431. (Helmuth K. Urbantke) **57** #8265a 70.58 (58F05)

(*with* Levine, Jack) Time-dependent dynamical symmetries and constants of motion. III. Time-dependent harmonic oscillator. *J. Mathematical Phys.* **18** (1977), *no.* 6, 1267–1274. (Helmuth K. Urbantke) **57** #8265b 70.58 (58F05)

(*with* Levine, Jack) Energy-momentum tensor symmetries and concomitant conservation laws. I. Einstein-massless-scalar (meson) field. *J. Math. Phys.* **19** (1978), *no.* 9, 1918–1925. (Helmuth K. Urbantke) **58** #14887 83.35

Katzin, J. C. (*with* Rolnick, William B.) Uniqueness of the response to the variation of an external gravitational field. *Phys. Rev. D* (3) **2** (1970), 1410–1416. (K. Veselić) **47** #9985 81.47

Katzin, Martin Table errata: *Higher transcendental functions, Vol. I, II* (McGraw-Hill, New York, 1953) by A. Erdélyi, W. Magnus, F. Oberhettinger, and F. G. Tricomi. *Math. Comp.* **25** (1971), *no.* 113, 199. (Editors) **54** #3042 33–XX (65A05)

Table errata: *Tables of integral transforms. Vol. I, II* (McGraw-Hill, New York, 1954) by A. Erdélyi, W. Magnus, F. Oberhettinger and F. G. Tricomi. *Math. Comp.* **25** (1971), *no.* 113, 199. (Editors) **54** #4052 65A05 (33–XX)

Table errata: *Formulas and theorems for the special functions of mathematical physics* (third edition of English translation, Springer, New York, 1966) by W. Magnus, F. Oberhettinger and R. P. Soni. *Math. Comp.* **25** (1971), *no.* 113, 201. (Editors) **54** #3046 33–XX (65A05)

Katznelson, Yitzhak Ergodic automorphisms of T^n are Bernoulli shifts. *Israel J. Math.* **10** (1971), 186–195. (L. Sucheston) **45** #3672 28A65

(*with* Weiss, Benjamin) The construction of quasi-invariant measures. *Israel J. Math.* **12** (1972), 1–4. (W. Krieger) **47** #5226 28A65

(*with* Weiss, Benjamin) Commuting measure-preserving transformations. *Israel J. Math.* **12** (1972), 161–173. (W. Parry) **47** #5227 28A65

(*with* Kahane, Jean-Pierre) Sur les coefficients des séries de Fourier dont les sommes partielles sont positives sur un ensemble. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, VI. *Studia Math.* **44** (1972), 555–562. (S. Izumi) **49** #5672 42A16

Suites aléatoires d'entiers. *L'analyse harmonique dans le domaine complexe* (*Actes Table Ronde Internat., Centre Nat. Recherche Sci., Montpellier*, 1972), *pp.* 148–152. *Lecture Notes in Math., Vol.* 336, *Springer, Berlin*, 1973. (P. Gerl) **53** #1176 43A46 (10K35, 42A44)

(*with* Kahane, Jean-Pierre) Sur les ensembles d'unicité $U(\varepsilon)$ de Zygmund. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A893–A895. (S. Izumi) **48** #9243 42A48

(*with* Stromberg, Karl) Everywhere differentiable, nowhere monotone, functions. *Amer. Math. Monthly* **81** (1974), 349–354. (G. V. Welland) **49** #481 26A24

(*with* Körner, Thomas W.) An algebra dense in its tilde algebra. *Israel J. Math.* **17** (1974), 248–260. (C. McGehee) **50** #895 43A45

(*with* McGehee, O. Carruth) Conditionally convergent series in R^∞. *Michigan Math. J.* **21** (1974), 97–106. (W. H. Ruckle) **50** #945 46A99 (40J05)

(*with* McGehee, O. Carruth) Un ensemble d'entiers E tel que $B_0(E) \neq B(E)_0$. *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A31–A32. (S. Izumi) **51** #1289 43A46 (42A44)

On a theorem of Menchoff. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 396–398. (R. Kaufman) **52** #1142 42A28

★An introduction to harmonic analysis. Second corrected edition. *Dover Publications, Inc., New York*, 1976. xiv + 264 *pp.* (Editors) **54** #10976 43–02 (42–02) (*with* McGehee, O. Carruth) Some sets obeying harmonic synthesis. *Israel J. Math.* **23** (1976), *no.* 1, 88–93. (Yves Meyer) **52** #14861 43A45

Smooth mappings of the circle without sigma-finite invariant measures. *Symposia Mathematica, Vol. XXII* (*Convegno sull'Analisi Armonica e Spazi di Funzioni su Gruppi Localmente Compatti, INDAM, Rome,* 1976), *pp.* 363–369. *Academic Press, London,* 1977. (D. Newton) **58** #6160 28A65 (58F15)

(*with* de Leeuw, Karel; Kahane, Jean-Pierre) Sur les coefficients de Fourier des fonctions continues. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 16, A1001–A1003. (Authors' summary) **58** #23319 42A16

Sigma-finite invariant measures for smooth mappings of the circle. *J. Analyse Math.* **31** (1977), 1–18. (Paul Milnes) **58** #6161 28A65 (58F15)

Katzner, Donald W. Demand and exchange analysis in the absence of integrability conditions. *Preferences, utility and demand* (*a Minnesota symposium*), *pp.* 254–270. *Harcourt Brace Jovanovich, New York,* 1971. (G. Chichilnisky) **56** #17728 90A15

Kaucher, Edgar ★Über metrische und algebraische Eigenschaften einiger beim numerischen Rechnen auftretender Räume. Zur Erlangung des akademischen Grades eines Doktors der Naturwissenschaften von der Fakultät für Naturwissenschaften I der Universität Karlsruhe genehmigte Dissertation. *Universität Karlsruhe, Karlsruhe,* 1973. iv + 272 *pp.* (Mogens Esrom Larsen) **55** #4644 65G05

Allgemeine Einbettungssätze algebraischer Strukturen unter Erhaltung von verträglichen Ordnungs- und Verbandsstrukturen mit Anwendung in der Intervallrechnung. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T296–T297. (G. Alefeld) **55** #13748 65D99 (65G05)

Ein Fixpunktsatz für Iterationsverfahren mit isoton gerundeter Iterationsfunktion in bedingt vollständigen Verbänden. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, *T*284–*T*286. (Eugene Allgower) **56** #9959 65H05 (55C25)

Über eine Überlaufarithmetik auf Rechenanlagen und deren Anwendungsmöglichkeiten. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T286–T287. **58** #24895 65G05

Kaucký, Josef A contribution to the theory of permutations. *Mat. Časopis Sloven. Akad. Vied* **21** (1971), 82–86. (M. S. Cheema) **46** #1609 05A15

(*with* Gould, Henry W.) Errata: "Evaluation of a class of binomial coefficient summations". *J. Combinatorial Theory Ser. A* **12** (1972), 309–310. (Editors) **45** #3217 05A10

Some remarks on a combinatorial problem. *Mat. Časopis Sloven. Akad. Vied* **22** (1972), 215–218. (R. E. Greenwood) **46** #8843 05A10

See also **Novotný, Miroslav**, **58** #10202

Kauffeldt, Alfons ★Otto von Guericke. With a foreword by H.-E. Weinschenk. Third edition. Biographien hervorragender Naturwissenschaftler, Techniker und Mediziner, 11. *BSB B. G. Teubner Verlagsgesellschaft, Leipzig,* 1977. 111 *pp.* (1 *plate*). (J. S. Joel) **58** #27115 01A70

Kauffman, Louis Cyclic branched cover and $O(n)$-manifolds. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts, Amherst, Mass.,* 1971), *Part I, pp.* 416–429. *Lecture Notes in Math., Vol.* 298, *Springer, Berlin,* 1972. (Michael Freedman) **55** #13456 57E15 (32C40, 57C45)

Kauffman, Louis H. Link manifolds and periodicity. *Bull. Amer. Math. Soc.* **79** (1973), 570–573. (R. Z. Goldstein) **48** #7296 57C45 (57E25)

An invariant of link concordance. *Topology Conference* (*Virginia Polytech. Inst. and State Univ., Blacksburg, Va.,* 1973), *pp.* 153–157. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin,* 1974. (J. P. Levine) **50** #14815 57D95 (55A25)

Products of knots. *Bull. Amer. Math. Soc.* **80** (1974), 1104–1107. (J. P. Levine) **50** #14767 57C45 (32C40)

Link manifolds. *Michigan Math. J.* **21** (1974), 33–44. (R. Z. Goldstein) **50** #3256 57E15 (57C45)

Branched coverings, open books and knot periodicity. *Topology* **13** (1974), 143–160. (D. W. L. Sumners) **51** #11532 57C45

(*with* Durfee, Alan H.) Periodicity of branched cyclic covers. *Math. Ann.* **218** (1975), *no.* 2, 157–174. (Richard Randell) **52** #6731 57C45

(*with* Jordan, Steven L.) Differential geometry of the torus and torus knots. *Delta* (*Waukesha*) **6** (1976), *no.* 1, 1–15. (T. Banchoff) **54** #1126 53C20 (57C45)

(*with* Taylor, Laurence R.) Signature of links. *Trans. Amer. Math. Soc.* **216** (1976), 351–365. (Wilbur Whitten) **52** #9210 55A25

(*with* Banchoff, Thomas F.) Immersions and mod-2 quadratic forms. *Amer. Math. Monthly* **84** (1977), *no.* 3, 168–188. (H. Suzuki) **55** #4210 57D40

Network synthesis and Varela's calculus. *Internat. J. Gen. Systems* **4** (1977/78), *no.* 3, 179–187. (Author's summary) **58** #20850 94A20 (02C99)

(*with* Neumann, Walter D.) Products of knots, branched fibrations and sums of singularities. *Topology* **16** (1977), *no.* 4, 369–393. (Lee Ruldoph) **58** #7644 57C45 (14B05)

Kauffman, Robert M. Compactness of the inverse of the minimal operator for a class of ordinary differential expressions. *J. Reine Angew. Math.* **257** (1972), 91–99. (K. W. Welsh) **46** #9802 47E05

Two types of hyperinvariant subspaces. *Proc. Amer. Math. Soc.* **39** (1973), 553–558. (Henry R. Dowson) **49** #1164 47A15 (47B40)

A rule relating the deficiency indices of L^j to those of L^k. *Proc. Roy. Soc. Edinburgh Sect. A* **74** (1974/75), 115–118 (1976). (Author's summary) **58** #17300 34B25 (47E05)

On the growth of solutions in the oscillatory case. *Proc. Amer. Math. Soc.* **51** (1975), 49–54. (E. S. Noussair) **51** #10759 34C10

Gaps in the essential spectrum for second order systems. *Proc. Amer. Math. Soc.* **51** (1975), 55–61. (E. S. Noussair) **51** #10760 34C10 (34B05)

Polynomials and the limit point condition. *Trans. Amer. Math. Soc.* **201** (1975), 347–366. (Boris Pavlov) **50** #10904 47E05 (34B20)

On the limit-*n* classification of ordinary differential operators with positive coefficients. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee,* 1976), *pp.* 259–266. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin,* 1976. (Editors) **58** #28795 34B20

Disconjugacy and the limit-point condition for fourth-order operators. *Proc. Roy. Soc. Edinburgh Sect. A* **76** (1976/77), *no.* 1, 77–80. (James S. Muldowney) **56** #12411 34C10 (34B20)

(*with* Read, Thomas T.; Zettl, Anton) ★The deficiency index problem for po of ordinary differential expressions. Lecture Notes in Mathematics, Vol. 621. *Springer-Verlag, Berlin-New York,* 1977. iv + 112 *pp. ISBN* 3-540-08523-8 (J. S. Wong) **58** #1370 34B20 (34B25, 47E05)

On the limit-*n* classification of ordinary differential operators with positive coefficients. *Proc. London Math. Soc.* (3) **35** (1977), *no.* 3, 496–526709. (M. S Eastham) **57** #773 34B20

Kauffman, Stuart Dynamic models of the mitotic cycle: evidence for a limit cycle oscillator. *Some mathematical questions in biology, VIII* (*Proc. Tenth Sympos., Bo Mass.,* 1976), *pp.* 87–122. *Lectures on Math. in the Life Sciences, Vol.* 9, *Amer. M Soc., Providence, R.I.,* 1977. (O. Gürel) **58** #20562 92A05 (34C05)

See also **Some mathematical questions in biology**, **48** #1730

Kauffmann, S. K. (*with* Gyulassy, M.) Multiplicity distributions of created bosons: method of combinants. *J. Phys. A* **11** (1978), *no.* 9, 1715–1727. (Koichiro Mats **58** #25529 81.35

Kaufholz, Gerd Der programmierbare endliche Automat. (English summary) *Acta Informat.* **1** (1971/72), 225–241. (P. C. Gilmore) **48** #10711 94A30

Über die Vernetzungsstruktur von Maschinen. *Erste Fachtagung der Gesellschaf Informatik über Automatentheorie und Formale Sprachen* (*Bonn,* 1973), *pp.* 230- *Lecture Notes in Computer Science, Vol.* 2, *Springer, Berlin,* 1973. (I. Kaufm **55** #4786 68A25 (94A30)

Über die Vernetzungsstruktur von Maschinen. (English summary) *Acta Inform* (1973/74), 171–186. (A. D. Booth) **49** #4303 68A20

Kaufman, Allan N. (*with* Johnston, Shayne) Lie-operator approach to mode couplin nonuniform plasma. *Phys. Rev. Lett.* **40** (1978), *no.* 19, 1266–1269. (Ian Ler **58** #14832 82.49

Kaufman, Edwin H., Jr. (*with* Belford, Geneva G.) Transformations of families of approximating functions. *J. Approximation Theory* **4** (1971), 363–371. (G. D. Tay **45** #5626 41A30

(*with* Belford, Geneva G.) A generalization of the varisolvency and unisolve properties. *J. Approximation Theory* **7** (1973), 21–35. (H. L. Loeb) **49** #11115 41A50

(*with* Belford, Geneva G.) An application of approximation theory to an e estimate in linear algebra. *Math. Comp.* **28** (1974), 711–712. (N. Gastinel) **51** #119 65F10

(*with* Taylor, Gerald D.) An application of linear programming to rational approximation. Proceedings of the International Conference on Padé Approxima Continued Fractions and Related Topics (Univ. Colorado, Boulder, Colo., 1972; dedicated to the memory of H. S. Wall). *Rocky Mountain J. Math.* **4** (1974), 371– (D. C. Gilles) **49** #4213 65D15

(*with* Taylor, Gerald D.) Uniform rational approximation of functions of sev variables. *Internat. J. Numer. Methods Engrg.* **9** (1975), *no.* 2, 297–323. (Auth summary) **56** #12711 41A20 (65D15)

(*with* Taylor, Gerald D.) An application of a restricted range version of differential correction algorithm to the design of digital systems. *Numerische Meth der Approximationstheorie, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach,* 19 *pp.* 207–232. *Internat. Ser. Numer. Math., Vol.* 30, *Birkhäuser, Basel,* 1976. (Auth summary) **58** #24879 65D99 (90C50)

(*with* Taylor, Gerald D.) Best rational approximations with negative poles to e^{-x} $[0, \infty)$. *Padé and rational approximation* (*Proc. Internat. Sympos., Univ. South Flor Tampa, Fla.,* 1976), *pp.* 413–425. *Academic Press, New York,* 1977. (Hans-Peter Bl **57** #6972 41A20 (65D15)

(*with* Leeming, David J.; Taylor, Gerald D.) A combined Remes-differential correction algorithm for rational approximation. *Math. Comp.* **32** (1978), *no.* 233–242. (Geneva G. Belford) **57** #977 41A50

Kaufman, G. M. (*with* King, Benjamin) A Bayesian analysis of nonresponse in dichotomous processes. *J. Amer. Statist. Assoc.* **68** (1973), 670–678. (D. V. Lind **50** #11573 62D05

Posterior inference for structural parameters using cross-section and time se data. *Studies in Bayesian econometrics and statistics* (*in honor of Leonard J. Savage*), 383–404. *Contributions to Economic Analysis, No.* 86, *North-Holland, Amsterdam,* 19 (Bruce M. Hill) **58** #3167 62F15 (62P20)

(*with* Barouch, E.) Estimation of undiscovered oil and gas. *Mathematical aspect production and distribution of energy* (*Proc. Sympos., San Antonio, Tex.,* 1976), *pp.* 77– *Proc. Sympos. Appl. Math., Vol. XXI, Amer. Math. Soc., Providence, R.I.,* 1977. (reviewed) 90B99

Kaufman, Howard On-line state estimation using modified cubic splines. *IEEE Tra Automatic Control* **AC-21** (1976), *no.* 1, 127–128. (A. Ja. Dorogovcev) **52** #1680 93E10 (41A15, 65D05)

(*with* Kotob, S.) Analysis and application of minimum variance discrete lin system identification. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 807–8 (Authors' summary) **56** #15044 93E10

Kaufman, Hyman (*with* Harrow, M.) A stability result for solutions of certain fourth or differential equations. *Rend. Circ. Mat. Palermo* (2) **20** (1971), 186–194 (1972). (J. O. Ezeilo) **51** #13383 34D20

(*with* Bhargava, Mira) Rational solutions of the Riccati equation. *Math. Stud* **40A** (1972), 253–256. (N. Hayek Calil) **49** #679 34A05

(*with* Mathai, A. M.; Rathie, P. N.) A mathematical foundation for Pearson's goodness-of-fit statistic. *Sankhyā Ser. A* **34** (1972), 441–442. **48** #9956 62G10

(*with* Mathai, A. M.) An axiomatic foundation for a multivariate measure affinity among a number of distributions. *J. Multivariate Anal.* **3** (1973), 236–242. (Gulyás) **49** #4167 (EA **50**) 62H30 (94A15)

(*with* Rathie, P. N.) Axiomatic characterizations of the measures of inaccuracy a information. *Collect. Math.* **25** (1974), *no.* 2, 137–144. (J. Aczél) **55** #14411 94A (39A20)

Kaufman, I. Evaluation of an analytical function of a companion matrix with distin eigenvalues. *Proc. IEEE* **57** (1969), 1180–1181. (N. K. Bose) **46** #4707 65F30

Kaufman, J. S. The busy probability in $M/G/N$ loss systems. *Oper. Res.* **27** (1979), *no.* 204–206. (Author's summary) **58** #24605 60K25

Kaufman, Léon (*with* Hansen, Pierre) A primal-dual algorithm for the three-dimensio signment problem. (French summary) Colloque sur la Théorie des Graphes (Brussels, 73). *Cahiers Centre Études Recherche Opér.* **15** (1973), 327–336. (D. R. Fulkerson) #9780 90B35

(*with* Hansen, Pierre) An algorithm for the location of central facilities. *athematical programs for activity analysis* (*Rep. Belgo-Israeli Colloq. Operations Res.*, *pe Hadrian VI College, Univ. Louvain, Louvain*, 1972), *pp.* 141–158. *North-Holland, msterdam*, 1974. (S. L. Hakimi) **54** #12184 90B05

(*with* Hansen, Pierre) A note on the quadratic assignment problem. (French mmary) Colloque sur la Programmation Mathématique (Brussels, 1974). *Cahiers entre Études Recherche Opér.* **16** (1974), 441–446. (K. Swarup) **51** #9807 90C20

(*with* Hansen, Pierre) Public facilities location under an investment constraint. rench summary) *Operational research '75* (*Proc. Seventh IFORS Internat. Conf.*, *okyo/Kyoto*, 1975), *pp.* 201–209. *North-Holland, Amsterdam*, 1976. (Jan Weglarz) **5** #2089 90B05

man, Linda The *LZ*-algorithm to solve the generalized eigenvalue problem. *SIAM J. umer. Anal.* **11** (1974), 997–1024. (Jan Zítko) **51** #9454 65F15

A variable projection method for solving separable nonlinear least squares roblems. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **15** (1975), *no.* 1, 49–57. (Zbl 07 #65019) **58** #19027 65D10

(*with* Daniel, James W.; Gragg, William B.; Stewart, G. W., III) eorthogonalization and stable algorithms for updating the Gram-Schmidt *QR* actorization. *Math. Comp.* **30** (1976), *no.* 136, 772–795. (H. R. Schwarz) **55** #4638 5F25

Some thoughts on the *QZ* algorithm for solving the generalized eigenvalue problem. *CM Trans. Math. Software* **3** (1977), *no.* 1, 65–75. (W. Niethammer) **55** #6814 65F15

(*with* Bunch, James R.) Some stable methods for calculating inertia and solving symmetric linear systems. *Math. Comp.* **31** (1977), *no.* 137, 163–179. (Colette Lebaud) **55** #1714 65F05

(*with* Pereyra, Victor) A method for separable nonlinear least squares problems with separable nonlinear equality constraints. *SIAM J. Numer. Anal.* **15** (1978), *no.* 1, 12–20. (Vincenţiu Dumitru) **57** #11766 90C30

chkowitz-Kaufman, M. *See* **Herschkowitz-Kaufman, M.**

fman, Marc T. An almost-optimal algorithm for the assembly line scheduling problem. *IEEE Trans. Computers* **C-23** (1974), 1169–1174. (I. Gh. Ciobanu) **52** #12757 90B35

Counterexample to a conjecture of Fujii, Kasami and Ninomiya. *SIAM J. Appl. Math.* **26** (1974), 370–371. (M. Stoica) **50** #1708 90B35

ufman, R. M. An asymptotic formula for the number of integers that are representable by binary quadratic forms. (Russian) *Vladimir. Gos. Ped. Inst. Učen. Zap.* **38** (1971), 46–56. (A. I. Vinogradov) **45** #3346 10C15

The representation of numbers by quadratic forms. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 3, 197–199, 281. (A. I. Vinogradov) **54** #2589 10B35

The geometric aspect of Ju. V. Linnik's theorem on the least prime. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 1, 111–114, 212. (From the text) **58** #27899 12A45 (10H10)

An estimate of Hecke's *L*-functions of the Gaussian field on the line Res = 1/2. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 1, 25–28, 92. (Matti Jutila) **57** #252 10H10 (12A70)

See also **Everitt, William N.; et al.**, **56** #8954

ufman, Robert P. A remark on Sidon sets. Collection of articles dedicated to Alberto González Domínguez on his sixty-fifth birthday. *Rev. Un. Mat. Argentina* **25** (1970/71), 105–107. (J.-P. Kahane) **48** #4655 43A46

Perfect sets in some groups. *Studia Math.* **34** (1970), 17–21. (From the author's introduction) **54** #518 28A75 (10K99, 42A44)

Analysis on some linear sets. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **21** (1971), *no.* 2, 23–29. (M. Hasumi) **49** #5677 42A48 (43A46)

A metric property of some random functions. *Bull. Soc. Math. France* **99** (1971), 241–245. (J.-P. Kahane) **45** #1254 60J65

Metric properties of some planar sets. *Colloq. Math.* **23** (1971), 117–120. (T. P. Srinivasan) **47** #5210 28A20

Hausdorff dimension, lacunary series, and some problems on exceptional sets. *Conference on Harmonic Analysis* (*Univ. Maryland, College Park, Md.*, 1971), *pp.* 189–195. *Lecture Notes in Math., Vol.* 266, *Springer, Berlin* 1972. (John Fournier) **54** #3272 42A44

Lacunary series and Hausdorff measures. *J. Analyse Math.* **25** (1972), 163–167. (J.-P. Kahane) **45** #9064 43A45

Measures of Hausdorff-type, and Brownian motion. *Mathematika* **19** (1972), 115–119. (J. Hawkes) **47** #7824 60J65 (28A75)

Sets of multiplicity and differentiable functions. *Proc. Amer. Math. Soc.* **32** (1972), 472–476. (K. M. Garg) **49** #5678 42A48 (43A46)

Kronecker sets and metric properties of M_0-sets. *Proc. Amer. Math. Soc.* **36** (1972), 519–524. (J. H. Neuwirth) **46** #9638 42A72 (43A10)

On the transformation of lacunary series in two variables. *Studia Sci. Math. Hungar.* **7** (1972), 131–136. (S. Izumi) **47** #3904 42A92

M-sets and distributions. *Pseudofunctions and Helson sets*, *pp.* 225–230. *Astérisque*, 5. *Soc. Math. France, Paris*, 1973. (Colin C. Graham) **53** #8772b 42A48 (43A45)

Topics on Kronecker sets. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **23** (1973), *no.* 4, 65–74. (R. Larsen) **49** #5733 43A46

A Kronecker theorem in functional analysis. *Colloq. Math.* **28** (1973), 247–250. (A. C. Zaanen) **48** #6809 42A99 (43A46)

Hausdorff dimension and approximation of smooth functions. *Michigan Math. J.* **20** (1973), 65–71. (B. Bojanov) **47** #7294 41A65 (28A75, 42A72)

Planar Fourier transforms and Diophantine approximation. *Proc. Amer. Math. Soc.* **40** (1973), 199–204. (W. W. Adams) **47** #9162 42A92

A further example on scales of Hausdorff functions. *J. London Math. Soc.* (2) **8** (1974), 585–586. (S. J. Taylor) **50** #10189 28A10

On Menshoff's set of multiplicity. *Math. Scand.* **34** (1974), 235–240. (Colin C. Graham) **50** #7935 42A48

Linear superposition of smooth functions. *Proc. Amer. Math. Soc.* **46** (1974), 360–362. (David A. Sprecher) **50** #4861 26A72 (46E15)

Brownian motion, approximation of functions, and Fourier analysis. *Studia Math.* **52** (1974), 53–68. (A. D. Wentzell) **50** #8733 60J65 (42A36, 60G17)

(*with* Berkson, Earl; Porta, Horacio) Möbius transformations of the disc and one-parameter groups of isometries of H^p. *Trans. Amer. Math. Soc.* **199** (1974), 223–239. (J. H. Hedlund) **50** #14365 47D10 (46E15)

Sets of multiplicity and differentiable functions. II. *Trans. Amer. Math. Soc.* **200** (1974), 427–435. (K. M. Garg) **52** #1158 42A72 (26A16)

Rearrangements of Brownian motion. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **31** (1974/75), 71–73. (W. J. Hendricks) **50** #11485 60J65 (60G17)

(*with* Mattila, Pertti) Hausdorff dimension and exceptional sets of linear transformations. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **1** (1975), *no.* 2, 387–392. (J. Král) **53** #11027 28A75

Approximation of smooth functions and covering properties of sets. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **2** (1975), *no.* 3, 479–481. (S. J. Taylor) **52** #680 26A69

Fourier analysis and paths of Brownian motion. (French summary) *Bull. Soc. Math. France* **103** (1975), *no.* 4, 427–432. (S. J. Taylor) **53** #1760 60J65 (60G17)

Large increments of Brownian motion. *Nagoya Math. J.* **56** (1975), 139–145. (S. Orey) **51** #7021 60J65 (60G17)

Brownian motion and sets of multiplicity. *Pacific J. Math.* **60** (1975), *no.* 2, 111–114. (S. J. Taylor) **52** #15707 60J65 (42A48)

Extremal sets of multiplicity. *Period. Math. Hungar.* **6** (1975), *no.* 2, 175–178. (Colin C. Graham) **52** #1147 42A48 (42A36)

Uniform convergence of Fourier series in harmonic analysis. *Studia Sci. Math. Hungar.* **10** (1975), *no.* 1-2, 81–83. (Colin C. Graham) **55** #8668 42A20

Random measures on planar curves. *Ark. Mat.* **14** (1976), *no.* 2, 245–250. (J.-P. Kahane) **57** #17106 42A36 (60G17, 60J65)

(*with* Bank, Steven B.) On meromorphic solutions of first-order differential equations. *Comment. Math. Helv.* **51** (1976), *no.* 3, 289–299. (Günter Frank) **55** #3375 34A20 (30–XX)

A nonlinear operator in potential theory. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 4, 731–735. (R. Kannan) **55** #10848 35J65 (47H15)

Covering properties of random series. *Duke Math. J.* **43** (1976), *no.* 2, 295–299. (S. D. Chatterji) **53** #8390 28A75 (60G17)

(*with* Bank, Steven B.) An extension of Hölder's theorem concerning the gamma function. *Funkcial. Ekvac.* **19** (1976), *no.* 1, 53–63. (A. K. Agarwal) **54** #7880 33A15

A negative theorem on superpositions. *J. Approximation Theory* **18** (1976), *no.* 1, 9–12. (Torbjörn Hedberg) **55** #5821 26A72

Meromorphic functions and smooth analytic functions. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 2, 272–274 (1977). (D. Mitrović) **55** #664 30A68

Bernoulli convolutions and differentiable functions. *Trans. Amer. Math. Soc.* **217** (1976), 99–104. (J.-P. Kahane) **53** #1155 42A72

(*with* Bank, Steven B.) On the Weierstrass functions, Sigma, Zeta, Pe, and their functional and differential equations. *Aequationes Math.* **16** (1977), *no.* 1–2, 149–164. (A. K. Agarwal) **57** #6383 30A20 (39A20)

(*with* Bank, Steven B.) A note on Hölder's theorem concerning the gamma function. *Math. Ann.* **232** (1978), *no.* 2, 115–120. (H. Klingen) **57** #16721 33A15

Kaufman, V. Š. *See* **Nievergelt, Jurg; et al.**, **57** #14560b *and* **Ollongren, A.**, **58** #3599b

Kaufmann, A. ★Cours moderne de calcul des probabilités. Avec une préface de Jean Vieillard. Progrès des Sciences et Techniques. Cours de Mathématiques Supérieures Appliquées (Mathématiques Modernes), No. 6. *Éditions Albin Michel, Paris*, 1965. 459 *pp.* (Editors) **50** #8617 60–01

(*with* Denis-Papin, Maurice) ★Cours de calcul tensoriel appliqué. Géométrie différentielle absolue. Avec des préfaces de F. Esclangon et Gabriel Kron. Troisième édition revue et corrigée. Progrès des Sciences et Techniques. Cours de Mathématiques Supérieures Appliquées (Mathématiques Modernes), No. 3. *Éditions Albin Michel, Paris*, 1966. 388 *pp.* (Editors) **50** #5653 53A45

(*with* Denis-Papin, Maurice) ★Cours de calcul opérationnel appliqué. Transformation de Carson-Laplace. Avec une préface de F. Esclangon. Cinquième édition revue et corrigée. Progrès des Sciences et Techniques. Cours de Mathématiques Supérieures Appliquées (Mathématiques Modernes), No. 1. *Éditions Albin Michel, Paris*, 1967. 237 *pp.* (Editors) **50** #5378 44A10

★Des points et des flèches . . . la théorie des graphes. *Dunod, Paris*, 1968. ix + 155 *pp.* (Editors) **50** #6862 05–01 (05Cxx)

★Introduction à la combinatorique en vue des applications. *Dunod, Paris*, 1968. xviii + 608 *pp.* (A. Sade (Zbl **169**, 18)) **51** #10109 05–02 (94A20)

(*with* Denis-Papin, Maurice) ★Cours de calcul matriciel appliqué. Avec des préfaces de F. Esclangon et G. Lehr. Cinquième édition revue et corrigée. Progrès des Sciences et Techniques. Cours de Mathématiques Supérieures Appliquées (Mathématiques Modernes), No. 2. *Éditions Albin Michel, Paris* 1969. 358 *pp.* (Editors) **50** #4597 15–01

★Einführung in die Graphentheorie. Aus dem Französischen übersetzt von Hartmann Scheiblechner. *R. Oldenbourg Verlag, Münich-Vienna*, 1971. 119 *pp.* (Editors) **50** #6863 05–01 (05Cxx)

(*with* Faure, Robert; Denis-Papin, Maurice) ★Manuale di matematica. Prima ristampa. Traduzione dal francese a cura di Maria Gilda Cossarini e Rosanna Benassi. Prefazione all'edizione italiana di Luigi Muracchini. *Istituto Editoriale Internazionale* [*ISEDI*], *Milan*, 1973. xxix + 904 *pp.* (Editors) **50** #6691 00A05

★Introduction à la théorie des sous-ensembles flous à l'usage des ingénieurs (fuzzy sets theory). Tome I: Éléments théoriques de base. Préface de L. A. Zadeh. *Masson et C^{ie}, Éditeurs, Paris*, 1973. xvii + 410 *pp.* (Robert Lowen) **58** #5245a 04A99 (02C05)

(*with* Henry-Labordère, A.) ★Méthodes et modèles de la recherche opérationnelle. Tome 3. L'Économie d'Entreprise, No. 27. *Dunod, Paris-Brussels-Montreal, Que.*, 1974. xiv + 398 *pp.* (M. Schäuble (Zbl **321** #90038)) **57** #18752 90–01 (90C10)

★Введение в прикладную комбинаторику. (Russian) [Introduction to applied combinators] Edited by B. A. Sevast′janov. Translated from the French by V. P. Mjakišev and V. E. Tarakanov. *Izdat. "Nauka", Moscow*, 1975. 479 *pp.* (Editors) **51** #10110 05–02 (94A20)

(*with* Grouchko, Daniel; Cruon, R.) ★Modèles mathématiques pour l'étude de la fiabilité des systèmes. *Masson et Cie, Éditeurs, Paris*, 1975. x+210 *pp*. (J. J. Stiffler) **55** #2098 90B25 (62N05)

★Introduction to the theory of fuzzy subsets. Volume I: Fundamental theoretical elements. Foreword by L. A. Zadeh. Translated from the French by D. L. Swanson. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1975. xvi+416 *pp*. (Robert Lowen) **58** #5245b 04A99 (02C05)

★Introduction à la théorie des sous-ensembles flous à l'usage des ingénieurs (fuzzy sets theory). Tome II: Applications à la linguistique, à la logique et à la sémantique. *Masson et Cie, Éditeurs, Paris*, 1975. xii+235 *pp*. (Robert Lowen) **58** #25056a 68–02 (04A99)

★Introduction à la théorie des sous-ensembles flous à l'usage des ingénieurs (fuzzy sets theory). Tome III: Applications à la classification et à la reconnaissance des formes, aux automates et aux systèmes, aux choix des critères. *Masson et Cie, Éditeurs, Paris*, 1975. xii+305 *pp*. (Editors) **58** #25056b 68–02 (04A99)

(*with* Dubois, T.; Cools, M.) ★Exercices avec solutions sur la théorie des sous-ensembles flous. *Masson et Cie, Éditeurs, Paris*, 1975. viii+166 *pp*. (Robert Lowen) **58** #27500 04A99

(*with* Pichat, Étienne) ★Méthodes mathématiques non numériques et leurs algorithmes. Tome I. Algorithmes de recherche des éléments maximaux. Préface par J. Kuntzmann. *Masson, Paris-New York-Barcelona*, 1977. xiv+189 *pp*. (D. R. Morrison) **56** #17190a 68A10 (94A20)

(*with* Pichat, Étienne) ★Méthodes mathématiques non numériques et leurs algorithmes. Tome II. Algorithmes de recherche de chemins et problèmes associés. Préface par J. Kuntzmann. *Masson, Paris-New York-Barcelona*, 1977. xiv+159 *pp*. (D. R. Morrison) **56** #17190b 68A10 (94A20)

★Introduction à la théorie des sous-ensembles flous à l'usage des ingénieurs (fuzzy sets theory). Tome I: Éléments théoriques de base. Deuxième édition revue et corrigée. Préface de L. A. Zadeh. *Masson, Paris-New York-Barcelona*, 1977. xxi+425 *pp*. (Robert Lowen) **58** #5245c 04A99 (02C05)

(*with* Grouchko, Daniel; Cruon, R.) ★Mathematical models for the study of the reliability of systems. Translated from the French. Mathematics in Science and Engineering, Vol. 124. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1977. x+221 *pp*. *ISBN* 0-12-402370-0 (P. Jambor) **58** #15103 90B25

(*with* Henry-Labordère, A.) ★Integer and mixed programming: theory and applications. Translated from the French by Henry C. Sneyd. Mathematics in Science and Engineering, Vol. 137. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1977. ix+379 *pp*. *ISBN* 0-12-402365-7 (P. Jambor) **58** #15141 90C10 (90–01)

(*with* Henry-Labordère, A.) ★Методы и модели исследования операций: Целочисленное программирование. (Russian) [Methods and models of operations research: Integer programming] Translated from the French by B. T. Vavilov, E. V. Babičeva and G. G. Ustinčenko. Edited by N. P. Buslenko. *Izdat*. "*Mir*", *Moscow*, 1977. 432 *pp*. (A. Aganbegjan) **58** #15142 90C10

★Introduction à la théorie des sous-ensembles flous à l'usage des ingénieurs (fuzzy sets theory). Tome IV: Compléments et nouvelles applications. *Masson, Paris-New York-Barcelona*, 1977. x+334 *pp*. (Editors) **58** #25056c 68–02 (04A99)

Kaufmann, Felix ★Das Unendliche in der Mathematik und seine Ausschaltung. Eine Untersuchung über die Grundlagen der Mathematik. Reprografischer Nachdruck der erste Auflage, 1930. *Wissenschaftliche Buchgesellschaft, Darmstadt*, 1968. x+203 *pp*. (Editors) **50** #1804 00A25 (01A75)

★The infinite in mathematics. Logico-mathematical writings. Edited by Brian McGuinness. With an introduction by Ernest Nagel. Translated from the German by Paul Foulkes. Vienna Circle Collection, Vol. 9. *D. Reidel Publishing Co., Dordrecht-Boston, Mass.-London*, 1978. xvii+235 *pp*. *ISBN* 90-277-0847-9 (H. C. Kennedy) **58** #16066 01A75 (02–03)

Kaufmann, I. An algorithm for division with double accuracy for digital computers. (Romanian. Russian and German summaries) *Bul. Şti. Tehn. Inst. Politehn. Timişoara* (*N.S.*) **13(27)** (1968), *no*. 1, 153–160. (Author's summary) **53** #9704 68A10

henrici-Kaufmann, Marie-Louise *See* **Henrici-Kaufmann, Marie-Louise**

Kaufmann, Matt A rather classless model. *Proc. Amer. Math. Soc.* **62** (1977), *no*. 2, 330–333. (James H. Schmerl) **57** #16058 02H20

Kaugars, Agnis (*with* Chartrand, Gary; Lick, Don R.) Critically *n*-connected graphs. *Proc. Amer. Math. Soc.* **32** (1972), 63–68. (L. H. Harper) **45** #93 05C99

Kaukėnas, Jonas An estimate of the probability of error in the classification of autoregressive random sequences by the Bayesian method. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 19 (1977), 103–122, 127. (O. Gulyás) **57** #4432 62H30 (62M10)

Kaul, C. L. *See* **Koul, C. L.**

Kaul, C. N. Some geometrical properties in plane plastic strain. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 41–45. (J. W. Craggs) **48** #5465 73.35

Waves in shallow water. *Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* **18** (1973), 1131–1133. (Author's summary) **49** #4415 76.35

Rectilinear anisentropic gas flows. L. M. Milne-Thomson anniversary issue, III. *J. Mathematical and Physical Sci.* **8** (1974), 183–200. (Peter Smith) **50** #11977 76.35

Rectilinear anisentropic flow of a gas. *J. Mathematical and Physical Sci.* **9** (1975), 185–191. (R. K. Rathy) **51** #7468 76.35

On the uniqueness of a class of partial differential equations. *J. Math. Phys. Sci.* **11** (1977), *no*. 6, 505–511. (A. Elcrat) **58** #1600 35J45

On the uniqueness of the displacement boundary-value problem for inextensible elastic materials. *Quart. J. Mech. Appl. Math.* **30** (1977), *no*. 4, 475–479. (S. C. Das) **58** #25286 73.47

Kaul, Helmut Ein Einschliessungssatz für *H*-Flächen in Riemannschen Mannigfaltigkeiten. (English summary) *Manuscripta Math.* **5** (1971), 103–112. (P. Günther) **45** #7646 53C40

Isoperimetrische Ungleichung und Gauss-Bonnet-Formel für *H*-Flächen in Riemannschen Mannigfaltigkeiten. *Arch. Rational Mech. Anal.* **45** (1972), 194–221. (R. Osserman) **47** #965a 53A10 (49F10, 53B25)

(*with* Hildebrandt, Stéfan) Two-dimensional variational problems with obstructions, and Plateau's problem for *H*-surfaces in a Riemannian manifold. *Comm. Pure Appl. Math.* **25** (1972), 187–223. (R. Osserman) **45** #5888 53A10 (49F25)

Remarks on the isoperimetric inequality for multiply-connected *H*-surfaces. *M Z.* **128** (1972), 271–276. (R. Osserman) **47** #965e 53A10 (49F10, 53B25)

(*with* Hildebrandt, Stéfan; Widman, Kjell-Ove) Harmonic mappings into Riemannian manifolds with non-positive sectional curvature. *Math. Scand.* **37** (19 *no*. 2, 257–263. (Jean-Claude Mitteau) **53** #9293 58E15

Schranken für die Christoffelsymbole. (English summary) *Manuscripta Math* (1976), *no*. 3, 261–273. (T. J. Willmore) **55** #6328 53C20 (58E15)

(*with* Hildebrandt, Stéfan; Widman, Kjell-Ove) Dirichlet's boundary value prob for harmonic mappings of Riemannian manifolds. *Math. Z.* **147** (1976), *no*. 3, 225– (J. L. Kazdan) **53** #11662 58E15 (31C05)

★Das Dirichletproblem für elliptische Differentialoperatoren mit Variationsstruktur auf Riemannschen Mannigfaltigkeiten. Bonner Mathematische Schriften, No. 94. *Mathematisches Institut der Universität Bonn, Bonn*, 1977. 68+iii (Author's review) **58** #24343 58E15 (35J20)

(*with* Hildebrandt, Stéfan; Widman, Kjell-Ove) An existence theorem for harm mappings of Riemannian manifolds. *Acta Math.* **138** (1977), *no*. 1-2, 1–16. (Jean-Cla Mitteau) **55** #6478 58E15

Kaul, Maharaj K. Determination of eingenvalues of large structural systems in an arbitrarily specified range. *Internat. J. Numer. Methods Engrg.* **11** (1977), *no*. 5, 867–874. (Author's summary) **57** #11019 65F15

Kaul, R. K. (*with* Delph, T. J.; Herrmann, G.) On coalescence of frequencies and con points in the dispersion spectra of elastic bodies. *Internat. J. Solids and Structures* (1977), *no*. 5, 423–436. (H. J. Weinitschke) **56** #13907 73.35

Kaul, R. N. (*with* Chadha, S. S.) Duality in non-linear fractional programming proble (Czech summary) *Ekonom.-Mat. Obzor* **7** (1971), 141–148. (V. F. Dem′janov) **46** #6842 90C30

(*with* Chandra, Mahesh) On Farkas' theorem in complex space. Volume dedica to the memory of V. Ramaswami Aiyar. *Math. Student* **39** (1971), 24–26 (1972). (N Glassman) **48** #6136 15A39 (90C05)

(*with* Chadha, S. S.) A linear fractional functionals program with variable coefficients. *J. Math. Sci.* **7** (1972), 15–20 (1974). (Authors' summary) **57** #1176 90C30

(*with* Chadha, S. S.) A dual non-linear program. *Metrika* **19** (1972), 18–22. (Torrence D. Parsons) **48** #10507 90C30

(*with* Rani, Oma) Nonlinear programming in complex space. *J. Math. Anal. A* **43** (1973), 1–14. (A. Göpfert) **52** #7546 90C25 (90C05, 90C20)

(*with* Rani, Oma) Duality theorems for a class of nonconvex programming problems. *J. Optimization Theory Appl.* **11** (1973), 305–308. (Torrence D. Parso **48** #1710 90C30

(*with* Rani, Oma) A theorem of Fritz John in complex programming. *Lin Algebra and Appl.* **7** (1973), 217–232. (Abraham Berman) **51** #9824 90C30

A note on duality theorem for complex programming. *Math. Student* **41** (19 48–50. (O. Pokorná) **49** #2085 90C05

(*with* Rani, Oma) Symmetric-duality for nonlinear programming in complex spa *Z. Angew. Math. Mech.* **53** (1973), 483–484. (I. M. Stancu-Minasian) **55** #1210 90C30

(*with* Rani, Oma) General symmetric dual quadratic programs in complex spa *Z. Operations Res. Ser. A-B* **17** (1973), *no*. 1, A5–A12. (I. M. Stancu-Minasi **52** #10038 90C20

(*with* Bhatia, Davinder) Generalized linear fractional programming. (Czech summary) *Ekonom.-Mat. Obzor* **10** (1974), 322–330. (R. L. Graves) **53** #7484 90C30

(*with* Lata, Manju) A method of decomposition for linear fractional programmin *Opsearch* **11** (1974), *no*. 4, 183–192. (J. A. Tomlin) **53** #4958 90C05

(*with* Gupta, Reeta) Optimality criteria for a class of non differentiable non-lin programs. (German summary) *Z. Oper. Res. Ser. A-B* **22** (1978), *no*. 3, A107–A1 (Norihiko Adachi) **58** #15163 90C25 (90C30)

Kaul, Romesh K. Quantization of free field theory of massless antisymmetric tensor gau fields of second rank. *Phys. Rev. D* (3) **18** (1978), *no*. 4, 1127–1136. (A. Rou **58** #14670 81.47

Kaul, Saroop K. On the irregular sets of a transformation group. *Canad. Math. Bull.* (1973), 225–232. (W. E. Haver) **48** #3028 54H15

(*with* Pareek, C. M.) Some generalizations of Lindelöf and paracompact space *Monatsh. Math.* **79** (1975), 131–137. (C. R. Borges) **51** #6723 54D20

Local compactness in set valued function spaces. *Canad. Math. Bull.* **19** (1976), 2, 193–198. (R. E. Smithson) **55** #1297 54C60

Ascoli theorem and the exponential map in set valued function spaces. (Itali summary) *Rend. Mat.* (6) **9** (1976), *no*. 1, 165–177. (P. J. Collins) **54** #8563 54C

Regularity: a generalization of equicontinuity. *General topology and its relations modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prag* 1976), *Part B, pp*. 223–227. *Soc. Czechoslovak Mathematicians and Physicists, Prag* 1977. (Hughes B. Hoyle, III) **57** #7517 54C60

Zero-dimensional orbit closure decompositions of transformation groups. *Bull. In Math. Acad. Sinica* **5** (1977), *no*. 2, 199–202. (R. W. Bagley) **57** #4143 54H15

Kaul, Veena (*with* Chawla, M. M.) Optimal rules for numerical integration round the u circle. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 145–152. (F. Steng **48** #12780 65D30

(*with* Chawla, M. M.) Optimal rules with polynomial precision for Hilbert spac possessing reproducing kernel functions. *Numer. Math.* **22** (1973/74), 207–218. (J. Curtiss) **50** #14019 41A65 (65D30)

Optimal rules for the numerical integration of periodic analytic functions. *Mathematical and Physical Sci.* **9** (1975), *no*. 5, 471–482. (Sven-Åke Gustafson) **54** #14326 65E05

(*with* Chawla, M. M.) Optimal rules with polynomial precision for Hilbert space possessing reproducing kernel functions. II. Error bounds. *Numer. Math.* **25** (1975/76 *no*. 4, 379–382. (J. H. Curtiss) **55** #4656 65J05

Optimal approximations in Hilbert spaces interpolatory for a pre-assigned set o functions. *J. Mathematical and Physical Sci.* **11** (1977), *no*. 1, 55–71. (F. M. Larkin **58** #23304 41A65

ach, Friedrich Das Copernicanische Prinzip bei Leibniz. *Akten des II. Internationalen ibniz-Kongresses (Hannover, 1972), Band I: Begrussüngsansprachen, esamtinterpretationen, Geschichte-Recht-Gesellschaftstheorie, historische Wirkung, richte*, *pp.* 95–103. *Studia Leibnitiana Suppl., Vol. XII, Steiner, Wiesbaden*, 1973. eljko Loparić) **56** #11701 01A50 (02A05)

See also **Jahresfeier: Geburt von Nicolaus Copernicus**, **48** #29

ud, N. N. (*with* Pai, Devidas) Fixed point theorems for set-valued mappings. *Nieuw rch. Wisk.* (3) **23** (1975), *no.* 1, 49–66. (Simeon Reich) **52** #15422 54H25

ner, Wolfgang ★Über Christoff Rudolff und seine *Coss*. Ein Beitrag zur Geschichte er Rechenkunst zu Beginn der Neuzeit. Veröffentlichungen des Forschungsinstituts des eutschen Museums für die Geschichte der Naturwissenschaften und der Technik. eihe A: Kleine Mitteilungen, No. 67. *Deutsches Museum, Munich*, 1970. ii + 14 *pp.* uthor's foreword) **54** #27 01A40

★Über die Handschrift CGM 740 der Bayerischen Staatsbibliothek München. Ein eitrag zur Geschichte der Rechenkunst im ausgehenden Mittelalter. eröffentlichungen des Forschungsinstituts des Deutschen Museums für die Geschichte er Naturwissenschaften und der Technik. Reihe C: Quellentexte und Übersetzungen, o. 11. *Deutsches Museum, Munich*, 1970. iv + 20 *pp.* (M. Folkerts) **54** #9926 01A40

Über den Beginn des Rechnens mit Irrationalitäten in Deutschland. Ein Beitrag zur eschichte der Rechenkunst im ausgehenden Mittelalter. *Janus* **57** (1970), *no.* 4, 41–260. (D. J. Struik) **57** #12037 01A35

Über das Zusammenwirken von Systematik und Problematik in der frühen eutschen Algebra: Ein Beitrag zur Geschichte der Rechenkunst zu Beginn der Neuzeit. English summary) *Sudhoffs Arch.* **54** (1970), *no.* 3, 299–315. (Zbl **213**, 286) 01A40

★Deutsche Mathematiker des 15. und 16. Jahrhunderts und ihre Symbolik. Ein rückenschlag in der Mathematik vom Altertum zur Neuzeit. Ein Beitrag zur eschichte der Rechenkunst im ausgehenden Mittelalter. Veröffentlichungen des orschungsinstituts des Deutschen Museums für die Geschichte der aturwissenschaften und der Technik, Reihe A: Kleine Mitteilungen, No. 90. *orschungsinstitut für die Geschichte der Naturwissenschaften und der Technik, Deutsches Museum, Munich*, 1971. i + 42 *pp.* (M. Folkerts) **58** #10025 01A40

Über Proportionen und Hochzahlen. Ein Beitrag zur Geschichte der Rechenkunst. *anus* **58** (1971), 119–136. (M. Folkerts) **58** #4833 01A40

Über einige algebraische Abschnitte aus der Wiener Handschrift Nr. 5277. *Österreich. Akad. Wiss. Math.-Natur. Kl. Denkschr.* **116** *no.* 4, 115–183 (1972). (M. Folkerts (Zbl **277** #01002)) **58** #26848 01A40

Beiträge zur mathematischen Literatur des 13. bis 16. Jahrhunderts. Ein Beitrag zur Geschichte der Rechenkunst im ausgehenden Mittelalter. *Sudhoffs Arch.* **57** (1973), 315–328. (1 *plate*) (M. Folkerts) **58** #4826 01A35 (01A40)

Über einen frühen Nachweis zur symbolischen Algebra. Ein Beitrag zur Geschichte der Algebra. *Österreich. Akad. Wiss. Math.-Natur. Kl. Denkschr.* **116**, *no.* 5, 12 *pp.* (1975). (Author's review (Zbl **341** #01004)) **58** #26814 01A35

up, Burchard Zur Konstruktion komplexer Basen. (English summary) *Manuscripta Math.* **15** (1975), *no.* 4, 385–408. (Gerd Fischer) **52** #14357 32C20

Ein geometrisches Endlichkeitskriterium für Untergruppen von Aut(C, 0) und holomorphe 1-codimensionale Blätterungen. *Comment. Math. Helv.* **53** (1978), *no.* 2, 295–299. (Ulrich Koschorke) **58** #7655 57D30 (32M05)

See also **Holmann, Harald**, **54** #2949 *and* **Holmann, Harald**, **54** #2950

up, David J. Canonical quantization with quadratic constraints. *General Relativity and Gravitation* **2** (1971), 247–279. (Gordon N. Fleming) **53** #12477 83.53

A modification of the variable phase method for optimum numerical calculation of phase shifts. *J. Computational Phys.* **9** (1972), 254–272. (J.-L. Calais) **50** #12046 81.34

(*with* Ablowitz, Mark J.; Newell, Alan C.; Segur, Harvey) Method for solving the sine-Gordon equation. *Phys. Rev. Lett.* **30** (1973), 1262–1264. (Harry E. Moses) **53** #9967 81.35 (35Q99)

(*with* Ablowitz, Mark J.; Newell, Alan C.; Segur, Harvey) Nonlinear-evolution equations of physical significance. *Phys. Rev. Lett.* **31** (1973), 125–127. (Harry E. Moses) **53** #9968 81.35 (35Q99)

(*with* Ablowitz, Mark J.; Newell, Alan C.; Segur, Harvey) The inverse scattering transform-Fourier analysis for nonlinear problems. *Studies in Appl. Math.* **53** (1974), *no.* 4, 249–315. (Alwyn C. Scott) **56** #9108 35Q99 (58F99)

Exact quantization of the nonlinear Schrödinger equation. *J. Mathematical Phys.* **16** (1975), *no.* 10, 2036–2041. (Woodford W. Zachary) **52** #4839 81.35 (35G20)

Finding eigenvalue problems for solving nonlinear evolution equations. *Progr. Theoret. Phys.* **54** (1975), *no.* 1, 72–78. (Christiane Coudray) **54** #6743 81.35

A higher-order water-wave equation and the method for solving it. *Progr. Theoret. Phys.* **54** (1975), *no.* 2, 396–408. (E. V. Laitone) **55** #7177 81.35 (76.35)

Method for solving the sine-Gordon equation in laboratory coordinates. *Studies in Appl. Math.* **54** (1975), *no.* 2, 165–179. (Mark J. Ablowitz) **56** #9110 35Q99

Closure of the squared Zakharov-Shabat eigenstates. *J. Math. Anal. Appl.* **54** (1976), *no.* 3, 849–864. (Marcel Coz) **54** #1989 (EA **54**) 81.47

A perturbation expansion for the Zakharov-Shabat inverse scattering transform. *SIAM J. Appl. Math.* **31** (1976), *no.* 1, 121–133. (Christiane Coudray) **53** #13897 35R30

The three-wave interaction—a nondispersive phenomenon. *Studies in Appl. Math.* **55** (1976), *no.* 1, 9–44. (Alwyn C. Scott) **56** #9111 35Q99 (78.35)

(*with* Satsuma, Junkichi) A Bäcklund transformation for a higher order Korteweg-de Vries equation. *J. Phys. Soc. Japan* **43** (1977), *no.* 2, 692–726. (Authors' summary) **56** #10549 81.35

(*with* Newell, Alan C.) On the Coleman correspondence and the solution of the massive Thirring model. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 9, 325–331. **56** #10539 81.35

(*with* Newell, Alan C.) An exact solution for a derivative nonlinear Schrödinger equation. *J. Mathematical Phys.* **19** (1978), *no.* 4, 798–801. (Authors' summary) **57** #4882 81.35

Applications of the inverse scattering transform. I. Self-induced transparency. Conference on the Theory and Application of Solitons (Tucson, Ariz., 1976). *Rocky Mountain J. Math.* **8** (1978), *no.* 1–2, 71–82. (P. J. Roberts) **57** #18571a 81.35

Applications of the inverse scattering transform. II. The three-wave resonant interaction. Conference on the Theory and Application of Solitons (Tucson, Ariz., 1976). *Rocky Mountain J. Math.* **8** (1978), *no.* 1–2, 283–308. (P. J. Roberts) **57** #18571b 81.35

Simple harmonic generation: an exact method of solution. *Stud. Appl. Math.* **59** (1978), *no.* 1, 25–35. (Ian Lerche) **58** #8809 78.35 (35Q99)

Kaup, Ludger The Jordan-Brouwer separation theorem for locally analytic spaces. *An. Acad. Brasil. Ci.* **42** (1970), 655–659. (M. F. Atiyah) **47** #5294 32C25 (32C35, 55C05)

Poincaré Dualität für Räume mit Normalisierung. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 1–31. (K. Lamotke) **52** #6017 32C15 (32C40)

Zur Homologie projektiv algebraischer Varietäten. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 479–513. (K. Lamotke) **52** #6018 32C15 (32C40)

(*with* Gerstner, Otto) Homotopiegruppen von Hyperflächenschnitten. *Math. Ann.* **204** (1973), 105–130. (W. Barth) **51** #3547 32J25

(*with* Barthel, Gottfried) Homotopieklassifikation einfach zusammenhängender normaler kompakter komplexer Flächen. *Math. Ann.* **212** (1974/75), 113–144. (K. Lamotke) **52** #6019 32C15 (32J15)

(*with* De Grande-De Kimpe, Nicole; Vasilache, Sergiu) Sur quelques propriétés des modules A-convexes. (English summary) *Ann. Mat.-Pura Appl.* (4) **106** (1975), 155–169. (Ian G. Craw) **54** #3408 46H25

(*with* Weidner, Hans Günther) Mayer-Vietoris Sequenzen und Lefschetzsätze für mehrfache Hyperflächenschnitte in der Homotopie. *Math. Z.* **142** (1975), 243–269. (A. Morimoto) **51** #13297 32J25 (55E05)

Exakte Sequenzen für globale und lokale Poincaré-Homomorphismen. *Real and complex singularities (Proc. Ninth Nordic Summer School/NAVF Sympos. Math., Oslo,* 1976), *pp.* 267–296. *Sijthoff and Noordhoff, Alphen aan den Rijn*, 1977. (W. Barth) **58** #1245 32C99

(*with* Barthel, Gottfried) On the homotopy type of weighted homogeneous normal complex surfaces. *Several complex variables (Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 263–271. *Amer. Math. Soc., Providence, R.I.*, 1977. (P. Orlik) **56** #8922 32J15 (14J15)

Kaup, Wilhelm Einige Bemerkungen über polynomiale Vektorfelder, Jordanalgebren und die Automorphismen von Siegelschen Gebieten. *Math. Ann.* **204** (1973), 131–144. (S. Kaneyuki) **53** #11107 32M15 (17C35)

Über die Automorphismen Grassmannscher Mannigfaltigkeiten unendlicher Dimension. *Math. Z.* **144** (1975), *no.* 2, 75–96. (O. Loos) **53** #8512 32M05

Analytic transformation groups. *Functional analysis (Proc. Brazilian Math. Soc. Sympos., Inst. Mat., Univ. Estad. Campinas, São Paulo*, 1974), *pp.* 235–243. *Lecture Notes in Pure and Appl. Math.*, 18. *Dekker, New York*, 1976. (L. Nachbin (Zbl **362** #57008)) **58** #28701 32M05 (57E99)

On the automorphisms of certain symmetric complex manifolds of infinite dimensions. *An. Acad. Brasil. Ci.* **48** (1976), *no.* 2, 153–163. (E. Vinberg) **56** #16002 32M15 (32M05)

(*with* Upmeier, Harald) Banach spaces with biholomorphically equivalent unit balls are isomorphic. *Proc. Amer. Math. Soc.* **58** (1976), 129–133. (Ngô van Quê) **54** #10690 32M05 (58C10, 46B05)

(*with* Harris, Lawrence A.) Linear algebraic groups in infinite dimensions. *Illinois J. Math.* **21** (1977), *no.* 3, 666–674. (Jean-Pierre Vigué) **57** #544 22E65 (58B10, 58B05)

(*with* Upmeier, Harald) An infinitesimal version of Cartan's uniqueness theorem. *Manuscripta Math.* **22** (1977), *no.* 4, 381–401. (Jean-Pierre Vigué) **57** #6528 32M10

Algebraic characterization of symmetric complex Banach manifolds. *Math. Ann.* **228** (1977), *no.* 1, 39–64. (Jean-Pierre Vigué) **56** #12342 32M15 (58B10)

(*with* Upmeier, Harald) Jordan algebras and symmetric Siegel domains in Banach spaces. *Math. Z.* **157** (1977), *no.* 2, 179–200. (Jean-Pierre Vigué) **58** #11532 32M15 (17C35)

(*with* Braun, Robert Burkhard; Upmeier, Harald) A holomorphic characterization of Jordan C^*-algebras. *Math. Z.* **161** (1978), *no.* 3, 277–290. (J. D. Maitland Wright) **58** #12398 46K99 (17C99, 32M15)

Kauppi, Raili *See* **Essays: Oiva Ketonen on his sixtieth birthday**, **49** #10521

Kaur, Bhupinder (*with* Sharma, Bhu Dev) Phased error correcting perfect codes. *J. Cybernet.* **7** (1977), *no.* 3-4, 227–247. (Jack K. Wolf) **56** #11517 94A10

Kaur, Gurnam The minimum discriminant of sixth degree totally real algebraic number fields. *J. Indian Math. Soc.* (*N.S.*) **34** (1970), 123–134 (1971). (H. J. Godwin) **45** #1875 12A50

Kausel, Eduardo Convergence problems in the asymptotic expansions for the Bessel functions of complex argument. *Internat. J. Numer. Methods Engrg.* **10** (1976), *no.* 6, 1404–1406. (Author's summary) **56** #9912 65D20

Kaushal, R. S. (*with* Nagpal, A. K.) A note on the unitary Foldy-Wouthuysen operator for arbitrary spin. *Lett. Nuovo Cimento* (2) **9** (1974), 391–394. (From the text) **58** #25598 81.47

Kaushik, Manohar Lal Burst-error-correcting codes with weight-constraints under a new metric. *J. Cybernet.* **8** (1978), *no.* 2, 183–202. (Stefan Dodunekov) **58** #9768 94A10

Kaushik, Vimla (*with* Chilana, Ajit Kaur) Examples in linear topological spaces. *J. London Math. Soc.* (2) **8** (1974), 231–238. (S. O. Iyahen) **50** #2862 46A15

Kaušilaĭte, D. P. Solution of a nonlinear hydrodynamics problem. *Dokl. Akad. Nauk SSSR* **198** (1971), 555–558 (*Russian*); *translated as Soviet Physics Dokl.* **16** (1971), 373–375. (P. G. Ciarlet) **46** #8438 65N10

(*with* D′jakonov, Evgeniĭ G.) A difference scheme with the error $O(\tau^2+|h|^2)$ for the Navier-Stokes system. (Russian) *Mat. Zametki* **12** (1972), 59–66. (N. N. Janenko) **55** #4715 65N05

Kausmann, U. (*with* Lommatzsch, Klaus; Nožička, František) ★Lineare parametrische Optimierung. Wissenschaftliche Taschenbücher, Reihe Mathematik/Physik, 166. *Akademie-Verlag, Berlin*, 1976. 160 *pp.* (Editors) **58** #25965 90C05 (90–01)

Kautschitsch, Hermann Über vertauschbare Polynome mit vorgegebenen Gradzahlen. *Arch. Math. (Basel)* **27** (1976), *no.* 6, 611–619. (Winfried Müller) **55** #2860 12E10 (12C05)

Zur Theorie der Vollideale in Ringen formaler Potenzreihen. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **11(31)** (1976), *no.* 2, 209–215. (N. Sankaran) **56** #5534 13J05

Über Vollideale in Potenzreihenringen. *Period. Math. Hungar.* **7** (1976), *no.* 2, 141–152. (N. Sankaran) **55** #12720 13J05 (13C99)

Kautsky, J. (*with* Bayes, A. J.; Wamsley, J. W.) Computation in nilpotent groups (application). *Proceedings of the Second International Conference on the Theory of Groups (Australian Nat. Univ., Canberra,* 1973), *pp.* 82–89. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin,* 1974. (K. W. Weston) **50** #7299 20–04

Kautzleben, H. *See* **Proceedings: International Symposium on Geodesy and Physics of the Earth, 58** #32828a *and* **Proceedings: International Symposium on Geodesy and Physics of the Earth, 58** #32828b

Kavanaugh, William P. *See* **Automatic and remote control, 51** #9864 *and* **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360b

Kaveh, A. Improved cycle bases for the flexibility analysis of structures. *Comput. Methods Appl. Mech. Engrg.* **9** (1976), *no.* 3, 267–272. (Author's summary) **56** #7403 73.05

Kavokin, A. A. The asymptotic continuity of the solution of the Stefan problem with respect to boundary conditions for small time. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1976**, *no.* 1, 62–66, 93. (Author's summary) **57** #13186 35K05

(*with* Kim, E. I.) Solution in the small of a problem with a nonlinear boundary condition for the heat equation in an expanding domain. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 1, 41–46, 91. (Authors' summary) **58** #11929 35K60

Kavtaradze, L. G. (*with* Piranašvili, Z. A.) Certain properties of periodic nonstationary random processes. (Russian. Georgian summary) *V. I. Lenin. Sakharth. Politekh. Inst. Samecn. Šrom.* **1975**, *no.* 3(176) *Math., Mekh.*, 93–105. (I. G. Žurbenko) **53** #14660 60G99

Kawabata, Arisato Green function theory of Raman scattering. *J. Phys. Soc. Japan* **30** (1971), 68–85. (Author's summary) **53** #15095 78.34

Kawabata, Nobuo Mathematical analysis of the visual illusion. *IEEE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 12, 818–824. (Author's summary) **58** #26187 92A25

Kawabata, Shigetoku General convergence theorems for the numerical function and the nonstationary stochastic processes. *J. Math. Soc. Japan* **27** (1975), 1–8. (T. Kawata) **51** #3805 44A05 (60G99)

On the existence and nonexistence of global solution to stochastic differential equations. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 235–241. (D. W. Stroock) **52** #6871 60H10 (60J60)

Kawabe, Takeshi (*with* Mannari, Isao) Extended Watson integral for an anisotropic simple cubic lattice. *Progr. Theoret. Phys.* **44** (1970), 359–362. (S. Gudder) **46** #1220 81.06

Kawada, Takayuki Continuity of stochastic processes on metric spaces. *Proc. Japan Acad.* **46** (1970), *no.* 7, *supplement*, 784–788. (P. M. Lee) **45** #6067 60G30

(*with* Kôno, Norio) A remark on nowhere differentiability of sample functions of Gaussian processes. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 932–934. (Simeon M. Berman) **47** #1118 60G17 (60G15)

Oscillation des processus gaussiens. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A97–A99. (P. M. Lee) **45** #6071 60G15

(*with* Kôno, Norio) On the variation of Gaussian processes. *Proceedings of the Second Japan-USSR Symposium on Probability Theory (Kyoto,* 1972), *pp.* 176–192. *Lecture Notes in Math., Vol.* 330, *Springer, Berlin,* 1973. (S. J. Taylor) **55** #11365 60G15

The Lévy-Baxter theorem for Gaussian random fields: a sufficient condition. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 2, 463–469. (Simeon M. Berman) **52** #4393 60G15

Kawada, Y. *See* **Topology, 58** #31045

Kawada, Yukiyosi Class formations. 1969 *Number Theory Institute (Proc. Sympos. Pure Math., Vol. XX, State Univ. New York, Stony Brook, N.Y.,* 1969), *pp.* 96–114. *Amer. Math. Soc., Providence, R.I.,* 1971. (J. Browkin) **50** #12983 12B25

See also **Hattori, Akio; et al., 55** #7693

Kawada, Yutaka A note on cogenerators in the category of modules. *Proc. Japan Acad.* **48** (1972), 470–473. (B. Stenström) **48** #4047 16A64

Kawaguchi, Akitsugu On geometrization of calculus of variations. *Proceedings of the C. Carathéodory International Symposium (Athens,* 1973), *pp.* 271–281. *Greek Math. Soc., Athens,* 1974. (H. Rund) **57** #4034 53B40 (49F99, 58E15)

Professor Evan Tom Davies. *Tensor (N.S.)* **28** (1974), i–ii. (Editors) **50** #4215 01A70

Professor Harold Stanley Ruse. *Tensor (N.S.)* **29** (1975), *no.* 3, i. (1 *plate*) (Editors) **51** #5236 01A70

On the concepts and theories of higher order spaces. *Period. Math. Hungar.* **7** (1976), *no.* 3-4, 291–299. (R. Behari) **5[illegible]** #3763 53B40

Professor Enrico Bompiani. *Tensor (N.S.)* **30** (1976), *no.* 3, 211–212. (Editors) **55** #59 01A70

See also **Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, 48** #15

Kawaguchi, Hiroaki On Finsler spaces with the vanishing second curvature tensor. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. III. *Tensor (N.S.)* **26** (1972), 250–254. (Makoto Matsumoto) **48** #4950 53B40

Kawaguchi, S. (*with* Enatsu, H.) Covariant Hamiltonian formalism for quantized fields and the hydrogen mass levels. (Italian and Russian summaries) *Nuovo Cimento A* (11) **27** (1975), *no.* 4, 458–481. (Authors' summary) **54** #9441 81.47

Kawaguchi, Syun-ichi On the connection C' in a special Kawaguchi space. *J. Hokkaido Univ. Ed. Sect. II A* **19** (1968/69), *no.* 1, 23–27. (Author's introduction) **58** #30880 53B20

Some properties of the curvature tensors in a special Kawaguchi space of even dimensions. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor (N.S.)* **25** (1972), 451–454. (S. Watanabe) **48** #12374 53B40

Remarks on an even dimensional special Kawaguchi space. *Tensor (N.S.)* **27** (1973), 346–348. (J. R. Vanstone) **49** #3741 53B40

Kawaguchi, T. (*with* Maruyama, Y.) A note on minimax (maximin) programming. *Management Sci.* **22** (1975/76), *no.* 6, 670–676. (Nimrod Megiddo) **53** #2354 90C05 (90C20)

On the application of Finsler geometry to engineering dynamical systems. *Period. Math. Hungar.* **8** (1977), *no.* 3-4, 281–289. (From the text) **58** #32425 78.53

Kawaguchi, Tomoaki *See* **Commemoration volumes for Prof. Dr. Akitsugu Kawagu seventieth birthday, 48** #15

Kawaguchi, Toshihisa (*with* Sugawara, Masahiro) K- and KO-rings of the lens s $L^n(p^2)$ for odd prime p. *Hiroshima Math. J.* **1** (1971), 273–286. (M. Mahov **47** #1053 55F50

Kawahara, Mutsuto (*with* Yoshimura, Nobutoshi; Nakagawa, Katsuya; Ohsaka, Ha Steady and unsteady finite element analysis of incompressible viscous fluid. *Intern Numer. Methods Engrg.* **10** (1976), *no.* 2, 437–456. (Authors' summary) **56** #141 76.65

(*with* Hasegawa, Kenichi) Periodic Galerkin finite element method of tidal f *Internat. J. Numer. Methods Engrg.* **12** (1978), *no.* 1, 115–127. (R. Manohar) **57** # 76.65

Kawahara, Takuji Effect of random inhomogeneities on nonlinear propagation of v waves. *J. Phys. Soc. Japan* **41** (1976), *no.* 4, 1402–1409. (Alan Jeffrey) **54** #93 76.60

(*with* Topper, Jeffrey) Approximate equations for long nonlinear waves on a vis fluid. *J. Phys. Soc. Japan* **44** (1978), *no.* 2, 663–666. (Authors' summary) **58** #87 76.41

Kawahara, Yasuo Manifolds in categories. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **26** (1 *no.* 2, 241–261. (D. B. Fuks) **54** #3735 58A05 (53A55)

Relations in categories with pullbacks. *Mem. Fac. Sci. Kyushu Univ. Ser.* (1973), 149–173. (V. Topenčarov) **52** #10844 18B10

Matrix calculus in I-categories and an axiomatic characterization of relations regular category. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 249–273. (V. Topenčarov) **53** #8182 18B10

Notes on the universality of relational functors. *Mem. Fac. Sci. Kyushu Univ. Se* **27** (1973), 275–289. (V. Topenčarov) **53** #8183 18B10

On the class of regular epimorphisms. *Comm. Algebra* **3** (1975), *no.* 9, 851–857 Wick Pelletier) **52** #10836 18A20

(*with* Kudo, Tatsuji) A construction of closed categories related to k-spaces. *Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 113–121. (Donald W. Kahn) **53** #40 54D50 (55D99)

(*with* Chaudhry, Muhammad Anwar) On the lattice of quotients of an adj machine. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 1, 51–70. (E. G. Ma **56** #3085a 18B20

A relation theoretic proof of a tripleability theorem over exact categories. *Kyushu Inst. Tech. Math. Natur. Sci. No.* 25 (1978), 31–40. (S. J. R. Vorster) **58** #1 18C15

Kawahara, Yûsaku (*with* Uchibori, Tomio) A characterization of ramification inde high order differentials in Dedekind domains. *TRU Math.* **9** (1973), 35–39. (Y. Na **50** #2148 13B15

(*with* Niitsuma, Hiroshi; Uchibori, Tomio) On the sections of the principal par a curve. *TRU Math.* **11** (1975), 1–4. (Knud Lønsted) **54** #310 14C20 (14F20)

Kawahata, Yuriko A connection problem for nth order differential equations of Fuch type with three regular singularities. (Japanese) *J. Tsuda College No.* 8 (1976), 69 (P. F. Hsieh) **57** #16867a 34E05 (34A20, 34C05)

A connection problem for nth order differential equations of Fuchsian type three regular singularities. II. (Japanese) *J. Tsuda College No.* 10 (1978), 45–55. (P Hsieh) **57** #16867b 34E05 (34A20, 34C05)

Kawai, Hajime (*with* Mine, Hisashi) Preventive replacement of a 1-unit system wit wearout state. *IEEE Trans. Reliab.* **R-23** (1974), *no.* 1, 24–29. (R. Subraman **53** #7417 90B25

(*with* Mine, Hisashi) An optimal maintenance policy for a 2-unit parallel sys with degraded states. *IEEE Trans. Reliab.* **R-23** (1974), *no.* 2, 81–86. (József Per **52** #12744 90B25

(*with* Mine, Hisashi) An optimal inspection and replacement policy. *IEEE Tr Reliab.* **R-24** (1975), *no.* 5, 305–309. (A. Obretenov) **56** #2303 90B25

(*with* Mine, Hisashi) Marginal checking of a Markovian degradation unit w checking interval is probabilistic. *J. Operations Res. Soc. Japan* **19** (1976), *no.* 158–173. (S. K. Srinivasan) **54** #6924 90B25

(*with* Mine, Hisashi) Preventive maintenance of a two-unit standby redund system with a good state. *Mem. Fac. Engrg. Kyoto Univ.* **38** (1976), *no.* 4, 159–1 (Andor Dobó) **56** #2304 90B25

Kawai, Kazumitsu (*with* Sario, Leo) Extremal properties of quasiharmonic forms functions. *Kōdai Math. Sem. Rep.* **23** (1971), 267–275. (M. Glasner) **46** #839 53C65

(*with* Sario, Leo) Extremal solutions of $\Delta u = Pu$. *Kōdai Math. Sem. Rep.* **23** (19 276–289. (W. H. Ow) **45** #5915 53C20 (31B05, 58G99)

Kawai, Sōichi On blowing up algebraic cocycles. A Symposium on Complex Manifo (Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 240 (1975), 244–249. (P. Or **54** #7472 14F25 (57D95)

A note on Steenrod reduced powers of algebraic cocycles. *Complex analysis algebraic geometry, pp.* 375–381. *Iwanami Shoten, Tokyo,* 1977. (P. Orlik) **56** #856 14C99 (55G10)

Kawai, Takahiro On the theory of Fourier hyperfunctions and its applications to par differential equations with constant coefficients. *J. Fac. Sci. Univ. Tokyo Sect. I Math.* **17** (1970), 467–517. (P. Schapira) **45** #7252 35E99 (46F15)

Construction of elementary solutions for I-hyperbolic operators and solutions w small singularities. *Proc. Japan Acad.* **46** (1970), 912–916. (P. Schapira) **45** #7244 35D99

(*with* Kashiwara, Masaki) Pseudo-differential operators in the theory of hyperfunctions. *Proc. Japan Acad.* **46** (1970), 1130–1134. (V. Guillemin) **47** #4295 58G15 (35S05, 46F15, 47G05)

Construction of a local elementary solution for linear partial differential operato II. *Proc. Japan Acad.* **47** (1971), 147–152. (B. Hellwig) **48** #694 35G05 (46E15)

On the global existence of real analytic solutions of linear differential equations. *Proc. Japan Acad.* **47** (1971), 537–540. (P. Schapira) **45** #7253 35E99

On the global existence of real analytic solutions of linear differential equations. I *Proc. Japan Acad.* **47** (1971), 643–647. (P. Schapira) **46** #4001 35L30 (*with* Komatsu, Hikosaburo) Boundary values of hyperfunction solutions of linear partial differential equations. *Publ. Res. Inst. Math. Sci.* **7** (1971/72), 95–104. (P. Schapira) **46** #5817 35D99 (46F15)

Construction of local elementary solutions for linear partial differential operators with real analytic coefficients. I. The case with real principal symbols. *Publ. Res. Inst. Math. Sci.* **7** (1971/72), 363–397. (P. Schapira) **49** #11026 35G05 (58G15)

Construction of local elementary solutions for linear partial differential operators with real analytic coefficients. II. The case with complex principal symbols. *Publ. Res. Inst. Math. Sci.* **7** (1971/72), 399–426. (P. Schapira) **49** #11027 35G05 (58G15)

On the global existence of real analytic solutions of linear differential equations. I. *J. Math. Soc. Japan* **24** (1972), 481–517. (P. Schapira) **46** #9512 35E05 (46F15, 58G99)

Theorems on the finite-dimensionality of cohomology groups. I, II. *Proc. Japan Acad.* **48** (1972), 70–72; *ibid.* **48** (1972), 287–289. (P. Schapira) **49** #11572 58G05 (35H05)

(*with* Sato, Mikio; Kashiwara, Masaki) On the structure of single linear pseudo-differential equations. *Proc. Japan Acad.* **48** (1972), 643–646. (P. Schapira) **49** #11076 35S05 (47G05, 58G15)

(*with* Kashiwara, Masaki) On the boundary value problem for elliptic system of linear differential equations. I. *Proc. Japan Acad.* **48** (1972), 712–715. (P. Schapira) **54** #1319a 58G15 (58G05, 35J55)

Some applications of micro-local analysis to the global study of linear differential equations. *Colloque International CNRS sur les Équations aux Dérivées Partielles Linéaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp.* 229–243. *Astérisque*, 2 *et* 3, *Soc. Math. France, Paris*, 1973. (P. Schapira) **52** #12011 58G99 (35G05)

On the global existence of real analytic solutions of linear differential equations. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf., Katata*, 1971; *dedicated to the memory of André Martineau*), *pp.* 99–121. *Lecture Notes in Math., Vol.* 287, *Springer, Berlin*, 1973. (P. Schapira) **52** #14585 35E99 (46F15)

(*with* Sato, Mikio; Kashiwara, Masaki) Microfunctions and pseudo-differential equations. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf., Katata*, 1971; *dedicated to the memory of André Martineau*), *pp.* 265–529. *Lecture Notes in Math., Vol.* 287, *Springer, Berlin*, 1973. (P. Schapira) **54** #8747 58G15 (32C35, 35N10)

(*with* Kashiwara, Masaki) On the boundary value problem for the elliptic system of linear differential equations. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 19, 6 *pp. Centre de Math., École Polytech., Paris*, 1973. (Editors) **54** #1320 58G15 (58G05, 35J55)

On the propagation of analyticity of solutions of convolution equations. *J. Math. Kyoto Univ.* **13** (1973), 67–72. (Hikosaburo Komatsu) **50** #5462 46F15 (35D10)

Finite-dimensionality of cohomology groups attached to systems of linear differential equations. *J. Math. Kyoto Univ.* **13** (1973), 73–95. (P. Schapira) **49** #1538 58G15 (35N10)

On the global existence of real analytic solutions of linear differential equations. II. *J. Math. Soc. Japan* **25** (1973), 644–647. (P. Schapira) **49** #7570 35A30 (58G15)

(*with* Kashiwara, Masaki) On the boundary value problem for elliptic system of linear differential equations. II. *Proc. Japan Acad.* **49** (1973), 164–168. (P. Schapira) **54** #1319b (EA **54**) 58G15 (58G05, 35J55)

Theorems on the finite-dimensionality of cohomology groups. III. *Proc. Japan Acad.* **49** (1973), 243–246. (P. Schapira) **49** #11573 58G05 (35H05)

Theorems on the finite-dimensionality of cohomology groups. IV. *Proc. Japan Acad.* **49** (1973), 655–658. (P. Schapira) **49** #11574 58G05 (35H05)

Theorems on the finite-dimensionality of cohomology groups. V. *Proc. Japan Acad.* **49** (1973), 782–784. (P. Schapira) **51** #4325 58G05 (35G05)

(*with* Sato, Mikio; Kashiwara, Masaki) The theory of pseudodifferential equations in the theory of hyperfunctions. (Japanese) Collection of articles on hyperfunctions. *Sûgaku* **25** (1973), 213–238. (Editors) **57** #17726 58G05 (35N10, 35S05)

(*with* Kaneko, Akira) Hyperfunctions, and the theory of linear partial differential equations with constant coefficients. (Japanese) Collection of articles on hyperfunctions. *Sûgaku* **25** (1973), 239–253. (Editors) **57** #17734 58G99 (35H05, 46F15)

(*with* Ōshima, Toshio) Bibliography. (Japanese) Collection of articles on hyperfunctions. *Sûgaku* **25** (1973), 273–282. (Editors) **58** #10 00A15 (35S05, 46F15, 58G05)

(*with* Kashiwara, Masaki; Ōshima, Toshio) Structure of cohomology groups whose coefficients are microfunction solution sheaves of systems of pseudo-differential equations with multiple characteristics. I, II. *Proc. Japan Acad.* **50** (1974), 420–425; *ibid.* **50** (1974), 549–550. (R. D. Moyer) **52** #6794 58G15 (35S05)

Pseudo-differential operators acting on the sheaf of microfunctions. *Hyperfunctions and theoretical physics* (*Rencontre, Nice*, 1973; *dédié à la mémoire de A. Martineau*), *pp.* 54–69. *Lecture Notes in Math., Vol.* 449, *Springer, Berlin*, 1975. (Toader Jucan) **53** #1261 46F15 (47G05, 35S05, 58G15)

(*with* Kashiwara, Masaki) Micro-hyperbolic pseudo-differential operators. *Hyperfunctions and theoretical physics* (*Rencontre, Nice* 1973; *dédié à la mémoire de A. Martineau*), *pp.* 70–82. *Lecture Notes in Math., Vol.* 449, *Springer, Berlin*, 1975. (Rémi Vaillancourt) **52** #15115 47G05 (58G15)

(*with* Stapp, Henry P.) Microlocal study of *S*-matrix singularity structure. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 38–48. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (Authors' summary) **58** #32635 81.58 (58G99, 58G15)

Removable singularities of solutions of systems of linear differential equations. *Bull. Amer. Math. Soc.* **81** (1975), 461–463. (R. D. Moyer) **51** #8646 35N10 (58G15)

On the propagation of analyticity of solutions of systems of linear differential equations with constant coefficients. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **22** (1975), *no.* 3, 267–270. (Lawrence Gruman) **52** #14586 35E99 (32A10)

(*with* Kashiwara, Masaki) Micro-hyperbolic pseudo-differential operators. I. *J. Math. Soc. Japan* **27** (1975), *no.* 3, 359–404. (P. Schapira) **51** #14167 58G15 (14G05, 35S10)

(*with* Kashiwara, Masaki) Micro-local properties of $\prod_{j=1}^{n} f_{j+}^{s_j}$. *Proc. Japan Acad.* **51** (1975), *no.* 4, 270–272. (P. Schapira) **54** #13113 32C05 (35N10, 58G15)

(*with* Ion, Patrick D. F.) Theory of vector-valued hyperfunctions. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 1, 1–19. (Dieter Lutz) **52** #11586 46F15 (32A10, 32C35)

Vanishing of cohomology groups on completely *k*-convex sets. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 3, 775–784. (P. Schapira) **53** #9305 58G05

(*with* Kashiwara, Masaki) Theory of elliptic boundary value problems and its applications. (Japanese) Theory of prehomogeneous vector spaces and its applications (Short Courses, Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 238 (1975), 1–59. (Akira Asada) **56** #1372 58G05 (35J55)

(*with* Kashiwara, Masaki; Ōshima, Toshio) Structure of a single pseudo-differential equation in a real domain. *J. Math. Soc. Japan* **28** (1976), *no.* 1, 80–85. (Louis Boutet de Monvel) **54** #8749 58G15 (35S05)

Extension of hyperfunction solutions of linear differential equations with constant coefficients. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 311–316. (P. Schapira) **54** #11405 58G05 (35E10, 46F15, 32D15)

(*with* Kashiwara, Masaki) On a conjecture of Regge and Sato on Feynman integrals. *Proc. Japan Acad.* **52** (1976), *no.* 4, 161–164. (Gérard G. Emch) **55** #9749 81.32 (32L10)

(*with* Kashiwara, Masaki) Finiteness theorem for holonomic systems of micro-differential equations. *Proc. Japan Acad.* **52** (1976), *no.* 7, 341–343. (P. Schapira) **54** #8750 58G15

(*with* Kashiwara, Masaki) Holonomic systems of linear differential equations and Feynman integrals. Proceedings of the Oji Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement*, 131–140. (C. S. Sharma) **58** #14611 81.46 (58G15)

(*with* Kashiwara, Masaki; Stapp, Henry P.) Micro-analytic structure of the *S*-matrix and related functions. Proceedings of the Oji Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement*, 141–146. (D. Iagolnitzer) **58** #14739 81.58 (58G05)

(*with* Stapp, Henry P.) Discontinuity formula and Sato's conjecture. Proceedings of the Oji Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic Analysis (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *supplement*, 155–232. (D. Iagolnitzer) **58** #14740 81.58 (58G05)

Extension of solutions of systems of linear differential equations. *Publ. Res. Inst. Math. Sci.* **12** (1976/1977), *no.* 1, 215–227. (P. Schapira) **54** #3767 58G05 (35N10, 46F15, 32D15)

(*with* Kashiwara, Masaki) Holonomic character and local monodromy structure of Feynman integrals. *Comm. Math. Phys.* **54** (1977), *no.* 2, 121–134. (Authors' summary) **58** #19954 81.32 (58G15)

(*with* Bedford, Eric) Local extension of solutions of systems of linear differential equations with constant coefficients. *Comm. Pure Appl. Math.* **30** (1977), *no.* 2, 235–254. (Hikosaburo Komatsu) **58** #29122 35E99 (32D15)

Invariance of cohomology groups under a deformation of an elliptic system of linear differential equations. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 4, 144–145. (P. Schapira) **56** #9597 58G05

(*with* Kashiwara, Masaki) Feynman integrals and pseudodifferential equations. (On a conjecture of Regge and Sato). (Japanese) *Sûgaku* **29** (1977), *no.* 3, 254–268. (N. Nakanishi) **58** #8898 81.35 (32C40, 58G05)

(*with* Nakamura, Gen) On the microlocal structure of the fundamental solution of a certain hyperbolic operator with multiple characteristics. (Japanese) Research on microlocal analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 295 (1977), 60–68. (Editors) **58** #24406 58G15

Normal deformations of linear differential equations (based on H. Lewy's regularity theorem). (Japanese) With discussion. Research on microlocal analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 295 (1977), 92–95. (Akira Takeshita) **58** #23147 35N99 (35D10, 58G99)

Holomorphic perturbation of a system of micro-differential equations. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **5** (1978), *no.* 3, 581–586. (P. Schapira) **58** #18607 58G05 (35N15, 58G15)

(*with* Kashiwara, Masaki; Ōshima, Toshio) A study of Feynman integrals by micro-differential equations. *Comm. Math. Phys.* **60** (1978), *no.* 2, 97–130. (P. Schapira) **58** #24405 58G15 (35N10, 35S10, 81.58)

(*with* Nakamura, Gen) Microlocal properties of local elementary solutions for Cauchy problems for a class of hyperbolic linear differential operators. *Publ. Res. Inst. Math. Sci.* **14** (1978), *no.* 2, 415–439. (V. M. Babic) **58** #29323 35L30

See also **Theory of partial differential equations and theory of hyperfunctions**, **56** #16113

Kawai, Toru Random functions in Fourier restriction algebras. *Proc. Japan Acad.* **52** (1976), *no.* 7, 338–340. (John Fournier) **55** #969 42A36

Kawai, Toshiharu (*with* Kamo, Hideki) Schwinger's variational principle in the theory of quantized quasi-linear fields: the case of Hermitian scalar fields. *Nuclear Phys.* **B81** (1974), 349–364. (Authors' summary) **50** #12081 81.49

Quantum action principle in curved space. *Found. Phys.* **5** (1975), *no.* 1, 143–158. (Author's summary) **58** #4090 81.53

Canonical quantization of a nonrelativistic singular quasilinear system. *Found. Phys.* **7** (1977), *no.* 3-4, 185–204. (Author's summary) **56** #4552 81.53

(*with* Ikeda, Minoru; Yoshida, Hideo) Magnetic monopole, vector potential and gauge transformation. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 7, 227–231. (A. Rouet) **57** #18622 81.47 (78.35)

Kawaji, Shigeyasu (*with* Furuta, Katsuhisa) Linear function observer with possibly minimal dimension. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 6, 977–980. (Authors' summary) **57** #15611 93B99 (93B20)

Kawakami, Hakuhei (*with* Ohmatsu, Shigeru; Shibata, Hiroshi; Hata, Shiroh) Numerical analysis of the optimal control for a stochastic distributed parameter system. *Bull. Univ. Osaka Prefecture Ser. A* **22** (1973), *no.* 1, 49–56. (Authors' summary) **56** #11439 93E20

Kawakami, Hiroshi (*with* Hayashi, Chihiro; Ueda, Y.) Solution of Duffing's equation using mapping concepts. *Proceedings of the Fourth Conference on Nonlinear Oscillations*

(*Prague*, 1967), *pp*. 25–40. *Academia*, *Prague*, 1968. (R. A. Struble) **49** #5481 34C25

Sur les points fixes des itérés d'un difféomorphisme dans le voisinage d'un point homocline. *J. Differential Equations* **14** (1973), 442–461. (J. Auslander) **57** #798 34C35 (58F10)

Sur la bifurcation des solutions périodiques des équations différentielles périodiques du deuxième ordre et leur application aux oscillations paramétriques. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp*. 399–405. *Abh. Akad. Wissensch. DDR*, *Abt. Math.-Naturwissensch.-Techn.*, *No*. 3N, *Akademie-Verlag*, *Berlin*, 1977. (J. S. Joel) **58** #17338 34C25 (58F20)

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969

Kawakami, Ichiro (*with* Yagishita, Takashi) Perturbation approach to nonlinear Vlasov equation. II. Nonlinear plasma oscillation of finite amplitude. *J. Phys. Soc. Japan* **30** (1971), 244–253. (R. R. Gold) **45** #6340 82.35

Kawakami, Takashi (*with* Shima, Susumu; Tabata, Tsuyoshi; Oyane, Moriya) Upper bound theory for deformation of porous materials. *Mem. Fac. Engrg. Kyoto Univ.* **38** (1976), *no*. 3, 117–137. (From the summary) **58** #19630 73.49

Kawakubo, Katsuo (*with* Uchida, Fuichi) On the index of a semi-free S^1-action. *Proc. Japan Acad.* **46** (1970), 620–622. (K. Lamotke) **45** #1194 57E15

Invariants for semifree S^1-actions. *Bull. Amer. Math. Soc.* **77** (1971), 987–991. (R. Z. Goldstein) **45** #1195 57E15

Knotted fixed point sets of semi-free S^1-actions. *Osaka J. Math.* **8** (1971), 385–392. (J. Bochnak) **46** #4559 57E15

Invariants for semi-free S^1-actions. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts*, *Amherst*, *Mass.*, 1971), *Part I*, *pp*. 1–13. *Lecture Notes in Math.*, *Vol*. 298, *Springer*, *Berlin*, 1972. (R. Z. Goldstein) **52** #15512 57E15

Topological S^1 and Z_{2k} actions on spheres. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts*, *Amherst*, *Mass.*, 1971), *Part I*, *pp*. 14–18. *Lecture Notes in Math.*, *Vol*. 298, *Springer*, *Berlin*, 1972. (R. Z. Goldstein) **52** #6763 57E25

(*with* Raymond, Frank) The index of manifolds with toral actions and geometric interpretations of the $\sigma(\infty,(S^1,M^n))$ invariant of Atiyah and Singer. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts*, *Amherst*, *Mass.*, 1971), *Part I*, *pp*. 228–233. *Lecture Notes in Math.*, *Vol*. 298, *Springer*, *Berlin*, 1972. (Editors) **50** #11299 (EA **51**) 57E15

(*with* Raymond, Frank) The index of manifolds with toral actions and geometric interpretations of the $\sigma(\infty,(S^1,M^n))$ invariant of Atiyah and Singer. *Invent. Math.* **15** (1972), 53–66. (K. W. Kwun) **45** #2752 58G10

Smooth actions on homotopy spheres. (Japanese) *Sûgaku* **24** (1972), *no*. 2, 90–99. (Editors) **58** #31124 57E25

Dimension of the fixed point set of Z_{p^r}-actions. *Proc. Japan Acad.* **50** (1974), 44–47. (R. E. Stong) **51** #6852 57D85

The index and the generalized Todd genus of Z_p-actions. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf.*, *Tokyo*, 1973), *pp*. 219–224. *Univ. Tokyo Press*, *Tokyo*, 1975. (H.-T. Ku) **51** #4292 57E15

The index and the generalized Todd genus of Z_p-actions. *Amer. J. Math.* **97** (1975), 182–204. (C. B. Thomas) **51** #14118 57E15 (57D85)

Orientation reversing involution. *J. Math. Kyoto Univ.* **16** (1976), *no*. 1, 113–115. (R. E. Stong) **53** #4100 57D85

Periodic actions on Brieskorn spheres. *Osaka J. Math.* **13** (1976), *no*. 1, 135–143. (H.-T. Ku) **54** #1269 57E25

Equivariant Riemann-Roch type theorems and related topics. *Transformation groups* (*Proc. Conf.*, *Univ. Newcastle upon Tyne*, *Newcastle upon Tyne*, 1976), *pp*. 284–294. *London Math. Soc. Lecture Note Series*, *No*. 26, *Cambridge Univ. Press*, *Cambridge*, 1977. (Steven H. Weintraub) **56** #9557 57E15 (57D20)

The groups $J_G(*)$ for compact abelian topological groups G. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no*. 3, 76–78. (V. P. Snaith) **58** #18443 55F25 (55F50)

G-homotopy equivalent manifolds and J_G-homomorphism. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no*. 4, 104–106. (A. Dold) **58** #2815 55F50 (57D85)

Kawamata, Kunio Price distortion and potential welfare. *Econometrica* **42** (1974), 435–460. (Author's summary) **56** #10818 90A15

Kawamata, Yujiro On deformations of compactifiable complex manifolds. *Proc. Japan Acad.* **53** (1977), *no*. 3, 106–109. (Hans W. Schuster) **56** #8914 32G13 (32J10)

Classification theory of non-complete algebraic surfaces. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no*. 5, 133–135. (P. E. Newstead) **58** #10923 14J10

Kawamoto, Naoki (*with* Tôgô, Shigeaki) Ascendantly coalescent classes and radicals of Lie algebras. *Hiroshima Math: J.* **2** (1972), 253–261. (I. Stewart) **48** #360 17B65

(*with* Tôgô, Shigeaki) Locally coalescent classes of Lie algebras. *Hiroshima Math. J.* **4** (1974), 509–520. (I. Stewart) **50** #9998 17B65

On prime ideals of Lie algebras. *Hiroshima Math. J.* **4** (1974), 679–684. (A. A. Sagle) **51** #625 17B05

(*with* Tôgô, Shigeaki) Locally ascendantly coalescent classes of Lie algebras. *Hiroshima Math. J.* **6** (1976), *no*. 1, 159–170. (Ralph K. Amayo) **53** #571 17B65

Kawamura, Kazuhiko (*with* Volz, Richard A.) On the rate of convergence of the conjugate gradient reset method with inaccurate linear minimizations. *IEEE Trans. Automatic Control* **AC-18** (1973), *no*. 4, 360–366. (Authors' summary) **55** #13782 65K05

Kawamura, Kazutomo The structure of bivariate Poisson distribution. *Kōdai Math. Sem. Rep.* **25** (1973), 246–256. (Robin K. Milne) **48** #5143 60E05

The diagonal distribution of the bivariate Poisson distribution. *Kōdai Math. Sem. Rep.* **25** (1973), 379–384. (N. Giri) **48** #7339 60E05

The structure of trivariate Poisson distribution. *Kōdai Math. Sem. Rep.* **28** (1976), *no*. 1, 1–8. (B. Raja Rao) **55** #1403 60E05

Kawamura, Kiyoshi A new theory on scattering of electrons due to spiral dislocations. *Z. Phys. B* **29** (1978), *no*. 2, 101–106. (Author's summary) **57** #8754 82.35

Kawamura, Michihiko Denseness of singular densities. *Proc. Japan Acad.* **50** (1974), 818–820. (Editors) **54** #5461 30A52

(*with* Nakai, Mitsuru) A test of Picard principle for rotation free densities. II. *J. Math. Soc. Japan* **28** (1976), *no*. 2, 323–342. (G. Albinus) **53** #8452 31A30

Picard principle for finite densities on some end. *Nagoya Math. J.* **67** (1977), 35–40. (M. H. Heins) **55** #12909 30A50

Kawamura, Shinzô On the commutation relation and the spectral condition of we continuous representations of a locally compact abelian group on Banach spaces. *Yamagata Univ. Natur. Sci.* **8** (1974), *no*. 4, 479–489. (E. Størmer) **51** #13126 22D12 (46L10)

On the spectra of tensor product of linear operators in locally convex spa *Tôhoku Math. J.* (2) **27** (1975), *no*. 2, 247–258. (Dieter Lutz) **52** #1372 47A60

A note on the spectra of weakly continuous representations of a locally com abelian group on von Neumann algebras. *Bull. Yamagata Univ. Natur. Sci.* **9** (1976/ *no*. 2, 205–210. (Alain Connes) **58** #22384 22D25 (46L10)

(*with* Tomiyama, Jun) On subdiagonal algebras associated with flows in oper algebras. *J. Math. Soc. Japan* **29** (1977), *no*. 1, 73–90. (Richard I. Loebl) **56** #128 46L05

Kawamura, Yoshiaki A formulation of nonlinear dynamic networks. *IEEE Trans. Cir and Systems* **CAS-25** (1978), *no*. 2, 88–98. (Author's summary) **58** #20851 94A

Kawanaka, Noriaki The decomposition of $L^2(\Gamma/\mathrm{SL}(2,R))$ and Teichmüller spaces. *Japan Acad.* **46** (1970), 1126–1129. (William Harvey) **45** #456 43A15

The decomposition of $L^2(\Gamma\backslash\mathrm{SL}(2,R))$ and Teichmüller spaces. *J. Math. K Univ.* **11** (1971), 113–147. (L. Keen) **45** #5348 30A60

On characters and unipotent elements of finite Chevalley groups. *Proc. Japan A* **48** (1972), 589–594. (J. E. Humphreys) **48** #4095 20C15

A theorem on finite Chevalley groups. *Osaka J. Math.* **10** (1973), 1–13. (J Humphreys) **48** #11273 20C20

Unipotent elements and characters of finite Chevalley groups. *Osaka J. Math* (1975), *no*. 2, 523–554. (J. E. Humphreys) **52** #5784 20C15 (20G40)

Unipotent elements and characters of finite Chevalley groups. *Proc. Japan Aca* (1975), 156–158. (D.-N. Verma) **53** #3136 20G15

On the irreducible characters of the finite unitary groups. *Proc. Japan Acad.* (1976), *no*. 3, 95–97. (Bhama Srinivasan) **54** #2776 20C15

On the irreducible characters of finite Chevalley groups. (Japanese) *Sûgaku* (1976), *no*. 4, 348–357. (Ryoshi Hotta) **58** #28201 20G05

On the irreducible characters of the finite unitary groups. *J. Math. Soc. Japa* (1977), *no*. 3, 425–450. (Bhama Srinivasan) **56** #8678 20C15

Kawara, Yasushi An allocation problem of support fire in combat as a differential ga *Operations Res.* **21** (1973), 942–951. (C. P. Tsokos) **51** #15026 90D25

Kawarada, Hideo On solutions of nonlinear wave equations. *J. Phys. Soc. Japan* **31** (19 280–282. (Homer F. Walker) **47** #5451 35L05 (35L60)

Stefan-type free boundary problems for heat equations. *Publ. Res. Inst. Math. S* (1973/74), 517–533. (L. A. Peletier) **52** #14652 35K05

(*with* Natori, Makoto) On numerical solutions of Stefan problem. I. *Mem. Nu Math. No*. 1 (1974), 43–54. (J. R. Cannon) **52** #2238 65N05

On solutions of initial-boundary problem for $u_t=u_{xx}+1/(1-u)$. *Publ. Res. Math. Sci.* **10** (1974/75), *no*. 3, 729–736. (R. Glassey) **52** #6192 (EA **57**) 35K6

(*with* Natori, Makoto) On numerical solutions of Stefan problem. II. Un existence of numerical solution. *Mem. Numer. Math. No*. 2 (1975), 1–20. (J. R. Cann **52** #2239 65N05

Kawarada, Hiroshi Memorization and association of spatial and time-varying patterns b nerve net model. *Systems-Computers-Controls* **7** (1976), *no*. 2, 60–68 (1977). (Edit **56** #8068 92A05

Kawasaki, Hirokichi (*with* Tansuki, Robumei) Prey-predator stability. (Japanese) Topological models in biology (Proc. Sympos. Res. Inst. Math. Sci., Kyoto Un Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No*. 252 (1975), 40–47. (Hidenos Nishio) **58** #26133 92A05 (58F10)

Kawasaki, Keiko (*with* Mizutani, Kimiko; Hosoya, Haruo) Tables of non-adjacent numbers, characteristic polynomials and topological indices. I. Tree graphs. *Natur. Rep. Ochanomizu Univ.* **22** (1971), 39–58. (W. T. Tutte) **46** #7069 05C05

(*with* Mizutani, Kimiko; Hosoya, Haruo) Tables of non-adjacent numbers, characteristic polynomials and topological indices. II. Mono- and bicyclic grap *Natur. Sci. Rep. Ochanomizu Univ.* **22** (1971), 181–214. (W. T. Tutte) **47** #486 05C99

Kawasaki, Kyozi Simple derivations of generalized linear and nonlinear Langevin equations. *J. Phys. A* **6** (1973), 1289–1295. (Author's summary) **51** #12251 82.6

See also **Statistical mechanics: new concepts, new problems, new applications**, **49** #8558 (EA **50**)

Kawasaki, Mamoru Wave-pocket scattering in a one-dimensional potential step. *Sci. R Fac. Ed. Gifu Univ. Natur. Sci.* **6**, *no*. 1, 5–20 (1977). (Jacques P. Leveille) **58** #4057 81.46

(*with* Kobayashi, Masanori) Lagrange formulation of the symmetric theory massive spin-3 fields. *Phys. Rev. D* (3) **17** (1978), *no*. 2, 446–456. (Authors' summa **57** #2272 81.35

Kawasaki, Tetsuro Cohomology of twisted projective spaces and lens complexes. *Ma Ann.* **206** (1973), 243–248. (W. D. Neumann) **49** #4008 57E25 (57D20)

Quotient spaces by finite reflection groups of hypersurfaces with isolated singularities. (Japanese) Conference on Singular Points of Hypersurfaces and b-Functions (Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1973). *Sûrikaisekikenkyûs Kôkyûroku No*. 225 (1975), 248–261. (Editors) **58** #17196 32C40 (57E25)

The signature theorem for V-manifolds. *Topology* **17** (1978), *no*. 1, 75–83. (A. Németh) **57** #14072 58G10

Kawase, Shin (*with* Yanagihara, Niro) On the characteristic of some classes of functio and of their integrals. *Proc. London Math. Soc.* (3) **25** (1972), 577–585. (M. Her **47** #3681 30A70

(*with* Yanagihara, Niro) ε-entropy, ε-capacity, and approximative dimension f containing spaces of the classes H^p, $p<1$. *Monatsh. Math.* **78** (1974), 267–277. (S. Hruščev) **53** #6298 46E10

Kawashima, Genkichi Sur le 32-nombre et les transformations des sphères. *J. Colle Engrg. Nihon Univ. Ser. B* **17** (1976), 1–10. (H. Wada) **57** #7593a 55E45 (54F60)

Sur les transformations des sphères par le 64-nombre. *J. College Engrg. Nihon Un Ser. B* **18** (1977), 15–20. (H. Wada) **57** #7593b 55E45 (54F60)

Kawashima, Hironao On the properties of nonlinear feedback systems with stochast inputs. *Keio Mathematical Seminar Reports*, *No*. 1 (*Rep. Sem. "Stochastic Processes Fac. Engrg., Keio Univ., Yokohama*, 1972–1973), *pp*. 53–66. *Fac. Engrg., Keio Univ* ohama, 1973. (Mou-Hsiung Chang) **53** #7590 93E99 (60H99)

Nonlinear feedback systems and weakly stationary stochastic processes. *Information Control* **22** (1973), 283–295. (Author's summary) **57** #15709 93E20

On the existence and uniqueness of the solution related to nonlinear feedback ems. *Keio Engrg. Rep.* **26** (1973), 1–14. (R. Saeks) **48** #3554 93C10

On the inversion of certain convolution operators related to feedback systems. *Keio Erg. Rep.* **26** (1973), 37–53. (V. K. Balakrishnan) **51** #1386 46F10 (93C30)

ma, Konosuke An analysis of round-robin and foreground-background scheduling dels with finite waiting capacity. *Systems-Computers-Controls* **2** (1971), *no.* 6, 66–74. thor's summary) **48** #10479 90B35

ima, Takeshi (*with* Suzuki, Takeji) Reduction methods for tandem queuing ems. *J. Operations Res. Soc. Japan* **17** (1974), 133–144. (H. L. Seal) **50** #8754 6.25

Reverse ordering of services in tandem queues. *Mem. Defense Acad.* **15** (1975), *no.* 4 51–159. (U. Narayan Bhat) **54** #14152 60K25

Two dualities in tandem queuing systems. *Mem. Defense Acad.* **16** (1976), *no.* 3, 88. (U. Narayan Bhat) **55** #11433 60K25

ima, Y. (*with* Masubuchi, Masami; Sekiguchi, T.; Kanoh, Hikeaki; Matsui, W.) termination of the unique optimal trajectories in the second order optimal control stems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation omat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 48, *Paper 24G*, 8 *pp. Inst. Mech. rs., London*, 1967. (From the authors' introduction) **55** #11128 49A99

See also **Proceedings: International Congress of the International Federation of omatic Control (IFAC)**, **51** #12360b

, Tatsuo ★Fourier analysis in probability theory. Probability and Mathematical tistics, No. 15. *Academic Press, New York-London*, 1972. xii+668 *pp.* (V. K. Rohatgi) #4284 60E05 (42A36, 42A72)

Nonstationary stochastic processes. *Keio Mathematical Seminar Reports, No.* 1 (*p. Sem. "Stochastic Processes", Fac. Engrg., Keio Univ., Yokohama*, 1972–1973), *pp.* 23. *Fac. Engrg., Keio Univ., Yokohama*, 1973. (Tata Subba Rao) **52** #15668 G99 (60F05, 60G17)

On a class of linear processes. *Proceedings of the Second Japan-USSR Symposium Probability Theory* (*Kyoto*, 1972), *pp.* 193–212. *Lecture Notes in Math.*, *Vol.* 330, *inger, Berlin*, 1973. (A. Weron) **55** #11387 60G99

Some analytic properties of random noise processes. *Keio Engrg. Rep.* **27** (1974), -82. (S. Cambanis) **51** #6957 60G17

Fourier series of weakly stationary and harmonizable stochastic processes. *Keio grg. Rep.* **27** (1974), 93–104. (Tatsuo Subba Rao) **51** #14236 60G10

Analytic weakly stationary processes. *Keio Engrg. Rep.* **28** (1975), *no.* 8, 75–86. (P. urie Davies) **55** #11363 60G10

Analyticity properties of weakly stationary processes. *Keio Math. Sem. Rep. No.* 2 77), 31–38. (P. Laurie Davies) **57** #4312 60G10 (60E05, 60G17)

(*with* Maejima, Makoto) Remarks on an infinitely divisible characteristic function. *nkhyā Ser. A* **39** (1977), *no.* 2, 130–137. (I. V. Ostrovskiĭ) **58** #18661 60E05

, Toru (*with* Ichikawa, Tadao) A systematic procedure for constructing a cellular terconnection network and its minimal realization. *Systems-Computers-Controls* 3 72), *no.* 6, 1–9 (1973). (Rolland Vollmar) **52** #16884 94A20

(*with* Chiba, Toshiaki; Ozaki, Hiroshi) Some results on syntheses of sorting tworks based on the two-dimensional arrangement of signal lines. *Information ocessing in Japan* **17** (1977), 64–69. (Authors' summary) **58** #20853 94A20 3A10)

, Tutomu (*with* Inoue, Hiroshi) Eigen value problem with nonvanishing potentials. *Phys. Soc. Japan* **43** (1977), *no.* 1, 361–362. (Authors' summary) **56** #9102 35P25 1.35)

(*with* Inoue, Hiroshi) Inverse scattering method for the nonlinear evolution uations under nonvanishing conditions. *J. Phys. Soc. Japan* **44** (1978), *no.* 5, 22–1729. (Authors' summary) **58** #17600 35Q99 (35C99, 81.35)

chi, Akio A classification of compact 3-manifolds with infinite cyclic fundamental oups. *Proc. Japan Acad.* **50** (1974), 175–178. (Benny Evans) **51** #11517 57A10

Three dimensional homology handles and circles. *Osaka J. Math.* **12** (1975), *no.* 3, 5–581. (Wilbur Whitten) **52** #11932 57C45

A partial Poincaré duality theorem for infinite cyclic coverings. *Quart. J. Math. xford Ser.* (2) **26** (1975), *no.* 104, 437–458. (L. Neuwirth) **52** #15490 57C99

$\tilde{H}$-cobordism. I. The groups among three dimensional homology handles. *Osaka J. ath.* **13** (1976), *no.* 3, 567–590. (Oscar Burlet) **55** #6450 57D80 (57C45)

On quadratic forms of 3-manifolds. *Invent. Math.* **43** (1977), *no.* 2, 177–198. (Louis . Kauffman) **58** #7645 57C45

On the Alexander polynomials of cobordant links. *Osaka J. Math.* **15** (1978), *no.* 1, 51–159. (J. S. Birman) **58** #7599 55A25

zu, Kiyoshi The limit distribution of the age-dependent branching process with mmigration in the super critical case. *Tamkang J. Math.* **3** (1972), 9–15. (P. Jagers) 7 #9739 60J80

On multitype branching processes with immigration. *Proceedings of the Third apan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 270–275. *Lecture otes in Math.*, *Vol.* 550, *Springer, Berlin*, 1976. (Norman Kaplan) **55** #6594 60J80

Alvin J. Nonlinear integral equations and product integrals. *Pacific J. Math.* **60** 1975), *no.* 1, 203–222. (J. Kolomý) **53** #3623 45G99

David C. (*with* Guay, Merle D.) On sets having finitely many points of local onconvexity and property P_m. *Israel J. Math.* **10** (1971), 196–209. (T. A. Cook) **6** #2385 46A15

(*with* Womble, Eugene W.) Axiomatic convexity theory and relationships between he Carathéodory, Helly, and Radon numbers. *Pacific J. Math.* **38** (1971), 471–485. (H. . Debrunner) **46** #9864 52A35

(*with* Meyer, Walter) A convexity structure admits but one real linearization of imension greater than one. *J. London Math. Soc.* (2) **7** (1973), 124–130. (D. R. enney) **48** #839 46A99 (52A05)

(*with* Breen, Marilyn) General decomposition theorems for *m*-convex sets in the lane. *Israel J. Math.* **24** (1976), *no.* 3-4, 217–233. (J. M. Wills) **54** #5972 52A20

A nonalgebraic approach to the theory of linear topological spaces. *Geometriae edicata* **6** (1977), *no.* 4, 419–433. (I. Namioka) **58** #7033 46A99 (52A05)

See also **Proceedings: Conference on Convexity and Combinatorial Geometry**, **48** #9547; **Proceedings: University of Oklahoma Topology Conference**, **49** #6114 *and* **Problems: Geometry of metric and linear spaces**, **53** #6419

Kay, E. (*with* Soul, H.; Trutt, David) Some subnormal operators and hypergeometric kernel functions. *J. Math. Anal. Appl.* **53** (1976), *no.* 2, 237–242. (L. J. Wallen) **53** #3761 47B20

(*with* Trutt, David) Newton spaces of analytic functions. *J. Math. Anal. Appl.* **60** (1977), *no.* 2, 325–328. (RŽMat **1978** #4 B539) **58** #2202 46E20

Kay, Irvin Systems of quadratically coupled differential equations which can be reduced to linear systems. *Bull. Amer. Math. Soc.* **79** (1973), 483–487. (G. J. Etgen) **48** #607 34A30

Kay, J. H. (*with* Deser, Stanley) Three-loop counterterms for extended supergravity. *Phys. Lett. B* **76** (1978), *no.* 4, 400–403. (Authors' summary) **58** #20155 83.22

Kay, J. W. *See* **Role and effectiveness of theories of decision in practice**, **56** #10776

Kay, Kenneth G. (*with* Silverstone, Harris J.) Analytical evaluation of multicenter integrals of $r_{12^{-1}}$ with Slater-type atomic orbitals. III. (2-2)-type three-center integrals. *J. Chem. Phys.* **48** (1968), 4108–4115. (P. J. Roberts) **48** #10349c 81.33

(*with* Silverstone, Harris J.) Analytical evaluation of multicenter integrals of r_{12}^{-1} with Slater-type atomic orbitals. IV. Four-center integrals by Taylor series method. *J. Chem Phys.* **51** (1969), 956–961. (P. J. Roberts) **48** #10349d 81.33

(*with* Todd, H. David; Silverstone, Harris J.) Dirac delta functions in the Laplace-type expansion of $r^nY_1^m(\theta,\phi)$. *J. Chem. Phys.* **51** (1969), 2359–2362. (R. C. Varma) **50** #10381 33A70

(*with* Todd, H. David; Silverstone, Harris J.) Bipolar expansion for $r_{12}^nY_1^m(\theta_{12},\phi_{12})$. *J. Chem. Phys.* **51** (1969), 2363–2367. (R. C. Varma) **50** #10380 33A70

(*with* Silverstone, Harris J.) Analytical evaluation of multicenter integrals of r_{12}^{-1} with Slater-type atomic orbitals. V. Four-center integrals by Fourier-transform method. *J. Chem Phys.* **51** (1969), 4287–4304. (P. J. Roberts) **48** #10349e 81.33

(*with* Silverstone, Harris J.) Analytical evaluation of multicenter integrals of r_{12}^{-1} with Slater-type atomic orbitals. VI. Asymptotic expansions for large internuclear distances. *J. Chem. Phys.* **53** (1970), 4269–4285. (P. J. Roberts) **48** #10349f 81.33

Kay, Martin (*with* Sparck Jones, Karen) ★Linguistics and information science. Fédération Internationale de Documentation, Publication, No. 492. *Academic Press* [*A subsidiary of Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1973. xii+244 *pp.* (See Zbl **288** #68029) 68–01 (68A30)

Kay, P. (*with* Reissland, J. A.) Further series expansions of the solutions of the confluent hypergeometric equation. *J. Phys. A* **7** (1974), 1502–1513. (Authors' summary) **53** #12277 81.33

Kaya, Arif (*with* Tominaga, Hisao) Some remarks on the bimodule structure of Galois extensions. *Math. J. Okayama Univ.* **15** (1971/72), 129–135. (Lindsay N. Childs) **47** #6785 16A74

(*with* Koç, Cemal) Remarks on some commutativity theorems. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **40** (1975), 1–3 (1978). (J. Luh) **58** #16786 16A70

On a commutativity theorem of Luh. *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 1-2, 33–36. (J. Luh) **54** #10345 16A70

Notes on the commutativity of rings. (Turkish summary) *METU J. Pure Appl. Sci.* **9** (1976), *no.* 3, 261–265. (Not reviewed) 16A70

On rings satisfying some polynomial identities. *Math. J. Okayama Univ.* **20** (1978/79), *no.* 1, 17–20. (Ju. N. Mal′cev) **58** #778 16A38

Kaya, E. On circulant matrices. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **19** (1970), 15–24 (1971). (C. G. Cullen) **46** #5356 15A21

A matrix representation of the quadratic residue and quadratic non-residue classes. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **22** (1973), 51–55. (I. Danicic) **49** #2499 10A10

On the space of matrices $f_i(A)$. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **23** (1974), *no.* 7, 65–72. (Allen K. Charnow) **54** #2691 15A30

Kaya, Rüstem Construction of a real non-Desarguesian plane. *Comm. Fac. Sci. Univ. Ankara Sér. A* **21** (1972), 13–21. (E. W. Ellers) **47** #4122 50D20

Generalizations of the non-Desarguesian Moulton's plane. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **21** (1972), 89–96. (M. V. D. Burmester) **50** #1121 50D35

(*with* Hacısalihoğlu, H. Hilmi) Bresse and inflection congruences. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **22** (1973), 89–107. (J. Hoschek) **48** #9568 53A05

On some planes of Lenz-Barlotti class I. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér. A* **23** (1974), *no.* 6, 55–63. (T. G. Ostrom) **53** #3871 50D35

Polynomial Moulton planes. (Turkish summary) *Comm. Fac. Sci. Univ. Ankara Sér.* A_1 *Math.* **26** (1977), *no.* 3, 15–25. (Libuše Marková) **57** #13692 50D99 (50D10)

Kaya, Y. *See* **Frontiers of pattern recognition**, **52** #9723

Kayama, Tokuichi An explicit construction of irreducible representations for $\mathfrak{so}(6)$. *J. Math. Tokushima Univ.* **6** (1972), 17–29. (D. Miličić) **47** #6944 22E45 (81.22)

Kayande, A. A. A theorem on contractive stability. *SIAM J. Appl. Math.* **21** (1971), 601–604. (R. Grimmer) **46** #3922 34D20

(*with* Muley, D. B.) Comparison principle and finite time stability of control systems. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 359–369. (J. M. Skowroński) **47** #3069 93D05

Kayano, Takasi (*with* Ogawa, Shirô) On a characterization of a potential theoretic measure. *Proc. Japan Acad.* **46** (1970), 954–959. (K. N. Gowrisankaran) **45** #580 31C99

(*with* Ogawa, Shirô) Remarks on potential theoretic kernels. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 4 (1971), 27–32. (Hélène Airault) **52** #14324 31A15

On the equivalences of the axiomatic systems of the harmonic spaces. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 5 (1972), 14–17. (P. A. Loeb) **46** #9373 31D05

Kayas, Georges J. Aristote et les géométries non-euclidiennes avant et après Euclide. I. *Rev. Questions Sci.* **147** (1976), *no.* 2, 175–194. (P. Ver Eecke) **56** #2725 01A20

Aristote et les géométries non-euclidiennes avant et après Euclide. II. *Rev. Questions Sci.* **147** (1976), *no.* 3, 281–301. (P. Ver Eecke) **56** #2726 01A20

Aristote et les géométries non-euclidiennes avant et après Euclide. III. *Rev.*

Questions Sci. **147** (1976), *no.* 4, 457–465. (P. Ver Eecke) **56** #2727 01A20

Kayashima, Ikuko On relations between Nörlund and Riesz means. *Pacific J. Math.* **49** (1973), 391–396. (H. P. Dikshit) **50** #7884 40D25 (40G05)

(*with* Hirokawa, Hiroshi) On a sequence of Fourier coefficients. *Proc. Japan Acad.* **50** (1974), 57–62. (H. P. Dikshit) **51** #1247 42A24

Kaye, G. D. *See* **Role and effectiveness of theories of decision in practice, 56** #10776

Kaye, Joseph *See* **Gautschi, Walter, 53** #11955

Kaye, M. (*with* Carmeli, Moshe) Metric of a radiating rotating sphere. *Phys. Lett. A* **53** (1975), 14–16. (Alan Barnes) **55** #7275 83.53

(*with* Carmeli, Moshe) Transformation laws of the Newman-Penrose field variables. *Ann. Physics* **99** (1976), *no.* 1, 188–195. (Edward N. Glass) **54** #9561 83.53

(*with* Carmeli, Moshe) Gauge group theory of combined gravitational and electromagnetic interactions. *Lett. Nuovo Cimento* (2) **17** (1976), *no.* 8, 275–278. (From the authors' text) **56** #4463 81.22

(*with* Carmeli, Moshe) Gravitational field of a radiating rotating body. *Ann. Physics* **103** (1977), *no.* 1, 97–120. (J. D. Zund) **54** #14712 85.53

(*with* Carmeli, Moshe; Charach, Ch.) Motion of a spinning test particle in Vaidya's radiating metric. *Phys. Rev. D* (3) **15** (1977), *no.* 6, 1501–1517. (Authors' summary) **57** #8943 83.58 (58F99)

(*with* Carmeli, Moshe; Charach, Ch.) Null-tetrad formulation of the Yang-Mills field equations. (Italian summary) *Nuovo Cimento B* (11) **45** (1978), *no.* 2, 310–334. (H. Rund) **58** #14710 81.53 (83.53)

Kaye, Richard A gray code for set partitions. *Information Processing Lett.* **5** (1976), *no.* 6, 171–173. (Dennis White) **56** #1793 68A10 (05A17)

Kayel, Robert G. A linear model for Gauss elimination. *Internat. J. Comput. Math.* 3, 279–298 (1972). (L. W. Ehrlich) **48** #5352 65F05

Kayser, Gerhard (*with* Neumann, Peter; Salmen, Rainer) Kritische Werte für den *X*-Test von van der Waerden. (English and Russian summaries) *Math. Operationsforsch. Statist.* **3** (1972), *no.* 5, 389–400. (J. V. Deshpande) **49** #10040 62G10

Ein Fixpunktsatz für konzentrierende Abbildungen in lokalkonvexen Räumen. *Wiss. Z. Techn. Univ. Dresden* **23** (1974), 145–151. (L. Janos) **50** #3022 47H10

Zur relativen Drehung in Hausdorffschen topologischen Vektorräumen. *Wiss. Z. Techn. Univ. Dresden* **23** (1974), 335–340. (Ky Fan) **50** #1062 47H10

A fixed point theorem for noncompact set-valued mappings. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 407–411. *Abh. Akad. Wissensch. DDR*, *Abt. Math.-Naturwissensch.-Techn.*, *No.* 3N, *Akademie-Verlag*, *Berlin*, 1977. (Heinrich Steinlein) **58** #23804 47H10

Kayser, Hans-Jürgen Über Abschätzungsprobleme bei gewissen holomorphen Abbildungen. *Bonn. Math. Schr. No.* 49 (1971), viii+55 *pp.* (L. R. Sons) **47** #452 30A34

Kayser, Richard, Jr. (*with* Bennett, Herbert S.) Mathematical models of the transient heat flow to fuel droplets. *J. Res. Nat. Bur. Standards* **82** (1977), *no.* 3, 183–195. (Authors' summary) **58** #25437 80.65

Kayukawa, Kobei Mathematical identification of some quantities in networks. (French summary) *OR* 69 (*Proc. Fifth Internat. Conf. Operational Research*, *Venice*, 1969), *pp.* cx, 585–595. *Tavistock Publications*, *London*, 1970. (From the author's summary) **49** #12180 (EA **54**) 94A20

Kazaček, N. A. (*with* Perlatov, G. N.; Vilenkin, N. Ja.; Borodin, A. I.) ★Алгебра и теория чисел. Часть III. (Russian) [Algebra and number theory. Part III] "*Prosveščenie*", *Moscow*, 1974. 200 *pp.* (Editors) **53** #13083 10–01 (13–01)

Kazackiĭ, V. P. (*with* Ivnickiĭ, V. A.) On a two-phase queueing system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 123–131 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1050–1057. (N. U. Prabhu) **51** #14308 60K25

Kazačkov, B. V. A theorem of Sylow type for infinite groups. (Russian) *Mat. Zametki* **13** (1973), 431–436. (Richard E. Phillips) **48** #2262 20E25

Kazačkov, V. D. (*with* Gucunaev, C. I.; Terleckiĭ, Ja. P.) Certain questions on electrodynamics in arbitrary space-time coordinate systems. (Russian) *Izv. Vysš. Učebn. Zaved. Fiz.* **1974**, *no.* 12, 29–34. (Authors' summary) **58** #25745 83.35

(*with* Gucunaev, C. I.; Terleckiĭ, Ja. P.) Die Anwendung relativistisch bewegter Bezugssysteme in der Elektrodynamik. (English summary) *Ann. Physik* (7) **33** (1976), *no.* 1, 55–69. (Edward N. Glass) **54** #2094 83.53

(*with* Gucunaev, C. I.; Ermolaev, Ju. G.) Some questions of generalized space-time transformations in special relativity. (Russian) *Trudy Univ. Družby Narod.* **80** (1976), *no.* 9 *Problemy Statist. Fiz. i Teor. Polja*, 60–69. (From the text) **58** #32772 83.53

Kazak, V. V. A study of the generalized slipping condition for a certain class of surfaces of positive curvature. (Russian) *Mat. Zametki* **18** (1975), *no.* 1, 115–121. (M. Kucharzewski) **54** #8533 53C45

Kazakbaēv, U. Ju. (*with* Naumov, A. L.) Taking saturation into account in the calculation of two-phase asynchronous machines. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 703–705, 764. (Authors' summary) **45** #8424 94A20

Kazakevič, L. A. *See* **Cybernetics and computer technology, 48** #1733 *and* **Mathematical simulation and the theory of electrical circuits, 48** #3287

Kazakevič, M. I. (*with* Bondar, M. G.) A survey of the applied problems in nonlinear mechanics that are solvable by means of the variable scale method. (Russian. Polish and English summaries) *Nonlinear vibration problems*, *No.* 12, *pp.* 53–70. *Państw. Wydawn. Nauk.*, *Warsaw*, 1971. (V. Komkov) **56** #10227 70.00 (34Cxx)

See also **Mathematical physics, 48** #5769

Kazakevič, V. V. (*with* Močalov, I. A.) Sequential algorithm for accelerated search for the extremum in inertial optimization objects. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 1, 77–80 (1 *plate*). (V. A. Ivanov) **53** #2362 90C15 (65K05)

See also **Proceedings: All-Union Conference on Automatic Control—Engineering Cybernetics, 48** #8022

Kazakia, J. Y. (*with* Varley, E.; Blythe, P. A.) The interaction of large amplitude barotropic waves with an ambient shear flow: critical flows. *Philos. Trans. Roy. Soc. London Ser. A* **287** (1977), *no.* 1342, 189–236. (R. R. Long) **57** #2132 76.35

Kazakos, Dimitri Recursive estimation of prior probabilities using a mixture. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 2, 203–211. (Katsuji Uosaki) **58** #4559 93E10 (62L20)

Maximin linear discrimination. I. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no.* 9, 661–669. (Thomas M. Cover) **56** #13454 62H30 (68A45)

On the maximization of divergence. *IEEE Trans. Inform. Theory* **24** (1978), 509. (From the introduction) **58** #19422 68A45

Quantization complexity and training sample size in detection. *IEEE Trans. Information Theory* **IT-24** (1978), *no.* 2, 229–237. (S. Csibi) **58** #9747 94A05

papantoni-Kazakos, P. *See* **Papantoni-Kazakos, P.**

Kazakov, A. E. (*with* Fedorov, M. V.) An electron in a quantized plane wave an constant magnetic field. *Z. Phys.* **261** (1973), *no.* 3, 191–202. (John Zorbas) **53** 81.47

Kazakov, A. K. Determination of the domain of controllability for a second order nonlinear equation. (Russian. English summary) *Vestnik Moskov. Univ. Ser.* *Meh.* **29** (1974), *no.* 6, 42–48. (Rémi Vaillancourt) **50** #8236 49E30

Kazakov, E. N. Comparative analysis of certain logical algorithms of control. (Ru *Computing systems*, *No.* 4: *Computational methods and programming on computers First All-Union Conf. Comput. Systems*, *Novosibirsk*, 1967) (*Russian*), *pp.* 28–35. "*Nauka*" *Sibirsk. Otdel.*, *Novosibirsk*, 1968. ((RŽMat **1969** #8 V385)) **45** # 68A10

Kazakov, I. E. Statistical analysis of nonlinear systems with random parameters. *Aut and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*London*, 1966), *Vol.* 1, *p.* 17, *Paper* 8F, 6 *pp.* *Inst. Mech. Engrs.*, *London*, 1967. (Fr author's summary) **51** #9921 93E10

Algorithm for determining probability density function of phase coordinate nonlinear stochastic system. *Avtomat. i Telemeh.* **1969**, *no.* 5, 54–66 (*Russian.* *summary*); *translated as Automat. Remote Control* **1969**, *no.* 5, 701–710. **56** #1 93E25

(*with* Andreev, N. I.; Dostupov, B. G.; Kozlov, Ju. M.; Kočetkov, V. T.; Poceluev, A. V.; Sajutin, Ju. V.; Smirnov, V. I.; Sotskiĭ, N. M.; Tihonov, Černeckiĭ, V. I.) ★Статистические методы в проектировании нелинейных автоматического управления. (Russian) [Statistical methods in the design of no automatic control systems] Edited by B. G. Dostupov. Nonlinear Automatic C Systems, Vol. 6. *Izdat.* "*Mašinostroenie*", *Moscow*, 1970. 407 *pp.* (*errata insert*) Igolkin) **50** #9403 93E20

Optimal control with probabilistic local quality criterion and constraints. *Avt Telemeh.* **1973**, *no.* 2, 44–51 (*Russian. English summary*); *translated as Automat.* *Control* **34** (1973), *no.* 2, *part* 1, 210–216. (Author's summary) **56** #18074 93

★Статистическя теория систем управления в пространстве состояний. (R [Statistical theory of control systems in state space] Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat.* "*Nauka*", *Moscow*, 1975. 432 *pp.* (L. I. Gal'čuk) **54** # 93E10

Analytical synthesis of the statistical quasioptimal control of the nonlinear s (Russian summary) *Problems of Control and Information Theory / Problemy Uprav Teorii Informacii* **5** (1976), *no.* 1, 51–61. (Michael Titterington) **54** #4800 93

★Статистическая динамика систем с переменной структурой. (Russian) [Statistical dynamics of systems with variable structure] Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat.* "*Nauka*", *Moscow*, 1977. 416 *pp.* (Ĭ. M. Stojanov) **58** # 93E20

See also **Proceedings: All-Union Symposium on Statistical Problems in Engi Cybernetics, 47** #4666 (EA 47); **Proceedings: All-Union Symposium on Sta Problems in Engineering Cybernetics, 48** #1740; **Proceedings: All-Union Confere Automatic Control—Engineering Cybernetics, 48** #8022; **Proceedings: Internatio Congress of the International Federation of Automatic Control (IFAC), 51** #1236 **Foundations of automatic control, 53** #5066

Kazakov, L. G. (*with* Zak, Ju. O.) A mathematical model and an algorithm f selection of the optimal capacity of a bin. (Russian) *Systems analysis and algorithmization of production processes* (*Russian*), *pp.* 39–48. *Inst. Kibernet. Akad Ukrain. SSR*, *Kiev*, 1973. (From the authors' introduction) **51** #2628 90B30

Kazakova, A. A. (*with* Vekova, G. Hr.; Arolska, Marija Am.) Quadrature formu certain singular integrals. (Bulgarian. Russian and English summaries) *Visš Pe Plovdiv Naučn. Trud.* **8** (1970), *no.* 2, 39–49. (F. Pecka) **45** #7999 65D30

Kazakova, G. G. A certain representation of projective four-space on the plane, connection with Lie circular transformations. (Russian) *Jaroslav. Gos. Ped. Inst. Zap. Vyp.* 61 *Geometrija* (1967), 43–51. (K. Burian) **54** #326 14N05 (14E10)

(*with* Skopec, Zalman) A cyclographic representation of a non-Euclidean four-space on the plane, and Lie circular transformations. (Russian) *Jaroslav. Go Inst. Učen. Zap. No.* 61 *Geometrija* (1967), 138–151. (M. C. Chaki) **51** #8939

Kazakova, L. T. (*with* Martinjuk, A. A.) A numerical study of stability in th approximation. (Russian) *Mat. Fiz. Vyp.* 20 (1976), 46–52, 113. (Wolfdietrich **56** #4185 65L99 (34D20)

Kazakova, M. F. A "branch and bound" type method for a generalized knapsack pr (Russian) *Èkonom. i Mat. Metody* **7** (1971), 737–741. (I. Maruşciac) **45** # 90C05

The problem of finding the Pareto optima in a polymatrix travelling sa problem. (Russian) *Mathematical methods of solution of economic problems* (*S Èkonom. i Mat. Metody*, *No.* 5) (*Russian*), *pp.* 55–61. *Izdat.* "*Nauka*", *Moscow* (Editors) **55** #12046 90B99

(*with* Gal'perin, Z. Ja.) A two-criterion approach to the problem of loading a (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 5, 1013–1015. (A. Göpfert) **56** 90C10

Kazakova, R. K. *See* **Control in space, 48** #8040 *and* **Control in space, 48** #13319

Kazama, Hideaki (*with* Kajiwara, Joji) Continuation and quotient representation of meromorphic functions. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **25** (1971), 10– Kerner) **46** #3832 32E10

q-complete complex Lie groups and holomorphic fibre bundles over a Stein manifold. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **26** (1972), 102–118. (A. Hirsch **46** #3839 32L05 (32E10)

On pseudoconvexity of complex abelian Lie groups. *J. Math. Soc. Japan* **25** 329–333. (W. Barth) **48** #568 32F15

(*with* Kajiwara, Joji) Two dimensional complex manifold with vanishing omology set. *Math. Ann.* **204** (1973), 1–12. (Michael J. Field) **51** #3526 32E10

Approximation theorem and application to Nakano's vanishing theorem for weakly omplete manifolds. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 221–240. (M. neider) **55** #3339 32L10

On pseudoconvexity of complex Lie groups. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** 73), 241–247. (W. Barth) **52** #3608 32F15 (32M05)

(*with* Eto, Shun Ichi; Watanabe, Kiyoshi) On strongly q-pseudoconvex spaces with itive vector bundles. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **28** (1974), 135–146. (A. schowitz) **51** #935 32F10 (32L10)

Existence and approximation theorems on a weakly 1-complete analytic space. *nuscripta Math.* **19** (1976), *no.* 1, 57–74. (Shigeo Nakano) **53** #11105 32L10

a, Shun (*with* Kanaya, Matao) On the CASMEL, an educational language of an ctronic digital computer, its compiler and a tracer. *Rep. Univ. Electro-Commun. No.* (1971), 155–174. (S. Huzino) **46** #6642 68A05

aki, Norihiko Examples on local martingales. *Séminaire de Probabilités, VI* (*Univ. asbourg, année universitaire* 1970–1971), *pp.* 98–100. *Lecture Notes in Math., Vol.* 258, *ringer, Berlin*, 1972. (S. R. S. Varadhan) **51** #9191 60G45

Krickeberg's decomposition for local martingales. *Séminaire de Probabilités, VI niv. Strasbourg, année universitaire* 1970–1971), *pp.* 101–104. *Lecture Notes in Math., l.* 258, *Springer, Berlin*, 1972. (S. R. S. Varadhan) **51** #9192 60G45

Note on a stochastic integral equation. *Séminaire de Probabilités, VI* (*Univ. asbourg, année universitaire* 1970–1971), *pp.* 105–108. *Lecture Notes in Math., Vol.* 8, *Springer, Berlin*, 1972. (W. J. Padgett) **51** #11655 60H20

On the existence of solutions of martingale integral equations. *Tôhoku Math. J.* (2) (1972), 463–468. (B. Singer) **49** #8108 60H20

Changes of time, stochastic integrals, and weak martingales. *Z. ahrscheinlichkeitstheorie und Verw. Gebiete* **22** (1972), 25–32. (P. W. Millar) #10064 60G45

Une note sur les martingales faibles. *Séminaire de Probabilités, VII* (*Univ. rasbourg, année universitaire* 1971–1972), *pp.* 118–121. *Lecture Notes in Math., Vol.* 1, *Springer, Berlin*, 1973. (C. Dellacherie) **51** #9190 60G45

On a stochastic integral equation with respect to a weak martingale. *Tôhoku Math.* (2) **26** (1974), 53–63. (P. W. Millar) **50** #11447 60H20 (60G45)

A note on conformal martingales. *Tôhoku Math. J.* (2) **26** (1974), 229–235. (S. D. hatterji) **50** #1332 60G45

A characterization of BMO-martingales. *Séminaire de Probabilités, X* (*Exposés pplémentaires, Univ. Strasbourg, Strasbourg, année universitaire* 1974/1975), *pp.* 36–538. *Lecture Notes in Math., Vol.* 511, *Springer, Berlin*, 1976. (Roger L. Jones) 5 #3941 60G45

A simple remark on the conditioned square functions for martingale transforms. *éminaire de Probabilités, X* (*Première partie, Univ. Strasbourg, Strasbourg, année niversitaire* 1974/1975), *pp.* 40–43. *Lecture Notes in Math., Vol.* 511, *Springer, Berlin*, 976. (Roger L. Jones) **56** #1448 60G45

An inequality for the conditioned square functions on martingales. *Tôhoku Math. J.*) **28** (1976), *no.* 2, 157–165. (Maurizio Pratelli) **53** #11737 60G45

On the existence of a conformal martingale. *Tôhoku Math. J.* (2) **28** (1976), *no.* 3, 37–441. (Martin L. Silverstein) **54** #14089 60G45

(*with* Izumisawa, M.) Weighted norm inequalities for martingales. *Tôhoku Math. J.*) **29** (1977), *no.* 1, 115–124. (Roger L. Jones) **55** #9260 60G45

The equivalence of two conditions on weighted norm inequalities for martingales. *ôhoku Math. J.* **29** (1977), *no.* 2, 275–285. (Roger L. Jones) **56** #3942 60G45

On a problem of Girsanov. *Tôhoku Math. J.* **29** (1977), *no.* 4, 597–600. (E. Lenglart) 7 #4326a 60G45

Correction: "On a problem of Girsanov" (Tôhoku Math. J. (2) **29** (1977), no. 4, 97–600). *Tôhoku Math. J.* (2) **30** (1978), *no.* 1, 175. (E. Lenglart) **57** #4326b 0G45

n, V. A. The completeness of the system of eigen- and associated functions of an lliptic operator in R^n. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 5(179), 223–224. (M. M. Skriganov) **53** #3514 35P10

Conditions for the completeness of the system of eigen- and associated functions of n elliptic problem in an unbounded domain. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 3, 47–56. (Ja. A. Roĭtberg) **52** #1046 5P10

ncev, È. N. (*with* Priluckiĭ, M. H.) Optimal control of a certain class of discretely controllable stochastic systems. (Russian) *Mat. Voprosy Upravlen. Proizvodstvom Vyp.* 6 1975), 8–21. (H.-J. Engelbert) **57** #5365 93E20

ncev, P. N. (*with* Kornev, M. D.) Estimation of the throughput of a multiprocessor omputer with commonly accessible memory. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 3, 97–105 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 3, 436–444. D. Woodhouse) **52** #4979 (EA **53**) 90B35

ndzidis, G. S. On sums of like powers of the numbers less than N and prime to N. Greek summary) *Prakt. Akad. Athēnōn* **44** (1969), 148–152 (1970). (O. H. Körner) **46** #5230 10A40

On two classes of polynomials in number-theory. *Bull. Soc. Math. Grèce* (*N.S.*) **11** (1970), *no.* 1, 145–171. (D. A. Klarner) **48** #2058 10A40 (39A10)

On products and indeterminate powers of sequences. *Bull. Soc. Math. Grèce* (*N.S.*) **12** (1971), *no.* 1, 7–40. (J. M. Gandhi) **46** #150 10L99

angapov, A. N. A certain method for computations of functions in a residue class system. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1972**, *no.* 5, 82–83, 95. (Harvey Cohn) **50** #12882 10M05 (10A10)

(*with* Akušskiĭ, I. Ja.) Geometry in the residue space. (Russian) *Coding theory and information modeling, No.* 2 (*Russian*), *pp.* 19–29, 243. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1975. (Stefan Dodunekov) **57** #17500 50D99 (12C30)

angey, Thomas (*with* Sworder, David D.) Optimal control, repair, and inventory strategies for a linear stochastic system. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-2** (1972), 342–347. (Chelsea C. White and Andrew P. Sage) **48** #13426 93E20 (90B25)

anjian, Nerses N. (*with* Youla, Dante C.) Bauer-type factorization of positive matrices and the theory of matrix polynomials orthogonal on the unit circle. *IEEE Trans. Circuits and Systems* **CAS-25** (1978), *no.* 2, 57–69. (Bradley W. Dickinson) **57** #9251 93E10 (60G25)

Kazanovič, Ja. B. A classification of primitive recursive functions by means of Turing machines. (Russian) *Problemy Kibernet. No.* 22 (1970), 95–106, 297. (P. Gács) **45** #6622 02F15

Kazanskiĭ, A. K. (*with* Vasil′ev, A. M.) Equations of motion for the Legendre transformation of arbitrary order. (Russian. English summary) *Teoret. Mat. Fiz.* **14** (1973), *no.* 3, 289–305. (Authors' summary) **57** #15085 81.47

(*with* Vasil′ev, A. M.) Convexity properties of the Legendre transformations (variational methods in quantum field theory). (Russian. English summary) *Teoret. Mat. Fiz.* **15** (1973), *no.* 1, 43–58. (Authors' summary) **57** #18628 81.49 (49B99)

Skeleton equations with subtractions, and the R-operation. (Russian. English summary) *Teoret. Mat. Fiz.* **31** (1977), *no.* 1, 33–40. (James D. Fabrey) **56** #7599 81.46

Kazantsev, P. N. *See* **Kazancev, P. N.**

Kazarin, L. S. Groups with certain conditions imposed on the normalizers of subgroups. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 218 (1969), 268–279. (*errata insert*) (B. Hartley) **46** #3611 20D15

Groups with restrictions on the normalizers of subgroups. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 2(129), 41–50. (B. Hartley) **48** #427 20E20

An estimate of the solution of a certain combinatorial problem. (Russian) *Vestnik Jaroslav Univ. Vyp.* 9 (1975), 30–36. (A. Astromoff) **57** #9562 05A99 (05C35)

(*with* Kopylov, G. N.; Timofeev, E. A.) The chromatic number of a special class of graphs. (Russian) *Vestnik Jaroslav Univ. Vyp.* 9 (1975), 37–46. (Author's review) **58** #21758 05C15

(*with* L′vov, G. N.; Timofeev, E. A.) A heuristic algorithm for constructing a time-table. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 9 (1975), 47–51. (From the authors' text) **57** #2518 90B30

Kazarinoff, Nicholas D. Initial-boundary value problems and moving boundaries. *Analytic theory of differential equations* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1970), *pp.* 195–199. *Lecture Notes in Math., Vol.* 183, *Springer, Berlin*, 1971. (Howard A. Levine) **53** #1037 35L20

★Disuguaglianze geometriche. Tradotto dall′inglese di Luigi Muracchini. Matematica Moderna No. 10. *Zanichelli, Bologna*, 1972. 150 *pp.* (Editors) **52** #15245 52A40

(*with* Rogak, E. D.) Remarks on bang-bang control in Hilbert space. *J. Optimization Theory Appl.* **10** (1972), 211–221. (G. M. Ewing) **48** #2856 49A30

(*with* Weitzenkamp, Roger) Squaring rectangles and squares. *Amer. Math. Monthly* **80** (1973), 877–888. (Narsingh Deo) **49** #10604 05C99

(*with* Bloom, Clifford O.) Energy decays locally even if total energy grows algebraically with time. *Bull. Amer. Math. Soc.* **79** (1973), 969–972. (J. Smoller) **47** #5456 35L65

(*with* Weitzenkamp, Roger) On existence of compound perfect squared squares of small order. *J. Combinatorial Theory Ser. B* **14** (1973), 163–179. (Torrence D. Parsons) **47** #3191 05B05 (05C99)

Oscillations in biochemistry. *Mathematical problems in biology* (*Conf., Univ. Victoria, Victoria, B.C.*, 1973), *pp.* 132–138. *Lecture Notes in Biomath., Vol.* 2, *Springer, Berlin*, 1974. (N. Kopell) **51** #997 34C05 (92A05)

(*with* Bloom, Clifford O.) Local energy decay for a class of nonstar-shaped bodies. *Arch. Rational Mech. Anal.* **55** (1974), 73–85. (V. H. Weston) **49** #11957 78.35 (35L05)

(*with* Bloom, Clifford O.) Energy decays locally even if total energy grows algebraically with time. *J. Differential Equations* **16** (1974), 352–372. (J. Smoller) **50** #2708 35L65

(*with* Bloom, Clifford O.) Energy decay in nonhomogeneous media. *Analyse fonctionnelle et applications* (*Comptes Rendus Colloq. d'Analyse, Inst. Mat., Univ. Fed. Rio de Janeiro, Rio de Janeiro*, 1972), *pp.* 165–172. *Actualités Sci. Indust., No.* 1367, *Hermann, Paris*, 1975. (J. Smoller) **52** #6199 35L55 (35B40)

(*with* Bloom, Clifford O.) ★Short wave radiation problems in inhomogeneous media: asymptotic solutions. Lecture Notes in Mathematics, Vol. 522. *Springer-Verlag, Berlin-New York*, 1976. v+104 *pp.* (V. M. Babič) **57** #10193 35C99 (35J05)

(*with* Bloom, Clifford O.) Global existence, smoothness, and nonfocussing optical paths in a refractive medium. *An. Acad. Brasil. Ci.* **48** (1976), *no.* 3, 407–423. (Werner Kohler) **57** #11355 78.35 (35J05)

(*with* Hsü, In Ding) An applicable Hopf bifurcation formula and instability of small periodic solutions of the Field-Noyes model. *J. Math. Anal. Appl.* **55** (1976), *no.* 1, 61–89. (H. O. Tejumola) **57** #6634 34C25 (34D05)

(*with* Bloom, Clifford O.) A priori bounds for solutions of the Dirichlet problem for $[D+\lambda^2n(x)]u=f(x,\lambda)$ on an exterior domain. *J. Differential Equations* **24** (1977), *no.* 3, 437–465. (R. Glassey) **55** #8540 35J25

(*with* Hsü, In Ding) Existence and stability of periodic solutions of a third-order non-linear autonomous system simulating immune response in animals. *Proc. Roy. Soc. Edinburgh Sect. A* **77** (1977), *no.* 1-2, 163–175. (R. F. Matlak) **58** #11629 34C05 (92A15)

(*with* Wan, Yieh Hei; van den Driessche, Pauline) Hopf bifurcation and stability of periodic solutions of differential-difference and integro-differential equations. *J. Inst. Math. Appl.* **21** (1978), *no.* 4, 461–477. (J. M. Cushing) **58** #11796 34K15 (58F10, 92A15)

(*with* van den Driessche, Pauline) A model predator-prey system with functional response. *Math. Biosci.* **39** (1978), *no.* 1-2, 125–134. (Brian D. Sleeman) **57** #15570 92A15

Kazarinov, Ju. F. (*with* Andreev, V. A.; Jakubovič, V. A.) Synthesis of optimal controls for linear inhomogeneous systems in problems of minimization of quadratic functionals. (Russian) *Dokl. Akad. Nauk SSSR* **199** (1971), 258–261. (I. Muntean) **48** #7066 49B10

A certain problem for the extremum. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 19, 27–34. (R. Zezula) **46** #5790 34H05 (49G05)

(*with* Andreev, V. A.; Jakubovič, V. A.) Synthesis of optimal controls for linear inhomogeneous systems in a problem of minimization of the mean value of a quadratic functional. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 1247–1250. (S. P. Bingulac) **45** #4863 93C45

(*with* Andreev, V. A.; Jakubovič, V. A.) The synthesis of optimal controls in the problem of minimizing a quadratic functional. (Russian. English and German summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 391–427. (H. O. Fattorini) **48** #4876 49B10

Stabilization of a linear stochastic system subjected to "white noise"-type parametric disturbances. *Prikl. Mat. Meh.* **41** (1977), *no.* 2, 245–250 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 2, 236–241. (Author's summary) **57** #5357 93E15

Kazarinov, L. S. (*with* Krepyšev, G. B.) Synthesis of optimum control systems with allowance for complexity. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 1, 210–216 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 1, 188–195. (M. J. Davies) **48** #9493 49A35

Kazarjan, È. A. A nonlinear boundary value problem for quasilinear elliptic equations. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **11** (1976), *no.* 5, 400–410, 481. (S. N. Kružkov) **57** #3630 35J65

Kazarjan, G. G. L_p estimates of mixed derivatives with respect to differential polynomials. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **4** (1969), *no.* 1, 23–30. (Author's summary) **58** #30138 46E35

Estimates of derivatives with respect to differential operators. (Russian) *Sibirsk. Mat. Ž.* **11** (1970), 343–357. (Editors) **56** #9250 46E35

Comparison of differential operators, and differential operators of constant strength. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1272–1275. (J. Chrastina) **47** #9036 35G05

The zeros of polynomials of several variables. (Russian) *Differencial'nye Uravnenija* **10** (1974), 712–720, 766–767. (V. S. Rabinovič) **53** #6072 35E10 (35D10)

Hypoelliptic polynomials. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 1016–1019. (L. Cattabriga) **51** #1099 35H05

A certain family of hypoelliptic polynomials. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **9** (1974), *no.* 3, 189–211, 249. (L. Cattabriga) **51** #1100 35H05

The addition of lowest terms to differential polynomials. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **9** (1974), *no.* 6, 473–485, 511. (V. Barbu) **51** #13428 35H05

The comparison of differential operators and differential operators of constant strength. (Russian) Studies in the theory of differentiable functions of several variables and its applications, V. *Trudy Mat. Inst. Steklov.* **131** (1974), 94–118, 246. (L. Cattabriga) **50** #10522 35G05

Estimates of monomials in terms of a given polynomial, and a characterization of hypoellipticity. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 3, 530–533. (L. Cattabriga) **52** #3715 35H05

Estimates of differential operators, and hypoelliptic operators. (Russian) Studies in the theory of differentiable functions of several variables and its applications, VI. *Trudy Mat. Inst. Steklov.* **140** (1976), 130–161, 287–288. (L. Cattabriga) **56** #12558 35H05

A characterization of hypoellipticity by estimates from below. (Russian) Studies in the theory of differentiable functions of several variables and its applications, VI. *Trudy Mat. Inst. Steklov.* **140** (1976), 162–168, 288. (L. Cattabriga) **57** #13154 35H05

Operators of constant strength, with an estimate from below in terms of the derivatives, and formally hypoelliptic operators. (Russian. English summary) *Anal. Math.* **3** (1977), *no.* 4, 263–289. (A. I. Atanasov) **58** #17482 35H05 (35G05)

(*with* Ararkcjan, B. G.) Normal solvability of the generalized Dirichlet problem for a certain class of nonelliptic equations. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 3, 474–481, 573. (M. A. Atahodžaev) **57** #16950 35G99

See also **Theory and applications of differentiable functions of several variables, 52** #14951

Kazarjan, K. S. The multiplicative completion of basic sequences in L_p, $1 \leq p < \infty$, to bases in L_p. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **62** (1976), *no.* 4, 203–209. (R. P. Boas, Jr.) **55** #3675 42A64

Bases in $L^p, p \geq 1$, that are obtained through multiplying minimal systems by a function belonging to L^p. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **64** (1977), *no.* 3, 151–155. (A. Olevskiĭ) **58** #2000 42A64

Bases and unconditional bases in weighted L^p spaces, $1 \leq p < \infty$. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **65** (1977), *no.* 5, 271–275. (Jöran Bergh) **58** #2211 46E30

The multiplicative complementation of some incomplete orthonormal systems to bases in L^p, $1 \leq p < \infty$. (Russian. English summary) *Anal. Math.* **4** (1978), *no.* 1, 37–52. (S. Baron) **58** #2001 42A64

Kazarjan, M. V. Separately meromorphic functions of several complex variables. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 4, 538–547. (J. Siciak) **54** #595 32D10 (32D15, 32A20)

Kazarov, S. A. A reduction of a general mathematical programming problem to an unconditional extremum problem. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 1(116), 25–32. (I. Maruşciac) **45** #6436 90C30

Kazaryan, S. A. (*with* Varygin, V. N.; Rafaeljan, R. S.) Selection of initial vector in adaptive methods of construction of models with nonlinear parameters. *Avtomat. i Telemeh.* **1978**, *no.* 3, 55–59 (*Russian. English summary*); *translated as Automat. Remote Control* **39** (1978), *no.* 3, *part* 1, 355–367. (Authors' summary) **58** #26346 93C40 (93B30)

Kazatskiy, V. P. *See* **Kazackiĭ, V. P.**

Kazbekov, A. R. *See* **Control in space**, **48** #8041

Každan, A. È. (*with* Čerepov, V. A.) Simulation of voltage loss charts in industrial power networks on the basis of a group-theoretic representation for a certain class of random processes. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1976**, *no.* 8, 901–911, 930. (I. E. Strazdiņš) **54** #9196 68A55 (94A20)

Každan, D. A. *See* **Kazhdan, David**

Každan, Ja. M. (*with* Luckiĭ, A. E.) ★Автомодельное течение для аккреции со сферической симметрией с учетом градиента давления. (Russian) [Self-similar flow for accretion with spherical symmetry with allowance made for the pressure gradient] With an English summary. Preprint No. 33 (1977). *Inst. Prikl. Mat. Akad. Nauk SSSR, Moscow*, 1977. 11 *pp.* (Authors' summary) **58** #14280 76.35

Asymptotic behavior of a flow in the neighborhood of the center when a spherical cavity collapses. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 125 (1977), 18 *pp.* (Author's summary) **58** #14312 76.41

(*with* Luckiĭ, A. E.) Selfsimilar flow for accretion with spherical symmetry an allowance made for the pressure gradient. (Russian. English summary) *Astrofizi* (1977), *no.* 3, 535–541. (Authors' summary) **58** #14980 85.35

Kazdan, Jerry L. Quasi-analytic functions. *Entire Functions and Related Parts of Ar* (*Proc. Sympos. Pure Math., La Jolla, Calif.*, 1966), *pp.* 244–252. *Amer. Math. Providence, R.I.*, 1968. (See Zbl **179**, 144) 26A93

(*with* Warner, Frank W.) Curvature functions for 2-manifolds with negative characteristic. *Bull. Amer. Math. Soc.* **78** (1972), 570–574. (I. Chavel) **47** #9 53C20

(*with* Warner, Frank W.) Curvature functions for 2-manifolds. *Partial diffe equations* (*Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley,* 1971), *pp.* 387–392. *Amer. Math. Soc., Providence, R.I.*, 1973. (H. Jacobowitz) **49** 53C20 (35J05, 58G15)

Existence and non-existence for semi-linear elliptic equations. *Global analys its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., T* 1972), *Vol. II*, *pp.* 315–322. *Internat. Atomic Energy Agency, Vienna*, 1974. (H. Jacobowitz) **55** #8547 35J60 (58G99)

(*with* Warner, Frank W.) Curvature functions for compact 2-manifolds. *A Math.* (2) **99** (1974), 14–47. (H. Jacobowitz) **49** #7949 53C20 (35J05, 58G15)

(*with* Warner, Frank W.) Curvature functions for open 2-manifolds. *Ann. of* (2) **99** (1974), 203–219. (H. Jacobowitz) **49** #7950 53C20 (35J05, 58G15)

(*with* Warner, Frank W.) Prescribing curvatures. *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Stanford Univ., Stanford, Calif.*, 1973), *Part* 309–319. *Amer. Math. Soc., Providence, R.I.*, 1975. (H. Jacobowitz) **52** #15 53C20 (58G99)

(*with* Warner, Frank W.) Existence and conformal deformation of metrics prescribed Gaussian and scalar curvatures. *Ann. of Math.* (2) **101** (1975), 317–33 Jacobowitz) **51** #11349 53C20 (58G99)

(*with* Warner, Frank W.) Remarks on some quasilinear elliptic equations. *C Pure Appl. Math.* **28** (1975), *no.* 5, 567–597. (From the text) **57** #16972 35J65

(*with* Warner, Frank W.) A direct approach to the determination of Gaussia scalar curvature functions. *Invent. Math.* **28** (1975), 227–230. (H. Jacobowitz) **51** #11350 53C20 (58G99)

(*with* Warner, Frank W.) Scalar curvature and conformal deformation of Riemannian structure. *J. Differential Geometry* **10** (1975), 113–134. (T. Aubin) **51** #1661 53C20 (58G99)

(*with* Kramer, Richard J.) Invariant criteria for existence of solutions to second-order quasilinear elliptic equations. *Comm. Pure Appl. Math.* **31** (1978), 619–645. (Z. C. Motteler) **57** #16973 35J65

See also **Problems: Differential geometry, 51** #13876

mesirov-Kazdan, Jill P. *See* **Mesirov-Kazdan, Jill P.**

Kazeeva, N. I. (*with* Šimanov, S. N.) A fundamental theorem on critical cases of diff systems. (Russian) *Differencial'nye Uravnenija* **7** (1971), 910–918, 950. (I. St **45** #2345 39A10

(*with* Šimanov, S. N.) Stability of the solution of systems of difference equati order $n+2$ for the critical case of a pair of complex roots of modulus one. (Ru *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 5(132), 20–27. (A. Halanay) **48** #6 39A12

(*with* Tarasov, V. N.) A study of the stability of systems of difference equati the critical case. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9** (1975), *no.* 4, 27–38, 13 (1976). (B. Crstici) **56** #9125 39A10

(*with* Šimanov, S. N.) A theorem on critical cases of systems of difference equations. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 2, 234–240, 378. (Wolfgang Hahn) **53** #6141 39A30

(*with* Šimanov, S. N.) Stability of systems of difference equations in the critica of two pairs of complex roots that are equal mod one. (Russian) *Ural. Gos. Univ Zap.* **10**, *no.* 2 *Issled. Sovremen. Mat. Anal.*, 170–176, 219 (1977). (Wolfgang **57** #13270 39A12 (34D99)

Kazeĭkin, S. N. (*with* Tirskiĭ, G. A.; Ševelev, Ju. D.) A three-dimensional boundary with equilibrium reactions of disassociation and ionization. (Russian) *Čisl. M Meh. Splošn. Sredy* **8** (1977), *no.* 7, 53–65. (From the text) **58** #32337 76.35

Kažero, M. V. *See* **Proceedings: Republican Conference of Belorussian Mathemat 48** #3669

Kazes, E. (*with* Heidrich, J.) Derivative analyticity relations. *Lett. Nuovo Cimento* (1975), 365–367. (Authors' summary) **53** #15161 81.30

Kazes, Emil (*with* Bruckman, W. F.) Generation of solutions of the interior Brans- equations. *Phys. Rev. D* (3) **16** (1977), *no.* 2, 269–274. (Authors' summary) **57** # 83.45

(*with* Harris, Gregory) Can the Coulomb and Landau gauges be interpol *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1555–1566. (Not reviewed) 81.47

Kažet, V. A. *See* **Kadet, V. A.**

Kazhdan, David Arithmetic varieties and their fields of quasi-definition. *Actes du C International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 321–325. *Gauthier-V Paris*, 1971. (Yasutaka Ihara) **55** #8043 14G25

The existence of three-term arithmetic progressions in dense subsets of the n series. (Russian) *Studia Sci. Math. Hungar.* **6** (1971), 263–265. (K. Szymiczek) **45** #5103 10L99

(*with* Gel'fand, I. M.; Fuks, D. B.) Actions of infinite-dimensional Lie alg (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 1, 10–15. (A. Verona) **46** # 58H05 (17B65, 57F10)

(*with* Gel'fand, I. M.) Representations of the group GL(n,K) where K is a field. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 4, 73–74. (Witold Wi **48** #11405 22E50 (20G05)

(*with* Gel'fand, I. M.) Representations of the group GL(n, K) where K is a field. *Lie groups and their representations* (*Proc. Summer School, Bolyai János Soc., Budapest*, 1971), *pp.* 95–118. *Halsted, New York*, 1975. (Stephen Gelbart) **53** #8334 22E50 (10D20, 12A65)

On arithmetic varieties. *Lie groups and their representations* (*Proc. Summer S Bolyai János Math. Soc., Budapest*, 1971), *pp.* 151–217. *Halsted, New York*, 1975. (Raghunathan) **58** #6073 22E40 (10D99, 14D20)

Proof of Springer's hypothesis. *Israel J. Math.* **28** (1977), *no.* 4, 272–286. (Bhama
vasan) **58** #5959 20G40
ome applications of the Weil representation. *J. Analyse Mat.* **32** (1977), 235–248.
n J. Silberger) **58** #11243 22E50
with Kostant, Bertram; Sternberg, Shlomo) Hamiltonian group actions and
mical systems of Calogero type. *Comm. Pure Appl. Math.* **31** (1978), *no.* 4, 481–507.
k Adler) **57** #17711 58F05 (22E45, 35Q99)
See also **Harish-Chandra, 50** #7408

ov, Alexander V. *See* **Kažihov, A. V.**

mio Potential operator for Brownian motion process on a strip with reflecting
dary condition. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **11**, 53–56 (1971).
noru Kanda) **46** #8320 60J65
On the ε-entropy of stable processes. *J. Math. Soc. Japan* **26** (1974), 181–205. (I.
zár) **50** #3358 60J30 (94A15)

H. (*with* Manzur Hussain, S.) On a sum function of functions of partitions. II.
ab Univ. J. Math. (*Lahore*) **4** (1971), 69–74. (M. S. Cheema) **46** #3438 10A45
Theoretical studies on the propagation of seismic surface waves in horizontally
ing structures. *Punjab Univ. J. Math.* (*Lahore*) **9** (1976), 13–43. (Author's summary)
#32830 86.35

ova, D. The nonlinear Riemann-Hilbert boundary value problem for generalized
ytic functions in a simply connected domain. (Russian. Tajiki summary) *Dokl.*
d. Nauk Tadžik. SSR **14** (1971), *no.* 9, 7–11. (S. A. Tersenov) **45** #571 30A88
A two-dimensional singular integral equation of the first kind over a bounded
ain. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no.* 8,
15. (R. V. Dudučava) **57** #7066 45E05

A. A general boundary value problem with shift for a certain elliptic equation with
analytic coefficients. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20**
7), *no.* 2, 10–13. (G. Wildenhain) **57** #6814 35J25

V. M. The Darboux problem for a certain second order loaded integro-differential
ation. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 1, 181–184, 192.
thor's summary) **57** #3789 45J05

, A. V. (*with* Bubnov, M. A.) Existence and uniqueness theorems in certain
blems of the linear theory of ocean circulation. (Russian) *Dinamika Splošn. Sredy*
. 6 (1970), 223–244. (From the authors' text) **57** #11296 76.35
(*with* Monahov, V. N.; Oleĭnik, A. A.) A filtration model of the motion of a gas
particles. (Russian) *Dinamika Splošn. Sredy Vyp.* 8 (1971), 27–32 (1972). (From the
nors' text) **56** #17422 76.35
(*with* Bubnov, M. A.) Existence of a unique solution of the fundamental
ndary-value problem in the linear theory of oceanic circulation. *Dokl. Akad. Nauk*
SR **198** (1971), 801–804 (*Russian*); *translated as Soviet Physics Dokl.* **16** (1971),
–431. (F. Ursell) **45** #4737 76.35
(*with* Antoncev, S. N.) ★Математические вопросы динамики неоднородных
костей. (Russian) [Mathematical questions of the dynamics of nonhomogeneous
ds] Lecture notes, Novosibirsk State University. *Novosibirsk. Gosudarstv. Univ.*,
osibirsk, 1973. 121 *pp.* (R. Finn) **54** #9294 76.35
The solvability of some one-sided boundary value problems for the Navier-Stokes
ations. (Russian) *Dinamika Splošn. Sredy Vyp.* 16 *Nestacionarnye Problemy*
rodinamiki (1974), 5–34, 120. (Author's summary) **56** #12661 35Q10 (76.35)
Solvability of the initial-boundary value problem for the equations of the motion of
nhomogeneous viscous incompressible fluid. (Russian) *Dokl. Akad. Nauk SSSR* **216**
74), 1008–1010. (Author's introduction) **55** #3567 35Q10
On the theory of boundary value problems for equations of an inhomogeneous
cous incompressible fluid. (Russian) *Proceedings of the Fifth All-Union Seminar on*
merical Methods in the Mechanics of a Viscous Fluid (*Kaciveli*, 1974), *Part II*
ussian), *pp.* 65–76. *Vyčisl. Centr, Akad. Nauk SSSR Sibirsk. Otdel.*, *Novosibirsk*, 1975.
om the text) **58** #29434 35Q10 (76.35)
Correctness "in the large" of mixed boundary value problems for a model system of
ations of a viscous gas. (Russian) *Dinamika Splošn. Sredy Vyp.* 21 *Tečenie Židkost.*
Svobod. Granicami (1975), 18–47, 188. (A. Corduneanu) **57** #18440 76.35
Q99)
(*with* Smagulov, Š.) The correctness of boundary value problems in a certain
fusion model of an inhomogeneous fluid. (Russian) *Čisl. Metody Meh. Splošn. Sredy*
no. 4 *Mat. Modelirovanie* (1976), 75–92. (Authors' introduction) **56** #17460 76.46
The global solvability of one-dimensional boundary value problems for the
ations of a viscous heat-carrying gas. (Russian) *Dinamika Splošn. Sredy Vyp.* 24
namika Židk. so Svobod. Granicami (1976), 44–61, 170. (From the author's text)
#17423 76.35
Boundary value problems for the Burgers equations of a compressible fluid in
mains with moving boundaries. (Russian) *Dinamika Splošn. Sredy Vyp.* 26 *Kraevye*
dači Vyroždajuščih. Uravn. Gidrodinamiki (1976), 60–76, 162. (Editors) **56** #17424
.35
Sur la solubilité globale des problèmes monodimensionnels aux valeurs
tiales-limitées pour les équations d'un gaz visqueux et calorifère. (English summary)
R. Acad. Sci. Paris Sér. A-B **284** (1977), *no.* 5, A317–A320. (Author's summary)
#1925 76.35
(*with* Smagulov, Š.) The correctness of boundary value problems in a certain
ffusion model of an inhomogeneous fluid. (Russian) *Dokl. Akad. Nauk SSSR* **234**
977), *no.* 2, 330–332. (R. Finn) **56** #4391 76.35
(*with* Šeluhin, V. V.) Unique global solution with respect to time of initial-boundary
lue problems for one-dimensional equations of a viscous gas. *Prikl. Mat. Meh.* **41**
977), *no.* 2, 282–291 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 2,
3–282. (Silvio Nocilla) **57** #8425 76.45

M. A. (*with* Zaidi, S. M. A.) On generalized and super pullback. *Aligarh Bull.*
ath. 1 (1971), 51–61. (*errata insert*) (H. Gonshor) **47** #301 18A30
(*with* Naseeruddin, Mohd.) On almost semigroups. *Aligarh Bull. Math.* **2** (1972),
7. (S. M. Yusuf) **54** #7662 20L99

ierczak, Jan Parametric game-playing automata: synthesis and application. (Polish.
nglish and Russian summaries) *Prace Nauk. Inst. Cybernet. Techn. Politech. Wrocław*
o. 13 *Ser.* 1 *Monograf. No.* 1 (1974), 123 *pp.* (Author's summary) **57** #5510 94A30
A parametric game-playing automaton as a controller in a cybernetic system. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **20** (1975), *no.* 2, 213–229. (R. Jakubowski) **55** #2409 94A30

Kazimirčak-Polonskaja, E. I. The role of the major planets in the discovery of short-period comets and in the evolution of their orbits. (Russian) *Bjull. Inst. Teoret. Astronom.* **12**, *no.* 9(142), 796–812 (1971). (Editors) **58** #21259 01A60

Kazīmīrs'kiĭ, P. S. The elimination of the regular multiplier from a matrix polynomial. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 686–687, 763. (Author's summary) **58** #22111 15A24

(*with* Uhans'ka, D. V.) A criterion for the existence of a root of degree *m* for an arbitrary matrix. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 711–712, 765. (G. Biriuk) **46** #7268 15A30

(*with* Drogomižs'ka, M. M.) Certain properties of rings whose zero divisors belong to the Perlis-Jacobson radical. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 778–780, 857. (G. M. Bergman) **45** #6862 16A34

(*with* Urbanovič, M. M.) The decomposition of a matrix binomial into factors. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 209–210, 284. (D. Ž. Djoković) **46** #3529 (EA **46**) 15A24

(*with* Grinīv, L. M.) Reduction of a regular matrix polynomial to quasitriangular form. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 973–975, 1053. (G. Biriuk) **47** #6731 15A21

The decomposition of a matrix polynomial into factors. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 316–327. (G. M. Bergman) **45** #8664 15A24

(*with* Petričkovič, V. M.; Šuljar, M. A.) A canonical form for a pair of commuting matrices. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 492–495, 571. (Authors' summary) **58** #22108 15A21

(*with* Urbanovič, M. M.) The splitting of a matrix binomial into factors. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 454–464, 573. (Ion Enescu) **49** #325 15A24

(*with* Drogomižs'ka, M. M.) Remarks on the theory of finitely generated right principal ideal rings. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 671–676, 717. (W. G. Leavitt) **48** #6150 16A04

(*with* Hudiĭ, M. Ī.) Representation of a matrix polynomial in block form. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 75 (1973), 14–19, 92. (G. M. Bergman) **48** #3985 15A21

(*with* Grinīv, L. M.) Separation of a "large" factor from a matrix polynomial. (Ukranian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 293–297, 379. (G. M. Bergman) **50** #2205 15A21

(*with* Grinīv, L. M.) Reduction of a regular matrix polynomial to quasidiagonal form. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 318–327, 428. (Ion Enescu) **50** #2213 15A54

Matrix polynomials and equations. (Russian) *Mathematical methods, and physical and mechanical fields, No.* 2 (*Russian*), *pp.* 23–31, 171. "*Naukova Dumka*", *Kiev*, 1975. (L. Mirsky) **54** #12806 15A24

(*with* Petričkovič, V. M.) Reduction of a matrix quadratic trinomial with commuting coefficients to quasidiagonal form and its linear factorability. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 106 (1975), 97–102, 204. (Authors' summary) **58** #22112 15A24

(*with* Grigá, B. S.) On the question of the uniqueness of the choice of a unital factor of a matrix polynomial. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp.* 15–18, 118. *Inst. Mat., Akad. Nauk Ukrain. SSR*, *Kiev*, 1976. (Authors' summary) **58** #28026 15A21

Separation of a regular linear factor of a simple structure from a matrix polynomial. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp.* 29–40, 119. *Inst. Mat., Akad. Nauk Ukrain. SSR*, *Kiev*, 1976. (Author's introduction) **58** #28029 15A21

(*with* Zelīsko, V. R.; Petričkovič, V. M.) Similarity of matrix quadratic trinomials. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp.* 40–45, 119. *Inst. Mat., Akad. Nauk Ukrain. SSR*, *Kiev*, 1976. (Authors' summary) **58** #28030 15A21

(*with* Grigá, B. S.) On the question of the uniqueness of isolating a unital factor in a matrix polynomial. (Russian) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 4, 293–295, 383. (I. Enescu) **53** #13280 15A54

(*with* Zelīsko, V. R.; Petričkovič, V. M.) On the question of the similarity of matrix polynomials. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 10, 876–878, 959. (Authors' summary) **58** #5740 15A99

(*with* Zelīsko, V. R.) Splitting off a linear factor from a matrix polynomial. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 11, 968–971, 1051. (Authors' summary) **58** #5741 15A99

Factorization of a regular matrix polynomial. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 6, 488–491, 572. (J. L. Brenner) **56** #5600 15A24

The necessity of conditions for the linear factorization of a matrix polynomial. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 5, 657–661, 710. (R. C. Thompson) **57** #3158 15A24

(*with* Lu̇nik, F. P.) Augmentation of a rectangular inverse matrix over an associative ring to an invertible one. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 3, 367–370, 429. (Cs. J. Hegedűs) **58** #10963 15A33 (15A09)

Kaẓī-zade ar-Rūmī *See* **Ataev, U., 58** #4802 *and* **Pašaev, Z. A., 58** #26795

Kazlauskas, Kazys (*with* Paulauskas, Celestinas) A survey of some methods for the construction of inverse filters to be used in the reconstruction of signals. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. No.* 4 (1973), 62–74. (A. Ja. Dorogovcev) **49** #8727 94A05

(*with* Paulauskas, Celestinas) Increase in information capacity of output signals in linear systems by means of a computer. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. No.* 4 (1973), 75–84. (A. Ja. Dorogovcev) **49** #8706 93C05

(*with* Gabrijolavičius, Alfredas; Paulauskas, Celestinas) Estimation of the parameters of a linear dynamical system from the output signal when the input signal is not completely known. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. No.* 4 (1973), 85–103. (S. P. Bingulac) **48** #13346 93B30 (*with* Gabrijolavičius, Alfredas; Paulauskas, Celestinas) A method of reconstructing an unknown signal by means of two dynamical systems with unknown parameters. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija —Trudy Sem. No.* 4 (1973), 104–118. (S. P. Bingulac) **48** #13347 93B30

Synthesis of an optimal discrete inverse filter. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 15 (1976), 27–39. (Author's summary) **58** #9670 93E10

A method for designing recursive digital filters. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 15 (1976), 41–62. (Author's summary) **58** #4597 94A05

Determining the type of a generalized matrix inversion. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija No.* 25 (1977), 49–61, 73. (Author's summary) **58** #19063 65F05 (65–04)

An application of the Cline theorem to the recurrent restoration of signals. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija No.* 26 (1977), 57–70, 72. (Author's summary) **57** #19053 94A05

Kazlow, Michael (*with* Hill, C. Denson) Function theory on tube manifolds. *Several complex variables (Proc. Sympos. Pure Math., Vol. XXX, Part 1, Williams Coll., Williamstown, Mass.,* 1975), *pp.* 153–156. *Amer. Math. Soc., Providence, R.I.*, 1977. (L. R. Hunt) **56** #12309 32D10 (32F99)

Kaźmierski, J. A novel analysis of non-linear transformation of random signals and its application to the amplitude limiter. (Polish summary) *Zastos. Mat.* **14** (1974), 69–91. (J. P. M. Schalkwijk) **49** #8728 94A05

Kazmin, G. T. *See* **Cybernetics—in the service of Communism, 48** #10432

Kaz'min, Ju. A. Singular points and Appell's expansions. (Russian) *Mathematica (Cluj)* **12(35)** (1970), 75–85. (Peter Russev) **46** #2055 30A64

The interpolation problem of Abel. I. (Russian) *Mathematica (Cluj)* **13(36)** (1971), 87–112. (A. B. Németh) **45** #8851 30A80

The general problem of moments in the complex domain. (Russian) *Proceedings of the Conference on the Constructive Theory of Functions (Approximation Theory) (Budapest,* 1969), *pp.* 225–254. *Akadémiai Kiadó, Budapest*, 1972. (Bl. Sendov) **58** #1169 30A82

On the moment problem in the complex domain. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 1309–1312. (J. Rausen) **46** #5633 30A80 (44A50)

The general moments problem in the complex domain. Uniqueness theorems. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 19–22. (I. N. Baker) **46** #7519 30A80

On Abel's interpolation problem. (Russian) *Mat. Zametki* **11** (1972), 353–364. (A. Lupaş) **45** #7076 30A80

The Abel interpolation problem. II. (Russian) *Mathematica (Cluj)* **14(37)** (1972), 67–85. (A. B. Németh) **48** #6428 30A80

The uniqueness of the solution of a certain interpolation problem. I. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 309–333. (I. N. Baker) **45** #8852 30A80

The uniqueness of the solution of a certain interpolation problem. II. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 566–577. (I. N. Baker) **45** #8853 30A80

A certain problem of A. O. Gel'fond. (Russian) *Mat. Sb. (N.S.)* **90(132)** (1973), 521–543, 639. (I. N. Baker) **48** #11521 30A80

Imbeddings used in the study of a class of interpolation problems. (Russian) *Imbedding theorems and their applications (Proc. All-Union Sympos., Alma-Ata,* 1973) *(Russian), pp.* 40–44, 186. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (J. Albrycht) **58** #6260 30A80 (46E35)

On a theorem of G. Pólya. (Russian summary) *Anal. Math.* **2** (1976), *no.* 2, 99–116. (A. Baillette) **54** #7778 30A66

A geometric test for completeness. (Russian) *Mat. Sb. (N.S.)* **100(142)** (1976), *no.* 2, 181–190, 335. (Anthony G. O'Farrell) **53** #13532 30A18 (46E10)

The closures of the linear spans of two systems of functions. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 3, 535–537. (R. P. Boas, Jr.) **57** #13365 42A64

Closure of the linear hull of a certain system of functions. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 4, 799–805, 956. (A. B. Németh) **56** #12718 41A30

Kaz'min, O. N. (*with* Karetnyĭ, O. Ja.) Identification of the domain of exponential stability in the parameter plane. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1972**, *no.* 11, 1260. (P. Brunovský) **49** #7244 12D10

Kaz'min, V. V. Composite nomograms with uniform rectilinear scales for equations in four variables. (Russian) *Nomography collection, No.* 8 *(Russian), pp.* 145–157. *Vyčisl. Centr Akad. Nauk. SSSR, Moscow*, 1971. (L. Bitay) **51** #7346 65S05

Kaz'min, Yu. A. *See* **Kaz'min, Ju. A.**

Kaznačeev, V. I. (*with* Murav'ev, N. P.) A method for the synthesis of complete verifying and fault detecting tests for combinational nets. (Russian) *Computer science in mechanical engineering (Russian), pp.* 183–192. *Akad. Nauk Beloruss. SSR Inst. Tehn. Kibernet., Minsk*, 1971 (1972). (Authors' summary) **50** #15884 90B25

Complete testing procedures of combination schemes. (Russian) *Otbor i Peredača Informacii No.* 31 (1972), 71–77, 134. (J. Morávek) **48** #8138 94A30

Kazuščik, V. A. (*with* Ponomarenko, V. K.) Conditions for regularity of structure in a certain class of comparison schemes. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 2, 51–59. (P. Vondráček) **45** #8414 94A20

(*with* Lades, V. I.) Combination schemes for comparing the values of linear functions with zero. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 4, 57–62. (H. Weber) **46** #1454 94A10 (94–04)

(*with* Lades, V. I.; Ponomarenko, V. K.) Combination schemes that compare the values of a linear function with a number that is different from zero. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 2, 66–72. (P. Vondráček) **46** #8773 94A20 (94A05)

(*with* Lades, V. I.) Combinational schemes for the comparison of the absolute values of linear functions. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 6, 31–36, 135. (V. V. Ivanov) **51** #4724 68A25 (94A20)

(*with* Lades, V. I.) Multi-step schemes for the comparison of the values of linear functions. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 6, 37–46, 136. (V. V. Ivanov) **51** #4725 68A25 (94A20)

Kc'ondz, N. A. (*with* Kurčenko, T. S.) Construction of two-sided approximations solution of nonlinear operator equations by a nonstationary iterative method. (R *Ukrain. Mat. Ž.* **25** (1973), 545–550, 576. (G. Vainikko) **50** #3565 65J05

oo kian Ke, William *See* **Oo Kian Ke, William**

Keady, G. (*with* Pritchard, W. G.) Bounds for surface solitary waves. *Proc. Ca Philos. Soc.* **76** (1974), 345–358. (D. E. Edmunds) **49** #11936 76.35

(*with* Norbury, John) Water waves and conjugate streams. *J. Fluid M* (1975), *no.* 4, 663–671. (T. W. Kao) **52** #16250 76.30

(*with* Norbury, John) The jet from a horizontal slot under gravity. *Proc. R London Ser. A* **344** (1975), *no.* 1639, 471–487. (R. C. Ackerberg) **52** #4806

(*with* Norbury, John) On the existence theory for irrotational water waves. *Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 1, 137–157. (Authors' summary) **58** 76.35

(*with* Norbury, John) Waves and conjugate streams with vorticity. *Mathem* (1978), *no.* 1, 129–150. (Authors' summary) **58** #19713 76.35

Keagy, Thomas A. Matrix transformations and absolute summability. *Pacific J.* (1976), *no.* 2, 411–415. (John A. Fridy) **53** #13916 40C05

Summability of certain category two classes. *Houston J. Math.* **3** (1977) 61–65. (John A. Fridy) **54** #13365 40C05

Limit preserving summability of subsequences. *Canad. Math. Bull.* **21** (1978 173–176. (David F. Dawson) **58** #6811 40C05

Keam, R. F. Some properties of Hankel-Nicholson integrals. *A spectrum of mat (Essays presented to H. G. Forder), pp.* 48–53. *Auckland Univ. Press, Auckland,* Gasper) **54** #13174 33A40

Keane, M. S. Irrational rotations and quasi-ergodic measures. *Publications des Sé de Mathématiques (Univ. Rennes, Rennes, année* 1970–1971), *Fasc.* 1: *Probabil* 17–26. *Dép. Math. et Informat., Univ. Rennes, Rennes*, 1970. (Nathaniel Fr **51** #5891 28A65

Strongly mixing *g*-measures. *Publications des Séminaires de Mathématiques Rennes, Rennes, année* 1970–1971), *Fasc.* 1: *Probabilités, pp.* 132–154. *Dép. Informat., Univ. Rennes, Rennes*, 1970. (François Aribaud) **51** #3397 28A65

(*with* Guivarc'h, Yves) Transience of random walks on nilpotent groups. *from the "Open House for Probabilists" (Mat. Inst., Aarhus Univ., Aarhus,* 19 92–100. *Various Publ. Ser., No.* 21, *Mat. Inst., Aarhus Univ., Aarhus*, 1972. Bingham) **52** #4422 60J15 (60B15)

(*with* Michel, Pierre) Généralisation d'un lemme de "découpage" de Rokhli *Acad. Sci. Paris Sér. A-B* **274** (1972), A926–A928. (E. M. Klimko) **45** #503

(*with* Brunel, Antoine; Crépel, Pierre; Guivarc'h, Yves) Marches aléatoires récurrentes sur les groupes localement compacts. *C. R. Acad. Sci. Paris Sér.* (1972), A1359–A1361. (J.-P. Kahane) **47** #5962 60J15

Strongly mixing *g*-measures. *Invent. Math.* **16** (1972), 309–324. (J. C. **46** #9295 28A65 (54H20)

(*with* Guivarc'h, Yves) Transience des marches aléatoires sur les groupes nil *Séminaire KGB sur les Marches Aléatoires (Rennes,* 1971–1972), *pp.* 27–36. *Astér Soc. Math. France, Paris*, 1973. (Authors' review) **58** #3057 60J15

(*with* Guivarc'h, Yves) Un théorème de renouvellement pour les groupes nil *Séminaire KGB sur les Marches Aléatoires (Rennes,* 1971–1972), *pp.* 37–40. *Astér Soc. Math. France, Paris*, 1973. (Editors) **57** #17869 60K05 (60B15)

Recurrence and renewal. (French summary) With discussion by D. Ken Schmetterer and D. J. Daley and with reply by the author. Proceedings of t Session of the International Statistical Institute (Vienna, 1973), Vol. 3. *Bu Internat. Statist.* **45** (1973), *no.* 3, 25–33. (K. B. Erickson) **50** #3293 60B15

Interval exchange transformations. *Math. Z.* **141** (1975), 25–31. (M. Loève) **50** #10207 28A65

(*with* Conze, Jean-Pierre) Ergodicité d'un flot cylindrique. *Séminaire de Probabilités, I (Univ. Rennes, Rennes,* 1976), *Exp. No.* 5, 7 *pp. Dépt. Math. In Univ. Rennes, Rennes*, 1976. (Karl Petersen) **58** #28426 28A65 (10K10)

(*with* Boldrighini, Carlo; Marchetti, Federico) Billiards in polygons. *Sémi Probabilités, I (Univ. Rennes, Rennes,* 1976), *Exp. No.* 1, 19 *pp. Dépt. Math. In Univ. Rennes, Rennes*, 1976. (C. S. Hartzman) **58** #31007a 54H20 (58F15)

(*with* Dekking, F. M.) Mixing properties of substitutions. *Séminaire de Prob I (Univ. Rennes, Rennes,* 1976), *Exp. No.* 7, 21 *pp. Dépt. Math. Informat., Univ. Rennes*, 1976. (Editors) **58** #28428 28A65 (54H20)

(*with* Guivarc'h, Yves; Roynette, Bernard) ★Marches aléatoires sur les gro Lie. Lecture Notes in Mathematics, Vol. 624. *Springer-Verlag, Berlin-New York* vii + 292 *pp. ISBN* 3-540-08526-2 (H. Kesten) **58** #24454 60B15 (22E30, 60J

(*with* Guivarc'h, Yves) Marches aléatoires transitoires et structure des gro Lie. *Symposia Mathematica, Vol. XXI (Convegno sulle Misure su Gruppi e s Vettoriali, Convegno sui Gruppi e Anelli Ordinati, INDAM, Rome,* 1975), *pp.* 19 *Academic Press, London*, 1977. (Bernard Roynette) **57** #14151 60J15 (22E30

Non-ergodic interval exchange transformations. *Israel J. Math.* **26** (1977), 188–196. (H. Keynes) **55** #8313 28A65 (54H20)

(*with* Smorodinsky, Meir) A class of finitary codes. *Israel J. Math.* **26** (19 3-4, 352–371. (Paul C. Shields) **56** #8808 28A65

(*with* Boldrighini, Carlo; Marchetti, Federico) Billiards in polygons. *Ann.* **6** (1978), *no.* 4, 532–540. (C. S. Hartzman) **58** #31007b 54H20 (58F15)

(*with* Dekking, F. M.) Mixing properties of substitutions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **42** (1978), *no.* 1, 23–33. (Ethan M. **57** #6363 28A65

See also **Séminaire: KGB sur les Marches Aléatoires, 48** #1325 *and* **Théorie ergodique, 57** #14084

Keane, Orville Abstract Horn theories. *Model theory and topoi, pp.* 15–50. *Lecture Math., Vol.* 445, *Springer, Berlin*, 1975. (Hugo Volger) **52** #2871 02H15 (18

Kearfott, Baker A proof of convergence and an error bound for the method of bise **R**^{n}. *Math. Comp.* **32** (1978), *no.* 144, 1147–1153. (W. Börsch-Supan) **58** # 65H10

Kearns, Jack (*with* Meredith, William) Empirical Bayes point estimates of late scores without knowledge of the trait distribution. *Psychometrika* **38** (1973), 5 (Mir Ali) **50** #1436 62L12 (62P15)

(*with* Meredith, William) Methods for evaluating empirical Bayes point esti t trait scores. *Psychometrika* **40** (1975), *no*. 3, 373–394. (Authors' summary) #8118 62P15

John T. The completeness of combinatory logic with discriminators. *Notre Dame ormal Logic* **14** (1973), 323–330. (R. Hindley) **47** #8256 02C20

Vagueness and failing sentences. *Logique et Analyse* (*N.S.*) **17** (1974), *no*. 67–68, -315. (Alex Blum) **55** #12466 02C05 (02A05)

The logic of calculation. *Z. Math. Logik Grundlagen Math.* **23** (1977), *no*. 1, 45–58. thor's introduction) **58** #5081 02C20

Three substitution-instance interpretations. *Notre Dame J. Formal Logic* **19** (1978), 3, 331–354. (From the introduction) **58** #10287 02B10

See also **Paradox of the liar**, **48** #3694

, Elliot A. (*with* Fong, Jeffrey T.) Linearly independent sets of isotropic Cartesian ors of ranks up to eight. *J. Res. Nat. Bur. Standards Sect. B* **79B** (1975), *no*. 1-2, 58. (Brian O. J. Tupper) **52** #10781 15A72

, C. Regular neighbourhoods and mapping cylinders. *Proc. Cambridge Philos. Soc.* 1971), 15–18. (R. C. Lacher) **45** #1172 57C45

A theorem on twisted spun knots. *Bull. London Math. Soc.* **4** (1972), 47–48. (Roger n) **46** #6339 55A25

(*with* Lickorish, W. B. Raymond) Piecewise linear critical levels and collapsing. *ns. Amer. Math. Soc.* **170** (1972), 415–424. (D. W. L. Sumners) **46** #9997 57C35

Classification of simple knots by Blanchfield duality. *Bull. Amer. Math. Soc.* **79** 73), 952–955. (Roger Fenn) **48** #3056 57C45

Noninvertible knots of codimension 2. *Proc. Amer. Math. Soc.* **40** (1973), 274–276. J. Daverman) **49** #6217 55A25

Cobordism of knots and Blanchfield duality. *J. London Math. Soc.* (2) **10** (1975), *no*. 06–408. (J. P. Levine) **52** #6732 57C45

Simple knots which are doubly-null-cobordant. *Proc. Amer. Math. Soc.* **52** (1975), –472. (W. D. Neumann) **52** #1714 57C45

Presentations of n-knots. *Trans. Amer. Math. Soc.* **202** (1975), 123–140. (Wilbur itten) **50** #11254 57C45

Blanchfield duality and simple knots. *Trans. Amer. Math. Soc.* **202** (1975), 141–160. ilbur Whitten) **50** #11255 57C45

An algebraic classification of some even-dimensional knots. *Topology* **15** (1976), *no*. 363–373. (D. W. L. Sumners) **56** #1323 57C45

P. Optimal parameters for multidimensional integration. *SIAM J. Numer. Anal.* **10** 73), 831–838. (F. Stenger) **50** #6119 65D30

, M. The number of primes representable as the sum of two square-free squares. *oc. Edinburgh Math. Soc.* (2) **20** (1976), *no*. 1, 23–27. (T. M. Apostol) **53** #2869 H25 (10B35)

g, Daniel P. *See* **Mathematical talent: discovery, description, and development**, #5221 *and* **Intellectual talent: Research and development**, **53** #5222

g, Michael E. Whitehead groups of some metacyclic groups and orders. *J. Algebra* (1972), 332–349. (T.-Y. Lam) **46** #9145 18F25

On the K-theory of the quaternion group. *Mathematika* **20** (1973), 59–62. (S. A. sarab) **49** #5134 18F30

(*with* Fröhlich, Albrecht; Wilson, S. M. J.) The class groups of quaternion and hedral 2-groups. *Mathematika* **21** (1974), 64–71. (J. Browkin) **50** #12979 12A80 2A55, 13D15)

Class groups of metacyclic groups of order p^rq,p a regular prime. *Mathematika* **21** 974), 90–95. (I. Reiner) **50** #10059 20D10 (12A55, 18F25)

On the K-theory of tiled orders. *J. Algebra* **43** (1976), *no*. 1, 193–197. (Jean-Louis oday) **55** #8145 18F25

Values of tame symbols on division algebras. *J. London Math. Soc.* (2) **14** (1976), . 1, 25–30. (Keith Dennis) **54** #7431 12A65 (18F25)

G_1 of an integral group ring. *J. London Math. Soc.* (2) **14** (1976), *no*. 1, 148–152. rom the author's introduction) **55** #10525 16A54 (16A26)

(*with* Dennis, R. Keith; Stein, Michael R.) Lower bounds for the order of $K_2(\mathbf{Z}G)$ nd $\mathbf{Wh}_2(G)$. *Math. Ann.* **223** (1976), *no*. 2, 97–103. (A. Dress) **54** #279 12A80 7D60, 18F25)

A transfer map in K-theory. *J. London Math. Soc.* (2) **16** (1977), *no*. 1, 38–42. (A. A. anicki) **56** #8659 18F25

Corrigendum: "A transfer map in K-theory" (J. London Math. Soc. (2) **16** (1977), o. 1, 38–42). *J. London Math. Soc.* (2) **18** (1978), *no*. 1, 14. (Editors) **58** #16767 6A54 (18F25)

n, P. W., Jr. (*with* Gammel, John L.; Ohlsen, Gerald G.) Formalism for the $(\vec{d}, \vec{n})^4$He and ^{3}He$(\vec{d}, \vec{p})^4$He reactions. *Ann. Physics* **85** (1974), 152–213. (Authors' ummary) **55** #1994 81.53

, R. G. Herbert Melvin Lieberstein in memoriam. *Comput. Math. Appl.* **1** (1975), *no*. , 41–42. (Editors) **51** #12465 01A70

Herbert Melvin Lieberstein. *J. Austral. Math. Soc.* **19** (1975), 1–6. (Editors) **0** #12592 01A70

kawa, Takeji (*with* Yamasaki, Shuichiro; Sunakawa, Sigenobu) On the collective variables in many-boson system. *Progr. Theoret. Phys.* **53** (1975), *no*. 5, 1243–1266. Authors' summary) **54** #9537 82.47

ris, Alexander S. Measure and category in effective descriptive set theory. *Ann. Math. Logic* **5** (1972/73), 337–384. (J. R. Shoenfield) **51** #5308 02K30 (02F35, 04A15, 28A05)

(*with* Moschovakis, Yiannis N.) Two theorems about projective sets. *Israel J. Math.* **12** (1972), 391–399. (D. A. Clarke) **48** #1900 02F35 (04A15)

On projective ordinals. *J. Symbolic Logic* **39** (1974), 269–282. (A. Lévy) **53** #2684 02K30 (04A10, 02F35)

(*with* Harrington, Leo A.) On characterizing Spector classes. *J. Symbolic Logic* **40** (1975), *no*. 1, 19–24. (S. S. Wainer) **55** #5420 02F29 (02F35)

(*with* Martin, Donald A.) A note on universal sets for classes of countable G_δ's. *Mathematika* **22** (1975), *no*. 1, 43–45. (D. W. Bressler) **54** #8593 54H05 (04A15)

Countable ordinals and the analytical hierarchy. I. *Pacific J. Math.* **60** (1975), *no*. 1, 223–227. (D. A. Martin) **52** #7900 02K30 (02K05, 02K15)

(*with* Harrington, Leo A.) A basis result for Σ^0_3 sets of reals with an application to minimal covers. *Proc. Amer. Math. Soc.* **53** (1975), *no*. 2, 445–448. (D. A. Martin) **53** #2683 02K30 (02F30, 04A15)

The theory of countable analytical sets. *Trans. Amer. Math. Soc.* **202** (1975), 259–297. (Peter G. Hinman) **54** #7259 02K30 (02F35)

(*with* Harrington, Leo A.) On monotone vs. nonmonotone induction. *Bull. Amer. Math. Soc.* **82** (1976), *no*. 6, 888–890. (P. Aczel) **55** #10259 02F27

(*with* Harrington, Leo A.) Π^1_2 singletons and $0^{\#}$. *Fund. Math.* **95** (1977), *no*. 3, 167–171. (John P. Helm) **57** #117 02K35

On a notion of smallness for subsets of the Baire space. *Trans. Amer. Math. Soc.* **229** (1977), 191–207. (D. W. Bressler) **56** #8369 04A15 (54H05)

(*with* Martin, Donald A.) On the theory of P^1_3 sets of reals. *Bull. Amer. Math. Soc.* **84** (1978), *no*. 1, 149–151. (Douglas E. Miller) **57** #5753 02K30

See also **Handbook: Mathematical logic**, **56** #15351 *and* **Handbook: Mathematical logic, Part C**, **58** #5109

Keck, B. W. (*with* Taylor, John G.) On the equivalence theorem for S-matrix elements. *J. Phys. A* **4** (1971), 291–297. (A. Corciovei) **50** #3816 81.47

(*with* Taylor, John G.) Renormalization of nonpolynomial Lagrangians. *J. Phys. A* **4** (1971), 441–455. (D. I. Olive) **53** #7264 81.32

An alternative class of supersymmetries. *J. Phys. A* **8** (1975), *no*. 11, 1819–1827. (Håkan Snellman) **53** #4834 81.53

Kečkić, Jovan D. (*with* Vasić, Petar M.) Inequalities related to majorization of vectors. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **10(24)** (1970), 203–207. (Z. Ziegler) **45** #484 26A87

A differential operator and its applications to partial differential equations and nonanalytic functions. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 329 (1970), 47 *pp*. (Robert D. Brown) **45** #745 35Q99 (30A92)

(*with* Vasić, Petar M.) A functional equation related to generalized convexity. (Russian and Romanian summaries) *Bul. Şti. Tehn. Inst. Politehn. Timişoara—Ser. Mat.-Fiz.-Mec. Teoret. Apl.* **16(30)** (1971), *no*. 2, 167–171. (M. Kuczma) **49** #910 39A15

A method of forming inequalities. *Math. Balkanica* **1** (1971), 140–141. (H. Kober) **45** #3660 26A87

(*with* Vasić, Petar M.) Some inequalities for complex numbers. *Math. Balkanica* **1** (1971), 282–286. (J. Nikolaus) **45** #2146 30A04

(*with* Vasić, Petar M.) A generalisation of the concept of convexity. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **11(25)** (1971), 53–56. (F. Brooks) **46** #3716 26A51

(*with* Vasić, Petar M.) Some inequalities for the gamma function. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **11(25)** (1971), 107–114. (S. D. Bajpai) **46** #7560 33A15

Clairaut's equations of higher order. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **12(26)** (1971), 63–66. **46** #2140 34A99

(*with* Vasić, Petar M.; Janić, Radovan R.) A functional equation related to the Lagrange interpolation polynomial. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 338-352 (1971), 82–86. (Pl. Kannappan (Zbl **214**, 391)) **47** #9108 39A15 (41A05)

A use of complex functions in finite integration of differential equations. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357-380 (1971), 93–96. (A. Averna) **46** #2123 34A05

On some partial difference equations. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357-380 (1971), 107–110. (I. M. Sheffer) **45** #9018 39A10

(*with* Vasić, Petar M.; Janić, Radovan R.; Crstici, Borislav) Generalisation of a functional equation which is related to the Lagrange interpolation polynomial. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357-380 (1971), 111–114. (V. Herman) **47** #9110 39A25

(*with* Mitrinović, Dragoslav S.) ★Kompleksna analiza. (Serbo-Croatian) [Complex analysis] Zbornik zadataka i problema. [A collection of exercises and problems] Novi Zbornik Matematičkih Problema, No. III. [New Collection of Mathematical Problems, No. III] *Naučna Knjiga, Belgrade*, 1972. xi + 272 *pp*. (Editors) **50** #7488 30–01

(*with* Mitrinović, Dragoslav S.) ★Jednačine matematičke fizike. (Serbo-Croatian) [Equations of mathematical physics] Matematički Metodi u Fizici i Tehnici. [Mathematical Methods in Physics and Engineering] *Izdavačko Preduzeće Gradevinska Knjiga, Belgrade*, 1972. xii + 227 *pp*. (Editors) **50** #7757 35–01

(*with* Vasić, Petar M.; Lacković, Ivan B.; Mitrović, Žarko M.) Some properties of arithmetic means of real sequences. *Mat. Vesnik* **9(24)** (1972), 205–212. (F. P. Cass) **48** #6755 40A99

Additions to Kamke's treatise. III. Riccati's equation and related topics. *Math. Balkanica* **2** (1972), 84–87. (H. Hochstadt) **47** #8936 34A05

On nonlinear superposition. *Math. Balkanica* **2** (1972), 88–93. (W. F. Ames) **47** #7205 35F20 (35G20)

(*with* Vasić, Petar M.) A note on some integral inequalities. *Math. Balkanica* **2** (1972), 296–299. (A. Dinghas) **48** #484 26A86

(*with* Stanković, Miomir S.) Some inequalities for special functions. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **13(27)** (1972), 51–54. (A. E. Danese) **48** #6479 33A15 (26A87)

Additions to Kamke's treatise. II. Nonlinear first and second order differential equations. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **13(27)** (1972), 55–58. (H. A. De Kleine) **48** #8905 34A05

Additions to Kamke's treatise: nonlinear third order differential equations. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 381-409 (1972), 81–84. (H. Hochstadt) **48** #596 35A05

A transformation which leaves linear partial differential equations unchanged in form. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 381-409 (1972), 85–88. (Clarence M. Ablow) **48** #4459 35A25

(*with* Vasić, Petar M.; Janić, Radovan R.) Errata: "A complementary triangle inequality" (Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No. 338-352 (1971), 77–81). *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 381-409 (1972), 147. (S. Watanabe) **48** #2352 30A04

★Algebra. I. (Serbo-Croatian) [Algebra. I] Elementi linearne algebre i teorije polinoma. [Elements of linear algebra and the theory of polynomials] *Privredni Pregled, Belgrade*, 1973. xii + 214 *pp*. (Editors) **50** #9887 15–01

A note on the equation $y' = F(x,y)$. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth.

Math. Balkanica **3** (1973), 204–205. (J. F. Heyda) **50** #13682 34A05

On nonlinear superposition. II. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth. *Math. Balkanica* **3** (1973), 206–212. (W. F. Ames) **50** #5153 35A25

A remark on a generalisation of monotonic sequences. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **16(30)** (1973), 85–89. (B. E. Rhoades) **50** #13955 40A05

On the convergence of certain sequences. IV. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **16(30)** (1973), 91–94. (B. Choczewski) **50** #7877 40A05 (39A10)

On partial differential equations in two unknown functions. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 79–82. (E. Kreyszig) **48** #4460 35A25

A note on an incorrectly posed problem for the Laplace equation. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 83–84. (R. B. Kelman) **48** #6444 31A05

(*with* Mitrinović, Dragoslav S.; Janić, Radovan R.) Albert Sade (1898–1973). *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 243–246. (Editors) **48** #1862 01A70

A characterization of certain nonanalytic functions. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **20(24)** (1974), *no.* 1-2, *secţ.* I, 41–44. (M. O. Gonzalez) **50** #2516 30A92

Notes on partial differential equations: formation of certain equations. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 325–327. (W. F. Ames) **51** #8592 35A25

Solutions of Dirichlet's problem for the Laplace equation in a doubly connected region. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 328–330. (R. B. Kelman) **51** #8613 35J05

Additions to Kamke's treatise. IV. Some first order equations. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 461-497 (1974), 179–181. (H. Hochstadt) **50** #10395 34A05

Dirichlet's problem for the annulus. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 461–497 (1974), 183–184. (R. B. Kelman) **51** #5942 31A25

Boundary value problems for the Laplace equation. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1641–1646, 1716–1717. (M. A. Atahodžaev) **52** #6165 35J05

Notes on partial differential equations. II. General solutions for two classes of second-order nonlinear equations. *J. Math. Anal. Appl.* **52** (1975), *no.* 3, 450–453. (W. F. Ames) **53** #11203 35C05

A note on the Ermakov-Pinney's equation. *Math. Balkanica* **5** (1975), 150–151. (Editors) **58** #22715 34A05

(*with* Kocić, Vlajko Lj.) On the convergence of certain sequences. V. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **18(32)** (1975), 103–106. (B. Choczewski) **51** #13509 40A05

Additions to Kamke's treatise. VI. A nonlinear second order equation. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **19(33)** (1975), 81–82. (H. Hochstadt) **53** #11125 34A05

Notes on partial differential equations. III. Two Dirichlet type problems for Poisson's equation. *Publ. Inst. Math.* (*N.S.*) **18(32)** (1975), 99–102. (I. I. Kolodner) **57** #3567 35-01

Additions to Kamke's treatise. V. A remark on the generalised Emden's equation. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 498–541 (1975), 39–40. (H. Hochstadt) **52** #6074 34A05

(*with* Mitrinović, Dragoslav S.) Compléments au traité de Kamke. XIV. Applications of the variation of parameters method to nonlinear second order differential equations. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 544–576 (1976), 3–7. (Editors) **55** #10757 34A05

Additions to Kamke's treatise. VII. Variation of parameters for nonlinear second order differential equations. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 544–576 (1976), 31–36. (H. Hochstadt) **55** #10756 34A05

Analogies between differential and difference equations: singular solutions of difference equations of Clairaut's type. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 131–134. (Gary D. Jones) **58** #1782 39A10 (34A05)

(*with* Kocić, Vlajko Lj.) Oscillating solutions of linear differential equations. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 135–137. (Wadi Mahfoud) **58** #11641 34C10

Additions to Kamke's treatise. VIII. On singular solutions of generalised Clairaut's equation. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 577-598 (1977), 30–32. (H. Hochstadt) **56** #5981 34A05

(*with* Mitrinović, Dragoslav S.) ★Cauchyjev račun ostataka sa primenama. (Serbo-Croatian) [Cauchy's calculus of residues with applications] Matematički Problemi i Ekspozicije. 8. [Mathematical Problems and Expositions. 8.] *Naučna Kniga, Belgrade*, 1978. 271 *pp*. (R. P. Boas, Jr.) **57** #9941 30–01 (01A55, 01A70, 34A25)

See also **Mitrinović, Dragoslav S.**, **56** #8937

Kecs, Wilhelm (*with* Teodorescu, P. P.) On the plane problem of an elastic body acted upon by dynamic loads. I. General results. *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 47–55. (R. J. Knops) **48** #7730 73.35

(*with* Teodorescu, P. P.) On the plane problem of an elastic body acted upon by dynamic loads. II. Applications. *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 57–62. (R. J. Knops) **50** #1605 73.45

Sur les conditions nécessaires d'extrémum concernant les intégrales multiples. *Bull. Math. Soc. Sci Math. R. S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 2, 181–192 (1972). (J. D. Logan) **48** #996 49B20

(*with* Teodorescu, P. P.) Sur le calcul variationnel en distributions. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 4, 443–455 (1973). (L. Arteaga) **48** #865 46F10

Sur la dérivée rotationnelle et ses applications. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **16(64)** (1972), *no.* 1, 51–59 (1973). (V. Ganapathy Iyer) **48** #7745 73.53 (26A60)

Sur une classe d'équations intégro-différentielles. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **16(64)** (1972), *no.* 4, 451–459 (1974). (E. A. Catchpole) **50** #14125 45J05

(*with* Teodorescu, P. P.) ★Applications of the theory of distributions in mechanics. With a preface by Miron Nicolescu. Revised and enlarged translation from the Romanian by Radu Georgescu, edited by John Hammel. *Editura Academiei Bucharest*; *Abacus Press, Tunbridge Wells*, 1974. 493 *pp*. (Editors) **52** #12497 (46Fxx, 70.46)

On the integration of the equations of the linear vibrating systems. *Bull. Mat Sci. Math. R. S. Roumanie* (*N.S.*) **18(66)** (1974), *no.* 1-2, 151–159 (1975). (Mineo **53** #7181 70.46

Applications of convolution algebra to the study of inductively coupled circuits. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **18(66)** (1974), 295–306 (1976). (Author's summary) **56** #2678 94A20

La solution généralisée de l'équation des télégraphistes pour lignes sans disto Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974) *Balkanica* **4** (1974), 319–324. (William Margulies) **52** #1062 35Q99

On a certain generalization of Legendre's condition in the calculus of varia integrals depending on higher order derivatives. (Romanian. French summary *Cerc. Mat.* **26** (1974), 39–52. (U. D'Ambrosio) **50** #14418 49A99

(*with* Teodorescu, P. P.) Sur la représentation des charges pérodiques et quel ses applications. *Ann. Mat. Pura Appl.* (4) **108** (1976), 179–188. (See Zbl **368** #7 73.46

Sur l'intégration des systèmes d'équations différentielles linéaires d'ordre sup *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 1-2, 1 (1977). (Stanislav Beljavskiĭ) **58** #11566 34A10

Keda, N. P. (*with* Erugin, N. P.; Janovič, L. A.) Vladimir Ivanovič Krylov seventieth birthday). (Russian) *Differencial'nye Uravnenija* **8** (1972), 2281–2286. (Editors) **47** #1570 01A70

(*with* Janovič, L. A.) A remark on the convergence of trigonometric interp (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 5, 9–12, Gregor) **50** #14034 42A12

Kedem, Benjamin Estimating the kernels of nonlinear orthogonal polynomial funct *Ann. Statist.* **2** (1974), 353–358. (Bennett Eisenberg) **52** #15630 (EA **53**) (62M10)

Estimating the lags of lag processes. *J. Amer. Statist. Assoc.* **70** (1975), *no.* 3 1, 603–605. (Bennett Eisenberg) **58** #13576 62M15

Sufficient statistics associated with a two-state second-order Markov chain. *Biometrika* **63** (1976), *no.* 1, 127–132. (Rashid Ahmad) **53** #9546 62M05 (62

Exponomial forecasts of nonstationary time series. *J. Math. Anal. Appl.* **54** *no.* 2, 444–448. (Paul Shaman) **54** #4006 62M10

On the asymptotic normality of linear rank statistics. *Comm. Statist.— Methods* **A6** (1977), *no.* 3, 221–229. (Richard A. Johnson) **55** #11492 62G10 (62E20)

Counting the number of 0-1 stationary time series having the same likel *Discrete Math.* **18** (1977), *no.* 3, 285–289. (P. A. Morettin) **56** #16964 62M1

Kedem, Gershon (*with* Zaremba, Stanisław K.) A table of good lattice points i dimensions. *Numer. Math.* **23** (1974), 175–180. (Sven-Åke Gustafson) **51** # 65D30

Kedem, Zvi M. Combining dimensionality and rate of growth arguments for esta lower bounds on the number of multiplications. *Sixth Annual ACM Sympos Theory of Computing* (*Seattle, Wash.*, 1974), *pp*. 334–341. *Assoc. Comput. Mach York*, 1974. (M. Tetruašvili) **54** #9151 68A20

(*with* Fuchs, H.; Uselton, S. P.) Optimal surface reconstruction from planar contours. *Comm. ACM* **20** (1977), *no.* 10, 693–702. (Giorgio Balconi) **58** #2 68A45

(*with* Kirkpatrick, David G.) Addition requirements for rational functions. *J. Comput.* **6** (1977), *no.* 1, 188–199. (Authors' summary) **56** #13783 68A20

Kedem-Kimelfeld, Benjamin *See* **Kedem, Benjamin**

Kedrov, B. M. (*with* Pogrebysskiĭ, I. B.; Kuznecov, B. G.; Juškevič, A. P.; Plotkin, A. T. Grigor'jan zum 60. Geburtstag. *NTM Schr. Geschichte Naturwiss. Tech. Me* (1970), *no.* 2, 68–70. (Editors) **56** #5175 01A70

(*with* Markuševič, A. I.; Juškevič, A. P.; Rybnikov, K. A.; Grigor'jan, Demidov, S. S.) Izabella Grigor'evna Bašmakova (on the occasion of her birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp.* 2(35) (1971), 76. (E **58** #16030 01A70

(*with* Kuznecov, B. G.; Plotkin, S. Ja.; Pogrebysskiĭ, I. B.; Fedorov, A. S.; Fedoseev, I. A.; Juškevič, A. P.) A. T. Grigor'jan (on the occasion of his birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn.* **1971**, *no.* 4(33), 62–63. (Editors) **58** #27116 01A70

(*with* Rozenfel'd, B. A.) ★Абу Райхан Бируни. (Russian) [Abū'l-Rayḥan al-Bīrūnī] К 1000-летию со дня рождения. [On the 1000th anniversary of his *Izdat. "Nauka", Moscow*, 1973. 55 *pp*. (Editors) **58** #4809 01A30 (01A70)

(*with* Grigor'jan, A. T.; Kosmodem'janskiĭ, A. A.; Kuznecov, B. G.) A. Ju. Iš (on the occasion of his sixtieth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Vyp.* 4 (45) (1973), 85–86. (Editors) **56** #5174 01A70

The great Central Asiatic scholar-encyclopedist al-Bīrūnī. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1974**, *no.* 2-3(47-48), 60–68, 221. (Editors) **58** #10184 01A70 (01A30)

Evolution of the concept of matter in science and philosophy. *Historica philosophical dimensions of logic, methodology and philosophy of science* (*Proc. Internat. Congr. Logic, Methodology and Philos. of Sci., Part IV, Univ. Western O London, Ont.*, 1975), *pp*. 187–208. *Univ. Western Ontario Sci. Philos. Sci., Vol.* 12, *Dordrecht*, 1977. (Editors) **58** #21392 02A05 (01A55)

See also **Nicolaus Copernicus. On the 500th anniversary of his birth**, **50** # **Logic, methodology and philosophy of science**, **55** #7657 *and* **Philosophical found of the natural sciences**, **57** #2812

Kee, R. J. (*with* Miller, J. A.) A split-operator, finite-difference solution for axisym laminar-jet diffusion flames. *AIAA J.* **16** (1978), *no.* 2, 169–176. (Authors' sum **56** #17482 76.65

Keech, Malcolm S. A third order, semi-explicit method in the numerical solution o kind Volterra integral equations. *Nordisk Tidskr. Informationsbehandling* (*BI* (1977), *no.* 3, 312–320. (David R. Hill) **57** #14547 65R05

(*with* Baker, Christopher T. H.) Stability regions in the numerical treatme erra integral equations. *SIAM J. Numer. Anal.* **15** (1978), *no.* 2, 394–417. (P. M. elone) **58** #19265 65R05

l, A. D. A note on planes with characteristic. *Atti del Convegno di Geometria nbinatoria e sue Applicazioni* (*Univ. Perugia, Perugia*, 1970), *pp.* 307–318. *Ist. Mat., v. Perugia, Perugia*, 1971. (G. Pickert) **49** #7911 50D35

(*with* Dénes, József) On *P*-quasigroups and decompositions of complete undirected phs. *J. Combinatorial Theory Ser. B* **13** (1972), 270–275. (L. V. Quintas) **51** #252 25

(*with* Dénes, József) ★Latin squares and their applications. *Academic Press, New k-London*, 1974. 547 *pp.* (H. B. Mann) **50** #4338 05B15 (05B05, 20N05, 94A10)

Some problems concerning complete Latin squares. *Combinatorics* (*Proc. British nbinatorial Conf., Univ. Coll. Wales, Aberystwyth*, 1973), *pp.* 89–96. *London Math. . Lecture Note Ser., No.* 13, *Cambridge Univ. Press, London*, 1974. (Charles C. dner) **51** #2943 05B15

Self-collineations of Desarguesian projective planes. *Amer. Math. Monthly* **82** 75), 59–63. (T. G. Ostrom) **50** #5617 50D30

Row complete squares and a problem of A. Kotzig concerning *P*-quasigroups and lerian circuits. *J. Combinatorial Theory Ser. A* **18** (1975), 291–304. (Charles C. dner) **51** #2982 05C35 (20L99)

Some connections between Latin squares and graphs. (Italian summary) *Colloquio ernazionale sulle Teorie Combinatorie* (*Roma*, 1973), *Tomo I, pp.* 321–329. *Atti dei nvegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (Charles C. Lindner) #7806 05B15 (05C99)

Recent results concerning complete Latin squares. *Proceedings of the Fifth British mbinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 385–393. *Congressus merantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (Charles C. Lindner) #2711 05B15

(*with* Hilton, A. J. W.) Further results concerning *P*-quasigroups and complete aph decompositions. *Discrete Math.* **14** (1976), *no.* 4, 311–318. (Anton Kotzig) #7834 05C25

Latin squares, *P*-quasigroups and graph decompositions. Symposium en uasigroupes et Équations Fonctionnelles (Belgrade-Novi Sad, 1974). *Zbornik Rad. at. Inst. Beograd* (*N.S.*) **1(9)** (1976), 41–48. (Charles C. Lindner) **55** #2610 05B15

See also **Problems: Combinatorial mathematics**, 53 #141

, Emmett B. A twisted turnpike theorem. *Contributions to the von Neumann growth odel* (*Proc. Conf., Inst. Advanced Studies, Vienna*, 1970), *pp.* 91–98. *Zeitschrift für ationalökonomie, Suppl.* 1, *Springer, New York*, 1971. (D. Hochstädter) **48** #7944 0B30

A twisted turnpike. *Internat. Econom. Rev.* **13** (1972), 160–166. (I. M. tancu-Minasian) **49** #2066 90B30

Horizon in a simple model of economic growth. *Mathematical models in economics Proc. Sympos., and Conf. on von Neumann Models, Warsaw*, 1972), *pp.* 253–257. *orth-Holland, Amsterdam*, 1974. (Author's summary) **55** #7317 90A15

Horizon in a simple model of economic growth. *Econometrica* **42** (1974), 273–277. Author's summary) **56** #10819 90A15

(*with* Spencer, Joel H.) Optimal doubling in backgammon. *Operations Res.* **23** 1975), *no.* 6, 1063–1071. (G. Owen) **55** #10026 (E **55** #10027) 90D05

(*with* Golubitsky, M.; Rothschild, Michael) Convergence of the age structure: pplications of the projective metric. *Theoret. Population Biology* **7** (1975), 84–93. (N. eyfitz) **51** #7651 (E **54** #9729) 92A15

(*with* Golubitsky, M.; Rothschild, Michael) Addendum: "Convergence of the age tructure: applications of the projective metric" (Theoret. Population Biology 7 (1975), o. 1, 84–93). *Theoret. Population Biology* **10** (1976), *no.* 3, 413. (Editors) **54** #9729 2A15

(*with* Relles, Daniel A.; Rolph, John E.) The choice between family and individual deductibles in health insurance policies. *J. Econom. Theory* **16** (1977), *no.* 2, 220–227. G. Tintner) **57** #1822 62P20 (90A05)

See also **Orth, P. J.**, **55** #10027

ey, Stuart M. (*with* Doherty, Michael E.) Probabilistic and multiple regression modeling of the biologist's decision processes and its implications for medical diagnosis. *Bull. Math. Biophys.* **33** (1971), 439–449. (A. K. Gupta) **46** #1021 62J05 (92A25)

, Linda On infinitely generated Fuchsian groups. *J. Indian Math. Soc.* (*N.S.*) **35** (1971), 67–85 (1972). (L. Greenberg) **46** #5474 20H10

A correction to: "On Fricke moduli". *Proc. Amer. Math. Soc.* **40** (1973), 60–62. (B. Maskit) **47** #8845 30A58

On fundamental domains and the Teichmüller modular group. *Contributions to analysis (a collection of papers dedicated to Lipman Bers)*, *pp.* 185–194. *Academic Press, New York*, 1974. (L. Greenberg) **51** #885 30A58 (32G15)

Collars on Riemann surfaces. *Discontinuous groups and Riemann surfaces* (*Proc. Conf., Univ. Maryland, College Park, Md.*, 1973), *pp.* 263–268. *Ann. of Math. Studies, No.* 79, *Princeton Univ. Press, Princeton, N.J.*, 1974. (C. Maclachlan) **52** #738 30A46

A modular group and Riemann surfaces of genus 2. *Math. Z.* **142** (1975), 205–219. (Jane Gilman) **51** #8404 30A46 (32G15)

A rough fundamental domain for Teichmüller spaces. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 6, 1199–1226. (Jane Gilman) **56** #12326 32G15 (30A58)

enan, D. (*with* Leonard, D. A.) On a theorem of Ryser. *J. Combinatorial Theory Ser. A* **23** (1977), *no.* 3, 354–358. (J. W. Freeman) **57** #5787 05B25

enan, E. L. *See* **Semantics and communication**, **49** #4731

enan, Michael (*with* Lallement, Gérard) On certain codes admitting inverse semigroups as syntactic monoids. *Semigroup Forum* **8** (1974), *no.* 4, 312–331. (D. Simovici) **51** #13109 20M35

enay, G. A. (*with* Morgan, R. W.; Ray, K. H.) Convergence properties of age distributions. *J. Appl. Probability* **12** (1975), *no.* 4, 684–691. (Dean Isaacson) **52** #6881 60J20 (92A15)

ene, Frederick W. L_2-representations and a Plancherel-type theorem for parabolic subgroups. *Bull. Amer. Math. Soc.* **81** (1975), 117–120. (A. Kleppner) **50** #7415 22E45

(*with* Lipsman, Ronald L.; Wolf, Joseph A.) The Plancherel formula for parabolic subgroups. *Israel J. Math.* **28** (1977), *no.* 1-2, 68–90. (G. L. Litvinov) **58** #22400 22E45 (22E30)

Square integrable representations and a Plancherel theorem for parabolic subgroups. *Trans. Amer. Math. Soc.* **243** (1978), 61–73. (A. U. Klimyk) **58** #16967 22E45

Keene, G. B. The logical analysis of universal conditionals. *Teorema* **6** (1976), *no.* 3–4, 427–433. (K. Inoue) **55** #12473 02C10 (02B10)

Keener, James P. (*with* Keller, Herbert Bishop) Perturbed bifurcation and buckling of circular plates. *Conference on the Theory of Ordinary and Partial Differential Equations* (*Univ. Dundee, Dundee*, 1972), *pp.* 286–293. *Lecture Notes in Math., Vol.* 280, *Springer, Berlin*, 1972. (R. J. Knops) **55** #8912 47H15 (73.35)

(*with* Keller, Herbert Bishop) Perturbed bifurcation theory. *Arch. Rational Mech. Anal.* **50** (1973), 159–175. (B. V. Loginov) **49** #1253 47H15

Perturbed bifurcation theory at multiple eigenvalues. *Arch. Rational Mech. Anal.* **56** (1974/75), 348–366. (E. Zeidler) **50** #8184 47H15

(*with* Keller, Herbert Bishop) Positive solutions of convex nonlinear eigenvalue problems. *J. Differential Equations* **16** (1974), 103–125. (P. P. Zabreĭko) **49** #11030 35G20

Buckling imperfection sensitivity of columns and spherical caps. *Quart. Appl. Math.* **32** (1974/75), 173–188. (Hwa-Shan Ho) **55** #13921 73.35

(*with* Cohen, Donald S.) Oscillatory processes in the theory of particulate formation in super-saturated chemical solutions. *SIAM J. Appl. Math.* **28** (1975), 307–318. (John J. Kozak) **55** #3717 45K05 (80.45)

Secondary bifurcation in nonlinear diffusion reaction equations. *Studies in Appl. Math.* **55** (1976), *no.* 3, 187–211. (J. Smoller) **56** #2122 82.35 (35K55)

(*with* McLaughlin, David W.) Solitons under perturbations. *Phys. Rev. A* (3) **16** (1977), *no.* 2, 777–790. (Authors' summary) **56** #7565 81.35

On the validity of the two-timing method for large times. *SIAM J. Math. Anal.* **8** (1977), *no.* 6, 1067–1091. (M. Ráb) **56** #16081 34E10

Activators and inhibitors in pattern formation. *Stud. Appl. Math.* **59** (1978), *no.* 1, 1–23. (C. V. Pao) **57** #18504 80.35 (35K20, 92A05)

Keener, L. L. Best possible nets in a normed linear space. *Canad. Math. Bull.* **18** (1975), *no.* 1, 45–48. (F. Deutsch) **52** #14790 41A65

Using Rolle's theorem in exponential function-derivative approximation. *Canad. Math. Bull.* **18** (1975), *no.* 5, 755–757. (Ralph L. James) **53** #11277 41A50

(*with* Edelstein, Michael) Characterizations of infinite-dimensional and nonreflexive spaces. *Pacific J. Math.* **57** (1975), *no.* 2, 365–369. (Bor-Luh Lin) **52** #3927 46B10

(*with* Edelstein, Michael; O'Brien, Richard C.) On points at which a set is cone-shaped. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 327–330. (Jacques F. Bair) **56** #12842 46B05 (52A05)

Keener, M. S. On oscillatory solutions of certain fourth order linear differential equations. *SIAM J. Math. Anal.* **3** (1972), 599–605. (G. J. Etgen) **47** #3757 34C10

Oscillatory solutions and multi-point boundary value functions for certain *n*th-order linear ordinary differential equations. *Pacific J. Math.* **51** (1974), 187–202. (J. S. Bradley) **50** #5096 34C10

On the equivalence of oscillation and the existence of infinitely many conjugate points. *Rocky Mountain J. Math.* **5** (1975), 125–134. (Jerry Ridenhour) **50** #10437 34C10

Keeney, Ralph L. Utility functions for multiattributed consequences. *Management Sci.* **18** (1971/72), 276–287. (K. Zimmermann) **45** #1565 90A10

Utility independence and preferences for multiattributed consequences. *Operations Res.* **19** (1971), 875–893. (R. Subramanian) **47** #1430 90A10

Risk independence and multiattributed utility functions. *Econometrica* **41** (1973), *no.* 1, 27–34. (Author's summary) **55** #14098 90A10

(*with* Fishburn, Peter C.) Seven independence concepts and continuous multiattribute utility functions. *J. Mathematical Psychology* **11** (1974), 294–327. (B. G. Mirkin) **50** #6430 90A10

Multiplicative utility functions. *Operations Res.* **22** (1974), *no.* 1, 22–34. (Rubin Saposnik) **53** #4915 90A10

(*with* Kirkwood, Craig W.) Group decision making using cardinal social welfare functions. *Management Sci.* **22** (1975/76), *no.* 4, 430–437. (Neal Glassman) **53** #4911 90A05

(*with* Fishburn, Peter C.) Generalized utility independence and some implications. *Operations Res.* **23** (1975), *no.* 5, 928–940. (Peter H. Farquhar) **55** #9840 90A10

(*with* Raiffa, Howard) ★Decisions with multiple objectives: preferences and value tradeoffs. With a contribution by Richard F. Meyer. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney*, 1976. xxviii + 569 *pp.* *ISBN* 0-471-46510-0 (Peter C. Fishburn) **56** #7779 90A05 (90A10)

A group preference axiomatization with cardinal utility. *Management Sci.* **23** (1976/77), *no.* 2, 140–145. (Author's summary) **55** #11939 90A05 (90A10)

See also **Conflicting objectives in decisions**, **56** #17703 *and* **Handbook: Operations research**, **57** #15360

Keeping, A. J. On certain almost-triangular band matrices. *SIAM J. Numer. Anal.* **8** (1971), 288–303. (L. Fox) **45** #1376 65F15

Keepler, Manuel Backward and forward random evolutions. *Indiana Univ. Math. J.* **24** (1974/75), 937–947. (Mark Pinsky) **51** #9225 60J35

Perturbation theory for backward and forward random evolutions. *J. Math. Kyoto Univ.* **16** (1976), *no.* 2, 395–412. (Robert Kertz) **54** #11505 60H99 (60J35, 60J75)

Keer, Leon M. (*with* Khadem, R.) Coupled pairs of dual integral equations with trigonometric kernels. *Quart. Appl. Math.* **31** (1973/74), 467–480. (K. S. Parihar) **56** #6312 45F10

Mixed boundary value problems for a penny-shaped cut. *J. Elasticity* **5** (1975), *no.* 2, 89–98. (Roger D. Low) **56** #17314 73.30

(*with* Parihar, K. S.) Singularity at the apex of pyramidal notches with three equal angles. *Quart. Appl. Math.* **35** (1977/78), *no.* 3, 401–405. (G. Albinus) **57** #669 31B25

(*with* Parihar, K. S.) A note on the singularity at the corner of a wedge-shaped punch or crack. *SIAM J. Appl. Math.* **34** (1978), *no.* 2, 297–302. (R. Muki) **58** #8682 73.45

Keesling, James E. Normality and infinite product spaces. *Advances in Math.* **9**, 90–92 (1972). (N. Noble) **46** #8154 54B10

Mappings and dimension in metric spaces. *General Topology and Appl.* **2** (1972), 181–192. (K. Sieklucki) **46** #6268 54C10 (54F45)

The group of homeomorphisms of a solenoid. *Trans. Amer. Math. Soc.* **172** (1972), 119–131. (M. Craioveanu) **47** #4284 57E05 (57A15)

Topological groups whose underlying spaces are separable Fréchet manifolds. *Pacific J. Math.* **44** (1973), 181–189. (Hideki Omori) **51** #14136 58B99 (22A99)

On the shape of torus-like continua and compact connected topological groups. *Proc. Amer. Math. Soc.* **40** (1973), 297–302. (S. Mardešić) **47** #7686 54C56 (22C05)

Continuous functions induced by shape morphisms. *Proc. Amer. Math. Soc.* **41** (1973), 315–320. (D. G. Bourgin) **48** #12460 54C56

Products in the shape category and some applications. *Symposia Mathematica, Vol. XVI (Convegno sulla Topologia Insiemistica e Generale, INDAM, Rome,* 1973), *pp.* 133–142. *Academic Press, London,* 1974. (Thomas J. Sanders) **52** #15354 54C56 (55D99)

Shape theory and topological groups. *TOPO 72—general topology and its applications (Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.,* 1972; *dedicated to the memory of Johannes H. de Groot), pp.* 233–242. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin,* 1974. (G. R. Gordh, Jr.) **52** #4224 54C56 (55D99)

On movability and local connectivity. *Topology Conference (Virginia Polytech. Inst. and State Univ., Blacksburg, Va.,* 1973), *pp.* 158–167. *Lecture Notes in Math., Vol.* 375, *Springer, Berlin,* 1974. (S. Mardešić) **51** #4155 54C56

An algebraic property of the Čech cohomology groups which prevents local connectivity and movability. *Trans. Amer. Math. Soc.* **190** (1974), 151–162. (Ronald Brown) **51** #4215 55B05

(*with* Wilson, David C.) The group of *PL*-homeomorphisms of a compact *PL*-manifold is an l_2^f-manifold. *Trans. Amer. Math. Soc.* **193** (1974), 249–256. (E. C. Turner) **51** #4288 57E05 (57A20)

Shape theory and compact connected abelian topological groups. *Trans. Amer. Math. Soc.* **194** (1974), 349–358. (J. Segal) **49** #9803 54C56

The Čech homology of compact connected abelian topological groups with applications to shape theory. *Geometric topology (Proc. Conf., Park City, Utah,* 1974), *pp.* 325–331. *Lecture Notes in Math., Vol.* 438, *Springer, Berlin,* 1975. (Maria Moszyńska) **53** #9138 54C56 (22C05)

A non-movable trivial-shape decomposition of the Hilbert cube. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 9, 997–998. (Thomas J. Sanders) **52** #11922 57A20 (54C56)

On the Whitehead theorem in shape theory. *Fund. Math.* **92** (1976), *no.* 3, 247–253. (Maria Moszyńska) **55** #4158 55D99 (54C56)

(*with* Draper, James) An example concerning the Whitehead theorem in shape theory. *Fund. Math.* **92** (1976), *no.* 3, 255–259. (Maria Moszyńska) **55** #4159 55D99 (54C56)

The Čech cohomology of movable and *n*-movable spaces. *Trans. Amer. Math. Soc.* **219** (1976), 149–167. (S. A. Bogatyĭ) **53** #11599 55B05 (54C56)

Some examples in shape theory using the theory of compact connected abelian topological groups. *Trans. Amer. Math. Soc.* **219** (1976), 169–188. (Maria Moszyńska) **55** #9084 (EA **55**/**56**) 55D99 (22C05)

Algebraic invariants in shape theory. *Topology Proceedings, Vol. I (Conf., Auburn Univ., Auburn, Ala.,* 1976), *pp.* 115–124. *Math. Dept., Auburn Univ., Auburn, Ala.,* 1977. (Timothy Porter) **56** #15732 18G99 (55B99, 55D99)

(*with* Sher, Richard B.) Shape properties of the Stone-Čech compactification. *General Topology and Appl.* **9** (1978), *no.* 1, 1–8. (R. Frankiewicz and W. Kulpa) **57** #17594 54D35

Decompositions of the Stone-Čech compactification which are shape equivalences. *Pacific J. Math.* **75** (1978), *no.* 2, 455–466. (S. Mardešić) **58** #24175 54C56 (55D10, 54D35, 54D60)

Kèèvallik, A. È. A theorem on the decomposition of finite automata. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1974**, *no.* 1, 17–24. (Heinrich Seidel) **51** #5207 94A30

Keferstein, H. *See* **Sinaceur, Mohammed-Allal**, **58** #21234

Kegel, Otto H. (*with* Wehrfritz, Bertram A. F.) Strong finiteness conditions in locally finite groups. *Math. Z.* **117** (1970), 309–324. (J. E. Roseblade) **46** #5456 20E25

(*with* Wehrfritz, Bertram A. F.) ★Locally finite groups. North-Holland Mathematical Library, Vol. 3. *North-Holland Publishing Co., Amsterdam-London; American Elsevier Publishing Co., Inc., New York,* 1973. xi+210 *pp.* (B. Hartley) **57** #9848 20E25 (20–02)

(*with* Schleiermacher, Adolf) Amalgams and embeddings of projective planes. *Geometriae Dedicata* **2** (1973), 379–395. (B. Artmann) **49** #3678 50D35

Locally finite simple groups. *Proceedings of the Second International Conference on the Theory of Groups (Australian Nat. Univ., Canberra,* 1973), *pp.* 395–400. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin,* 1974. (Richard E. Phillips) **51** #714 20E25

Chain conditions and Sylow's theorem in locally finite groups. *Symposia Mathematica, Vol. XVII (Convegno sui Gruppi Infiniti, INDAM, Roma,* 1973), *pp.* 251–259. *Academic Press, London,* 1976. (R. Göbel) **54** #2809 20E25

Untergruppenverbände endlicher Gruppen, die den Subnormalteilerverband echt enthalten. *Arch. Math. (Basel)* **30** (1978), *no.* 3, 225–228. (Charles S. Holmes) **58** #11112 20D35 (20D30)

See also **Combinatorial mathematics**, **49** #10558

Kegeles, Lawrence S. (*with* Cohen, Jeffrey M.) Electromagnetic fields in curved spaces: a constructive procedure. *Phys. Rev. D* (3) **10** (1974), 1070–1084. (Authors' summary) **53** #10121 83.53

Collapse to a rotating black hole. *Phys. Rev. D* (3) **18** (1978), *no.* 4, 1020–1029. (M. Sachs) **58** #14936 83.53

Kegst, M. *See* **Koegst, Manfred**

Kehat, E. (*with* Shacham, M.) A direct method for the solution of large sparse systems of linear equations. *Comput. J.* **19** (1976), *no.* 4, 353–359. (D. M. Young, Jr.) **58** #19068 65F05

Kehayopulos, Niovi *m*-lattices and the algebra of $\coprod x_0$-polar subsets of a lattice. (Greek. English summary) *Bull. Soc. Math. Grèce (N.S.)* **12** (1971), *no.* 2, 225–282. (D. A. Kappos) **45** #8590 06A35

A characterization of semiregular and regular *m*-lattices. *Proceedings of the C. Carathéodory International Symposium (Athens,* 1973), *pp.* 282–295. *Greek Math. Soc., Athens,* 1974. (H. A. Priestley) **57** #5842 06A20

On (m, n)—regular le-semigroups. *Math. Balkanica* **5** (1975), 152–154. (Not reviewed) 20M10

Kehlet, Esben T. A non-separable measurable choice principle related to induced representations. *Math. Scand.* **42** (1978), *no.* 1, 119–134. (Alain Connes) **58** # 22D35

Keiding, Hans Cores and equilibria in an infinite economy. *Computing equilibria: why (Proc. Internat. Conf., Comput. Centre, Polish Acad. Sci., Toruń,* 1974), *pp North-Holland, Amsterdam,* 1976. (Yves Balasko) **56** #10820 90A15

(*with* Borglin, Anders) Existence of equilibrium actions and of equilibrium on the "new" existence theorems. *J. Math. Econom.* **3** (1976), *no.* 3, 313–316. (Wan) **56** #2451 90D99 (54H25)

A note on the game theoretic interpretation of Walras equilibria. *J. Econom* **16** (1977), *no.* 2, 518–520. (From the author's introduction) **57** #9100 90D

Keiding, Niels (*with* Hald, Anders) Asymptotic properties of Bayesian decision two terminal decisions and multiple sampling. II. *J. Roy. Statist. Soc. Ser. B* **3** 55–74. (D. V. Lindley) **47** #4357 62C10

(*with* Nielsen, John E.) The growth of supercritical branching process random environments. *Ann. Probability* **1** (1973), *no.* 7, 1065–1067. (D. Dacunha-Castelle) **50** #11500 60J80

Estimation in the birth process. *Biometrika* **61** (1974), 71–80. (Alan **52** #2089 (E **56** #9858) 62M05 (60J80)

Correction to: "Estimation in the birth process" (Biometrika **61** (1974), *Biometrika* **61** (1974), 647. (Editors) **56** #9858 62M05

Maximum likelihood estimation in the birth-and-death process. *Ann. S* (1975), 363–372. (J. L. Denny) **50** #15212 (E **57** #7908) 62M05 (60J80)

(*with* Nielsen, John E.) Branching processes with varying and random ge offspring distributions. *J. Appl. Probability* **12** (1975), 135–141. (Norman **51** #4439 60J80

(*with* Beyer, Jan E.) Remarks on: "A stochastic bivariate ecology mo competing species (Math. Biosci. **16** (1973), 191–208) by Chris P. Tsokos and Sid Hinkley. *Math. Biosci.* **24** (1975), 351–352. (From the authors' summary) **54** # 60J85 (92A15)

(*with* Hoem, Jan M.) Stochastic stable population theory with continuous t *Scand. Actuar. J.* **1976**, *no.* 3, 150–175. (Charles J. Mode) **54** #11542 60J85

(*with* Beyer, Jan E.; Simonsen, W.) The exact behaviour of the maximum likelihood estimator in the pure birth process and the pure death process. *S Statist.* **3** (1976), *no.* 2, 61–72. (C. C. Heyde) **54** #9007 62M05 (60J80)

(*with* Athreya, Krishna B.) Estimation theory for continuous-time branching processes. *Sankhyā Ser. A* **39** (1977), *no.* 2, 101–123. (Authors' summary) **58** # 62M05 (60J80)

(*with* Asmussen, Søren) Martingale central limit theorems and asymptotic estimation theory for multitype branching processes. *Advances in Appl. Proba* (1978), *no.* 1, 109–129. (C. C. Heyde) **57** #10769 60F05 (60G45, 60J80, 62

Correction to: "Maximum likelihood estimation in the birth-and-death p (Ann. Statist. **9** (1975), 363–372). *Ann. Statist.* **6** (1978), *no.* 2, 472. (Editors) **57** 62M05 (60J80)

See also **Efron, Bradley**, **55** #1552 (E **57** #10863) *and* **Hoem, Jan M.**, **55**

Keigher, William F. Adjunctions and comonads in differential algebra. *Pacific J.* (1975), *no.* 1, 99–112. (R. Bkouche) **52** #13770 12H05

Prime differential ideals in differential rings. *Contributions to algebra (colle papers dedicated to Ellis Kolchin), pp.* 239–249. *Academic, Press, New York,* 197 Johnson) **58** #5610 12H05

Closed categories of coalgebras. *Comm. Algebra* **6** (1978), *no.* 10, 995–1015. C. Bunge) **58** #11066 18D15 (18C15)

Keilson, Julian (*with* Subba Rao, S.) A process with chain dependent growth rate. ruin and ergodic problems. *Advances in Appl. Probability* **3** (1971), 315–338. (Z. **45** #7838 60J99

(*with* Steutel, F. W.) Families of infinitely divisible distributions closed mixing and convolution. *Ann. Math. Statist.* **43** (1972), 242–250. (I. I. Ko **45** #7780 60E05

A threshold for log-concavity for probability generating functions and ass moment inequalities. *Ann. Math. Statist.* **43** (1972), 1702–1708. (F. W. Steutel) **52** #15603 60E05

(*with* Styan, George P. H.) Markov chains and *M*-matrices: inequalities and equalities. *J. Math. Anal. Appl.* **41** (1973), 439–459. (J. F. C. Kingman) **47** # 15A42 (60J10)

(*with* Callaert, Herman) On exponential ergodicity and spectral structure for birth-death processes. I, II. *Stochastic Processes Appl.* **1** (1973), 187–216; *ibid.* **1** 217–235. (R. L. Tweedie) **54** #6304 60J80 (60J35)

Convexity and complete monotonicity in queueing distributions and associate behavior. *Mathematical methods in queueing theory (Proc. Conf., Western M Univ., Kalamazoo, Mich.,* 1973), *pp.* 45–62. *Lecture Notes in Econom. and Math. S Vol.* 98, *Springer, Berlin,* 1974. (F. W. Steutel) **51** #9150 60E05 (60K25)

Monotonicity and convexity in system survival functions and metabolic disappearance curves. *Reliability and biometry: statistical analysis of lifelength Conf., Florida State Univ., Tallahassee, Fla.,* 1973), *pp.* 81–98. *Soc. Indust. Appl. Philadelphia, Pa.,* 1974. (Tze Leung Lai) **51** #4611 62N05 (60J20)

Sojourn times, exit times and jitter in multivariate Markov processes. *Adva Appl. Probability* **6** (1974), 747–756. (J. F. C. Kingman) **50** #11506 60K05

(*with* Steutel, F. W.) Mixtures of distributions, moment inequalities and meas exponentiality and normality. *Ann. Probability* **2** (1974), 112–130. (B. L. S. P Rao) **50** #8651 60E05 (60F05)

(*with* Syski, R.) Compensation measures in the theory of Markov chains. *Sto Processes Appl.* **2** (1974), *no.* 1, 59–72. (Herman Callaert) **50** #14936 60J10

Systems of independent Markov components and their transient behavior. *Reliability and fault tree analysis (Conf., Univ. California, Berkeley, Calif.,* 197 351–364. *Soc. Indust. Appl. Math., Philadelphia, Pa.,* 1975. (Mark Brown) **58** #1 60K10

(*with* Ross, H. F.) Passage time distributions for Gaussian Markov (Ornstein-Uhlenbeck) statistical processes. *Selected tables in mathematical statistic III, pp.* 233–327. *Amer. Math. Soc., Providence, R. I.,* 1975. (Authors' sum **53** #11941 62Q05

(*with* Kester, Adri) Monotone matrices and monotone Markov processes.
hastic Processes Appl. **5** (1977), *no.* 3, 231–241. (R. L. Tweedie) **56** #16796
10 (60J35)

Exponential spectra as a tool for the study of server-systems with several classes of
omers. *J. Appl. Probability* **15** (1978), *no.* 1, 162–170. (U. Narayan Bhat) **57** #7801
0K25

(*with* Wellner, Jon A.) Oscillating Brownian motion. *J. Appl. Probability* **15** (1978),
2, 300–310. (Frederick Stern) **57** #14164 60J65

(*with* Kester, Adri) Unimodality preservation in Markov chains. *Stochastic Process.*
ol. **7** (1978), *no.* 2, 179–190. (D. J. Daley) **58** #13360 60J10

ieter Die Ordnungstopologie und ordnungstonnelierte Topologien auf
ktorverbänden. *Collect. Math.* **22** (1971), 117–140. (D. J. H. Garling) **49** #3494
A40

Eine topologische Kennzeichnung des Ordnungsduals eines Vektorverbandes.
ath. Ann. **197** (1972), 133–136. (J. B. Bednar) **46** #2389 46A40

Induktive und projektive Limiten mit Zerlegung der Einheit. (English summary)
anuscripta Math. **10** (1973), 191–195. (K. Floret) **49** #9574 46A05

(*with* Adasch, Norbert; Ernst, Bruno) ★Topological vector spaces. The theory
hout convexity conditions. Lecture Notes in Mathematics, Vol. 639. *Springer-Verlag,*
rlin-New York, 1978. i+125 *pp.* *ISBN* 3-540-08662-5 (G. Marinescu) **58** #7015
A15

Robert G. (*with* Chisholm, Roderick M.) A system of epistemic logic. *Ratio* **14**
72), *no.* 2, 99–115. (Scott K. Lehmann) **56** #2787 02C10

, Klaus Lokal kompakte Kegelhalbgruppen und deren Einbettung in topologische
ktorräume. *Math. Z.* **99** (1967), 405–428. (K. H. Hofmann) **45** #440 22A15

The representation of lattice-ordered groups and rings by sections in sheaves.
ctures on the applications of sheaves to ring theory (*Tulane Univ. Ring and Operator*
eory Year, 1970–1971, *Vol. III*), *pp.* 1–98. *Lecture Notes in Math., Vol.* 248, *Springer,*
rlin, 1971. (J. Kist) **54** #10099 06A70 (46H15)

Congruence relations on cone semigroups. *Semigroup Forum* **3** (1971/72), *no.* 2,
0–147. (D. R. Brown) **47** #393 22A15 (20M10)

(*with* Hofmann, Karl Heinrich) ★A general character theory for partially ordered
ts and lattices. Memoirs of the American Mathematical Society, No. 122. *American*
athematical Society, Providence, R.I., 1972. iv+121 *pp.* (J. Kist) **49** #4885 06A20
4H10)

A unified theory of minimal prime ideals. *Acta Math. Acad. Sci. Hungar.* **23** (1972),
–69. (J. Kist) **47** #6586 06A75 (06A20, 06A50, 54F05)

Representations of lattice-ordered rings. *Proceedings of the University of Houston*
attice Theory Conference (*Houston, Tex.,* 1973), *pp.* 277–293. *Dept. Math., Univ.*
ouston, Houston, Tex., 1973. (S. J. Bernau) **53** #5421 06A70

(*with* Werner, Heinrich) Stone duality for varieties generated by quasi primal
lgebras. *Proceedings of the University of Houston Lattice Theory Conference* (*Houston,*
ex., 1973), *pp.* 452–454. *Dept. Math., Univ. Houston, Houston, Tex.,* 1973. (J. A.
alman) **53** #10694 08A15

Radicals in lattice-ordered rings. *Rings, modules and radicals* (*Proc. Colloq.,*
eszthely, 1971), *pp.* 237–253. *Colloq. Math. Soc. János Bolyai, Vol.* 6, *North-Holland,*
msterdam, 1973. (D. G. Johnson) **50** #6968 06A70

(*with* Werner, Heinrich) Stone duality for varieties generated by quasi-primal
lgebras. *Recent advances in the representation theory of rings and C*-algebras by*
ontinuous sections (*Sem., Tulane Univ., New Orleans, La.,* 1973), *pp.* 59–85. *Mem. Amer.*
Math. Soc., No. 148, *Amer. Math. Soc., Providence, R.I.,* 1974. (Alden Pixley)
50 #12861 08A15

Représentation des algèbres universelles par des faisceaux. *Séminaire P. Dubreil*
27e année: 1973/74), *Algèbre, Fasc.* 2, *Exp. No.* 12, 9 *pp.* *Secrétariat Mathématique,*
Paris, 1974. (Robert C. Davis) **53** #3062 18F20 (08A25)

Conditions de Mal′cev et algèbres universelles uniformes. *Séminaire P. Dubreil, 27e*
année (1973/74), *Algèbre, Fasc.* 2, *Exp. No.* 11, 5 *pp.* *Secrétariat Mathématique, Paris,*
1974. (V. Căzănescu) **52** #13580 08A15

(*with* Gierz, Gerhard) Topologische Darstellung von Verbänden. *Proceedings of the*
Lattice Theory Conference (*Ulm,* 1975), *pp.* 118–133. *Univ. Ulm, Ulm,* 1975. (Albert
Stralka) **55** #8240 22A15 (06A23)

(*with* Werner, Heinrich) Stone Dualität für primitive Klassen, die von
quasi-primalen Algebren erzeugt werden. Zusammenfassung. *Universale Algebren und*
Theorie der Radikale, pp. 23–28. *Studien zur Algebra und ihre Anwendungen, Band I,*
Akademie-Verlag, Berlin, 1976. (R. W. Quackenbush) **56** #8468 08A15

(*with* Gierz, Gerhard) Topologische Darstellung von Verbänden. *Math. Z.* **150**
(1976), *no.* 1, 83–99. (K. H. Hofmann) **55** #2694 06A35 (54F05, 54H10)

(*with* Bigard, Alain; Wolfenstein, Samuel) ★Groupes et anneaux réticulés.
Lecture Notes in Mathematics, Vol. 608. *Springer-Verlag, Berlin-New York,* 1977.
xi+334 *pp.* *ISBN* 3-540-08436-3 (Zbl **384** #06022) **58** #27688 06A70

(*with* Gierz, Gerhard) A lemma on primes appearing in algebra and analysis.
Houston J. Math. **3** (1977), *no.* 2 207–224. (Jimmie D. Lawson) **57** #193 06A23
(46J10, 08A25)

(*with* Colville, Peter D.; Davis, Gary) Positive derivations on *f*-rings. *J. Austral.*
Math. Soc. Ser. A **23** (1977), *no.* 3, 371–375. (Melvin Henriksen) **58** #434 06A70

in, V. M. *See* **Cybernetics and diagnostics,** **49** #12115

is, I. A. Controls that are equivalent to a certain class of transformations of a system.
(Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised*
Füüs.-Mat. **22** (1973), 258–266. (P. Fischer) **50** #4038 93C10 (34C35)

The extendability and boundedness of the solutions of dynamical systems. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 416–424. (G. S. Ladde) **49** #7530 34C35

Optimal control of systems that have invariants. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **23** (1974), 210–219. (Ju. V. Egorov) **50** #8213 49B10

Optimal stabilization of the motion of certain dynamical systems. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 2, 178–187. (J. Jarnik) **55** #8507 34H05 (49B10)

A certain form of invariant of dynamical systems. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 3, 277–284. (Djordje Djukic) **53** #12134 70.34

Lowering the dimension of Hamiltonian systems with known invariants by means of subcanonical transformation. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 2, 129–136. (M. Martinis) **54** #6603 70.34

On the existence conditions for the particular Jacobi integral. *Prikl. Mat. Meh.* **40** (1976), *no.* 4, 611–617 (*Russian*); *translated as J. Appl. Math. Mech.* **40** (1976), *no.* 4, 563–569 (1977). (J. E. Rubio) **58** #8617 70.49

Lowering the dimension in problems on the optimal synthesis of certain dynamical systems. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **26** (1977), *no.* 1, 37–47. (Author's introduction) **58** #15487 93C99

The solution of problems of suboptimal stabilization of the motions of certain dynamical systems by the aggregate method. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **26** (1977), *no.* 3, 243–251. (Author's summary) **56** #13090 49E20

Keisler, H. J. ★Model theory for infinitary logic. Logic with countable conjunctions and finite quantifiers. Studies in Logic and the Foundations of Mathematics, Vol. 62. *North-Holland Publishing Co., Amsterdam-London,* 1971. x+208 *pp.* (*loose erratum*) (Andreas Blass) **49** #8855 02H10 (02B25, 02K15)

Model theory. *Actes du Congrès International des Mathématiciens* (*Nice,* 1970), *Tome* 1, *pp.* 141–150. *Gauthier-Villars, Paris,* 1971. (H.-D. Ebbinghaus) **57** #5729 02H05

(*with* Silver, Jack H.) End extensions of models of set theory. *Axiomatic set theory* (*Proc. Sympos. Pure Math., Vol. XIII, Part I, Univ. California, Los Angeles, Calif.,* 1967), *pp.* 177–187. *Amer. Math. Soc., Providence, R.I.,* 1971. (F. R. Drake (Zbl **225** #02039)) **48** #96 02H05

On theories categorical in their own power. *J. Symbolic Logic* **36** (1971), 240–244. (M. Benda) **45** #3184 02G20

(*with* Chang, Chen Chung) ★Model theory. Studies in Logic and the Foundations of Mathematics, Vol. 73. *North-Holland Publishing Co., Amsterdam-London; American Elsevier Publishing Co., Inc., New York,* 1973. xii+550 *pp.* (B. Węglorz) **53** #12927 02H05 (02–02)

Forcing and the omitting types theorem. *Studies in model theory, pp.* 96–133. *MAA Studies in Math., Vol.* 8, *Math. Assoc. Amer., Buffalo, N.Y.,* 1973. (James H. Schmerl) **49** #2340 02H05

(*with* Walkoe, Wilbur, Jr.) The diversity of quantifier prefixes. *J. Symbolic Logic* **38** (1973), 79–85. (B. H. Mayoh) **51** #12472 02B10 (02D99, 02H05)

Models with tree structures. *Proceedings of the Tarski Symposium* (*Proc. Sympos. Pure Math., Vol. XXV, Univ. California, Berkeley, Calif.,* 1971), *pp.* 331–348. *Amer. Math. Soc., Providence, R.I.,* 1974. (Keith Devlin) **50** #9576 02H13 (02H20, 02K05)

Monotone complete fields. *Victoria Symposium on Nonstandard Analysis* (*Univ. Victoria, Victoria, B.C.,* 1972), *pp.* 113–115. *Lecture Notes in Math., Vol.* 369, *Springer, Berlin,* 1974. (C. Ward Henson) **58** #21585 02H15 (02H20)

(*with* Prikry, Karel) A result concerning cardinalities of ultraproducts. *J. Symbolic Logic* **39** (1974), 43–48. (Paul C. Eklof) **49** #8862 02H05 (02K30)

Six classes of theories. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 3, 257–266. (John Rosenthal) **53** #12930 02H05 (02K15)

(*with* Chang, Chen Chung) ★Теория моделей. (Russian) [Model theory] Translated from the English by S. S. Gončarov, S. D. Denisov, V. A. Duškiĭ and D. I. Sviridenko. Edited by Ju. L. Eršov and A. D. Taĭmanov. *Izdat. "Mir", Moscow,* 1977. 614 *pp.* (Editors) **57** #9519 02Hxx

(*with* Chang, Chen Chung) ★Model theory. Second edition. Studies in Logic and the Foundations of Mathematics, 73. *North-Holland Publishing Co., Amsterdam-New York-Oxford,* 1977. xii+554 *pp.* *ISBN* 0-7204-2273-6 (Editors) **58** #27177 02–02 (02Hxx)

Hyperfinite model theory. *Logic Colloquium* 76 (*Oxford,* 1976), *pp.* 5–110. *Studies in Logic and Found. Math., Vol.* 87, *North-Holland, Amsterdam,* 1977. (Gabriel Lolli) **58** #10421 02H20 (02H25)

The monotone class theorem in infinitary logic. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 1, 129–134. (Fred Halpern) **56** #85 02B25

See also **Reminiscences of logicians,** **52** #17; **Handbook: Mathematical logic,** **56** #15351; **Robinson, Abraham,** **57** #12202 *and* **Handbook: Mathematical logic,** **58** #10395

Keisler, Michael A type of nearest point set in a complete *l*-group. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 2, 189–197. (F. D. Pedersen) **57** #3034 06A55

Keiter, Hellmut Functional-integral approach to the Anderson model for dilute magnetic alloys from the viewpoint of diagrammatic perturbation technique. *Phys. Rev. B* (3) **2** (1970), 3777–3791. (R. K. Pathria) **48** #7871 82.47

Keith, Alec D. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability,** **52** #9427

Keitman, D. *See* **Cybernetics collection,** **47** #6379

Keĭz, K. *See* **Case, Kenneth M.**

Keizer, Joel Derivation of a master equation for the relaxation of internal degrees of freedom. *J. Chem Phys.* **53** (1970), 4195–4201. (George Weiss) **52** #16440 82.47

On the kinetic meaning of the second law of thermodynamics. *J. Chem. Phys.* **64** (1976), *no.* 11, 4466–4474. (Editors) **56** #4610 82.62

Kekelia, M. *See* **Kekelija, M. M.**

Kekelija, A. G. *See* **Studies of equations of mathematical physics,** **50** #4197

Kekelija, M. M. A certain nonlinear boundary value problem. (Georgian. Russian summary) *V. I. Lenin. Sakharth. Politekh. Inst. Samecn. Šrom.* **1975**, *no.* 3 (176), *Math., Mekh.,* 106–115. **56** #8879 31B20

Kekelija, V. I. (*with* Ceĭtlin, G. E.) On the realization of multiregister periodically defined transformations in a certain abstract model of a computing medium. (Russian) *Vyčisl. Sistemy No.* 47 (1971), 87–102. (T. Rus) **47** #7949 68A25

(*with* Kirsanov, G. M.; Ceĭtlin, G. E.) Realization of algorithmic algebra media in homogeneous structures. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 29–35. (A. V. Palagin) **56** #7312 68A15

Kekelija, V. V. *See* **Theoretical cybernetics,** **50** #15417

Keklikoglou, Joannis (*with* Walter, Hermann K.-G.; Kern, Werner) The behaviour of parsing time under grammar morphisms. (French summary) *RAIRO Inform. Théor.* **12** (1978), *no.* 2, 83–97, iii. (Anton Nijholt) **58** #8545 68A30

Kekre, H. B. Further extension to a time-to-frequency domain matrix formulation. *Proc. IEEE* **57** (1969), 1193–1195. (Author's summary) **46** #3134 93A10

Kelber, C. N. *See* **Computing methods in reactor physics, 57** #18162

Kel'bert, M. Ja. On the convergence of discrete schemes to continuous ones in some problems of sequential analysis. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 3, 620–628. (W. Hoeffding) **54** #14260 62L10

Kelder, T. Convergence by means of nets. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised Vih.* 342 (1974), 33–50. (Author's summary) **55** #4081 54A20

Keldyš, L. V. Pseudoisotopy for certain locally knotted simple arcs in E^3. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 21–23. (A. Lelek) **45** #1137 55A25

Bogen im E^3 mit einer nulldimensionalen Menge von Wildpunkten. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), *pp.* 279–289. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (R. J. Daverman) **49** #11498 55A30

Ideas of N. N. Luzin in descriptive set theory. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 5(179), 183–196. (Editors) **52** #7809 01A70 (04–03)

Imbedding of graphs in E^3. (Russian. English summary) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 1, 69–74. (I. Ivanšić) **50** #1243 57A10

See also **Aleksandrov, P. S.; et al., 52** #7782

Keldyš, M. V. The completeness of eigenfunctions of certain classes of nonselfadjoint linear operators. (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 4(160), 15–41. (G. K. Kalisch) **45** #9173 47B99

See also **Birthday: Keldyš, M. V., 45** #16; **American Mathematical Society Translations, Ser. 2, 48** #6; **Proceedings: International Conference on Number Theory, 48** #213; **Nicolaus Copernicus. On the 500th anniversary of his birth, 50** #12560; **Proceedings: International Conference on Number Theory, 51** #5463 *and* **Čaplygin, S. A., 54** #9963

Keldysch, Ludmila *See* **Keldyš, L. V.**

Keleĭnikova, G. I. (*with* Naziev, È. H.) Application of the theory of continuous transformation groups to the qualitative investigation of second order dynamical systems. (Russian) *Differencial'nye Uravnenija* **9** (1973), 381–382, 399. (E. Leimanis) **47** #7150 34C35

Kelejian, Harry H. (*with* Fair, Ray C.) Methods of estimation for markets in disequilibrium: a further study. *Econometrica* **42** (1974), 177–190. (Authors' summary) **55** #6760 62P20

Random parameters in a simultaneous equation framework: identification and estimation. *Econometrica* **42** (1974), 517–527. (Author's summary) **55** #13708 62P20

(*with* Bitros, George C.) A stochastic control approach to factor demand. *Internat. Econom. Rev.* **17** (1976), *no.* 3, 701–717. (Judith Samuel) **56** #15080 93E20 (90A15)

Kelemen, A. On convergent iterations and their applications to Hartree-Fock equations. *J. Mathematical Phys.* **16** (1975), 1396–1401. (A. Nikodémusz) **53** #7297 81.49

Kelemen, C. F. Actions by a bisimple ω-semigroup. *Semigroup Forum* **4** (1972), 248–251. (Št. Schwarz) **46** #5507 20M20

Recursions with uniquely determined topologies. *Fund. Math.* **77** (1973), *no.* 3, 219–225. (J. Dugundji) **47** #9583 54H15

Kelemen, József Remark on the Diophantine equation: $a_1x_1^{k_1}+a_2x_2^{k_2}+\cdots+a_nx_n^{k_n}=0$. (Hungarian) *Mat. Lapok* **21** (1970), 89–94. (P. Szüsz) **46** #7160 10B15

Solution of Diophantine equations by reducing the degree. (Hungarian) *Mat. Lapok* **22** (1971), 103–109 (1972). (P. Szüsz) **48** #2064 10B15

Remarks on a certain system of Diophantine equations. (Hungarian) *Mat. Lapok* **23** (1972), 173–185 (1973). (K. Győry) **51** #5483 10B05

Kelemen, M. (*with* Negoiţă, Constantin Virgil) Qualitative models in economic processes. (French and Russian summaries) *Econom. Comp. Econom. Cybernet. Stud. Res.* **1977**, *no.* 3, 3–12. (Yieh Hei Wan) **58** #4236 90A15 (58C25)

Kelemen, Peter J. (*with* Robinson, Abraham) The nonstandard $\lambda{:}\varphi_2^4(x)$: model. I. The technique of nonstandard analysis in theoretical physics. *J. Mathematical Phys.* **13** (1972), 1870–1874. (M. J. Mączyński) **47** #8015 81.02

(*with* Robinson, Abraham) The nonstandard $\lambda{:}\varphi_2^4(x)$: model. II. The standard model from a nonstandard point of view. *J. Mathematical Phys.* **13** (1972), 1875–1878. (M. J. Mączyński) **47** #8016 81.02

Quantum mechanics, quantum field theory and hyper-quantum mechanics. *Victoria Symposium on Nonstandard Analysis* (*Univ. Victoria, Victoria, B.C.*, 1972), *pp.* 116–121. *Lecture Notes in Math., Vol.* 369, *Springer, Berlin*, 1974. (A. R. Marlow) **58** #4003 81.02 (02H25)

Kelemen, V. Ī. (*with* Lomsadze, Ju. M.) New local axiomatic constraints on differential cross-sections. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 247–251, 286. (J. Ławrynowicz) **52** #2438 81.30

(*with* Lomsadze, Ju. M.) Axiomatic equations for the zeros of the scattering amplitudes and form-factors of hadrons. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 9, 832–836. (J. Ławrynowicz) **55** #4991 81.30

(*with* Lomsadze, Ju. M.) New integral axiomatic constraints on the scattering amplitudes of hadrons. I. Inequalities with logarithmic high energy sensitivity. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 11, 1803–1811, 1928. (Authors' summary) **57** #8593a 81.30

(*with* Lomsadze, Ju. M.) New integral axiomatic constraints on the scattering amplitudes of hadrons. II. Inequalities for arbitrary *t*. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 8, 1276–1282, 1398. (Authors' summary) **57** #8593b 81.30

(*with* Lomsadze, Ju. M.) New integral axiomatic constraints on the scattering amplitudes of hadrons. III. Equalities and specific asymptotic relations. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 8, 1283–1292, 1398. (Authors' summary) **57** #8593c 81.30

pirická-Kelemenouá, Alicia *See* **Pirická-Kelemenouá, Alicia**

Kelenson, Philip (*with* Hu, Tah Kai) Independence and direct factorization of universal algebras. *Math. Nachr.* **51** (1971), 83–99. (G. Grätzer) **48** #3843 08A25

Generalized structure theorems of primal algebra theory. *Math. Nachr.* **55** (1973), 1–19. (Alden Pixley) **47** #8402 08A25

Generalized semi-categorical algebras. *Math. Nachr.* **55** (1973), 21–32. (G. Grätzer) **47** #8403 08A25

Kelingos, John A. Distortion of hyperbolic area under quasiconformal mappings *Math. J.* **41** (1974), 127–139. (W. R. Derrick) **50** #13508 30A60

Kelker, Douglas H. (*with* Ismail, Mourad El-Houssieny) The Bessel polynomials Student *t* distribution. *SIAM J. Math. Anal.* **7** (1976), *no.* 1, 82–91. (F. W. J **52** #12164 62E15 (33A40)

Kella, Jehuda State minimization of incompletely specified sequential machines. *Trans. Computers* **C-19** (1970), *no.* 4, 342–348. **56** #15224 94A25

Kelle, Péter (*with* Prékopa, András) Inventory models of reliability type based on stochastic programming. (Hungarian. English summary) *Alkamaz. Mat. Lapok* 2 *no.* 1-2, 1–16. (Authors' summary) **56** #2308 90B25 (90C15)

Kelleher, Grace J. (*with* Walsh, John E.) Extended uses of linearized nonlinear re for random-nature simulations. (French summary) *OR* 69 (*Proc. Fifth Interna Operational Research, Venice*, 1969), *pp.* cii–ciii, 473–479. *Tavistock Publications, London*, 1970. (M. Muller) **51** #4570 62J05 (62C05)

(*with* Walsh, John E.) Identification of two-player situations where cooper preferable to use of percentile game theory. *J. Operations Res. Soc. Japan* **13** (19 159–168. (Louis J. Billera) **46** #8671 90D05

(*with* Walsh, John E.) Generally applicable two-person percentile game *Opsearch* **8** (1971), 143–152. (M. Maschler) **47** #3018 90D05

(*with* Walsh, John E.) Approximate joint probabilities for largest and small set of independent observations. *Sankhyā Ser. A* **33** (1971), 233–236. (J. V. Desh **48** #1382 62G30

(*with* Walsh, John E.) Noncooperative *N*-person game theory ($N>2$) using expected relative desirability criterion. *Trabajos Estadíst.* **22** (1971), *no.* 3, (Authors' summary) **47** #6329 90D10

Simplified solutions for two-person percentile games. *Opsearch* **9** (1972), 30– Owen) **49** #2114 90D10

(*with* Walsh, John E.) Efficient approximate intervals and tests for mean of continuous symmetrical population. *Tamkang J. Math.* **3** (1972), 37–42. (S. Blum **47** #9768 62G15

(*with* Walsh, John E.) Nonparametric estimation of mean and variance whe "sample" values possibly outliers. *Ann. Inst. Statist. Math.* **25** (1973), 87–90. (A summary) **48** #7454 62G05

(*with* Walsh, John E.) Convergence to random binary digits when none o data necessarily independent. *Sankhyā Ser. B* **35** (1973), *no.* 3, 299–306. (A summary) **56** #16993 65C10

Exact two sample exceedance tests when one observation possibly an *Sankhyā Ser. B* **36** (1974), *no.* 2, 187–193. (W. J. Conover) **52** #9483 62G10

(*with* Walsh, John E.) Nonparametric models and methods for one-way A with fixed effects. (German, French and Russian summaries) Collection of dedicated to the memory of John E. Walsh. *Statist. Hefte* (*N.F.*) **15** (1974), 106– Šidák) **51** #4540 62G10 (62J10)

(*with* Walsh, John E.) Nonparametric models and results for two-way ANOV fixed effects and interactions. (German, French and Russian summaries) Colle articles dedicated to the memory of John E. Walsh. *Statist. Hefte* (*N.F.*) **15** 116–129. (H. L. Seal) **51** #2184 62J10

(*with* Walsh, John E.) Nonparametric results for two-way ANOVA wit effects, no interactions, and unequal subclasses. (German, French and Russian summaries) Collection of articles dedicated to the memory of John E. Walsh. *Hefte* (*N.F.*) **15** (1974), 130–141. (I. R. Savage) **50** #11652 62J10 (62G10)

(*with* Walsh, John E.) Intervals and tests for weighted sum of percentiles $\theta($ $\theta(1-p)$ for symmetrical populations. *Ann. Inst. Statist. Math.* **27** (1975), *no.* 3, 52 (Farhad Mehran) **53** #9503 62G15

Kelleher, James J. (*with* Taylor, B. Alan) Finitely generated ideals in rings of a functions. *Math. Ann.* **193** (1971), 225–237. (R. O. Kujala) **46** #2077 32B05

(*with* Taylor, B. Alan) Closed ideals in locally convex algebras of analytic fun *J. Reine Angew. Math.* **255** (1972), 190–209. (E. L. Stout) **46** #6046 46J20 (32E25)

(*with* Taylor, B. Alan) The entire functions separate βC. *Proc. Amer. Math.* (1972), 505–506. (N. L. Alling) **45** #5344 30A46

Totally ordered sets of ideals in rings of analytic functions. *J. Reine Angew.* **278/279** (1975), 118–136. (N. L. Alling) **52** #8450 30A98

Differentially closed ideals in rings of analytic functions. *J. Reine Angew. Ma* (1977), 55–61. (N. L. Alling) **55** #12931 30A98

Kellenbenz, Hermann *See* **Jahresfeier: Geburt von Nicolaus Copernicus, 48** #29

Keller, Arnold Bounds for the sum of an infinite power series. (Spanish) *Scientia* (*Valparaíso*) *No.* 140 (1970), 71–73. (E. Baiada) **49** #7394 26A12 (30A64)

Keller, C. L. (*with* Guderley, Karl Gottfried) Enclosing the vector sum of two elli with an ellipsoid. Collection of articles dedicated to Lothar Collatz on his birthday. *Abh. Math. Sem. Univ. Hamburg* **36** (1971), 173–184. (H. W. Guggenh **48** #1035 52A15

(*with* Allgower, E. L.) A search routine for a Sperner simplex. (German sum *Computing* (*Arch. Elektron. Rechnen*) **8** (1971), 157–165. (J. J. Moré) **45** # 55–04 (65H10)

(*with* Guderley, Karl Gottfried) A basic theorem in the computation of ellip error bounds. *Numer. Math.* **19** (1972), 218–229. (W. Liniger) **47** #9841 65L

Keller, Eckart Über das Randverhalten biharmonischer Funktionen in der Hyper *Rostock. Math. Kolloq. No.* 4 (1977), 33–46. (D. H. Armitage) **57** #9993 (31B25)

Keller, Edward L. The general quadratic optimization problem. *Math. Programm* (1973), 311–337. (S. P. Aggrawal) **51** #12333 90C20

Keller, Elmo A., Jr. (*with* Sengupta, Jati K.) Relative efficiency of computing op growth by conjugate gradient and Davidon methods. *Internat. J. Systems Sci.* **4** (97–120. (Norihiko Adachi) **52** #12790 90C30

(*with* Sengupta, Jati K.) Sensitivity analysis for optimal and feedback co applied to growth models. *Stochastics* **1** (1973/74), 239–266. (M. Rössler) **50** #12 90A15

Keller, Evelyn F. (*with* Odell, Garrett M.) Necessary and sufficient conditions for chemotactic bands. *Math. Biosci.* **27** (1975), *no.* 3/4, 309–317. (J. P. Kernevez)

#15411 92A05

F. È. (*with* Volkov, Ju. Ī.) Analysis and synthesis of decoders on shift registers. ussian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 3, 82–85. (Siegmar Gerber) #7013 94A10

(*with* Volkov, Ju. Ī.) Synthesis of a new class of decoders of cyclic codes. (Russian. glish summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 2, 38–43. (V. M. Amerbaev) #10478 94A10

Graphs and synthesis of coding and decoding circuits for remote control. *Avtomat. Telemeh.* **1977**, *no.* 7, 152–162 (*Russian. English summary*); *translated as Automat. mote Control* **38** (1977), *no.* 7, *part* 2, 1070–1077. (From the introduction) **58** #26567 94A20

Gordon Amenable groups and varieties of groups. *Illinois J. Math.* **16** (1972), 7–269. (D. E. Cohen) **45** #5202 20E10

H. D. (*with* Plachky, Detlef) Eine Charakterisierung der Extremalpunkte von Tests i vorgegebener Irrtumswahrscheinlichkeit 1. Art. *Arch. Math.* (*Basel*) **29** (1977), *no.* 3, 1–336. (Volker Baumann) **58** #31530 62F05

Hans Une identité générale de l'arithmétique. (English summary) *C. R. Acad. Sci. aris Sér. A-B* **280** (1975), *no.* 24, Ai, A1659–A1660. (G. J. Rieger) **53** #7968 H10

Hans Arwed ★Stetigkeitsfragen bei lineartopologischen Cliffordalgebren. augural-Dissertation zur Erlangung der philosophischen Doktorwürde vorgelegt der hilosophischen Fakultät II der Universität Zürich. *Universität Zürich, Zurich*, 1971. +36 *pp.* (S. Böge) **49** #5847 46H99

(*with* Gross, Herbert) On the definition of Hilbert space. *Manuscripta Math.* **23** 977/78), *no.* 1, 67–90. (Piotr Antosik) **58** #2188 46C05

Hans Heinrich ★Differential calculus in locally convex spaces. Lecture Notes in lathematics, Vol. 417. *Springer-Verlag, Berlin-New York*, 1974. iii+143 *pp.* (Peter lichor) **55** #13466 58C20

Herbert Bishop (*with* Keener, James P.) Perturbed bifurcation and buckling of rcular plates. *Conference on the Theory of Ordinary and Partial Differential Equations Univ. Dundee, Dundee*, 1972), *pp.* 286–293. *Lecture Notes in Math., Vol.* 280, *Springer, erlin*, 1972. (R. J. Knops) **55** #8912 47H15 (73.35)

(*with* Cebeci, Tuncer) Accurate numerical methods for boundary-layer flows. II. wo-dimensional turbulent flows. *AIAA J.* **10** (1972), 1193–1199. (R. Manohar) 6 #10300 76.65

(*with* Langford, W. F.) Iterations, perturbations and multiplicities for nonlinear ifurcation problems. *Arch. Rational Mech. Anal.* **48** (1972), 83–108. (B. V. Loginov) 9 #1252 47H15

(*with* Cebeci, Tuncer) An inverse problem in boundary-layer flows: numerical etermination of pressure gradient for a given wall shear. *J. Computational Phys.* **10** 1972), 151–161. (A. R. Mitchell) **48** #7784 76.65

Existence theory for multiple solutions of a singular perturbation problem. *SIAM . Math. Anal.* 3 (1972), 86–92. (F. Hoppensteadt) **46** #9474 34E15

(*with* Isaacson, Eugene) ★Analyse numerischer Verfahren. Übersetzung aus dem Englischen und wissenschaftliche Redaktion: Viktor Ziegler. *Verlag Harri Deutsch, Zurich-Frankfurt am Main*, 1973. xii+560 *pp.* (Editors) **49** #11757 65–02

(*with* Keener, James P.) Perturbed bifurcation theory. *Arch. Rational Mech. Anal.* **50** (1973), 159–175. (B. V. Loginov) **49** #1253 47H15

(*with* Nieuwstadt, F.) Viscous flow past circular cylinders. *Internat. J. Comput. & Fluids* **1** (1973), *no.* 1, 59–71. (M. G. Hall) **50** #3767 76.65

Stability theory for multiple equilibrium states of a nonlinear diffusion process: A singularly perturbed eigenvalue problem. *SIAM J. Math. Anal.* **4** (1973), 134–140. (F. Hoppensteadt) **48** #9064 35B25

Tubular chemical reactors with recycle. *Mathematical aspects of chemical and biochemical problems and quantum chemistry* (*Proc. Sympos. Appl. Math. AMS-SIAM, New York*, 1974), *pp.* 85–98. *SIAM-AMS Proceedings, Vol. VIII, Amer. Math. Soc., Providence, R. I.*, 1974. (J. Adler) **55** #11814 80.35

(*with* Keener, James P.) Positive solutions of convex nonlinear eigenvalue problems. *J. Differential Equations* **16** (1974), 103–125. (P. P. Zabreĭko) **49** #11030 35G20

(*with* Abrahamsson, L. R.; Kreiss, H. O.) Difference approximations for singular perturbations of systems of ordinary differential equations. *Numer. Math.* **22** (1974), 367–391. (A. R. Mitchell) **52** #9618 65L10

Accurate difference methods for nonlinear two-point boundary value problems. *SIAM J. Numer. Anal.* **11** (1974), 305–320. (P. G. Ciarlet) **50** #3589 65L10

Numerical solution of boundary value problems for ordinary differential equations: survey and some recent results on difference methods. *Numerical solutions of boundary value problems for ordinary differential equations* (*Proc. Sympos., Univ. Maryland, Baltimore, Md.*, 1974), *pp.* 27–88. *Academic Press, New York*, 1975. (Francesco G. Lerda) **56** #10024 65L10

Some computational problems in boundary-layer flows. *Proceedings of the Fourth International Conference on Numerical Methods in Fluid Dynamics* (*Univ., Colorado, Boulder, Colo.*, 1974), *pp.* 1–21. *Lecture Notes in Phys., Vol.* 35, *Springer, Berlin*, 1975. (A. R. Mitchell) **57** #18132 65N05 (76.65)

(*with* Cebeci, Tuncer; Berkant, N.; Silivri, I.) Turbulent boundary layers with assigned wall shear. *Comput. & Fluids* **3** (1975), 37–49. (R. Peyret) **52** #7316 76.65

Approximation methods for nonlinear problems with application to two-point boundary value problems. *Math. Comp.* **29** (1975), 464–474. (V. Pereyra) **51** #7279 65J05 (65L05)

(*with* White, A. B., Jr.) Difference methods for boundary value problems in ordinary differential equations. *SIAM J. Numer. Anal.* **12** (1975), *no.* 5, 791–802. (F. M. Pascal) **54** #1627 65L10

(*with* Bauer, Louis; Reiss, Edward L.) Multiple eigenvalues lead to secondary bifurcation. *SIAM Rev.* **17** (1975), 101–122. (John M. Ball) **51** #14714 73.47

★Numerical solution of two point boundary value problems. Regional Conference Series in Applied Mathematics, No. 24. *Society for Industrial and Applied Mathematics, Philadelphia, Pa.*, 1976. viii+61 *pp.* (J. Švejda) **55** #6868 65L10

Finite difference methods for ordinary boundary value problems. *Computing methods in applied sciences* (*Second Internat. Sympos., Versailles*, 1975), *pp.* 530–543. *Lecture Notes in Phys., Vol.* 58, *Springer, Berlin*, 1976. (H. Brunner) **56** #7215 65L10

Numerical solution of bifurcation and nonlinear eigenvalue problems. *Applications of bifurcation theory* (*Proc. Advanced Sem., Univ. Wisconsin, Madison, Wis.*, 1976), *pp.* 359–384. *Publ. Math. Res. Center, No.* 38, *Academic Press, New York*, 1977. (C. Ilioi) **56** #13592 65H05 (47H15, 65J05)

(*with* Brabston, D. C.) A numerical method for singular two point boundary value problems. *SIAM J. Numer Anal.* **14** (1977), *no.* 5, 779–791. (Francesco G. Lerda) **58** #3476 65L10 (34B10)

Numerical methods in boundary-layer theory. *Annual review of fluid mechanics, Vol.* 10, *pp.* 417–433. *Annual Reviews, Palo Alto, Calif.*, 1978. (R. Manohar) **58** #8791 76.65

(*with* Pereyra, V.) Symbolic generation of finite difference formulas. *Math. Comp.* **32** (1978), *no.* 144, 955–971. (Author's review (V.P.)) **58** #13632 65D25 (65B05, 65L10)

See also **Computational fluid dynamics**, **57** #18479

Keller, J. U. Eine Folgerung aus der fundamentalen Ungleichung der Thermodynamik. (English summary) *Physica* **46** (1970), 451–457. (N. D. Sengupta) **45** #6278 80.35

Irrflug-Prozesse mit korrelierten Sprungwahrscheinlichkeiten. I. (English summary) *Z. Naturforsch.* **26a** (1971), 1539–1553. (J. Mineka) **50** #1337 60J05

See also **Numerische Methoden bei Differentialgleichungen und mit funktionalanalytischen Hilfsmitteln**, **49** #11758

Keller, Jakob J. Third order resonances in closed tubes. (German summary) *Z. Angew. Math. Phys.* **27** (1976), *no.* 3, 303–323. (J. Jimenez) **55** #1926 76.35

A note on nonlinear acoustic resonances in rectangular cavities. *J. Fluid Mech.* **87** (1978), *no.* 2, 299–303. (Michael J. O'Carroll) **58** #8739 76.35

Keller, Jean Pierre (*with* Richard, Denis) Remarques sur les structures additives des modèles de l'arithmétique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 3, A101–A104. (Authors' summary) **58** #10422 02H20

Keller, Joseph B. (*with* Rubinow, S. I.) Force on a rigid sphere in an incompressible inviscid fluid. *Phys. Fluids* **14** (1971), 1302–1304. (D. R. Breach) **47** #2898 76.33

(*with* Olmstead, W. E.) Temperature of a nonlinearly radiating semi-infinite solid. *Quart. Appl. Math.* **29** (1971/72), 559–566. (P. M. Gupta) **53** #7241 80.45

(*with* Kogelman, Stanley) Transient behavior of unstable nonlinear systems with applications to the Bénard and Taylor problems. *SIAM J. Appl. Math.* **20** (1971), 619–637. (M. Švec) **45** #3836 34B15

(*with* Papanicolaou, George C.) Stochastic differential equations with applications to random harmonic oscillators and wave propagation in random media. *SIAM J. Appl. Math.* **21** (1971), 287–305. (Y. M. Chen) **46** #8304 60H10

(*with* Kleinman, R. E.; Senior, T. B. A.) Dipole moments in Rayleigh scattering. *J. Inst. Math. Appl.* **9** (1972), 14–22. (A. M. Sessler) **45** #8141 78.35

(*with* Cohen, Jack K.; Hagin, Frank G.) Short time asymptotic expansions of solutions of parabolic equations. *J. Math. Anal. Appl.* **38** (1972), 82–91. (R. N. Pederson) **46** #2228 35K15

(*with* Kaminetzky, Lee) Diffraction coefficients for higher order edges and vertices. *SIAM J. Appl. Math.* **22** (1972), 109–134. (Y. M. Chen) **46** #10305 78.35

(*with* Flaherty, Joseph E.) Elastic behavior of composite media. *Comm. Pure Appl. Math.* **26** (1973), 565–580. (A. J. M. Spencer) **51** #12098 73.65

(*with* Geer, James) Flows of thin streams with free boundaries. *J. Fluid Mech.* **59** (1973), 417–432. (R. M. Gundersen) **48** #7756 76.31

(*with* Shen, M. C.) Ray method of nonlinear wave propagation in a rotating fluid of variable depth. *Phys. Fluids* **16** (1973), 1565–1572. (P. Germain) **50** #9155 76.35

(*with* Kogelman, Stanley) Asymptotic theory of nonlinear wave propagation. *SIAM J. Appl. Math.* **24** (1973), 352–361. (W. F. Ames) **47** #5412 35B40

(*with* Ahluwalia, Daljit S.) Uniform asymptotic solution of eigenvalue problems for convex plane domains. *SIAM J. Appl. Math.* **25** (1973), 583–591. (N. Shimakura) **49** #11034 35J05 (35P20)

Optimal velocity in a race. *Amer. Math. Monthly* **81** (1974), 474–480. (D. K. Hughes) **50** #10958 49B10

(*with* Larsen, Edward W.) Asymptotic solution of neutron transport problems for small mean free paths. *J. Mathematical Phys.* **15** (1974), 75–81. (J. P. Guiraud) **49** #4498 82.45

Optimum checking schedules for systems subject to random failure. *Management Sci.* **21** (1974/75), *no.* 3, 256–260. (Author's summary) **57** #11704 90B25

(*with* Ahluwalia, Daljit S.; Jarvis, Richard) Elastic waves produced by surface displacements. *SIAM J. Appl. Math.* **26** (1974), 108–119. (J. Bejda) **48** #12955 73.35

(*with* McLaughlin, D. W.) The Feynman integral. *Amer. Math. Monthly* **82** (1975), 451–465. (Tack-Wang Lee) **51** #846 28A40 (81.60)

(*with* Anyanwu, Donatus U.) Asymptotic solution of eigenvalue problems for second-order ordinary differential equations. *Comm. Pure Appl. Math.* **28** (1975), *no.* 6, 753–763. (Walter Eberhard) **52** #14445 34B25

(*with* Voronka, Roman) Asymptotic analysis of stochastic models in population genetics. *Math. Biosci.* **25** (1975), *no.* 3-4, 331–362. (Authors' summary) **56** #17910 92A10

Closest unitary, orthogonal and Hermitian operators to a given operator. *Math. Mag.* **48** (1975), *no.* 4, 192–197. (Bernard B. Morrel) **53** #8103 15A57 (47B99)

(*with* Kaminetzky, Lee) Diffraction by edges and vertices of interfaces. *SIAM J. Appl. Math.* **28** (1975), 839–856. (R. F. Millar) **51** #4856 78.35

(*with* Shen, M. C.) Uniform ray theory of surface, internal and acoustic wave propagation in a rotating ocean or atmosphere. *SIAM J. Appl. Math.* **28** (1975), 857–875. (Maurice Bouix) **51** #4844 76.35 (78.35)

Inverse problems. *Amer. Math. Monthly* **83** (1976), *no.* 2, 107–118. (Clarence M. Ablow) **52** #14711 35R30 (34B25)

The minimum ratio of two eigenvalues. *SIAM J. Appl. Math.* **31** (1976), *no.* 3, 485–491. (J. D. P. Donnelly) **54** #10737 34B25 (65L10)

Effective behavior of heterogeneous media. *Statistical mechanics and statistical methods in theory and application* (*Proc. Sympos., Univ. Rochester, Rochester, N.Y.*, 1976), *pp.* 631–644. *Plenum, New York*, 1977. (A. G. Gibbs) **58** #14449 80.60

Survey of wave propagation and underwater acoustics. *Wave propagation and underwater acoustics* (*Workshop, Mystic, Conn.*, 1974), *pp.* 1–13. *Lecture Notes in Phys., Vol.* 70, *Springer, Berlin*, 1977. (Tommaso Ruggeri) **57** #18426 76.00

(*with* Ahluwalia, Daljit S.) Exact and asymptotic representations of the sound field in a stratified ocean. *Wave propagation and underwater acoustics* (*Workshop*, *Mystic*, *Conn*., 1974), *pp*. 14–85. *Lecture Notes in Phys*., *Vol*. 70, *Springer*, *Berlin*, 1977. (Clarence M. Ablow) **57** #11293 76.35

(*with* Anyanwu, Donatus U.) Asymptotic solution of higher-order differential equations with several turning points, and application to wave propagation in slowly varying waveguides. *Comm. Pure Appl. Math*. **31** (1978), *no*. 1, 107–121. (W. Wasow) **58** #6568 34E20

(*with* Papanicolaou, George C.; Weilenmann, Jürg) Heat conduction in a one-dimensional random medium. *Comm. Pure Appl. Math*. **31** (1978), *no*. 5, 583–592. (S. Bhargava) **58** #19882 80.60

(*with* Tier, Charles) Asymptotic analysis of diffusion equations in population genetics. *SIAM J. Appl. Math*. **34** (1978), *no*. 3, 549–576. (Rodney D. Gentry) **58** #4441 92A10 (35C99)

(*with* Burridge, R.) Peeling, slipping and cracking—some one-dimensional free-boundary problems in mechanics. *SIAM Rev*. **20** (1978), *no*. 1, 31–61. (Vladimir Kerchman) **57** #4749 73.34

See also **Stochastic differential equations**, **49** #1544 *and* **Wave propagation and underwater acoustics**, **57** #4792

Keller, Kirby Qualitative behavior of integrodifferential systems with applications in reactor dynamics. *J. Differential Equations* **16** (1974), *no*. 3, 574–602. (H. E. Gollwitzer) **56** #3599 45J05

Keller, Ott-Heinrich ★Vorlesungen über algebraische Geometrie. *Akademische Verlagsgesellschaft Geest & Portig K*.-*G*., *Leipzig*, 1974. 334 *pp*. (Gerhard Pfister) **55** #2880 14–01

Normalformen für Flächen 3. Ordnung. Beiträge zur Algebra und Geometrie, 3. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math*. **5** (1974), 11–21. (W. Burau) **55** #2925 14J25

See also **Beiträge: Algebra und Geometrie**, **52** #5241 *and* **Beiträge: Algebra und Geometrie**, **52** #5242

Keller, Peter *See* **Quantoren-Modalitäten-Paradoxien**, **56** #2775

Keller, R. F. (*with* Wainwright, Roger L.) Algorithms for projection methods for solving linear systems of equations. *Comput. Math. Appl*. **3** (1977), *no*. 3, 235–245. (F. Szidarovszky) **57** #4494 65F10

Keller, Robert (*with* Ségur, Pierre) A numerical method of solution of the Boltzmann equation in a weakly ionized heterogeneous gas. *J. Computational Phys*. **24** (1977), *no*. 1, 43–69. (Ole J. Heilmann) **56** #4619 82.65 (76.54)

Keller, Robert M. Parallel program schemata and maximal parallelism. I. Fundamental results. *J. Assoc. Comput. Mach*. **20** (1973), 514–537. (V. N. Agafonov) **53** #2000 68A05

Parallel program schemata and maximal parallelism. II. Construction of closures. *J. Assoc. Comput. Mach*. **20** (1973), 696–710. (V. N. Agafonov) **53** #2001 68A05

Towards a theory of universal speed-independent modules. *IEEE Trans. Computers* **C-23** (1974), 21–33. (K. Vairavan) **51** #5208 94A30

A fundamental theorem of asynchronous parallel computation. *Parallel processing* (*Proc. Third Sagamore Comput. Conf*., *Raquette Lake*, *N.Y*., 1974), *pp*. 102–112. *Lecture Notes in Comput. Sci*., *Vol*. 24, *Springer*, *Berlin*, 1975. (Rüdiger Valk) **58** #19298 68A05

Formal verification of parallel programs. *Comm. ACM* **19** (1976), *no*. 7, 371–384. (W. D. Maurer) **54** #14430 68A05

Keller, Sebastian Die Existenz einer Greenschen Funktion auf Riemannschen Mannigfaltigkeiten. *Comment. Math. Helv*. **48** (1973), 234–253. (H. Wu) **49** #6088 53C20 (31B05)

Keller, Stuart R. Mechanics of flagellar motion with an application to a conical spiral flagellate. *J. Theoret. Biol*. **68** (1977), *no*. 1, 73–94. (Nadav Liron) **58** #19714 76.35 (92A05)

Keller, Timothy J. Generalizations of Zeckendorf's theorem. *Fibonacci Quart*. **10** (1972), *no*. 1, 95–102, 111, 112. (J. M. Gandhi) **46** #127 10A35

Keller, Wouter J. A new class of limited-information estimators for simultaneous equation systems. *J. Econometrics* **3** (1975), *no*. 1, 71–92. (Takeshi Amemiya) **55** #4585 62P20

Kellerer, Hans *See* **Linder, Arthur**, **55** #5366; **Schaich, E.; et al.**, **55** #5367 *and* **Anderson, Oskar**, **56** #59

Kellerer, Hans G. Markov-Komposition und eine Anwendung auf Martingale. *Math. Ann*. **198** (1972), 99–122. (Hermann Rost) **50** #8721 60J35 (60G45)

Integraldarstellung von Dilationen. *Transactions of the Sixth Prague Conference on Information Theory*, *Statistical Decision Functions*, *Random Processes* (*Tech. Univ*., *Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp*. 341–374. *Academia*, *Prague*, 1973. (Hermann Rost) **50** #8720 60J35 (60J45)

Non measurable partitions of the real line. *Advances in Math*. **10**, 172–176 (1973). (A. Appert) **47** #6972 28A05 (04A15)

Kellerman, Ju. I. (*with* Čerkašenko, M. V.) On the optimization of discrete systems of control of cyclic processes. (Russian) *Avtomat. Sistemy Upravlenija i Pribory Avtomat*. *No*. 42 (1977), 10–16, 1. (Authors' summary) **58** #33333 93C55

Kellermeier, G. *See* **Control in space**, **48** #8040

Kellett, B. H. (*with* Henriques, A. B.; Moorhouse, R. G.) General three-spinor wave functions and the relativistic quark model. *Ann. Physics* **93** (1975), *no*. 1-2, 125–151. (R. Delbourgo) **52** #9859 81.22

Kelley, C. T. Convolution and *H*-equations for operator-valued functions with applications to neutron transport theory. *J. Mathematical Phys*. **18** (1977), *no*. 4, 764–769. (Paul F. Zweifel) **56** #7684 82.45

Analytic continuation of an operator-valued *H*-function with applications to neutron transport theory. *J. Mathematical Phys*. **19** (1978), *no*. 2, 494–499. (Carlo Cercignani) **57** #2362 82.45

(*with* Mullikin, T. W.) Solution by iteration of *H*-equations in multigroup neutron transport. *J. Mathematical Phys*. **19** (1978), *no*. 2, 500–501. (Carlo Cercignani) **57** #2363 82.45

Kelley, Edward F. (*with* Kinnersley, William) Limits of the Tomimatsu-Sato gravitational field. *J. Mathematical Phys*. **15** (1974), 2121–2126. (M. Sachs) **50** #9283 83.35

Kelley, Gary D. (*with* Kelley, Judy A.; Schucany, William R.) Efficient estimation of $P(Y<X)$ in the exponential case. *Technometrics* **18** (1976), *no*. 3, 359–360. (C. J. **54** #11633 62F10

See also **Control in space**, **48** #13319 *and* **Proceedings: International Cong the International Federation of Automatic Control (IFAC)**, **51** #12360b

Kelley, Henry J. (*with* Denham, Walter F.) An ensemble averaging approach to guidance polynomial approximations. *Automatic and remote control III* (*Proc Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol*. 1, *p*. 56 29C, 10 *pp*. *Inst. Mech. Engrs*., *London*, 1967. (From the authors' introduction) **51** #9890 93C15 (93E20)

(*with* Falco, Michael) Aircraft symmetric flight optimization. *Control and d systems*: *advances in theory and applications*, *Vol*. 10, *pp*. 89–129. *Academic Pres York*, 1973. (From the authors' introduction) **56** #6522 49D10 (93C99)

Aircraft maneuver optimization by reduced-order approximation. *Control an dynamic systems*: *advances in theory and applications*, *Vol*. 10, *pp*. 131–178. *Ac Press*, *New York*, 1973. (From the author's introduction) **56** #4967 93C15

Some aspects of two-on-one pursuit/evasion. (French, German and Russian summaries) *Automatica—J. IFAC* **9** (1973), *no*. 3, 403–404. (J. H. Case) **56** # 90D25

(*with* Lefton, Leon) Aerial turning chases. *The theory and application of diffe games* (*Proc. NATO Advanced Study Inst*., *Univ. Warwick*, *Coventry*, 1974), *pp*. 25 *NATO Adv. Study Inst. Ser*., *Ser. C*: *Math. and Phys. Sci*., 13, *Reidel*, *Dordrecht* (Authors' summary) **58** #26073 90D25

(*with* Lefton, Leon; Johnson, Ivan L., Jr.) Variable-metric algorithm em linear and quadratic penalties. *AIAA J*. **14** (1976), *no*. 4, 427–430. (Authors' sum **56** #13627 65K05

A threat-reciprocity concept for pursuit/evasion. *Differential games and theory*, *II* (*Proc. 2nd Conf*., *Univ. Rhode Island*, *Kingston*, *R.I*., 1976), *pp*. 30 *Lecture Notes in Pure and Appl. Math*., 30. *Dekker*, *New York*, 1977. (Editors) **58** #33024 90D25

See also **System sensitivity analysis**, **52** #12863

Kelley, John L. (*with* Nayak, M. K.; Srinivasan, T. P.) Pre-measures on lattices of se *Vector and operator valued measures and applications* (*Proc. Sympos*., *Alta*, *Utah*, *pp*. 155–164. *Academic Press*, *New York*, 1973. (A. C. Zaanen) **48** #11433 28

(*with* Srinivasan, T. P.) On the Bochner integral. *Vector and operator measures and applications* (*Proc. Sympos*., *Alta*, *Utah*, 1972), *pp*. 165–174. *Ac Press*, *New York*, 1973. (C. W. Swartz) **48** #8745 28A45

★General topology. Reprint of the 1955 edition [Van Nostrand, Toronto, Graduate Texts in Mathematics, No. 27. *Springer-Verlag*, *New York-Berlin*, xiv+298 *pp*. (Editors) **51** #6681 54–XX

(*with* Namioka, Isaac) ★Linear topological spaces. With the collaboration F. Donoghue, Jr., Kenneth R. Lucas, B. J. Pettis, Ebbe Thue Poulsen, G. Baley Wendy Robertson, W. R. Scott, and Kennan T. Smith. Second corrected pr Graduate Texts in Mathematics, No. 36. *Springer-Verlag*, *New York-Heidelberg*, xv+256 *pp*. (Editors) **52** #14890 46Axx

(*with* Srinivasan, T. P.) A unified proof of Fubini theorem for Baire and measures. *Measure theory* (*Proc. Conf*., *Öberwolfach*, 1975), *pp*. 25–29. *Lecture N Math*., *Vol*. 541, *Springer*, *Berlin*, 1976. (J. D. Knowles) **56** #3231 28A30

Kelley, Judy A. (*with* Kelley, Gary D.; Schucany, William R.) Efficient estimati $P(Y<X)$ in the exponential case. *Technometrics* **18** (1976), *no*. 3, 359–360. (C. J. **54** #11633 62F10

Kelley, Thomas A. A note on the Bernoulli two-armed bandit problem. *Ann. Sta* (1974), 1056–1062. (J. R. Blum) **54** #14268 62L15

Sequential Bayes estimation of the difference between means. *Ann. Statist*. **5** (*no*. 2, 379–384. (Nanak Chand) **55** #4549 62L05 (62F15, 93C40)

Kelley, W. (*with* Bebernes, J. W.) Some boundary value problems for generalized differential equations. *SIAM J. Appl. Math*. **25** (1973), 16–23. (G. A. Klaasen) **47** #9003 34G05 (34H05)

Kelley, Walter G. A Kneser theorem for Volterra integral equations. *Proc. Amer. Soc*. **40** (1973), 183–190. (R. K. Miller) **47** #5531 45D05

Some existence theorems for *n*th-order boundary value problems. *J. Differ Equations* **18** (1975), 158–169. (S. R. Bernfeld) **51** #3593 34B15

Periodic solutions of generalized differential equations. *SIAM J. Appl. Ma* (1976), *no*. 1, 70–74. (J. W. Bebernes) **54** #5544 34C25

Second order systems with nonlinear boundary conditions. *Proc. Amer. Math* **62** (1977), *no*. 2, 287–292. (G. A. Klaasen) **56** #3396 34B15

A geometric method of studying two point boundary value problems for se order systems. *Rocky Mountain J. Math*. **7** (1977), *no*. 2, 251–263. (Jean Ma **56** #728 34B15

See also **Optimal control and differential equations**, **57** #10536

Kellner, Richard G. (*with* Hayes, John K.; Kahaner, David K.) An improved metho numerical conformal mapping. *Math. Comp*. **26** (1972), 327–334; *suppl*., *ibid*. **26** (*no*. 118, *loose microfiche suppl*. A1–B14. (D. Gaier) **46** #334 30A28

(*with* Hayes, John K.) The eigenvalue problem for a pair of coupled in equations arising in the numerical solution of Laplace's equation. *SIAM J. Appl.* **22** (1972), 503–513. (H. Brunner) **46** #4764 65R05

(*with* Hayes, John K.; Kahaner, David K.) A numerical comparison of in equations of the first and second kind for conformal mapping. *Math. Comp*. **29** (512–521. (D. Gaier) **51** #7259 65E05 (30A28)

Kellogg, Charles N. ★Lectures on harmonic analysis. Texas Tech University Mathem Series, No. 11. *Department of Mathematics*, *Texas Tech University*, *Lubbock*, *Tex*., iv+169 *pp*. (From the author's preface) **57** #13335 42–01 (43–01)

Kellogg, R. Bruce Higher order singularities for interface problems. *The mathem foundations of the finite element method with applications to partial differential equa* (*Proc. Sympos*., *Univ. Maryland*, *Baltimore*, *Md*., 1972), *pp*. 589–602. *Academic New York*, 1972. (From the author's introduction) **55** #6896 65P05

On complex eigenvalues of *M* and *P* matrices. *Numer. Math*. **19** (1972), 170- (B. Levinger) **46** #3525 15A18

On the Poisson equation with intersecting interfaces. Collection of articles dedicated to Nikolai Ivanovich Muskhelishvili. *Applicable Anal*. **4** (1974/75), 101- (Ju. V. Kostarčuk) **52** #14623 35J25 (*with* Babuška, Ivo) Nonuniform error estimates for the finite element method. *M J. Numer. Anal.* **12** (1975), *no.* 6, 868–875. (J. R. Kuttler) **53** #14939 65N30

Numerical analysis of the neutron transport equation. *Numerical solution of partial erential equations, III* (*Proc. Third Sympos.* (*SYNSPADE*), *Univ. Maryland, College k, Md.*, 1975), *pp.* 321–347. *Academic Press, New York*, 1976. (See Zbl **337** #65062; **52** #15940) 82.65

(*with* Osborn, John E.) A regularity result for the Stokes problem in a convex ygon. *J. Functional Analysis* **21** (1976), *no.* 4, 397–431. (D. E. Edmunds) **53** #8649 5J25

(*with* Johnson, Charles R.) An inequality for doubly stochastic matrices. *J. Res. t. Bur. Standards Sect. B* **80B** (1976), *no.* 4, 433–436. (D. London) **56** #392 A51

Uniqueness in the Schauder fixed point theorem. *Proc. Amer. Math. Soc.* **60** (1976), 7–210 (1977). (Christian Fenske) **54** #11118 47H10 (92A05)

(*with* Li, Tien Yien; Yorke, James A.) A constructive proof of the Brouwer ed-point theorem and computational results. *SIAM J. Numer. Anal.* **13** (1976), *no.* 4, 3–483. (Eugene Allgower) **54** #4087 65H10 (57D70, 47H10)

(*with* Li, Tien Yien; Yorke, James A.) A method of continuation for calculating a ouwer fixed point. *Fixed points: algorithms and applications* (*Proc. First Internat. nf., Clemson Univ., Clemson, S. C.*, 1974), *pp.* 133–147. *Academic Press, New York*, 77. (Eugene Algower) **56** #7169 65H10 (47H10, 58F99)

A priori bounds for renal network flows. *Summer Computer Simulation Conference Vashington, D.C.*, 1976), *pp.* 456–459. *AFIPS Press, Montvale, N.J.*, 1977. (Philip R. ohl) **58** #33090 92A05

(*with* Walden, H.) Numerical determination of the fundamental eigenvalue for the aplace operator on a spherical domain. *J. Engrg. Math.* **11** (1977), *no.* 4, 299–318. (P. aasonen) **57** #11097 65N10

(*with* Kaper, Hans G.) Asymptotic behavior of the solution of the integral transport quation in slab geometry. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 191–200. (C. V. Pao) #7682 82.45

(*with* Kaper, Hans G.) Continuity and differentiability properties of the solution of e linear transport equation. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 201–214. (C. V. ao) **56** #7683 82.45

(*with* Stephens, Arthur B.) Complex eigenvalues of a non-negative matrix with a pecified graph. *Linear Algebra and Appl.* **20** (1978), *no.* 2, 179–187. (R. C. Thompson) **8** #721 15A18

(*with* Tsan, Alice) Analysis of some difference approximations for a singular erturbation problem without turning points. *Math. Comp.* **32** (1978), *no.* 144, 025–1039. (R. E. O'Malley, Jr.) **58** #3485 65L10

See also **Babuška, Ivo; et al.**, **54** #9111 *and* **Conference: Transport Theory**, 7 #4927

, Lawrence C. (*with* Orszag, Steven A.) Randomness of low-order models of wo-dimensional inviscid dynamics. *Phys. Fluids* **21** (1978), *no.* 2, 162–168. (François Ronday) **58** #8784 76.60

m, Kenneth R. (*with* Garrett, B. D.; Nelms, D.) Characterizations of connected real unctions. *Jber. Deutsch. Math.-Verein.* **73** (1971/72), *part* 1, 131–137. (Zbl **226** #26006) **58** #6098 26A15

(*with* Garrett, B. D.) Almost continuous real functions. *Proc. Amer. Math. Soc.* **33** (1972), 181–184. (Pavel Kostyrko) **45** #2106 26A21 (54C50)

Almost continuous functions on I^n. *Fund. Math.* **79** (1973), *no.* 3, 213–215. (R. E. Smithson) **47** #9598 54H25

Sums and limits of almost continuous functions. *Colloq. Math.* **31** (1974), 125–128. (A. M. Bruckner) **50** #13393 26A15

Non-continuous retracts. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 255–261. *Academic Press, New York*, 1975. (D. E. Sanderson) **51** #4146 54C15

On a question of Borsuk concerning non-continuous retracts. I. *Fund. Math.* **87** (1975), 89–92. (R. E. Smithson) **51** #6754 54F40

(*with* Gibson, Richard G.) Darboux (B) functions, connectivity (B) functions and functions of Baire class 1. *Colloq. Math.* **35** (1976), *no.* 2, 247–251. (S. A. Naimpally) **53** #14388 54C10 (26A21)

On a question of Borsuk concerning non-continuous retracts. II. *Fund. Math.* **92** (1976), *no.* 2, 135–140. (R. E. Smithson) **54** #8554 54C15

An almost continuous function f: $S^n \to S^m$ which commutes with the antipodal map. *Proc. Amer. Math. Soc.* **54** (1976), 431–432. (R. F. Dickman, Jr.) **53** #1542 54F60

The equivalence of absolute almost continuous retracts and ε-absolute retracts. *Fund. Math.* **96** (1977), *no.* 3, 229–235. (Hughes B. Hoyle, III) **58** #24171 54C15

ly, B. G. A. Densities and measures of linear sets. *Canad. Math. Bull.* **16** (1973), 61–66. (W. P. Ziemer) **48** #2104 10L10

(*with* Chalk, J. H. H.) Generating sets for Fuchsian groups. *Proc. Roy. Soc. Edinburgh Sect. A* **72** *no.* 4, 317–326 (1975). (J. Lehner) **52** #279 10D05

ly, D. W. (*with* Zienkiewicz, Olgierd C.; Bettess, P.) The coupling of the finite element method and boundary solution procedures. *Internat. J. Numer. Methods Engrg.* **11** (1977), *no.* 2, 355–375. (Authors' summary) **56** #10066 65N30 (73.65)

ly, David A note on equationally compact lattices. *Algebra Universalis* **2** (1972), 80–84. (J. Karásek) **46** #7102 06A20

(*with* Rival, Ivan) Crowns, fences, and dismantlable lattices. *Canad. J. Math.* **26** (1974), 1257–1271. (Joel Berman) **54** #5064 06A20

(*with* Adams, M. E.) Homomorphic images of free distributive lattices that are not sublattices. *Algebra Universalis* **5** (1975), 143–144. (T. S. Blyth) **52** #2987 06A35

(*with* Rival, Ivan) Planar lattices. *Canad. J. Math.* **27** (1975), *no.* 3, 636–665. (Evelyn Nelson) **52** #2974 06A20

(*with* Rival, Ivan) Certain partially ordered sets of dimension three. *J. Combinatorial Theory Ser. A* **18** (1975), 239–242. (E. Harzheim) **50** #12828 06A10

(*with* Adams, M. E.) Chain conditions in free products of lattices. *Algebra Universalis* **7** (1977), *no.* 2, 235–243. (Daniel Ponasse) **55** #7858 06A20

(*with* Adams, M. E.) Disjointness conditions in free products of lattices. *Algebra Universalis* **7** (1977), *no.* 2, 245–258. (Teo Sturm) **55** #12585 06A20 (08A10)

The 3-irreducible partially ordered sets. *Canad. J. Math.* **29** (1977), *no.* 2, 367–383. (William T. Trotter, Jr.) **55** #205 06A10

(*with* Grätzer, George) When is the free product of lattices complete? *Proc. Amer. Math. Soc.* **66** (1977), *no.* 1, 6–8. (G. Bruns) **57** #194 06A23

(*with* Grätzer, George) A normal form theorem for lattices completely generated by a subset. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 2, 215–218. (Dietmar Dorninger) **57** #3021 06A23

Kelly, Douglas G. A condition equivalent to ferromagnetism for a generalized Ising model. *J. Combinatorial Theory Ser. A* **12** (1972), 326–331. (S. Sherman) **46** #1263 82.06

(*with* Rota, Gian-Carlo) Some problems in combinatorial geometry. *A survey of combinatorial theory* (*Proc. Internat. Sympos., Colorado State Univ., Fort Collins, Colo.*, 1971), *pp.* 309–312. *North-Holland, Amsterdam*, 1973. (W. T. Tutte) **50** #9633 05B35

Disjoining permutations in finite Boolean algebras. *Utilitas Math.* **3** (1973), 65–74. (R. A. Melter) **47** #4885 06A40

(*with* Dowling, Thomas A.) Elementary strong maps and transversal geometries. *Hypergraph Seminar* (*Proc. First Working Sem., Ohio State Univ., Columbus, Ohio*, 1972; *dedicated to Arnold Ross*), *pp.* 176–186. *Lecture Notes in Math., Vol.* 411, *Springer, Berlin*, 1974. (Editors) **52** #7938 05B35

(*with* Dowling, Thomas A.) Elementary strong maps and transversal geometries. *Discrete Math.* **7** (1974), 209–224. (Ann Miller) **48** #8275 05B35

(*with* Dowling, Thomas A.) Elementary strong maps between combinatorial geometries. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Roma*, 1973), *Tomo II*, *pp.* 121–152. *Atti dei Convegni Lincei*, *No.* 17, *Accad. Naz. Lincei*, *Rome*, 1976. (From the introduction) **58** #27567 05B35

(*with* Brylawski, Thomas H.) Matroids and combinatorial geometries. *Studies in combinatorics*, *pp.* 179–217. *MAA Studies in Math.*, 17, *Math. Assoc. America, Washington, D.C.*, 1978. (John H. Mason) **58** #21724 05B35

Kelly, E. P., Jr. (*with* Hogan, D. A.) Bounded, conservative, linear operators and the maximal group. II. *Proc. Amer. Math. Soc.* **38** (1973), 298–302. (J. D. Gray) **47** #2386 46L20

(*with* Treese, G. W.) Generalized Fredholm operators and the boundary of the maximal group of invertible operators. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 123–128. (M. Z. Nashed) **56** #12960 47B30 (47A99)

Kelly, Edmund F. Tight equivariant imbeddings of symmetric spaces. *J. Differential Geometry* **7** (1972), 535–548. (O. Loos) **51** #6660 53C35

Cohomology of compact minimal submanifolds. *Michigan Math. J.* **19** (1972), 133–135. (F. Speranza) **47** #5788 53C40

Kelly, F. P. Markov processes and Markov random fields. (French summary) With discussion. Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 2. Invited papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 2, 397–404, 405–408 (1976). (Walter Warmuth) **57** #17867 60J99 (60J25, 60J85)

Networks of queues with customers of different types. *J. Appl. Probability* **12** (1975), *no.* 3, 542–554. (M. L. Chaudhry) **52** #9407 60K25

Networks of queues. *Advances in Appl. Probability* **8** (1976), *no.* 2, 416–432. (F. J. Beutler and Benjamin Melamed) **54** #3877 60K25 (90B15)

(*with* Ripley, B. D.) A note on Strauss's model for clustering. *Biometrika* **63** (1976), *no.* 2, 357–360. (Bùi-Trong-Liêũ) **55** #4375 60G55 (60K35)

On stochastic population models in genetics. *J. Appl. Probability* **13** (1976), *no.* 1, 127–131. (Charles J. Mode) **53** #5037 92A10

Stochastic models with electrical analogues. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 1, 145–151. (Byron J. T. Morgan) **53** #14730 60K99 (94A20)

The departure process from a queueing system. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 2, 283–285. (D. N. Shanbh) **54** #3878 60K25

The asymptotic behaviour of an invasion process. *J. Appl. Probability* **14** (1977), *no.* 3, 584–590. (Prem S. Puri) **58** #24619 60K35

(*with* Ripley, B. D.) Markov point processes. *J. London Math. Soc.* (2) **15** (1977), *no.* 1, 188–192. (J. Fritz) **55** #9334 60K35

Kelly, Gregory M. (*with* MacLane, Saunders) Erratum: "Coherence in closed categories". *J. Pure Appl. Algebra* **1** (1971), *no.* 2, 219. (Editors) **45** #1988 18D15

(*with* MacLane, Saunders) Closed coherence for a natural transformation. *Coherence in categories*, *pp.* 1–28. *Lecture Notes in Math., Vol.* 281, *Springer, Berlin*, 1972. (M. Tierney) **51** #10437 18D15

Many-variable functorial calculus. I. *Coherence in categories*, *pp.* 66–105. *Lecture Notes in Math., Vol.* 281, *Springer, Berlin*, 1972. (M. L. Laplaza) **49** #5126 18D15

An abstract approach to coherence. *Coherence in categories*, *pp.* 106–147. *Lecture Notes in Math., Vol.* 281, *Springer, Berlin*, 1972. (M. L. Laplaza) **49** #5127 18D15

A cut-elimination theorem. *Coherence in categories*, *pp.* 196–213. *Lecture Notes in Math., Vol.* 281, *Springer, Berlin*, 1972. (M. L. Laplaza) **49** #5128 18D15

(*with* Freyd, Peter J.) Categories of continuous functors. I. *J. Pure Appl. Algebra* **2** (1972), 169–191. (M. Tierney) **48** #369 (E **49** #2877) 18A25

(*with* Street, Ross) Review of the elements of 2-categories. *Category Seminar* (*Proc. Sem., Sydney*, 1972/1973), *pp.* 75–103. *Lecture Notes in Math., Vol.* 420, *Springer, Berlin*, 1974. (E. G. Manes) **50** #10010 18D05

On clubs and doctrines. *Category Seminar* (*Proc. Sem., Sydney*, 1972/1973), *pp.* 181–256. *Lecture Notes in Math., Vol.* 420, *Springer, Berlin*, 1974. (M. L. Laplaza) **51** #647 18D05

Doctrinal adjunction. *Category Seminar* (*Proc. Sem., Sydney*, 1972/1973), *pp.* 257–280. *Lecture Notes in Math., Vol.* 420, *Springer, Berlin*, 1974. (A. Shafaat) **50** #13196 18D99

Coherence theorems for lax algebras and for distributive laws. *Category Seminar* (*Proc. Sem., Sydney*, 1972/1973), *pp.* 281–375. *Lecture Notes in Math., Vol.* 420, *Springer, Berlin*, 1974. (M. L. Laplaza) **51** #648 18D05

(*with* Freyd, Peter J.) Erratum: "Categories of continuous functors. I " (J. Pure Appl. Algebra 2 (1972), 169-191). *J. Pure Appl. Algebra* **4** (1974), 121. (Editors) **49** #2877 18A25

(*with* Borceux, Francis) A notion of limit for enriched categories. *Bull. Austral. Math. Soc.* **12** (1975), 49–72. (R. H. Street) **51** #5710 18D20

(*with* Pultr, Aleš) On algebraic recognition of direct-product decompositions. *J. Pure Appl. Algebra* **12** (1978), *no.* 3, 207–224. (Walter Tholen) **58** #16820 18A30 (18C15)

See also **Category Seminar**, **50** #2288

Kelly, J. D. A method for constructing measures appropriate for the study of Cartesian products. *Proc. London Math. Soc.* (3) **26** (1973), 521–546. (W. P. Ziemer) **47** #6974 28A10 (28A35)

The increasing sets lemma, and the approximation of analytic sets from within by compact sets, for the measures generated by method III. *J. London Math. Soc.* (2) **8** (1974), 29–43. (W. P. Ziemer) **49** #9139 28A10

Kelly, James C. Quasiconformal mappings and sets of finite perimeter. *Trans. Amer. Math. Soc.* **180** (1973), 367–387. (W. R. Derrick) **50** #10250 30A60 (28A75)

(*with* Gehring, F. W.) Quasi-conformal mappings and Lebesgue density. *Discontinuous groups and Riemann surfaces* (*Proc. Conf., Univ. Maryland, College Park, Md.*, 1973), *pp.* 171–179. *Ann. of Math. Studies, No.* 79, *Princeton Univ. Press, Princeton, N.J.*, 1974. (T. Kuusalo) **50** #4938 30A60

Kelly, Jerry Stewart Lancaster vs. Samuelson on the shape of the neoclassical transformation surface. *J. Econom. Theory* **1** (1969), 347–351 (1970). (Editors) **54** #2150 90A15

The identification of ratios of parameters in unidentified equations. *Econometrica* **39** (1971), 1049–1051. (G. Tintner) **53** #4439 62P20 (90A15)

Voting anomalies, the number of voters, and the number of alternatives. *Econometrica* **42** (1974), 239–251. (Author's summary) **55** #14083 90A05 (92A20)

Necessity conditions in voting theory. *J. Econom. Theory* **8** (1974), *no.* 2, 149–160. (Prasanta K. Pattanaik) **58** #15007 90A05 (92A20)

Linear cross-equation constraints and the identification problem. *Econometrica* **43** (1975), 125–140. (Author's summary) **55** #13709 62P20

Rights exercising and a Pareto-consistent libertarian claim. *J. Econom. Theory* **13** (1976), *no.* 1, 138–153. (Author's introduction) **58** #32845 90A05

(*with* Blair, Douglas H.; Bordes, Georges; Suzumura, Kotaro) Impossibility theorems without collective rationality. *J. Econom. Theory* **13** (1976), *no.* 3, 361–379. (Maurice Salles) **55** #9828 90A05

Algebraic results on collective choice rules. *J. Math. Econom.* **3** (1976), *no.* 3, 285–293. (Rubin Saposnik) **55** #2063 90A05

Strategy-proofness and social choice functions without singlevaluedness. *Econometrica* **45** (1977), *no.* 2, 439–446. (B. G. Mirkin) **58** #25862 90A05

Kelly, John B. Hypermetric spaces and metric transforms. *Inequalities, III* (*Proc. Third Sympos., Univ. California, Los Angeles, Calif.*, 1969; *dedicated to the memory of Theodore S. Motzkin*), *pp.* 149–158. *Academic Press, New York*, 1972. (L. M. Blumenthal) **49** #3849 54E25 (52A20)

Hypermetric spaces. *The geometry of metric and linear spaces* (*Proc. Conf., Michigan State Univ., East Lansing, Mich.*, 1974), *pp.* 17–31. *Lecture Notes in Math., Vol.* 490, *Springer, Berlin*, 1975. (Ethan D. Bolker) **53** #9161 54E35 (50–XX)

Intersection problems and integral equivalence. *J. Combinatorial Theory Ser. A* **19** (1975), *no.* 3, 301–317. (Edward A. Bender) **52** #438 15A36

Kelly, K. R. (*with* Alford, R. M.; Treitel, S.; Ward, R. W.) Application of finite difference methods to exploration seismology. *Topics in numerical analysis, II* (*Proc. Roy. Irish Acad. Conf., Univ. College, Dublin*, 1974), *pp.* 57–76. *Academic Press, London*, 1975. (Jiří Nedoma) **53** #12516 86.65

Kelly, Leroy M. (*with* Bonnice, W. E.) On the number of ordinary planes. *J. Combinatorial Theory Ser. A* **11** (1971), 45–53. (W. M. Kantor) **45** #1784 05B25

(*with* Rottenberg, Reuven R.) Simple points in pseudoline arrangements. *Pacific J. Math.* **40** (1972), 617–622. (D. Betten) **46** #6150 50D20

(*with* Zaks, J.) On the length of some curves in the unit sphere. *Ann. Polon. Math.* **27** (1973), 313–315. (B. B. Phadke) **48** #7121 52A40

(*with* Nwankpa, S.) Affine embeddings of Sylvester-Gallai designs. *J. Combinatorial Theory Ser. A* **14** (1973), 422–438. (Stanley E. Payne) **47** #3207 05B25 (05B30)

On the equilateral feeble four-point property. *The geometry of metric and linear spaces* (*Proc. Conf., Michigan State Univ., East Lansing, Mich.*, 1974), *pp.* 14–16. *Lecture Notes in Math., Vol.* 490, *Springer, Berlin*, 1975. (B. B. Phadke) **53** #6433 52A50 (46B99)

(*with* Watson, Layne T.) Erratum: "Some perturbation theorems for Q-matrices" (SIAM J. Appl. Math. **31** (1976), no. 2, 379–384) by Watson. *SIAM J. Appl. Math.* **34** (1978), *no.* 2, 320–321. (Editors) **57** #9051 90C05 (15A57)

See also **Geometry of metric and linear spaces**, **52** #9077 *and* **Problems: Geometry of metric and linear spaces**, **53** #6419

Kelly, Lucille (*with* Heed, Joseph J.) An interesting sequence of Fibonacci sequence generators. *Fibonacci Quart.* **13** (1975), 29–30. (D. G. Cantor) **52** #13601 10A10

Kelly, Lucille A. (*with* Heed, Joseph J.) Entry points of the Fibonacci sequence and the Euler ϕ function. *Fibonacci Quart.* **16** (1978), *no.* 1, 47–50. (H. London) **57** #5889 10A35

Kelly, N. (*with* Morris, Sidney A.) Varieties of topological groups generated by groups with invariant compact neighbourhoods of the identity. *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no.* 3, 207–210. (P. S. Mostert) **56** #12166 22A05

Kelly, Patrick A. (*with* Adena, Michael A.; Holton, Derek A.) Some thoughts on the no-three-in-line problem. *Combinatorial mathematics* (*Proc. Second Australian Conf., Univ. Melbourne, Melbourne*, 1973), *pp.* 6–17. *Lecture Notes in Math., Vol.* 403, *Springer, Berlin*, 1974. (Michael Henle) **50** #1890 05A05

Kelly, R. E. (*with* Clever, R. M.; Busse, F. H.) Instabilities of longitudinal convection rolls in Couette flow. (German summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 5, 771–783. (R. K. Gupta) **57** #18482 76.65

(*with* Pal, D.) Thermal convection with spatially periodic boundary conditions: resonant wavelength excitation. *J. Fluid Mech.* **86** (1978), *no.* 3, 433–456. (D. A. Nield) **58** #14313 76.41

Kelly, R. H. On commutative non-self-adjoint operator algebras. *Glasgow Math. J.* **15** (1974), 54–59. (P. A. Fillmore) **51** #8846 46L15 (47A15)

Kelly, Richard W. (*with* Hariharan, P. R.) Ideal limiting of periodic signals in random noise. *IEEE Trans. Aerospace and Electron. Systems* **AES-7** (1971), 644–651. (K. S. Miller) **45** #8384 94A05

chakravarti-Kelm, Monique *See* **Chakravarti-Kelm, Monique**

Kel'man, E. S. *See* **Kelmans, E.**

Kelman, Robert B. Harmonic mixed boundary-value problems in composite rectangular domains. *Quart. J. Mech. Appl. Math.* **23** (1970), *no.*4, 549–566. (Rudolf Gorenflo) **55** #6895 65N99

(*with* Koper, Chester A., Jr.) Least squares approximations for dual trigono series. *Glasgow Math. J.* **14** (1973), 111–119. (From the authors' introduction) **48** #7540 65D15 (45F10)

(*with* Feinerman, Robert P.) The convergence of least squares approximatio dual orthogonal series. *Glasgow Math. J.* **15** (1974), 82–84. (R. P. Srivastav) **52** # (E **52** #6308b) 42A52 (45F10)

(*with* Feinerman, Robert P.) Corrigenda to: "The convergence of least s approximations for dual orthogonal series" (Glasgow Math. J. **15** (1974), 82 *Glasgow Math. J.* **15** (1974), 184. (R. P. Srivastav) **52** #6308b 42A52 (45F10)

(*with* Feinerman, Robert P.) Dual orthogonal series. *SIAM J. Math. Anal.* **5** (489–502. (H. Hochstadt) **50** #7614 33A65 (45F10, 46N05)

(*with* Feinerman, Robert P.) Dual orthogonal series: an abstract approach. *Amer. Math. Soc.* **81** (1975), 733–736. (H. Hochstadt) **51** #6459 47A50 (46C05)

(*with* Simpson, J. Timothy) An algorithm for solving a dual cosine series. *C Math. Appl.* **1** (1975), *no.* 2, 195–199. (R. P. Srivastav) **55** #6147 45F10 (65R

A Dirichlet-Jordan theorem for dual trigonometric series. *Pacific J. Ma* (1975), *no.* 1, 113–123. (R. P. Srivastav) **53** #1136 42A20 (45F10)

A unified theory for classical triple trigonometric series. *Applicable Anal.* **6** (1976/77), *no.* 2, 139–147. (R. L. Cooke) **55** #3664 42A48

(*with* Maheffy, Jonathan P.; Simpson, J. Timothy) Algorithms for classic trigonometric equations. *Comput. Math. Appl.* **3** (1977), *no.* 3, 203–215. (Ghe Micula) **57** #1947 65R05

Perturbational analysis of dual trigonometric series associated with boundary conditions of first and third kind. *Proc. Roy. Soc. Edinburgh Sect. A* **78** (1977/7 3-4, 291–298. (P. M. Gupta) **57** #17150 45F10

(*with* Feinerman, Robert P.) Dual orthogonal series with oscillatory modi *SIAM J. Math. Anal.* **9** (1978), *no.* 4, 591–594. (G. Gasper) **58** #12178 42A6

See also **Influence of computing on mathematical research and education**, **49**

Kelmans, A. K. The properties of the characteristic polynomial of a graph. (Rus *Cybernetics—in the service of Communism, Vol.* 4 (*Russian*), *pp.* 27–41. *Izdat.* "*Ène Moscow*, 1967. (W. Mader) **52** #13450 05C05

Bounds on the probability characteristics of random graphs. *Avtomat. i Tel* **1970**, *no.* 11, 130–137 (*Russian. English summary*); *translated as Automat. R Control* **1970**, *no.* 11, 1833–1839. (C. Berge) **46** #5056 94A20 (05C99)

Questions of analysis and synthesis of probabilistic networks. (Russian) *Proce of the First All-Union Symposium on Statistical Problems in Engineering Cyber* (*Moscow*, 1967): *Adaptive systems, Large systems* (*Russian*), *pp.* 264–273. *Izdat.* "*Nauka*", *Moscow*, 1971. (R. Shirtladze) **52** #7729 94A20

Problems of the analysis and synthesis of probabilistic networks. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engin Cybernetics* (*Tbilisi*, 1968), *Vol.* 5: *Control of production* (*Russian*), *pp.* 94–103, 355. "*Nauka*", *Moscow*, 1972. **48** #8116 94A20

Connectivity of graphs having vertices which drop out randomly. *Avton Telemeh.* **1972**, *no.* 4, 98–106 (*Russian. English summary*); *translated as Automat. R Control* **33** (1972), *no.* 4, *part* 2, 613–620. (Ju. D. Burtin) **54** #7124 94A20

The determination of the eigenvalues of matrices of a certain special form. (Ru *Èkonom. i Mat. Metody* **8** (1972), 266–272. (F. Szidarovszky) **45** #7964 65F15

Asymptotic formulae for the probability of k-connections of random graphs. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 253–265. Penkov) **45** #7772 60C05

The selection of the optimal vertex in a graph. (Russian) *Studies in di mathematics* (*Russian*), *pp.* 151–158. *Izdat.* "*Nauka*", *Moscow*, 1973. (Irinel Dr **53** #5369 05C35 (90B10)

(*with* Čelnokov, V. M.) A certain polynomial of a graph and graphs wit extremal number of trees. *J. Combinatorial Theory Ser. B* **16** (1974), 197–214. (L Beineke) **49** #10597 (E **58** #5372) 05C35

Operations over graphs that increase the number of their trees. (Russian) *Stud discrete optimization* (*Russian*), *pp.* 406–424. *Izdat.* "*Nauka*", *Moscow*, 1976. (A Frank) **56** #5342 05C05

The number of trees of a graph that contains a given forest. (Russian) *Acta M Acad. Sci. Hungar.* **27** (1976), *no.* 1-2, 89–95. (Anton Kotzig) **55** #7820 05C05

Comparison of graphs by their number of spanning trees. *Discrete Math.* **16** (1 *no.* 3, 241–261. (L. Caccetta) **57** #2964 05C05

(*with* Lomonosov, M. V.; Polesskiĭ, V. P.) Minimal coverings in a matroid. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 3, 94–107. (András Re **57** #16112 05B35

The comparison of graphs with respect to the probability of connectedness. (Russian) *Combinatorial and asymptotic analysis, No.* 2 (*Russian*), *pp.* 69–81. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1977. (Editors RŽMat **1978** #12 V1050) **58** #27649 05C99 (60C05)

Erratum: "A certain polynomial of a graph and graphs with an extremal numb trees" (J. Combin. Theory Ser. B **16** (1974), no. 3, 197–214) by the author and V Chelnokov. *J. Combinatorial Theory Ser. B* **24** (1978), *no.* 3, 375. (Editors) **58** #5 05C35

Kelmans, E. (*with* Kacnelsons, L.) Analysis of nonlinear electrical circuits in term constant current by the Fletcher-Powell method. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 14 (*Russian*), *pp.* 36–50. *Izdat.* "*Zina Riga*, 1974. (H. Schwetlick) **51** #11964 94A20 (65K05)

Kel′mans, G. K. (*with* Cypkin, Ja. Z.) An adaptive Bayesian approach. (Russian) *Prob Peredači Informacii* **6** (1970), *no.* 1, 52–59. (Jana Zvárová) **47** #5996 62C10

Some algorithms for the teaching of pattern classification in the presenc transients. (Russian) *Optimization, Operations research, Bionics* (*Russian*), *pp.* 33 268. *Izdat.* "*Nauka*", *Moscow*, 1973. (M. Arató) **49** #8445 68A45

(*with* Ljubčik, L. M.; Poznjak, A. S.) "Variable-basis" method in problem adaptive control of linear systems. *Avtomat. i Telemeh.* **1976**, *no.* 10, 78–93 (*Rus English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 10, *pa* 1533–1546 (1977). (Katsutoshi Tamura) **56** #14957 93C40

(*with* Poznjak, A. S.) Algorithms for control of dynamic systems on the bas ocal optimization. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 5, 194–201 *Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 5, 134–142 (1978). (Vladimir atkovnik) **58** #15628 93E25

anson, Milton L. (*with* Kushner, Harold J.) Stochastic approximation algorithms of he multiplier type for the sequential Monte Carlo optimization of stochastic systems. *IAM J. Control Optimization* **14** (1976), *no.* 5, 827–842. (Authors' summary) 5 #10134 93E25 (90C15)

h, R. G. (*with* Green, D. H.) Some polynomial compositions of nonlinear feedback shift registers and their sequence-domain consequences. *Proc. Inst. Elec. Engrs.* **117** 1970), 1750–1756. (Petre Preoteasa) **46** #10239 68A10

(*with* Green, D. H.) Nonbinary negacyclic code which exceeds Berlekamp's $p-1)/2$ bound. *Electron. Lett.* **7** (1971), 664–665. (E. R. Berlekamp) **49** #4652 94A10

ey, D. W. (*with* Haddad, Abraham) Detection and prediction of a stochastic process having multiple hypotheses. *Information Sci.* **6** (1973), 301–311. (E. Parzen) **51** #15112 93E10

(*with* Haddad, Abraham) Minimax predictors for signals having a bounded kth derivative. *J. Franklin Inst.* **297** (1974), 29–44. (K. S. Miller) **53** #15513 93E10 (94A05)

tenova, R. T. A certain operation on algebras. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 3, 82–84, 93. (B. Węglorz) **52** #5526 08A25 (02H05, 02H13)

Equational compactness of algebras of unary operations. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 5, 82–84, 95. (B. Węglorz) **53** #7909 08A15 (02H10)

On the theory of equationally compact algebras. (Russian) *Collection of questions on mathematics and mechanics, No.* 8 (*Russian*), *pp.* 32–37, 227. *Izdanie Kazah. Gos. Univ., Alma-Ata*, 1976. (Author's summary) **58** #27698 08A25

ton, W. D. (*with* Law, Averill M.) A mean-time comparison of algorithms for the all-pairs shortest-path problem with arbitrary arc lengths. *Networks* **8** (1978), *no.* 2, 97–106. (Rainer Burkard) **58** #9178 90B10

vin, William Thomson, Lord *See* **Watson, C., 52** #13167; **Schreier, W., 56** #54; **Smith, Crosbie, 56** #56; **Sharlin, Harold Issadore, 56** #5167; **Moyer, Donald Franklin, 57** #9420 *and* **Procházková, Eva, 57** #12076

'zon, A. A. (*with* Francuz, A. G.; Kozlovskiĭ, B. V.; Markov, B. P.) Statistical estimation of the quality of recognition systems. (Russian) *Vyčisl. Sistemy No.* 50 (1972), 106–125. (Jana Zvárová) **47** #9910 68A45 (62C10)

The Fourier coefficients and Fourier-Lagrange coefficients of functions of bounded higher variations. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 2, 283–286. (F. Móricz) **51** #13566 42A16

Interpolation on the sphere. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 11(162), 41–46. (V. Veselinov) **54** #13373 41A05

Functions of bounded (m,p)-variation. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **78** (1975), *no.* 3, 533–536. (J. Musielak) **52** #8767 42A16 (26A45, 42A12)

Study of Lagrange interpolation processes under a change in the system of nodes. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 4(167), 126–129. (V. G. Verdiev) **56** #3503 (EA **55/56**) 41A05 (42A12)

Interpolation of functions with bounded p-variation. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no.* 5(192), 131–134. (Paul Nevai) **58** #23251 41A05 (41A10)

dyk K'em *See* **Le Dyk K'em**

embhavi, A. K. (*with* Narlikar, J. V.) Space-time singularities and conformal gravity. *Lett. Nuovo Cimento* (2) **19** (1977), *no.* 13, 517–520. (From the authors' text) **56** #4677 83.53

emeny, John G. (*with* Schleifer, Arthur, Jr.; Snell, J. Laurie; Thompson, Gerald L.) ★Mathematik für die Wirtschaftspraxis. Übersetzung aus dem englischen von Hans-Jürgen Zimmermann. *Walter de Gruyter, Berlin-New York*, 1966. xv+492 *pp.* (Editors) **50** #12501 00A05

(*with* Snell, J. Laurie; Thompson, Gerald L.) ★Úvod do finitní matematiky. (Czech) [Introduction to finite mathematics] Translated from the English by Jaroslav Růžička, Karel Prokop, Štefan Chochol and Jan Chlumský. *SNTL—Nakladatelství Technické Literatury, Prague*; *Nakladatel'stvo Alfa, Bratislava*, 1971. 470 *pp.* (Editors) **50** #12499 00A05

(*with* Schleifer, Arthur, Jr.; Snell, J. Laurie; Thompson, Gerald L.) ★Finite mathematics with business applications. Second edition. *Prentice-Hall, Inc., Englewood Cliffs, N.J.*, 1972. xiii+529 *pp.* (Editors) **50** #12500 00A05

(*with* Schleifer, Arthur, Jr.; Snell, J. Laurie; Thompson, Gerald L.) ★Mathematik für die Wirtschaftspraxis. Übersetzung aus dem englishen von Hans-Jürgen Zimmermann. Zweite verbesserte Auflage. *Walter de Gruyter, Berlin-New York*, 1972. xv+492 *pp.* (Editors) **50** #12502 00A05

(*with* Snell, J. Laurie) ★Mathematical models in the social sciences. Reprint of the 1962 edition. *The MIT Press, Cambridge, Mass.-London*, 1972. vii+145 *pp.* (Editors) **50** #15959 92–01 (90–01)

★Man and the computer. *Charles Scribner's Sons, New York*, 1972. viii+151 *pp.* (Editors) **53** #9692 68–01

What every college president should know about mathematics. *Amer. Math. Monthly* **80** (1973), 889–901. (Editors) **55** #5331 00A05

(*with* Snell, J. Laurie; Thompson, Gerald L.) ★Introduction to finite mathematics. Third edition. *Prentice-Hall, Inc., Englewood Cliffs, N.J.*, 1974. xi+484 *pp.* (Editors) **50** #12498 00A05

(*with* Snell, J. Laurie; Thompson, Gerald L.) ★Einführung in die endliche Mathematik. Übersetzt aus dem Englischen von Ferdinand Lipowsky und Luitgard Sieber. Wirtschaftswissenschaft der Gegenwart, No. III. Mathematische Hilfsmittel. Erster Band. *Fachverlag für Wirtschaftstheorie und Ökonometrie, Ludwigshafen am Rhein*, 1974. vii+386 *pp.* (Editors) **55** #7644 00A05 (90–01)

(*with* Snell, J. Laurie; Knapp, Anthony W.) ★Denumerable Markov chains. Second edition. With a chapter on Markov random fields, by David Griffeath. Graduate Texts in Mathematics, No. 40. *Springer-Verlag, New York-Heidelberg-Berlin*, 1976. xii+484 *pp.* (Editors) **53** #11748 60Jxx (60Gxx)

(*with* Snell, J. Laurie) ★Finite Markov chains. Reprinting of the 1960 original. Undergraduate Texts in Mathematics. *Springer-Verlag, New York-Heidelberg*, 1976. ix+210 *pp.* (Editors) **53** #14670 60J10 (60J20)

Kemer, A. R. (*with* Anan'in, A. Z.) Varieties of associative algebras whose lattices of subvarieties are distributive. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 4, 723–730. (P. M. Cohn) **54** #10104 08A15 (16A48)

A remark on the standard identity. (Russian) *Mat. Zametki* **23** (1978), *no.* 5, 753–757. (V. N. Latysev) **58** #11005 16A38

The Spechtian nature of T-ideals whose condimensions have power growth. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 1, 54–69, 237. (G. Eisenreich) **57** #6070 16A06 (16A62, 16A66)

Kemėšis, P. (*with* Laurinavičius, A.) A mathematical model of a two-dimensional servo system with 2 degrees of freedom. (Russian. Lithuanian and English summaries) *Trudy Akad. Nauk Litov. SSR Ser. B* **1969**, *no.* 2(57), 145–152. (Authors' summary) **48** #5688 93C05

See also **Theory and methods of construction of multivariable control systems, 50** #6585

Kemhadze, G. G. A remark on the convergence of spherical partial sums of the Fourier series of functions of the class $L^p, p>1$. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 2, 277–280. (R. L. Cooke) **52** #3876 42A92

A theorem on the adjustment of a function for a multiple Walsh system. (Russian) Collection of articles on the theory of functions, 8: Boundary problems on the theory of functions. Problems of convergence of multiple Fourier series. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **55** (1977), 15–26. (J. Németh) **58** #23331 42A56

The convergence of spherical partial sums of multiple Fourier-Haar series. (Russian) Collection of articles on the theory of functions, 8: Boundary problems on the theory of functions. Problems of convergence of multiple Fourier series. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **55** (1977), 27–39. (V. M. Kokilašvili) **58** #6909 42A92 (42A56)

The divergence of spherical partial sums of multiple Fourier-Haar series. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 3, 536–539. (W. R. Wade) **56** #12757 42A56

Kemhadze, K. Š. Locally finite groups in which every non-primary proper subgroup is subinvariant. (Russian. Georgian and English summaries) *Sakharth. SSSR Mecn. Akad. Moambe* **73** (1974), 29–32. (L. G. Kovács) **49** #5180 20E25

Infinite groups with a normalizer condition for the nonprimary subgroups. (Russian) *Mat. Zametki* **19** (1976), *no.* 5, 727–734. (David McDougall) **54** #10415 20E25

Finite groups that satisfy the normalizer condition for nonprimary nonabelian subgroups. (Russian) *Group-theoretical studies* (*Russian*), *pp.* 138–153, 159. *Izdat. "Naukova Dumka", Kiev*, 1978. (Sergei A. Syskin) **58** #16874 20D10 (20D30)

Kemhadze, Š. S. (*with* Marčuk, G. I.; Kulikov, L. Ja.; Kargapolov, M. I.; Taĭmanov, A. D.; Plotkin, B. I.; Andrunakievič, V. A.; Eršov, Ju. L.; Janovskiĭ, R. G.; Širšov, A. I.) From speeches at the opening of the Tenth All-Union Algebra Colloquium dedicated to the memory of Academician A. I. Mal'cev. (Russian) *Selected questions of algebra and logic* (*collection dedicated to the memory of A. I. Mal'cev*) (*Russian*), *pp.* 300–314. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1973. (Editors) **58** #21310 01A70

A. I. Mal'cev groups and the radicals connected with them. (Russian. Georgian summary) *Sakharth. SSR Ped. Inst. Šrom. Phiz-Math. Ser.* **1** (1974), 181–199. (R. S. Pierce) **55** #509 20E20

Product and intersection of radical classes of groups. (Russian. Georgian summary) *Sakharth. SSR Ped. Inst. Šrom. Phiz.-Math. Ser.* **2** (1975), 151–156. (From the text) **58** #11124 20E10

Malcev's local theorems, and classes of Kuroš-Černikov groups. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 1, 22–25. (V. A. Artamonov) **53** #5750 20E25

Kèmmerer, V. *See* **Kämmerer, Wilhelm**

Kemp, Adrienne W. (*with* Kemp, C. D.) On mixing processes and the lost-games distribution. (Polish summary) *Zastos. Mat.* **12** (1971), 167–173. (R. Fischler) **47** #1097 60E05

The evaluation of second-order entropy and inaccuracy for certain discrete distributions. (French summary) Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 2. *Bull. Inst. Internat. Statist.* **45** (1973), *no.* 2, 45–51. (Pl. Kannappan) **51** #15192 94A15

On gamma function inequalities. *Skand. Aktuarietidskr.* **1973**, 65–69. (I. Guttman) **49** #10007 62E99

(*with* Kemp, C. D.) A family of discrete distributions defined via their factorial moments. *Comm. Statist.* **3** (1974), 1187–1196. (Authors' summary) **50** #15060 62E10

Kemp, C. D. (*with* Kemp, Adrienne W.) On mixing processes and the lost-games distribution. (Polish summary) *Zastos. Mat.* **12** (1971), 167–173. (R. Fischler) **47** #1097 60E05

(*with* Kemp, Adrienne W.) A family of discrete distributions defined via their factorial moments. *Comm. Statist.* **3** (1974), 1187–1196. (Authors' summary) **50** #15060 62E10

Kemp, Daniel G. A note on smoothability in Banach spaces. *Math. Ann.* **218** (1975), *no.* 3, 211–217. (M. Edelstein) **53** #3650 46B05

Kemp, K. E. (*with* Conover, William Jay) Comparisons of the asymptotic efficiencies of two sample tests for discrete distributions. *Comm. Statist. –Theory Methods* **A5** (1976), *no.* 1, 1–15. (J. V. Deshpande) **53** #14786 62G20

Kemp, K. O. Formal expressions which can be applied to cusum charts. With discussion by G. A. Barnard, A. F. Bissell and M. J. R. Healy. *J. Roy. Statist. Soc. Ser. B* **33** (1971), 331–360. (Author's summary) **47** #4363 62E10 (62N10)

(*with* Speare, P. R. S.) A simplified Reissner theory for plate bending. *Internat. J. Solids and Structures* **13** (1977), *no.* 11, 1073–1079. (S. M. Murthy) **58** #8669 73.35

Kemp, Marilyn J. (*with* Luke, Yudell L.; Ting, Bing Yuan) On generalized Gaussian quadrature. *Math. Comp.* **29** (1975), *no.* 132, 1083–1093. (Henning Esser) **52** #9574 65D30

Kemp, Martin Leonardo and the visual pyramid. *J. Warburg and Courtauld Inst.* **40** (1977), 128–149. (2 *plates*) (H. S. M. Coxeter) **57** #28 01A40

Kemp, Murray C. (*with* Hadley, G.) ★Variational methods in economics. Advanced Textbooks in Economics, Vol. 1. *North-Holland Publishing Co., Amsterdam-London*;

American Elsevier Publishing Co., Inc., New York, 1971. ix+378 *pp.* (S. Cruceanu) **49** #8603 90Axx

(*with* Suzuki, Hideo) International trade with a wasting but possibly replenishable resource. *Internat. Econom. Rev.* **16** (1975), *no.* 3, 712–732. (Wolfgang Mayer) **54** #12175 90A15

(*with* Khang, Chulsoon) On the relationship between commodity prices and gross outputs in a general neo-classical technology. *Internat. Econom. Rev.* **18** (1977), *no.* 1, 241–245. (A. C. Williams) **57** #15333 90A15

Kemp, Paula A. A note on a generalized Möbius function. *J. Natur. Sci. and Math.* **15** (1975), *no.* 1-2, 55–57. (T. M. Apostol) **55** #2726 10A20

Properties of multiplicative functions. *J. Natur. Sci. and Math.* **16** (1976), *no.* 1-2, 51–56. (Donald L. Goldsmith) **58** #10690a 10A20

Extensions of the ring of number theoretic functions. *J. Natur. Sci. and Math.* **16** (1976), *no.* 1-2, 57–60. (Donald L. Goldsmith) **58** #10690b 10A20

*N*th roots of arithmetical functions. *J. Natur. Sci. and Math.* **17** (1977), *no.* 1, 27–30. (Anthony A. Gioia) **58** #477 10A20

Kemp, R. R. D. (*with* Lee, Sung J.) Finite dimensional perturbations of differential expressions. *Canad. J. Math.* **28** (1976), *no.* 5, 1082–1104. (Walter Eberhard) **54** #3077 34B25 (47A55)

Kemp, Rainer An estimation of the set of states of the minimal LR(0)-acceptor. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 563–574. *North-Holland, Amsterdam*, 1973. (H. Maurer) **52** #12425 68A30

Mehrdeutigkeiten kontextfreier Grammatiken. *Automata, languages and programming* (*Second Colloq., Univ. Saarbrücken, Saarbrücken*, 1974), *pp.* 534–546. *Lecture Notes in Comput. Sci., Vol.* 14, *Springer, Berlin*, 1974. (Horst Reichel) **55** #11729 68A30

Die Grösse des zustandsminimalen LR(0)-Analysators. *Automata theory and formal languages* (*Second GI Conf., Kaiserslautern*, 1975), *pp.*223–232. *Lecture Notes in Comput. Sci., Vol.* 33, *Springer, Berlin*, 1975. (Hermann Walter) **53** #4639 68A30 (68A25)

Kempe, Volker ★Theorie stochastischer Systeme. Wahrscheinlichkeitstheoretische Grundlagen der Analyse und Synthese. Wissenschaftliche Taschenbücher, Band 136. *Akademie-Verlag, Berlin*, 1974. 182 *pp.* (Jürgen Groh) **56** #1378 60–01 (93Exx)

(*with* Iwainsky, A.; Ahlbehrendt, N.; Schmelovsky, Karl-Heinz) Identifikation und Extrapolation von Zufallsprozessen auf der Grundlage von Vektor-Markov-Modellen. *Z. Elek. Informations- und Energietech.* **5** (1975), *no.* 5, 376–388. (A. Ja. Dorogovcev) **53** #7576 93E10

★Analyse stochastischer Systeme. Teil 1. Wissenschaftliche Taschenbücher, Reihe Mathematik/Physik, 137. *Akademie-Verlag, Berlin*, 1976. 200 *pp.* (D. M. Sudakov) **58** #33402 93E20 (60H99)

Extrapolation and identification of a component of a linear Markov process. *Avtomat. i Telemeh.* **1976**, *no.* 4, 35–45 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 4, *part* 1, 501–511. (R. S. Bucy) **55** #2302 93E10

(*with* Ahlbehrendt, N.; Iwainsky, A.; Schmelovsky, Karl-Heinz) Identifikation und Extrapolation von Zufallsprozessen auf der Grundlage von Vektor-Markow-Modellen. II. Das Identifikationsproblem. *Z. Elek. Informations- und Energietech.* **6** (1976), *no.* 1, 51–64. (A. Ja. Dorogovcev) **57** #19009a 93E10 (60G25, 60H10)

(*with* Ahlbehrendt, N.) Das Problem der Demodulation verrauschter digitaler Datenflüsse. *Z. Elek. Informations- und Energietech.* **7** (1977), *no.* 5, 449–453. (Hermann J. Helgert) **58** #20758 94A05

Kempe, Walter Über spezielle Bewegungen auf Regelflächen 2. Ordnung. *Wiss. Z. Techn. Hochsch. Ilmenau* **17** (1971), *no.* 2, 81–105. (H. Brauner) **46** #4376 53A05

(*with* Elster, Karl-Heinz) Neuere Ergebnisse in der nichtlinearen Optimierung. *Wiss. Z. Techn. Hochsch. Ilmenau* **20** (1974), *no.* 4-5, 33–59. (W. W. Breckner) **51** #7628 90C30

Kemper, Gene A. (*with* Guzek, Joseph A.) A cubic spline approximate solution of a class of integro-differential equations. *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1971), *pp.* 435–450. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man.*, 1971. (D. F. Mayers) **50** #9018 65R05

Linear multistep methods for a class of functional differential equations. *Numer. Math.* **19** (1972), 361–372. (P. Linz) **47** #6108 65Q05

(*with* Guzek, Joseph A.) A new error analysis for a cubic spline approximate solution of a class of Volterra integro-differential equations. *Math. Comp.* **27** (1973), 563–570. (P. Linz) **49** #1817 65R05

Spline function approximation for solutions of functional differential equations. *SIAM J. Numer. Anal.* **12** (1975), 73–88. (B. I. Kvasov) **54** #11822 65Q05

(*with* Erickson, Leroy V.) Nonnegative Chebyshev solutions of *n*-th order systems of linear equations. *Proceedings of the Sixth Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1976), *pp.* 205–210. *Congress. Numer., XVIII. Utilitas Math., Winnipeg, Man.*, 1977. (Authors' summary) **58** #31788 65F99

See also **Influence of computing on mathematical research and education**, **49** #7058

Kemper, J. (*with* Nessel, Rolf Joachim) Gewichtete Approximation durch variationsvermindernde Operatoren vom Faltungstyp. *Zwei Kapitel aus der Approximationstheorie*, *pp* 5–49. *Forschungsberichte des Landes Nordrhein-Westfalen, No.* 2311, *Westdeutscher Verlag, Opladen*, 1973. (See Zbl **279** #41020; MR **52** #14743) 41A30

See also **Approximationstheorie**, **52** #14743

Kemper, John T. A boundary Harnack principle for Lipschitz domains and the principle of positive singularities. *Comm. Pure Appl. Math.* **25** (1972), 247–255. (R. B. Kelman) **45** #2193 (E **54** #10630) 31B05

Temperatures in several variables: Kernel functions, representations, and parabolic boundary values. *Trans. Amer. Math. Soc.* **167** (1972), 243–262. (L. R. Bragg) **45** #3971 35K05

(*with* Jones, B. Frank, Jr.) The local character of kernel functions in axiomatic potential theory. *Comm. Pure Appl. Math.* **27** (1974), 135–142. (Francis Hirsch) **51** #8447 31D05

On the support of representing measures for harmonic functions. *Rocky Mountain J. Math.* **5** (1975), 375–378. (M. Brelot) **52** #3560 31B10

A correction to: "A boundary Harnack principle for Lipschitz domains and the principle of positive singularities" (Comm. Pure Appl. Math. **25** (1972), 247–2 *Comm. Pure Appl. Math.* **29** (1976), *no.* 5, 555. (R. B. Kelman) **54** #10630 31B

Boundary properties of minimal harmonic functions. *Proc. Amer. Math. Soc* (1976), 193–196. (M. Brelot) **58** #6301 31B25

Kemperman, J. H. B. Moment problems with convexity conditions. I. *Optimizing met in statistics* (*Proc. Sympos., Ohio State Univ., Columbus, Ohio*, 1971), *pp.* 115– *Academic Press, New York*, 1971. (R. A. Horn) **50** #2828 44A50 (60E05)

Product measures for which deviation and minimum are independent. *Sankhyā A* **33** (1971), 271–288. (M. D. Perlman) **46** #2772 62E10 (60E05)

On a class of moment problems. *Proceedings of the Sixth Berkeley Symposiu Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/19 *Vol. II: Probability theory*, *pp.* 101–126. *Univ. California Press, Berkeley, Calif.*, 1972 G. Maloševskiĭ) **55** #4336 60E05 (60G50, 44A50)

Strong converses for a general memoryless channel with feedback. *Transaction the Sixth Prague Conference on Information Theory, Statistical Decision Functi Random Processes* (*Technical Univ. Prague, Prague*, 1971; *dedicated to the memor Antonín Špaček*), *pp.* 375–409. *Academia, Prague*, 1973. (R. Ahlswede) **53** #761 94A15

Moment problems for sampling without replacement. I. *Nederl. Akad. Weten. Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 149–164. (J. Sedransk) **49** #9997a 62

Moment problems for sampling without replacement. II. *Nederl. Akad. Weten. Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 165–180. (J. Sedransk) **49** #9997b 62

Moment problems for sampling without replacement. III. *Nederl. Akad. Weten Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 181–188. (J. Sedransk) **49** #9997c 62

Distributions modulo 1 of slowly changing sequences. *Nieuw Arch. Wisk.* (3) (1973), 138–163. (F. Dress) **52** #8067 10K05 (40C05)

On an oscillating random walk. Colloque Consacré au Calcul des Probabil (Univ. Clermont, Clermont-Ferrand, 1973). *Ann. Sci. Univ. Clermont* **51** (1974), *no* 31–34. (Terence P. Speed) **52** #9382 60J15

On the Shannon capacity of an arbitrary channel. *Nederl. Akad. Wetensch. P Ser. A* **77** = *Indag. Math.* **36** (1974), 101–115. (Suguru Arimoto) **50** #6625 94A0

The oscillating random walk. *Stochastic Processes Appl.* **2** (1974), 1–29. (K. Erickson) **50** #14940 60J15

The ergodic behavior of a class of real transformations. *Stochastic processes related topics* (*Proc. Summer Res. Inst. Statist. Inference for Stochastic Processes, Indi Univ., Bloomington, Ind.*, 1974, *Vol.* 1; *dedicated to Jerzy Neyman*), *pp.* 249–2 *Academic Press, New York*, 1975. (W. Parry) **51** #8372 28A65

The dual of the cone of all convex functions on a vector space. *Aequationes M* **13** (1975), *no.* 1/2, 103–119. (L. Losonczi) **53** #8860 46A99 (26A51)

On the FKG-inequality for measures on a partially ordered space. *Nederl. Ak Wetensch. Proc. Ser. A* 80 = *Indag. Math.* **39** (1977), *no.* 4, 313–331. (Richard Holl **57** #7718 60A10 (28A60, 60K35, 82.60)

Kempf, George R. (*with* Knudsen, Finn; Mumford, David; Saint-Donat, Bernard) ★Toroidal embeddings. I. Lecture Notes in Mathematics, Vol. 339. *Springer-Verl Berlin-New York*, 1973. viii+209 *pp.* (G. Harder) **49** #299 14E15 (14D20, 14E 14M20, 20G15)

On the geometry of a theorem of Riemann. *Ann. of Math.* (2) **98** (1973), 178–1 (H. H. Martens) **50** #2180 14H40 (14K25)

(*with* Laksov, Dan) The determinantal formula of Schubert calculus. *Acta Ma-* **132** (1974), 153–162. (Joel Roberts) **49** #2773 14M15 (14N10, 14M05)

Images of homogeneous vector bundles and varieties of complexes. *Bull. Am Math. Soc.* **81** (1975), *no.* 5, 900–901. (Melvin Hochster) **52** #5689 14M15

Vanishing theorems for flag manifolds. *Amer. J. Math.* **98** (1976), *no.* 2, 325–3 (H. Haar Andersen) **53** #13248 14M15

Linear systems on homogeneous spaces. *Ann. of Math.* (2) **103** (1976), *no.* 557–591. (J. E. Humphreys) **53** #13229 14F05 (14M15)

On the collapsing of homogeneous bundles. *Invent. Math.* **37** (1976), *no.* 3, 229–2 (S. I. Gel'fand) **54** #12799 14M15 (14M10, 14F05)

Some vector bundles on Jacobian varieties. *Proc. Amer. Math. Soc.* **54** (197 179–180. (P. E. Newstead) **52** #11128 32L05 (14K25)

A property of the periods of a Prym differential. *Proc. Amer. Math. Soc.* **54** (197 181–184. (S. Ramanan) **53** #5945 32G20 (14H15, 30A52)

The geometry of homogeneous space versus induced representations of reducti groups. *Algebraic geometry* (*J. J. Sylvester Sympos., Johns Hopkins Univ., Baltimor Md.*, 1976), *pp.* 1–5. *Johns Hopkins Univ. Press, Baltimore, Md.*, 1977. (S. I. Gel'fan **57** #6039 14M15 (20G05)

On algebraic curves. *J. Reine Angew. Math.* **295** (1977), 40–48. (R. F. La **56** #15654 14H99

Some quotient varieties have rational singularities. *Michigan Math. J.* **24** (1977), *n* 3, 347–352. (H. H. Andersen) **58** #10881 14B05

Poincaré and Clifford algebras. *J. Algebra* **52** (1978), *no.* 2, 547–561. (S. I. Gel'fan **58** #5806 17B20 (14M15, 15A66)

Kempf, Wilhelm F. A dynamic model for measuring individual and situative influences social behavior. *Compstat* 1974 (*Proc. Sympos. Computational Statist., Univ. Vienn Vienna*, 1974), *pp.* 193–201. *Physica Verlag, Vienna*, 1974. (Editors) **50** #11692 62P25

Kempfle, S. Eine Dichtebetrachtung bei asymptotischen *S*-Integralen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik un Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, T202–T203. (Berg) **53** #8751 41A60

Kempner, J. *See* **Applied mechanics**, **50** #11914

Kempthorne, Oscar (*with* Pollak, Edward) Malthusian parameters in genetic population I. Haploid and selfing models. *Theoret. Population Biology* **1** (1970), 315–345. (Susa Wilson) **52** #12844 92A10 (92A15)

(*with* Folks, J. Leroy) ★Probability, statistics, and data analysis. *The Iowa Stat University Press, Ames, Iowa*, 1971. xvii+555 *pp.* (M. M. Siddiqui) **47** #9746 62–0

(*with* Zyskind, George; Mexas, A.; Papaioannou, P.; Seely, Justus) ★Linear models, statistical information, and statistical inference. ARL 71-0076. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1971. vii+165 *pp.* (T. Robertson) **48** #1395 62J05 (62B10, 62J10) (*with* Plante, André; Barnard, George A.; Bartholomew, David J.; Bartlett, M. S.; Rubin, Herman; Good, Irving John; Mackay, Jock) Counter-examples and likelihood. With comments by G. A. Barnard, D. J. Bartholomew, M. S. Bartlett, I. J. Good, O. Kempthorne, J. MacKay and H. Rubin and a reply by the author. *Foundations of statistical inference* (*Proc. Sympos., Univ. Waterloo, Waterloo, Ont.*, 1970), *pp.* 357–371. *Holt, Rinehart and Winston of Canada, Toronto, Ont.*, 1971. (James N. Adichie) **52** #6931 62A10

Probability, statistics and the knowledge business. With comments by V. P. Godambe, I. J. Good, H. E. Kyburg and J. W. Pratt and a reply by the author. *Foundations of statistical inference* (*Proc. Sympos., Univ. Waterloo, Waterloo, Ont.*, 1970), *pp.* 470–499. *Holt, Rinehart and Winston of Canada, Toronto, Ont.*, 1971. (Andre Laurent) **52** #4469 62Axx

(*with* Pollak, Edward) Malthusian parameters in genetic populations. II. Random mating populations in infinite habitats. *Theoret. Population Biology* **2** (1971), 357–390. (Susan Wilson) **52** #12845 92A10 (92A15)

Theories of inference and data analysis. *Statistical papers in honor of George W. Snedecor*, *pp.* 167–191. *Iowa State Univ. Press, Ames, Iowa*, 1972. (Author's review (Zbl **241** #62001)) **58** #13426 62A99

(*with* West, Eric N.) A comparison of the chi^2 and likelihood ratio tests for composite alternatives. *J. Statist. Comp. and Simulation* **1** (1972), *no.* 1, 1–33. (M. A. Hamdan) **45** #7869 62F05

George W. Snedecor, 1881–1974. *Internat. Statist. Rev.* **42** (1974), 319–323. (Editors) **52** #7804 01A70

Inference from experiments and randomization. *A survey of statistical design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *pp.* 303–331. *North-Holland, Amsterdam*, 1975. (Adrian F. M. Smith) **51** #11855 62Kxx

George Zyskind (1929–1974). *Amer. Statist.* **29** (1975), 106–107. (Editors) **51** #33 01A70

Fixed and mixed models in the analysis of variance. (French summary) *Biometrics* **31** (1975), 473–486. (Vedula N. Murty) **51** #9385 62J10

Statistics and the philosophers. With a discussion by the author and H. E. Kyburg. *Foundations of probability theory, statistical inference, and statistical theories of science* (*Proc. Internat. Res. Colloq. Univ. Western Ontario, London, Ont.*, 1973), *Vol. II*, *pp.* 273–314. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 6, *Reidel, Dordrecht*, 1976. (R. J. Buehler) **58** #7951 62A99

Of what use are tests of significance and tests of hypothesis? *Comm. Statist.—Theory Methods* **A5** (1976), *no.* 8, 763–777. (Author's summary) **58** #13427 62A99 (62F05)

(*with* Giesbrecht, F.) Maximum likelihood estimation in the three-parameter lognormal distribution. *J. Roy. Statist. Soc. Ser. B* **38** (1976), *no.* 3, 257–264. (Authors' summary) **58** #31539 62F10

(*with* Jordan, Leon) Minaverage bias estimable designs. *Estadística* **31** (1977), *no.* 116, 66–79. (D. V. Chopra) **57** #1783 62K05

Why randomize? *J. Stat. Plann. Inference* **1** (1977), *no.* 1, 1–25. (D. V. Lindley) **58** #24625 62–02 (62Kxx)

See also **Mount, Kenneth S.; et al.**, 45 #1326; **Bartholomew, David J.**, 51 #14325; **Barnard, George A.; et al.**, 52 #1947; **Rubin, Herman**, 52 #1952; **Rao, C. Radhakrishna**, 52 #4482; **Lindley, Dennis V.**, 52 #6932; **Bartlett, M. S.**, 52 #9429; **Whitney, J. B.**, 52 #12130; **Fraser, D. A. S.**, 52 #15747; **Orear, J.; et al.**, 53 #1893; **Savage, Leonard Jimmie**, 53 #7698; **Neyman, Jerzy**, 53 #14737; **Lindley, Dennis V.; et al.**, 54 #3939; **Barnard, George A.**, 54 #11595; **Jaynes, E. T.**, 57 #14201; **Finch, Peter D.**, 58 #24634 *and* **Kiefer, Jack C.**, 58 #24638

Kempton, A. J. Acoustic scattering by density gradients. *J. Fluid Mech.* **83** (1977), *no.* 3, 495–508. (Joseph J. Roseman) **58** #8758 76.41

Kempton, R. A. A generalized form of Fisher's logarithmic series. *Biometrika* **62** (1975), 29–38. (Maxwell W. Layard) **52** #12282 62P10 (62E10)

Kemter, D. Notwendige Optimalitätsbedingungen für zwei Probleme der optimalen Steuerung mit Integralgleichungen als Nebenbedingungen. Sonderheft gewidmet dem 200. Geburtstag von C. F. Gauss. *Wiss. Z. Techn. Hochsch. Ilmenau* **23** (1977), *no.* 4, 81–92. (See Zbl **353** #49022) 49B35

Kemurdžian, A. L. (*with* Avotin, E. V.; Spak, F. P.) Study of the stability of a nonlinear dynamical system from kinematic and energy criteria. (Russian) *Prikl. Meh.* **10** (1974), *no.* 6, 49–55, 141. (Authors' summary) **54** #9199 70.34

Kenan, Richard P. Comment on: "Approximate closed form solution for the error function" (Amer. J. Phys. **43** (1975), no. 4, 366–367 by R. Menzel). *Amer. J. Phys.* **44** (1976), *no.* 6, 592. (Editors) **58** #31732 65D15

Kencedal, S. A. (*with* Maksimov, Ju.) The minimization of a certain class of nonconvex functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 4, 67–71. (Jürgen Guddat) **52** #16019 65K05

Kendall, David G. An introduction to stochastic analysis. *Stochastic analysis* (*a tribute to the memory of Rollo Davidson*), *pp.* 3–43. *Wiley, London*, 1973. (H. Kesten) **51** #1888 60–02

(*with* Davidson, Rollo) On partly exponential *p*-functions, and "identifying" skeletons. *Stochastic analysis* (*a tribute to the memory of Rollo Davidson*), *pp.* 248–251. *Wiley, London*, 1973. (A. M. Sykes) **51** #1974 60J35

On the non-occurence of a regenerative phenomenon in given intervals. *Stochastic analysis* (*a tribute to the memory of Rollo Davidson*), *pp.* 294–308. *Wiley, London*, 1973. (Joseph Horowitz) **50** #14946 60J25

Separability and measurability for stochastic processes: a survey. *Stochastic analysis* (*a tribute to the memory of Rollo Davidson*), *pp.* 415–443. *Wiley, London*, 1973. (David Williams) **51** #6943 60G05

(*with* Harding, E. F.) Rollo Davidson: 1944–1970. *Stochastic analysis* (*a tribute to the memory of Rollo Davidson*), *pp.* 449–452. *Wiley, London*, 1973. (Editors) **50** #9500 01A70 (60–03)

Data-analytic problems in archaeology and history. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *pp.* 381–388. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (I. J. Good) **51** #7224 62P25

An introduction to stochastic geometry. *Stochastic geometry* (*a tribute to the memory of Rollo Davidson*), *pp.* 3–9. *Wiley, London*, 1974. (L. A. Santalo) **50** #11368 60D05

Foundations of a theory of random sets. *Stochastic geometry* (*a tribute to the memory of Rollo Davidson*), *pp.* 322–376. *Wiley, London*, 1974. (P. M. Lee) **54** #11443 60D05 (60G05)

(*with* Harding, E. F.) Rollo Davidson: 1944–1970. *Stochastic geometry* (*a tribute to the memory of Rollo Davidson*), *pp.* 381–384. *Wiley, London*, 1974. (Editors) **50** #9499 01A70 (60–03)

Noel Bryan Slater. *Bull. London Math. Soc.* **6** (1974), 354–369. (1 *plate*) (Editors) **49** #8800 01A70

Obituary: Paul Lévy. *J. Roy. Statist. Soc. Ser. A* **137** (1974), 259–260. (Editors) **52** #7805 01A70

Pole-seeking Brownian motion and bird navigation. With discussion by Violet Cane, J. A. Nelder, K. V. Mardia, John Kent, Trevor Williams, G. J. G. Upton, G. E. H. Reuter, R. M. Cormack, T. Lewis, R. Loynes, Jill Siegerstetter, H. Soloman, M. A. Stephens and David Williams. *J. Roy. Statist. Soc. Ser. B* **36** (1974), 365–417. (P. Holgate) **54** #11537 60J70 (92A05)

Some problems in mathematical genealogy. *Perspectives in probability and statistics* (*papers in honour of M. S. Bartlett on the occasion of his 65th birthday*), *pp.* 325–345. *Applied Probability Trust, Univ. Sheffield, Sheffield*, 1975. (Anthony G. Pakes) **54** #8904 60J80

The genealogy of genealogy: branching processes before (and after) 1873. With a French appendix containing Bienaymé's paper of 1845. *Bull. London Math. Soc.* **7** (1975), *no.* 3, 225–253. (E. Seneta) **54** #14132 60J80 (60–03)

Review lecture: the recovery of structure from fragmentary information. *Philos. Trans. Roy. Soc. London Ser. A* **279** (1975), *no.* 1291, 547–582. (Author's summary) **56** #16980 62P99

Obituary: Maurice Fréchet, 1878–1973. *J. Roy. Statist. Soc. Ser. A* **140** (1977), *no.* 4, 566. (Editors) **58** #86 01A70

See also **Sibson, Robin**, 49 #1628; **McNeil, Donald R.; et al.**, 49 #6390; **Stochastic analysis**, 50 #3283; **Stochastic geometry**, 50 #3284; **Keane, M. S.**, 50 #3293; **Davidson, Rollo**, 51 #1906 (EA 52) ; **Davidson, Rollo**, 51 #1952; **Mardia, K. V.**, 53 #6811; **Davidson, Rollo**, 54 #8881 *and* **Place of astronomy in the ancient world**, 57 #15838

Kendall, Kenneth E. (*with* Zionts, Stanley) Solving integer programming problems by aggregating constraints. *Operations Res.* **25** (1977), *no.* 2, 346–351. (Jeremy F. Shapiro) **56** #2370 90C10

Kendall, Maurice G. Studies in the history of probability and statistics. XIII. Isaac Todhunter's *History of the mathematical theory of probability*. *Biometrika* **50** (1963), 204–205. **47** #2697 62–03

Studies in the history of probability and statistics. XVIII. Thomas Young on coincidences. *Biometrika* **55** (1968), 249–250. (Author's summary) **47** #2700 62–03

(*with* Buckland, William R.) ★A dictionary of statistical terms. Third edition, revised and enlarged. *Published for the International Statistical Institute by Hafner Publishing Co., Inc., New York*, 1971. xi + 166 *pp.* (Editors) **50** #11540 62–XX (00A20)

Cluster analysis. *Studi di probabilità, statistica e ricerca operativa in onore di Giuseppe Pompilj*, *pp.* 558–567. *Edizioni Oderisi, Gubbio*, 1971. (M. Knott) **50** #8836 62H30 (68A45)

Studies in the history of probability and statistics. XXVI. The work of Ernst Abbe. *Biometrika* **58** (1971), 369–373. (Author's summary) **47** #2705 (E **49** #1629) 62–03

(*with* Moran, P. A. P.) ★Геометрические вероятности. (Russian) [Geometrical probability] Translated from the English by R. V. Ambarcumjan. Edited by Ju. V. Prohorov. *Izdat. "Nauka", Moscow*, 1972. 192 *pp.* (Editors) **50** #3296 60D05

Cluster analysis. *Frontiers of pattern recognition* (*Proc. Internat. Conf., Univ. Hawaii, Honolulu, Hawaii*, 1971), *pp.* 291–309. *Academic Press, New York*, 1972. (W. H. Schoendorf) **53** #2067 68A45 (62H30)

The history and future of statistics. *Statistical papers in honor of George W. Snedecor*, *pp.* 193–210. *Iowa State Univ. Press, Ames, Iowa*, 1972. (R. J. Buehler) **56** #9749 62–03 (01A60)

Corrections and amendments: "Studies in the history of probability and statistics. XXVI. The work of Ernst Abbe" (Biometrika **58** (1971), 369–373). *Biometrika* **59** (1972), 498. (Editors) **49** #1629 62–03

★Time-series. *Hafner Press, New York*, 1973. xi + 197 *pp.* (P. H. Diananda) **52** #12268 62M10

(*with* Stuart, Alan) ★The advanced theory of statistics. Vol. 2. Inference and relationship. Third edition. *Hafner Publishing Co., New York*, 1973. x + 723 *pp.* (Editors) **57** #14198 62–02

(*with* Stewart, Alan) ★Многомерный статистический анализ и временные ряды. (Russian) [Multivariate statistical analysis and time series] Translated from the English by È. L. Presman and V. I. Rotar′. Edited by A. N. Kolmogorov and Ju. V. Prohorov. *Izdat. "Nauka", Moscow*, 1976. 736 *pp.* (Editors) **56** #1515 62–02

(*with* Stuart, Alan) ★The advanced theory of statistics. Vol. 3. Design and analysis, and time-series. Third edition. *Hafner Press* [*Macmillan Publishing Co., Inc.*], *New York*, 1976. x + 585 *pp.* *ISBN* 0-02-847640-9 (Editors) **57** #7819 62–02

(*with* Stuart, Alan) ★The advanced theory of statistics. Vol. 1. Distribution theory. Fourth edition. *Macmillan Publishing Co., Inc., New York*, 1977. xii + 472 *pp.* *ISBN* 0-02-847630-1 (Editors) **57** #7820 62–02

See also **Kotz, Samuel**, 50 #11541; **Statistical papers of George Udny Yule**, 50 #12627; **Studies in the history of statistics and probability**, 51 #1889; **Brown, R. Leonard; et al.**, 51 #14478; **Barnett, Vic**, 56 #4060; **Discriminant analysis and applications**, 57 #17959 *and* **Studies in the history of statistics and probability**, 58 #31477

Kendall, Peter C. (*with* Bourne, Donald E.) ★Vector analysis. Oldbourne Mathematical Series. *Oldbourne, London*, 1967. ix + 219 *pp.* (Editors) **50** #7425 26–01

(*with* Bourne, Donald E.) ★Vektoranalysis. Übersetzung aus dem Englischen von I. Fuchs. Teubner Studienbücher: Physik. *B. G. Teubner, Stuttgart*, 1973. 227 *pp.* (Editors) **50** #7426 26–01

Kendall, Richard P. (*with* Wheeler, Mary Fanett) A Crank-Nicolson-H^{-1}-Galerkin procedure for parabolic problems in a single-space variable. *SIAM J. Numer. Anal.* **13** (1976), *no.* 6, 861–876. (F. M. Pascal) **58** #13785 65N30

Kendall, William B. A new algorithm for computing correlations. *IEEE Trans. Computers*

C-23 (1974), 88–90. (Forbes D. Lewis) **50** #15018 62-04

Kendel′, V. G. The choice of an optimality criterion for automatic control systems. (Russian) *Točn. i Nadežn. Kibernet. Sistem No.* 1 (1973), 53–58, 134. (Russell D. Rupp) **50** #14432 49B99

See also **Cybernetics and computer technology**, **48** #1517

Kendell, Peter J. (*with* Anderson, R. L.) An estimation problem in life-testing. *Technometrics* **13** (1971), 289–301. (M. A. Hamdan) **47** #2771 62N05

(*with* Boardman, Thomas J.) Estimators for the parameters of a binomial mixture of grouped-censored exponentials—useful in life testing problems. *Comm. Statist.* **2** (1973), 29–44. (D. A. Sprott) **48** #5233 62F10 (62N05)

Kenderov, Pet″r S. (*with* Geĭler, V. A.) The completeness of a quotient group. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), *no.* 5, 32–33. (K. A. Ross) **45** #2080 22A05

Continuity of multivalued mappings, and differentiability of convex functions. (Russian. English summary) *Annuaire Univ. Sofia Fac. Math.* **66** (1971/72), 163–168 (1974). (P. Mankiewicz) **53** #6320 46G05 (58C20)

The continuity of multivalued mappings. (Russian) *C. R. Acad. Bulgare Sci.* **26** (1973), 735–738. (E. Halfar) **48** #9648 54C60

A certain optimal property of the square. (Russian) *C. R. Acad. Bulgare Sci.* **26** (1973), 1143–1146. (E. Hertel) **51** #6593 52A40

Quasidifferentiable functionals are differentiable almost everywhere. (Bulgarian. Russian and English summaries) *Mathematics and mathematical education* (*Proc. Second Spring Conf. Bulgarian Math. Soc., Vidin*, 1973) (*Bulgarian*), *pp.* 123–126. *Izdat. B″lgar. Akad. Nauk., Sofia*, 1974. (S. Fučík) **50** #991 46G05

The set-valued monotone mappings are almost everywhere single-valued. *C. R. Acad. Bulgare Sci.* **27** (1974), 1173–1175. (Simeon Reich) **50** #10913 47H05

A note on multivalued monotone mappings. *C. R. Acad. Bulgare Sci.* **28** (1975), *no.* 5, 583–584. (Simon Reich) **51** #11203 47H05

Semi-continuity of set-valued monotone mappings. *Fund. Math.* **88** (1975), *no.* 1, 61–69. (S. T. Lin) **52** #1620 54C60 (46G05)

Points of single-valuedness of multivalued metric projections. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 6, 773–775. (P. K. Geetha) **55** #958 41A65

Semi-continuity of set-valued mappings with respect to two topologies. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 11, 1563–1565. (V. V. Miškin) **55** #6356 54C60

(*with* Robert, Raoul) Nouveaux résultats génériques sur les opérateurs monotones dans les espaces de Banach. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 16, *A*ii, *A*845–*A*847. (Norman Dancer) **53** #11436 47H05

Points of single-valuedness of multivalued monotone mappings in finite dimensional spaces. *Serdica* **2** (1976), *no.* 2, 160–164. (K. Goebel) **57** #17390 47H05 (58C99)

Multivalued monotone mappings are almost everywhere single-valued. *Studia Math.* **56** (1976), *no.* 3, 199–203. (C. P. Gupta) **55** #1151 47H05

Monotone operators in Asplund spaces. *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 7, 963–964. (D. Pascali) **57** #3919 47H05

Uniqueness on a residual part of best approximations in Banach spaces. *PLISKA Studia Math. Bulgar.* **1** (1977), 122–127. (S. V. Ovčinnikov) **58** #1927 41A65

Kendig, Keith Tangent cones to real analytic varieties. *Indiana Univ. Math. J.* **22** (1972/73), 379–391. (M. Herrera) **46** #5669 32C25 (32C05)

★Elementary algebraic geometry. Graduate Texts in Mathematics, No. 44. *Springer-Verlag, New York-Berlin*, 1977. viii+309 *pp.* (J.-E. Bertin) **56** #5537 14-01

Kendirli, B. An example of a topological group. *Comment. Math. Prace Mat.* **15** (1971), 1–2. (S. A. Morris) **46** #9222 22A05

Kendrick, Charles T. On products of Fréchet spaces. *Math. Nachr.* **65** (1975), 117–123. (Gary Richardson) **50** #14622 54A05

Kendrick, David (*with* Athans, Michael) Control theory and economics: a survey, forecast, and speculations. *IEEE Trans. Automatic Control* **AC-19** (1974), 518–524. (Ivar Ekeland) **54** #14747 (E **56** #10808) 90A15

Kendrick, David A. (*with* Davis, Ronald E.; Weitzman, Martin L.) A branch-and-bound algorithm for zero-one mixed integer programming problems. *Operations Res.* **19** (1971), 1036–1044. (J. Fichefet) **45** #9684 90C10

See also **Frontiers of quantitative economics**, **54** #6896 *and* **Gupta, Madan M.**, **56** #10808

Kendžaev, I. K. The Fourier series with respect to eigenfunctions of a selfadjoint second order elliptic operator. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **14** (1971); *no.* 5, 9–11. (V. V. Barkovskiĭ) **45** #749 35P10 (42A60)

The second boundary value problem for hyperbolic equations. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **15** (1972), *no.* 5, 9–12. (O. John) **46** #9535 35L05 (46E35)

The representation of the Green's function of the biharmonic operator by convergent bilinear series. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **17** (1974), *no.* 2, 7–10. (A. Haimovici) **49** #11041 35J40

A certain method for the summability of Fourier series in eigenfunctions. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **17** (1974), *no.* 7, 3–6. (G. Wildenhain) **51** #3723 35P10

Kenelly, John W. (*with* Lawrence, J. F.; Hare, William R.) Finite unions of convex sets. *Proc. Amer. Math. Soc.* **34** (1972), 225–228. (John W. Green) **45** #1040 52A05 (46A15)

Kenesbaev, I. K. *See* **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **56** #5132

Kengerlinskiĭ, G. A. (*with* Buherovič, N. G.) Informational aspects of hierarchic control. (Russian) *Questions on engineering cybernetics* (*Russian*), *pp.* 59–65. *Izdat. "Èlm", Baku*, 1975. (From the authors' text) **55** #2213 93B10

Kenig, Carlos E. (*with* Porta, Horacio) Weak continuity of Banach algebra products. *Bull. Amer. Math. Soc.* **81** (1975), 605–608. (M. Rosenfeld) **51** #3904 46H05

(*with* Porta, Horacio) Weak star and bounded weak star continuity of Banach algebra products. *Studia Math.* **59** (1976/77), *no.* 2, 107–124. (J. P. Eckmann (Zbl **359** #46018)) **58** #30255 46H05

Kenig, Diter *See* **König, Dieter**

Kenigson, V. N. *See* **Mathematics and mechanics**, **48** #17

Kenjale, P. S. (*with* Sethi, A. S.; Rajaraman, V.) An error-correcting coding schen alphanumeric data. *Information Processing Lett.* **7** (1978), *no.* 2, 72–77. (Tai Hwang) **58** #20798 94A10

Kenkel, James L. Some small sample properties of Durbin's tests for serial correlati regression models containing lagged dependent variables. *Econometrica* **42** (763–769. (Author's introduction) **55** #13692 62M10

Kenkre, V. M. The generalized master equation and its applications. *Statistical mec and statistical methods in theory and application* (*Proc. Sympos., Univ. Rochester, Rochester, N.Y.*, 1976), *pp.* 441–461. *Plenum, New York*, 1977. (James McDo **58** #20124 82.60

(*with* Seshadri, Vanamamalai) Theory of the interplay of luminescence and vibrational relaxation: a master-equation approach. *Phys. Rev. A* (3) **17** (1978), 223–237. (G. Papanicolaou) **57** #2390 82.60

Kenku, M. A. Determination of the even discriminants of complex quadratic fiel class-number 2. *Proc. London Math. Soc.* (3) **22** (1971), 734–746. (H. Yokoi) **47** # 12A25 (12A50, 12A65)

Rational 2^n-torsion points on elliptic curves defined over quadratic fields. *J. Lo Math. Soc.* (2) **11** (1975), *no.* 1, 93–98. (Kuang-yen Shih) **52** #413 14G25 (1

On the *L*-function of quadratic forms. *J. Reine Angew. Math.* **276** (1975), 3 (H. M. Stark) **51** #12793 12A70 (10D25)

A note on involutory Weil curves. *Quart. J. Math. Oxford Ser.* (2) **27** (1976 108, 401–405. (Jacques Vélu) **55** #10390 10D05 (14G25)

Atkin-Lehner involutions and class number residuality. *Acta Arith.* **33** (1977), 1–9. (M. Fried) **58** #601 12A90 (10D05, 14H15)

Kenmochi, Nobuyuki On the existence of solutions of some non-linear parabolic equati *J. Sci. Hiroshima Univ. Ser. A-I Math.* **34** (1970), 355–366. (V. G. Sigillito) **45** #23 35K55

Existence theorems for certain nonlinear equations. *Hiroshima Math. J.* **1** (1 435–443. (E. Beckenstein) **47** #9381 47H15

Accretive mappings in Banach spaces. *Hiroshima Math. J.* **2** (1972), 163–177. (Webb) **48** #4847 47H05

On the *m*-accretiveness of nonlinear operators in Banach spaces. *Hiroshima J.* **2** (1972), 299–311. (G. F. Webb) **48** #4848 47H05

Remarks on the *m*-accretiveness of nonlinear operators. *Hiroshima Math.* (1973), 61–68. (K. Goebel) **49** #1240 47H05

Nonlinear operators of monotone type in reflexive Banach spaces and nonli perturbations. *Hiroshima Math. J.* **4** (1974), 229–263. (D. Pascali) **52** #4043 47

(*with* Mizuta, Yoshihiro) The gradient of a convex function on a regular functi space and its potential theoretic properties. *Hiroshima Math. J.* **4** (1974), 743– (Peter A. Fowler) **50** #13581 31D05

The semi-discretisation method and nonlinear time-dependent parabolic variati inequalities. *Proc. Japan Acad.* **50** (1974), 714–717. (Sadakazu Aizawa) **51** #112 47H15 (35R20)

(*with* Ôharu, Shinnosuke) Difference approximation of nonlinear evolution equations and semigroups of nonlinear operators. *Publ. Res. Inst. Math. Sci.* (1974/75), *no.* 1, 147–207. (G. F. Webb) **52** #9022 47H15 (34G05)

(*with* Nagai, Toshitaka) Weak solutions for certain nonlinear time-dependent parabolic variational inequalities. *Hiroshima Math. J.* **5** (1975), *no.* 3, 525–535. (H Beirão da Veiga) **52** #15149 47H15 (35R20)

Some nonlinear parabolic variational inequalities. *Israel J. Math.* **22** (1975), *no.* 304–331. (Hugo Beirã/ da Veiga) **53** #3505 35K99 (47H15)

Pseudomonotone operators and nonlinear elliptic boundary value problems. *Math. Soc. Japan* **27** (1975), 121–149. (Piero Bassanini) **51** #8628 35J65 (47H1

(*with* Mizuta, Yoshihiro) Potential theoretic properties of the gradient of a con function on a functional space. *Nagoya Math. J.* **59** (1975), 199–215. (Bruce Calv **52** #15128 47H05

(*with* Takahashi, Todayosu) On the global existence of solutions of differen equations on closed subsets of a Banach space. *Proc. Japan Acad.* **51** (1975), *no* 520–525. (J. E. Lagnese) **52** #3685 34G05

On certain nonlinear parabolic variational inequalities in Hilbert spaces. Functional analysis and numerical analysis for nonlinear problems (Proc. Sympos., R Inst. Math. Sci., Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* (1975), 88–96. (P. P. Zabreĭko) **58** #18007 47H15

Initial boundary value problems for nonlinear parbolic partial differential equatio (Italian summary) *Boll. Un. Mat. Ital. B* (5) **13** (1976), *no.* 1, 1–18. (Howard A. Levi **54** #10856 35K20

Nonlinear evolution equations with variable domains in Hilbert spaces. *Proc. Jap Acad. Ser. A Math. Sci.* **53** (1977), *no.* 5, 163–166. (From the text) **58** #2381 47H15

Nonlinear parabolic variational inequalities with time-dependent constraints. *Pr Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 6, 186–189. (P. P. Zabreĭko) **58** #1255 47H15 (34G05)

Kenmotsu, Katsuei Some results for an orientable 5-dimensional submanifold of R *Tôhoku Math. J.* (2) **23** (1971), 59–65. (C. S. Houh) **45** #1083 53C40

Integral formula of isometric immersions. Commemoration volumes for Prof. Akitsugu Kawaguchi's seventieth birthday, Vol. III. *Tensor* (*N.S.*) **26** (1972), 217–2 (K. Nomizu) **48** #12418 53C40

A class of almost contact Riemannian manifolds. *Tôhoku Math. J.* (2) **24** (197 93–103. (S. Takizawa) **47** #7648 53C15

On compact minimal surfaces with non-negative Gaussian curvature in a space constant curvature. I. *Tôhoku Math. J.* (2) **25** (1973), 469–479. (Juergen Kern) **51** #1680 53C40

On tori with parallel mean curvature vector in a space of constant curvature. *Ma Ann.* **208** (1974), 155–159. (Bang-yen Chen) **49** #3780 53C40

A characterization of bipolar minimal surfaces in S^4. *Tôhoku Math. J.* (2) (1974), 587–598. (R. Osserman) **50** #14436 53A10 (49F10)

On a parametrization of minimal immersions of R^2 into S^5. *Tôhoku Math. J.* (2) (1975), 83–90. (Juergen Kern) **51** #1681 53C40

On compact minimal surfaces with non-negative Gaussian curvature in a space constant curvature. II. *Tôhoku Math. J.* (2) **27** (1975), *no.* 3, 291–301. (Robert Reill

58 #24136 53C40

On minimal immersions of R^2 into S^N. *J. Math. Soc. Japan* **28** (1976), *no.* 1, 182–191. (João Lucas Marques Barbosa) **53** #9012 49F10 (53C40)

On Laplacians of higher fundamental tensors of a submanifold in a space of constant curvature. *Math. Ann.* **222** (1976), *no.* 1, 1–6. (K. Nomizu) **53** #14356 53C40

nard, Robert W. (*with* Hoerl, Arthur E.) A note on a power generalization of ridge regression. *Technometrics* **17** (1975), 269. (Burt S. Holland) **51** #7168 62J05

(*with* Hoerl, Arthur E.) Comments on: "Simulation and extension of a minimum mean squared error estimator in comparison with Stein's" (Technometrics **18** (1976), no. 4, 491–496) by H. D. Vinod. *Technometrics* **19** (1977), *no.* 1, 105. (Stanley L. Sclove) **55** #11511b 62J05

nebrock, W. A difference scheme for the numerical solution of the Boltzmann-equation. *Methoden und Verfahren der mathematischen Physik, Band* 16, *pp.* 91–103. *Bibliographisches Inst., Mannheim*, 1976. (L. Fox) **54** #2072 82.65 (65R05)

nedy, Daniel Majors of geometric strong maps. *Discrete Math.* **12** (1975), *no.* 4, 309–340. (Thomas Brylawski) **56** #165 05B35

nedy, Douglas P. Rates of convergence for queues in heavy traffic. I. *Advances in Appl. Probability* 4 (1972), 357–381. (W. Whitt) **49** #4118 60K25

Rates of convergence for queues in heavy traffic. II. Sequences of queueing systems. *Advances in Appl. Probability* 4 (1972), 382–391. (W. Whitt) **49** #4119 60K25

Estimates of the rates of convergence in limit theorems for the first passage times of random walks. *Ann. Math. Statist.* **43** (1972), 2090–2094. (C.-G. Esseen) **51** #1918 60F05 (60G50)

The continuity of the single server queue. *J. Appl. Probability* **9** (1972), 370–381. (D. L. Iglehart) **49** #6406 60K25

A note on the number of busy servers in a $GI/G/s$ queue in light traffic. *J. Appl. Probability* **9** (1972), 868–869. (D. L. Iglehart) **50** #5979 60K25

The error term in limit theorems for storage models. *Inventory control and water storage* (*Proc. Conf., Gyór*, 1971), *pp.* 151–168. *Colloq. Math. Soc. János Bolyai, No.* 7, *North-Holland, Amsterdam*, 1973. (D. L. Iglehart) **49** #6419 60K30

Limit theorems for finite dams. *Stochastic Processes Appl.* **1** (1973), 269–278. (W. Whitt) **50** #15000 60K30 (60F05)

Limiting diffusions for the conditioned $M/G/1$ queue. *J. Appl. Probability* **11** (1974), 355–362. (D. L. Iglehart) **51** #2012 60K25

The Galton-Watson process conditioned on the total progeny. *J. Appl. Probability* **12** (1975), *no.* 4, 800–806. (Anthony G. Pakes) **52** #6901 60J80

The distribution of the maximum Brownian excursion. *J. Appl. Probability* **13** (1976), *no.* 2, 371–376. (Walter J. Hendricks) **53** #6769 60J65

Some martingales related to cumlative sum tests and single-server queues. *Stochastic Processes Appl.* **4** (1976), *no.* 3, 261–269. (Peter J. Brockwell) **54** #8846 60G45 (60J15, 60K25, 60J65)

On sets of countable non-negative matrices and Markov decision processes. *Adv. Appl. Probab.* **10** (1978), *no.* 3, 633–646. (A. A. Juškevič) **58** #10966 15A48 (60J05, 90C40)

ennedy, E. S. An early method of successive approximations. *Centaurus* **13** (1968/69), *no.* 3-4, 248–250. (See Zbl **192**, 319) 65–03 (01A30)

(*with* Faris, Nazim) The solar eclipse technique of Yaḥyā B. Abī Manṣūr. *J. Hist. Astronom.* **1** (1970), *no.* 1, 20–38. (From the introduction) **58** #26789 01A30

The equatorium of Abū al-Ṣalt. (Italian summary) *Physis—Riv. Internaz. Storia Sci.* **12** (1970), *no.* 1, 73–81. (Author's summary) **58** #21049 01A30

(*with* Pingree, David) ★The *Astrological history* of Māshā'allāh. Foreword by John E. Murdoch. Harvard Monographs in the History of Science. *Harvard University Press, Cambridge, Mass.*, 1971. xiv + 206 *pp.* (Editors) **57** #9401 01A30

★A commentary upon Bīrūnī's *Kitāb Taḥdīd al-Amākin*. An 11th century treatise on mathematical geography. *American University of Beirut, Beirut*, 1973. xx + 270 *pp.* (1 *foldout*) (A. Ahmedov) **58** #15845 01A30

(*with* 'Id, Yusuf) A letter of al-Bīrūnī: Ḥabash al-Ḥāsib's analemma for the gibla. (French and Arabic summaries) *Historia Math.* **1** (1974), *no.* 1, 3–11. (Authors' summary) **57** #15846 01A30

Kennedy, E. W. An elementary proof of the Frobenius factorization theorem for differential equations. *Canad. Math. Bull.* **17** (1974), *no.* 3, 379–380; *correction, ibid.* **17** (1974), *no.* 4, 623. (G. J. Etgen) **51** #10733 34A30

Kennedy, Frederick James (*with* Razavy, M.) Generalized phase space formulation of the Hamiltonian dynamics. (French summary) *Canad. J. Phys.* **52** (1974), 1532–1546. (Authors' summary) **51** #4777 70.46

Kennedy, Gerard (*with* Dowker, J. S.) Finite temperature and boundary effects in static space-times. *J. Phys. A* **11** (1978), *no.* 5, 895–920. (Richard Hansen) **57** #18709 83.49 (58G10)

Kennedy, Hubert C. The origins of modern axiomatics: Pasch to Peano. *Amer. Math. Monthly* **79** (1972), 133–136. (N. C. A. da Costa) **46** #7 01A55

What Russell learned from Peano. *Notre Dame J. Formal Logic* **14** (1973), 367–372. (K. Inoue) **47** #8226 01A60 (02–03)

★Giuseppe Peano. Deutsche Übersetzung von Ruth Amsler. Dem Andenken an Ugo Cassina gewidmet. Kurze Mathematiker-Biographien. Elem. Math. Beiheft No. 14. *Birkhäuser Verlag, Basel-Stuttgart*, 1974. 31 *pp.* (Author's review) **58** #27015 01A70

Peano's concept of number. (Italian and Russian summaries) *Historia Math.* **1** (1974), 387–408. (Author's summary) **58** #27016 01A55

Karl Marx and the foundations of differential calculus. (German and Russian summaries) *Historia Math.* **4** (1977), *no.* 3, 303–318. (D. J. Struik) **56** #53 01A55 (26A24, 02A05)

See also **Selected works: Peano, Giuseppe**, 57 #5653

Kennedy, J. Dennis *See* **Applications of Walsh functions**, **48** #8080

Kennedy, J. E. Exchanges of correspondence between Sir G. B. Airy and William Brydone Jack. The origins, achievement and influence of the Royal Observatory, Greenwich: 1675–1975 (Proc. 4th Joint Sympos. Internat. Astronom. Union and Union Internat. Histoire et Philos. Sci., Greenwich, 1975). *Vistas Astronom.* **20** (1976), *no.* 1-2, 211–214. (Editors) **58** #15953 01A55

Kennedy, J. W. (*with* Hall, Charles A.) Convergence of a Ritz approximation for the steady state heat flow problem. *J. Inst. Math. Appl.* **12** (1973), 187–196. (Hong-Yun Kim) **57** #14510 65N30

(*with* Gordon, Manfred) The counting and coding of trees of fixed diameter. *SIAM J. Appl. Math.* **28** (1975), 376–398. (Authors' summary) **52** #13449 05C05

Kennedy, Ken Index register allocation in straight line code and simple loops. *Design and optimization of compilers* (*Courant Comput. Sci. Sympos.* 5, *New York Univ., New York*, 1971), *pp.* 51–63. *Prentice-Hall Series in Automat. Comput., Prentice-Hall, Englewood Cliffs, N. J.*, 1972. (I. Kaufmann) **56** #7299 68A05

(*with* Schwartz, Jacob T.) An introduction to the set theoretical language SETL. *Comput. Math. Appl.* **1** (1975), *no.* 1, 97–119. (J. E. L. Peck) **52** #9663 68A05

(*with* Farrow, R.; Zucconi, L.) Graph grammars and global program data flow analysis. 17*th Annual Symposium on Foundations of Computer Science* (*Houston, Tex.*, 1976), *pp.* 42–56. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (From the summary) **58** #13848 68A05 (68A10)

A comparison of two algorithms for global data flow analysis. *SIAM J. Comput.* **5** (1976), *no.* 1, 158–180. (Robert Wagner) **53** #12060 68A05 (68A10)

Kennedy, Lawrence A. *See* **Numerical methods in fluid dynamics**, **49** #10260

Kennedy, P. B. (*with* Hayman, W. K.) ★Subharmonic functions. Vol. I. London Mathematical Society Monographs, No. 9. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *London-New York*, 1976, xvii + 284 *pp.* (D. H. Armitage) **57** #665 31B05

Kennedy, Peter E. (*with* Day, Richard H.) Graphical illustrations of some mathematical theorems in economics. *Appl. Math. Notes* **2** (1976), *no.* 3-4, 71–83. (Michael D. Intriligator) **54** #14752 90A15

Kennedy, Robert E. (*with* Busby, Robert W.) nth root groups. *Math. Mag.* **49** (1976), *no.* 3, 140–141. (A. R. Camina) **54** #2824 20F99

Kennedy, Robert S. (*with* Helstrom, Carl W.) Noncommuting observables in quantum detection and estimation theory. *IEEE Trans. Information Theory* **IT-20** (1974), 16–24. (S. Ikehara) **50** #16070 94A05 (81.47)

(*with* Yuen, Horace P.; Lax, Melvin D.) Optimum testing of multiple hypotheses in quantum detection theory. *IEEE Trans. Information Theory* **IT-21** (1975), 125–134. (Carl W. Helstrom) **53** #1370 49B30 (94A05)

Problems in quantum communication and information theory. *Proceedings of the IEEE-USSR Joint Workshop on Information Theory* (*Moscow*, 1975), *pp.* 105–110. *Inst. Electr. Electron. Engrs., New York*, 1976. (From the author's introduction) **57** #11913 94A05

Kennedy, W. J. (*with* Gentle, James E.; Sposito, Vincent) On some properties of L_1 estimators. *Math. Programming* **12** (1977), *no.* 1, 139–140. (Claude Carasso) **57** #11763 90C30

Kennedy, W. L. (*with* Oh, C. H.) Virasoro model and duality. *Progr. Theoret. Phys.* **46** (1971), 1864–1868. (D. I. Olive) **46** #6740 81.30

Kennel, C. W. (*with* Rubel, Lee A.) Locally outer functions. *J. London Math. Soc.* (2) **15** (1977), *no.* 3, 497–510. (P. Lappan) **56** #8857 30A78

Kenneth, P. *See* **Lions, Jacques-Louis; et al.**, **50** #2670; **Lions, Jacques-Louis; et al.**, **50** #2671 *and* **Lions, Jacques-Louis; et al.**, **50** #2672

Kennett, Rosemary G. On the modulations and nonlinear interactions of waves and the nonlinear stability of a near-critical system. *Studies in Appl. Math.* **53** (1974), *no.* 4, 317–336. (Author's summary) **57** #17034 35Q99

A model for magnetohydrodynamic convection relevant to the solar dynamo problem. *Studies in Appl. Math.* **55** (1976), *no.* 1, 65–81. (Author's summary) **56** #10540 81.35 (85.35)

Kenney, John *See* **Transactions: Conference of Army Mathematicians**, **49** #4736

Kenney, V. P. *See* **Elementary particle physics: multiparticle aspects**, **48** #1597

Kennington, Jeff L. (*with* Langley, Robert W.; Shetty, C. M.) Efficient computational devices for the capacitated transportation problem. *Naval Res. Logist. Quart.* **21** (1974), 637–647. (Kailash C. Kapur) **51** #4703 65S05 (90C05)

(*with* Unger, Ed) A new branch-and-bound algorithm for the fixed-charge transportation problem. *Management Sci.* **22** (1975/76), *no.* 10, 1116–1126. (Romesh Saigal) **53** #12605 90C35

(*with* Helgason, R. V.) A product form representation of the inverse of a multicommodity cycle matrix. *Networks* 7 (1977), *no.* 4, 297–322. (András Frank) **57** #2507 90B10 (90C50)

A survey of linear cost multicommodity network flows. *Operations Res.* **26** (1978), *no.* 2, 209–236. (Author's summary) **57** #15378 90B10

Kennison, John F. (*with* Gildenhuys, Dion) Equational completion, model induced triples and pro-objects. *J. Pure Appl. Algebra* **1** (1971), *no.* 4, 317–346. (F. E. J. Linton) **46** #5415 18C05

Structure and costructure for strongly regular rings. *J. Pure Appl. Algebra* **5** (1974), 321–332. (R. Wiegandt) **51** #8204 18C10 (16A30)

Integral domain type representations in sheaves and other topoi. *Math. Z.* **151** (1976), *no.* 1, 35–56. (Gavin Wraith) **54** #2758 18F20 (02H05)

Kenny, Alan (*with* Sibson, Robin) Coefficients in D-optimal experimental design. *J. Roy. Statist. Soc. Ser. B* **37** (1975), 288–292. (Valery Fedorov) **52** #2069 62K05

Kenny, G. Otis The completion of an abelian l-group. *Canad. J. Math.* **27** (1975), *no.* 5, 980–985. (W. C. Holland) **52** #13562 06A60

(*with* Anderson, Marlow; Conrad, Paul F.) Splitting properties in Archimedean l-groups. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 2, 247–256. (S. J. Bernau) **57** #202 06A55

The Archimedean kernel of a lattice-ordered group. *Publ. Math. Debrecen* **25** (1978), *no.* 1-2, 53–60. (S. J. Bernau) **58** #10654 06A55 (20F30)

Kent, Allen *See* **Encyclopedia: Computer science and technology**, **55** #13843; **Encyclopedia: Computer science and technology**, **55** #13844; **Encyclopedia: Computer science and technology**, **55** #13845 *and* **Encyclopedia: Computer science and technology**, **55** #13846

Kent, C. F. The relation of A to Prov$\ulcorner A \urcorner$ in the Lindenbaum sentence algebra. *J. Symbolic Logic* **38** (1973), 295–298. (Robert G. Jeroslow) **48** #10775 02D99 (02F43)

"Disorder" in lattices of binumerations. *Comment. Math. Univ. Carolinae* **15** (1974), 221–244. (S. Feferman) **50** #4258 02D99 (02G99)

Independence versus logical independence in the countable case. *Logic Colloquium '73* (*Bristol*, 1973), *pp.* 399–408. *Studies in Logic and the Foundations of Mathematics, Vol.* 80, *North-Holland, Amsterdam*, 1975. (A. Kino and J. Myhill) **52** #2815 02B10 (02G99)

Kent, Darrell C. (*with* Leslie, G. C.) Connectedness in the scale of a uniform space. *J. Austral. Math. Soc.* **13** (1972), 305–312. (R. W. Bagley) **46** #6304 54E15

(*with* Hearsey, B. V.) Convergence structures. *Portugal. Math.* **31** (1972), 105–118. (H. J. Biesterfeldt, Jr.) **48** #4983 54A20

(*with* Richardson, Gary D.) Open and proper maps between convergence spaces. *Czechoslovak Math. J.* **23(98)** (1973), 15–23. (H. J. Biesterfeldt, Jr.) **49** #1465 54C10 (54A25)

(*with* Richardson, Gary D.) The decomposition series of a convergence space. *Czechoslovak Math. J.* **23(98)** (1973), 437–446. (B. Müller) **48** #1134 54A20

(*with* Gazik, R. J.) Regular completions of Cauchy spaces via function algebras. *Bull. Austral. Math. Soc.* **11** (1974), 77–88. (H. J. Biesterfeldt, Jr.) **50** #5716 54A20 (54C35)

(*with* Gazik, R. J.; Richardson, Gary D.) Regular completions of uniform convergence spaces. *Bull. Austral. Math. Soc.* **11** (1974), 413–424. (M. Schroder) **50** #11113 54A20 (54C35)

(*with* Richardson, Gary D.) Regular completions of Cauchy spaces. *Pacific J. Math.* **51** (1974), 483–490. (O. Wyler) **52** #11811 54A20 (54D35)

(*with* McKennon, K.; Richardson, Gary D.; Schroder, M.) Continuous convergence in $C(X)$. *Pacific J. Math.* **52** (1974), 457–465. (R. Beattie) **51** #6709 54C35 (54A20)

(*with* Richardson, Gary D.) The regularity series of a convergence space. *Bull. Austral. Math. Soc.* **13** (1975), *no.* 1, 21–44. (Ray Gazik) **51** #13964 54A20

(*with* Richardson, Gary D.) Locally compact convergence spaces. *Michigan Math. J.* **22** (1975), *no.* 4, 353–360 (1976). (M. Schroder) **52** #15331 54A20 (54D50)

(*with* Gazik, R. J.) Coarse uniform convergence spaces. *Pacific J. Math.* **61** (1975), *no.* 1, 143–150. (Gary Richardson) **53** #3973 54A20 (54E15)

(*with* Richardson, Gary D.) A note on $C_c(X)$. *Proc. Amer. Math. Soc.* **49** (1975), 441–445. (B. Müller) **51** #6710 54C35 (54A20)

(*with* Richardson, Gary D.; Gazik, R. J.) *T*-regular-closed convergence spaces. *Proc. Amer. Math. Soc.* **51** (1975), 461–468. (M. Schroder) **51** #11398 54A20 (54D35)

(*with* Irwin, James M.) Sequential Cauchy spaces. *Proceedings of the Conference on Convergence Spaces* (*Univ. Nevada, Reno, Nev.*, 1976), *pp.* 60–82. *Dept. Math., Univ. Nevada, Reno, Nev.*, 1976. (Roman Frič) **55** #13387 54E15

(*with* Gazik, R. J.) Minimal uniform convergence spaces. *Proceedings of the Conference on Convergence Spaces* (*Univ. Nevada, Reno, Nev.*, 1976), *pp.* 93–100. *Dept. Math., Univ. Nevada, Reno, Nev.*, 1976. (Gary Richardson) **55** #4082 54A20 (54E15)

(*with* Richardson, Gary D.) The regularity series of a convergence space. II. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 2, 223–243. (Authors' summary) **55** #6343 54A20

(*with* Richardson, Gary D.) Some product theorems. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 228–230. *Soc. Czechoslovak Mathematicians and Physicists, Prague*, 1977. (Authors' introduction) **58** #30977 54D50

(*with* Frič, Roman) Completion of sequential Cauchy spaces. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 2, 351–361. (Thomas W. Rishel) **56** #6607 54D55

See also **Proceedings: Conference on Convergence Spaces**, **54** #6055

Kent, G. A. (*with* Banks, H. T.) Control of functional differential equations of retarded and neutral type to target sets in function space. *SIAM J. Control* **10** (1972), 567–593. (M. Q. Jacobs) **47** #9390 49B35

Kent, J. G. (*with* Campbell, J. A.; Moore, R. J.) Experiments with a symbolic programming system for complex analysis. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **16** (1976), *no.* 3, 241–256. (Authors' summary) **54** #11841 68A15

Kent, John T. A weak convergence theorem for the empirical characteristic function. *J. Appl. Probability* **12** (1975), *no.* 3, 515–523. (R. N. Bhattacharya) **55** #6532 60F05

The infinite divisibility of the von Mises-Fisher distribution for all values of the parameter in all dimensions. *Proc. London Math. Soc.* (3) **35** (1977), *no.* 2, 359–384. (N. H. Bingham) **56** #9629 60E05

Some probabilistic properties of Bessel functions. *Ann. Probab.* **6** (1978), *no.* 5, 760–770. (Barthel W. Huff) **58** #18750 60J60 (33A40, 60E05)

Limiting behaviour of the von Mises-Fisher distribution. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 3, 531–536. (D. N. Shanbhag) **58** #18662 60E05 (62E20)

See also **Mardia, K. V.**, **53** #6811; **Matthews, G. V. T.**, **54** #11536 *and* **Kendall, David G.**, **54** #11537

Kent, Joseph F. Locally connected almost periodic minimal sets. *Recent advances in topological dynamics* (*Proc. Conf., Yale Univ., New Haven, Conn.*, 1972; *in honor of Gustav Arnold Hedlund*), *pp.* 150–166. *Lecture Notes in Math., Vol.* 318, *Springer, Berlin*, 1973. (Ethan M. Coven) **52** #11877 54H20

Kenue, Surender Kumar *See* **Surendra Kumar, K.**

Kenward, Lloyd R. Regression coefficients as dependent variables. Addendum to: "Efficient estimators for regressing regression coefficients" (Amer. Statist. **28** (1974), 66–67) by Eric A. Hanuschek. *Amer. Statist.* **29** (1975), *no.* 4, 175. (Not reviewed) 62J05

Regression coefficients as dependent variables. Comment on: "Efficient estimators for regressing regression coefficients" (Amer. Statist. **28** (1974), 66–67) by E. A. Hanushek. *Amer. Statist.* **29** (1975), *no.* 4, 175. (M. Atiqullah) **52** #9515 62J05

A new test for residual randomness in a class of dynamic autocorrelated econometric models. (French summary) *Canad. J. Statist.* **4** (1976), *no.* 1, 51–64. (Andrew Harvey) **56** #4101 62P20

Kenyon, Douglas E. Thermostatics of solid-fluid mixtures. *Arch. Rational Mech. Anal.* **62** (1976), *no.* 2, 117–129. (From the introduction) **58** #25296 73.53 (80.53)

The theory of an incompressible solid-fluid mixture. *Arch. Rational Mech. Anal.* **62** (1976), *no.* 2, 131–147. (Gérard A. Maugin) **54** #1824 (E **55** #7061) 73.53 (76.53)

Corrigendum: "The theory of an incompressible solid-fluid mixture" (Arch. Rational Mech. Anal. **62** (1976), no. 2, 131–147). *Arch. Rational Mech. Anal.* **64** (1977), *no.* 4, 385. (Editors) **55** #7061 73.53 (76.53)

Kenyon, Hewitt (*with* Morse, Anthony Perry) ★Web derivatives. Memoirs of the American Mathematical Society, No. 132. *American Mathematical Society, Providence, R. I.*, 1973. xiii + 177 *pp.* (William Eames) **54** #13014 28A15

Kenžebaev, S. Distribution of special absolutely Abelian fields of the type (l, q). (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1970**, *no.* 5, 85–87. (J. Browkin) **46** # (EA **46**) 12A35

The distribution of special cyclic fields of degree *lq*. (Russian) *Izv. Akad. N Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 1, 84–86. (T. Metsänkylä) **45** #1876 12A

Distribution of the discriminants of the special Abelian fields of type (*l*, (Russian) *Collection of Reports of the Algebraic Seminar of the Department of Alg and Number Theory, No.* 2 (*Russian*), *pp.* 20–23. *Kazah. Gos. Ped. Inst., Alma-Ata*, 1 (W. Narkiewicz) **55** #2832 12A35 (10H15)

The algebra of special absolutely abelian fields of type $(1, 1, q)$. (Russian) *Colle of Reports of the Algebraic Seminar of the Faculty of Algebra and Number Theory, N* (*Russian*), *pp.* 32–53. *Kazah. Gos. Ped. Inst., Alma-Ata*, 1972. (J. Browkin) **50** #45 12A35

Kenžehanov, S. K. (*with* Maukeev, Bolat Izatovič; Aĭtžanov, M.) Algebraic polynomia best uniform approximation. (Russian) *Proceedings of a Seminar of the Departmen Theoretical Mechanics and Higher Mathematics, No.* 1 (*Russian*), *pp.* 38–40. *Džan Tehn. Inst. Legkoĭ i Piščevoĭ Promyšl., Alma-Ata*, 1971. (J. Németh) **50** #139 41A10

See also **Proceedings: Seminar of the Departments of Theoretical Mechanics Higher Mathematics**, **48** #3668

Keogh, F. R. (*with* Eenigenburg, Paul J.) The Hardy class of some univalent functions their derivatives. *Michigan Math. J.* **17** (1970), 335–346. (G. Petruska) **46** #56 30A78

A subordination property of univalent functions. *Bull. London Math. Soc.* **3** (19 181–184. (R. J. Libera) **45** #2155 30A42

(*with* Essén, Matts R.) The Schwarzian derivative and estimates of functions analytic in the unit disc. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), *no.* 3, 501– (Zbl **313** #30019) **57** #12837 30A34

A characterisation of convex domains in the plane. *Bull. London Math. So* (1976), *no.* 2, 183–185. (D. M. Campbell) **57** #6392 30A30

(*with* Burdick, G. R.; Merkes, E. P.) On a ratio of a univalent function. *J. M Anal. Appl.* **53** (1976), *no.* 2, 221–224. (M. S. Robertson) **53** #788 30A32

Some recent developments in the theory of univalent functions. *Complex ana* (*Proc. Conf., Univ. Kentucky, Lexington, Ky.*, 1976), *pp.* 76–92. *Lecture Notes in M Vol.* 599, *Springer, Berlin*, 1977. (Herb Silverman) **56** #12245 30A32

Keohane, John (*with* Cherniavsky, John C.; Henderson, Peter B.) On the equivalenc URE$_\infty$-flow graphs and reducible flow graphs. *Proceedings of the* 1976 *Conferenc Information Sciences and Systems* (*Tenth Annual Meeting, Johns Hopkins Univ., Baltimore, Md.*, 1976), *pp.* 423–428. *Dept. Electr. Engrg., John Hopkins Univ., Baltim Md.*, 1976. (W. B. Jones) **58** #3607 68A05

Keohn, Uwe (*with* Gulati, Bodh Raj; Johnson, Bruce McK.) On maximal *t*-linearly independent sets. *J. Combinatorial Theory Ser. A* **15** (1973), 45–53. (Stanley E. Pa **47** #4823 05B25

Keown, R. ★An introduction to group representation theory. Mathematics in Science Engineering, Vol. 116. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *York-London*, 1975. xi + 331 *pp.* (G. de B. Robinson) **52** #8230 20Cxx (20G45)

Kepka, Tomáš Regular mappings of groupoids. *Acta Univ. Carolinae—Math. et Phys* (1971), *no.* 1, 25–37 (1972). (D. A. Robinson) **47** #8754 20N99

(*with* Němec, Petr) *T*-quasigroups. I, II. *Acta Univ. Carolinae—Math. et Phys* (1971), *no.* 1, 39–49 (1972); *ibid.* **12** (1971), *no.* 2, 31–49 (1972). (R. Artzy) **47** #874 20N05

On one class of quasigroups. (Czech summary) *Časopis. Pěst. Mat.* **97** (19 347–356. (R. Artzy) **47** #5163 20N05

The totally simple quasigroups. *Comment. Math. Univ. Carolinae* **13** (1972), 577–582. (R. Artzy) **51** #8315 20N05

A note on compatible reflexive relations on quasigroups. *Comment. Math. U. Carolinae* **13** (1972), 593–598. (R. Artzy) **51** #8316 20N05 (20L05)

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) On rings with trivial tors parts. *Bull. Austral. Math. Soc.* **9** (1973), 275–290. (L. Š. Ioffe) **48** #8544 16A2

On one class of purities. *Comment. Math. Univ. Carolinae* **14** (1973), 139–154. (J Alin) **47** #8613 16A50

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) Preradicals. *Comment. M Univ. Carolinae* **15** (1974), 75–83. (M. Djabali) **50** #406 16A64

Notes on radical filters of ideals. *Comment. Math. Univ. Carolinae* **15** (19 149–159. (Rainer Mlitz) **49** #5069 16A21

Costable rings. *Comment. Math. Univ. Carolinae* **15** (1974), 245–257. (E. Patterson) **50** #2249 16A50

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) Composition of preradica *Comment. Math. Univ. Carolinae* **15** (1974), 393–405. (L. Š. Ioffe) **50** #9936 16A

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) Stable and costable preradicals. *Acta Univ. Carolinae—Math. et Phys.* **16** (1975), *no.* 2, 63–69. (M. Djab **52** #8176 16A21

Λ, *R*-transitive groupoids. *Acta Univ. Carolinae—Math. et Phys.* **16** (1975), *no.* 71–77. (D. A. Robinson) **52** #10943 20N99

(*with* Ježek, Jaroslav) Extensive varieties. *Acta Univ. Carolinae—Math. et Phys.* (1975), *no.* 2, 79–87. (M. Gould) **52** #3010 08A15

Normal congruence relations on division groupoids. *Acta Univ. Carolinae—Ma et Phys.* **16** (1975), *no.* 2, 89–95. (S. C. Althoen) **52** #3368 20L05

(*with* Ježek, Jaroslav) The lattice of varieties of commutative abelian distributi groupoids. *Algebra Universalis* **5** (1975), *no.* 2, 225–237. (James B. Nation) **53** #2803 08A25 (20L05)

Quasigroups which satisfy certain generalized forms of the Abelian identity. *Časo Pěst. Mat.* **100** (1975), *no.* 1, 46–60. (S. M. Yusuf) **55** #8236 20N05

(*with* Ježek, Jaroslav) Quasigroups, isotopic to a group. *Comment. Math. Un Carolinae* **16** (1975), 59–76. (D. A. Robinson) **51** #3345 20N05

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) Preradicals and change rings. *Comment. Math. Univ. Carolinae* **16** (1975), 201–217. (M. Djabali) **51** #10379 16A21

(*with* Ježek, Jaroslav) Semigroup representations of commutative idempotent abelian groupoids. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 3, 487–500. (Yamada) **52** #3367 20L05 (*with* Bican, Ladislav; Němec, Petr) Torsion theories and homological dimensions. *. Algebra* **35** (1975), 99–122. (M. Teply) **51** #8173 16A60

(*with* Bican, Ladislav) On stable rings. *Publ. Math. Debrecen* **22** (1975), *no.* 3-4, 35–244. (Maureen H. Fenrick) **52** #5744 16A66

(*with* Ježek, Jaroslav) Atoms in the lattice of varieties of distributive groupoids. *Lattice theory* (*Proc. Colloq., Szeged,* 1974), *pp.* 185–194. *Colloq. Math. Soc. János Bolyai, Vol.* 14, *North-Holland, Amsterdam,* 1976. (Zbl**359** #20037) **58** #5455 08A15 (20L05)

Torsion theories and homological dimensions. *Universale Algebren und Theorie der Radikale, pp.* 41–44. *Studien zur Algebra und ihre Anwendungen, Band* 1, *Akademie-Verlag, Berlin,* 1976. (B. Stenström) **56** #12067 16A60 (18E40)

(*with* Ježek, Jaroslav) Free commutative idempotent abelian groupoids and quasigroups. (Russian and Czech summaries) *Acta Univ. Carolinae—Math. et Phys.* **17** (1976), *no.* 2, 13–19. (R. Artzy) **54** #10466 20N05

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) Centrally splitting radicals. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 1, 31–47. (John A. Beachy) **54** #2710 16A21

Structure of triabelian quasigroups. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 2, 229–240. (Miklós Csikós) **53** #10965 20N05

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) A note on test modules. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 2, 345–355. (Edward T. Wong) **53** #13310 16A52

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) Hereditary and cohereditary preradicals. (Loose Russian summary) *Czechoslovak Math. J.* **26(101)** (1976), *no.* 2, 192–206. (John A. Beachy) **54** #2711 16A21 (18E40)

Extensive groupoid varieties. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged,* 1975), *pp.* 259–285. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam,* 1977. (D. Monk) **57** #16165 08A15

(*with* Němec, Petr) Unipotent quasigroups. (Russian and Czech summaries) *Acta Univ. Carolinae—Math. et Phys.* **18** (1977), *no.* 2, 13–22. (R. Artzy) **57** #3295 20N05

Epimorphisms in some groupoid varieties. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 2, 265–279. (J. R. Isbell) **55** #12600 08A15

On a class of non-associative rings. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 3, 531–540. (Ernest Stitzinger) **57** #387 17A30

(*with* Bican, Ladislav; Jambor, Pavel; Němec, Petr) Generation of preradicals. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 1, 155–166. (M. Djabali) **55** #8141 18E40 (16A64)

(*with* Ježek, Jaroslav) Varieties of Abelian quasigroups. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 3, 473–503. (M. Gould) **56** #8740 20N05 (08A25)

Distributive Steiner quasigroups of order 3^5. *Comment. Math. Univ. Carolin.* **19** (1978), *no.* 2, 389–401. (Orin Chein) **58** #6032 20N05

Structure of weakly abelian quasigroups. *Czechoslovak Math. J.* **28(103)** (1978), *no.* 2, 181–188. (R. Artzy) **58** #6031 20N05

epler, Johannes ★L'étrenne ou la neige sexangulaire. Traduit du Latin, avec une introduction et des notes par Robert Halleux. Avec une préface de René Taton. Collection d'Histoire des Sciences, 1—C.N.R.S., Centre d'Histoire des Sciences et des Doctrines. *Librairie J. Vrin; Éditions du C.N.R.S., Paris,* 1975. iv + 169 *pp.* *ISBN* 2-222-0184-0 (H. S. M. Coxeter) **56** #15293 01A45 (01A75)

See also **Hanzal, Josef,** (See Zbl **244** #01004); **Rosen, Edward,** (See Zbl **202**, 291); **Segre, Beniamino,** (Not reviewed); **Linnik, V. P.,** (Not reviewed); **Gerlach, Walther,** **50** #6757; **Walter, Kurt,** **50** #6758; **Matvīīšin, Ja. O.,** **50** #12565; **Oeser, Erhard,** **51** #26; **Jahresfeier: Geburt von Johannes Kepler,** **51** #27; **Gerlach, Walther; et al.,** **51** #10003; **Hemleben, Johannes,** **51** #10004; **Selbstzeugnisse von Johannes Kepler,** **51** #10005; **Volk, Otto,** **53** #12831; **Gerlach, Walther,** **55** #7713; **Aiton, Eric J.,** **55** #12411; **Anniversary: Birth of Johannes Kepler,** **56** #8260; **Hammer, Franz,** **57** #5589; **Šeĭnin, O. B.,** **57** #5592; **Matvīīšin, Ja. O.; et al.,** **57** #5632; **Haase, Rudolf,** **57** #15868; **Die Coss von Jost Bürgi in der Redaktion von Johannes Kepler,** **58** #4840; **Belyĭ, Ju. A.; et al.,** **58** #4842; **Folta, Jaroslav,** **58** #4937; **Aiton, Eric J.,** **58** #10034; **Horský, Zdeněk,** **58** #10045; **Postl, Anton,** **58** #10062; **Thoren, Victor E.,** **58** #10073; **de Buzon, Catherine,** **58** #15882; **Hofmann, Joseph Ehrenfried,** **58** #15890; **Johannes Kepler,** **58** #15910; **Westman, Robert S.,** **58** #21103; **Aiton, Eric J.,** **58** #21105; **Whiteside, D. T.,** **58** #21154; **Whiteside, D. T.,** **58** #21155; **Belīĭ, Juriĭ; et al.,** **58** #21289; **Belyĭ, Ju. A.,** **58** #21290; **Hoppe, Johannes,** **58** #21299; **Buchdahl, Gerd,** **58** #26868; **Danilov, Ju. A.; et al.,** **58** #26869; **Gerlach, Walther,** **58** #26883; **Hofmann, Joseph Ehrenfried,** **58** #26891a; **Hofmann, Joseph Ehrenfried,** **58** #26891b; **Mittelstrass, Jürgen,** **58** #26909; **Westman, Robert S.,** **58** #26939 *and* **Four hundred years,** **58** #27134

Keppel, E. Approximating complex surfaces by triangulation of contour lines. *IBM J. Res. Develop.* **19** (1975), 2–11. (A. K. Dewdney) **53** #210 05C99 (53C45, 68A45)

Kepr, Bořivoj On the occasion of the sixtieth birthday of Karel Drábek. (Czech) *Časopis Pěst. Mat.* **103** (1978), *no.* 3, 319–325. (1 *plate*) (Editors) **58** #21305 01A70

Kera, Kazuo On a generalization of Adasch's theorem. *Proc. Japan Acad.* **49** (1973), 112–117. (K. Floret) **53** #3632 46A05

(*with* Kitsunezaki, Naoki; Terao, Yutaka) A generalization of the closed graph theorem. *Proc. Japan Acad.* **49** (1973), 812–815. (J. W. Baker) **51** #1331 46A30

Kerawala, S. M. On a type of definite integrals. *J. Natur. Sci. and Math.* **10** (1970), 81–89. (Editors) **49** #3054 26A03

A note on the orders of two arithmetic functions $F(n,k)$ and $F^*(n,k)$. *J. Natur. Sci. and Math.* **10** (1970), 105–107. (E. M. Horadam) **45** #1850 10A25

On arithmetic functions associated with partitions into primes. *J. Natur. Sci. and Math.* **11** (1971), 285–290. (L. M. Chawla) **46** #3434 10A45

On the number of partitions n such that in each partition the G.C.D. of the summands is itself a summand. *Nucleus* (*Karachi*) **8** (1971), *no.* 4, 145–151. (George E. Andrews) **46** #3435 (EA **47**) 10A45

On the generalised arithmetic functions $f(n)$ and $f^*(n)$. *J. Natur. Sci. and Math.* **12** (1972), 71–77. (L. Carlitz) **49** #2609 10H25

Two tables of arithmetic functions associated with the partition function. *J. Natur. Sci. and Math.* **12** (1972), 123–128. (Nina Spears) **49** #4955 10H25 (10J20)

On an elementary proof of Ingham's Tauberian theorem for partitions. *J. Natur. Sci. and Math.* **12** (1972), 309–319. (H. Gupta) **50** #2102 10J20

A table of partition functions associated with the Rogers-Ramanujan identities. *J. Natur. Sci. and Math.* **12** (1972), 321–333. (S. A. Burr) **50** #12909 10A45

(*with* Zafrullah, Muhammad) On the evaluation of $F(n,m)$, where $F(n,m)=\Sigma(\pi_{i=1,\,d_i|n}^{m} f(d_i))$. *J. Natur. Sci. and Math.* **12** (1972), 363–365. (S. L. G. Choi) **50** #4463 10A20

On a restricted type of partitions into parts divisible by the least part. *Acta Arith.* **23** (1973), 1–4. (H. Gupta) **47** #6604 10A45

On a conjecture of P. Erdős. *J. Natur. Sci. and Math.* **13** (1973), *no.* 2, 271–275. (E. Grosswald) **54** #12614 10A20

On a general solution of the functional equation $iX(n)=J(n)x(n)$. *J. Natur. Sci. and Math.* **15** (1975), *no.* 1-2, 1–10. (O. H. Körner) **55** #5507 10A20

Kerbel', V. G. (*with* Mirenkov, N. N.) Automatic parallelization of algorithms of a special form. (Russian) *Vyčisl. Sistemy Vyp.* 63 *Teorija Odnorodnyh Vyčislitel'nyh Sistem* (1975), 149–158, 162. (Authors' summary) **58** #8446 68A05 (68A10)

Kerber, Adalbert ★Representations of permutation groups. I. Lecture Notes in Mathematics, Vol. 240. *Springer-Verlag, Berlin-New York,* 1971. v + 192 *pp.* (J. S. Frame) **48** #4098 20C30

Zur modularen Darstellungstheorie symmetrischer und alternierender Gruppen. III. *Math. J. Okayama Univ.* **15** (1971/72), 25–33. (H. K. Farahat) **46** #241 20C20

(*with* Peel, Michael Harry) On the decomposition numbers of symmetric and alternating groups. *Mitt. Math. Sem. Giessen No.* 91 (1971), 45–81. (G. de B. Robinson) **45** #5206 20E25

Der Zykelindex der Exponentialgruppe. *Mitt. Math. Sem. Giessen Heft* 98 (1973), 5–20. (I. M. Isaacs) **57** #423 20B05 (20F25)

On the representation theory of finite permutation groups. *Lecture notes on the representation theory of finite groups* (*Sympos., Univ. Istanbul, Istanbul,* 1973), *pp.* 29–53. *Math. Res. Inst., Univ. Istanbul, Istanbul,* 1974. (H. Nagao) **52** #3308 20C30

★Representations of permutation groups. II. Lecture Notes in Mathematics, Vol. 495. *Springer-Verlag, Berlin-New York,* 1975. iv + 175 *pp.* (J. S. Frame) **53** #13376 20C30

Characters of wreath products and some applications to representation theory and combinatorics. *Discrete Math.* **13** (1975), *no.* 1, 13–30. (L. Dornhoff) **51** #13017 20C35 (05A15)

(*with* Çelik, Özdem; Pahlings, Herbert) Zur Darstellungstheorie gewisser Verallgemeinerungen der Serien von Weyl-Gruppen. *Mitt. Math. Sem. Giessen Heft* 119 (1975), 15–90. (R. Steinberg) **54** #7600 20C30 (20H15)

(*with* Tappe, Jürgen) On permutation characters of wreath products. *Discrete Math.* **15** (1976), *no.* 2, 151–161. (Ronald C. King) **53** #13373 20C15

(*with* Esper, Norbert) Permutrization of representations with applications to simple-phase groups and the enumeration of roots in groups and of conjugacy classes which are invariant under power maps. *Mitt. Math. Sem. Giessen Heft* 121 (1976), 181–200. (Ronald C. King) **57** #12665 20C20

(*with* Esper, Norbert) Permutrization of representations. *Combinatoire et représentation du groupe symétrique* (*Actes Table Ronde CNRS, Univ. Louis-Pasteur Strasbourg, Strasbourg,* 1976), *pp.* 267–280. *Lecture Notes in Math., Vol.* 579, *Springer, Berlin,* 1977. (G. D. James) **57** #6163 20C15

(*with* Lehmann, Wolfgang) On graphs and their enumeration. III. *Match No.* 3 (1977), 67–86. (Not reviewed) 05C30 (20C99)

Character tables of symmetric groups. *Match No.* 3 (1977), 279. (Editors (F.P.)) **58** #11093 20C15

See also **Studien zur Algebra und ihre Anwendungen,** **48** #8172 *and* **Microsymposium: Graph theory in chemistry,** **53** #13007

Kerber, C. W. (*with* Guenther, Ronald B.; Killian, E. K.; Smith, Kennan T.; Wagner, Sheldon L.) Reconstruction of objects from radiographs and the location of brain tumors. *Proc. Nat. Acad. Sci. U.S.A.* **71** (1974), 4884–4886. (Authors' summary) **50** #6547 92A05 (68A45)

Kerbrat, Yvan Existence d'homothéties infinitésimales sur une variété munie d'une connexion linéaire symétrique complète. *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A587–A589. (C. S. Houh) **51** #13910 53C05

(*with* Cahen, Michel; Praet, G.) Conformational completion of Lorentz symmetric spaces. *Lett. Math. Phys.* **1** (1975/77), *no.* 5, 417–422. (F. J. Flaherty) **57** #10661 53C50 (58D05)

(*with* Braemer, Jean-Marc) ★Géométrie des courbes et des surfaces. Collection Méthodes. *Hermann, Paris,* 1976. viii + 198 *pp.* (Leo Boček) **55** #1227 53A05

(*with* Cahen, Michel; Praet, G.) Complétions équivariantes conformes d'espaces lorentziens symétriques. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **62** (1976), *no.* 10, 767–783. (V. G. Kopp) **55** #9002 53C50 (53C35, 22E45)

Transformations conformes des variétés pseudo-riemanniennes. *J. Differential Geometry* **11** (1976), *no.* 4, 547–571. (V. G. Kopp) **57** #17576 53C50

(*with* Cahen, Michel) Domaines symétriques des quadriques projectives. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 4, A261–A264. (Authors' summary) **56** #16542 53C35

(*with* Cahen, Michel) Transformations conformes des espaces symétriques pseudo-riemanniens. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 5, A383–A385. (Authors' summary) **56** #3777 53C50

(*with* Barbance, Christiane) Sur les transformations conformes des variétés d'Einstein. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 8, A391–A394. (Authors' summary) **57** #13786 53C25

(*with* Cahen, Michel) Champs de vecteurs conformes et transformations conformes des espaces lorentziens symétriques. *J. Math. Pures Appl.* (9) **57** (1978), *no.* 2, 99–132. (A. K. Guc) **58** #18301 53C50

Kerbrat, Yves (*with* Le Calvé, Georges) Classification des états pour un système aléatoire à liaisons complètes. *Publications des Séminaires de Mathématiques* (*Univ. Rennes, Rennes, année* 1968-1969), *Fasc.* 2: *Séminaire de probabilités, statistiques et analyse, Exp. No.* 2, 10 *pp. Dép. Math. et Informat., Univ. Rennes, Rennes,* 1969. (M. Iosifescu) **50** #14927 60G99

(*with* Le Calvé, Georges) Classification des états pour les systèmes aléatoires généralisés à liaisons complètes. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A753–A754. (R. Theodorescu) **48** #5199 60J99 (*with* Le Calvé, Georges) Classification des états pour un système aléatoire à liaisons complètes. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 1381–1391. (R. Theodorescu) **48** #5198 60J99

Kerbrat-Lunc, Hélène Champ de Yang et Mills varié. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A711–A713. (A. Wyler) **47** #8066 83.53

Champs de Yang et Mills variés. *Ann. Inst. H. Poincaré Sect. A (N.S.)* **21** (1974), 333–339. (L. Méder) **52** #2518 83.53

Axiomes de Wightman pour une quantification des champs de Yang et Mills. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 913–915. (Walter Wyss) **50** #15697 81.46

Extension d'une connexion infinitésimale et application à l'étude des équations d'un champ de Yang et Mills. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 3, A141–A143. (Author's summary) **55** #14022 81.53

Kerby, William (*with* Wefelscheid, Heinrich) Bemerkungen über Fastbereiche und scharf zweifach transitive Gruppen. *Abh. Math. Sem. Univ. Hamburg* **37** (1972), 20–29. (S. Priess-Crampe) **46** #9125 16A78 (08A05, 50D35)

(*with* Wefelscheid, Heinrich) Über eine scharf 3-fach transitiven Gruppen zugeordnete algebraische Struktur. *Abh. Math. Sem. Univ. Hamburg* **37** (1972), 225–235. (V. Havel) **46** #7324 16A78

(*with* Wefelscheid, Heinrich) Conditions of finiteness on sharply 2-transitive groups. *Aequationes Math.* **8** (1972), 287–290. (S. Prieß-Crampe) **48** #4146 20H15 (50D35)

Automorphisms of homogeneously generated algebras. *Abh. Math. Sem. Univ. Hamburg* **39** (1973), 96–108. (A. O. Morris) **48** #8540 15A78 (20B25)

(*with* Wefelscheid, Heinrich) Ein Unterscheidungsmerkmal bei endlichen scharf 3-fach transitiven Gruppen. *Mitt. Math. Gesellsch. Hamburg* **10**, *no.* 2, 81–87 (1973). (Mark P. Hale, Jr.) **49** #9059 20B20

★On infinite sharply multiply transitive groups. Hamburger Mathematische Einzelschriften, Neue Folge, Heft 6. *Vandenhoeck & Ruprecht, Göttingen*, 1974. 71 *pp.* (E. L. Spitznagel) **52** #5808 20E99 (20B20)

(*with* Wefelscheid, Heinrich) The maximal sub near-field of a near-domain. *J. Algebra* **28** (1974), 319–325. (J. J. Malone) **48** #11222 16A76

Sharply 3-transitive groups of characteristic ≡1 mod 3. *J. Algebra* **32** (1974), 240–245. (J. D. Dixon) **50** #452 20B20

(*with* Wefelscheid, Heinrich) Über eine Klasse von scharf 3-fach transitiven Gruppen. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, II. *J. Reine Angew. Math.* **268/269** (1974), 17–26. (V. Havel) **50** #4716 20B20

Endlichkeitsbedingungen in der Mathematik. *Mitt. Math. Gesellsch. Hamburg* **10**, *no.* 3, 165–177 (1974). (Curt Christian) **54** #4984 04–01

Sharply 2- and 3-transitive groups with kernels of finite index. *Aequationes Math.* **14** (1976), *no.* 1-2, 137–141. (Donald E. Taylor) **57** #12655 20B20 (12K05)

Kerchman, V. I. *See* **Kerčman, V. I.**

Kerchner, R. B. *See* **Control in space, 48** #8040

Kerckhoffs, E. J. H. Some considerations on stationary discrete and adjoint continuous iteration processes. *Delft Progress Rep. Ser. F* **3** (1977/78), *no.* 1, 8–18. (Werner C. Rheinboldt) **58** #19100 65H10

Kerčman, V. I. Problems of consolidation and coupled thermoelasticity for a deformable halfspace. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1976**, *no.* 1, 45–54 (*Russian*); *translated as Mech. Solids* **11** (1976), *no.* 1, 43–51. (M. N. L. Narasimhan) **58** #19571 73.35

Kerdock, A. M. A class of low-rate nonlinear binary codes. *Information and Control* **20** (1972), 182–187; *ibid.* **21** (1972), 395. (S. Guiaşu) **49** #10438 94A10

See also **Cybernetics collection, 48** #5714

Kerdock, Anthony M. (*with* MacWilliams, F. Jessie; Odlyzko, Andrew M.) A new theorem about the Mattson-Solomon polynomial and some applications. *IEEE Trans. Information Theory* **IT-20** (1974), 85–89. (G. Solomon) **51** #2763 94A10

Kerefov, A. A. A generalized Gevrey problem for a parabolic equation with alternating signs of the first kind in the coefficient of the time derivative. (Russian) *Differential and integral equations, No. 1 (Russian), pp.* 82–87. *Kabardino-Balkarsk. Gos. Univ., Nal'chik*, 1973. (Editors) **58** #29281 35K99

A certain boundary value problem of Gevrey for a parabolic equation with a discontinuity of the first kind involving a change of sign in the coefficient of the time derivative. (Russian) *Differencial'nye Uravnenija* **10** (1974), 69–77, 180. (Author's summary) **57** #16990 35K20

Certain boundary value problems for mixed-parabolic equations. (Russian) *Differencial'nye Uravnenija* **11** (1975), 75–84, 203. (Megumi Saigo) **51** #1147 35M05

(*with* Dikinov, H. Ž.; Nahušev, A. M.) A certain boundary value problem for a loaded heat equation. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 1, 177–179, 191–192. (V. M. Isakov) **58** #11918 35K20 (35R30)

The Gevrey problem for a certain mixed-parabolic equation. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 1, 76–83, 188. (A. P. Soldatov) **57** #13227 35M05

Kerekeša, P. V. The fundamental mixed problem of elasticity theory for a half-space. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv.* **1971**, *no.* 13, 136–139, 150. (V. Komkov) **46** #4830 73.35

A certain boundary value problem of the biharmonic equation for the half-plane. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1705–1708, 1720. (Bert-Wolfgang Schulze) **52** #11314 35J40 (31A30)

(*with* Karelin, O. A.) On the theory of the Carleman problem for a strip with an analytic shift in the domain. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 12, 1070–1073, 1149. (S. G. Samko) **54** #2982 30A88

(*with* Vasilevskiĭ, N. L.; Karelin, O. A.; Litvinčuk, G. S.) A class of singular integral equations with involution, and its applications in the theory of boundary value problems for partial differential equations. I. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 9, 1692–1700, 1735. (Authors' summary) **58** #12244 45E10

(*with* Vasilevskiĭ, N. L.; Karelin, O. A.; Litvinčuk, G. S.) A class of singular integral equations with involution, and its applications to the theory of boundary value problems for partial differential equations. II. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 11, 2051–2062, 2109. (From the introduction) **58** #12245 45E10 (35M05)

Keren-Zvi, Y. (*with* Lee, Sang C.) A generalized Boolean algebra and its application logic design. *Proceedings of the 1975 International Symposium on Multiple-Valued Lo (Indiana Univ., Bloomington, Ind., 1975), pp.* 88–98. *IEEE Comput. Soc., Long Bea Calif.*, 1975. (Authors' summary) **58** #9854 94A20

Kerer, E. Š. Some theorems on the structure of finitely generated modules over princi ideal rings. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 119 *Mat. i Meh. Vyp.* 40 (197 55–66, ii. (Chr. U. Jensen) **53** #10780 13C05

The ring of endomorphisms of a finitely generated module over a principal id ring. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 119 *Mat. i Meh. Vyp.* 40 (1975), 67– ii. (L. A. Skornjakov) **53** #13189 13C05

(*with* Berman, S. D.) Representations of a torsion-free nilpotent group of class t with two generators. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 4, 70– (Uno Kaljulaid) **58** #5883 20C25

Keres, H. P. Representations of the Newtonian theory. (Russian) *Gravitation: proble prospects (dedicated to the memory of A. Z. Petrov) (Russian), pp.* 62–82, 356. *Izd "Naukova Dumka", Kiev*, 1972. (N. Rosen) **49** #4523 83.53

The tensorial gravitation potential, and the four-dimensional representation Newtonian theory by É. Cartan. (Russian. Estonian and English summaries) *Eesti N Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 4, 349–358. (Author's summa **58** #25787 83.53

Kereselidze, A. B. (*with* Mirianašvili, M. M.; Kirija, V. S.) Foundations of a nonholonomically covariant formulation of general relativity theory. (Russian) *I Vysš. Učebn. Zaved. Fiz.* **1974**, *no.* 12, 55–60. (Authors' summary) **58** #25793 83

Keresztély, S. Stability range of feedback control systems. (German and Russian summaries) *Acta Tech. Acad. Sci. Hungar.* **68** (1970), 131–144. (Author's summa **55** #7524 93D10

de Kerf, E. A. *See* **De Kerf, E. A.**

de Kerf, J. *See also* **De Kerf, J.**

de Kerf, Joseph L. F. *See* **De Kerf, Joseph L. F.**

Kergall, Élisabeth Monomes premiers d'une fonction de plusieurs variables sur une algè à *p* valeurs. Trois méthodes de détermination. *C. R. Acad. Sci. Paris Sér. A* **278** (197 1483–1485. (H. A. Thurston) **49** #10622 08A05

Kergall, Y. Étude des tresses de Gutmann en algèbre à *P* valeurs. (English summar *Math. Sci. Humaines No.* 46 (1974), 5–19. (E. Harzheim) **50** #12825 06A05 (94A

Kerge, R. M. On an error estimate for the method of subregions. (Russian) *Ž. Vyčisl. M i Mat. Fiz.* **18** (1978), *no.* 3, 628–633, 811. (Author's summary) **58** #19175 65L (65R05)

Kéri, Gerzson On the minimum value of a quadratic function under linear constrain *Studia Sci. Math. Hungar.* **6** (1971), 193–196. (S. Krčevinac) **49** #8661 90C20

A modified stepping-stone algorithm for the transportation problem. (German a French summaries) *Math. Operationsforsch. Statist.* **3** (1972), *no.* 5, 327–331. (From author's introduction) **55** #9947 90C05 (90B10)

An examination of nonnegativity and quasiconvexity conditions of quadratic for on the nonnegative orthant. *Studia Sci. Math. Hungar.* **7** (1972), 11–20. (B. Leving **47** #3415 15A63 (90C20)

On a certain class of quadratic forms. (Hungarian. English summary) *Alkalm Mat. Lapok* **2** (1976), *no.* 3-4, 395–411 (1977). (Editors) **58** #529 10E25 (15A 90C25)

On a combinatorial tableau filling problem and equivalent variants of it that a connected with various topics. (Hungarian. English and Russian summaries) *Közlemények—MTA Számitástechn. Automat. Kutató Int. Budapest No.* 19 (1978), 29– (László Lovász) **57** #12241 05A15 (90B99)

Kerimov, A. K. On the global controllability of nonlinear processes. (Russian. Azerbaij and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Na* **1974**, *no.* 6, 114–118. (M. M. Konstantinov) **51** #11251 49E15

Controllability in the large of linear periodic systems in the presence of constrai on the controls. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1575–1583, 17 (I. Muntean) **52** #6542 49E15

On the pursuit problem in nonlinear differential games. (Russian. Azerbaijani a English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Na* **1975**, *no.* 5, 51–55. (A I. Subbotin) **54** #6973 90D25

Nonlinear differential pursuit games. (Russian) *Dokl. Akad. Nauk SSSR* **2** (1976), *no.* 6, 1277–1279. (A. I. Subbotin) **54** #2228 90D25

The pursuit problem for a class of linear differential games. *Izv. Akad. Nauk SSS Tehn. Kibernet.* **1976**, *no.* 2, 8–12 (*Russian*); *translated as Engrg. Cybernetics* **14** (197 *no.* 2, 6–10 (1977). (Author's summary) **58** #15246 90D25

Nonlinear differential games. (Russian. Azerbaijani and English summaries) *Iz Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 2, 37–41. (Autho summary) **56** #2438 90D25

Kerimov, D. A. *See* **Cybernetics—in the service of Communism, 48** #10432

Kerimov, G. A. (*with* Verdiev, Ĭ. A.; Smorodinskiĭ, Ja. A.) The Clebsch-Gordan coefficients of the group O(2,1). *Jadernaja Fiz.* **20** (1974), 827–838 (*Russian*); *translat as Soviet J. Nuclear Phys.* **20** (1975), 441–446. (J. E. Lowther) **53** #7257 81.22

(*with* Verdiev, Ĭ. A.; Smorodinskiĭ, Ja. A.) Clebsch-Gordan coefficients of t Lorentz group. *Jadernaja Fiz.* **21** (1975), *no.* 6, 1351–1361 (*Russian*); *translated as Sov J. Nuclear Phys.* **21** (1975), *no.* 6, 697–701. (Editors) **56** #4469 81.22

The Clebsch-Gordan coefficients of the group SL(2,*C*). (Russian. Azerbaijani a English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Na* **1976**, *no.* 1, 97–105. (L. Méder) **54** #12009 81.22

Kerimov, Ja. R. A study of the spectrum of a nonselfadjoint second order differenti operator with operator coefficients on the real line. (Russian) *Proceedings of t Summer School in the Spectral Theory of Operators and the Theory of Group Representation (Baku, 1968) (Russian), pp.* 122–129, *Izdat. "Èlm", Baku*, 1975. (Bor Pavlov) **57** #12988 34B25 (47E05)

Expansion in eigenfunctions of a nonselfadjoint second order differential operat with operator-valued coefficients on the real axis. (Russian. Azerbaijani and Englis summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1975**, *no.* 13–18. (Leo F. Boron) **53** #13713 34B25

(*with* Aslanov, M. A.; Solov'ev, A. N.) A study of the eigenvalues and spectr singularities of a nonselfadjoint operator. (Russian) *Spectral theory of operators*

(*Russian*), *pp*. 12–21. *Izdat*. "*Èlm*", *Baku*, 1977. (E. R. Cekanovs′kiĭ) **58** #11603 34B25

Expansion in the eigenfunctions of a nonselfadjoint differential operator. (Russian) *Spectral theory of operators* (*Russian*), *pp*. 208–241. *Izdat*. "*Èlm*", *Baku*, 1977. (Stefan Balint) **58** #11610 34B25

The structure of the spectrum of a certain differential operator with completely continuous operator coefficients. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no*. 1, 63–66. (RŽMat **1978** #1 B521) **58** #23152 35P05

rimov, K. G. (*with* Gamidov, Š. G.) Relations between the lengths of subcritical intervals of interpolation problems. (Russian) *Differencial′nye Uravnenija* **8** (1972), 909–912. (J. W. Schmidt) **48** #1476 65L10 (34B10)

rimov, K. R. The spectrum of boundary value problems for elliptic operator differential equations. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no*. 2, 143–148. (Stefan Balint) **50** #7715 34G05

rimov, L. N. (*with* Pankov, P. S.) A boundary value problem for a nonlinear operator-partial differential equation with lag. (Russian) *Studies in integrodifferential equations in Kirgizia, No*. 8 (*Russian*), *pp*. 276–284, 337. *Izdat*. "*Ilim*", *Frunze*, 1971. (Authors' summary) **57** #13254 35R10 (47H15)

rimov, R. Ju. (*with* Horošun, L. P.) Complex representations of plane physically nonlinear problems of the mechanics of a solid body. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no*. 2, 120–127. (M. Mişicu) **45** #8084 73.30

rimov, T. G. (*with* Maksudov, F. G.) A study of the spectrum of a singular differential operator with an integral boundary condition. (Russian) *Functional analysis and its application* (*Russian*), *pp*. 116–127. *Izdat*. "*Èlm*", *Baku*, 1971. (D. Judge) **52** #875 34B25

(*with* Gadirova, T. A.) Short expansion in the eigenfunctions of a differential operator with an integral boundary condition. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no*. 1, 52–56. (Authors' summary) **58** #6463 34B25 (47E05)

erimov, T. M. A certain regularization for a general singular operator. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no*. 5-6, 61–64. (S. Rolewicz) **46** #689 47A50 (46K99)

(*with* Kondrat′ev, V. A.) The spectrum of a second order elliptic operator. (Russian) *Mat. Zametki* **20** (1976), *no*. 3, 351–358. (Jan Bochenek) **55** #6031 35P15 (35J25)

The mixed boundary value problem for a second order linear elliptic equation. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no*. 3, 477–480, 572–573. (Ja. A. Roĭtberg) **57** #10213 35J25

The nonnegative eigenfunction of fundamental boundary value problems for an elliptic equation. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no*. 1, 81–85. (H. Triebel) **57** #863 35J25 (35P15)

The classical solution of the mixed problem for second order elliptic equations. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no*. 6 (198), 255–256. (Todor G. Genčev) **58** #1580 35J25

Kerimov, Z. G. (*with* Bagirov, S. A.) An application of the geometric programming method in the optimal design of mechanical transmissions. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl*. **30** (1974), *no*. 2, 16–20. **50** #3953 90C50

Kerimova, D. N. (*with* Šafiev, R. A.) The continuous analogue of a certain class of iteration methods. (Russian. Azerbaijani summary) *Akad. Nauk Azerbaĭdžan. SSR Dokl*. **27** (1971), *no*. 5, 3–8. (G. Vainikko) **46** #6611 65M99

Kerker, Milton *See* **Philosophers and machines**, **52** #5275

Kerkyacharian, Gérard Transformées de Cauchy et approximation polynomiale pondérée sur les courbes de Jordan. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A279–A281. (E. B. Saff) **46** #2330 41A65

Kerler, W. Definition of path integrals and rules for non-linear transformations. *Nuclear Phys. B* **139** (1978), *no*. 3, 312–326. (M. J. Goovaerts) **58** #4030 81.28 (58D99)

Kerlick, G. David (*with* Hehl, Friedrich W.; von der Heyde, Paul) General relativity with spin and torsion and its deviations from Einstein's theory. *Phys. Rev. D* (3) **10** (1974), 1066–1069. (Authors' summary) **53** #10137 83.53

(*with* Hehl, Friedrich W.; von der Heyde, Paul) On a new metric affine theory of gravitation. *Phys. Lett. B* **63** (1976), *no*. 4, 446–448. (M. Sachs) **54** #2096 83.53

(*with* Hehl, Friedrich W.; von der Heyde, Paul; Nester, James M.) General relativity with spin and torsion: foundations and prospect. *Rev. Modern Phys*. **48** (1976), *no*. 3, 393–416. (M. Carmeli) **55** #11902 83.53

(*with* Hehl, Friedrich W.; Lord, Eric A.; Smalley, Larry L.) Hypermomentum and the microscopic violation of the Riemannian constraint in general relativity. *Phys. Lett. B* **70** (1977), *no*. 1, 70–72. (Authors' summary) **57** #11599 83.49

(*with* Hehl, Friedrich W.) Metric-affine variational principles in general relativity. I. Riemannian space-time. *Gen. Relativity Gravitation* **9** (1978), *no*. 8, 691–710. (Authors' summary) **58** #20182. 83.49

Kerlin, Edward (*with* Lambert, Alan L.) Strictly cyclic shifts on l_p. *Acta Sci. Math.* (*Szeged*) **35** (1973), 87–94. (Mary R. Embry) **48** #7000 47B37

Kerlin, J. E. Tensor products of group algebras. *Trans. Amer. Math. Soc*. **175** (1973), 1–36. (J. B. Prolla) **47** #848 46M05 (43A20)

Kerlin, J. Edward On algebra actions on a group algebra. *Pacific J. Math*. **38** (1971), 669–680. (R. Rigelhof) **50** #14063 43A20

Representations of generalized multipliers of L^p-spaces of locally compact groups. *Bull. Amer. Math. Soc*. **79** (1973), 1223–1228 (1974). (Johan F. Aarnes) **51** #8746 43A22

Beurling algebras on locally compact groups, tensor products, and multipliers. *Studia Math*. **52** (1974), 9–21. (James T. Burnham) **51** #1283 43A20

(*with* Pepe, W. D.) Norm decreasing homomorphisms between group algebras. *Pacific J. Math*. **57** (1975), *no*. 2, 445–451. (G. V. Wood) **54** #5746 43A20 (43A22)

Kerman, A. K. (*with* Auerbach, Naftali; Hüfner, Jörg; Shakin, C. M.) A theory of isobaric analog resonances. *Rev. Modern Phys*. **44** (1972), 48–125. (Authors' summary) **55** #9760 81.47

(*with* Koonin, S. E.) Hamiltonian formulation of time-dependent variational principles for the many-body system. *Ann. Physics* **100** (1976), *no*. 1-2, 332–358. (H. S. P. Grässer) **54** #14646 81.49

Kerman, R. A. Generalized Hankel conjugate transformations on rearrangement invariant spaces. *Trans. Amer. Math. Soc*. **232** (1977), 111–130. (Kenneth F. Andersen) **56** #9174 42A40 (44A25)

Boundedness criteria for generalized Hankel conjugate transformations. *Canad. J. Math*. **30** (1978), *no*. 1, 147–153. (Kenneth F. Andersen) **57** #7050 44A15 (42A40)

Kern, D. M. (*with* Watkins, T. A.) On UMVU estimators related to the multivariate normal distribution. *Comm. Statist*. **2** (1973), 321–326. (K. R. Shah) **48** #9940 62F10

Kern, E. Vierdimensionale Richtungsvektoren und Lorentztransformationen. *Acta Phys. Austriaca* **39** (1974), 274–287. **53** #12478 83.53

Kern, Günter ★Zur absoluten Stabilität einer bestimmten Klasse diskreter Systeme mit nichtlinearen Funktionen von verschiedenen Zustandsvariablen. Berichte der Mathematisch-statistischen Sektion, Forschungszentrum Graz, No. 50 (1976). *Mathematisch-statistische Sektion, Forschungszentrum Graz, Graz*, 1976. 25 *pp*. (A. Halanay) **56** #11311 93D10 (34D25)

Euklidische Steuerbarkeitskriterien für bilineare Kontrollsysteme mit retardiertem Argument. *Ber. Math.-Statist. Sekt. Forsch. Graz No*. 64 (1976), 63–77. (M. M. Konstantinov (Zbl **355** #93007)) **58** #33249 93B05

Zur absoluten Stabilität einer bestimmten Klasse diskreter dynamischer Systeme mit nichtlinearen Funktionen von verschiedenen Zustandsvariablen. *Z. Angew. Math. Mech*. **57** (1977), *no*. 5, *T*70–*T*72. (H. J. Stetter) **57** #9228 93D99

Kern, Jochen (*with* Glasser, David) Bounds and approximate solutions to linear problems with nonlinear boundary conditions: solidification of a slab. *AIChE J*. **24** (1978), *no*. 2, 161–170. (John Crank) **57** #4531 65M99 (80.65)

Kern, Jürgen Lagrange geometry. *Arch. Math*. (*Basel*) **25** (1974), 438–443. (Makoto Matsumoto) **50** #11075 53B40

Kern, K. (*with* Mader, R.) Iterative Berechnung der ebenen, kompressiblen Strömung um Ellipse und Kreisbogenzweieck. (English summary) *Acta Mech*. **24** (1976), *no*. 1-2, 47–61. (E. Meister) **54** #1872 76.65

Kern, Martin (*with* Nagel, Rainer J.; Palm, Günther) Dilations of positive operators: construction and ergodic theory. *Math. Z*. **156** (1977), *no*. 3, 265–277. (P. E. Kopp) **58** #12448 47A35 (47B55)

Kern, Ralf Multiply periodic real functions and their period sets. *Manuscripta Math*. **20** (1977), *no*. 2, 153–175. (A. Precupanu) **55** #10613 (E **58** #2007) 26A15

Addendum: "Multiply periodic real functions and their period sets" (Manuscripta Math. **20** (1977), no. 2, 153–175). *Manuscripta Math*. **22** (1977), *no*. 3, 289–292. (A. Precupanu) **58** #2007 42A84

Kern, W. (*with* Felderhof, B. U.) Stability of nonlinear diffusion. *Z. Phys. B* **28** (1977), *no*. 2, 129–134. (Brian DeFacio) **56** #10460 80.35

(*with* Felderhof, B. U.) Variational principle for flow of non-Newtonian fluids. *Z. Phys. B* **29** (1978), *no*. 4, 293–297. (Authors' summary) **58** #14324 76.49

Kern, Werner Speicheroptimale Formelübersetzung. (English summary) *Acta Informat*. **7** (1976/77), *no*. 3, 269–287. (I. Hal Sudborough) **57** #18191 68A05

(*with* Walter, Hermann K.-G.; Keklikoglou, Joannis) The behaviour of parsing time under grammar morphisms. (French summary) *RAIRO Inform. Théor*. **12** (1978), *no*. 2, 83–97, iii. (Anton Nijholt) **58** #8545 68A30

Kerndl, Jindřich Correspondences between line complexes in three-dimensional affine space. (Russian. Loose English summary) *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no*. 2, 145–157. (M. A. Akivis) **52** #15279 53A25

Kerner, Edward H. Extended inertial frames and Lorentz transformations. II. *J. Mathematical Phys*. **17** (1976), *no*. 10, 1797–1807. (Homer G. Ellis) **55** #11903 81.53

An extension of the concept of inertial frame and of Lorentz transformation. *Proc. Nat. Acad. Sci. U.S.A*. **73** (1976), *no*. 5, 1418–1421. (Homer G. Ellis) **54** #4522 83.50

Multiple speciation, competitive exclusion, evolutionary pattern, and the grand ensemble in Volterra eco-dynamics. *Bull. Math. Biology* **40** (1978), *no*. 3, 387–410. (Author's summary) **58** #15307 92A15

Kerner, Hans Deformierbare Singularitäten. *Math. Ann*. **199** (1972), 337–344. (M. Schneider) **48** #11566 32C45 (32G10)

Kerner, Immo O. (*with* Al-Sheikh-Khalil, Hassan) Algorithmische Sprache ALGOL 60+8. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **10** (1974), 71–107. (Kenneth J. Hertz) **49** #11868 68A30

Abstrakter Automat mit realistischen Tendenzen. (Russian, English and French summaries) Collection of articles dedicated to Adam Schmidt on the occasion of his 65th birthday. *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **23** (1974), *no*. 8, 667–675. (I. Hal Sudborough) **53** #7134 68A25 (94A30)

Kerner, Martin Lattice measures, realcompactness and pseudocompactness. I. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur*. (8) **59** (1975), *no*. 5, 299–304 (1976). (A. G. A. G. Babiker) **57** #3349 28A55

Lattice measures, realcompactness and pseudocompactness. II. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur*. (8) **59** (1975), *no*. 6, 603–610 (1976). (Beloslav Riečan) **58** #11321 28A55

Kerner, Otto Zur Theorie endlich dimensionaler alternativer Algebren. *Abh. Math. Sem. Univ. Hamburg* **42** (1974), 19–32. (I. P. Šestakov) **51** #5696 17D05

(*with* Thode, Thomas) Primary rings and related radical. *Arch. Math*. (*Basel*) **27** (1976), *no*. 4, 372–377. (B. J. Müller) **56** #5626a 16A21 (16A48)

(*with* Thode, Thomas) Primary rings and related radical. II. *Comm. Algebra* **4** (1976), *no*. 11, 1029–1044. (B. J. Müller) **56** #5626b 16A21 (16A48)

A remark on Morita duality. *Comm. Algebra* **4** (1976), *no*. 12, 1127–1131. (B. J. Müller) **54** #7545 16A49

Kerner, Richard Sur les solutions des équations de champ de jauge non-abelien dans le cas factorisable. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A1181–A1184. (J. R. Vanstone) **45** #1554 83.53

Sur les solutions radiatives approchées des équations du champ de jauge non abélien. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1185–A1188. (J. R. Vanstone) **47** #8049 81.53

Sur l'invariance de la théorie de champ de Yang et Mills classique. *C. R. Acad. Sci.*

Paris Sér. A-B **277** (1973), A1139–A1142. (G. R. Allcock) **49** #4489 81.53

Approximate radiative solutions of the Yang-Mills field equations. *Internat. J. Theoret. Phys.* **8** (1973), *no.* 4, 263–276. (Author's summary) **56** #2027 81.35

Approximate mass formula for mesons: a model with quarks interacting by means of the Yang-Mills field. *Group theoretical methods in physics* (*Proc. Third Internat. Colloq., Centre Phys. Theor., Marseille*, 1974), *Vol.* 2, *pp.* 490–500. *Centre Nat. Recherche Sci., Centre Phys. Theor., Marseille*, 1974. (E. Kyriakopoulos) **56** #10586 81.47

On the Cauchy problem for the Yang-Mills field equations. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **20** (1974), 279–283. (A. Pelczar) **53** #7276 81.35

La diffusion des particules scalaires sur le potentiel de Yang et Mills. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aii, A1463–A1466. (Mineo Ikeda) **51** #14774 81.22

Invariant equations on the fibre bundles. *Group theoretical methods in physics* (*Fourth Internat. Colloq., Nijmegen*, 1975), *pp.* 80–86. *Lecture Notes in Phys., Vol.* 50, *Springer, Berlin*, 1976. (Mauro Francaviglia) **58** #1042 22E70 (55F50, 81.22)

Asymptotic scattering of the Yang-Mills field. *Rep. Mathematical Phys.* **9** (1976), *no.* 1, 95–105. (Mineo Ikeda) **54** #9548 83.22

Deformations of the embedded Einstein spaces. *Differential geometrical methods in mathematical physics* (*Proc. Sympos., Univ. Bonn, Bonn*, 1975), *pp.* 526–538. *Lecture Notes in Math., Vol.* 570, *Springer, Berlin*, 1977. (Mauro Francaviglia) **57** #11640 83.58

Gauge fields over the super-symmetry space. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 321–328. *Academic Press, New York*, 1977. (Editors) **58** #14720 81.53 (53C05)

Deformations of the embedded Einstein spaces. *General Relativity and Gravitation* **9** (1978), *no.* 3, 257–270. (Ann Stehney) **57** #4968 83.53

Kernevez, Jean-Pierre (*with* Quadrat, Jean-Pierre; Viot, Michel) Control of a nonlinear stochastic boundary value problem. *Fifth Conference on Optimization Techniques* (*Rome*, 1973), *Part I*, *pp.* 389–398. *Lecture Notes in Comput. Sci., Vol.* 3, *Springer, Berlin*, 1973. (From the authors' introduction) **56** #11433 93E20 (92A05)

Numerical analysis of problems arising in biochemistry. *Computing methods in applied sciences and engineering* (*Proc. Internat. Sympos., Versailles*, 1973), *Part* 2, *pp.* 312–324. *Lecture Notes in Comput. Sci., Vol.* 11, *Springer, Berlin*, 1974. (I. Norman Katz) **55** #13967 80.65

(*with* Thomas, Daniel) Numerical analysis and control of some biochemical systems. (French summary) *Appl. Math. Optim.* **1** (1974/75), *no.* 3, 222–285. (R. N. P. Singh) **53** #7527 92A05

(*with* Bunow, Barry; Duban, Marie-Claude; Joly, Ghyslaine; Thomas, Daniel) Structuration en espace spontanée à l'intérieur d'une membrane monoenzymatique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 3, A195–A198. (Authors' summary) **55** #14259 92A05

(*with* Knopf-Lenoir, C.; Touzot, G.; Verchery, Georges) An identification method applied to an orthotropic plate bending experiment. *Internat. J. Numer. Methods Engrg.* **12** (1978), *no.* 1, 129–139. (G. Tiwari) **57** #8349 73.65

See also **Conference: Optimization Techniques**, **48** #5759

Kernighan, B. W. (*with* Lin, Shen) An effective heuristic algorithm for the traveling-salesman problem. *Operations Res.* **21** (1973), 498–516. (E. Ja. Gabovič) **50** #12194 90B10 (65K05)

Kernighan, Brian W. Optimal sequential partitions of graphs. *J. Assoc. Comput. Mach.* **18** (1971), 34–40. (I. T. Frisch) **46** #5057 94A20

Kerns, David M. Plane-wave scattering-matrix theory of antennas and antenna-antenna interactions: formulation and applications. *J. Res. Nat. Bur. Standards Sect. B* **80B** (1976), *no.* 1, 5–51. (Author's summary) **54** #9356 78.35

Kerntopf, Pawel On Boolean functions having maximal number of subfunction classes. *15th Annual Symposium on Switching and Automata Theory* (1974), *pp.* 205–211. *IEEE Comput. Soc., Long Beach, Calif.*, 1974. (H. R. Hwa) **54** #2346 94A20

Kerov, S. V. Duality of finite-dimensional *-algebras. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 7 *Mat. Meh. Astronom. Vyp.* 2 (1974), 23–29, 170. (J. M. G. Fell) **50** #10825 46K10 (22D30)

Double function algebras on a finite group. (Russian) Investigations on linear operators and the theory of functions, IV. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **39** (1974), 182–185. (Edwin Hewitt) **49** #5718 43A20

(*with* Veršik, A. M.) Asymptotic behavior of the Plancherel measure of the symmetric group and the limit form of Young tableaux. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 6, 1024–1027. (V. M. Maksimov) **58** #562 10J20 (20C30)

Kerr, A. R. (*with* Gerrand, P. H.) Stability of parametric networks. *Electron. Lett.* **7** (1971), 40–42. (P. R. Bryant) **48** #10682 94A20

Kerr, Arnold D. (*with* Brantman, R.) On the non-existence of adjacent equilibrium states at bifurcation points. (German summary) *Acta Mech.* **23** (1975), *no.* 1-2, 29–47. (F. V. Pohle) **53** #4677 73.34

On the adjacent equilibrium method in the stability theory of conservative elastic continua. (French and German summaries) *Internat. J. Non-Linear Mech.* **12** (1977), *no.* 5, 269–283. (Hilmi Demiray) **57** #11250 73.34

A new iterative scheme for the solution of partial differential equations based on the principle of least squares. *SIAM J. Appl. Math.* **34** (1978), *no.* 1, 149–156. (H.-O. Kreiss) **58** #8389 65P05

An indirect method for evaluating certain infinite integrals. (German summary) *Z. Angew. Math. Phys.* **29** (1978), *no.* 3, 380–386. (Author's summary) **58** #13639 65D30

Kerr, Carolyn India On countably paracompact spaces. *TOPO* 72—*general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.*, 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 243–247. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin*, 1974. (W. M. Fleischman) **54** #6084 54D20

Kerr, D. R. (*with* Brown, Herbert I.; Stratton, Howard H.) The structure of $B[c]$ and extensions of the concept of conull matrix. *Proc. Amer. Math. Soc.* **22** (1969), 7–14. (J. Diestel) **46** #4062 (E **46** #4063) 40H05

(*with* Brown, Herbert I.; Stratton, Howard H.) Corrections to: "The structure of $B[c]$ and extensions of the concept of conull matrix". *Proc. Amer. Math. Soc.* **35** (1972), 621–622. (J. Diestel) **46** #4063 40H05 (46N05)

Kerr, J. R. (*with* Preece, D. A.; Pearce, S. C.) Orthogonal designs for three-dimensional experiments. *Biometrika* **60** (1973), 349–358. (L. D. Baumert) **48** #1399 62K1

(*with* Lee, M. H.; Holmes, J. F.) Generalized spherical wave mutual cohere function. *J. Opt. Soc. Amer.* **67** (1977), *no.* 9, 1279–1281. (Kazimierz Sobczyk) **56** #14174 78.60

Kerr, Jeanne W. (*with* Wetzel, John E.) Dissections of a triangular prism. *Geome Dedicata* **4** (1975), *no.* 2/3/4, 279–289. (M. S. Cheema) **53** #2714 05B30 (50B

(*with* Wetzel, John E.) Dissections of a polygon. *Elem. Math.* **33** (1978), *no.* 1, (J. W. Freeman) **57** #7375 52A10

Kerr, R. P. (*with* Weir, G. J.) Diverging type-D metrics. *Proc. Roy Soc. London Ser. A* (1977), *no.* 1680, 31–52. (Mineo Ikeda) **56** #17686 83.53

Kerr, Stanley Many worlds are better than none. *Philos. Sci.* **43** (1976), *no.* 4, 578–582 A. Goodinson) **57** #15171 83.00

See also **Clarke, C. J. S.**, **57** #15172

Kerr, Thomas H. (*with* Eyman, Earl D.) Modelling a particular class of stochastic syste *Internat. J. Control* (1) **18** (1973), 1189–1199. (C. P. Tsokos) **49** #2189 93E20

A simplified approach to obtaining the steady-state initial conditions for li system simulations. *Modeling and simulation* (*Proc. Fifth Annual Pittsburgh Conf., U Pittsburgh, Pittsburgh, Pa.*, 1974), *Vol.* 5, *Part* 2, *pp.* 1037–1042. *Instrument Soc. Am Pittsburgh, Pa.*, 1974. (R. Leonard Brown) **56** #9966 65H10 (93C05)

A new multivariate Cramer-Rao inequality for parameter estimation–applicati input probing function specification. *Proceedings of the* 1974 *IEEE Conference Decision and Control including* 13*th Symposium on Adaptive Processes* (*Phoenix, A.* 1974), *pp.* 97–103. *Inst. Electr. Electron. Engrs., New York*, 1974. (Author's summa **56** #18044 93E10

Real-time failure detection: a nonlinear optimization problem that yields a two-ellipsoid overlap test. *J. Optimization Theory Appl.* **22** (1977), *no.* 4, 509– (Author's summary) **56** #15039 93E10

An invalid norm appearing in control and estimation. *IEEE Trans. Autom Control* **AC-23** (1978), *no.* 1, 73–74. (Arthur J. Krener) **57** #9166 93Bxx (15A60

Kerridge, D. F. (*with* Cook, G. W.; Pryce, J. D.) Estimations of functions of a binon parameter. *Sankhyā Ser. A* **36** (1974), *no.* 4, 443–448. (T. D. Dwivedi) **52** #1218 62F10

Kerrol, Dž. *See* **Carrell, James B.**

Kerry, Ubabuike J. (*with* Hazony, Dov) Active synthesis of all-pole transfer functions w recurrent canonic *RC* ladders. *IEEE Trans. Circuit Theory* **CT-18** (1971), 626–630. N. Bhargava) **47** #6394 94A20

Kershaw, David S. (*with* Snodgrass, Herschel; Zemach, Charles) Methods for the Bethe-Salpeter equation. I. Special functions and expansions in spherical harmoni *Phys. Rev. D* (3) **2** (1970), 2806–2819. (K. J. Le Couteur) **48** #1612 81.35

(*with* Zemach, Charles) Methods for the Bethe-Salpeter equation. II. Brackets the N/D method. *Phys. Rev. D* (3) **2** (1970), 2819–2840. (K. J. Le Couteur) **48** #1 81.35

Feynman amplitudes as power series. *Phys. Rev. D* (3) **8** (1973), 2708–27 (Author's summary) **50** #15659 81.33

A new method for the study of Feynman perturbation series. *J. Mathematical Ph* **15** (1974), 798–807. (W. Güttinger) **49** #10292 81.47

The incomplete Cholesky-conjugate gradient method for the iterative solution systems of linear equations. *J. Computational Phys.* **26** (1978), *no.* 1, 43–65. (Kl Glashoff) **58** #8190 65F10

Kershaw, Donald Sard's best quadrature formulas of order two. Collection of artic dedicated to J. L. Walsh on his 75th birthday, VIII. *J. Approximation Theory* **6** (197 466–474. (F. Stenger) **49** #6566 65D30

The orders of approximation of the first derivative of cubic splines at the kno *Math. Comp.* **26** (1972), 191–198. (J. W. Jerome) **45** #9449 65D10

On the existence of positive solutions of $Au=\lambda Bu$. *Proc. Edinburgh Math. Soc.* **18** (1972/73), 281–285. (O. Taussky-Todd) **50** #352 15A18

Two interpolatory cubic splines. *J. Inst. Math. Appl.* **11** (1973), 329–333. (C. Hall) **49** #940 41A15

Regular and convergent Korovkin sequences. *Linear operators and approximati II* (*Proc. Conf., Math. Res. Inst., Oberwolfach*, 1974), *pp.* 377–389. *Internat. Ser. Num Math., Vol.* 25, *Birkhäuser, Basel*, 1974. (Sheldon Eisenberg) **52** #6264 41A35

Volterra equations of the second kind. *Numerical solution of integral equati* (*Liverpool-Manchester Summer School*, 1973), *pp.* 140–161. *Clarendon Press, Oxfor* 1974. (John M. Bownds) **57** #18156 65R05

Singular integrals and boundary value problems. *Numerical solution of integr equations* (*Liverpool-Manchester Summer School*, 1973), *pp.* 258–266. *Clarendon Pre Oxford*, 1974. (Charles Saltzer) **58** #6971 45E05 (30A88)

Recent results in approximation theory. *The state of the art in numerical analys* (*Proc. Conf., Univ. York, Heslington*, 1976), *pp.* 605–625. *Academic Press, London*, 197 (G. D. Taylor) **57** #17077 41–02

A bound on the inverse of a band matrix which occurs in interpolation by period odd order splines. *J. Inst. Math. Appl.* **20** (1977), *no.* 2, 227–228. (Gheorghe Coma **57** #7943 65D05

Kershenbaum, A. (*with* Van Slyke, R. M.) Recursive analysis of network reliability *Networks* 3 (1973), 81–94. (S. Amarel) **47** #10149 94A20

Computing capacitated minimal spanning trees efficiently. *Networks* **4** (197 299–310. (W.-K. Chen) **51** #15212 94A20

(*with* Van Slyke, R. M.; Frank, Howard) Network reliability analysis. II. *Reliability and fault tree analysis* (*Conf., Univ. California, Berkeley, Calif.*, 1974), *p* 619–650. *Soc. Indust. Appl. Math., Philadelphia, Pa.*, 1975. (W.-K. Chen) **55** #7623 94A20 (90B15)

Kersner, R. Conditions for the localization of heat perturbations in a semibounded movin medium in the presence of absorption. (Russian. English summary) *Vestnik Mosko Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 4, 52–58. (E. Goldhagen) **54** #13316 35K0

Kerstan, Johannes (*with* Debes, Hermann) Zufällige Punktfolgen und Markoffsche Übergangsmatrizen ohne stationäre Verteilungsgesetze. *Wiss. Z. Friedrich-Schiller-Univ. Jena/Thüringen* **18** (1969), *no.* 2, 349–359. (F. Papangelou **45** #1237 60G99

(*with* Debes, Hermann; Liemant, Alfred; Matthes, Klaus) Verallgemeinerunge eines Satzes von Dobruschin. I. *Math. Nachr.* **47** (1970), 183–244. (W. A. O'N. Waugh

5 #4511 60J80

(*with* Debes, Hermann; Liemant, Alfred; Matthes, Klaus) Verallgemeinerungen ines Satzes von Dobruschin. III. *Math. Nachr.* **50** (1971), 99–139. (W. A. O'N. Waugh) 9 #8103 60G55

(*with* Matthes, Klaus; Prehn, Uwe) Verallgemeinerungen eines Satzes von Dobruschin. II. *Math. Nachr.* **51** (1971), 149–188. (W. A. O'N. Waugh) **48** #3133 0J85

Eine Klasse topologischer Räume, die die polnischen Räume und die σ-kompakten lokalkompakten Hausdorffschen Räume verallgemeinern. *Theory of sets and topology (in honour of Felix Hausdorff*, 1868–1942), *pp.* 291–311. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (E. P. Rozycki) **51** #6738 54D99 (28A32)

(*with* Matthes, Klaus; Mecke, Joseph) ★Unbegrenzt teilbare Punktprozesse. Mathematische Lehrbücher und Monographien, II. Abteilung,Mathematische Monographien, Band XXVII. *Akademie-Verlag, Berlin*, 1974. x + 420 *pp.* (Olav Kallenberg) **55** #9262 60G55

(*with* Liese, Friedrich) Zur Existenz bedingter Verteilungsgesetze. I. *Math. Nachr.* **61** (1974), 279–310. (B. Kronfeld) **50** #8623 60A10

Wolfgang Richter. Collection of articles dedicated to the memory of Wolfgang Richter. *Math. Nachr.* **70** (1975), 9–12. (Editors) **52** #13205 01A70

Veröffentlichungen von Prof. Dr. W. Richter. Collection of articles dedicated to the memory of Wolfgang Richter. *Math. Nachr.* **70** (1975), 12–13. (Editors) **52** #13206 01A70

(*with* Matthes, Klaus; Mecke, Joseph) ★Infinitely divisible point processes. Translated from the German by B. Simon. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, Chichester-New York-Brisbane*, 1978. xii + 532 *pp.* *ISBN* 0-471-99460-X (Editors) **58** #24538 60G99

rsten, Ina Über eine Vermutung von Witt. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 179–180. (James K. Deveney) **51** #12806 12F15

Zyklische p-Algebren. *J. Reine Angew. Math.* **297** (1978), 177–187. (Manuel Ojanguren) **57** #9737 16A16

rsten, Paul (*with* Kurz, Ludwik) Bivariate m-interval classifiers with application to edge detection. *Information and Control* **34** (1977), *no.* 2, 152–168. (S. Csibi) **56** #5035 94A05 (62G10)

rsten, Sibylle Die Herleitung eines gruppentheoretischen Axiomensystems für den vierdimensionalen Minkowskischen Raum über einem kommutativen Körper einer Charakteristik $\neq 2$. *Grundlagen der Geometrie und algebraische Methoden (Internat. Kolloq., Pädagog. Hochsch. "Karl Liebknecht", Potsdam*, 1973), *pp.* 62–65. *Potsdamer Forschungen, Reihe B, Heft* 3, *Pädagog. Hochsch. "Karl Liebknecht", Potsdam*, 1974. (A. Cronheim) **50** #10985a 50A15

Die Herleitung eines gruppentheoretischen Axiomensystems für den vierdimensionalen Minkowskischen Raum über einem Körper der Charakteristik $\neq 2$. (Russian and English summaries) *Wiss. Z. Pädagog. Hochsch. "Karl Liebknecht" Potsdam* **19** (1975), *no.* 1, 145–152. (Author's summary) **58** #2582 50A15 (50C25)

ersting, Götz Strong ratio limit property and R-recurrence of reversible Markov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **30** (1974), 343–356. (W. E. Pruitt) **52** #4418 60J10

A note on R-recurrence of Markov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **35** (1976), *no.* 4, 355–358. (R. L. Tweedie) **53** #11759 60J10

Almost sure approximation of the Robbins-Monro process by sums of independent random variables. *Ann. Probability* **5** (1977), *no.* 6, 954–965. (V. Fabian) **58** #13553 62L20 (60F05)

(*with* Antille, André) Tests for symmetry. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **39** (1977), *no.* 3, 235–255. (Yves Lepage) **56** #1575 62G10

Kertész, Andor Centenary of the exact definition of the real numbers. (Hungarian. German summary) *Mat. Lapok* **22** (1971), 231–233 (1972). (From the author's summary) **48** #1853 01A55 (26–03)

(*with* Stern, Manfred) $\mathcal{A}$-Verbände. I. *Wiss. Beiträge Martin-Luther-Univ. Halle-Wittenberg* **M3** (1971), 121–133. (A. C. Choudhury) **46** #7103 06A20

A new proof of Litoff's theorem. *Acta Math. Acad. Sci. Hungar.* **23** (1972), 1–3. (W. S. Martindale, III) **47** #8602 16A40

(*with* Hajnal, András) Some new algebraic equivalents of the axiom of choice. *Publ. Math. Debrecen* **19** (1972), 339–340 (1973). (W. Hodges) **48** #8235 02K20

Ein Radikalbegriff für Moduln. *Rings, modules and radicals (Proc. Colloq., Keszthely*, 1971), *pp.* 255–257. *Colloq. Math. Soc. János Bolyai, Vol.* 6, *North-Holland, Amsterdam*, 1973. (Rainer Mlitz) **50** #376 16A21

Eine neue Charakterisierung der halbeinfachen Ringe. *Acta Sci. Math. (Szeged)* **34** (1973), 169–170. (Robert Gordon) **47** #6765 16A40

Hundert Jahre exakte Einführung der reellen Zahlen. *Nova Acta Leopoldina (N.F.)* **38** (1973), *no.* 211, 455–457 (1974). (Editors) **53** #7678 01A55

(*with* Stern, Manfred) $\mathcal{A}$-Verbände. II. Beiträge zur Algebra und Geometrie, 2. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **4** (1973), 11–18 (1974). (A. C. Choudhury) **54** #12582 06A20

Transfinite Methoden in der Algebra. (Russian summary) *Scripta Fac. Sci. Natur. UJEP Brunensis—Math.* **4** (1974), *no.* 1, 35–37. (Merrie Bergmann) **53** #140 04A25 (00A05)

(*with* Steinfeld, Ottó) Über reguläre Z-Ringe. Beiträge zur Algebra und Geometrie, 3. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **5** (1974), 7–10. (J. K. Luedeman) **52** #13920 16A30

★Einführung in die transfinite Algebra. Elemente der Mathematik vom höheren Standpunkt aus, Band VII. *Birkhäuser Verlag, Basel-Stuttgart*, 1975. 74 *pp.* (U. Felgner) **51** #5320 04A25 (00A05, 15A03)

(*with* Dinh Van Huynh) Über linksnoethersche Ringe, die linksartinsch sind. *Publ. Math. Debrecen* **23** (1976), *no.* 3-4, 335–337. (V. C. Cateforis) **54** #12826 16A46

See also **Rings, modules and radicals**, **49** #5061; **Győry, Kálmán**, **49** #8799; **Beiträge: Algebra und Geometrie**, **52** #5241; **Beiträge: Algebra und Geometrie**, **52** #5242 *and* **Rédei, László; et al.**, **53** #12844

Kertész, Viktor Application of families of distributions to the investigation of differential and integral equations and linear dynamical systems. (Hungarian. German summary) *Mat. Lapok* **21** (1970), 319–334 (1971). (J. Horváth) **46** #9726 46F10 (34A30, 45B05)

Kertz, G. (*with* Meyer, J.; Regan, Francis) Exponential analogues of a generalized Lambert series. *Comment. Math. Prace Mat.* **15** (1971), 103–113. (A. K. Agarwal) **47** #443 30A16

Kertz, Robert P. Limit theorems for discontinuous random evolutions with applications to initial value problems and to Markov processes on N lines. *Ann. Probability* **2** (1974), 1046–1064. (Manfred Schäl) **51** #4421 60J35 (60F05)

Perturbed semigroup limit theorems with applications to discontinuous random evolutions. *Trans. Amer. Math. Soc.* **199** (1974), 29–53. (Thomas G. Kurtz) **50** #14961 60J75 (47D05)

Kervaire, Michel A. ★Lectures on the theorem of Browder and Novikov and Siebenmann's thesis. Notes by K. Varadarajan. Tata Institute of Fundamental Research Lectures in Mathematics, No. 46. *Tata Institute of Fundamental Research, Bombay*, 1969. ii + 126 *pp.* (P. J. Kahn) **49** #3989 57D65 (57C10)

La méthode de Smale pour le dénombrement des équilibres relatifs dans le problème des n corps. *Proceedings of the C. Carathéodory International Symposium (Athens*, 1973), *pp.* 296–305. *Greek Math. Soc., Athens*, 1974. (Donald G. Saari) **58** #13182 58F10 (70.58)

Fractions rationnelles invariantes (d'après H. W. Lenstra). *Séminaire Bourbaki, Vol.* 1973/1974, 26$^{\text{ème}}$ *année, Exp. No.* 445, *pp.* 170–189. *Lecture Notes in Math., Vol.* 431, *Springer, Berlin*, 1975. (Editors) **55** #8007 12A90

Opérations d'Adams en théorie des représentations linéaires des groupes finis. *Enseignement Math.* (2) **22** (1976), *no.* 1-2, 1–28. (A. A. Ranicki) **54** #5325 20C05 (55G25)

(*with* Murthy, M. Pavaman) On the projective class group of cyclic groups of prime power order. *Comment. Math. Helv.* **52** (1977), *no.* 3, 415–452. (Jacques Martinet) **57** #16252 12A35 (20C10)

(*with* Hausmann, Jean-Claude) Sous-groupes derivés des groupes de noeuds. *Enseign. Math.* (2) **24** (1978), *no.* 1-2, 111–123. (J. P. Levine) **58** #7643 57C45

Kervin, Michael R. W. The trace-class of a full Hilbert algebra. *Trans. Amer. Math. Soc.* **178** (1973), 259–270. (P. Saworotnow) **47** #7446 46K15

Kerzjuk, V. I. (*with* Kolomi͡ec′, V. G.) An investigation of the oscillations of nonlinear systems with slowly changing parameters and random perturbations. (Russian) *Mathematical physics, No.* 8 *(Russian), pp.* 91–97. *Naukova Dumka, Kiev*, 1970. (P. Sagirow) **45** #2281 34F05 (60H10)

(*with* Kolomi͡ec′, V. G.) An investigation of nonlinear stochastic systems with slowly varying parameters. (Russian) *Mathematical physics, No.* 10 *(Russian), pp.* 28–34. *Naukova Dumka, Kiev*, 1971. (J. Carkovs) **46** #5780 34F05 (60H10)

Kerzman, Norberto The Bergman kernel function. Differentiability at the boundary. *Math. Ann.* **195** (1972), 149–158. (B. M. Weinstock) **45** #3762 32H10

Remarks on estimates for the $\bar\partial$ equation. *L'analyse harmonique dans le domaine complexe (Actes Table Ronde Internat., Centre Nat. Recherche Sci., Montpellier*, 1972), *pp.* 111–124. *Lecture Notes in Math., Vol.* 336, *Springer, Berlin*, 1973. (R. Michael Range) **52** #14385 32F15

A Monge-Ampère equation in complex analysis. *Several complex variables (Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 161–167. *Amer. Math. Soc., Providence, R.I.*, 1977. (Eric Bedford) **56** #12333 32H99 (35J60, 32F15)

A property of unions of admissible domains. *Several complex variables (Proc. Sympos. Pure Math., Vol. XXX, Part* 2, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 175–179. *Amer. Math. Soc., Providence, R.I.*, 1977. (Eric Bedford) **58** #17223 32F99 (31B25)

(*with* Stein, Elias M.) The Szegő kernel in terms of Cauchy-Fantappiè kernels. *Duke Math. J.* **45** (1978), *no.* 2, 197–224. (Ingo Lieb) **58** #22676 32H10 (45E05)

(*with* Stein, Elias M.) The Cauchy kernel, the Szegö kernel, and the Riemann mapping function. *Math. Ann.* **236** (1978), *no.* 1, 85–93. (Jacob Burbea) **58** #6199 30A31 (30A30)

Kerzner, L. (*with* Abrams, Robert A.) A simplified test for optimality. *J. Optim. Theory Appl.* **25** (1978), *no.* 1, 161–170. (Siegfried Schaible) **58** #4328 90C25

Kesarwani, Roop Narain A property of generalized Hankel transform. *Vikram-Quart. Res. J. Vikram Univ.* **3** (1959), *no.* 3, 52–56. (L. Debnath) **45** #825 44A15

(*with* Wong, C. F.) Asymptotic behaviour of kernels of an integral transform. *Kyungpook Math. J.* **12** (1972), 69–92. (G. Doetsch) **46** #2359 44A05

(*with* Wong, C. F.) On an integral transform involving Meijer's G-functions. *Kyungpook Math. J.* **13** (1973), 281–286. (C. M. Joshi) **49** #5742 44A15

(*with* Wong, C. F.) Lie theory and certain identities satisfied by ${}_pF_p$. *Portugal. Math.* **34** (1975), *no.* 1-2, 119–125. (V. L. Deshpande) **52** #14418 33A75 (33A30)

Kesava Menon, P. On the sum $\sum_{r=0}^{n-1}(-1)^r\binom{n}{r}(n-r)^m$. Volume dedicated to the memory of V. Ramswami Aiyar. *Math. Student* **39** (1971), 415–416 (1972). (Stephen Tanny) **48** #5876 05A15

An enumeration theorem for symmetric groups. Volume dedicated to the memory of V. Ramaswami Aiyar. *Math. Student* **39** (1971), 421–423 (1972). (E. A. Bertram) **54** #2482 05A15

On functions associated with Vaidyanathaswamy's algebra of classes mod n. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 1, 118–141. (I. Niven) **46** #7156 10A99 (04A20)

On a generalization of Jacobi's fundamental formulae in theta functions. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 5, 904–916. (L. Carlitz) **51** #8504 33A70

Interpolation methods in infinite series. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 207–217 (1974). (Y. Komatu) **53** #3319 30A80

Matrices associated with regular simplices and their applications to designs. *Indian J. Pure Appl. Math.* **5** (1974), 47–100. (W. D. Wallis) **51** #12566 05B20

Interpolation matrices and their application to group representation. *J. Indian Math. Soc. (N.S.)* **38** (1974), *no.* 1,2,3,4, 399–403 (1975) (Marvin Marcus) **54** #2680 15A09 (20G05)

Application of near rings to combinatorial problems. *Proc. Indian Nat. Sci. Acad. Part A* **41** (1975), *no.* 3, 189–194. (Günter Pilz) **58** #21689 05B15 (16A76)

Homogeneous quasi-groups and their combinatorial bearings. *Proc. Indian Nat. Sci. Acad. Part A* **41** (1975), *no.* 3, 245–259. (N. I. Sandu) **58** #28242 20N05 (05B05)

A combinatorial problem and its applications. *J. Combinatorics Information Syst. Sci.* **1** (1976), *no.* 3-4, 112–121. (Ronald C. King) **56** #8380 05A15

Kesavan, Srinivasan A lower bound for the number of topologies on a finite set. *Proc. Indian Nat. Sci. Acad. Part A* **41** (1975), *no.* 3, 207–212. (Author's summary) **58** #27529 05A15 (05B99, 54A99)

Homogénéisation et valeurs propres. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 4, A229–A232. (Author's summary) **56** #16168 35P99 (35J15)

(*with* Vanninathan, Muthusamy) L'homogénéisation d'un problème de contrôle optimal. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 6, A441–A444. (Authors' summary) **56** #9440 49E99

(*with* Vanninathan, Muthusamy) Sur une méthode d'éléments finis mixte pour l'équation biharmonique. *RAIRO Anal. Numér.* **11** (1977), *no.* 3, 255–270. (John Whiteman) **56** #10059 65N30

See also **Ciarlet, Philippe G., 55** #4741

Kesava Rao, B. (*with* Mrithyumjaya Rao, K.) Longitudinal vibrations of a prestressed thermo-elastic, transversely isotropic circular cylinder. *Proc. Nat. Acad. Sci. India Sect. A.* **46** (1976), *no.* 4, 263–271. (Authors' summary) **58** #32241 73.35

Kesel'man, D. Ja. On the classification of measures of graphs according to Halin. (Russian) *Trudy Irkutsk. Gos. Univ.* **74** (1970), *Ser. Mat. no.* 6, 180–189. (Editors) **58** #16419 05C99

A certain method for completing the definition of a system of linear equations. (Russian) *Algebra, No. II* (*Russian*), *pp.* 84–90. *Irkutsk. Gos. Univ., Irkutsk*, 1973. (W. Dörfler) **53** #7865 05C99 (15A06)

Numeration of the vertices of a graph. (Russian) *Algebra, No. II* (*Russian*), *pp.* 91–106. *Irkutsk. Gos. Univ., Irkutsk*, 1973. (L. W. Szczerba) **53** #7852 05C30 (02E15)

The elementary theories of graphs and abelian loops. (Russian) *Mat. Zametki* **16** (1974), 957–968. (B. M. Schein) **51** #7959 05C99 (02G05, 20N05)

Graph colorings and quasigroups. (Russian) *Asymptotic and enumeration problems of combinatorial analysis* (*Russian*), *pp.* 59–76. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1976. (Editors) **58** #27602 05C15 (05C25)

A contourless orientation of graph edges. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1978**, *no.* 2, 83–90. (J. Bosák) **58** #16375 05C20 (15A06)

Kesel'man, G. M. Conditions for the selfadjointness of a linear operator. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 59 (1971), 13–19, 146. (H. Langer) **49** #1151 47A05

Riesz bases of subspaces. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 75 (1973), 65–69, 96. (G. Biriuk) **50** #2884 46C05

The n-th root of an isometric operator. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 60–62, 188. (Author's summary) **58** #30354 47A05

Bases of subspaces. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 62–64, 188. (Author's summary) **58** #30087 46C05

Keshava Murthy, G. N. (*with* Unni, K. R.) On a class of functions satisfying the Lipschitz condition. *J. Math. Anal. Appl.* **40** (1972), 643–648. (A. F. Ruston) **47** #3967 46E25 (26A16, 46J99)

(*with* Unni, K. R.) Multipliers on a space of Wiener. *Nanta Math.* **6** (1973), *no.* 1, 29–35. (R. Larsen) **50** #2786 42A18

(*with* Unni, K. R.) Multipliers on weighted spaces. *Functional analysis and its applications* (*Internat. Conf., Eleventh Anniversary of Matscience, Madras*, 1973; *dedicated to Alladi Ramakrishnan*), *pp.* 272–291. *Lecture Notes in Math., Vol.* 399, *Springer, Berlin*, 1974. (Daniel M. Oberlin) **53** #8788 43A22

Multipliers on Segal algebras. *Seminar in Analysis*, 1974, *pp.* 71–104. *Matscience, No.* 5, *Inst. Math. Sci., Madras*, 1976. (Harald E. Krogstad) **56** #9187 43A22

See also **Unni, K. R., 52** #13053; **Unni, K. R., 52** #13055 *and* **Proceedings: Conference on Numerical Analysis and Combinatorial Methods, 56** #16

Keshavan, H. R. (*with* Srinath, Mandyam D.) Linear least squares estimation of complex processes. *Internat. J. Systems Sci.* **8** (1977), *no.* 3, 353–360. (Tohru Katayama) **56** #2595 93E10

(*with* Srinath, Mandyam D.) Enhancement of noisy images using an interpolative model in two dimensions. *IEEE Trans. Systems Man Cybernet.* **SMC-8** (1978), *no.* 4, 247–258. (Shinichi Tamura) **57** #19054 94A05 (68A45)

Keskinen, R. (*with* Lehtinen, M.) On the linear connection and curvature in Newtonian mechanics. *J. Mathematical Phys.* **17** (1976), *no.* 11, 2082–2084. (Klaus Horneffer) **54** #9227 70.53

Kesler, I. (*with* Golenko, D.; Širvinskiĭ, È.) An investigation of the comparative efficiency of methods of predicting time series. (Russian) *Algorithms, and organizing the solution of economic problems, No.* 1 (*Russian*), *pp.* 68–84, 117. *Izdat. "Statistika", Moscow*, 1973. (Ĭ. M. Stojanov) **49** #4184 (EA **50**) 62M20 (90A20)

Kesler, S. Š. (*with* Golenko, D. I.; Gelever, K. G.; Gofman, È. F.) Problems on optimal scheduling and optimal resource allocation for a technological operating procedure. (Rusian) *Numerical analysis, and statistical models of complex systems, Part II* (*Russian*), *pp.* 3–40. *Moskov. Èkonom.-Statist. Inst., Moscow*, 1974. (Editors) **56** #2324 90B35

(*with* Golenko, D. I.; Blanter, A. F.; Borisov, A. S.; Tarnopol'skiĭ, Ju. A.) A stationary strategy for resource allocation in a production system. (Russian) *Numerical analysis, and statistical models of complex systems. Part II* (*Russian*), *pp.* 153–166. *Moskov. Èkonom.-Statist. Inst., Moscow*, 1974. (Editors) **56** #2314 90B30

Kessel', M. G. *See* **Differential equations, approximate methods of their solution, 58** #28740

Kessel, U. Anwendung asymptotischer Methoden zur Lösung von singulären Störungsproblemen und singulären Randwertaufgaben. 5. *Tagung über Probleme und Methoden der Mathematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *Heft* 1, *pp.* 77–83. *Wiss. Schr. Techn. Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt*, 1975. (K. Kreith) **55** #3493 35B25

Kessler, Irving (*with* Fredricksen, Harold) Lexicographic compositions and deBruijn sequences. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 315–339. *Congressus Numeratium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (H. L. Abbott) **52** #13626 10A45

(*with* Livingston, M. L.) The expected number of parts in a partition of n. *Monatsh. Math.* **81** (1976), *no.* 3, 203–212. (Morris Newman) **55** #7962 10J20

(*with* Chowla, S.; Livingston, M. L.) On character sums and the non-vanishing $s>0$ of Dirichlet L-series belonging to real odd characters χ. *Acta Arith.* **33** (1977), 1, 81–87. (T. M. Apostol) **55** #7947 10H10

(*with* Fredricksen, Harold) Lexicographic compositions and deBruijn sequences. *Combinatorial Theory Ser. A* **22** (1977), *no.* 1, 17–30. (Editors) **54** #11837 68A10

Kessler, Peter Locally paracompact spaces. (Romanian. German summary) *An. Un Craiova Ser. a IV-a* **1** (1970), 35–38. (S. Gacsályi) **48** #9657 54D20

Paracompact sets. (Romanain. English summary) *An. Univ. Craiova Ser. a IV-* (1970), 39–44. (S. Gacsályi) **48** #9658 54D20

Topologien auf Räumen von Teilmengen. *An. Univ. Bucureşti Mat.-Mec.* **21** (197 *no.* 2, 45–60. (K. D. Magill, Jr.) **50** #3174 54B20

Topologies on the space of multiple-valued functions. (Romanian. English summary) *Stud. Cerc. Mat.* **25** (1973), 647–654. (O. Costinescu) **50** #8432 54C6

A note on lower semicontinuity of multifunctions. (Romanian summary) *An. Un Craiova Ser. a V-a No.* 2, 39–41 (1974). (R. E. Smithson) **53** #14402 54C60

Kesten, Harry Hitting of sets by processes with stationary independent increments. *Ac du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 525–530. *Gauthier-Villars, Paris*, 1971. (S. J. Taylor) **54** #11525 60J30 (60J55)

Limit theorems for stochastic growth models. I, II. *Advances in Appl. Probability* (1972), 193–232; *ibid.* **4** (1972), 393–428. (K. Dietz) **49** #8128 60J80 (92A10)

Sums of independent random variables—without moment conditions. *Ann. Ma Statist.* **43** (1972), 701–732. (H. Bergström) **46** #941 60F15 (60G50)

(*with* Getoor, Ronald K.) Continuity of local times for Markov processes. *Compositio Math.* **24** (1972), 277–303. (S. C. Port) **46** #10075 60J25

Random difference equations and renewal theory for products of random matrices *Acta Math.* **131** (1973), 207–248. (K. B. Erickson) **55** #13595 60K05 (60K15)

Renewal theory for functionals of a Markov chain with general state space. *An Probability* **2** (1974), 355–386. (K. B. Erickson) **51** #1992 60K05 (60J10, 60K15)

(*with* Erickson, K. Bruce) Strong and weak limit points of a normalized rando walk. *Ann. Probability* **2** (1974), 553–579. (V. K. Rohatgi) **50** #11459 (EA **51**) 60J15 (60F15)

(*with* Spitzer, Frank L.) Controlled Markov chains. *Ann. Probability* **3** (197 32–40. (François Brodeau) **50** #16054 93E20

(*with* Kozlov, M. V.; Spitzer, Frank L.) A limit law for random walk in a rando environment. *Compositio Math.* **30** (1975), 145–168. (K. B. Erickson) **52** #1895 60J15 (60F05, 60J80)

Sums of stationary sequences cannot grow slower than linearly. *Proc. Amer. Ma Soc.* **49** (1975), 205–211. (C. L. Scheffer) **51** #6939 60F15 (28A65)

Recurrence criteria for multi-dimensional Markov chains and multi-dimension linear birth and death processes. *Advances in Appl. Probability* **8** (1976), *no.* 1, 58–8 (Norman Kaplan) **54** #14133 60J80

Existence and uniqueness of countable one-dimensional Markov random fields *Ann. Probability* **4** (1976), *no.* 4, 557–569. (T. M. Liggett) **53** #14671 60J10 (60K3

(*with* O'Brien, George) Examples of mixing sequences. *Duke Math. J.* **43** (1976 *no.* 2, 405–415. (David J. Scott) **53** #14617 60F99 (60G10)

Lévy processes with a nowhere dense range. *Indiana Univ. Math. J.* **25** (1976), *no.* 45–64. (P. W. Millar) **53** #4241 60J30 (60J55)

A renewal theorem for random walk in a random environment. *Probability* (*Pro Sympos. Pure Math., Vol. XXXI, Univ. Illinois, Urbana, Ill.*, 1976), *pp.* 67–77. *Ame Math. Soc., Providence, R.I.*, 1977. (C. Stone) **56** #16848 60K99

Branching Brownian motion with absorption. *Stochastic Processes Appl.* **7** (1978 *no.* 1, 9–47. (Søren Asmussen) **58** #13384 60J80

See also **Kingman, J. F. C., 50** #8663 *and* **Vallander, S. S., 53** #4239

Kestenband, Barbu C. (*with* Young, H. Peyton) Matroid designs of prime power index. *Combinatorial Theory Ser. A* **24** (1978), *no.* 2, 211–234. (Michael J. Ganley) **58** #2173 05B35 (05B05)

Kester, Adri Asymptotic normality of the number of small distances between rando points in a cube. *Stochastic Processes Appl.* **3** (1975), 45–54. (Roger E. Miles) **52** #933 60F05 (60D05)

(*with* Keilson, Julian) Monotone matrices and monotone Markov processes. *Stochastic Processes Appl.* **5** (1977), *no.* 3, 231–241. (R. L. Tweedie) **56** #16796 60J10 (60J35)

(*with* Keilson, Julian) Unimodality preservation in Markov chains. *Stochastic Process. Appl.* **7** (1978), *no.* 2, 179–190. (D. J. Daley) **58** #13360 60J10

Kesteven, M. On the mathematical theory of clock escapements. *Amer. J. Phys.* **46** (1978) *no.* 2, 125–129. (From the introduction) **57** #8237 70.00

Kestin, J. (*with* Bataille, J.) L'interprétation physique de la thermodynamique rationnelle (English summary) *J. Mécanique* **14** (1975), *no.* 2, ii, 365–384. (N. D. Sengupta **53** #15112 80.35

Kestner, Neil R. (*with* Young, Ralph H.; Deal, Walter J., Jr.) Double perturbation theory applied to frequency-dependent polarizabilities. I, II. *J. Chem. Phys.* **49** (1968), 3392–3395; *ibid.* **49** (1968), 3395–3400. (T. Sasakawa) **48** #7824 81.35

Keštov, R. A. (*with* Bašmakov, M. I.) The localization of the units of a number field (Russian) Rings and modules. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov* (*LOMI*) **64** (1976), 5–11, 159. (Helmut Koch) **56** #5500 12A65 (12B20)

Localization of a group of coverings. (Russian) *Algebra and number theory, No.* (*Russian*), *pp.* 88–92. *Kabardino-Balkarsk. Gos. Univ., Nalchik*, 1977. (J. Browkin) **58** #590 12A60

Keszthelyi, T. (*with* Nagy, K. L.) On the probability interpretation problem of soluble models with complex elementary particle masses. *Acta Phys. Acad. Sci. Hungar.* **37** (1974), 259–273. **56** #14311 81.47

Ketkov, Ju. L. *See* **Theory of languages and methods of construction of programming systems, 48** #7682

frum-Ketkov, R. L. *See* **Frum-Ketkov, R. L.**

Ketley, I. J. (*with* Barnes, K. J.; Jarvis, P. D.) A calculation of SO(8) Clebsch-Gordan coefficients. *J. Phys. A* **11** (1978), *no.* 6, 1025–1043. (Philip Huddleston) **57** #18550 81.22 (22E70)

Ketonen, Jussi Strong compactness and other cardinal sins. *Ann. Math. Logic* **5** (1972/73), 47–76. (T. Jech (Zbl **257** #02055)) **57** #9549 02K35

On nonregular ultrafilters. *J. Symbolic Logic* **37** (1972), 71–74. (M. Benda)

#1926 02K35 (02H05)

Ultrafilters over measurable cardinals. *Fund. Math.* **77** (1973), *no.* 3, 257–269. ndreas Blass) **48** #8237 02K35 (02H13)

Banach spaces and large cardinals. Collection of articles dedicated to Andrzej ostowski on the occasion of his sixtieth birthday, IV. *Fund. Math.* **81** (1974), 291–303. -L. Krivine) **50** #8023 46B15 (02K35)

(*with* Benda, Miroslav) Regularity of ultrafilters. *Israel J. Math.* **17** (1974), 31–240. (Keith Devlin) **53** #132 02K30 (04A20)

Some combinatorial principles. *Trans. Amer. Math. Soc.* **188** (1974), 387–394. lexander Kechris) **48** #10808 02K35

On the existence of *P*-points in the Stone-Čech compactification of integers. *Fund. ath.* **92** (1976), *no.* 2, 91–94. (D. V. Čudnovs′kiĭ) **55** #6363 54D35 (54A25, 04A15)

Nonregular ultrafilters and large cardinals. *Trans. Amer. Math. Soc.* **224** (1976), 1–73. (Thomas J. Jech) **54** #7260 02K30 (04A20)

The structure of countable Boolean algebras. *Ann. of Math.* (2) **108** (1978), *no.* 1, 41–89. (D. Monk) **58** #10647 06A40 (02H13)

onen, Oiva *See* **Essays: Oiva Ketonen on his sixtieth birthday, 49** #10521

enring, J. R. Canonical analysis of several sets of variables. *Biometrika* **58** (1971), 433–451. (K. G. Jöreskog) **49** #6496 62H20

er, T. A. (*with* Lehrer, Gustav Isaac) On conjugacy classes in certain isogenous groups. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 3, 371–377. (Geoffrey Mason) 55 #3106 20G40

ler, David A. Comments on: "A Markovian reset problem" (IEEE Trans. Automatic Control **AC-15** (1970), 53–58) by P. Kolesar. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 4, 582. (Editors) **53** #10450 93E20

ler, Paul C. (*with* Weil, Roman L.) Rearranging matrices to block-angular form for decomposition (and other) algorithms. *Management Sci.* **18** (1971/72), 98–108. (Authors' summary) **45** #1366 65F30

See also **Hartman, James K., 52** #15991

ner, James E. Group completing monoidal categories. *J. Algebra* **37** (1975), *no.* 2, 302–307. (Robert C. Davis) **51** #12987 18D10

ne, Frans Algèbre homotopique et *K*-théorie algébrique. *C. R. Acad. Sci. Paris Sér. A-B* **273** (1971), A592–A595. (J. A. Schafer) **45** #3523 18F25

Derived functors and algebraic *K*-theory. *Algebraic K-theory, I: Higher K-theories* (*Proc. Conf. Seattle Res. Center, Battelle Memorial Inst.*, 1972), *pp.* 166–176. *Lecture Notes in Math., Vol.* 341, *Springer, Berlin*, 1973. (From the author's introduction) **54** #12858 18F25

(t^2-t)-reciprocities on the affine line and Matsumoto's theorem. *Invent. Math.* **28** (1975), 185–192. (T.-Y. Lam) **52** #13740 12A65 (18F25)

nneman, David *See* **Benayoun, Raphaël; et al., 50** #1710

uth, Herbert Verisimilitude or the approach to the whole truth. *Philos. Sci.* **43** (1976), *no.* 3, 311–336. (From the author's text) **57** #12161 02A05

vanišvili, G. Š. A Cauchy integral method in diffraction theory. (Russian) *Radiotehn. (Har′kov) No.* 17 (1971), 98–107. (E. Sánchez Palencia) **45** #8133 78.30

viczky, L. (*with* Csáki, Frigyes; Kovács, T.) Optimum synthesis of linear control systems by digital computers. I, II. (German and Russian summaries) *Acta Tech. Acad. Sci. Hungar.* **71** (1971), 1–12; *ibid.* **71** (1971), 13–22. (Bojan Popović) **50** #11775 65K05 (93C05)

The sequential evaluation of linear simplex design. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **1** (1972), *no.* 2, 123–134. (M. J. Karson) **46** #8360 62L12

(*with* Haber, R.) Adaptive dual extremum control by finite order Volterra model. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 4, 247–260. (Bojan Popović) **51** #2739 93E20

(*with* Hetthéssy, J.; Haber, R.) A separating transformation to the minimum variance control. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 2, 147–154. (B. Wittenmark) **54** #12339 93E99

"Design of experiments" for the identification of linear dynamic systems. *Technometrics* **17** (1975), *no.* 3, 303–308. (J. Mockus) **52** #12929 93E10

(*with* Hetthéssy, J.) Minimum variance control of multivariable linear systems. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **6** (1977), *no.* 3, 229–242. (B. Wittenmark) **57** #19029 93E20 (93C40)

evorkian, A. K. *See* **Optimization and design, 48** #3456

evorkian, Aram K. Structural aspects of large dynamic systems. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 3, *Paper No.* 19.3, 11 *pp. IFAC, Düsseldorf*, 1975. (Author's summary) **58** #33205 93A15

On bordered triangular or lower *N* forms of an irreducible matrix. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 10, 621–624. (G. Berman) **57** #3157 15A21

See also **Willems, Jan C., 58** #33388

evorkian, J. (*with* Chikwendu, S. C.) A perturbation method for hyperbolic equations with small nonlinearities. *SIAM J. Appl. Math.* **22** (1972), 235–258. (D. L. Russell) **51** #10834 35C10 (35L60)

(*with* Pechuzal, G.) Supersonic-transonic flow generated by a thin airfoil in a stratified atmosphere. *SIAM J. Appl. Math.* **33** (1977), *no.* 1, 8–33. (Rishi Ram) **56** #17457 76.41

Kevorkian, Jirair *See* **Handbook: Applied mathematics, 49** #10206

Key, J. D. Some maximal subgroups of $PSL(n, q)$, $n \geqslant 3$, $q=2^r$. *Geometriae Dedicata* **4** (1975), *no.* 2/3/4, 377–386. (R. H. Dye) **53** #13431 (E **57** #6219) 20G40 (05B25)

Erratum: "Some maximal subgroups of $\mathrm{PSL}(n, q)$, $n \geqslant 3$, $q=2^r$" (Geometriae Dedicata 4 (1975), no. 2–4, 377–386). *Geometriae Dedicata* **6** (1977), *no.* 3, 389. (Editors) **57** #6219 20H05

Key, Samuel W. The analysis of thin shells with a doubly curved arbitrary quadrilateral finite element. *Computer & Structures* **2** (1972), 637–673. (F. V. Pohle) **48** #5479 73.65

(*with* Biffle, Johnny H.; Krieg, Raymond D.) A study of the computational and theoretical differences of two finite strain elastic-plastic constitutive models. *Formulations and computational algorithms in finite element analysis* (*U.S.-Germany Sympos., Mass. Inst. Tech., Cambridge, Mass.*, 1976), *pp.* 321–352. *MIT Press, Cambridge, Mass.*, 1977. (T. G. Rogers) **58** #19661 73.65

(*with* Biffle, Johnny H.) Finite element formulations for transient dynamic problems in solids using explicit time integration. *Comput. Methods Appl. Mech. Engrg.* **12** (1977), *no.* 3, 323–336. (Georges A. Lebaud) **56** #13657 65L10 (65N30)

Keyes, Thomas (*with* Ladanyi, Branka M.) The role of local fields and interparticle pair correlations in light scattering by dense fluids. I. Depolarized intensities due to orientational fluctuations. *Molecular Phys.* **33** (1977), *no.* 4, 1063–1097. (Authors' summary) **56** #14398 82.00

(*with* Ladanyi, Branka M.) The role of local fields and interparticle pair correlations in light scattering by dense fluids. II. The depolarized spectrum for non-spherical molecules. *Molecular Phys.* **33** (1977), *no.* 4, 1099–1107. (Authors' summary) **56** #14399 82.00

(*with* Ladanyi, Branka M.) The role of local fields and interparticle pair correlations in light scattering by dense fluids. III. Polarized scattering by non-spherical molecules. *Molecular Phys.* **33** (1977), *no.* 5, 1247–1269. (Authors' summary) **56** #14400 82.00

(*with* Ladanyi, Branka M.) The role of local fields and interparticle pair correlations in light scattering by dense fluids. IV. Removal of the point-polarizability approximation. *Molecular Phys.* **33** (1977), *no.* 5, 1271–1285. (Authors' summary) **56** #14401 82.00

(*with* Ladanyi, Branka M.) Theory of the static Kerr effect in dense fluids. *Molecular Phys.* **34** (1977), *no.* 6, 1643–1659. (Authors' summary) **56** #14102 76.47

Keyfitz, Barbara L. (*with* Brodheim, Eric; Derman, Cyrus) On the stationary probabilities for a certain class of denumerable Markov chains. *Jñānabha Sect. A* **4** (1974), 93–103. (U. Narayan Bhat) **52** #1890 60J05

(*with* Kranzer, Herbert C.) Existence and uniqueness of entropy solutions to the Riemann problem for hyperbolic systems of two nonlinear conservation laws. *J. Differential Equations* **27** (1978), *no.* 3, 444–476. (J. Smoller) **57** #6866 35L65

(*with* Melnik, R. E.; Grossman, Bernard) An analysis of the leading-edge singularity in transonic small-disturbance theory. *Quart. J. Math. Appl. Math.* **31** (1978), *no.* 2, 137–155. (M. Honda) **58** #3923 76.35

See also **Harten, Amiram; et al., 54** #1640

Keyfitz, Nathan Population waves. *Population dynamics* (*Proc. Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1972), *pp.* 1–38. *Academic Press, New York*, 1972. (D. Ludwig) **53** #15424 92A15

The mathematics of sex and marriage. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. IV: Biology and health, pp.* 89–108. *Univ. California Press, Berkeley, Calif.*, 1972. (Erling Sverdrup) **53** #5046 92A15

(*with* Preston, Samuel H.; Schoen, Robert) Inferring probabilities from rates: extension to multiple decrement. *Skand. Aktuarietidskr.* **1972**, 1–13 (1973). (B. Brainerd) **50** #8894 62P05 (92A15)

(*with* Frauenthal, James C.) An improved life table method. *Biometrics* **31** (1975), *no.* 4, 889–899. (Hans U. Gerber) **52** #12280 62P05

★Applied mathematical demography. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1977. xxiv + 388 *pp.* (Hans U. Gerber) **57** #5187 92A15

(*with* Lew, John S.; Frauenthal, James C.) On the average distances in a circular disc. *SIAM Rev.* **20** (1978), *no.* 3, 584–592. (Rodney J. Vaughan) **58** #13263 60D05

See also **Quantitative sociology, 56** #2480 *and* **Mathematical demography, 58** #33163

Keynes, Harvey B. (*with* Ellis, Robert) Bohr compactifications and a result of Følner. *Israel J. Math.* **12** (1972), 314–330. (E. Følner) **47** #1992 22A05

Disjointness in transformation groups. *Proc. Amer. Math. Soc.* **36** (1972), 253–259. (M. Shmuel Glasner) **53** #1545 54H15 (54H20)

(*with* Newton, Dan) Choquet theory and ergodic measures for compact group extensions. *Recent advances in topological dynamics* (*Proc. Conf. Topological Dynamics, Yale Univ., New Haven, Conn.*, 1972; *in honor of Gustav Arnold Hedlund*), *pp.* 167–173. *Lecture Notes in Math., Vol.* 318, *Springer, Berlin*, 1973. (W. Parry) **53** #4022 54H20 (28A65)

(*with* Furstenberg, Harry; Shapiro, Leonard) Prime flows in topological dynamics. *Israel J. Math.* **14** (1973), 26–38. (Karl Petersen) **47** #9588 54H20 (10K15)

(*with* Newton, Dan) The structure of ergodic measures for compact group extensions. *Israel J. Math.* **18** (1974), 363–389. (W. Szlenk) **51** #5892 28A65 (54H20)

(*with* Newton, Dan) Ergodic measures for non-abelian compact group extensions. *Compositio Math.* **32** (1976), *no.* 1, 53–70. (W. Parry) **53** #4023 54H20 (28A65)

(*with* Newton, Dan) A "minimal", non-uniquely ergodic interval exchange transformation. *Math. Z.* **148** (1976), *no.* 2, 101–105. (Alan Saleski) **53** #13518 28A65

(*with* Newton, Dan) Real prime flows. *Trans. Amer. Math. Soc.* **217** (1976), 237–255. (Karl Petersen) **53** #4024 54H20

Keys, Charles D. Graphs critical for maximal bookthickness. *Pi Mu Epsilon J.* **6**, 79–84 (1975). (D. L. Greenwell) **52** #2963 05C99

Kezlan, Thomas P. On transposes of nilpotent matrices over arbitrary rings. *J. Austral. Math. Soc. Ser. A* **23** (1977), *no.* 3, 366–370. (S. Williamson) **57** #9748 16A42

(*with* Barker, George Phillip; Eifler, Larry Q.) A non-commutative spectral theorem. *Linear Algebra and Appl.* **20** (1978), *no.* 2, 95–100. (M. Pearl) **58** #5739 15A78

Kfoury, A. J. Translatability of schemas over restricted interpretations. Thirteenth Annual IEEE Symposium on Switching and Automata Theory (Univ. Maryland, College Park, Md., 1972). *J. Comput. System Sci.* **8** (1974), 387–408. (E. Engeler) **51** #104 (EA **51**) 02F43 (68A05)

(*with* Park, D. M. R.) On the termination of program schemas. *Information and Control* **29** (1975), *no.* 3, 243–251. (John K. Debenham) **52** #5396 02F43 (02G05, 68A05)

Kfoury, D. Comparing algebraic structures up to algorithmic equivalence. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp.* 253–263. *North Holland, Amsterdam*, 1973. (Richard A. DeMillo) **51** #9582 68A30

nguen Kha *See* **Nguen Kha**

Khabbaz, Nabil A. Multipass precedence analysis. *Acta Informat.* **4** (1974/75), 77–85.

(Miroslav Hladký) **50** #15454 68A30

Control sets on linear grammars. *Information and Control* **25** (1974), 206–221. (A. Ja. Dikovskiĭ) **50** #9060 68A30

A geometric hierarchy of languages. *J. Comput. System Sci.* **8** (1974), 142–157. (S. A. Greibach) **48** #12914 68A30

Khabbaz, Samir (*with* Stengle, Gilbert) Normal forms for analytic matrix valued functions. *Proceedings of Liverpool Singularities Symposium, II* (1969/1970), *pp.* 34–57. *Lecture Notes in Math., Vol.* 209, *Springer, Berlin*, 1971. (G. R. Belickiĭ) **52** #11984 58C25

Geometric aspects of the singular solutions of certain differential equations. *Proceedings of Liverpool Singularities Symposium, II* (1969/1970), *pp.* 58–76. *Lecture Notes in Math., Vol.* 209, *Springer, Berlin*, 1971. (R. Gérard) **52** #1777 58F05 (34C05, 58C25)

(*with* Pitcher, Everett) Nondegenerate critical points of deficiency one. *Proceedings of Liverpool Singularities—Symposium, I* (1969/70), *pp.* 271–281. *Lecture Notes in Mathematics, Vol.* 192. *Springer, Berlin*, 1971. (S. S. Cairns) **45** #9345 57D70

(*with* Toubassi, Elias) The module structure of Ext (F,T) over the endomorphism ring of T. *Pacific J. Math.* **54** (1974), 169–176. (C. Lemaire) **50** #13206 20K40

(*with* Toubassi, Elias) Ext(A,T) as a module over End(T). *Proc. Amer. Math. Soc.* **48** (1975), 269–275. (P. L. Sperry) **50** #13312 20K05

(*with* Toubassi, Elias) Extensions of abelian groups of finite rank. *Proc. Amer. Math. Soc.* **50** (1975), 115–120. (A. I. Moskalenko) **51** #8290 20K35

Khabra, N. S. (*with* Das, Sunil, R.) Clause-column table approach for generating all the prime implicants of switching functions. *IEEE Trans. Computers* **C-21** (1972), 1239–1246. (Authors' summary) **55** #14420 94A20

(*with* Das, Sunil, R.) Multiform partial symmetry and linearity. *IEEE Trans. Computers* **C-22** (1973), 804. (R. Shirtladze) **52** #12998 94A20

lê Khac Bao *See* **Lê Khac Bao**

Khachikyan, R. O. *See* **Hačikjan, R. O.**

vo-Khac Khoan *See* **Vo-Khac Khoan**

ho Khac Tan *See* **Ho Khac Tan**

Khade, V. D. Spacetimes admitting group of screw-motions. *J. Shivaji Univ.* **4** (1971), *no.* 8 (*Science*), 31–34. (R. Roşca) **50** #9292 83.53

(*with* Radhakrishna, L.) Nijenhuis tensor of an electromagnetic field in general relativity. *J. Shivaji Univ.* **6** (1973), *no.* 11-12, 57–62. (Not reviewed) 78.53 (83.53)

Khadem, R. On two pairs of simultaneous dual integral equations. *J. Engrg. Math.* **5** (1971), 121–126. (K. S. Parihar) **51** #3824 45F10

(*with* Keer, Leon M.) Coupled pairs of dual integral equations with trigonometric kernels. *Quart. Appl. Math.* **31** (1973/74), 467–480. (K. S. Parihar) **56** #6312 45F10

Khadem, Riaz A note on Wiener-Hopf equation arising in elastic contact problems. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **17(21)** (1971), *no.* 3-4, *part I*, 89–92. **46** #1177 73.45

Khadia, S. S. (*with* Goyal, A. N.) On the generalised function of "n" variables. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **13** (1970), 191–201. (J. P. Singhal) **46** #2104 33A35

(*with* Goyal, A. N.) On the generalised function of n variables. II. (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **18** (1975), *no.* 4, 359–366. (J. P. Singhal) **54** #10704 33A35

Khadilkar, Shobha (*with* Dua, Saroj; Sen, Kanwar) A modified random walk in the presence of partially reflecting barriers. *J. Appl. Probability* **13** (1976), *no.* 1, 169–175. (I. Vincze) **53** #4235 60J15

Khadiya, S. S. *See* **Khadia, S. S.**

Khadyūjim, Ḥusayn *See* **al-Ṭabarī, Muḥammad ibn Ayyūb Miftah al-mu 'amallāt**, **58** #26801; **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **58** #27145 *and* **al-Khwārizmı, Muḥammad ibn Mūsā**, **58** #27149

Khairat, Mahmoud Khairat Ahmed A characterization for the discrimination information. (Arabic summary) *Proc. Math. Phys. Soc. A.R.E. No.* 36 (1972), 109–112 (1975). (N. S. Kambo) **53** #10483 94A15

nguen Khak Lan *See* **Nguen Khak Lan**

Khalatnikov, I. M. *See* **Halatnikov, I. M.**

Khaleelulla, S. M. (*with* Husain, Taqdir) On countably, σ-, and sequentially barrelled spaces. *Canad. Math. Bull.* **18** (1975), *no.* 3, 431–432. (Robert Knowles) **52** #14895 46A07

On Diaz-Metcalf's complementary triangle inequality. *Kyungpook Math. J.* **15** (1975), 9–11. (C. M. Schneeberger) **52** #11554 46C05

(*with* Husain, Taqdir) Countably order-quasibarrelled vector lattices and spaces. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 3–15. (Henri Mascart) **54** #8222 46A40

(*with* Husain, Taqdir) Order-quasiultrabarrelled vector lattices and spaces. *Period. Math. Hungar.* **6** (1975), *no.* 4, 363–371. (Yau-Chuen Wong) **56** #1016 46A40

A note on order-infrabarrelled Riesz spaces. *Tamkang J. Math.* **6** (1975), 13. (I. Namioka) **52** #1247 46A40

Countably O.Q.U. vector lattices and spaces. *Tamkang J. Math.* **6** (1975), 43–51. (D. H. Fremlin) **51** #6355 (E **53** #11333) 46A40

A note on Wallen's theorem. *Tamkang J. Math.* **6** (1975), 53–54. (L. J. Wallen) **51** #6422 (E **53** #14128) 46H05

Husain spaces. *Tamkang J. Math.* **6** (1975), *no.* 2, 115–119. (T. Husain) **54** #5778 46A07

A generalization of sequentially barrelled and σ-quasibarrelled spaces. *Tamkang J. Math.* **6** (1975), *no.* 2, 181–183. (T. Husain) **54** #5779 46A07

Countably m-barrelled algebras. *Tamkang J. Math.* **6** (1975), *no.* 2, 185–190. (T. Husain) **54** #5780 46A07 (46H05)

Correction to "Countably O. Q. U. vector lattices and spaces" (Tamkang J. Math. **6** (1975), no. 1, 43–51). *Tamkang J. Math.* **6** (1975), *no.* 2, 315. (Editors) **53** #11333 46A40

Correction to "A note on Wallen's theorem" (Tamkang J. Math. **6** (1975), no. 1, 53–54). *Tamkang J. Math.* **6** (1975), *no.* 2, 315. (Editors) **53** #14128 46H05

A closed graph theorem for ordered topological abelian groups. *Tamkang J. Math.* **7** (1976), *no.* 1, 31–35. (J. W. Baker) **54** #3352 46A30 (22A20)

Some remarks on countably barrelled spaces. *Tamkang J. Math.* **7** (1976), *n* 75–76. (T. Husain) **54** #5781 46A07

Some remarks on countably barrelled spaces. *Tamkang J. Math.* **7** (1976), *n* 169–170. (T. Husain) **57** #1062 46A07

Countably W-barrelled spaces. *Tamkang J. Math.* **7** (1976), *no.* 2, 171–173. Husain) **56** #16311 46A07

Sc-sequential and S-hyperbornological topological vector spaces. *J. Mathema and Physical Sci.* **11** (1977), *no.* 3, 281–286. (N. Adasch) **57** #7096 46A09

(*with* Husain, Taqdir) Topologies on generalized semi-inner product algebras, lattices, and spaces. *Kyungpook Math. J.* **17** (1977), *no.* 1, 7–15. (Roy M. Rakesı **56** #12838 46A99 (46C10)

Khalessizadeh, M. (*with* Mehri, Bahman) On the existence of periodic solutions f certain non-linear third order differential equation. *Z. Angew. Math. Mech.* **57** (1 *no.* 5, T241–T243. (D. Sweet) **55** #10780 34C25

Khalgui, Mohamed Salah Sur les caractères des groupes de Lie résolubles conn (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 10, A531-A (Author's summary) **55** #574 22E45 (22E25)

Khalil, Ahmed B. (*with* Zayed, Ahmed I.) Two general theorems concerning Padé approximants. (Arabic summary) *Proc. Math. Phys. Soc. Egypt No.* 39 (1975), 11 (D. C. Handscomb) **51** #6236 41A20

al-sheikh-Khalil, Hassan *See* **Al-Sheikh-Khalil, Hassan**

Khalil, Hassan K. (*with* Kokotović, Petar V.) Control strategies for decision makers u different models of the same system. *IEEE Trans. Automatic Control* **AC-23** (1978), 2, 289–298. (Joseph D. Cole) **58** #15488 93C99 (90D35)

Khalil, Hatem M. The eigenproblem of block tridiagonal matrices. *Comm. ACM* **15** (19 839. **47** #2802 65F15

(*with* Giese, J. H.) A two-parameter family of two-level higher order differe methods for the two-dimensional heat equation. *J. Inst. Math. Appl.* **16** (1975), *n* 193–205. (A. R. Mitchell) **52** #16053 65N05

(*with* Giese, J. H.; Ulery, D. L.) Multiparameter families of difference approximations for the first initial boundary value problem for the heat equation i arbitrary region. *J. Engrg. Math.* **12** (1978), *no.* 2, 97–114. (Authors' summary) **57** #18131 65N05

Khalil, Idriss Quelques résultats d'analyse harmonique concernant les algèbres A_p et B_p. *R. Acad. Sci. Paris Sér. A-B* **274** (1972), A834–A836. (B. Schreiber) **46** #610 43 (22D15, 46J10)

Sur l'analyse harmonique du groupe affine de la droite. *Studia Math.* **51** (19 139–167. (A. Kleppner) **50** #2823 43A80

Khalil, M. A. K. (*with* Sudarshan, E. C. G.; Hurley, William J.) A criterion for reducib of a relativistic wave equation. *J. Mathematical Phys.* **18** (1977), *no.* 5, 855– (Authors' summary) **58** #25606 81.47

Properties of a 20-component spin-1/2 relativistic wave equation. *Phys. Rev. D* **15** (1977), *no.* 6, 1532–1539. (Author's summary) **56** #2028 81.35

Relativistic wave equations without the Velo-Zwanziger pathology. *Progr. The Phys.* **58** (1977), *no.* 5, 1538–1554. (Author's summary) **56** #14312 81.47

An equivalence of relativistic field equations. (Italian and Russian summar *Nuovo Cimento A* (11) **45** (1978), *no.* 3, 389–404. (E. Kyriakopoulos) **58** #1450 81.22

Khalil, Z. S. On unloaded standby with random switchover time. (Arabic summa *Libyan J. Sci.* **2** (1972), 81–87. (H. J. Kushner) **47** #1441 90B25

On the asymptotic distribution of the failure-free operation time of a standby syst with random switchover time. (Arabic summary) *Libyan J. Sci.* **4-A** (1974), 39–42. K. Gayen) **52** #7055 62N05 (90B25)

(*with* Bougas, I.) On standby redundancy with delayed repair. *IEEE Trans. Rel* **R-24** (1975), *no.* 4, 286–287. (R. Subramanian) **54** #14764 90B25

Some limit theorems in standby redundancy with renewals. *The theory and applications of reliability, with emphasis on Bayesian and nonparametric methods, Vol* (*Conf., Univ. South Florida, Tampa, Fla.*, 1975), *pp.* 413–421. *Academic Press, New Y* 1977. (C. Mohan) **57** #4351 60K10 (90B25)

See also **Selected translations in mathematical statistics and probability**, **48** #127

al-Khalili, A. J. *See* **Al-Khalili, A. J.**

al-Khalīlī, Shams al Dīn Abū 'Abd Allāh Muḥammad b. Muḥammad *See* **King, David** **58** #21050

Khalili, Siamak (*with* Fink, James P.; Hall, William S.) Perturbation expansions for so nonlinear wave equations. *SIAM J. Appl. Math.* **24** (1973), 575–595. (Authors' summary) **47** #3805 35B20 (35L05)

On the oscillation of the Brownian motion random measure. *Ann. Probabilit* (1977), *no.* 1, 142–144. (S. J. Taylor) **54** #14128 60J65

See also **Nonlinear wave motion**, **49** #790

Khalili-Françon, E. Processus de Galton-Watson. *Séminaire de Probabilités, VII* (*U Strasbourg, année universitaire* 1971-1972), *pp.* 122–135. *Lecture Notes in Math., Vol.* 3 *Springer, Berlin*, 1973. (Anthony G. Pakes) **51** #7029 (E **51** #14298) 60J80

Correction à: "Processus de Galton-Watson" (Séminaire de Probabilités, VII (U Strasbourg, année universitaire 1971-1972), pp. 122–135, Lecture Notes in Math., 321, Springer, Berlin, 1973). *Séminaire de Probabilités, IX* (*Seconde Partie, U Strasbourg, Strasbourg, années universitaires* 1973/1974 *et* 1974/1975), *p.* 589. *Lect Notes in Math., Vol.* 465, *Springer, Berlin*, 1975. (Anthony G. Pakes) **51** #1429 60J80

nguyen-trong-Kham *See* **Nguyen-Trong-Kham**

Khamis, Salem H. ★Tables of the incomplete gamma function ratio (the chi-squ integral, the Poisson distribution). In cooperation with W. Rudert. *Justus von Lie Verlag, Darmstadt*, 1965. il + 412 *pp.* (Editors) **50** #15255 62A05 (62Q05)

Khan, A. H. (*with* Ali, S. M.) A new coefficient of association. *Ann. Inst. Statist. Math.* (1973), 41–50. (M. A. Hamdan) **48** #12689 62F05

Khan, A. W. (*with* Panwalkar, S. S.) A convex property of an ordered flow shop sequencing problem. *Naval Res. Logist. Quart.* **24** (1977), *no.* 1, 159–162. (Jó Grabowski) **56** #7934 90B35

Khan, Abrar Ahmad A remark on a theorem of Leavitt. *Pi Mu Epsilon J.* **5** 239–240 (197 (Editors) **48** #755 40G05

On the summability $|C,\alpha|_k$ of a power series. *Riv. Mat. Univ. Parma* (3) **1** (197

1–96. (G. U. Brauer) **50** #13972 40G05

Absolute Riesz summability of a series associated with a Fourier series. *Indian J. ath.* **15** (1973), 1–6. (Prem Chandra) **50** #7930 42A28

On the absolute Riesz summability of Fourier series. *Publ. Math. Debrecen* **21** 1974), 61–66. (Prem Chandra) **50** #10667 42A28

, Ahmad (*with* Siddiqi, A. H.) Characterization of strictly convex 2-normed spaces in erms of duality bimappings. *Math. Japon.* **23** (1978), *no.* 1, 133–137. (C. C. White) 8 #12268 46A15

, Amanullah Use of integral transforms in the simulation of distributed parameter rocesses. *Islamabad J. Sci.* **2** (1975), *no.* 1, 32–39. (John Crank) **55** #7149 80.65 65M99)

, F. M. On $|\overline{N},p_n|$-summability factors of infinite series. *Riv. Mat. Univ. Parma* (2) **11** 1970), 245–249. (D. C. Russell) **47** #2227 40F05

On the Nörlund summability of the derived Fourier series and its conjugate series. *Aligarth Bull. Math.* **1** (1971), 73–85. (H. P. Dikshit) **50** #5330 42A24

On (J,p_n)-summability of Fourier series. *Proc. Edinburgh Math. Soc.* (2) **18** (1972/73), 13–17. (B. D. Malviya) **47** #5509 42A24

On Nörlund summability of the conjugate of a Fourier series. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 9, 837–844. (Prem Chandra) **55** #6097 42A24

n, Huzoor H. On the degree of approximation of functions belonging to class Lip (α,p). *Indian J. Pure Appl. Math.* **5** (1974), *no.* 2, 132–136. (B. N. Sahney) **52** #1130 42A08

On the degree of approximation to a function by triangular matrix of its Fourier series. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 8, 849–855. (J. A. Siddiqi) **58** #1945a 42A08

(*with* Rizvi, Syed Mohd.) On the saturation of classes of functions by (N, p_n, q_n) method. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 11, 1261–1269. (Authors' summary) **58** #1946 42A08

On some aspects of summability. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 12, 1468–1472. (J. Mařík) **57** #3726 42A24

On the degree of approximation to a function by triangular matrix of its conjugate Fourier series. II. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 12, 1473–1478. (J. A. Siddiqi) **58** #1945b 42A08

On the degree of approximation of certain functions by triangular means. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 2, 211–217. (Author's summary) **57** #13341 42A08

(*with* Umar, Sarfaraz; Wafi, Abdul) On the approximation of functions by general orthonormal polynomials on a finite segment. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 2, 218–222. (R. A. Askey) **58** #1988 42A52

(*with* Umar, Sarfaraz) On $|N_p, \gamma, \alpha|_k$ summability of infinite series. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 7, 752–757. (J. Mayer) **57** #952 40F05

an, I. A. Operational representations of hypergeometric functions. *Indian J. Engrg. Math.* **2** (1969), *no.* 2, 96–102. (T. Erber) **49** #9287 33A65

(*with* Varma, R. C.) Non-linear oscillations and Jacobi polynomial approximations. *Proc. Nat. Acad. Sci. India Sect. A* **41** (1971), 191–200. (J. W. Heidel) **47** #7136 34C25

A property of Kolmogorov's variation distance between two probability distributions. *Aligarh Bull. Math.* **2** (1972), 85–87. (Stephen James Wolfe) **54** #8796 60E05

Generating functions for Jacobi, Laguerre and Bessel polynomials. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 3, 435–442. (Brij Mohan) **46** #3861 33A65

On some results involving generalized hypergeometric polynomial. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 6, 1195–1202. (T. Erber) **49** #9272 33A30

On generalized Rice's polynomials. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 6, 1203–1215. (T. Erber) **49** #9286 33A65

Generating functions for Jacobi and related polynomials. *Proc. Amer. Math. Soc.* **32** (1972), 179–186. (K. Karpov (RŽMat **1972** #12 B43)) **50** #659 33A65

Derivation of a few solvable potentials for the Schrödinger equation. *Indian J. Pure Appl. Math.* **4** (1973), *no.* 1, 90–101. (R. C. Varma) **47** #8030 81.31 (33A45)

Operational representations of certain multiple hypergeometric functions. *Jñānabha Sect. A* **3** (1973), 51–57. (P. N. Rathie) **50** #650 33A30

A note on associated Legendre polynomials. *Labdev—J. Sci. Tech. Part A* **12** (1974), *no.* 3, 98–100. (B. R. Bhonsle) **58** #22696 33A30

A note on Laguerre polynomials. *Math. Education* **9** (1975), *no.* 3, A73–A75. (V. L. Deshpande) **52** #6066 33A65

Khan, Irshadullah On an analyticity property in (complex) phase space. *Internat. J. Theoret. Phys.* **10** (1974), 73–89. (Author's summary) **54** #9399 81.30

Khan, M. A. The existence of certain homomorphisms in locally compact abelian groups. *J. Natur. Sci. and Math.* **13** (1973), *no.* 1, 125–144. (L. Corwin) **51** #13124 22B05

A notion of purity in locally compact groups. *J. Sci.* (*Karachi*) **2** (1973), *no.* 1, 128–130. (Author's summary) **55** #5787 22B05

Generalized locally compact locally cyclic groups. *J. Natur. Sci. and Math.* **16** (1976), *no.* 1-2, 61–68. (L. M. Chawla) **57** #12766 22D05

Generalized locally compact locally cyclic groups. *J. Natur. Sci. and Math.* **17** (1977), *no.* 1, 59–67. (Siegfried Grosser) **58** #16946 22B05

Khan, M. Ahmad Dimensional properties of certain classes of normal spaces. *J. Natur. Sci. and Math.* **11** (1971), 275–284. (E. Nunnally) **48** #5033 54F45

Khan, M. Ali Some remarks on the core of a "large" economy. *Econometrica* **42** (1974), 633–642. (Author's summary) **56** #10821 90A15

Approximately convex average sums of unbounded sets. *Proc. Amer. Math. Soc.* **43** (1974), 181–185. (P. A. Loeb) **49** #3691 52A20 (02H25, 90A99)

(*with* Rashid, Salim) Nonconvexity and Pareto optimality in large markets. *Internat. Econom. Rev.* **16** (1975), 222–245. (Hildegard Dierker) **53** #12531 (E **53** #12532) 90A15

(*with* Rashid, Salim) Corrigendum: "Nonconvexity and Pareto optimality in large markets" (Internat. Econom. Rev. **16** (1975), 222–245). *Internat. Econom. Rev.* **16** (1975), *no.* 3, 802. (Hildegard Dierker) **53** #12532 90A15

Some approximate equilibria. *J. Math. Econom.* **2** (1975), *no.* 1, 63–86. (Mamoru Kaneko) **54** #2151 90A15

Oligopoly in markets with a continuum of traders: an asymptotic interpretation. *J. Econom. Theory* **12** (1976), *no.* 2, 273–297. (Robert C. Davis) **53** #15305 90A15 (02H25)

Khan, M. F. A sufficient condition on subspace topologies. *Acta Ci. Indica* **3** (1977), *no.* 4, 388. (S. P. Arya) **57** #13821 54B05

Khan, M. Q. (*with* Lal, Krishna Bihari) Cylindrical wave solutions of a scalar-tensor theory. *Ann. Mat. Pura Appl.* (4) **113** (1977), 43–52. (Kenneth Dunn) **58** #4156 83.35

(*with* Lal, Krishna Bihari) Cylindrical wave solutions of the field equations representing zero-rest-mass scalar fields and those of Lichnerowicz's "total radiation" in a generalized Einstein-Rosen space-time. *Ann. Mat. Pura Appl.* (4) **115** (1977), 181–192 (1978). (A. F. da F. Teixeira) **57** #15232 83.53

(*with* Lal, Krishna Bihari) Static and time-dependent solutions of Einstein-Maxwell-Yukawa fields. *General Relativity and Gravitation* **8** (1977), *no.* 7, 451–461. (L. K. Patel) **57** #15233 83.53

(*with* Lal, Krishna Bihari) Some static and time dependent solutions of a scalar tensor theory of gravitation. *Proceedings of the International Symposium on Relativity and Unified Field Theory* (*Calcutta*, 1975–1976), *pp.* 195–199. *S. N. Bose Inst. Phys. Sci., Calcutta*, 1978. (Richard Hansen) **58** #25791 83.53

Khan, M. S. *See* **Khan, Mohd. Saeed**

ali Khan, M. S. *See* **Ali Khan, M. S.**

Khan, Mohammad Nasim A note on algebraically closed field. *Aligarh Bull. Math.* **1** (1971), 107–108. (C. F. Moppert) **47** #1863 16A42

(*with* Singh, Surjeet) On pre-self injective rings. *Arch. Math.* (*Basel*) **24** (1973), 499–504. (A. Zaks) **49** #277 13C10

A continuous ring in which every large right ideal is two sided. *Riv. Mat. Univ. Parma* (3) **2** (1973), 277–280. (Edward T. Wong) **52** #13937 16A52

Khan, Mohammad Qamrullah (*with* Lal, Krishna Bihari) On plane-symmetric solutions of a scalar-tensor theory of gravitation. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **61** (1976), *no.* 1–2, 88–94 (1977). (Kenneth Dunn) **57** #15234 83.53

Khan, Mohammed M. R. On a product of (J,p_n)- and (S^*,ψ)-methods of summability. (Italian summary) *Rend. Mat.* (6) **7** (1974), 383–393 (1975). (M. S. Rangachari) **51** #10951 40G10

Khan, Mohd. Nasim *See* **Khan, Mohammad Nasim**

Khan, Mohd. Rais (*with* Beg, Afzal) On special class of Bol loops. *Tamkang J. Math.* **8** (1977), *no.* 1, 37–41. (S. M. Yusuf) **56** #8738 20N05

Khan, Mohd. Saeed A select bibliography of Soviet publications on Al-Bîrûnî. *Janus* **62** (1975), *no.* 4, 279–288. (J. S. Joel) **56** #2732 01A30 (01A70)

Ćirić's fixed point theorem. *Mat. Vesnik* **13(28)** (1976), *no.* 4, 393–398. (R. Kannan) **55** #11231 54H25

Some results on fixed points. *Math. Japon.* **21** (1976), *no.* 3, 299–302. (R. E. Smithson) **55** #11230 54H25

A theorem on fixed points. *Math. Sem. Notes Kobe Univ.* **4** (1976), *no.* 2, 227–228. (I. A. Rus) **55** #6405 54H25

On a fixed point theorem of Iséki. *Mathematica* (*Cluj*) **18(41)** (1976), *no.* 2, 165–168. (S. P. Singh) **57** #13898 54H25

A fixed point theorem for metric spaces. (Italian summary) *Rend. Ist. Mat. Univ. Trieste* **8** (1976), *no.* 1, 69–72. **55** #6404 54H25

Some fixed point theorems. II. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **21(69)** (1977), *no.* 3-4, 317–322. (Author's summary) **58** #31027b 54H25

Some fixed point theorems. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 12, 1511–1514. (Editors) **58** #31027a 54H25

On fixed and periodic points of quasi-contractive mappings. *Proc. Indian Acad. Sci. Sect. A* **85** (1977), *no.* 6, 552–558. (L. F. Guseman, Jr.) **56** #13195 54H25

A fixed point theorem for metric spaces. *Riv. Mat. Univ. Parma* (4) **3** (1977), 53–57 (1978). (L. Górniewicz) **57** #13899 54H25

Khan, Mohd. Zubair Bayesian stratified two phase sampling for proportions: a general case. *Aligarh Bull. Math.* **2** (1972), 69–77. (See Zbl **347** #62009) 62D05 (62F15)

Optimum allocation in Bayesian stratified two-phase sampling (a general case). *J. Indian Statist. Assoc.* **14** (1976), 65–74. (I. Guttman) **56** #9765 62D05 (62F15)

Optimum allocation in Bayesian stratified two-phase sampling when there are *m*-attributes. *Metrika* **23** (1976), *no.* 4, 211–219. (Om. P. Aggarwal) **58** #24645 62D05

Modules behaving like torsion abelian groups. *Math. Japon.* **22** (1977/78), *no.* 5, 513–518. (From the introduction) **58** #22178 16A64 (20K10)

A note on RSI-ring. *Tamkang J. Math.* **8** (1977), *no.* 2, 153–156. (William D. Blair) **58** #22155 16A34

Khan, Mohsin S. *See* **Brown, R. Leonard; et al.**, **51** #14478

Khan, Mumtaz Ahmad An algebraic study of certain *q*-fractional integrals and *q*-derivatives. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 442–446. (1974). (W. A. Al-Salam) **53** #3609 44A45

Certain fractional *q*-integrals and *q*-derivatives. *Gaṇita* **24** (1973), *no.* 1, 83–94. (S. K. Chatterjea) **50** #10703 44A15 (26A33)

Certain fractional *q*-integrals and *q*-derivatives. *Nanta Math.* **7** (1974), *no.* 1, 52–60. (S. K. Chatterjea) **51** #5862 26A33

Khan, Q. J. A. (*with* Kapur, J. N.) Bifurcation theory for two population models. *Indian J. Pure Appl. Math.* **9** (1978), *no.* 8, 787–796. (Authors' summary) **58** #20607 92A15

Khan, R. S. (*with* Mazhar, S. M.) Integrability theorems for Fourier series of positive functions. *Serdica* **2** (1976), *no.* 2, 138–142. (L. Leindler) **55** #3658 (E **55** #10941) 42A16

(*with* Mazhar, S. M.) Errata in the paper: "Integrability theorems for Fourier series of positive functions" (Serdica **2** (1976), no. 2, 138–142). *Serdica* **2** (1976), *no.* 4, 1 *loose p.* (Editors) **55** #10941 42A16

Khan, Rasul A. A note on the rate of convergence and its applications. *Ann. Probability* **1** (1973), 504–508. (Author's summary) **50** #3339 60G50

On some properties of Hammersley's estimator of an integer mean. *Ann. Statist.* **1** (1973), 756–762. (J. Kiefer) **48** #12669 62C15

On sequential distinguishability. *Ann. Statist.* **1** (1973), 838–850. (V. J. Yohai) **49** #10091 62L10

A probabilistic proof of Stirling's formula. *Amer. Math. Monthly* **81** (1974), 366–369. (G. K. Eagleson) **49** #4075 60F05

On sequential distinguishability for the exponential family. *Ann. Inst. Statist. Math.* **26** (1974), 215–221. **58** #31652 62L10

On sequential estimation with prescribed asymptotic risk. *Metron* **33** (1975), *no.* 3–4, 253–266 (1978). (Author's summary) **57** #17981 62L12

Wald's approximations to the average run length in cusum procedures. *J. Stat. Plann. Inference* **2** (1978), *no.* 1, 63–77. (R. A. Wijsman) **58** #24779 62L10

Khan, S. M. (*with* Dhaliwal, Ranjit S.) Singular integral equations formulation of boundary value problems in micropolar theory of elasticity. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **23** (1971), 641–650. (G. Paria) **47** #1358 73.45

Khan, S. U. (*with* Bari, A.) A procedure for integer solution to some allocation problems. *Pure Appl. Math. Sci.* **5** (1977), *no.* 1-2, 25–32. (Kåre M. Mjelde) **56** #7971 90C10

Khan, Sanaullah Minimizing a homogeneous separable function constrained by linear inequalities. *Aligarh Bull. Math.* **1** (1971), 63–71. (*errata insert*) (I. M. Stancu-Minasian) **48** #7959 90C05

Khan, T. A. (*with* Pande, H. D.) Recurrent Finsler space with Cartan's first curvature tensor field. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **55** (1973), 224–227 (1974). (S. Kawaguchi) **51** #4094 53B40

(*with* Pande, H. D.) General decomposition of Berwald's curvature tensor fields in recurrent Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **55** (1973), 680–685 (1974). (T. Ohkubo) **51** #6642 53B40

(*with* Pande, H. D.) Decomposition of Berwald's curvature tensor field in second order recurrent Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 6, 565–569 (1975). (R. B. Misra) **55** #4016 53B40

(*with* Pande, H. D.) General decomposition of relative curvature tensor field in recurrent Finsler space. *Progr. Math.* **8** (1974), *no.* 2, 9–13. (H. Rund) **51** #1646 53B40

(*with* Pande, H. D.; Kumar, Awdhesh) Curvature collineations in a Finsler space. *Acta Ci. Indica* **1**, *no.* 4, 357–360 (1975), (R. B. Misra) **52** #15296 53B40

bak hyng Khang *See* **Bak Hyng Khang**

Khang, Chulsoon A dynamic model of trade between the final and the intermediate products. *J. Econom. Theory* **1** (1969), 416–437 (1970). (K. Swarup) **53** #4916 90A10

"Some properties of concave functions" (J. Econom. Theory **1** (1969), 291–314 (1970)) by Peter Newman: a comment. *J. Econom. Theory* **2** (1970), 319–320. (From the author's text) **57** #9924 26A51

The strict convexity of the transformation surface in case of linear homogeneous production functions: a general case. *Econometrica* **39** (1971), 857–859. (From the author's introduction) **56** #7922 90B30 (90A15)

(*with* Kemp, Murray C.) On the relationship between commodity prices and gross outputs in a general neo-classical technology. *Internat. Econom. Rev.* **18** (1977), *no.* 1, 241–245. (A. C. Williams) **57** #15333 90A15

Khang, N. Q. (*with* Peák, I.) On endomorphism semigroup of nilpotent automata. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School. Štrbské Pleso*, 1973), *pp.* 279–284. *Math. Inst., Slovak Acad. Sci., Bratislava*, 1973. (H. Jürgensen) **54** #441 20M35 (68A25, 94A30)

Khanh, Bui Doan La théorie spectrale et les représentations d'algèbres de Dirichlet. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **19** (1969), *no.* 2, 115–128 (1970). (Author's summary) **54** #938 46J25 (47A60)

Représentation hilbertienne des algèbres de fonctions. *J. Math. Pures Appl.* (9) **50** (1971), 325–350. (R. G. Douglas) **45** #945 47B99 (46J25)

Sur un théorème de L. Chevalier. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A41–A42. (G. I. Gaudry) **45** #4096 46A05 (28A25)

Algèbres de Banach de fonctions. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A178–A180. (J. D. Stafney) **46** #4206 46J10

Remarques sur le calcul symbolique de deux contractions. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A379–A381. (Paul S. Muhly) **47** #4039 47A60

Une preuve élémentaire d'un résultat de G. M. Henkin. *C. R. Acad Sci. Paris Sér. A* **279** (1974), 555. (B. M. Weinstock) **50** #8083 46J15 (32E25)

Les *A*-mesures sur le tore de deux dimensions et le calcul symbolique de deux contractions permutables. *J. Functional Analysis* **15** (1974), 33–44. (R. G. Douglas) **50** #14308 47A60 (46J15)

Calcul symbolique des contractions. *J. Math. Pures Appl.* (9) **55** (1976), *no.* 4, 467–476. (Richard E. Frankfurt) **55** #3841 47A60

Khanna, I. K. Generalisation of Legendre and Humbert's polynomials. *J. Sci. Res. Banaras Hindu Univ.* **21** (1970/71), *no.* 1–2, 11–17. (From the author's introduction) **55** #3367 33A65

(*with* Agrawal, B. D.) Unification of certain classical polynomials. *Proc. Nat. Acad. Sci. India Sect. A* **40** (1970), 209–216. (S. Saran) **46** #7598 33A70

(*with* Agrawal, B. D.) Unification of certain classical polynomials. *Progr. Math.* **8** (1974), *no.* 2, 15–24. (R. C. Varma) **51** #5998 33A65

Zeros and orthogonality of the polynomial set $B_n(x,y)$. *Kyungpook Math. J.* **17** (1977), *no.* 1, 97–99. (L. J. Slater) **55** #12963 33A30

Additional generating relations for classical polynomials. *Kyungpook Math. J.* **17** (1977), *no.* 2, 191–194. (H. L. Manocha) **57** #743 33A65

Integral representations for polynomial $B_n(x, y)$. *Pure Appl. Math. Sci.* **8** (1978), *no.* 1-2, 5–10. (V. L. Deshpande) **57** #16745 33A65

Khapaev, M. M. *See* **Hapaev, M. M.**

Khapate, B. S. *See* **Collection: Srinivasiengar, C. N., 49** #4701

Kharadze, Eugene K. *See* **Proceedings: Symposium on Copernicus and Astronomy, 58** #26684 *and* **Joshi, S. C., 58** #26847

Kharaghani, H. Left thick subsets of a topological semigroup. *Illinois J. Math.* **22** (1978), *no.* 1, 41–48. (J. W. Baker) **57** #3300 22A20 (43A07)

Kharasch, Jerome A. A morphogenetic system matched to a group. *Bull. Math. Biology* **35** (1973), 615–625. (F. R. McMorris) **49** #4591 92A05

Kharatishvili, G. L. *See* **Haratišvili, G. L.**

Kharbediya, L. I. *See* **Harbedija, L. I.**

Kharchenko, V. F. *See* **Harčenko, V. F.**

Khare, S. P. (*with* Erdős, Paul; Gupta, Hansraj) On the number of distinct prime divisors of $\binom{n}{k}$. *Utilitas Math.* **10** (1976), 51–60. (S. A. Burr) **55** #2729 10A25

(*with* Gupta, Hansraj) On $\binom{k^2}{k}$ and the product of the first k primes. *Univ. Beo Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 577-598 (1977), 25–29. (J. Chidambarasw **56** #11877 10–04

Khare, S. S. (*with* Sharma, Bhagirath Lal) Characteristic numbers for unoriented sin *G*-bordism. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 149–152 (1977). (R. E. St **54** #11358 57D85

Khare, Sadhna Steady flow between a rotating and a porous stationary disc in the pres of transverse magnetic field. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 7, 808–815. (Pathak) **57** #11304 76.35

Khare, V. (*with* Nussenzveig, H. M.) The theory of the glory. *Statistical mechanics statistical methods in theory and application* (*Proc. Sympos., Univ. Rochester, Roch N.Y.*, 1976), *pp.* 723–764. *Plenum, New York*, 1977. (From the introduction) **58** #1 78.35

Kharin, Yu. S. *See* **Harin, Ju. S.**

Khariton, Yu. B. *See* **Hariton, Ju. B.**

Kharkar, Anil N. (*with* Lee, Kwang Yun; Barr, Robert O.; Gage, Stuart H.) Formul of a mathematical model for insect pest ecosystems—the cereal leaf beetle problen *Theoret. Biol.* **59** (1976), *no.* 1, 33–76. (Colin W. Clark) **54** #7006 92A99

Khar'kov, A. A. *See* **Har'kov, A. A.**

Khar'kova, N. V. *See* **Har'kova, N. V.**

Kharlamov, A. A. *See* **Harlamov, A. A.**

Kharshikar, A. V. Comparison of net premiums from the point of view of minir variance: two approaches. *Skand. Aktuarietidskr.* **1972**, 57–64 (1973). (R. Fisc **50** #11685 62P05

Khasbardar, Sunanda K. (*with* Thakare, Nimbakrishna) On vectorial paranorms. *Indi Pure Appl. Math.* **7** (1976), *no.* 1, 38–48. (E. Deutsch) **56** #8590 15A03

(*with* Phadke, S. V.; Thakare, Nimbakrishna) On QU-operators. *Indian J. Appl. Math.* **8** (1977), *no.* 3, 335–343. (Teishirô Saitô) **57** #3899 47B20

(*with* Thakare, Nimbakrishna) Spectraloid operators, similarity and related resu *Indian J. Pure Appl. Math.* **9** (1978), *no.* 5, 494–500. (J. A. Van Casteren) **57** #173 47B40 (47A10, 47B20)

Khas'minskii, R. Z. *See* **Has'minskiĭ, R. Z.**

Khassa, Dharam Singh (*with* Dumir, Vishwa Chander) Saturated systems of symm convex domains; results of Eggleston, Bambah and Woods. *Proc. Cambridge Ph Soc.* **74** (1973), 107–116. (J. B. Wilker) **47** #4148 52A45

(*with* Dumir, Vishwa Chander) A conjecture of Fejes Tóth on saturated system circles. *Proc. Cambridge Philos. Soc.* **74** (1973), 453–460. (J. B. Wilker) **48** #123 52A45

A lower bound for the lower densities of saturated systems of convex doma *Indian J. Pure Appl. Math.* **6** (1975), *no.* 12, 1422–1435. (H. Groemer) **58** #74 52A45

A lower bound for the lower densities of saturated systems of spheres. *India Pure Appl. Math.* **6** (1975), *no.* 12, 1436–1440. (H. Groemer) **58** #7405 52A45

Relation between maximal chords and symmetry for convex sets. *J. London M Soc.* (2) **15** (1977), *no.* 3, 541–546. (N. Poláková) **56** #3745 52A20

Khatchadourian, Haig Kripke and Frege on identity statements. *Studien zu Frege, Ban pp.* 269–298. *Problemata, No.* 43, *Frommann-Holzboog, Stuttgart*, 1976. (Editors) **58** #21393 02A05 (01A55, 02–03)

Khatri, C. G. Convergence of second degree polynomials in independent random vect *Vidya* **11** (1968), *no.* 2, 208–217. (E. S. Boylan) **46** #950 60G50

(*with* Jaiswal, M. C.) Testing the equality of parameters in k triangular populati when the location parameters are unknown. *J. Indian Statist. Assoc.* **7** (1969), 30–37 Kotz) **48** #7438 62F05

A note on some results on a generalised inverse of a matrix. *J. Indian Statist. As* **7** (1969), 38–45. (A. R. Amir-Moéz) **48** #3980 15A09

Characterization of some univariate distributions. *Sankhyā Ser. A* **31** (19 269–280. (G. P. Patil) **49** #1642 62E10

On the moments of traces of two matrices in three situations for complex multivariate normal populations. *Sankhyā Ser. A* **32** (1970), 65–80. **45** #285 62H99

A note on a commutative g-inverse of a matrix. *Sankhyā Ser. A* **32** (1970), 299– (Author's summary) **45** #1939 15A09

(*with* Jaiswal, M. C.) On certain tests and monotonicity of their power for parameters involved in the non-regular density functions. *Ann. Inst. Statist. Math.* (1971), 199–210. (R. V. Hogg) **47** #4398 62J05 (62F05)

(*with* Vaidya, A. M.) On integers which are ratios of two triangular numbers. *Indian Math. Soc.* (*N.S.*) **35** (1971), 205–215 (1972). (G. Greaves) **46** #7157 10

On characterization of gamma and multivariate normal distributions by solv some functional equations in vector variables. *J. Multivariate Anal.* **1** (1971), *no.* 70–89. (Author's summary) **46** #991 62E10 (62H05)

Series representations of distributions of quadratic form in the normal vectors generalised variance. *J. Multivariate Anal.* **1** (1971), *no.* 2, 199–214. (Author's summa **46** #2773 62E10 (62H05)

(*with* Srivastava, Muni S.) On exact non-null distributions of likelihood r criteria for sphericity test and equality of two covariance matrices. *Sankhyā Ser. A* (1971), 201–206. (P. R. Krishnaiah) **48** #1385 62H10

On multivariate contagious distributions. *Sankhyā Ser. B* **33** (1971), 197–216. (P. Diananda) **48** #1384 62H05

On the expectation of the random variable $(X^p - Y^p)^{1/p}$. *Vidya* **14** (1971), *no.* 56–59. (S. M. Samuels) **48** #5144 60E05

(*with* Rao, C. Radhakrishna) Functional equations and characterization of probability laws through linear functions of random variables. *J. Multivariate Anal* (1972), 162–173. (Authors' summary) **46** #4648 62H05

On the exact finite series distribution of the smallest or the largest root of matri in three situations. *J. Multivariate Anal.* **2** (1972), 201–207. (K. C. S. Pillai) **47** #9773 62H10

On characterization of the distribution from the regression of sample covarian matrix on the sample mean vector. *Sankhyā Ser. A* **34** (1972), 235–242. (Steven Arno **51** #14408 62H05

(*with* Srivastava, Muni S.) On the exact non-null distribution of likelihood ra teria for covariance matrices. *Ann. Inst. Statist. Math.* **25** (1973), 345–354. (I. Olkin) #9972 62H10

Corrections to: "Conditions for Wishartness and independence of second degree lynomials in normal vector" (Ann. Math. Statist. 33 (1962), 1002–1007) and "Further ntributions to Wishartness and independence of second degree polynomials in normal ctors" (J. Indian Statist. Assoc. 1 (1963), 61–70). *Ann. Statist.* **1** (1973), 991. (R. G. ha) **50** #6049 62H10

(*with* Shah, B. K.) An extension to a method of fitting regression curve $y) = \alpha + \delta x + \beta\rho^{x}$. *Comm. Statist.* **1** (1973), 365–370. (G. Manija) **49** #10078 J05

(*with* Shah, K. R.) Connectedness in row-column designs. *Comm. Statist.* **2** (1973), 1–573. (Authors' summary) **48** #7496 62K10

Testing some covariance structures under a growth curve model. *J. Multivariate al.* **3** (1973), 102–116. (M. S. Srivastava) **48** #7472 62H15

(*with* Srivastava, Muni S.) Asymptotic expansions of the non-null distributions of elihood ratio criteria for covariance matrices. *Ann. Statist.* **2** (1974), 109–117. (C. ayashi) **49** #10053 62H10

(*with* Shah, B. K.) Proof of conjectures about the expected values of the elementary mmetric functions of a noncentral Wishart matrix. *Ann. Statist.* **2** (1974), 833–836. uthor's summary) **50** #15156 62H10

On testing the equality of location parameters in *k* censored exponential stributions. *Austral. J. Statist.* **16** (1974), 1–10. (Yung L. Tong) **51** #2097 62F05

A note on characterization of some laws by the symmetrical distribution of one near function given another. *Canad. J. Statist.* **2** (1974), *no.* 2, 241–247. (Peter Flusser) 3 #6882 62H05

(*with* Shah, K. R.) Estimation of location parameters from two linear models under ormality. *Comm. Statist.* **3** (1974), 647–663. (H. Bandemer) **51** #9323 62F10 2K10)

(*with* Vaidya, A. M.) On the Diophantine equation $X^{u} - Y^{v} = 1$. *Vidya B* **17** (1974), *p.* 2, 134–143. (Authors' introduction) **58** #501 10B15

(*with* Guttman, Irwin) A Bayesian approach to some problems involving the etection of spuriosity. *Applied statistics* (*Proc. Conf., Dalhousie Univ., Halifax, N. S.,* 974), *pp.* 111–145. *North-Holland, Amsterdam,* 1975. (J. N. K. Tao) **54** #11638 2F15

(*with* Srivastava, Muni S.) On the likelihood ratio test for covariance matrix in rowth curve model. *Applied statistics* (*Proc. Conf., Dalhousie Univ., Halifax, N.S.,* 974), *pp.* 187–198. *North-Holland, Amsterdam,* 1975. (Rashid Ahmad) **52** #12209 2H10

(*with* Srivastava, Muni S.) Asymptotic expansions of the non-null distributions of he likelihood ratio criteria for covariance matrices. II. *Proceeding of the Symposium on Statistics and Related Topics* (*Carleton Univ., Ottawa, Ont.,* 1974), *Paper No.* 8, 23 *pp.* *arleton Univ., Ottawa, Ont.,* 1975. (C. Hayashi) **51** #11818 62H10

(*with* Bhargava, R. P.) On the non-central chi-square distribution with odd degrees of freedom and some related results. *Gujarat Statist. Rev.* **2** (1975), *no.* 1, 33–40. (Campbell B. Read) **53** #11841 62E15

A characterization property of a normal distribution. *Gujarat Statist. Rev.* **2** (1975), *no.* 2, 24–27. (Peter Flusser) **55** #6687 62H05

(*with* Shah, K. R.) Exact variance of combined inter- and intra-block estimates in incomplete block designs. *J. Amer. Statist. Assoc.* **70** (1975), 402–406. (C. H. Kapadia) 51 #14452 62K10 (62J10)

(*with* Srivastava, Muni S.) Some probability inequalities connected with Schur functions. *J. Multivariate Anal.* **5** (1975), *no.* 4, 480–486. (Authors' summary) **52** #12210 62H10

(*with* Shah, K. R.) Some designs for two-way elimination of heterogeneity. *Sankhyā Ser. B* **37** (1975), *no.* 4, 418–428. (From the introduction) **58** #31633 62K10

(*with* Shah, K. R.; Raghavarao, D.) Optimality of two and three factor designs. *Ann. Statist.* **4** (1976), *no.* 2, 419–422. (H. Bandemer) **52** #15880 62K05

A note on an inequality for a multivariate normal distribution. *Gujarat Statist. Rev.* **3** (1976), *no.* 1, 1–12. (C. W. Chen) **55** #1617 62H10

A note on the independence of the mean vector and the covariance matrix. *Gujarat Statist. Rev.* **3** (1976), *no.* 2, 21–23. (Donald R. Jensen) **55** #9407 62H05

(*with* Rao, C. Radhakrishna) Characterizations of multivariate normality. I. Through independence of some statistics. *J. Multivariate Anal.* **6** (1976), *no.* 1, 81–94. (Werner Fieger) **53** #11877 62H05

(*with* Carter, E. M.; Srivastava, Muni S.) Nonnull distribution of likelihood ratio criterion for reality of covariance matrix. *J. Multivariate Anal.* **6** (1976), *no.* 1, 176–184. (Donald R. Jensen) **54** #1479 62H10

A note on multiple and canonical correlation for a singular covariance matrix. *Psychometrika* **41** (1976), *no.* 4, 465–470. (Author's summary) **58** #3203 62H20

(*with* Mitra, Sujit Kumar) Hermitian and nonnegative definite solutions of linear matrix equations. *SIAM J. Appl. Math.* **31** (1976), *no.* 4, 579–585. (H. Ratschek) **54** #5270 15A24

Quadratic forms and extension of Cochran's theorem to normal vector variables. *Multivariate analysis, IV* (*Proc. Fourth Internat. Sympos., Dayton, Ohio,* 1975), *pp.* 79–94. *North-Holland, Amsterdam,* 1977. (D. N. Shanbhag) **56** #13448 62H10

(*with* Mitra, Sujit Kumar) Some converses of the Gauss-Markov theorem. *Gujarat Statist. Rev.* **4** (1977), *no.* 2, 51–59. (R. Kala) **57** #4434 62J05

(*with* Mardia, K. V.) Uniform distribution on a Stiefel manifold. *J. Multivariate Anal.* **7** (1977), *no.* 3, 468–473. (J. S. Rao) **56** #4054 62H10 (62E15)

(*with* Mardia, K. V.) The von Mises-Fisher matrix distribution in orientation statistics. *J. Roy. Statist. Soc. Ser. B* **39** (1977), *no.* 1, 95–106. (J. S. Rao) **58** #13506 62H10

(*with* Krishnaiah, Paruchuri R.; Sen, Pranab Kumar) A note on the joint distribution of correlated quadratic forms. *J. Stat. Plann. Inference* **1** (1977), *no.* 3, 299–307. (Goro Nagase) **58** #8025 62H10

Distribution of a quadratic form in noncentral normal vectors using generalised Laguerre polynomials. *South African Statist. J.* **11** (1977), *no.* 2, 167–179. (Yasuko Chikuse) **57** #10918 62H10

See also **Šidák, Zbyněk, 51** #11815

hatri, D. C. Relative projectivity, the radical and complete reducibility in modular group algebras. *Trans. Amer. Math. Soc.* **186** (1973), 51–63 (1974). (G. I. Lehrer) **48** #6222 20C05

Projective-sensitivity in modular group-algebras. *Math. Japon.* **19** (1974), 71–78. (B. Fein) **51** #669 20C05

Khatri, Hiralal C. Stability conditions for a class of distributed-parameter systems. *J. Franklin Inst.* **291** (1971), 43–56. (Yaakov Yavin) **45** #3101 93D10

(*with* Nagarajan, N.) On the stability of a class of distributed, sampled-data nonlinear systems. *Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control* **93** (1971), 142–150. **56** #11316 93D10 (93C20)

Khatskevich, V. P. *See* **Hackevič, V. P.**

Khatwani, K. J. (*with* Bajwa, J. S.) Identification of linear time-invariant systems using exponential signals. *IEEE Trans. Automatic Control* **AC-20** (1975), 146–148. (Arunabha Bagchi) **55** #12201 93B30

(*with* Bajwa, J. S.) Comments on "Simplification of large system dynamics using a moment evaluation algorithm" (IEEE Trans. Automatic Control -**19** (1974), 602–603) by M. Lal and R. Mitra. With authors' reply. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 4, 631–632. (Arild Thowsen) **55** #2206 93A15

(*with* Bajwa, J. S.) Further comments on: "Simplification of large system dynamics using a moments evaluation algorithm" (IEEE Trans. Automatic Control **AC-19** (1974), 602–603) by M. Lal and R. Mitra. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 495. (Editors) **57** #11847 93–04

al-Khayyal, Faiz A. *See* **Al-Khayyal, Faiz A.**

Khayyām, Omar (*with* Mamedov (Haĭjami), K. M.) Newton's binomial formula was first published by Omar Khayyām. (Azerbaijani. Russian and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1972**, *no.* 3, 3–8. (E. S. Kennedy) **50** #6749 01A25 (01A30)

The direct qustās (steelyard). (Russian) Translated from the Arabic and annotated by I. S. Levinova. Edited by B. A. Rozenfel′d. *Studies in the history of mathematics, No.* 19 (*Russian*), *pp.* 274–278, 302. *Izdat. "Nauka", Moscow,* 1974. (Editors) **58** #43 01A30

A discourse on genres that are formed by a fourth. (Russian) Translated from the Arabic and annotated by B. A. Rozenfel′d and N. G. Haĭretdinova. *Studies in the history of mathematics, No.* 19 (*Russian*), *pp.* 279–284, 303. *Izdat. "Nauka", Moscow,* 1974. (Editors) **57** #12026 01A30

See also **Hatipov, A. È.-A., 45** #4930 *and* **Hatipov, A. È.-A., 45** #4931

Khazanchi, Lalita A note on commutators. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 297–300 (1974). (C. R. Putnam) **52** #15088 47B47

Results on fixed points in complete metric space. *Math. Japon.* **19** (1974), *no.* 3, 283–289. (M. A. Geraghty) **53** #4032 54H25

(*with* Dass, Bal Kishan) On fixed-point theorems in complete metric spaces. *Colloq. Math.* **34** (1975/76), *no.* 2, 223–229. (S. P. Singh) **53** #1559 54H25

A note on a theorem of Putnam and Wintner. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 5, 506–510. (C. R. Putnam) **58** #23687 47A60 (46H05)

(*with* Dass, Bal Kishan) A fixed point theorem concerning iterates of a mapping. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 6, 597–601. (Authors' summary) **58** #31028b 54H25

(*with* Dass, Bal Kishan) A theorem on fixed points concerning iterates of a mapping. *Indian J. Pure Appl. Math.* **7** (1976), *no.* 6, 602–609. (Authors' summary) **58** #31028a 54H25

(*with* Dass, Bal Kishan) On common fixed points through rational expression. *Riv. Mat. Univ. Parma* (4) **2** (1976), 141–146. (Chi-Song Wong) **56** #13191 54H25

Khazatskii, V. E. *See* **Hazackiĭ, V. E.**

Khazen, É. M. *See* **Hazen, È. M.**

Khazin, L. G. *See* **Hazin, L. G.**

Khazina, G. G. *See* **Hazina, G. G.**

Khazzoom, J. Daniel An indirect least squares estimator for overidentified equations. *Econometrica* **44** (1976), *no.* 4, 741–750. (Jean-Louis Boursin) **56** #4102 62P20

Kheifets, M. I. *See* **Heĭfec, M. I.**

Kheisin, V. E. *See* **Heĭsin, V. E.**

tahir-Kheli, R. A. *See* **Tahir-Kheli, R. A.**

Kheyfets, S. B. *See* **Heĭfec, S. B.**

Kheysin, V. E. *See* **Heĭsin, V. E.**

Kheysin, V. Ye. *See* **Heĭsin, V. E.**

Khichi, K. S. A note on Srivastava's triple hypergeometric function H_B. *Gaṇita* **19** (1968), *no.* 1, 21–24. (L. J. Slater) **45** #5423 33A30

Khidr, M. A. (*with* Abdel-Gaid, M. A.) Unsteady heat transfer from a suddenly heated infinite plate placed in a rarefied gas. *J. Phys. A* **11** (1978), *no.* 3, 647–652. (Authors' summary) **57** #2222 80.60

Khil, M. I. *See* **Hil′, M. I.**

Khintchine, A. Y. *See* **Hinčin, A. Ja.**

Khitrov, B. F. *See* **Hitrov, B. F.**

Khlestkov, Yu. A. *See* **Hlestkov, Ju. A.**

Khlobistov, V. V. *See* **Hlobistov, V. V.**

Khlobystov, V. V. *See* **Hlobistov, V. V.**

Khlopov, G. I. *See* **Hlopov, G. I.**

Khmelevski, I. *See* **Hmelevskiĭ, I. L.**

Kho, T. H. (*with* Sen, K. K.) Non-coherent scattering in transfer problems in spherical shell media. I. Frequency-independent source function. *Astrophys. and Space Sci.* **21** (1973), 39–57. (K.-H. Hauer) **48** #7907 85.45

(*with* Sen, K. K.) Non-coherent scattering in transfer problems in spherical shell media. II. Frequency-dependent source function. *Astrophys. and Space Sci.* **21** (1973), 237–255. (K.-H. Hauer) **48** #7908 85.45

(*with* Sen, K. K.) Non-coherent scattering in transfer problems in spherical shell media. III. A moving medium. *Astrophys. and Space Sci.* **25** (1973), *no.* 1, 247–261. (Y. Hayashi) **51** #9752 78.45

vo-khac Khoan *See* **Vo-Khac Khoan**

Khobotov, E. N. *See* **Hobotov, E. N.**

Khodzhaev, K. Sh. *See* **Hodžaev, K. Š.**

Khokhlov, A. R. *See* **Hohlov, A. R.**

Khokhlov, A. S. *See* **Hohlov, A. S.**

Khokhlov, R. V. *See* **Hohlov, R. V.**

Kholchevnikov, Constantin *See* **Holševnikov, K. V.**

Kholevo, A. S. *See* **Holevo, A. S.**

Kholshevnikov, Constantin *See* **Holševnikov, K. V.**

el-Kholy, A. A. *See* **El-Kholy, A. A.**

Khominych, V. S. *See* **Hominič, V. S.**

Khosla, P. K. (*with* Rubin, Stanley G.) Higher-order numerical solutions using cubic splines. *AIAA J.* **14** (1976), *no.* 7, 851–858. (Authors' summary) **56** #17152 65N35

(*with* Rubin, Stanley G.) Polynomial interpolation methods for viscous flow calculations. *J. Computational Phys.* **24** (1977), *no.* 3, 217–244. (Silvio Nocilla) **56** #17487 76.65

Khosrovshahi, G. B. Nonexistence of nontrivial solutions of Schrödinger type systems. *SIAM J. Math. Anal.* **8** (1977), *no.* 6, 998–1013. (C. A. Swanson) **56** #12565 35J10

Khot, N. S. (*with* Berke, L.; Venkayya, V. B.) Comparison of optimality criteria algorithms for minimum weight design of structures. *AIAA J.* **17** (1979), *no.* 2, 182–190. (Authors' summary) **58** #25290 73.49 (65K05)

See also **Instability of continuous systems**, **49** #10495

Khoti, B. P. (*with* Gupta, Devendra) On Riesz summability of a series of Bessel functions. *Publ. Math. Debrecen* **17** (1970), 273–282 (1971). (J. L. Fields) **49** #9527 42A56 (40G99)

(*with* Gupta, Devendra) On the degree of approximation of a function by the Riesz means of a series of Bessel functions. *Indian J. Math.* **14** (1972), 115–127. (J. Prasad) **48** #6801 42A56

Khranevskaia, I. E. *See* **Hranevskaja, I. E.**

Khranovich, I. L. *See* **Hranovič, I. L.**

Khrapkov, A. A. *See* **Hrapkov, A. A.**

Khriplovich, I. B. *See* **Hriplovič, I. B.**

Khristesashvili, V. G. *See* **Hristesašvili, V. G.**

Khristianovich, S. A. *See* **Hristianovič, S. A.**

Khristov, N. D. *See* **Hristov, Nikolaĭ D.**

Khrustalev, M. M. *See* **Hrustalev, M. M.**

Khubervan, B. K. *See* **Huberjan, B. K.**

Khuberyan, B. K. *See* **Huberjan, B. K.**

Khudyakov, G. I. *See* **Hudjakov, G. I.**

Khukhunashvili, Z. V. *See* **Huhunašvili, Z. V.**

Khumawala, Basheer M. A note on branch-and-bound for facility location. *INFOR—Canad. J. Operational Res. and Information Processing* **11** (1973), 180–182. (I. Gh. Ciobanu) **49** #2054 90B05

(*with* Neebe, A. W.; Dannenbring, D. G.) A note on A. M. El-Shaieb's new algorithm for locating sources among destinations (Management Sci. **20** (1973), 221–231). *Management Sci.* **21** (1974/75), *no.* 2, 230–233. (From the authors' introduction) **55** #12047 90B99

(*with* Akinç, Ümit) An efficient branch and bound algorithm for the capacitated warehouse location problem. *Management Sci.* **23** (1976/77), *no.* 6, 585–594. (M. Rössler) **56** #4819 90C10 (90B05)

luc du Khuong *See* **Luc Du Khuong**

Khurana, Surjit Singh Characterization of extreme points. *J. London Math. Soc.* (2) **5** (1972), 102–104. (A. Revuz) **47** #761 46A15

Measures having barycenters. *J. Math. Anal. Appl.* **40** (1972), 622–624. (N. Y. Luther) **47** #5543 46A05

Barycenters, extreme points, and strongly extreme points. *Math. Ann.* **198** (1972), 81–84. (T. Armstrong) **48** #9347 46A99

Barycenters, pinnacle points, and denting points. *Trans. Amer. Math. Soc.* **180** (1973), 497–503. (H. E. Lacey) **47** #6985 28A40 (46A05)

Extension and regularity of group-valued Baire measures. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 891–895. (Peter W. Day) **52** #14222 28A45

A vector form of Phillips' lemma. *J. Math. Anal. Appl.* **48** (1974), 666–668. (A. F. Ruston) **50** #7992 47A30

Weak integration of vector-valued functions. *J. Indian Math. Soc.* (*N.S.*) **39** (1975), 155–166 (1976). (A. de Korvin) **53** #13510 28A45

Extension of total bounded functionals in normed spaces. *Math. Ann.* **217** (1975), *no.* 2, 153–154. (Bor-Luh Lin) **52** #1264 46B05

Convergent sequences of regular measures. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 1, 37–42. (O. Costinescu) **53** #3245 28A32 (28A45, 60B10)

Extensions of exhaustive submeasures. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 4, 213–216. (T. P. Srinivasan) **54** #505 28A45

Weakly convergent sequences in L_∞. *Indiana Univ. Math. J.* **25** (1976), *no.* 1, 77. (W. A. J. Luxemburg) **52** #6399 46E30 (28A20)

(*with* Choo, Seki Alexander) Strict topology and P-spaces. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 2, 280–284 (1977). (T. R. Jenkins) **54** #13557 46E40

Lattice-valued Borel measures. *Rocky Mountain J. Math.* **6** (1976), *no.* 2, 377–382. (J. Diestel) **53** #3253 28A45 (46G10)

Strict topology on paracompact locally compact spaces. *Canad. J. Math.* **29** (1977), *no.* 1, 216–219. (Richard Haydon) **55** #3780 (E **57** #7150) 46E40

Bounded sequences in $\mathfrak{L}^1_\mu$ for vector measures. *Houston J. Math.* **3** (1977), *no.* 4, 477–479. (Author's summary) **58** #17838 46G10 (46A05)

Convergent sequences of τ-smooth measures. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 1, 137–142. (T. Neubrunn) **55** #8302 28A45 (60B10)

A note on a paper of J. D. Stein, Jr.: "Sequence of regular finitely additive set functions" (Trans. Amer. Math. Soc. **192** (1974), 59–66). *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 74–76. (T. P. Srinivasan) **58** #11304 28A10

Corrigendum: "Strict topology on paracompact locally compact spaces" (Canad. J. Math. **29** (1977), no. 1, 216–219). *Canad. J. Math.* **30** (1978), *no.* 3, 671. (Editors) **57** #7150 46E40

Grothendieck spaces. *Illinois J. Math.* **22** (1978), *no.* 1, 79–80. (Robert F. Wheeler) **56** #16347 46E10

A note on Radon-Nikodým theorem for finitely additive measures. *Pacific J* **74** (1978), *no.* 1, 103–104. (J. D. Maitland Wright) **58** #6131 28A15

Vector-valued continuous functions with strict topologies and angelic topo spaces. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 1, 34–36. (G. Greiner) **58** #1 46E40

Lattice-valued Borel measures. II. *Trans. Amer. Math. Soc.* **235** (1978), 20 (Beloslav Riečan) **57** #583 28A55

Khurgin, Ya. I. *See* **Hurgin, Ja. I.**

Khuri, A. I. (*with* Hamdan, M. A.; Pirie, Walter R.) Unbiased estimation of the c mean based on incomplete bivariate normal samples. (German summary) *Biom* *Z.* **18** (1976), *no.* 4, 245–249. (M. Samiuddin) **56** #4029 62F10

(*with* Cornell, John A.) Secondary design considerations for minimum bias estimation. *Comm. Statist.–Theory Methods* **A6** (1977), *no.* 7, 631–647. (J. **56** #4073 62K99

(*with* Good, Irving John) The distribution of quadratic forms in non-normal variables and an application to the variance ratio. *J. Roy. Statist. Soc. Ser. B* **39** *no.* 2, 217–221. (M. L. Tiku) **58** #24658 62E15

Khuri, Andrawus I. Application of Papkovitch functions to three-dimensional therm problems. *J. Reine Angew. Math.* **282** (1976), 68–79. (J. Ignaczak) **53** #9803

Khuri, N. M. (*with* Bitar, Khalil M.) Bjorken limit and the Jin-Martin lower bound. *Rev. D* (3) **3** (1971), 462–477. (N. Nakanishi) **48** #5537 81.30

Analyticity in the forward tube, complex scaling, and new sum rules for Compton amplitudes. *Phys. Rev. D* (3) **5** (1972), *no.* 2, 462–474. (Author's sum **54** #9402 81.32

Solutions of the Callan-Symanzik equation in a complex neighborhood coupling. *Phys. Rev. D* (3) **12** (1975), *no.* 8, 2298–2310. (K. Kumar) **58** #2 81.47

(*with* Auberson, G.) Analyticity in several variables and physical parametr rules. International Conference: Mathematical Problems of Quantum Field Theo Quantum Statistics (Moscow, 1972), Part II. *Trudy Mat. Inst. Steklov.* **136** 177–188, 438. (P. Achuthan) **57** #15006 81.32

Borel summability and the renormalization group. *Phys. Rev. D* (3) **16** (1977) 1754–1761. (Author's summary) **56** #10563 81.46

Khuri, S. (*with* Hanna, Azmi) Modules with irredundant sets of cogenerators. (summary) *Rend. Istit. Mat. Univ. Trieste* **9** (1977), *no.* 1-2, 38–45 (1978). Goodearl) **58** #22177 16A64

Khutorovskii, Z. N. *See* **Hutorovskiĭ, Z. N.**

abi-Khuzam, Faruk F. *See* **Abi-Khuzam, Faruk F.**

Khvedelidze, B. V. *See* **Hvedelidze, B. V.**

Khvilon, E. A. *See* **Hvilon, E. A.**

al-Khwārizmī, Muḥammad ibn Mūsā ★al-Jabr. (Persian) [Algebra] Translated fr Arabic by Ḥusayn Khadyūjim. *al-Khwārizmī Publishers, Tehran*, 1969. 190 *pp.* **58** #27149 01A75 (01A30)

See also **al-Khwārizmī: polymath**, **56** #15280 *and* **Maracchia, Silvio**, **58** #4

Khylyuk, L. F. *See* **Hiljuk, L. F.**

Ki, U Hang A certain submanifold of codimension 2 of a Kählerian manifold. *J.* *Math. Soc.* **8** (1971), 31–37. (K. Yano) **46** #8145 53C55

Note on hypersurfaces with (f,g,u,v,λ)-structure of S^{2n+1}. *Kyungpook Mat* (1971), 139–142. (M. Okumura) **46** #9909 53C40

(*with* Eum, Sang Seup) Complete submanifolds of codimension 2 in an even-dimensional Euclidean space. *J. Korean Math. Soc.* **9** (1972), 15–26. (M. Okumura) **47** #5786 53C40

(*with* Lim, Jae Kyu) Invariant submanifolds of a manifold with quasi- (f,g,u,v,λ)-structure. *J. Korean Math. Soc.* **9** (1972), 49–57. (T. Suguri) **49** # 53C25

On certain submanifolds of codimension 2 of a locally Fubinian manifold. *Math. Sem. Rep.* **24** (1972), 17–27. (M. Okumura) **46** #4414 53B25

(*with* Yano, Kentaro) On quasi-normal (f,g,u,v,λ)-structures. *Kōdai Math* *Rep.* **24** (1972), 106–120. (C. S. Houh) **46** #2605 53C25

On certain submanifolds of codimension 2 of an almost Tachibana manifold. *Math. Sem. Rep.* **24** (1972), 121–130. (C. S. Houh) **46** #2606 53C25

(*with* Yano, Kentaro) Submanifolds of codimension 2 in an even-dimen Euclidean space. *Kōdai Math. Sem. Rep.* **24** (1972), 315–330. (O. Kowalski) **47** 53C40

(*with* Yano, Kentaro; Eum, Sang Seup) On transversal hypersurfaces of an contact manifold. *Kōdai Math. Sem. Rep.* **24** (1972), 459–470. (M. Okumura) **48** 53B25

(*with* Pak, Jin Suk) On a space of constant curvature with (f,g,u,v,λ)-stru *Kyungpook Math. J.* **12** (1972), 179–182. (G. D. Ludden) **48** #1107 53C25

(*with* Pak, Jin Suk) On certain submanifolds of codimension 2 with (f,g,u,v,λ)-structure. *Tensor* (*N.S.*) **23** (1972), 223–227. (C. S. Houh) **47** # 53A10

(*with* Ishihara, Shigeru) Complete Riemannian manifolds with (f,g,u,v,λ)-structure. *J. Differential Geometry* **8** (1973), 541–554. (J. R. Var **51** #13912 53C15

(*with* Kwon, Young K.) Submanifolds of codimension 2 with a comple f-structure. *J. Korean Math. Soc.* **10** (1973), 53–65. (M. Okumura) **49** #9770

(*with* Yano, Kentaro) Manifolds with antinormal (f,g,u,v,λ)-structure. *Kōda* *Math. Sem. Rep.* **25** (1973) 48–62. (Samuel I. Goldberg) **49** #3786 53C40

(*with* Yano, Kentaro; Eum, Sang Seup) On almost contact affine 3-struc *Kōdai Math. Sem. Rep.* **25** (1973), 129–142. (R. L. Bishop) **48** #1093 53C15

(*with* Pak, Jin Suk) On certain (f,g,u,v,λ)-structures. *Kōdai Math. Sem. R* (1973), 435–445. (K. Yano) **49** #11425 53C20

(*with* Pak, Jin Suk) Intrinsic problems on $S^n(1/\sqrt{2})\times S^{n+1}(1/\sqrt{2})$. *Kyun* *Math. J.* **13** (1973), 287–298. (K. Yano) **49** #6096 53C25

(*with* Pak, Jin Suk; Kim, In Bae) On hypersurfaces of a K-contact metric ma as fibred spaces. *J. Korean Math. Soc.* **11** (1974), 143–152. (G. D. Ludden) **51** # 53C15

(*with* Pak, Jin Suk; Suh, Hyun Bae) On $(f,g,u_{(k)},\alpha_{(k)})$-structures. *Kōdai* *Sem. Rep.* **26** (1974/75), 160–175. (G. D. Ludden) **52** #9115 53C15 (*with* Pak, Jin Suk; Choe, Yeong Wu) Compact hypersurfaces with antinormal g, u, v, λ)-structure in an odd-dimensional sphere. *J. Korean Math. Soc.* **12** (1975), *no.* 63–70. (K. Yano) **51** #8998 53C40

(*with* Oh, Gehwan) On certain complete conformally flat spaces with constant ılar curvature. *J. Korean Math. Soc.* **12** (1975), *no.* 2, 89–96. (C. S. Houh) **52** #11788 53C20

(*with* Suh, Hyun Bae) On hypersurfaces with normal $(f, g, u_{(k)}, \alpha_{(k)})$-structure in an en-dimensional sphere. *Kōdai Math. Sem. Rep.* **26** (1975), *no.* 4, 424–437. (K. Yano) #1559 53C15

(*with* Kim, Jae Ryong) Note on compact submanifolds of codimension 2 with vial normal bundle in an even-dimensional Euclidean space. *J. Korean Math. Soc.* **13** 976), *no.* 1, 51–59. (Bang-yen Chen) **57** #17569 53C40

(*with* Pak, Eulyong) On infinitesimal minimal variations of anti-invariant bmanifolds of a Kaehlerian manifold. *J. Korean Math. Soc.* **14** (1977/78), *no.* 1, –80. (J. L. Koszul) **57** #10628 53B35

Note on infinitesimal conformal variations. *J. Korean Math. Soc.* **14** (1977/78), *no.* 105–111. (Bang-yen Chen) **57** #10652 53C40

(*with* Park, Joon Sik) Infinitesimal variations of invariant submanifolds with normal $f, g, u, v, \lambda)$-structure. *J. Korean Math. Soc.* **14** (1977/78), *no.* 2, 241–261. (Raymond outy) **57** #10653 53C40

(*with* Pak, Eulyong) Remarks on infinitesimal conformal and minimal variations of submanifold. *J. Korean Math. Soc.* **14** (1977/78), *no.* 2, 263–269. (Raymond Couty) 7 #10654 53C40

(*with* Yano, Kentaro; Okumura, Masafumi) Infinitesimal variations of invariant ubmanifolds of a Kaehlerian manifold. *Kōdai Math. J.* **1** (1978), *no.* 1, 89–100. Raymond Couty) **58** #18306 53C55 (53C40)

Koojoori, T. (*with* Constantinides, C. T.; Jacquot, R. G.) Stability of a feedback ontrolled distributed system by modal representation. *Internat. J. Systems Sci.* **7** 1976), *no.* 9, 989–1003. (Shinzo Kitamura) **55** #12237 93D15

far, Ferydoon Stronger inequalities for 0, 1 integer programming using knapsack unctions. *Operations Res.* **19** (1971), 1374–1392. (Csaba Fabian) **45** #9685 90C10

Stronger inequalities for 0-1 integer programming: computational refinements. *Operations Res.* **24** (1976), *no.* 3, 581–585. (Csaba Fabian) **53** #15358 90C10

g, D. Relationship between nonlocal and velocity-dependent potentials. *Amer. J. Phys.* **39** (1971), 996–1002. (Author's summary) **52** #12619 81.47

(*with* Hama, Mitsuru; Nakazawa, Kazo) Smoothed Veneziano model and πN and KN total cross sections at high energy. *Progr. Theoret. Phys.* **46** (1971), 486–491. (Jean Nuyts) **46** #8558 81.22

(*with* Niégawa, A.) Exact bound-state solution of a one-dimensional three-body system with a δ interaction. *Phys. Rev. A* (3) **14** (1976), *no.* 3, 911–914. (Authors' summary) **56** #2014 81.34

ng, Mo Tak Semigroups with diminishing orbital diameters. *Pacific J. Math.* **41** (1972), 143–151. (W. A. Kirk) **46** #6330 54H15 (47H10)

On some semigroups of mappings. *Nederl. Akad. Wetensch. Proc. Ser. A* **76** = *Indag. Math.* **35** (1973), 18–22. (Joe A. Guthrie) **47** #5834 54E35

Mappings related to contractions. *Canad. Math. Bull.* **17** (1974/75), *no.* 5, 679–684. (R. Hannan) **51** #14013 54H25

Fixed point theorems for certain classes of semigroups of mappings. *Trans. Amer. Math. Soc.* **189** (1974), 63–76. (A. T.-M. Lau) **50** #14391 47H10

Some fixed point theorems for semigroups of selfmappings. *Fixed point theory and its applications* (*Proc. Sem., Dalhousie Univ., Halifax, N. S.*, 1975), *pp.* 105–107. *Academic Press, New York*, 1976. (Haskell Cohen) **56** #6635 54H25

A fixed point theorem for eventually nonexpansive semigroups of mappings. *J. Math. Anal. Appl.* **56** (1976), *no.* 3, 567–569. (M. I. Kamenskiĭ) **55** #1156 47H10

ang, T. *See* **Chiang, Tse Han**

ang, Yuan Sun *See* **Jiang, Yuan Sheng**

Kian Ke, William *See* **Oo Kian Ke, William**

ba, S. P. *See* **Nonlinear oscillations and stability of motion**, 57 #12950

balko, P. I. The approximation of periodic functions of two variables by a class of linear methods for the summability of double Fourier series. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 1, 34–43, 140. (S. Baron) **56** #3541 42A08 (42A92)

balov, E. B. (*with* Hutoreckiĭ, A. B.) The problem of volume scheduling for the construction industry. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 6, 1092–1103. (D. Obradović) **58** #20384 90B35

bata, Atsuyoski (*with* Okamoto, Kiyosato; Tanaka, Makoto) On hyperlocalizations of intertwining operators. (Japanese) Invariant differential equations in symmetric spaces (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 249 (1975), 22–26. (S. Murakami) **57** #3313 22E45

ibec, V. F. (*with* Ostaševskiĭ, I. P.) A certain search game with moving objects. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 1, 97–98. (I. V. Beiko) **51** #2664 90D25

See also **Selected translations in mathematical statistics and probability**, 49 #4728

ibenko, A. V. An approximate method for solving operator equations. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. No.* 3 (1971), 67–83. (See RŽMat **1972** #1 B994) 47H15

(*with* Jurgelas, V. V.) Stepanov almost periodic functions of several variables with values in a Banach space. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 6 (1972), 43–51. (B. Levitan (RŽMat **1973** #4 B817)) **56** #12764 42A68

(*with* Vjazovikin, V. V.) An application of a small parameter to a two-point boundary value problem with a vectorial parameter. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak.* **1972**, *no.* 7, 40–48. (Russell C. Thompson) **55** #3395 34B15 (34G05)

(*with* Trubnikov, Ju. V.) The approximate solutions of a matrix Riccati equation. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU No.* 12 *Sb. Stateĭ po Prikl. Anal.* (1974), 36–41. (RŽMat **1975** #10 B875) **57** #10064 34A45

(*with* Trubnikov, Ju. T.) A certain approximate method for the solution of the nonstationary matrix Riccati equation. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 2, 5–11, 223. (Leo F. Boron) **52** #3652 34A45

An approximate method for finding periodic solutions of linear nonstationary systems. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 17 *Teor. Operator. Uravneniĭ* (1975), 41–45. (M. Švec) **58** #6441 34A45 (65L99)

Kibiljus, Ĭ. *See* **Kubilius, J.**

Kibler, Dennis F. (*with* Sklansky, Jack) A theory of nonuniformly digitized binary pictures. *IEEE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 9, 637–647. (Allen Klinger) **55** #1870 68A45

Necessary and sufficient conditions for the existence of the modular Fourier transform: Comments on "Number theoretic transforms to implement fast digital convolution" (Proc. IEEE **63** (1975), no. 4, 550–560) by R. C. Agarwal and C. S. Burrus. With a reply by the authors. *Proc. IEEE* **65** (1977), *no.* 2, 265–267. (Editors) **58** #9748 94A05

Kibler, Maurice R. Irreducible tensor method for a chain $SU_2 \supset \cdots \supset G'' \supset G' \supset G$ and molecular physics. *J. Mathematical Phys.* **17** (1976), *no.* 6, 855–858. (Jean Nuyts) **53** #15218 81.20 (81.22)

On the recoupling coefficients and isoscalar factors of a chain of groups. *J. Phys. A* **10** (1977), *no.* 12, 2041–2052. **56** #14410 82.20

(*with* Chatterjee, R.) Adaptation à la symétrie, équivalents opératoriels et résonance magnétique. (English summary) *Canad. J. Phys.* **56** (1978), *no.* 9, 1218–1231. (Authors' summary) **58** #20065 82.22

Kibler, Robert E. (*with* Duvall, Paul F.) On the parity of the frequency of cycle lengths of shift register sequences. *J. Combinatorial Theory Ser. A* **18** (1975), 357–361. (R. J. McEliece) **51** #5189 94A20 (05C20)

(*with* Kaplansky, Irving) Infinite-dimensional Lie algebras. II. Collection of articles dedicated to Olga Taussky-Todd. *Linear and Multilinear Algebra* **3** (1975/76), *no.* 1/2, 61–65. (Ralph K. Amayo) **53** #8171 17B65

A summary of noncyclic difference sets, $k < 20$. *J. Combinatorial Theory Ser. A* **25** (1978), *no.* 1, 62–67. (W. H. Mills) **58** #10502 05B10

Kibriya, K. G. Absolute convexity in ordered and right ordered groups. *J. Natur. Sci. and Math.* **11** (1971), 39–42. (J. C. Ault) **45** #6719 06A55

Absolute convexity in the free nilpotent group of class 3 on 2 generators. *Punjab Univ. J. Math.* (*Lahore*) **4** (1971), 61–65. (J. C. Ault) **46** #5453 20E15

Kiča, L. I. (*with* Litvak, E. I.; Tartakovskiĭ, Ja. I.) A certain criterion for the isomorphism of homogeneous graphs. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 1(181), 237–238. (W. Dörfler) **53** #2754 05C99

(*with* Litvak, E. I.) A certain algorithm for the enumeration of the simple chains in a graph. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 4, 1077–1079, 1092. (H. Sachs) **53** #193 05C30

Kičatov, Ju. F. *See* **Speedy, C. B.; et al.**, 50 #9386

Kichenassamy, S. On the propagation of a null electromagnetic field in general relativity. *J. Mathematical and Physical Sci.* **5** (1971), 1–14. (J. Ławrynowicz) **53** #7357 83.53

Sur la cinématique de l'éjection relativiste. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 3, B53–B56. (Author's summary) **55** #14064 85.34

Kičigin, V. G. Certain operations on Faber polynomial series and Fourier series. (Russian) *Trudy Nikolaev. Korablestroitel. Inst. Vyp.* 27 *Tehn. Sudovogo Mašinostroen i Obrabotka Metallov Rezaniem* (1963), 174–177. (V. L. Makarov) **53** #13681 33A65

Kiciman, M. O. *See* **Operations research and reliability**, 49 #10337

Kičkinas, I. (*with* Rudzikas, Z. B.) A relativistic consideration of the subshell of equivalent electrons nlj^N. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **14** (1974), 19–30, 169. (Authors' summary) **57** #2235 81.22

(*with* Rudzikas, Z. B.) Unit tensors in the relativistic matrix elements of the energy operator. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **14** (1974), 31–43, 171–172. (Authors' summary) **57** #2236 81.22

(*with* Rudzikas, Z. B.) Relativistic matrix elements of the energy operator in the case of two subshells of atomic electrons. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **14** (1974), 45–56, 171. (Authors' summary) **57** #2237 81.22

(*with* Slepcov, A. A.; Sivcev, V. I.; Rudzikas, Z. B.) Submatrix elements of operators that consist of unit tensors in the *jj*-coupling, and their properties. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **15** (1975), *no.* 1, 5–20, 153. (Authors' summary) **57** #2249 81.22

(*with* Kaniauskas, J.; Rudzikas, Z. B.) Algebraic expressions for certain matrix elements of the operators of atomic quantities. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **15** (1975), *no.* 2, 183–196, 299. (Authors' summary) **57** #4904 81.47

Kicul, P. I. A problem in the synthesis of filters, optimal in the class of linear systems. *Avtomat. i Telemeh.* **1971**, *no.* 11, 46–52 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 11, *part* 1, 1738–1744 (1972). (J. Capon) **48** #1768 93E10 (94A05)

(*with* Grigor′ev, F. N.; Kuznecov, N. A.) Control of observations made in the estimation of random processes. *Avtomat. i Telemeh.* **1974**, *no.* 10, 35–42 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no.* 10, *part* 1, 1569–1575 (1975). (Authors' summary) **56** #11371 93E10

Kida, Shigeo (*with* Tatsumi, Tomomasa; Mizushima, Jiro) The multiple-scale cumulant expansion for isotropic turbulence. *J. Fluid Mech.* **85** (1978), *no.* 1, 97–142. (J. D. Atkinson) **57** #14907 76.60

Kida, Sôsaburô (*with* Ogawa, Shirô; Arioka, Shigekatsu) On an introduction of Newton's method of order *n* and the starting element of the successive approximation. *Math. Japon.* **22** (1977/78), *no.* 4, 455–463. (M. R. Occorsio) **58** #19096 65H05

Kida, Teruhiko (*with* Miyai, Y.) Wall effect in cavitating flow past a thin jet-flapped foil. *Quart. J. Mech. Appl. Math.* **25** (1972), 83–103. (R. P. Kanwal) **46** #10296 76.45

(*with* Hirano, Y.) Moment sensitivities of the impulse response. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 359–364. (From the authors' summary) **55** #10150 94A20

Kidachi, Hideyuki (*with* Tomita, Hiroyuki; Itō, Akira) Eigenvalue problem of metastability in macrosystem. *Prog. Theoret. Phys.* **56** (1976), *no.* 3, 786–800. (M. Drăganu) **54** #12080 82.35

Kidalinskja, L. I. (*with* Kolokol′ceva, I. I.; Proskurina, R. G.) Spin representations of the groups of motions of the isotropic and the pseudoisotropic 3-space. (Russian) *Proceedings of the Seminar of the Department of Geometry, No. VII* (*Russian*), *pp.* 48–60. *Izdat. Kazan. Univ., Kazan.* 1974. (K. Radziszewski) **53** #3950 53C30

Kidd, J. B. *See* **Role and effectiveness of theories of decision in practice**, 56 #10776

Kidd, K. Kenneth (*with* Matthysse, Steven) The value of dual mating data in estimating genetic parameters. *Ann. Human Genetics* **41** (1977/78), *no.* 4, 477–480. (Ju. I. Ljubič) **58** #15297 92A10

Kido, Masao (*with* Shirao, Yoshiaki) On the periodic solutions of nonautonomous piecewise linear systems with asymmetric characteristics. *Bull. Univ. Osaka Prefecture Ser. A* **26** (1977), *no.* 1, 25–37. (J. Jarník) **57** #10102 34C25 (65L05)

Kidson, H. P. Alexander Craig Aitken: New Zealand's greatest mathematician. *New Zealand Math. Mag.* **10** (1973), 129–133. (J. S. Joel) **55** #7695 01A70

Kidwell, Mark E. Alexander polynomials of links of small order. *Illinois J. Math.* **22** (1978), *no.* 3, 459–475. (M. J. Dunwoody) **58** #12997 55A25

On the Alexander polynomials of certain three-component links. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 2, 351–354. (J. S. Birman) **58** #2791 55A25

Kieboom, R. W. On the very weak and rather weak homotopy-extension property. *Arch. Math. (Basel)* **28** (1977), *no.* 3, 308–311. (G. V. Krishnarao) **55** #11244 55D05

Kieburtz, R. B. *See* **Advances in computers, 50** #3629

Kieburtz, Richard B. (*with* Luckham, David C.) Compatibility and complexity of refinements of the resolution principle. *SIAM J. Comput.* **1** (1972), *no.* 4, 313–332. (I. Kramosil) **47** #9907 68A40

Kiefe, Catarina (*with* Adler, Allan) Pseudofinite fields, procyclic fields and model-completion. *Pacific J. Math.* **62** (1976), *no.* 2, 305–309. (Alan Mekler) **54** #7245 02H15 (12L10)

Sets definable over finite fields: their zeta-functions. *Trans. Amer. Math. Soc.* **223** (1976), 45–59. (M. Fried) **54** #10272 14G10 (12C25, 02H15)

Kiefer, Ferenc *See* **Gladkiĭ, A. V.; et al., 55** #6988

Kiefer, Jack C. Optimum experimental designs. *Actes du Congrès International des Mathématiciens (Nice,* 1970), *Tome* 3, *pp.* 249–254. *Gauthier-Villars, Paris,* 1971. (Corwin L. Atwood) **54** #8993 62K05

The role of symmetry and approximation in exact design optimality. *Statistical decision theory and related topics (Proc. Sympos., Purdue Univ., Lafayette, Ind.,* 1970), *pp.* 109–118. *Academic Press, New York,* 1971. (J. Wolfowitz) **50** #3477 62K05

Iterated logarithm analogues for sample quantiles when $p_n \downarrow 0$. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability (Univ. California, Berkeley, Calif.,* 1970/1971), *Vol. I: Theory of statistics, pp.* 227–244. *Univ. California Press, Berkeley, Calif.,* 1972. (Endre Csáki) **53** #6696 60F15 (62E20)

(*with* Schwartz, Richard E.) Correction: "Admissible Bayes character of T^2-, R^2-, and other fully invariant tests for classical multivariate normal problems" (Ann. Math. Statist. **36** (1965), 747–770). *Ann. Math. Statist.* **43** (1972), 1742. (E. L. Lehmann) **50** #11567 62C15

Skorohod embedding of multivariate rv's, and the sample df. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 1–35. (S. Sawyer) **49** #6382 60B10 (62E20)

Optimum designs for fitting biased multiresponse surfaces. *Multivariate analysis, III (Proc. Third Internat. Sympos., Wright State Univ., Dayton, Ohio,* 1972), *pp.* 287–297. *Academic Press, New York,* 1973. (M. J. Karson) **51** #2188 62K05

General equivalence theory for optimum designs (approximate theory). *Ann. Statist.* **2** (1974), 849–879. (J. Wolfowitz) **50** #8856 62K05

Construction and optimality of generalized Youden designs. *A survey of statistical design and linear models (Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.,* 1973), *pp.* 333–353. *North-Holland, Amsterdam,* 1975. (A. Hedayat) **52** #15877 62K05 (62K10)

Balanced block designs and generalized Youden designs. I. Construction (patchwork). *Ann. Statist.* 3 (1975), 109–118. (K. Sarkadi) **51** #4578 62K10

Optimal design: variation in structure and performance under change of criterion. *Biometrika* **62** (1975), *no.* 2, 277-288. (Valery Fedorov) **52** #2064 62K05

Admissibility of conditional confidence procedures. *Ann. Statist.* **4** (1976), *no.* 5, 836–865. (From the author's introduction) **55** #11454 62C15

(*with* Studden, William J.) Optimal designs for large degree polynomial regression. *Ann. Statist.* **4** (1976), *no.* 6, 1113–1123. (Valery Fedorov) **54** #11676 62K05

(*with* Wolfowitz, Jacob) Asymptotically minimax estimation of concave and convex distribution functions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **34** (1976), *no.* 1, 73–85. (G. Roussas) **53** #1829 62G05 (62C99)

Conditional confidence and estimated confidence in multidecision problems (with applications to selection and ranking). *Multivariate analysis, IV (Proc. Fourth Internat. Sympos., Dayton, Ohio,* 1975), *pp.* 143--158. *North-Holland, Amsterdam,* 1977. (J. C. Hsu) **58** #18810 62C05 (62F07)

(*with* Wolfowitz, Jacob) Asymptotically minimax estimation of concave and convex distribution functions. II. *Statistical decision theory and related topics. II (Proc. Sympos., Purdue Univ., Lafayette, Ind.,* 1976), *pp.* 193–211. *Academic Press, New York,* 1977. (G. Roussas) **56** #1572 62G05

(*with* Billington, Elizabeth, J.) The ideas of conditional confidence in the simplest setting. *Comm. Statist.–Theory Methods* **A6** (1977), *no.* 8, 691–751. (Margaret P. Gessaman) **56** #3993 62A99

Conditional confidence statements and confidence estimators. With comments by George A. Barnard, Lawrence D. Brown, Robert J. Buehler, Arthur P. Dempster, Oscar Kempthorne, Dennis V. Lindley and J. Wolfowitz and a rejoinder by the author. *J. Amer. Statist. Assoc.* **72** (1977), *no.* 360, *part* 1, 789–827. (James V. Bondar) **58** #24638 62A99 (62C99, 62F05, 62F07, 62F25)

(*with* Galil, Zvi) Comparison of rotatable designs for regression on balls. I. Quadratic. *J. Stat. Plann. Inference* **1** (1977), *no.* 1, 27–40. (Valery Fedorov) **58** #24769 62K05

(*with* Galil, Zvi) Comparison of design for quadratic regression on cubes. *J. Stat. Plann. Inference* **1** (1977), *no.* 2, 121–132. (Valery Federov) **58** #24770 62K05

The foundations of statistics—are there any? Foundations of probability and statistics. I. *Synthese* **36** (1977), *no.* 1, 161–176. (Editors) **58** #31488 62A99

(*with* Galil, Zvi) Comparison of Box-Draper and *D*-optimum designs for experiments with mixtures. *Technometrics* **19** (1977), *no.* 4, 441–444. (M. J. Karson) **58** #3233 62K05

(*with* Galil, Zvi) Comparison of simplex designs for quadratic mixture models. *Technometrics* **19** (1977), *no.* 4, 445–453. (M. J. Karson) **57** #17972 62K05

See also **Laycock, P. J., 50** #3427; **Wynn, Henry P., 50** #3479 *and* **Atkinson, A. C.; et al., 50** #15192

Kiefer, James E. (*with* Weiss, George H.) A truncated test for choosing the better o binomial populations. *J. Amer. Statist. Assoc.* **66** (1971), 867–871. (Leland E. B **48** #3167 62F07

(*with* Weiss, George H.) Some asymptotic Bessel function ratios. *Israel J. Ma* (1972), 46–48. (Authors' summary) **46** #414 33A40

Kiefer, Nicholas M. Discrete parameter variation: efficient estimation of a swit regression model. *Econometrica* **46** (1978), *no.* 2, 427–434. (H. Toutenburg) **58** # 62J05 (62P20)

Kieffer, John C. A covering theorem. *Amer. Math. Monthly* **80** (1973), 410–411. (Firey) **47** #6975 28A10

A counterexample to Perez's generalization of the Shannon-McMillan thec *Ann. Probability* **1** (1973), 362–364. (Author's summary) **50** #4114 (E **52** #771 94A15

On the approximation of stationary measures by periodic and ergodic meas *Ann. Probability* **2** (1974), 530–534. (R. V. Chacon) **51** #5893 28A65

A lower bound on the probability of decoding error for the finite-state cha *IEEE Trans. Information Theory* **IT-20** (1974), 549–551. (Suguru Arimoto) **51** #5 94A10

A general formula for the capacity of stationary nonanticipatory channels. *Information and Control* **26** (1974), *no.* 4, 381–391. (K. Jacobs) **52** #5201 94A

A simple proof of the Moy-Perez generalization of the Shannon-McMillan thec *Pacific J. Math.* **51** (1974), 203–206. (S. Kotz) **49** #12168 94A15

A generalized Shannon-McMillan theorem for the action of an amenable group probability space. *Ann. Probability* **3** (1975), *no.* 6, 1031–1037. (Paul C. Sh **52** #14232 28A65

An entropy equidistribution property for a measurable partition under the acti an amenable group. *Bull. Amer. Math. Soc.* **81** (1975), 464–466. (Nathaniel Fried **50** #13450 28A65

On the optimum average distortion attainable by fixed-rate coding of a noner source. *IEEE Trans. Information Theory* **IT-21** (1975), 190–193. (Robert Gray) **51** #5177 94A15

A ratio limit theorem for a strongly subadditive set function in a locally cor amenable group. *Pacific J. Math.* **61** (1975), *no.* 1, 183–190. (R. G. Laha) **53** #3. 43A05 (60B15, 28A65)

Correction to: "A counterexample to Perez's generalization of the Shannon-McMillan theorem" (Ann. Probability **1** (1973), 362–364). *Ann. Probab* (1976), *no.* 1, 153–154. (Editors) **52** #7716 94A15

On the minimum number of fixed length sequences with fixed total probab *Ann. Probability* **4** (1976), *no.* 2, 335–337. (Robert Gray) **53** #10484 94A15

A generalization of the Pursley-Davisson-Mackenthun universal variable-rate coding theorem. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 6, 694–697. Stiffler) **58** #20812 94A15

On sliding block coding for transmission of a source over a stationary nonanticipatory channel. *Information and Control* **35** (1977), *no.* 1, 1–19. (Robert **56** #18116 94A15

Block coding for an ergodic source relative to a zero-one valued fidelity crite *IEEE Trans. Inform. Theory* **24** (1978), *no.* 4, 432–438. (M. C. Cheng) **58** #20 94A15

Kiefling, L. (*with* Feng, G. C.) Fluid-structure finite element vibrational analysis. *AI* **14** (1976), *no.* 2, 199–203. (Raičo Lazarov) **55** #7082 76.65

Kiehl, Reinhardt Grauertsche Kohärenzsätze für stetige und differenzierbare Far komplexer Räume. *Actes du Congrès International des Mathématiciens (Nice,* *Tome* 2, *pp.* 633–634. *Gauthier-Villars, Paris,* 1971. (J. S. Joel) **55** #710 32C35

(*with* Verdier, Jean-Louis) Ein einfacher Beweis des Kohärenzsatzes von Gra *Math. Ann.* **195** (1971), 24–50. (Gerd Fischer) **46** #5678 32C35

Relativ analytische Räume. *Invent. Math.* **16** (1972), 40–112. (M. Schneider) **54** #13120 32C35

Ein "Descente"-Lemma und Grothendiecks Projektionssatz für nichtnoethe Schemata. *Math. Ann.* **198** (1972), 287–316. (Guerino Mazzola) **52** #3165 1 (14F35)

(*with* Freitag, Eberhard) Algebraische Eigenschaften der lokalen Ringe in Spitzen der Hilbertschen Modulgruppen. *Invent. Math.* **24** (1974), 121–148. (J. Sp **50** #324 14D20 (10D20, 12A40, 14B05)

Kiehn, R. M. An extension of Hamilton's principle to include dissipative system *Mathematical Phys.* **15** (1974), 9–13. (H. S. P. Grässer) **48** #12939 70.34

Intrinsic hydrodynamics with applications to space-time fluids. *Internat. J. E* *Sci.* **13** (1975), *no.* 11, 941–949. (A. F. da F. Teixeira) **56** #7739 83.53

Geometrodynamics and spin. *Lett. Nuovo Cimento* (2) **12** (1975), 300–302. (Ed **56** #4670 83.53

Submersive equivalence classes for metric fields. *Lett. Nuovo Cimento* (2) **14** (*no.* 9, 308–310. (Kotik K. Lee) **53** #4885 83.53

Retrodictive determinism. *Internat. J. Engrg. Sci.* **14** (1976), *no.* 8, 749 (Author's summary) **56** #13258 58C25 (80.58)

Periods on manifolds, quantization, and gauge. *J. Mathematical Phys.* **18** (1977 4, 614–624. (Hans P. Künzle) **55** #9132 (E **56** #7650) 58A10

See also **Post, E. J., 56** #7650

Kiehne, Ursel (*with* Jarden, Moshe) The elementary theory of algebraic fields of corank. *Invent. Math.* **30** (1975), *no.* 3, 275–294. (M. Fried) **55** #8012 1 (02H15, 12L10, 12A20)

Kiekebusch-Müller, B. D. A class of algorithms for the determination of a solution system of nonlinear equations. *Optimization techniques (Proc. 8th IFIP Conf., Würzburg,* 1977), *Part* 2, *pp.* 67–75. *Lecture Notes in Control and Informat. Sci., V Springer, Berlin,* 1978. (L. W. Ehrlich) **58** #13678 65H10

Kiel, Donald I. Two-way *A*-transducers and AFL. *J. Comput. System Sci.* **10** (88–109. (Branislav Rovan) **51** #4737 68A30

Kielak, Waclawa ENE-logic. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Lo* (1976), *no.* 3, 84–86. (Merrie Bergmann) **55** #78 02B05

Kiełbasiński, Andrzej (*with* Jankowska, J.) Fehleranalyse der Schmidtschen und Powellschen Orthonormalisierungsverfahren. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Mu

. *Z. Angew. Math. Mech.* **54** (1974), T223. (L. B. Rall) **51** #11948 65G05

undamental concepts of error analysis in numerical methods of linear algebra. h) *Mat. Stos.* (3) **4** (1975), 5–27. (V. Komkov) **56** #9949 65F35

with Ziętak, Krystyna) Numerical analysis of standard problems with a unitary eholder transformation. (Polish) *Mat. Stos.* (111) **8** (1976), 67–80. (Editors) 18059 65F99

, Hansjörg Stabilität bei fastlinearen Evolutionsgleichungen. *Methoden und hren der mathematischen Physik, Band* 9, *pp.* 161–170. *Bibliographisches Inst., nheim*, 1973. (A. Pazy) **51** #3636 34G05

with Kirchgässner, Klaus) Stability and bifurcation in fluid dynamics. Rocky ntain Consortium Symposium on Nonlinear Eigenvalue Problems (Santa Fe, N.M.,). *Rocky Mountain J. Math.* **3** (1973), 275–318. (L. A. Segel) **47** #8001 76.35 7)

Halbgruppen und semilineare Anfangs-Randwertprobleme. (English summary) *uscripta Math.* **12** (1974), 121–152. (A. Pazy) **49** #9420 35K35 (47D05)

Stability and semilinear evolution equations in Hilbert space. *Arch. Rational Mech.* . **57** (1975), 150–165. (J. Calvert) **56** #787 34G05 (35R20)

Existenz und Regularität von Lösungen semilinearer parabolischer angs-Randwertprobleme. *Math. Z.* **142** (1975), 131–160. (L. A. Peletier) **52** #14662 K35

Über ein semilineares singuläres Anfangs-Randwertproblem. Vorträge der senschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und hanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, T204–T205. (K ith) **56** #6122 35K60

On the Lyapunov-stability of stationary solutions of semilinear parabolic differential ations. *J. Differential Equations* **22** (1976), *no.* 1, 193–208. (D. Ramakrishna Rao) #9055 35B35 (35K35)

S. (*with* Zawodny, R.) Tensor elements of the molecular electric multipole ments for all point group symmetries. *Chem. Phys. Lett.* **12** (1971/72), 20–24. thors' summary) **50** #15641 81.22

f, Charles F. ★Strict finitism. An examination of Ludwig Wittgenstein's *Remarks he foundations of mathematics*. Studies in Philosophy, Vol. XV. *Mouton, The gue-Paris*, 1970. 192 *pp.* (Paul Ernest) **58** #121 02A05 (00A25)

Semantics for a utilitarian deontic logic. *Logique et Analyse* (*N.S.*) **14** (1971), –802; *errata, ibid.* **15** (1972), 667. (M. J. Cresswell) **47** #3144 02C10

Provability as a deontic notion. *Theory and Decision* **2** (1971), *no.* 1, 1–15. (M. J. esswell) **46** #1555 02C10

Kripke's axiomatization of S2. *Notre Dame J. Formal Logic* **13** (1972), 379–380. elvin Fitting) **46** #5108 02C10

*K*1 as a Dawson modeling of A. R. Anderson's sense of "ought". *Notre Dame J. rmal Logic* **15** (1974), 402–410. (N. B. Cocchiarella) **50** #9535 02C10

Kant's deontic logic. *Rep. Math. Logic No.* 5 (1975), 43–51. (Editors) **58** #27336a 02C10

Kant's deontic logic. *Internat. Logic Rev. No.* 13 (1976), 66–75. (Editors) #27336b 02C10

Quantifiers in ontology. On Leśniewski's systems (Proc. XXII Conf. Hist. Logic, raków, 1976). *Studia Logica* **36** (1977/78), *no.* 4, 301–307. (F. G. Asenjo) **58** #10338 02C99

The intensionality of the predicate '__ is recursive'. *Notre Dame J. Formal Logic* **19** 978), *no.* 1, 165–173. (Editors) **58** #10272 02A05

ński, Roman (*with* Simson, Daniel) On the lattice of ideals in the ring of structural mbers. *Demonstratio Math.* **5** (1973), 45–55. (J. T. Arnold) **50** #2143 13A15

(*with* Simson, Daniel) Decomposability of elements in the ring of structural mbers. *Demonstratio Math.* **5** (1973), 57–68. (J. T. Arnold) **50** #2144 13A15

(*with* Simson, Daniel) On pure homological dimension. (Russian summary) *Bull. cad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), 1–6. (Chr. U. Jensen) #10872 16A60

(*with* Balcerzyk, Stanisław; Chan, Phan Huu) On three types of simplicial objects. *und. Math.* **91** (1976), *no.* 2, 145–160. (A. Dold) **55** #461 18G30 (55J10)

(*with* Simson, Daniel; Tyc, Andrzej) Exact sequences of pairs in commutative ngs. *Fund. Math.* **99** (1978), *no.* 2, 113–121. (Chr. U. Jensen) **58** #638 13C05

inski, Thomas J. (*with* Nelson, Wayne) Optimum censored accelerated life tests for ormal and lognormal life distributions. *IEEE Trans. Reliab.* **R-24** (1975), *no.* 5, 10–320. (József Pergel) **53** #6949 62N05

yka, Stanisław (*with* Sobieszek, Wiesław) A generalization of the theorem on irectional derivative for the maximum functional and its application. *Demonstratio Math.* **9** (1976), *no.* 1, 47–59. (G. M. Ewing) **53** #2374 90C30 (54C60, 39A15)

(*with* Sobieszek, Wiesław) Certain topological properties of point-set mappings and f the maximum function. (Polish. Russian and English summaries) *Zeszyty Nauk. olitech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976), 139–146. (Authors' summary) **56** #3785 54C10

(*with* Sobieszek, Wiesław) Sufficient conditions for the semicontinuity from below of a certain point-set mapping. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976), 147–153. (Author's summary) **56** #3784 54C10

g-Kien, C. *See* **Duong-Kien, C.**

dl, H. ★Suboptimale Regler mit abschnittweise linearer Struktur. Rechnerunterstützte Synthese und Realisierung spezieller nichtlinearer Regelungssysteme. Lecture Notes in Economics and Mathematical Systems, Vol. 73. *Springer-Verlag, Berlin-New York*, 1972. vi + 146 *pp.* (Editors) **50** #12332 93–02 (49C05, 93D15)

dl, Harro D. *See* **Sensitivity, adaptivity and optimality**, **49** #8697

er, Konrad A problem concerning $\Lambda(p)$ sets of the Walsh-Paley-system. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* 4 (1974), 331–333. (Ron C. Blei) **51** #13576 42A56

le, Lothar Die Mächtigkeit der Potenzmenge über der Menge der natürlichen Zahlen. *Praxis Math.* **19** (1977), *no.* 8, 205–208. (Stephen Willard) **58** #16303 04–01

zle, Bertram Notiz zu Freges Theorien der Identität. *Studien zu Frege, Band II, pp.* 217–219. *Problemata, No.* 43, *Frommann-Holzboog, Stuttgart*, 1976. (Editors) **58** #21394 02A05 (01A55, 02–03)

nzle, Eberhard Ein neuartiges Syntheseverfahren für *n*-Tore. (English summary) *Arch. Elek. Übertr.* **24** (1970), 337–349. (M. Sablatash) **45** #8415 94A20

Kieras, David E. Finite automata and S–R models. *J. Mathematical Psychology* **13** (1976), *no.* 2, 127–147. (K. D. Günther) **58** #4465 92A25 (94A30)

Kierat, Wl. On linear transformations with infinite ascent. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 7, 943–945. (Harro Heuser) **56** #5588 15A03 (47A65)

Kierat, Władysław (*with* Krasińska, Stefania) On the difference equations of two variables. (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **2** (1972), 25–33. (R. Kodnár) **46** #9580 39A10 (44A40)

A remark on convergent power series of the differential operator in the field of Mikusiński operators. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 843–845. (E. Gesztelyi) **49** #1026 (EA **49**) 44A40

Kiermeier, K.-D. (*with* Ehrig, Hartmut; Kreowski, Hans-Jörg; Kühnel, Wolfgang) ★Universal theory of automata. A categorical approach. Teubner Studienbücher: Informatik. *B. G. Teubner, Stuttgart*, 1974. 240 *pp.* (E. G. Manes) **52** #3271 18B20

Kiernan, Peter (*with* Kobayashi, Shoshichi) Satake compactification and extension of holomorphic mappings. *Invent. Math.* **16** (1972), 237–248. (W. Barth) **46** #9398 32H20

Extensions of holomorphic maps. *Trans. Amer. Math. Soc.* **172** (1972), 347–355. (K. T. Hahn) **47** #7066 32H25

Hyperbolically imbedded spaces and the big Picard theorem. *Math. Ann.* **204** (1973), 203–209. (H. Wu) **51** #8476 32H20

(*with* Kobayashi, Shoshichi) Holomorphic mappings into projective space with lacunary hyperplanes. *Nagoya Math. J.* **50** (1973), 199–216. (D. A. Pelles) **48** #4353 32H20

Holomorphic extension theorems. *Value distribution theory* (*Proc. Tulane Univ. Program, Univ. Tulane, New Orleans, La.*, 1972-1973), *Part A, pp.* 97–107. *Dekker, New York*, 1974. (Shoshichi Kobayashi) **50** #5034 32H25

On the compactifications of arithmetic quotients of symmetric spaces. *Bull. Amer. Math. Soc.* **80** (1974), 109–110. (J. S. Joel) **48** #4357 32M15 (32J05)

(*with* Kobayashi, Shoshichi) Comments on Satake compactification and Picard theorem. *J. Math. Soc. Japan* **28** (1976), *no.* 3, 577–580. (J. S. Joel) **57** #722 32J05

Meromorphic mappings into compact complex spaces of general type. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 2, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 239–244. *Amer. Math. Soc., Providence, R. I.*, 1977. (Shoshichi Kobayashi) **56** #5949 32H99 (32H25)

See also **Differential geometry**, **51** #6864

Kierstead, Friend H., Jr. Comment: "The stamp problem" (J. Recreational Math 7 (1974), no. 3, 235–250) by Richard L. Heimer and Herbert Langenbach. *J. Recreational Math.* **8** (1975/76), *no.* 4, 298. (R. L. Graham) **58** #5474b 10–04

Kiesewetter, Helmut (*with* Möller, Karl-Ludwig) Die Greensche Funktion der Neutronentransportgleichung für eine Platte. (Russian, English, and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **19** (1970), *no.* 6/7, 435–443. (Pekka Silvennoinen) **53** #10068 82.45

(*with* Maier, Wilhelm) ★Funktionalgleichungen mit analytischen Lösungen. Studia Mathematica/Mathematische Lehrbücher, Band XX. *Vandenhoeck & Ruprecht, Göttingen-Zurich*, 1971. 184 *pp.* (I. M. Sheffer) **48** #2359 30A20 (10H99, 33A25, 39A20)

Ein Austauschalgorithmus zur Konstruktion von besten Approximationen in normierten Räumen. (Russian, English and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **20** (1971), *no.* 5/6, 331–335. (P. J. Davis) **52** #15961 65D15

Interpolation mit Intervallfunktionen und einige Anwendungen. (Russian, English and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **20** (1971), *no.* 5/6, 337–341. (Helmut Brass) **53** #1097 41A05

(*with* Albrand, Hans-Jürgen) Über *s*-Basis und beste Approximation durch Polynome. *Proceedings of the Conference on the Constructive Theory of Functions* (*Approximation Theory*) (*Budapest*, 1969), *pp.* 45–52. *Akadémiai Kiadó, Budapest*, 1972. (W. J. Davis) **53** #8868 46B15 (41A65)

Über Linearkombinationen und Basismengen in normierten Räumen. Tagungsbericht zur ersten Tagung der WK Analysis (1970). *Beiträge Anal. No.* 4 (1972), 109–115. (J. Blatter) **50** #8024 46B15

★Vorlesungen über lineare Approximation. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1973. 219 *pp.* (L. Collatz (Zbl **264** #41007)) **56** #9137 41–02 (65Dxx)

(*with* Daróczy, Zoltán) Eine Funktionalgleichung von Abel und die Grundgleichung der Information. *Period. Math. Hungar.* **4** (1973), 25–28. (Pl. Kannappan) **48** #8107 94A15 (39A30)

Diskrete Approximation von stetigen linearen Operatoren auf $C[-1, 1]$. (Russian, English and French summaries) Collection of articles dedicated to Adam Schmidt on the occasion of his 65th birthday. *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **23** (1974), *no.* 8, 633–637. (John M. Karon) **53** #8740 41A35

See also **Beiträge: Digitalgraphik**, **52** #10270

buchsteiner-Kiessling, E. *See* **Buchsteiner-Kiessling, E.**

Kießwetter, Karl ★Reelle Analysis einer Veränderlichen. Ein Lern- und Übungsbuch. B.I. Hochschultaschenbücher, Band 269. Mathematik für Studienanfänger, Band 2. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1975. 316 *pp.* (Editors) **50** #13386 26–01

Kiester, A. Ross (*with* Barakat, Richard) Exact solutions to certain stochastic differential equation models of population growth. *Theoret. Population Biology* **6** (1974), 199–216. (S. K. Srinivasan) **52** #5087 92A15 (60H10)

nguyen anh Kiet *See* **Nguyen Anh Kiet**

van Kieu, Pham A diffusion approximation in the ruin problem for a controlled Markov chain. *Kybernetika* (*Prague*) **10** (1974), 125–132. (R. Morton) **50** #11489 60J70 (90C40, 93E20)

Kiewiet de Jonge, Joost H. (*with* Vrcelj, Zoran) An invariant relation in the elliptic restricted problem of three bodies. I. *Astronom J.* **83** (1978), *no.* 5, 514–521. (Authors' summary) **58** #14073 70.35

Kifer, Ju. I. Games with optimal stoppage. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 183–188. (P. Neumann) **45** #3089 90D05

Limit theorems for a conditional Brownian motion in Euclidean and Lobačevskian spaces. (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 3(159), 203–204. (D. A. Darling)

46 #8321 60J65

(*with* Pirogov, S. A.) The decomposition of quasi-invariant measures into ergodic components. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 5(167), 239–240. (R. K. Thomas) **54** #7751 28A65

Boundary behavior of conditional diffusion processes. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 160–164. (D. A. Darling) **46** #10082 60J60

The limit behavior of invariant measures of small random perturbations of certain smooth dynamical systems. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 979–981. (A. Morimoto) **50** #8726 60J60 (58F15, 60H10)

Small random perturbations of certain smooth dynamical systems. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **38** (1974), 1091–1115. (A. Morimoto) **52** #9288 58F10 (60H15)

Some results concerning small random perturbations of dynamical systems. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 514–532. (A. Friedman) **50** #5934 60H15 (35J15, 60J60)

Some theorems on small random perturbations of dynamical systems. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 3(177), 205–206. (A. Friedman) **53** #14661 60H10 (60J60)

Small random perturbations of diffeomorphisms. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 4(178), 173–174. (Ĭ. M. Stojanov) **53** #6766 60J60 (58G99)

Brownian motion and harmonic functions on manifolds of negative curvature. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 1, 81–94. (Ju. L. Daleckiĭ) **54** #8898 60J65 (58G99, 60J45)

On the asymptotic behavior of transition densities of processes with small diffusion. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 3, 527–536. (Ju. L. Daleckiĭ) **55** #4398 60J60

The spectral stability of invariant tori under small random perturbations of dynamical systems. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 3, 512–515. (A. Morimoto) **57** #10841 60J99 (58F10)

Small random perturbations of hyperbolic limit sets. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1 (193), 193–194. (A. Morimoto) **56** #3959 60J60 (58F99)

The spectrum of some differential operators with a small parameter multiplying highest derivatives. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 5 (197), 187–188. (Ja. A. Roĭtberg) **58** #1726 35P05

Kiffe, Thomas R. On nonlinear Volterra equations of nonconvolution type. *J. Differential Equations* **22** (1976), *no.* 2, 349–367. (J. A. Nohel) **54** #5769 45J05

A Volterra equation with a nonconvolution kernel. *SIAM J. Math. Anal.* **8** (1977), *no.* 6, 938–949. (Author's summary) **58** #23400 45D05 (45M05)

(*with* Stecher, Michael) Existence and uniqueness of solutions to abstract Volterra integral equations. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 2, 169–175. (J. S. W. Wong) **58** #2073 45D05 (45N05)

Kifle, Abiy Exact bounds for the continuous spectrum of certain differential eigenvalue problems. *Ark. Mat.* **9**, 197–204 (1971). (J. B. McLeod) **48** #11808 35P15

Kiforenko, B. N. On the question of the instability of the associated system. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 14 (1971), 160–162. (P. Fischer) **47** #3077 93D99

(*with* Zlatskiĭ, V. T.) Optimum trajectories with singular arcs. *Avtomat. i Telemeh.* **1974**, *no.* 12, 12–18 (*Russian. English summary*); *translated as Automat. Remote Control* **1974**, *no.* 12, *part* 1, 1885–1890 (1975). (Authors' summary) **56** #6519 49B99

Kigel′, V. R. (*with* Timann, V.) A generalized method-3 for relative concessions, and an algorithm for solving linear two-criterion problems. (Russian. English summary) *Issled. Operaciĭ i ASU Vyp.* 9 (1977), 42–50, 121. (Authors' summary) **57** #2586 90C50

Kiguradze, I. T. On periodic solutions of nonlinear second order differential equations. *Proceedings of the Fouth Conference on Nonlinear Oscillations* (*Prague*, 1967), *pp.* 175–180. *Academia, Prague*, 1968. (R. E. Fennell) **49** #5477 34C25

The singular two point de la Vallée-Poussin problem. (Russian. Georgian and English summaries) *Gamoqeneb. Math. Inst. Sem. Moḫsen. Anotacie.* **1** (1969), 33–35. (Editors) **54** #5529 34B15

On certain nonlinear boundary value problems. I. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **16(20)** (1970), *no.* 3-4, *secţ. I*, 57–65. (From the text) **58** #28788a 34B15

The existence and uniqueness of the solution of a certain singular boundary value problem. (Russian. Polish and English summaries) *Fasc. Math. No.* 5 (1970), 5–16 (1971). (A. A. Juščenko) **47** #7106 34B15

(*with* Kakabadze, Miranda) A certain boundary value problem for a system of ordinary differential equations. (Russian) *Differencial′nye Uravnenija* **7** (1971), 1611–1616. (M. Ráb) **45** #637 34B15

The periodic solutions of a system of ordinary differential equations with singularities. (Russian) *Dokl. Akad. Nauk SSSR* **198** (1971), 286–289. (O. Vejvoda) **45** #8933 34C25

A certain boundary value problem for a system of two differential equations. (Russian. Georgian summary) *Thbilis. Univ. Šrom.* **A1(137)** (1971), 77–87. (P. B. Bailey) **48** #8937 34B15

Certain nonlinear boundary value problems. II. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **18(22)** (1972), *no.* 3-4, *secţ. I*, 95–107. (From the text) **58** #28788b 34B15

A singular boundary value problem for an *n*th order ordinary differential equation. (Russian. Georgian summary) *Thbilis. Sa̮helmc̣. Univ. Gamoqen̆eb. Math. Inst. Šrom.* **3** (1972), 187–206. (Author's introduction) **56** #6000 34B15

(*with* Heidel, J. W.) Oscillatory solutions for a generalized sublinear second order differential equation. *Proc. Amer. Math. Soc.* **38** (1973), 80–82. (J. S. Bradley) **46** #9440 34C10

Conditions for the conjugacy of the solutions of nonlinear ordinary differential equations. I, II. (Russian) *Differencial′nye Uravnenija* **10** (1974), 1387–1399, 1538; *ibid.* **10** (1974), 1586–1594, 1731. (L. Pintér) **51** #1009 34C10

(*with* Gogiberidze, N. V.) On the question of the disconjugacy of second order singular linear differential equations. (Russian) *Differencial′nye Uravnenija* **10** (1974), 2064-2067, 2087. (A. D. Ziebur) **50** #10435 34C10

(*with* Ležava, N. R.) Certain nonlinear two-point boundary value problems. (Russian) *Differencial′nye Uravnenija* **10** (1974), 2147–2161, 2308. (M. Švec) **51** #987 34B15

(*with* Ležava, N. R.) On the question of the solvability of nonlinear tw boundary value problems. (Russian) *Mat. Zametki* **16** (1974), 479–490. (G. B. Gustafson) **50** #10408 34B15

★Некоторые сингулярные краевые задачи для обыкновенных дифференциальных уравнений. (Russian) [Some singular boundary value probl ordinary differential equations] *Izdat. Tbilis. Univ., Tbilisi*, 1975. 352 *pp.* (*loose* (Author's review) **58** #17284 34Bxx

On a singular problem of Cauchy-Nicoletti. *Ann. Mat. Pura Appl.* (4) **104** 151–175. (M. Švec) **53** #5978 34B15

On the modified problem of Cauchy-Nicoletti. *Ann. Mat. Pura Appl.* (4) **104** 177–186. (M. Švec) **53** #5979 34B15

(*with* Ležava, N. R.) On a nonlinear boundary value problem. *Function methods in differential equations, pp.* 259–276. *Res. Notes in Math., No.* 8, *London*, 1976. (L. Erbe) **58** #17290 34B15

(*with* Půža, Bedřich) Certain boundary value problems for a system of o differential equations. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 12, 2139–2148, 2298. (Authors' summary) **57** #12977 34B15

The periodic boundary value problem for a two-dimensional differential (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 6, 996–1007, 1154. (Fr introduction) **58** #11611 34B25

See also **Proceedings: International Conference on Nonlinear Oscillations, 47**

Kihara, Yasuhiko (*with* Tamura, Hiroyuki) Multistage quadratic programming for discrete-time optimal control with state and control constraints. (Japanese. summary) *Systems and Control* **21** (1977), *no.* 12, 702–709. (Nobuo Sannomiya) **58** #9257 90C20 (93C55)

Kihlstrom, Richard E. The use of approximate prior distributions in a Bayesian *Econometrica* **39** (1971), 899–910. (P. Neumann) **48** #13188 90A05

A Bayesian model of demand for information about product quality. *Ir Econom. Rev.* **15** (1974), 99–118. (G. Tintner) **56** #1648 62P20 (90A10)

(*with* Mirman, Leonard J.) Risk aversion with many commodities. *J. E Theory* **8** (1974), *no.* 3, 361–388. (From the introduction) **58** #15008 90A05 (

A general theory of demand for information about product quality. *J. E Theory* **8** (1974), *no.* 4, 413–439. (Diethard Pallaschke) **58** #9123 90A10

(*with* Mirman, Leonard J.) Information and market equilibrium. *Bell J. Eco* (1975), *no.* 1, 357–376. (Authors' summary) **56** #17729 90A15

(*with* Mas-Colell, Andreu; Sonnenschein, Hugo F.) The demand theory weak axiom of revealed preference. *Econometrica* **44** (1976), *no.* 5, 971–978. Suryanarayana) **57** #11663 90A05

Kiĭ, K. I. The local Torelli theorem for cyclic coverings of P^n with positive canonica (Russian) *Mat. Sb.* (*N.S.*) **92(134)** (1973), 142–151, 167. (R. O. Wells, Jr.) **48** #1 14C30

A generalization of Griffiths' theorem on algebraic cycles. (Russian) *Mat. Z* **16** (1974), 563–570. (R. O. Wells, Jr.) **52** #3151 14C10 (32J25)

The local Torelli theorem for manifolds with a divisible canonical class. (Ru *Izv. Akad. Nauk SSSR Ser. Mat.* **42** (1978), *no.* 1, 56–69, 214. (Miles Reid) **58** # 32G13 (14D20, 14J15)

fam Kiĭ An′ *See* **Fam Kiĭ An′**

de souza Kiihl, José Carlos *See* **de Souza Kiihl, José Carlos**

Kiikka, Maire (*with* Jørgensen, Troëls) Some extreme discrete groups. *Ann. Aca Fenn. Ser. A I Math.* **1** (1975), *no.* 2, 245–248. (L. Greenberg) **53** #3296 (20H10)

Kiĭko, O. V. (*with* Semenko, M. P.) Construction of generalized operator for smooth special type in control systems. *Avtomatika* **1975**, *no.* 1, 15–22 (*Ukrainian. Russi English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 1, 11–17. (R Hirschorn) **52** #10158 93C99 (45C05)

Kijaško, G. A. (*with* Īvanov, V. V.) Optimal algorithms for minimization in a cl unimodal functions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Ukraïn. RSR Ser. A* **1972**, 313–316, 380. (V. F. Dem′janov) **46** #2520 49B15

(*with* Īvanov, V. V.) The problem of the minimization of a nonconvex qua function in an *n*-dimensional cube, and algorithms for its solution. (Russian) Coll of articles dedicated to Aleksandr Petrovič Norden on the occasion of his sev birthday. *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 5(144), 104–108. (N Luca) **52** #4083 49D40

Algorithms of optimal accuracy for the minimization of differentiable fun (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 26 (1975), 141–14 (Author's summary) **56** #1709 65K05 (90C25)

Optimal algorithms for minimizing functions of the class $C^n_{1,L_1,\ldots,L_n}$. (Ru *Numerical analysis and questions of optimization of computations* (*Russian*), *pp.* 11 *Inst. Kibernet., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Editors) **58** #31835 6

Kijaško, S. V. (*with* Baškirov, O. A.; Bogatyrev, Ju. K.; Ostrovskiĭ, L. A.; Papko, Rabinovič, M. I.) Many-valued logic devices on wave elements. (Russian. E summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), *no.* 8, 1182–1198. (A summary) **57** #5433 94A20

Kijima, Kyoichi (*with* Matsuyama, Keisuke) A study of the utility function. (Jap English summary) *Rep. Univ. Electro-Commun.* **24** (1973), 303–317. (Kenji **49** #12050 90A10

Kijima, Yōichi (*with* Takahashi, Wataru) Adjoint ergodic theorems for amenable semigroups of operators. *Sci. Rep. Yokohama Nat. Univ. Sect. I No.* 20 (1973), 1– M. Day) **52** #1358 47A35

(*with* Eguchi, Masayoshi) A note on semigroups of Markov operators on *Kōdai Math. Sem. Rep.* **26** (1974/75), 109–112. (V. K. Balakrishnan) **52** # 47D05 (60J05)

(*with* Eguchi, Masayoshi) A note on Mitchell's fixed point theorem for nonexpansive mappings. *Kōdai Math. Sem. Rep.* **26** (1974/75), 113–114. (A. T.-M **52** #15134 47H10

Kijowski, Jerzy A construction of algebra of the observables in the classical field (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** 597–602. (J. E. Marsden) **47** #1405 81.53

On representation of functionals of local type by differential forms. Collect articles commemorating Władysław Ślebodziński. *Colloq. Math.* **26** (1972), 293–3 valski) **48** #12587 58A25

A finite-dimensional canonical formalism in the classical field theory. *Comm. Math.*
s. **30** (1973), 99–128. (J. E. Marsden) **48** #13090 81.58

Multiphase spaces and gauge in the calculus of variations. (Russian summary) *Bull.*
d. Polon. Sci. Sér. Sci. Math. Astronom. Phys. **22** (1974), 1219–1225. (J. E. Marsden)
#6879 58E15 (49F05)

On the time operator in quantum mechanics and the Heisenberg uncertainty
tion for energy and time. *Rep. Mathematical Phys.* **6** (1974), *no.* 3, 361–386. (M. J.
twater) **54** #2023 81.60

(*with* Szczyrba, Wiktor) Multisymplectic manifolds and the geometrical
struction of the Poisson brackets in the classical field theory. (French summary)
h questions by S. Sternberg, K. Gawędzki and W. Klingenberg and replies by
owski. *Géométrie symplectique et physique mathématique* (*Colloq. Internat. C.N.R.S.*,
-en-Provence, 1974), *pp.* 347–349. *Éditions Centre Nat. Recherche Sci., Paris*, 1975.
eph Klein) **56** #9586 58F05 (81.58)

(*with* Rudolph, G.) On the localization problem in relativistic quantum mechanics.
ssian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976),
11, 1041-1048. (Not reviewed) 81.62

(*with* Szczyrba, Wiktor) A canonical structure for classical field theories. *Comm.*
h. Phys. **46** (1976), *no.* 2, 183–206. (David J. Simms) **53** #10038 81.58

(*with* Jakubiec, Andrzej) On local symmetries of the Schrödinger equation. *Rep.*
hematical Phys. **10** (1976), *no.* 1, 21–41. (Manfred Andrié) **55** #5069 81.58
F05)

Geometric structure of quantization. *Differential geometrical methods in*
hematical physics (*Proc. Sympos., Univ. Bonn, Bonn*, 1975), *pp.* 97–108. *Lecture Notes*
Math., Vol. 570, *Springer, Berlin*, 1977. (J. Śniatycki) **57** #1556 58F05

(*with* Smólski, Adam) Darboux's theorem and the linearization of ordinary
erential equations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math.*
onom. Phys. **25** (1977), *no.* 7, 671–673. (Tudor S. Raţiu) **57** #4240 58F05

Symplectic geometry and second quantization. *Rep. Mathematical Phys.* **11** (1977),
1, 97–109. (Editors) **58** #8859 81.02

, Keiji Field theory of relativistic strings. *International Symposium on*
hematical Problems in Theoretical Physics (*Kyoto Univ., Kyoto*, 1975), *pp.* 128–137.
ture Notes in Phys., 39. *Springer, Berlin*, 1975. (From the introduction) **58** #32612
3

(*with* Sato, Masaaki; Uehara, Kunihiko) Non-linear strings. *Progr. Theoret. Phys.*
1977), *no.* 6, 2101–2115. (P. P. Divakaran) **57** #15037 81.41

, Michihiko System of local loops on a manifold and affine connection. *Bull.*
nane Univ. Natur. Sci. No. 16 (1966), 12–14. (P. Stavre) **53** #1457 53B05
A99)

On locally reductive spaces and tangent algebras. *Mem. Fac. Lit. Sci. Shimane*
v. Natur. Sci. No. 5 (1972), 1–13. (W. Kaup) **47** #990 53C30

On some quasigroups of algebraic models of symmetric spaces. *Mem. Fac. Lit. Sci.*
nane Univ. Natur. Sci. No. 6 (1973), 9–13. (O. Loos) **48** #6304 20N05

On some quasigroups of algebraic models of symmetric spaces. II. *Mem. Fac. Lit.*
Shimane Univ. Natur. Sci. No. 7 (1974), 29–35. (O. Loos) **49** #7384 20N05

Geometry of homogeneous Lie loops. *Hiroshima Math. J.* **5** (1975), *no.* 2, 141–179.
A. Sagle) **52** #4182 53C30 (22A15)

A note on subloops of a homogeneous Lie loop and subsystems of its Lie triple
ebra. *Hiroshima Math. J.* **5** (1975), *no.* 3, 439–446. (A. A. Sagle) **52** #9117
C30 (17B60, 22E99)

On some quasigroups of algebraic models of symmetric spaces. III. *Mem. Fac. Lit.*
Shimane Univ. Natur. Sci. No. 9 (1975), 7–12. (O. Loos) **54** #442 20N05

On the left translations of homogeneous loops. *Mem. Fac. Lit. Sci. Shimane Univ.*
ur. Sci. No. 10 (1976), 19–25. (Author's summary) **55** #5778 20N05

On homogeneous systems. I. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 11
77), 9–17. (Manfred Andrié) **57** #4241 58F05 (22E30)

a, Sho Time-domain design of recursive filters for discrete inputs. *Electron.*
nmun. Japan **56** (1973), *no.* 8, 18–25. (Author's summary) **54** #7071 93E10

On convergence of an adaptive correlating filter. *Systems-Computers-Controls* **5**
74), *no.* 3, 51–59 (1975). (Seihaku Higuchi) **54** #9795 93E10

, S. K. (*with* Grigor′janc, N. M.) Variational principles of generalized heat
duction. (Russian) *Prikl. Meh.* **14** (1978), *no.* 1, 34–38, 141. (Vadim Komkov)
#19877 80.49

ze, L. G. *See* **Mathematical and engineering cybernetics**, **53** #5141

ze, L. S. A remark on the second problem of plane elasticity theory. Problems of
plied mathematics—Mushelišvili eightieth birthday collection. *Sakharth. SSR Mecn.*
ad. Gamothvl. Centr. Šrom. **11** (1972), *no.* 1, 65–71. (W. Kecs) **48** #3337 73.35

A boundary value problem for a spherical shell of a particular shape. (Russian.
orgian summary) *Studies in the theory of plates and shells* (*Russian*), *pp.* 57–68. *Izdat.*
lis. Univ., Tbilisi, 1977. (From the introduction) **58** #14145 73.35

See also **Studies of equations of mathematical physics**, **50** #4197

, Dairoku A collection of papers on the theory of circles. Reprinting of papers first
plished in 1896. *Sûgakushi Kenkyû No.* 58 (1973), 18–57. (Editors) **58** #21018
A25

See also **Yoshida, Katsuhiko**, **58** #21041a *and* **Yoshida, Katsuhiko**, **58** #21041b

, Fumio (*with* Ando, Yoshio) Convergence of simplified hybrid displacement
thod for plate bending. *J. Fac. Engrg. Univ. Tokyo Ser. B* **31** (1972), 693–713. (Z.
czkowski) **49** #1893 73.65

A finite element method for non-self-adjoint problems. *Internat. J. Numer. Methods*
grg. **6** (1973), 39–54. (J. Frehse) **49** #1803 65N35

On the convergence of lumped finite-element schemes for mixed
tial-boundary-value problems. *Theoretical and applied mechanics, Vol.* 22 (*Proc. 22nd*
an Nat. Congr. Appl. Mech., Tokyo, 1972), *pp.* 155–163. *Univ. Tokyo Press, Tokyo*,
74. (H. Brunner) **50** #15388 (EA **51**) 65N30

On the validity of the finite element analysis of circular arches represented by an
emblage of beam elements. *Comput. Methods Appl. Mech. Engrg.* **5** (1975), 253–276.
Kączkowski) **53** #12178 73.65

On the validity of an approximation available in the finite element shell analysis.
mput. & Struct. **5** (1975), 1–8. (Z. Kączkowski) **52** #12503 73.65

On a finite element scheme based on the discrete Kirchhoff assumption. *Numer. Math.* **24** (1975), *no.* 3, 211–231. (P. P. Teodorescu) **54** #14538 73.65

Convergence of the ACM finite element scheme for plate bending problems. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 1, 247–265. (M. Zlámal) **52** #12361 65N30

Kikuchi, Keizō Canonical domains and their geometry in C^n. *Pacific J. Math.* **38** (1971), 681–696. (S. Hitotumatu) **46** #3836 32H05

Starlike and convex mappings in several complex variables. *Pacific J. Math.* **44** (1973), 569–580. (W. Barth) **48** #572 32H10 (30A32, 32A30)

On pseudo-conformal mappings of bounded domains in $\mathbf{C}^n$. *Rep. Fac. Tech. Kanagawa Univ. No.* 11 (1973), 4–10. (M. Kalka) **58** #17229 32H05

Kikuchi, Noboru An analysis of the variational inequalities of seepage flow by finite-element methods. *Quart. Appl. Math.* **35** (1977/78), *no.* 1, 149–163. (Jakub Siemek) **57** #2147 76.49

(*with* Oden, J. T.) Finite element methods for certain free boundary-value problems in mechanics. *Moving boundary problems* (*Proc. Sympos. and Workshop, Gatlinburg, Tenn.*, 1977), *pp.* 147–164. *Academic Press, New York*, 1978. (Rudolf Gorenflo) **58** #8714 73.65 (65N30)

Kikuchi, Norio On contingent equations. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 169–181. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (H. A. Antosiewicz) **54** #674 34H05

On control problems for functional-differential equations. *Funkcial. Ekvac.* **14** (1971), 1–23. (M. Q. Jacobs) **47** #9399 49E10

(*with* Tomita, Yoshihito) On the absolute continuity of multi-functions and orientor fields. *Funkcial. Ekvac.* **14** (1971), 161–170. (M. Q. Jacobs) **46** #5791 34H05 (34A99, 49E10)

(*with* Nakagiri, Shin'ichi) An existence theorem of solutions of non-linear integral equations. *Funkcial. Ekvac.* **15** (1972), 131–138. (R. K. Miller) **48** #6851 45G99

Contingent equations and control problems. (Japanese) *Sûgaku* **24** (1972), *no.* 4, 257–268. (Editors) **58** #30679 49E15

(*with* Nakagiri, Shin'ichi) Kneser's property of solutions of nonlinear integral equations. *Funkcial. Ekvac.* **17** (1974), 57–66. (R. K. Miller) **49** #9565 45G99

(*with* Hayashi, Kiyoshi; Kaminogo, Takashi) The boundary layer equation $x'''+2xx''+2\lambda(1-x'^2)=0$ for $\lambda>-0.19880$. *Keio Engrg. Rep.* **28** (1975), *no.* 9, 87–97. (L. D. Fountain) **54** #7929 34A45 (34B15)

A remark of a compact-continuous differential equation in a Banach space. *Keio Math. Sem. Rep. No.* 2 (1977), 39–41. (Robert M. Bullock) **57** #6700 34G05

Kikuchi, Shigeki Cobordism classes of n-manifolds which immerse in R^{n+2}. *Sci. Rep. Hirosaki Univ.* **22** (1975), *no.* 2, 53–55. (Richard L. W. Brown) **55** #4222 57D75

Kikugawa, Hiroyuki (*with* Okabayashi, Takao) A quantum-theoretical Lagrangian formalism for quasi-linear field theories. I. *Progr. Theoret. Phys.* **52** (1974), 1687–1701. (Not reviewed) 81.47

(*with* Okabayashi, Takao) A quantum-theoretical Lagrangian formalism for quasi-linear field theories. II. Quantum-field theory of non-linear realization and current-current interaction of pion field. *Progr. Theoret. Phys.* **52** (1974), 1953–1970. (Not reviewed) 81.47

Kikuno, Toru (*with* Taniguchi, Ken-ichi; Kasami, Tadao) Equivalence and simplification of analyzers. *Systems-Computers-Controls* **4** (1973), *no.* 4, 37–45. (Armin Cremers) **50** #11840 68A05

(*with* Taniguchi, Ken-ichi; Kasami, Tadao) Lexical analysis using context information. *Systems-Computers-Controls* **5** (1974), *no.* 2, 97–105 (1975). (Leon Levy) **52** #7192 68A05 (68A30)

(*with* Ae, Tadashi; Tamura, Norio) A comparative study of one-counter Ianov schemes. *Theoretical computer science* (*Third GI Conf., Darmstadt*, 1977), *pp.* 83–95. *Lecture Notes in Comput. Sci., Vol.* 48, *Springer, Berlin*, 1977. (Irène Guessarian) **58** #8425 68A05

Ķikusts, P. The existence of a Hamiltonian cycle in a regular graph of degree 5. (Russian. Latvian summary) *Latvian mathematical yearbook*, 16 (*Russian*), *pp.* 33–38, 271. *Izdat. "Zinatne", Riga*, 1975. (H. Sachs) **52** #7965 05C35

The structure of cyclic graphs. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap.* **242** *Razrabotka i Vnedrenie Avtomat. Sistem no.* 1 (1975), 120–127. (See Zbl **332** #05116) 05C35

Local decomposability in classes of graphs. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 20 (1976), 180–189, 215. (RŽMat **1977** #6 V469) **58** #21849 05C99

Kikuta, K. On the contribution of a player to a game. *Internat. J. Game Theory* **5** (1976), *no.* 4, 199–208. (James W. Friedman) **58** #15236 90D12

Kikuts, Ja. A. A formalized system for proving program properties. (Russian. English summary) *Theory of algorithms and programs, No.* 3 (*Russian*), *pp.* 103–126, 154. *Latviĭsk. Gos. Univ., Riga*, 1977. (Max I. Kanovič) **57** #8122a 68A05

Proving some program properties in a formalized system. (Russian. English summary) *Theory of algorithms and programs, No.* 3 (*Russian*), *pp.* 127–142, 154. *Latviĭsk. Gos. Univ., Riga*, 1977. (Max I. Kanovič) **57** #8122b 68A05 (02F43)

Kikvadze, N. N. *See* **Questions on numerical mathematics and programming**, **53** #2575

Kikvidze, Z. A. *See* **Problems of pattern recognition and graph theory**, **48** #3318

Kilbas, A. A. Solution in closed form of a system of complete singular integral equations with analytic kernels. (Russian) *Dokl. Akad. Nauk BSSR* **18** (1974), 9–12, 90. (N. K. Karapetjanč) **49** #1038 45F15

Power-logarithmic integrals in spaces of Hölder functions. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 1, 37–43, 140. (Author's summary) **57** #13396 44A25 (47G05)

Solution in closed form of certain integral equations with polar and logarithmic kernels. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 3, 18–26, 139. (S. G. Samko) **51** #13604 45E99

Application of a certain integral representation in studying the Noethericity of integral operators with logarithmic kernel. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 2, 24–33, 140. (S. G. Samko) **54** #5910 47G05 (45E99)

The Noethericity of integral operators with logarithmic kernels. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 4, 35–39, 140. (R. V. Dudučava) **56** #9327 47G05 (45E99)

Generalized Hölder spaces, and an operator of convolution type with a special Volterra function. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.*

5, 44–52, 140. (Author's introduction) **58** #12493 47B37 (46E99)

(*with* Samko, S. G.) Integral operators with homogeneous kernels in Hölder H^ω spaces. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 1, 5–8, 91. (Authors' summary) **56** #16459 47G05

Integral equations of the first kind with logarithmic kernels of arbitrary order. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 12, 1078–1081, 1148. (William L. Perry) **58** #2088 45H05

Differentiation of singular integrals, and computation of definite integrals. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 1, 78–80, 95. (S. Drobot) **56** #16280 44A25

Operators of potential type with power-logarithmic kernels in Hölder spaces with weight. (Russian. English summary) *Vescĭ Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1978**, *no.* 2, 29–39, 139. (R. V. Dudučava) **58** #7218 47G05 (45H05)

Kil′berg, E. M. Summability of a differentiated conjugate Fourier series by the Voronoĭ method. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 84–88. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (D. P. Gupta) **54** #5716 42A24

L-summability of a differentiated conjugate Fourier series. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications, No.* 6 (*Russian*), *pp.* 116–119. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (Editors) **58** #29766 42A24

Application of the Borel summability method to a series that is connected with a Fourier series. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 90–93, 160. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Author's summary) **58** #29767 42A24

Kilberth, K. Eine Randbedingung für kubische Splinefunktionen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 1, 59–67. (Dietrich Braess) **52** #2133 65D05

Über Typen von kubischen Splinefunktionen. Vorträge der Gesellschaft für Jahrestagung der Wissenschaftlichen Angewandte Mathematik und Mechanik (München, 1973). *Z. Angew. Math. Mech.* **54** (1974), T224–T225. (H. L. Loeb) **53** #8728 41A15

Iterative Berechnung mehrfacher Lösungen von Hammersteinschen Integralgleichungen. (English summary) *Numer. Math.* **29** (1977/78), *no.* 2, 195–207. (H. Amann) **57** #8098 65R05

Kilburn, T. *See* **Origins of digital computers**, **50** #6760

Kil′čevskaja, E. N. *See* **Continuum mechanics and related problems of analysis**, **50** #6714

Kil′čevs′kiĭ, M. O. ★**Основы тензорного исчисления с приложениями к механике.** (Russian) [The foundations of the tensor calculus, with applications to mechanics] Second edition, revised and augmented. "*Naukova Dumka*", *Kiev*, 1972. 148 *pp.* (*errata insert*) (Editors) **53** #1453 53A45 (26–01)

(*with* Brusencova, Ē. O.) Macrophysical description of the microphysical properties of solid bodies. (Russian) *Proceedings of the Symposium on Continuum Mechanics and Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 1 (*Russian*), *pp.* 28–35. *Izdat.* "*Mecniereba*", *Tbilisi*, 1973. (D. Ieşan (Zbl **298** #73117)) **53** #15070 73.53

(*with* Nečiporenko, G. D.; Šal′da, L. M.) ★**Основи аналітичной механики.** (Ukrainian) [Foundations of analytic mechanics] *Vidavn.* "*Naukova Dumka*", *Kiev*, 1975. 219 *pp.* (Djordje Djukic) **56** #1862 70.53

See also **Instability of continuous systems**, **49** #10495 *and* **Continuum mechanics and related problems of analysis**, **50** #6714

Kil′činskiĭ, A. A. (*with* Kovalenko, A. D.) The method of variable moduli in problems of linear hereditary elasticity. (Russian) *Prikladna. Meh.* **6** (1970), *no.* 12, 27–34. **45** #6250 73.45

Kil′dibekov, I. G. A study of nonlinear eigenoscillations of a cylindrical shell. (Russian) *Prikl. Meh.* **13** (1977), *no.* 11, 46–52, 141. **57** #2049 73.35

Kil′djušov, M. S. (*with* Surkov, E. L.) Representations of the O_4 group arising in the five-body problem. *Jadernaja Fiz.* **13** (1971), 904–912 (*Russian*); *translated as Soviet J. Nuclear Phys.* **13** (1971), 517–521. (A. O. Barut) **50** #9200 81.22

(*with* Kuznecov, G. I.) Certain symmetry properties of the *t*-coefficients. *Jadernaja Fiz.* **17** (1973), 1330–1335 (*Russian*); *translated as Soviet J. Nuclear Phys.* **17** (1973), 693–695. (Authors' summary) **50** #15660 81.33

(*with* Surkov, E. L.) A complete set of hyperspherical functions for the four-body problem. *Jadernaja Fiz.* **22** (1975), *no.* 3, 648–658 (*Russian*); *translated as Soviet J. Nuclear Phys.* **22** (1975), *no.* 3, 333–338. (R. A. Askey) **53** #11116 33A45 (81.33)

Kilgore, T. A. (*with* Cheney, Elliot W.) A theorem on interpolation in Haar subspaces. *Aequationes Math.* **14** (1976), *no.* 3, 391–400. (Joseph M. Lambert) **53** #13924 41A05

Optimization of the norm of the Lagrange interpolation operator. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 5, 1069–1071. (C. de Boor) **55** #10906 41A05

Kilgour, D. M. The sequential truel. *Internat. J. Game Theory* **4** (1975), *no.* 3, 151–174. (T. E. S. Raghavan) **54** #4689 90D10

Kilgour, D. Marc The simultaneous truel. *Internat. J. Game Theory* **1** (1971/72), 229–242. (R. E. Stearns) **47** #10088 90D25

On 2×2 games and Braithwaite's arbitration scheme. *Game theory as a theory of conflict resolution*, *pp.* 63–74. *Theory and Decision Library*, *Vol.* 2, *Reidel*, *Dordrecht*, 1974. (A. Rapoport) **52** #12827 90D35

A Shapley value for cooperative games with quarrelling. *Game theory as a theory of conflict resolution*, *pp.* 193–206. *Theory and Decision Library*, *Vol.* 2, *Reidel*, *Dordrecht*, 1974. (R. E. Stearns) **51** #15032 90D40

Equilibrium points of infinite sequential truels. *Internat. J. Game Theory* **6** (1977), *no.* 3, 167–180. (G. Duru) **57** #5130 90D12

Axioms for Shapley values in games with quarrelling. Game theory and conflict resolution, II. *Theory and Decision* **8** (1977), *no.* 2, 193–207. (Kåre M. Mjelde) **56** #17851 90D12

Kilgus, Charles C. (*with* Gore, Willis C.) A class of cyclic unequal-error-protection codes. *IEEE Trans. Information Theory* **IT-18** (1972), 687–690. (Jack K. Wolf) **51** #15168 94A10

Kilić, Srećko A certain wave function of a many-boson system derived by means of the Brillouin-Wigner-Feenberg perturbation method. (Serbo-Croatian. English summary) *Akad. Nauka i Umjet. Bosne i Hercegov. Rad. No.* 52 *Odjelj. Prirod. Mat. Nauka kn*
(1974), 71–74. (Tetz Yoshimura) **52** #7366 81.35

Kilimnik, L. A. (*with* Sergeev, S. F.) Mathematical simulation of the shape of an ac
pressure wave. (Russian) *Dinamika Sistem Vyp.* 6 (1975), 155–158, 179. (Auth
summary) **58** #15289 92A05

Killeen, John Computational problems in magnetohydrodynamics. *Information proces*
71 (*Proc. IFIP Congr., Ljubljana*, 1971), *Vol.* 2: *Applications*, *pp.* 1191–1205. *North-Holland*, *Amsterdam*, 1972. (Author's summary) **56** #17521 78.65

Killeen, Timothy J. (*with* Hettmansperger, Thomas P.; Sievers, Gerald L.) An elemen
theorem on the probability of large deviations. *Ann. Math. Statist.* **43** (1972), 181-
(J. Sethuraman) **52** #15833 (E **52** #15834) 62G20 (60F10)

(*with* Hettmansperger, Thomas P.) Bivariate tests for location and their Baha
efficiencies. *Ann. Math. Statist.* **43** (1972), 1507–1516. (W. Hoeffding) **49** #819
62G10

(*with* Hettmansperger, Thomas P.; Sievers, Gerald L.) Correction to: "An elementary theorem on the probability of large deviations" (Ann. Math. Statist.
(1972), 181–192). *Ann. Statist.* **2** (1974), 1357. (J. Sethuraman) **52** #15834 62(
(60F10)

(*with* Fligner, Michael A.; Hogg, Robert V.) Some distribution-free rank-like statistics having the Mann-Whitney-Wilcoxon null distribution. *Comm. Statist.—The*
Methods **A5** (1976), *no.* 4, 373–376. (W. J. Conover) **54** #3953 62G10

(*with* Fligner, Michael A.) Distribution-free two-sample tests for scale. *J. An*
Statist. Assoc. **71** (1976), *no.* 353, 211–213. (P. W. Mielke, Jr.) **53** #4363 62G10

Killgrove, R. B. (*with* Milne, Ed) Subsquare complete Latin squares of order 12. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory*
Computing (*Florida Atlantic Univ., Boca Raton, Fla.*, 1974), *pp.* 535–547. *Congres*
Numerantium, No. X, Utilitas Math., Winnipeg, Man., 1974. (R. Artzy) **55** #13
05B15

(*with* Parker, E. T.; Milne, Ed) Low order projective planes. *Proceedings of*
Seventh Southeastern Conference on Combinatorics, Graph Theory, and Computing (*Louisiana State Univ., Baton Rouge, La.*, 1976), *pp.* 365–390. *Congressus Numerantiu*
No. XVII, Utilitas Math., Winnipeg, Man., 1976. (P. B. Kirkpatrick) **54** #1254
05B25

The sum of two powers is a third, sometimes. *Fibonacci Quart.* **14** (1976), *no*
206–209. (J. M. Gandhi) **54** #2588 10B15 (10A30)

(*with* Parker, E. T.) Addition and multiplication in known projective planes of or
nine. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph The*
and Computing (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 433–452. *Congress*
Numerantium, No. XIX, Utilitas Math., Winnipeg, Man., 1977. (L. D. Baumert) **57** #16106 05B25

Killian, E. K. (*with* Guenther, Ronald B.; Kerber, C. W.; Smith, Kennan T.; Wagn
Sheldon L.) Reconstruction of objects from radiographs and the location of br
tumors. *Proc. Nat. Acad. Sci. U.S.A.* **71** (1974), 4884–4886. (Authors' summa
50 #6547 92A05 (68A45)

Killingbeck, J. (*with* Cole, G. H. A.) ★Mathematical techniques and physical applications. Pure and Applied Physics, Vol. 35. *Academic Press*, *New York-Lond*
1971. xvii+715 *pp.* (Editors) **54** #11881 69.00

The class sum operator approach for the point group *O* and D_4. *J. Mathemat*
Phys. **14** (1973), 185–187. (J. Zak) **48** #1599 81.20

Tensor operators and the trace metric. *J. Phys. A* **8** (1975), *no.* 11, L121–L12
(Author's summary) **52** #16323 81.22

Some simple angular momentum techniques. *Phys. Lett. A* **64** (1977), *no.*
161–162. **56** #14206 81.00

Killingbergtrø, Hans Georg Geometric differentials. (Norwegian. English summary) *Nordisk Mat. Tidskr.* **20** (1972), 69–84, 120. (R. I. Pimenov) **49** #3703 53A05

(*with* Skau, Ivar) Some formulas that come from a problem in probability theor
(Norwegian. English summary) *Nordisk Mat. Tidskr.* **23** (1975), *no.* 3-4, 117–131, 14
(P. Holgate) **55** #11332 (EA **55/56**) 60C05 (05A19)

Remark on Brun's spherical tesselations. (Norwegian. English summary) *Nordi*
Mat. Tidskr. **24** (1976), *no.* 2, 53–55, 75. (Author's summary) **56** #1192 50B30

Killion, Ruth A (*with* Zahn, Douglas A.) A bibliography of contingency table literatur
1900 to 1974. *Internat. Statist. Rev.* **44** (1976), *no.* 1, 71–112. (Editors) **53** #9571
62Q05 (62Gxx, 62Hxx, 62Jxx)

Kilmer, William L. (*with* Arbib, Michael) An automaton framework for neural nets th
learn. *Internat. J. Man-Machine Studies* **5** (1973), 577–583. (Jean-Pierre Duport) **48** #1534 68A35

Kilmister, C. W. Some wrong turnings in applied algebra. *Bull. Inst. Math. Appl.* **12** (1976
no. 3, 66–69. (Editors) **58** #10128 01A60

Population in cities. *Math. Gaz.* **60** (1976), *no.* 411, 11–24. (J. S. Joel) **58** #20302
90A15

Quantum mechanics 1899–1925: a survey of concept formation. Papers presente
at the Symposium on the History of Applied Mathematics (Hatfield Polytechn
Hatfield, 1976). *Bull. Inst. Math. Appl.* **13** (1977), *no.* 9-10, 239–243. (Editors) **58** #27073 01A60

Mathematics in the social sciences. *The encyclopaedia of ignorance*, *pp.* 175–18
Pergamon, *Oxford*, 1978. (David Berlinski) **58** #20303 90A15 (92A20)

See also **Gravitation: problems, prospects**, **48** #7881

Kilmoyer, Robert The reflection character of a finite group with a (B,N) pair. *Representation theory of finite groups and related topics* (*Proc. Sympos. Pure Math., Vo*
XXI, Univ. Wisconsin, Madison, Wis., 1970), *pp.* 91–94. *Amer. Math. Soc.*, *Providence*
R.I., 1971. (H. K. Farahat) **48** #403 20C15

(*with* Curtis, Charles W.; Iwahori, Nagayoshi) Hecke algebras and characters o
parabolic type of finite groups with (B, N)-pairs. *Inst. Hautes Études Sci. Publ. Ma*
No. 40 (1971), 81–116. (G. I. Lehrer) **50** #494 20G05

(*with* Solomon, Louis) On the theorem of Feit-Higman. *J. Combinatorial Theo*
Ser. A **15** (1973), 310–322. (H. K. Farahat) **50** #9625 05B25 (20C99)

Kilov, H. I. (*with* Baitmans, M.) An algorithm and a FORTRAN program for determinin
the elements of optimal synthesis for a second order system of general form that is linea
in the control. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 2, 358–361, 38
(Editors) **56** #4155 65K05

See **Chilosi, A.**

On the geometry of a system of three first order partial differential equations.
sian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 277 (1971),
7. (A. Švec) **51** #14132 58A15 (35F20)

uasilinear systems of first order partial differential equations with m unknown
ions of two independent variables and with noncoinciding characteristics
etric theory). (Russian. Estonian and English summaries) *Tartu Riikl. Ül.
etised No.* 281 (1971), 63–85. (A. Haimovici) **47** #598 35A30 (53A99)

quasilinear system of type S_{42}^1 with different characteristics for an isothermal
ce in R^3 (geometric theory). (Russian. Estonian and English summaries) *Tartu
. Ül. Toimestised No.* 355 (1975), 119–126. (A. Švec) **52** #6581 53A05

uasilinear systems of type S_{42}^1 with different characteristics for a two-dimensional
ce in R^4 with zero Gaussian curvature and torsion (geometric theory). (Russian.
ian and English summaries) *Tartu Riikl. Ül. Toimestised No.* 355 (1975), 127–137.
vec) **52** #6582 53A05

wo quasilinear systems of type $S_{32(1)}^1$ from mechanics with a hexagonal three-web
aracteristics (geometric theory). (Russian. Estonian and English summaries) *Tartu
. Ül. Toimetised Vih.* 374 (1975), 63–78. (P. Günther) **54** #1108 53A45

ati On the homological classification of monoids. (Russian) *Sibirsk. Mat. Ž.* **13**
), 578–586. (S. Lajos) **45** #8755 20M10 (18G99)

Commutative monoids all of whose principal ideals are projective. *Semigroup
m* **6** (1973), *no.* 4, 334–339. (J. K. Luedeman) **52** #614 20M10

he homological classification of monoids in terms of the properties of their left
s. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 336
), 178–188. (L. A. Skornjakov) **50** #10125 20M10 (18H40)

See also **Students' works in algebra and geometry,** **51** #19

k, Kerry E. (*with* Leonard, Michael S.) A modified fixed-increment training
rithm. *IEEE Trans. Comput.* **C-24** (1975), 673–675. (F. W. Stallmann) **51** #12042
A35 (68A45)

John O. On the number of field topologies on an infinite field. *Proc. Amer. Math.*
40 (1973), 30–36. (M. E. Shanks) **47** #6667 12J99

Infinite abelian groups are highly topologizable. *Duke Math. J.* **41** (1974), 151–154.
. Howard) **48** #8657 20K45 (22A99)

N. (*with* Aliev, È. M.; Kamilov, M. M.) Selection of an algorithm by the method
omputing estimates. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 42 (1970), 88–95.
#1795 68A10

S. (*with* Eringen, A. Cemal; Speziale, C. G.) Crack-tip problem in non-local
icity. *J. Mech. Phys. Solids* **25** (1977), *no.* 5, 339–355. (C. L. Parihar) **57** #14777
5

ck Ki (*with* Gupta, A. K.) A classification rule based on permutations of
ivariate observations. (French summary) Proceedings of the 40th Session of the
rnational Statistical Institute (Warsaw, 1975), Vol. 3. Contributed papers. *Bull. Inst.
rnat. Statist.* **46** (1975), *no.* 3, 327–329 (1976). (Authors' summary) **58** #31599
30

(*with* Van Ryzin, John) Uniform consistency of a histogram density estimator and
al estimation. *Comm. Statist.* **4** (1975), 303–315. (E. Nadaraja) **51** #11799
05

G. (*with* Kudva, Prabhakar; Gourishankar, V.) An optimal observer design for
rete linear systems. *Internat. J. Control* **27** (1978), *no.* 6, 879–884. (M. Pachter)
#15376 93B05

H. (*with* Lindorff, David P.) Input frequency requirements for identification
ugh Liapunov methods. *Internat. J. Control* **20** (1974), 35–48. (G. M. Ewing)
#12124 93B30

W. *See* **Kim, Choo Whan**

aibo ★Introduction to linear programming. *Holt, Rinehart and Winston, Inc.,
York-Montreal, Que.-London,* 1971. xviii+556 *pp.* (Editors) **50** #9352 90C05

Parameterizing an activity vector in linear programming. *Operations Res.* **19** (1971),
2–1646. (Author's summary) **45** #9679 90C05

i Hong Optimum control problem with convex cost functional. (Korean. English
mary) *Su-hak kwa Mul-li* **19** (1975), *no.* 4, 16–23. (Author's summary) **55** #6268
25

i Young (*with* Choi, Kil Nam; Shin, Yong Sun) On the K-proximities. *Kyungpook
th. J.* **13** (1973), 69–80. (S. A. Naimpally) **48** #1176 54E05

'oe Chun On the stability of the solution of a system of differential equations with
yed argument with respect to a part of the variables. (Korean. English summary)
hak kwa Mul-li **20** (1976), *no.* 3, 6–12. (Author's summary) **58** #22938 34K20

On the partial asymptotic stability of the solution to a system of differential
ations with delayed arguments. (Korean. English summary) *Su-hak kwa Mul-li* **20**
76), *no.* 4, 4–10. (Author's summary) **58** #11812 34K20

hoo Whan Approximations of doubly substochastic operators. *Michigan Math. J.*
(1972), 83–95. (Humphrey S. Fong) **52** #8969 47A35 (28A65)

Approximation theorems for Markov operators. *Z. Wahrscheinlichkeitstheorie und
w. Gebiete* **21** (1972), 207–214. (Michael Lin) **46** #5574 28A65 (46E30)

Approximations of positive contractions on $L^\infty[0,1]$. *Z. Wahrscheinlichkeitstheorie
Verw. Gebiete* **24** (1972), 335–337. (John B. Conway) **50** #8041 46E30 (47D15)

Approximations of positive contractions on L^∞. II. *Math. Ann.* **217** (1975), *no.* 3,
–220. (John B. Conway) **52** #1399 47B37 (28A65)

Extreme contraction operators on l_∞. *Math. Z.* **151** (1976), *no.* 2, 101–110. (N. Tiţa)
#13622 47B37

(*with* Um, J. I.) Extreme points of convex sets of bicontractions on l_∞. *J. Korean
th. Soc.* **14** (1977/78), *no.* 1, 81–92. (Harro Heuser) **56** #9323 47D20 (47B37)

Approximations of positive contractions ℓ^1 and ℓ^∞. *Tamkang J. Math.* **8** (1977), *no.*
67–176. (Mikio Kato) **58** #23761 47D20 (47B37)

hul E. (*with* Ibarra, Oscar H.) On 3-head versus 2-head finite automata. *Acta
ormat.* **4** (1974/75), *no.* 2, 193–200. (J. Hartmanis) **55** #11719 68A25

(*with* Ibarra, Oscar H.) Fast approximation algorithms for the knapsack and sum of
set problems. *J. Assoc. Comput. Mach.* **22** (1975), *no.* 4, 463–468. (V. V. Ivanov)
#14631 68A10

(*with* Ibarra, Oscar H.) On two-processor scheduling of one- or two-unit time tasks
h precedence constraints. *J. Cybernet.* **5** (1975), *no.* 3, 87–109 (1976). (Menachem Dishon) **54** #2177 90B35

(*with* Frederickson, Greg N.; Hecht, Matthew S.) Approximation algorithms for some routing problems. *17th Annual Sympoisum on Foundations of Computer Science (Houston, Tex., 1976), pp. 216–227. IEEE Comput. Soc., Long Beach, Calif.,* 1976. (R. E. Stearns) **56** #10870 90B10 (68A20, 68A10)

(*with* Ibarra, Oscar H.) A useful device for showing the solvability of some decision problems. *Eighth Annual ACM Symposium on Theory of Computing (Hershey, Pa.,* 1976), *pp.* 135–140. *Assoc. Comput. Mach., New York,* 1976. (Claus-Peter Schnorr) **56** #10149 68A25 (02G05)

(*with* Ibarra, Oscar H.) A useful device for showing the solvability of some decision problems. *J. Comput. System Sci.* **13** (1976), *no.* 2, 153–160. (S. A. Greibach) **54** #1716 68A25

(*with* Ibarra, Oscar H.; Sahni, Sartaj K.) Finite automata with multiplication. *Theoret. Comput. Sci.* **2** (1976), *no.* 3, 271–294. (S. Ginsburg) **54** #1722 68A30

(*with* Ibarra, Oscar H.) Heuristic algorithms for scheduling independent tasks on nonidentical processors. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 2, 280–289. (Jacek Błażewicz) **55** #14180 90B35

(*with* Frederickson, Greg N.; Hecht, Matthew S.) Approximation algorithms for some routing problems. *SIAM J. Comput.* **7** (1978), *no.* 2, 178–193. (R. E. Stearns) **58** #9172 90B10 (68A10)

Kim, Chung Sŏn A symbolic address type "language" for programming. (Korean. English summary) *Su-hak kwa Mul-li* **16** (1972), *no.* 2, 33–39. (Editors) **54** #9136 68A05

Kim, Churl S. Spectral theory for a singular linear system of Hamiltonian differential equations. *J. Differential Equations* **10** (1971), 538–567. (C. A. Swanson) **45** #631 34B25

Kim, D. (*with* Thompson, Colin J.) Critical behaviour of a modified spherical model. *J. Phys. A* **10** (1977), *no.* 7, 1167–1174. (Ole J. Heilmann) **56** #7724 82.65

(*with* Thompson, Colin J.) Critical properties of Dyson's hierarchical model. *J. Phys. A* **10** (1977), *no.* 9, 1579–1598. (Authors' summary) **56** #10470 80.60

Kim, D. P. (*with* Babakov, N. A.; Voronov, A. A.; Voronova, A. A.; Diduk, G. A.; Dmitrieva, N. D.; Makarov, I. M.; Menskiĭ, B. M.; Popovič, P. N.; Rahmankulov, V. Z.) ★Теория автоматического управления. Часть I. Теория линейных систем автоматического управления. (Russian) [Theory of automatic control. Part I. Theory of linear systems of automatic control] *Izdat. "Vysšaja Škola", Moscow,* 1977. 303 *pp.* (Editors) **58** #33273 93Cxx

Kim, Dai Young Some computational contribution on the estimation procedure of a first order moving average. (French summary) Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 2. *Bull. Inst. Internat. Statist.* **45** (1973), *no.* 2, 58–66. (Paul Shaman) **52** #2094 62M10

Kim, Dong Sie A boundary for the algebras of bounded holomorphic functions. *Pacific J. Math.* **45** (1973), 269–274. (F. T. Birtel) **48** #8845 32E25 (46J10)

Boundedly holomorphic convex domains. *Pacific J. Math.* **46** (1973), 441–449. (A. Hirschowitz) **49** #9259 32D15

Boundedly holomorphic convex Riemann domain. *Proc. Amer. Math. Soc.* **41** (1973), 495–497. (A. Hirschowitz) **48** #6462 (E **51** #3527) 32D15

Carathéodory distance and bounded holomorphic functions. *Duke Math. J.* **41** (1974), 333–338. (A. Hirschowitz) **51** #8475 (EA **52**) 32H15

Erratum to: "Boundedly holomorphic convex Riemann domain" (Proc. Amer. Math. Soc. **41** (1973), 495–497). *Proc. Amer. Math. Soc.* **48** (1975), 516. (A. Hirschowitz) **51** #3527 32E10

Complete domains with respect to the Carathéodory distance. *Proc. Amer. Math. Soc.* **49** (1975), 169–174. (R. Michael Range) **51** #3539 32H15

Complete domains with respect to the Carathéodory distance. II. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 141–142. (R. Michael Range) **52** #3613 32H15

Kim, E. I. (*with* Li, V.) Ill-posed spatial problems of Cauchy-Goursat type. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1970**, *no.* 1, 70–71. (A. D. Solomon) **46** #9552 35M05 (35Q99)

(*with* Harin, S. N.) The unsolvability by the method of successive approximations of a certain class of Volterra integral equations. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **2** (1971), 27–35, 338. (Authors' summary) **56** #9199 45D05

(*with* Argenbaeva, R. U.; Birjukova, F. G.) On a class of singular integral equations of the first kind. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 1, 79–81, 95. (A. Corduneanu) **51** #6319 45E99

(*with* Omel'čenko, V. T.; Harin, S. N.) ★Математические модели тепловых процессов в электрических контактах. (Russian) [Mathematical models of heat processes in electrical contacts] *Izdat. "Nauka" Kazah. SSR, Alma-Ata,* 1977. 236 *pp.* (Vadim Komkov) **58** #14426 80.35 (78.35)

(*with* Kavokin, A. A.) Solution in the small of a problem with a nonlinear boundary condition for the heat equation in an expanding domain. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 1, 41–46, 91. (Authors' summary) **58** #11929 35K60

(*with* Argynbaeva, R. U.) Solution of a parabolic type equation with variable and discontinuous coefficients. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 1, 71–75, 93. (Authors' summary) **58** #11916 35K10

See also **Differential equations and their applications,** **57** #6554

Kim, Geung Ho (*with* David, H. T.) Bivariate distributions as saddle points of mutual information. *J. Appl. Probab.* **15** (1978), *no.* 3, 523–530. (B. D. Sharma) **58** #20814 94A15

Kim, Hae Yŏng A generalization of Hopf's theorem and some of its applications. (Korean. English summary) *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-po* **1971**, *no.* 1, 13–14. (Editors) **57** #17562 53C20

(*with* Lyu, Ch'ung Oh) Conformal Killing tensor fields in a Riemannian space with boundary. (Korean. English summary) *Su-hak kwa Mul-li* **15** (1971), *no.* 3, 5–13. (From the authors' summary) **54** #8520 53C20

A condition for an affine Killing tensor to be a Killing tensor in a Riemannian space with boundary. (Korean. English summary) *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-bo* **25** (1977), *no.* 4, 185–189. (K. T. Hahn) **58** #18220 53B20

Kim, Hai Joon On semi-simple rings and their complete matrix rings. (Korean summary) *J. Korean Math. Soc.* **10** (1973), 41–45, iii. (S. S. Page) **48** #8557 16A42

Kim, Ho Gol On the stability of the solutions of an H-valued stochastic integral equation.

(Korean. English summary) *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-po* **24** (1976), *no.* 3, 124–132. **55** #11396 60H20

Kim, Hogil Problems in applying *N-N* interaction in many body problems. *Phys. Lett.* **37B** (1971), 347–350. (L. S. Schulman) **48** #5546 81.35

Kim, Hong Oh On the product of the structure spaces. *Kyungpook Math. J.* **11** (1971), 29–32. (K. D. Magill, Jr.) **46** #8197 54H15 (20M10)

(*with* Pahk, Chung Ki) On weak continuous functions into Hausdorff spaces. *Kyungpook Math. J.* **14** (1974), 239–242. (P. W. Harley, III) **51** #13972 54C10

A certain semigroup associated with a topological space. *Kyungpook Math. J.* **15** (1975), *no.* 2, 241–245. (K. D. Magill, Jr.) **53** #13453 20M20 (54H15)

Kim, Hong W. On compact operators in the weak closure of the range of a derivation. *Proc. Amer. Math. Soc.* **40** (1973), 482–486. (Paul S. Muhly) **47** #7502 47B47 (46L10)

On the unilateral shift and the norm closure of the range of a derivation. *Math. Japon.* **19** (1974), *no.* 3, 251–256. (T. Rolf Turner) **53** #3783 47B47

(*with* Pearcy, Carl M.; Shields, Allen L.) Rank-one commutators and hyperinvariant subspaces. *Michigan Math. J.* **22** (1975), *no.* 3, 193–194 (1976). (J. P. Williams) **52** #11626 47A15

Hyponormal operators with infinite essential spectrum. *Proc. Amer. Math. Soc.* **51** (1975), 44–48. (Mary R. Embry) **51** #11170 47B20

(*with* Pearcy, Carl M.; Shields, Allen L.) Sufficient conditions for rank-one commutators and hyperinvariant subspaces. *Michigan Math. J.* **23** (1976), *no.* 3, 235–243 (1977). (C. M. Schneeberger) **57** #3881 47A15

See also **Kasahara, Isamu; et al.,** **53** #3784

Kim, Hongjin (*with* Crawford, F. W.) Microscopic Lagrangian description of warm plasmas. I. Linear wave propagation. *Radio Sci.* **12** (1977), *no.* 6, 941–951. (Paul Zweifel) **57** #18501a 78.49

(*with* Crawford, F. W.) Microscopic Lagrangian description of warm plasmas. II. Nonlinear wave interactions. *Radio Sci.* **12** (1977), *no.* 6, 953–963. (Paul Zweifel) **57** #18501b 78.49

Kim, Hyo Heng (*with* Mizumoto, Masaharu; Toyoda, Junichi; Tanaka, Kohkichi) Lattice grammars. *Systems-Computers-Controls* **5** (1974), *no.* 3, 1–9 (1975). (B. Zelinka) **52** #9699 68A30

(*with* Mizumoto, Masaharu; Toyoda, Junichi; Tanaka, Kohkichi) *L*-fuzzy grammars. *Information Sci.* **8** (1975), 123–140. (K. S. Fu) **50** #15455 68A30

Kim, I. V. Static problems for an orthogonally anisotropic elastic cylinder. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1968**, *no.* 10, 3–5. (J. Murzewski) **53** #2108 73.35

Kim, In Bae (*with* Ki, U Hang; Pak, Jin Suk) On hypersurfaces of a *K*-contact metric manifold as fibred spaces. *J. Korean Math. Soc.* **11** (1974), 143–152. (G. D. Ludden) **51** #1657 53C15

Kim, Jae Joo (*with* Shin, Hyun Chun) On a criterion for obtaining full information about the unknown state of nature. *J. Korean Math. Soc.* **9** (1972), 75–84. (L. L. Campbell) **48** #7427 62B10 (94A15)

On the evaluation of information value and amounts in view of decision theory. *J. Korean Math. Soc.* **11** (1974), 97–119. (O. Gulyás) **53** #9447 62C99 (62B10)

Kim, Jae-Kyoon (*with* Davisson, Lee D.) Adaptive linear estimation for stationary *M*-dependent processes. *IEEE Trans. Information Theory* **IT-21** (1975), 23–31. (Ĭ. M. Stojanov) **52** #5148 93E10

Kim, Jae Ok (*with* Chŏng, Ji Hŭn) A solution of linear and fractional linear programming with both restrictions. (Korean. English summary) *Su-hak kwa Mul-li* **19** (1975), *no.* 4, 9–15. (Author's summary) **55** #7370 90C05

Kim, Jae Ryong (*with* Ki, U Hang) Note on compact submanifolds of codimension 2 with trivial normal bundle in an even-dimensional Euclidean space. *J. Korean Math. Soc.* **13** (1976), *no.* 1, 51–59. (Bang-yen Chen) **57** #17569 53C40

Kim, Jehpill Sequentially complete spaces. *J. Korean Math. Soc.* **9** (1972), 39–43. (D. C. Kent) **46** #2645 54E15

Kim, Jihn E. (*with* Kang, Kyungsik) Difficulty of $V(e)V(q)+A(e)A(q)$ neutral currents in $\mathrm{SU}(2)\times\mathrm{U}(1)\times\mathrm{U}(1)$ theory. *Phys. Rev. D* (3) **18** (1978), *no.* 9, 3467–3471. (Authors' summary) **58** #25481 81.22

Kim, Jin Bai Mutants in the symmetric semigroups. *Czechoslovak Math. J.* **21(96)** (1971), 355–363. (K. N. Sigmon) **45** #2049 20M10

Idempotents in symmetric semigroups. *J. Combinatorial Theory Ser. A* **13** (1972), 155–161. (A. O. Morris) **46** #5499 20M10

Theorems on nullity, rank and ascent of the product of two linear mappings. *Tensor* (*N.S.*) **23** (1972), 314–316. (A. R. Amir-Moéz) **48** #8517 15A03

On some numbers from the Bell polynomials. *Math. Japon.* **18** (1973), 1–4. (Morris Newman) **50** #9607 05A17

(*with* Lee, Yong M.) A generalized homomorphism of a group. *Proc. West Virginia Acad. Sci.* **45** (1973), 326–328. (S. M. Yusuf) **53** #3174 20M99

No semigroup is a finite union of mutants. *Semigroup Forum* **6** (1973), *no.* 4, 360–361. (H. J. Weinert) **51** #8300 20M10

On the number of idempotent linear transformations. *Linear Algebra and Appl.* **8** (1974), 313–325. (John H. Hodges) **50** #356 15A33

Induced transformations on exterior product spaces. *Tensor* (*N.S.*) **28** (1974), 148–150. (R. Merris) **50** #9924 15A75

On *r*-potents in a full transformation semigroup. *Kyungpook Math. J.* **15** (1975), 109–110. (J. L. Chrislock) **51** #13103 20M20

On *r*-potent linear mappings. *Linear Algebra and Appl.* **10** (1975), 69–70. (J. A. Erdos) **51** #549 15A21

Notes on *f*-manifolds. *Tensor* (*N.S.*) **29** (1975), *no.* 3, 299–302. (R. S. Millman) **51** #8983 53C15

On certain Hermite approximations. *Kyungpook Math. J.* **16** (1976), *no.* 1, 1–5. (Jai Prakash Sharma) **55** #3607 41A10

On differentiable manifolds with certain structures which are closely related to almost complex structures. *Tensor* (*N.S.*) **30** (1976), *no.* 3, 285–288. (R. S. Millman) **55** #1246 53C15

A sequence of integers. *Proceedings of the Eighth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1977), *pp.* 453–460. *Congressus Numerantium, No. XIX, Utilitas Math., Winnipeg, Man.*, 1977. (H. W. Gould) **58** #21923 10A35

On the game of Go. *J. Korean Math. Soc.* **14** (1977/78), *no.* 2, 197–205. (Benson) **57** #11798 90D05

A certain matrix semigroup. *Math. Japon.* **22** (1977/78), *no.* 5, 519– D'Alarcao) **58** #960 20M20

(*with* Lee, Yong M.) A tree defined by a sequence of non-negative intege *Soc. Roy. Sci. Liège* **47** (1978), *no.* 3-4, 99–106. (D. A. Klarner) **58** #21740 (10A40)

(*with* Lee, Yong M.) Concavity properties for certain linear combinations o numbers. *Kyungpook Math. J.* **18** (1978), *no.* 1, 31–36. (F. T. Howard) **58** # 05A10 (10A40)

On the game of Go. *Kyungpook Math. J.* **18** (1978), *no.* 1, 125–134. (Edwar **58** #15226 90D05

Kim, Jong Joo (*with* Kang, Bong Koo) Note on $(f, U_{(k)}, u_{(k)}, \alpha_{(k)})$-structures. *Math. J.* **12** (1972), 253–262. (C. S. Houh) **48** #4958 53C15

Kim, Jong Soo (*with* Ko, Young So; Lee, Heon Koo; Lee, Il Hae) A note on difference analogue of mixed boundary value problem. *J. Korean Math. Soc.* 19–23. (S. V. Parter) **46** #4749 65N10

Kim, Jongsik The structure of $\mathfrak{L}(M,L)$. (Korean summary) *J. Korean Math.* (1973), 27–29, ii. (S. J. Bernau) **49** #1060 46A40

(*with* Pak, Eulyong) Distributions and P.D.E. I. *J. Korean Math. Soc.* 19–24. (Z. Zieleźny) **51** #1387 46F10 (35E99)

The characterization of a lattice homomorphism. *Canad. J. Math.* **27** 172–175. (Rosalind Reichard) **50** #10750 46A40

On the epimorphism theorem. *J. Korean Math. Soc.* **12** (1975), *no.* 1, 5 Harvey) **51** #11102 46F05 (46A30)

T-related Fréchet spaces. *J. Korean Math. Soc.* **12** (1975), *no.* 2, 101–103. Summers) **54** #13514 46A05

Extension of weakly compact operators. *J. Korean Math. Soc.* **13** (1976), 151–153. (Yehoram Gordon) **55** #8757 46B05

Kim, Joong Ho *R*-automorphisms of $R[t][[X]]$. *Pacific J. Math.* **42** (1972), 81–8 Arnold) **47** #3365 13B10 (13J05)

Power invariant rings. *Pacific J. Math.* **51** (1974), 207–213. (D. B. C **51** #5662 16A48 (13J05)

Kim, Joonki (*with* Newborn, Monroe M.) The simplification of sequential machi input restrictions. *IEEE Trans. Computers* **C-21** (1972), 1440–1443. (Authors' su **55** #12343 94A25

Kim, K. V. (*with* Kraĭnov, G. A.; Surmenev, E. V.) A problem of compiling a s (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 4, 767–772. (M. M. Sysło) **57** # 90B35

Kim, Ki Hang An identity in combinations. *Kyungpook Math. J.* **11** (1971), 197–198 Harper) **46** #3315 05A05

On (0,1)-matrix semigroups. *Semigroup Forum* **3** (1971/72), *no.* 1, 74–79. (summary) **45** #426 20M10

On a Miller and Clifford theorem. (With editors' note) *Semigroup Forum* **3** (1971/72), *no.* 1, 92–94. (T. Tamura) **45** #5245 20M10

The number of partial order graphs. *Graph theory and applications* (*Proc. Western Michigan Univ., Kalamazoo, Mich.*, 1972; *dedicated to the memory of J. Youngs*), *pp.* 55–63. *Lecture Notes in Math., Vol.* 303, *Springer, Berlin*, 1972. (E **48** #10883 05C30

The number of partially ordered sets. *J. Combinatorial Theory Ser. B* **13** 276–289. (R. A. Melter) **46** #7045 05A15 (06A10)

(*with* Markowsky, George) The number of maximal subgroups of the semigr binary relations. *Kyungpook Math. J.* **12** (1972), 1–8. (B. M. Schein) **46** # 20M10

(*with* Markowsky, George) The number of maximal subgroups of the semigr binary relations. II. *Kyungpook Math. J.* **12** (1972), 199–211. (B. M. Schein) **48** # 20M10

The number of idempotents in (0, 1)-matrix semigroups. *Linear Algebra and* (1972), 233–246. (G. E. Wall) **46** #7060 05B20 (20H10)

(*with* Brandon, R. L.; Hardy, Darel W.; Markowsky, George) Cardinalit *D*-classes in B_n. *Semigroup Forum* **4** (1972), 341–344. (J. Dénes) **46** #3664

★Lecture notes on (0,1)-matrices. *Instituto de Física e Matemática, Lisbon*, 19 *pp.* (D. J. Hartfiel) **54** #2674 15–02

(*with* Markowsky, George) Enumeration of finite topologies. *Proceedings Fourth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*F Atlantic Univ., Boca Raton, Fla.*, 1973), *pp.* 169–184. *Utilitas Math., Winnipeg*, 1973. (R. E. Smithson) **50** #3171 54A10 (05A15)

Straddles and splits on semigroups. *Acta Math. Acad. Sci. Hungar.* **24** (113–114. (Donald W. Miller) **47** #372 20M10

(*with* Krabill, James Richard) Abelian subsemigroups, enumeration, and uni matrices. *Duke Math. J.* **40** (1973), 587–598. (Št. Schwarz) **47** #6922 20M30

Canonical bijection between $\mathfrak{D}$-classes of (0,1)-matrix semigroups. *Period. Hungar.* **4** (1973), 303–305. (M. Friedberg) **50** #2373 20M10

A Moore-Penrose inverse for Boolean relation matrices. *Combinatorial mathem* (*Proc. Second Australian Conf., Univ. Melbourne, Melbourne*, 1973), *pp.* 18–28. *Notes in Math., Vol.* 403, *Springer, Berlin* 1974. (R. A. Melter) **50** #6955 (15A09)

Subgroups of binary relations. *Proceedings of the Second International Conferen the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), *pp.* 188–196. *Lecture in Math., Vol.* 372, *Springer, Berlin*, 1974. (Št. Schwarz) **51** #774 20M99

(*with* Krabill, James Richard) Circulant Boolean relation matrices. *Czechos Math. J.* **24 (99)** (1974), 247–251. (B. M. Schein (Šaĭn)) **50** #515 20M10

(*with* Markowsky, George) The number of partially ordered sets. II. *J. K Math. Soc.* **11** (1974), 7–17. (R. A. Melter) **50** #1991 06A10

Combinatorial properties of binary semigroups. *Period. Math. Hungar.* **5** (3–46. (Št. Schwarz) **49** #10806 20M99 (05–02)

The semigroup of Hall relations. *Semigroup Forum* **9** (1974/75), *no.* 3, 253– (Hugo S. Sun) **51** #13085 20M05

New representations of posets. *Infinite and finite sets* (*Colloq., Keszthely*, *dedicated to P. Erdős on his 60th birthday*), *Vol. I*, *pp*. 241–250. *Colloq. Math. Soc. János Bolyai*, *Vol*. 10, *North-Holland*, *Amsterdam*, 1975. (R. A. Melter) **51** #5422 06A10

(*with* Ramamoorthy, C. V.; Chen, W. T.) Optimal placement of software monitors aiding systematic testing. *IEEE Trans. Software Engrg*. **SE-1** (1975), *no*. 4, 403–411. (Frederick N. Fritsch) **54** #1703 68A05

The semigroup of acyclic matrices. *Kyungpook Math. J*. **15** (1975), *no*. 2, 141–145. (J. B. Kim) **53** #482 15A30 (20M99)

(*with* Schwarz, Štefan) The semigroup of circulant Boolean matrices. *Czechoslovak Math. J*. **26(101)** (1976), *no*. 4, 632–635. (J. B. Kim) **55** #3128 20M99

(*with* Roush, Fred William) General mutants in semigroups. *Semigroup Forum* **13** (1976/77), *no*. 4, 297–300. (J. E. Kuczkowski) **55** #5772 20M10

(*with* Putcha, Mohan S.; Roush, Fred William) Some combinatorial properties of free semigroups. *J. London Math. Soc*. (2) **16** (1977), *no*. 3, 397–402. (Ian M. Chiswell) **57** #6240 20M05

(*with* Roush, Fred William; Schönfeld, Wolfgang) On the residual finiteness of free semigroups and composition of Boolean matrices. *Proc. Amer. Math. Soc*. **63** (1977), *no*. 1, 188. (Eckehart Hotzel) **55** #5769 20M05

(*with* Roush, Fred William) Linear representations of semigroups of Boolean matrices. *Proc. Amer. Math. Soc*. **63** (1977), *no*. 2, 203–207. (Št. Schwarz) **56** #3170 20M30

(*with* Roush, Fred William) On generating regular elements in the semigroup of binary relations. *Semigroup Forum* **14** (1977), *no*. 1, 29–32. (J. Chacron) **56** #514 20M30

(*with* Roush, Fred William) On generating regular elements in the semigroup of binary relations. *Semigroup Forum* **14** (1977), *no*. 1, 29–32. (J. Chacron) **57** #12736 20M10 (06A40, 15A33)

(*with* Roush, Fred William) On maximal submonoids of B_X. *Semigroup Forum* **15** (1977/78), *no*. 2, 137–147. (D. J. Hartfiel) **57** #3289 20M10 (15A33)

(*with* Roush, Fred William) Counting additive spaces of sets. *Acta Sci. Math. (Szeged)* **40** (1978), *no*. 1-2, 81–87. (Richard T. Bumby) **58** #440 05A15 (06A20, 06A40, 04A20)

(*with* Roush, Fred William) On Hamming distances between Boolean matrices. *J. Combinatorics Information Syst. Sci*. **3** (1978), *no*. 1, 24–28. (Stefan Dodunekov) **58** #10506 05B20 (94A20)

(*with* Roush, Fred William) Two-generator semigroups of binary relations. *J. Math. Psych*. **17** (1978), *no*. 3, 236–246. (S. Lajos) **58** #11175 20M05 (15A33)

(*with* Roush, Fred William) On groups in varieties of semigroups. *Semigroup Forum* **16** (1978), *no*. 2, 201–202. (H. D'Alarcao) **58** #968 20M99 (08A15)

(*with* Roush, Fred William) Orders of subsemigroups of T_n. *Semigroup Forum* **16** (1978), *no*. 2, 203. (H. D'Alarcao) **58** #6005 20M10

im, Ki Woong Some nowhere equicontinuous homeomorphisms. *Proc. Amer. Math. Soc*. **60** (1976), 304–308 (1977). (W. L. Reddy) **54** #11370 57E20 (54H20)

im, Kwang Je Infrared equivalence and non-perturbative solutions of infrared behavior in QED and QCD. *Phys. Lett. B* **69** (1977), *no*. 2, 189–192. (Author's summary) **56** #10587 81.47

im, L. V. (*with* Nagaev, A. V.) An estimate of the rate of convergence in a certain limit theorem. (Russian) *Random processes and statistical inference*, *No. II* (*Russian*), *pp*. 73–76, 96. *Izdat. "Fan" Uzbek. SSR*, *Tashkent*, 1972. (M. Iosifescu) **48** #3101 60F05

(*with* Nagaev, A. V.) Probabilities of large deviations in a certain scheme of an array. (Russian) *Random processes and statistical inference*, *No*. 3 (*Russian*), *pp*. 101–106. *Izdat. "Fan" Uzbek. SSR*, *Tashkent*, 1973. (S. A. Book) **54** #1349 60F10

Two theorems on the probabilities of large deviations. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **17** (1973), *no*. 5, 66–68. (S. A. Book) **48** #12632 60F10

Limit theorems for a scheme of arrays of a special form. (Russian) *Random processes and statistical inference*, *No*. 4 (*Russian*), *pp*. 73–83, 211. *Izdat. "Fan" Uzbek. SSR*, *Tashkent*, 1974. (A. K. Aleškevičienė) **51** #14229 60F10

A certain theorem of V. M. Zolotarev. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no*. 2, 12–18, 92. (G. K. Eagleson) **54** #6241a (E **54** #6241b) 60F10

Letter to the editors: "A certain theorem of V. M. Zolotarev" (Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk **18** (1974), no. 2, 12–18, 92). (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no*. 3, 91. (G. K. Eagleson) **54** #6241b 60F10

(*with* Nagaev, A. V.) The nonsymmetric problem of large deviations. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1974**, *no*. 6, 58–59. (A. K. Aleškevičienė) **52** #9340 60F10

Probabilities of large deviations of sums of random variables in the case of a stable limit distribution. (Russian) *Random processes and statistical inference*, *No*. 5 (*Russian*), *pp*. 58–72, 202. *Izdat. "Fan" Uzbek. SSR*, *Tashkent*, 1975. (S. A. Book) **53** #1698 60F10

(*with* Nagaev, A. V.) The nonsymmetric problem of large deviations. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **20** (1975), *no*. 1, 58–68. (M. Loève) **51** #14230 60F10

Kim, M. Synthesis of linear optimum distributed parameter systems with time delays. *Proc. IEEE* **62** (1974), 1177–1179. (S.-C. Huang) **50** #5579 49B25

(*with* Bahrami, K.) Optimal control of multiplicative control systems arising from cancer therapy. *IEEE Trans. Automatic Control* **AC-20** (1975), 537–542. **51** #12370 93C10 (92A05)

Kim, Moon A compact graph theorem. *Math. Mag*. **47** (1974), 99. (G. S. Ungar) **48** #12452 54C10

Kim, Oboe A representation of a positive linear mapping. *Bull. Amer. Math. Soc*. **78** (1972), 568–569. (S. Goldberg) **46** #707 47A99

Kim, P. J. (*with* Afifi, A. A.) Comparison of some two-sample location tests for non-normal alternatives. *J. Roy. Statist. Soc. Ser. B* **34** (1972), 448–455. (J. V. Deshpande) **49** #10037 62G10

The normal centroid and powers of the Pearson's X^2 test and the Kolmogorov-Smirnov test. *Comm. Statist*. **3** (1974), 297–300. (H. L. Harter) **51** #2134 62G10

The Smirnov distribution. *Ann. Inst. Statist. Math*. **28** (1976), *no*. 2, 267–275. (Ju. V. Borovskih) **54** #14227 62G10

Kim, Paik Kee Periodic homeomorphisms of the 3-sphere and related spaces. *Michigan Math. J*. **21** (1974), 1–6. (P. J. Kahn) **50** #3231 57A10 (57E25)

PL involutions on lens spaces and other 3-manifolds. *Proc. Amer. Math. Soc*. **44** (1974), 467–473. (J. Kister) **51** #11558 57E25

PL involutions on the nonorientable 2-sphere bundle over S^1. *Proc. Amer. Math. Soc*. **55** (1976), *no*. 2, 449–452. (K. W. Kwun) **52** #15516 57E25

Orientation-reversing periodic PL maps of lens spaces. *Proc. Amer. Math. Soc*. **64** (1977), *no*. 2, 351–356. (K. W. Kwun) **56** #1294 55C35

(*with* Tollefson, Jeffrey L.) PL involutions of fibered 3-manifolds. *Trans. Amer. Math. Soc*. **232** (1977), 221–237. (K. W. Kwun) **56** #13223 57A10 (55C35)

Kim, Pe. A. (*with* Narin'jani, A. S.) A simple example of a model of a walking automaton. (Russian) *Numerical mathematics and programming* (*Russian*), *pp*. 44–45. *Vyčisl. Centr Sibirsk. Otdel. Akad. Nauk SSSR*, *Novosibirsk*, 1974. (From the authors' text) **57** #2786 94A30

Kim, Pyŏng Pae On the monotony of the solution process in the continuous parameter method. (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no*. 4, 17–24. (Author's summary) **57** #18066 65H10

Kim, Sang Moon A table of elementary extended group. *Kyungpook Math. J*. **11** (1971), 117–121. (J. Lehner) **47** #461 30A58 (10D05)

Bers' duality of automorphic forms of extended Kleinian group. *Kyungpook Math. J*. **14** (1974), 1–6. (C. Earle) **50** #10241a 30A58

Dimension of automorphic forms of extended Kleinian group. *Kyungpook Math. J*. **14** (1974), 55–61. (C. Earle) **50** #10241b 30A58

A note on the Eichler cohomology of extended Kleinian group. *J. Korean Math. Soc*. **13** (1976), *no*. 1, 125–131. (I. Kra) **53** #11047 30A58

The exact Eichler cohomology sequence of extended Kleinian group. *J. Korean Math. Soc*. **13** (1976), *no*. 1, 133–139. (I. Kra) **53** #11048 30A58

Kim, Se Gŭn On solutions of integro-differential equation and differential equation (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no*. 1, 19–35. (Author's summary) **55** #6151 45J05

On the solutions of an integro-differential equation and a differential equation with delayed argument by the moment method. II. (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no*. 4, 28–37. (Author's summary) **58** #2100 45K05

On the solution of integro-differential equations with delayed argument by the moment method. III. (Korean. English summary) *Su-hak kwa Mul-li* **21** (1977), *no*. 2, 30–39. (Editors) **58** #12250 45J05

Kim, Shoon K. The asymptotic expansion of a hypergeometric function ${}_2F_2(1, \alpha; \rho_1, \rho_2;\ z)$. *Math. Comp*. **26** (1972), 963. **47** #2787 65D20 (33A30)

Kim, Sŏng Lyŏn A sufficient condition for the existence of a solution to a differential game. (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no*. 4, 11–13. (Author's summary) **57** #18861 90D40

Kim, Soon Kyu On low dimensional minimal sets. *Pacific J. Math*. **43** (1972), 171–174. (Herbert Abels) **47** #2577 54H20

Local triviality of fiberings. *Proc. Amer. Math. Soc*. **34** (1972), 546–552. (S. Y. Husseini) **45** #7712 55F05

(*with* Pak, Jing Yal) Isotropy subgroups of torus T^n-actions on $(n+2)$-manifolds. *Michigan Math. J*. **20** (1973), 353–359. (H. Scheerer) **49** #8046 57E15

(*with* McGavran, Dennis; Pak, Jing Yal) Torus group actions on simply connected manifolds. *Pacific J. Math*. **53** (1974), 435–444. (L. Lininger) **51** #4293 57E15

(*with* McGavran, Dennis; Pak, Jing Yal) The Nielsen numbers and fiberings. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp*. 263–275. *Academic Press*, *New York*, 1975. (E. Fadell) **50** #8508 55C20

(*with* Pak, Jing Yal) On the actions of SO(3) on lens spaces. I. *Fund. Math*. **92** (1976), *no*. 1, 13–16. (C. B. Thomas) **58** #7667a 57E25

(*with* McGavran, Dennis; Pak, Jing Yal) On the obstruction $\mathcal{P}(\mathfrak{F},\ )$ to the product theorems of fiber-preserving maps. *Indiana Univ. Math. J*. **25** (1976), *no*. 8, 725–732. (E. Fadell) **55** #6418 55C20

(*with* Pak, Jing Yal) On the actions of SO(3) on lens space. II. *Fund. Math*. **97** (1977), *no*. 2, 105–110. (C. B. Thomas) **58** #7667b 57E25

Kim, Sun Ho Extension of the jump formula to linear parabolic equations with variable coefficients. (Korean. English summary) *Su-hak kwa Mul-li* **15** (1971), *no*. 2, 5–12. (Editors) **55** #8558 35K35

Several properties of the potential integral of a system of linear parabolic equations in an unbounded domain. I, II. (Korean. English summary) *Su-hak kwa Mul-li* **16** (1972), *no*. 3, 4–19; *ibid*. **16** (1972), *no*. 4, 7–17. (Editors) **54** #8031 35K25

On the uniqueness of the solution of a mixed boundary value problem for Maxwell's equations in a region with several media. (Korean. English summary) *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-po* **24** (1976), *no*. 1, 4–7. (Author's summary) **55** #9723 78.35

Kim, Sung Ki Stone-Čech compactifications of infinite discrete spaces. *J. Korean Math. Soc*. **6** (1969), 37–40. (Glenn Brookshear) **48** #1171 54D40

On the Fourier-Laplace image of some classes of functions and distributions. *J. Korean Math. Soc*. **11** (1974), 25–28. (Z. Zielezny) **52** #14987 46F05

Kim, Taeboo The adjoint of a differential-boundary operator with an integral boundary condition on a semiaxis. *J. Math. Anal. Appl*. **44** (1973), 434–446. (R. R. D. Kemp) **48** #6534 34B25

Kim, Un Kyu Notes on submanifolds of codimension 2 in almost contact manifold. *Kyungpook Math. J*. **11** (1971), 65–70. (G. R. Jensen) **46** #811 53B35

On certain hypersurfaces with an (f, g, u, v, λ)-structure in a Sasakian manifold. *Kyungpook Math. J*. **11** (1971), 213–219. (T. Suguri) **46** #2604 53C25

A note on complex conformal connections. *J. Korean Math. Soc*. **11** (1974), 91–95. (K. Yano) **50** #8339 53B15

(*with* Eum, Sang Seup) Normal conditions on a hypersurface of a quaternionic Kaehlerian manifold. *J. Korean Math. Soc*. **13** (1976), *no*. 2, 167–178. (Raymond Couty) **57** #7447 53C15

Kim, V. B. A three-parameter manifold whose element consists of a cubic and a point. (Russian) *Trudy Kaliningrad. Gos. Univ. Differencial'naja Geometr. Mnogoobraz. Figur Vyp*. 4 (1974), 29–43. (M. Decuyper) **55** #8969 53A20

A manifold of cubics in projective space. (Russian) *Kaliningrad. Gos. Univ. Differencial'naja Geom. Mnogoobraz. Figur Vyp.* 7 (1976), 40–45, 151. (R. M. Geĭdel'man) **58** #24054 53A20

Kim, V. S. Differential geometry of smooth nonregular hypersurfaces. (Russian) *Geometry and topology, No.* 1 (*Russian*), *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (J. Szenthe) **54** #13821 53C70

The differential geometry of smooth nonregular surfaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 12(187), 29–38. (Author's introduction) **58** #30933 53C45

Kim, V. U. (*with* Bīlonosov, S. M.; Zahidov, N.) An application of G. Lauricella's method to the problem of the torsion of a solid of revolution in terms of the moment theory of elasticity. (Russian. English summary) *Linear boundary value problems of mathematical physics* (*Russian*), *pp.* 208–233. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Authors' summary) **50** #11923 73.35

Kim, W. J. On the extremal solutions of *n*th-order linear differential equations. *Proc. Amer. Math. Soc.* **33** (1972), 62–68. (A. Averna) **45** #3848 34C10

A relation satisfied by solutions of the adjoint equation. *Kyungpook Math. J.* **13** (1973), 127–131. (T. L. Sherman) **49** #697 34A30

On the first and the second conjugate points. *Pacific J. Math.* **56** (1975), *no.* 2, 557–564. (T. L. Sherman) **53** #946 34C10

Monotone and oscillatory solution of $y^{(n)}+py=0$. *Proc. Amer. Math. Soc.* **62** (1976), *no.* 1, 77–82 (1977). (C. A. Swanson) **54** #13213 34C10

Nonoscillatory solutions of a class of *n*th-order linear differential equations. *J. Differential Equations* **27** (1978), *no.* 1, 19–27. (K. Kreith) **57** #785 34C10

Kim, Wan H. (*with* Vahaviolos, Sotirios J.) A set theory approach algorithm for the direct synthesis of communication network graphs. *Proceedings of the Eighteenth Midwest Symposium on Circuits and Systems* (*Concordia Univ., Montreal, Que.*, 1975), *pp.* 504–509. *Western Periodicals, North Hollywood, Calif.*, 1975. (Authors' summary) **55** #7622 94A20

Kim, Wan Yong Conditions for the operator equation $Ax=\lambda Bx$ to have a discrete spectrum. (Korean. English summary) *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-po* **23** (1975), *no.* 5, 235–237. (From the author's summary) **55** #6208 47A10

A condition for a semi-bounded symmetric operator to have a discrete spectrum. (Korean. English summary) *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-po* **23** (1975), *no.* 6, 290–292. **58** #2415 47B25

Kim, Y. J. (*with* Merkes, E. P.) On an integral of powers of a spirallike function. *Kyungpook Math. J.* **12** (1972), 249–252. (W. C. Royster) **47** #8834 30A32

(*with* Merkes, E. P.) On certain convex sets in the space of locally schlicht functions. *Trans. Amer. Math. Soc.* **196** (1974), 217–224. (W. C. Royster) **50** #2474 30A32 (30A98)

Kim, Y. S. (*with* Noz, Marilyn E.) Covariant harmonic oscillators and the quark model. *Phys. Rev. D* (3) **8** (1973), 3521–3527. (Authors' summary) **50** #15681 81.35

Kim, Yewky Door topologies on an infinite set. *J. Korean Math. Soc.* **7** (1970), 49–53. (Joe A. Guthrie) **48** #9686 54G99

Kim, Yŏng In The solution of certain singular integral equations. (Korean summary) *Ulsan Inst. Tech. Rep.* **8** (1977), *no.* 1, 15–18. (R. C. MacCamy) **58** #6972 45E05

Kim, Yong-woon Topological ordered spaces. *J. Korean Math. Soc.* **8** (1971), 39–45. (D. C. Kent) **48** #3017 54F05

Kim, Young Soo (*with* Malik, Norbert R.; Jackson, G. L.) Theory and applications of resistor, linear controlled resistor, linear controlled conductor networks. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 4, 222–228. (András Recski) **56** #15192 94A20

Kim, Young Wook On mono-sources and initial sources in the category of τ-algebras. *Kyungpook Math. J.* **17** (1977), *no.* 1, 43–46. (G. H. Wenzel) **57** #396 18A05

Kimball, Ralph (*with* Rothkopf, Michael H.) Utterance classification confidence in automatic speech recognition. *IEEE Trans. Acoust. Speech Signal Processing* **ASSP-24** (1976), *no.* 2, 188–192. (F. W. Stallman) **53** #2068 68A45 (94A05)

Kimbell, L. J. *See* **Conference: Optimization Techniques**, **48** #5759

Kimbell, Larry J. A general equilibrium analysis of health-consumption externalities. *Appl. Math. Comput.* **2** (1976), *no.* 1, 41–62. (Charles R. Johnson) **52** #12724 90A15

Kimber, J. E. Generalizations of boundedness, compactness and the Tychonoff theorem. *General Topology and Appl.* **4** (1974), 285–295. (R. F. Dickman, Jr.) **50** #8440 54D30

Kimberley, Marion E. (*with* Piper, Fred C.) On transitive collineation groups containing involutions. *Bull. London Math. Soc.* **4** (1972), 39–42. (B. d'Orgeval) **46** #6155 50D30

On collineations of Hadamard designs. *J. London Math. Soc.* (2) **6** (1973), 713–724. (L. D. Baumert) **48** #121 05B05

Kimberling, Clark H. Emmy Noether. *Amer. Math. Monthly* **79** (1972), 136–149. (Editors) **45** #8494 (E **46** #1537) 01A70

Addendum: "Emmy Noether". *Amer. Math. Monthly* **79** (1972), 755. (Editors) **46** #1537 01A70

Two-dimensional complete monotonicity with diagonalization. *Amer. Math. Monthly* **80** (1973), 789–791. (M. E. Muldoon) **48** #8708 26A48 (44A10)

On a class of associative functions. *Publ. Math. Debrecen* **20** (1973), 21–39. (P. Javor) **48** #11829 39A15

Exchangeable events and completely monotonic sequences. *Rocky Mountain J. Math.* **3** (1973), *no.* 4, 565–574. (H. Bergström) **47** #9681 60C05

A probabilistic interpretation of complete monotonicity. *Aequationes Math.* **10** (1974), 152–164. (J. H. Kučkarov) **50** #5899 60E05

Some corollaries to an integral inequality. *Amer. Math. Monthly* **81** (1974), 269–270. (D. Boyd) **48** #8717 26A86

Some elementary number theoretic implications of the symmetric functions theorem. *Rocky Mountain J. Math.* **5** (1975), 283–290. (Robert M. McConnel) **52** #331 10M05

Divisibility properties of recurrent sequences. *Fibonacci Quart.* **14** (1976), *no.* 4, 369–376. (H. L. Abbott) **54** #10130 10A35

Kimbleton, Stephen R. State-dependent system residence times for time shared queues. *Management Sci.* **18** (1971/72), 1–6. (M. L. Chaudhry) **45** #6392 60K25 (90B99)

Kimchi, E. (*with* Richter-Dyn, Nira) An example of a nonpoised interpolation problem with a constant sign determinant. *J. Approximation Theory* **11** (1974), 361–36 A. Sharma) **50** #10607 41A05

(*with* Richter-Dyn, Nira) Best uniform approximation with Hermite-Birkhoff interpolatory side conditions. *J. Approximation Theory* **15** (1975), *no.* 2, 85–100. A. Roulier) **52** #8742 41A50

(*with* Richter-Dyn, Nira) Properties of best approximation with interpolator restricted range side conditions. *J. Approximation Theory* **15** (1975), *no.* 2, 101 (John A. Roulier) **52** #8743 41A50

(*with* Richter-Dyn, Nira) On the unicity in simultaneous approximation by algebraic polynomials. *J. Approximation Theory* **18** (1976), *no.* 4, 388–389. (Taylor) **54** #13382 41A10

(*with* Richter-Dyn, Nira) "Restricted derivatives" approximation to functions derivatives outside the range. *J. Math. Anal. Appl.* **54** (1976), *no.* 3, 786–798. (Ma v. Golitschek) **53** #13949 41A50

Chebyshev spaces of polynomials. *SIAM J. Numer. Anal.* **13** (1976), *no.* 1, 4 (A. Sharma) **55** #8612 41A05

(*with* Leviatan, Dany) On restricted best approximation to functions with rest derivatives. *SIAM J. Numer. Anal.* **13** (1976), *no.* 1, 51–53. (John A. Roulier) **53** #11264 41A10

Kime, Charles R. (*with* Russell, Jeffrey D.) Structural factors in the fault diagnos combinational networks. *IEEE Trans. Computers* **C-20** (171), 1276–1285. **55** #76 94A20

(*with* Batni, Ramachendra P.; Russell, Jeffrey D.) An efficient algorithm for finding an irredundant set cover. *J. Assoc. Comput. Mach.* **21** (1974), 351–355. (Itai) **56** #15433 05A05 (68A10)

(*with* Russell, Jeffrey D.) System fault diagnosis: closure and diagnosability repair. *IEEE Trans. Computers* **C-24** (1975), *no.* 11, 1078–1089. (Hermann Wa **52** #16897 94A20

(*with* Russell, Jeffrey D.) System fault diagnosis: masking, exposure, and diagnosability without repair. *IEEE Trans. Computers* **C-24** (1975), *no.* 12, 1155–1 (Authors' summary) **55** #14170 90B25 (94A20)

See also **Special issue: Fault-tolerant computing**, **54** #1693

Kime, Linda Almgren Allowable diagrams for purely inseparable field extensions. *Amer. Math. Soc.* **41** (1973), 389–393. (J.-P. Lafon) **49** #262 (EA **49**) 12F15

Purely inseparable, modular extensions of unbounded exponent. *Trans. A Math. Soc.* **176** (1973), 335–349. (H. Yokoi) **47** #192 12F20

Kimeldorf, George S. (*with* Wahba, Grace) Spline functions and stochastic proces *Sankhyā Ser. A* **32** (1970), 173–180. (E. Parzen) **46** #2731 60G25 (62M10)

(*with* Case, James) On Nash equilibrium points and games of imperfect information. *J. Optimization Theory Appl.* **9** (1972), 302–323. (Y. C. Ho) **45** #64 90D25

(*with* Hájek, Jaroslav) Regression designs in autoregressive stochastic proces Collection of articles dedicated to Jerzy Neyman on his 80th birthday. *Ann. Stati* (1974), 520–527. (A. Ja. Dorogovcev) **50** #8882 62M10 (62K05)

(*with* Smith, Furman H.) Discrete sequential search for one of many objects. *Statist.* **3** (1975), *no.* 4, 906–915. (Olavi Hellman) **51** #14938 90B40 (62L99)

(*with* Sampson, Allan R.) One-parameter families of bivariate distributions fixed marginals. *Comm. Statist.* **4** (1975), 293–301. (A. K. Md. Ehsanes Saleh) **51** #7084 62E10

(*with* Sampson, Allan R.) Uniform representations of bivariate distributions. *Comm. Statist.* **4** (1975), *no.* 7, 617–627. (Henry W. Block) **53** #1844 62H05

(*with* Lang, John Patrick) Duels with continuous firing. *Management Sci.* (1975/76), *no.* 4, 470–476. (Bert Fristedt) **53** #2397 90D05

(*with* Lang, John Patrick) Silent duels with nondiscrete firing. *SIAM J. Appl. M* **31** (1976), *no.* 1, 99–110. (Authors' summary) **55** #7430 90D05

(*with* Peele, Lawrence) Prediction functions and mean-estimation functions fo time series. *Ann. Statist.* **5** (1977), *no.* 4, 709–721. (Jiří Anděl) **55** #9461 62M20

(*with* Lang, John Patrick) Asymptotic properties of non-discrete duels. *J. A Probability* **14** (1977), *no.* 1, 153–161. (T. Parthasarathy) **58** #15247 90D25

(*with* Lang, John Patrick) Asymptotic properties of discrete duels. *J. Appl. Probability* **15** (1978). *no.* 2, 374–383. (G. Duru) **57** #18849 90D05

Kimel'fel'd, B. N. The approximation of a linear control object by a discrete finite-dimensional dynamic system. *Avtomat. i Telemeh.* **1971**, *no.* 4, 55–61 (*Russi English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 4, *part* 567–573. (S. F. Moon) **46** #6880 93C45

(*with* Dyn'kin, V. N.) Construction of nonbinary arithmetic codes that corr individual errors. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 1, 22–2 (Heinrich Seidel) **48** #13454 94A10

(*with* Alekseevskiĭ, D. V.) Structure of homogeneous Riemannian spaces with ze Ricci curvature. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 2, 5–11. (Kaneyuki) **53** #6466 53C30

Homogeneous domains on flag manifolds of rank 1. (Russian) *Dokl. Akad. Na SSSR* **229** (1976), *no.* 1, 23–26. (S. Kaneyuki) **54** #611 32M10

Open orbits of reductive groups on a complex quadric. (Russian. Georgian a English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 2, 305–308. (L. Popov) **53** #8079 14M15 (20G20)

(*with* Alekseevskiĭ, D. V.) Classification of homogeneous conformally flat Riemannian manifolds. (Russian) *Mat. Zametki* **24** (1978), *no.* 1, 103–110, 143. (Kowalski) **58** #18278 53C30 (53C25)

Kimelfeld, Benjamin *See* **Kedem, Benjamin**

Kim Ho Chew *See* **Chew, Kim Ho**

de grande-de Kimpe, Nicole *See* **De Grande-De Kimpe, Nicole**

Kimura, Fumihiko (*with* Hosaka, Mamoru; Kakishita, Naotake) A unified method fo processing polyhedra. *Information processing* 74 (*Proc. IFIP Congress, Stockholm*, 1974 *pp.* 768–772. *North-Holland, Amsterdam*, 1974. (Wolfgang Böhm) **53** #15013 68A45 (50–04)

Kimura, Hidenori Differential games of prescribed duration. *J. Optimization Theory App* **8** (1971), 431–440. (F. M. Kirillova) **46** #3081 90C25 (90D25)

Synthesis of self-oscillating system generating a prescribed periodic waveform. *Electron. Commun. Japan* **56** (1973), *no.* 4, 18–26. (A. de Castro Brzezicki) **52** #14473 34C15 (65L05)

Sequentially best estimators for linear systems with non-linear noise-free sensors. *ernat. J. Control* (1) **17** (1973), 145–160. (Author's summary) **56** #11380 93E10

An inverse problem for second order differential systems and waveform design. *AM J. Appl Math.* **26** (1974), 730–744. (H. Hochstadt) **49** #10969 34C15

Pole assignment by gain output feedback. *IEEE Trans. Automatic Control* **AC-20** 75), 509–516. (Editors) **51** #12366 93B15

A further result on the problem of pole assignment by output feedback. *IEEE ans. Automatic Control* **AC-22** (1977), *no.* 3, 458–463. (S. P. Bhattacharyya) **57** #5228 3B05

Geometric structure of observers for linear feedback control laws. *IEEE Trans. tomatic Control* **AC-22** (1977), *no.* 5, 846–855. (From the author's summary) #9171 93B05

On pole assignment by output feedback. *Internat. J. Control* **28** (1978), *no.* 1, 11–22. dward J. Davison) **58** #20660 93B05

, Hiroshi On some doubly transitive groups such that the stabilizer of two symbols cyclic. *J. Fac. Sci. Hokkaido Univ. Ser. I* **21** (1970/71), 153–165. (H. Kurzweil) #5208 20B20

On the classification of doubly transitive groups by means of the stabilizer of two ints. (Japanese) *Sûgaku* **23** (1971), *no.* 1, 27–33. **58** #28154 20B20

A remark on doubly transitive groups. *J. Fac. Sci Hokkaido Univ. Ser. I* **22** (1972), –24. (W. M. Kantor) **49** #393 20B20

A characterization of PSL(2, 11) and S_5. *J. Math. Soc. Japan* **24** (1972), 397–404. ary M. Seitz) **46** #3604 20B10

(*with* Nakagawa, Nobuo) On transitive permutation groups of degree $3p$ and $4p$. *okkaido Math. J.* **2** (1973), 55–59. (N. Ito) **47** #5090 20C30

On some doubly transitive groups of degree even such that a Sylow 2-subgroup of e stabilizer of any two points is cyclic. *J. Math. Kyoto Univ.* **13** (1973), 21–30. (P. ong) **47** #6817 20B10 (20D20)

A characterization of A_7 and M_{11}. I. *Hokkaido Math. J.* **3** (1974), 213–217. (David Mason) **50** #7304 20B10

A remark on 2-transitive groups of odd degree. *Hokkaido Math. J.* **3** (1974), 305. . A. Robinson) **50** #7302 20B05

A characterization of A_7 and M_{11}. II. *Hokkaido Math. J.* **4** (1975), 39–44. (David R. ason) **52** #10855a 20B10

A characterization of A_7 and M_{11}. III. *Hokkaido Math. J.* **4** (1975), *no.* 2, 273–277. avid R. Mason) **52** #10855b 20B10

A characterization of simple groups A_6 and A_7. *J. Algebra* **33** (1975), 161–169. eter M. Neumann) **54** #2770 20B10

(*with* Liu, Cai Pin) Polytropic gas bodies and the problem of stability. (Chinese. nglish summary) *Acta Astronom. Sinica* **19** (1978), *no.* 1, 66–80. (Authors' summary) #25830 85.35

On the Higman-Sims simple group of order 44,353,000. *J. Algebra* **52** (1978), *no.* 1, –93. (George Glauberman) **58** #874 20D05

a, Ikuo Categories of local dynamical systems. *Funkcial. Ekvac.* **16** (1973), 29–52. oger C. McCann) **48** #7236 54H20

On some simple analytic sets. Collection of articles dedicated to Tatsujiro Shimizu the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 95–100. homas Bloom) **53** #5927 32C25

a, Izumi Extensions of asynchronous circuits and the delay problem. II. Spike-free tensions and the delay problem of the second kind. *J. Comput. System Sci.* **5** (1971), 29–162. (Editors) **45** #6520 94A20

Space-continuous time-semicontinuous theory of speed-independent asynchronous rcuits. *Information and Control* **22** (1973), 373–393. (A. A. Mullin) **50** #9419 4A20

a, Izuru High temperature series expansion for anisotropic Heisenberg model. I. *ull. Fukuoka Univ. Ed. III* **27** (1977), 27–31. (Y. Kato) **57** #8788 82.47

a, M. *See* **Genetics and social structure**, **49** #10401

a, Masayuki (*with* Abe, Kenichi) A method for solving discrete decision problems. *ystems-Computers-Controls* **1** (1970), *no.* 1, 46–54. (S. K. Srinivasan) **45** #9673 0B99

(*with* Mizuno, Hisashi) Threshold functions and set of semi-boundary vectors. *ystems-Computers-Controls* **2** (1971), *no.* 6, 58–65. (E. G. Wagner) **51** #15217 4A20

(*with* Mizuno, Hisashi) Testing and realization of ternary threshold functions. *ystems-Computers-Controls* **3** (1972), *no.* 3, 37–46 (1973). (T. N. Bhargava) **49** #10455 94A20 (68A25)

(*with* Aso, Hirotomo) An application of Markov potential theory to Markovian ecision processes. *Internat. J. Systems Sci.* **4** (1973), 907–932. (R. S. Bucy) **48** #5710 93E20

(*with* Mizuno, Hisashi) Testing and realization of 2-threshold functions. *ystems-Computers-Controls* **4** (1973), *no.* 4, 54–61. (Not reviewed) 94A20

(*with* Aso, Hirotomo) On mathematical models of adaptive systems. *Internat. J. ystems Sci.* **5** (1974), 1029–1038. (K. S. Fu) **52** #12903 93C40 (94A35)

(*with* Maruoka, Akira) Completeness problem of one-dimensional binary scope-3 essellation automata. *J. Comput. System Sci.* **9** (1974), 31–47. (F. Gécseg) **50** #4163 4A30 (92A05)

(*with* Maruoka, Akira) Strong connectivenes of one-dimensional tessellation utomaton. *Systems-Computers-Controls* **5** (1974), *no.* 1, 85–94 (1975). (W. Wechler) 1 #9987 94A30

(*with* Aso, Hirotomo) On adaptive automata. *Systems-Computers-Controls* **5** (1974), o. 4, 45–53 (1975). (Fujio Nishida) **56** #8240 94A35

(*with* Maruoka, Akira) Condition for injectivity of global maps for tessellation utomata. *Proceedings of the International Symposium on Uniformly Structured Automata nd Logic (Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 40–42. *EEE Computer Soc., New York*, 1975. (Editors) **58** #9918 94A30

(*with* Mizuno, Hisashi) Generalized ternary threshold functions. *Systems-Computers-Controls* **6** (1975), *no.* 2, 79–87. (Tsunehiro Aibara) **56** #11598 4A20

(*with* Aso, Hirotomo) The structures of automata to adapt to an unknown nvironment. *IEEE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 7, 494–504. (K. S. Fu) **53** #15475 93C40 (94A30)

(*with* Maruoka, Akira) Condition for injectivity of global maps for tessellation automata. *Information and Control* **32** (1976), *no.* 2, 158–162. (Roland Vollmar) **54** #4866 94A30

(*with* Komota, Yasuo; Futatsugi, Kokichi) On Markov chains generated by Markovian controlled Markov systems. I. Ergodic properties. *Math. Biosci.* **32** (1976), *no.* 1-2, 81–106. (Authors' summary) **58** #31431 60J99

(*with* Hachimine, Gensuke) A method for the logical design of three-valued logic functions. *Systems-Computers-Controls* **7** (1976), *no.* 5, 82–90 (1977). (Tatsuo Higuchi) **58** #4667 94A20

(*with* Futatsugi, Kokichi) On comparative schematology based on operational equivalence. *Systems-Computers-Controls* **7** (1976), *no.* 5, 97–104 (1977). (From the summary) **58** #8439 68A05

(*with* Ejima, Toshiaki) Structural stability of linear space automata as models of generalized linear systems. *Electron. Comm. Japan* **60** (1977), *no.* 9, 40–48. (Authors' summary) **58** #33606 94A35 (68A25)

(*with* Maruoka, Akira) Decomposition phenomenon in one-dimensional scope-three tessellation automata with arbitrary number of states. *Information and Control* **34** (1977), *no.* 4, 296–313. (Albert Jugel) **56** #8233 94A30

(*with* Maruoka, Akira) Completeness problem of multidimensional tessellation automata. *Information and Control* **35** (1977), *no.* 1, 52–86. (Roland Vollmar) **56** #11654 94A30

(*with* Komota, Yasuo) A characterization of the class of structurally stable probabilistic automata. I. Discrete-time case. *Internat. J. Systems Sci.* **9** (1978), *no.* 4, 369–394. (Ludwig Arnold) **58** #9937a 94A35

(*with* Komota, Yasuo) A characterization of the class of structurally stable probabilistic automata. II. Continuous-time case. *Internat. J. Systems Sci.* **9** (1978), *no.* 4, 395–424. (Ludwig Arnold) **58** #9937b 94A35 (58F10)

Kimura, Miyoshi (*with* Kudô, Akio) On slippage tests. V. Monotonicity of power. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **28** (1974), 147–171. (M. S. Srivastava) **58** #24677c 62F05

(*with* Kakiuchi, Itsurô) On slippage rank tests. I. The derivation of optimal procedures. *Bull. Math. Statist.* **16** (1975), *no.* 3-4, 55–71. (H. E. Reinhardt) **53** #6872 62G10

(*with* Kakiuchi, Itsurô; Yanagawa, Takashi) On the monotonicity of the power functions of slippage tests. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 269–277. (S. K. Katti) **54** #3956 62G10

(*with* Kakiuchi, Itsurô; Yanagawa, Takashi) On slippage rank tests. II. Asymptotic relative efficiencies. *Bull. Math. Statist.* **17** (1976/77), *no.* 3-4, 1–13. (H. E. Reinhardt) **57** #4416 62G10

Kimura, Morishige (*with* Ikeda, Mineo) On quadratic first integrals of natural systems in classical mechanics. *Math. Japon.* **16** (1971), 159–171. (D. Lovelock) **46** #8094 53B20

(*with* Ikeda, Mineo) On quadratic first integrals in the general-relativistic Kepler problem. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor (N.S.)* **25** (1972), 395–404. (M. Carmeli) **48** #13123 83.35

On quadratic first integrals in static spherically symmetric space-times, having spacial parts of non-constant curvature. I. *Tensor (N.S.)* **30** (1976), *no.* 1, 27–43. (Nicholas M. J. Woodhouse) **54** #13995 58F05 (83.58)

On quadratic first integrals in static spherically symmetric space-times, having special parts of non-constant curvature. II. *Tensor (N.S.)* **31** (1977), *no.* 2, 187–193. (Nicholas M. J. Woodhouse) **57** #17712 58F05 (53C50, 83.53)

Kimura, Motoo (*with* Ohta, Tomoko) Linkage disequilibrium between two segregating nucleotide sites under the steady flux of mutations in a finite population. *Genetics* **68** (1971), *no.* 4, 571–580. (K. P. Hadeler) **53** #5052 92A15

(*with* Ohta, Tomoko) A model of mutation appropriate to estimate the number of electrophoretically detectable alleles in a finite population. *Genet. Res.* **22** (1973), *no.* 2, 201–204. (Authors' summary) **53** #10364 92A15 (92A10)

(*with* Maruyama, Takeo) Moments for sum of an arbitrary function of gene frequency along a stochastic path of gene frequency change. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), 1602–1604. (P. Tautu) **54** #9719 92A10

(*with* Ohta, Tomoko) Distribution of allelic frequencies in a finite population under stepwise production of neutral alleles. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), *no.* 7, 2761–2764. (P. Tautu) **53** #10365 92A15 (92A10)

See also **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9426

Kimura, Naoki (*with* Horn, Alfred) The category of semilattices. *Algebra Universalis* **1** (1971), *no.* 1, 26–38. (E. Gedeonová) **47** #6568 06A20

(*with* Tsai, Yen Shung) On power cancellative archimedian semigroups. *Proc. Japan Acad.* **48** (1972), 553–554. (T. E. Hall) **49** #2991 20M10

(*with* Hora, R. B.) Commutative semigroups of type (m,p,n,q). I. Monovariable cases. *Proc. Japan Acad.* **48** (1972), 555–560. (D. B. McAlister) **48** #452 20M10

(*with* Hora, R. B.) The direct sum of semigroups is of inner type. *Semigroup Forum* **11** (1975/76), *no.* 2, 95–101. (H. J. Weinert) **52** #8299 20M10

(*with* Anderson, James A.) Tensor product of commutative unions of groups. *Semigroup Forum* **16** (1978), *no.* 1, 105–107. (From the text) **57** #16414 20F25 (20M99)

Kimura, Shigenao (*with* Tominaga, Hisao) On a theorem of K. Baumgartner. *Proc. Japan Acad.* **47** (1971), 517–518. (H. H. Storrer) **45** #6854 16A40

Kimura, Shigeru (*with* Ishii, Tadashi) On the regularity of measures. *Bull. Fac. Ed. Utsunomiya Univ. No.* 19 (1969), *section* 2, 4–9. (J. C. Oxtoby) **51** #13172 28A10

On a function of Gol′dberg type. *Bull. Fac. Ed. Utsunomiya Univ. Sect.* 2, *No.* 19 (1969), 10–14. (M. Ohtsuka) **53** #3308 30A68

Locally tauberian theorems. *Bull. Fac. Ed. Utsunomiya Univ. No.* 20 (1970), *section* 2, 6–12. (A. Edrei) **46** #7512 30A70

On prime entire functions. *Kōdai Math. Sem. Rep.* **24** (1972), 28–33. (M. E. Noble) **46** #2058 30A66

On prime entire functions. II. *Kōdai Math. Sem. Rep.* **24** (1972), 277–280. (M. E. Noble) **47** #7028 30A66

(*with* Hiromi, Genkō) On pseudo-prime meromorphic functions. *Kōdai Math. Sem.*

Rep. **25** (1973), 406–411. (J. Clunie) **50** #10262 30A68

Meromorhic functions with almost radially distributed values. *Bull. Fac. Ed. Utsunomiya Univ. No.* 24 (1974), *no.* 2, 1–5. (I. N. Baker) **52** #5967 30A70 (30A20)

On the value distribution of entire functions of order less than one. *Kōdai Math. Sem. Rep.* **28** (1976/77), *no.* 1, 28–32. (Fred Gross) **55** #8354 30A64

Entire functions with almost radially distributed values. *Proc. Amer. Math. Soc.* **71** (1978), *no.* 1, 73–78. (L. R. Sons) **58** #6248 30A70

Kimura, Takayuki An algebraic system for process structuring and interprocess communication. *Eighth Annual ACM Symposium on Theory of Computing* (*Hershey, Pa.*, 1976), *pp.* 92–100. *Assoc. Comput. Mach., New York*, 1976. (Rüdiger Valk) **55** #6918 94A30 (68A05)

Kimura, Tatsuo (*with* Sato, Mikio) A classification of irreducible prehomogeneous vector spaces and their relative invariants. *Nagoya Math. J.* **65** (1977), 1–155. (A. L. Oniščik) **55** #3341 32M10 (20G05)

Kimura, Toshiei Divergence of axial-vector current in the gravitational field. II. Anomalous commutators and model theory. *Progr. Theoret. Phys.* **44** (1970), 1353–1370. (S. Deser) **46** #1250 81.47

On the quantization in non-linear theories. *Progr. Theoret. Phys.* **46** (1971), 1261–1277. (S. Deser) **46** #1258 81.53

On the Hamiltonian formalism for general Lagrangians with higher-order derivatives. *Lett. Nuovo Cimento* (2) **5** (1972), 81–85. (Benjamin Plybon) **53** #7180 70.35

(*with* Okamura, Hiroshi; Ohta, Tadayuki; Hiida, Kichiro) Einstein's theory of relativity and Mach's principle. *Progr. Theoret. Phys.* **54** (1975), *no.* 6, 1872–1878. (Helmuth K. Urbantke) **52** #16511 83.53

(*with* Okamura, Hiroshi; Ohta, Tadayuki; Hiida, Kichiro) Mechanics of a particle near the center of a rotating ring. *Ann. Physics* **100** (1976), *no.* 1–2, 408–424. (Authors' summary) **57** #11581 83.34

(*with* Ohta, Tadayuki; Okamura, Hiroshi; Hiida, Kichiro) Static gravitational potential and singular surface of the metric tensor for a two-body system in the time-symmetric approximation. (Italian and Russian summaries) *Nuovo Cimento B* (11) **32** (1976), *no.* 2, 251–266. (Authors' summary) **54** #4543 83.53

On the path integral in the curved space. *Progr. Theoret. Phys.* **58** (1977), *no.* 6, 1964–1972. (Author's summary) **57** #2335 81.53

(*with* Endo, Ryusuke) On the functional measure for quantum gravity in the light-cone gauge. *Progr. Theoret. Phys.* **59** (1978), *no.* 5, 1734–1745. (Mineo Ikeda) **58** #14917 83.53

Kimura, Tosihusa On Fuchsian differential equations reducible to hypergeometric equations by linear transformations. *Funkcial. Ekvac.* **13** (1970/71), 213–232. (J. A. Donaldson) **46** #429 34A25 (33A30)

On the Riemann problem on Riemann surfaces. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 219–228. *Lecture Notes in Math., Vol.* 243, *Springer-Verlag, Berlin*, 1971. (H. Röhrl) **54** #7797 30A88 (32L05)

On the iteration of analytic functions. *Funkcial. Ekvac.* **14** (1971), 197–238. (I. N. Baker) **46** #2019 30A20

On meromorphic solutions of the difference equation $y(x+1)=y(x)+1+(\lambda/y(x))$. *Symposium on Ordinary Differential Equations* (*Univ. Minnesota, Minneapolis, Minn.*, 1972; *dedicated to Hugh L. Turrittin*), *pp.* 74–86. *Lecture Notes in Math., Vol.* 312, *Springer, Berlin*, 1973. (J. H. Curtiss) **53** #3527 39A10 (30A20)

(*with* Hattori, Akio) On the Euler integral representations of hypergeometric functions in several variables. *J. Math. Soc. Japan* **26** (1974), 1–16. (E. J. Akutowicz) **49** #10904 32A25 (14C30, 33A30)

(*with* Sibuya, Yasutaka) Essential singular points of solutions of an algebraic differential equation. *J. Reine Angew. Math.* **272** (1974), 127–149. (R. Gérard) **51** #8508 34A20 (14B99, 57D30)

(*with* Sibuya, Yasutaka) On a method of solving the initial value problem for the wave equation. *Proc. Amer. Math. Soc.* **50** (1975), 205–215. (A. D. Solomon) **51** #6108 35C15 (35L05)

(*with* Hukuhara, Masuo; Iwano, Masahiro; Okubo, Kenjiro) Analytic theory of ordinary differential equations. *Recent Progr. Natur. Sci. Japan* **1** (1976), 1–55. (R. Gérard) **58** #6408 34–02 (34A20, 58A15)

Dedicated to Shigeru Furuya on his sixtieth birthday. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 254. (1 *plate*) (Editors) **56** #15330 01A70

Kimura, Yoshio (*with* Murata, Yasuo) Amendments to: "An alternative proof of the Frobenius theorem" (J. Econom. Theory **5** (1972), no. 2, 285–291). *J. Econom. Theory* **10** (1975), *no.* 1, 110–112. (Editors) **56** #12037b 15A48

On adjustment speed, complementarity and global stability. *Resource allocation and division of space* (*Proc. Internat. Sympos., Toba*, 1975), *pp.* 15–22. *Lecture Notes in Econom. and Math. Systems, Vol.* 147, *Springer, Berlin*, 1977. (Author's introduction) **58** #32880 90A15

The nullity of compact Kähler submanifolds in a complex projective space. *J. Math. Soc. Japan* **29** (1977), *no.* 3, 561–580. (S. Ramanan) **58** #2665 53C55 (32M15)

Kin, Eijun Skew products of dynamical systems. *Trans. Amer. Math. Soc.* **166** (1972), 27–43. (Karl Sigmund) **45** #5313 28A65 (60B99)

The general random ergodic theorem. I, II. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **22** (1972), 120–135, *ibid.* **22** (1972), 136–144. (E. M. Klimko) **46** #5575 28A65 (60G99)

Kinariwala, Bharat (*with* Bhat, Kabekode V. S.) The degree switching operation in graphs and its applications. *Proceedings of the Eighth Hawaii International Conference* (*Univ. Hawaii, Honolulu, Hawaii*, 1975), *pp.* 261–263. *Western Periodicals Co., North Hollywood, Calif.*, 1975. (W.-K. Chen) **50** #12460 94A20

(*with* Bhat, Kabekode V. S.) Theory of output set assignments and degree switching operations. *SIAM J. Comput.* **5** (1976), *no.* 4, 589–601. (W.-K. Chen) **56** #8198 94A20

(*with* Rao, Ambar G.) Flow switching approach to the maximum flow problem. I. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 4, 630–645. (Rainer Burkard) **56** #14624 90B10

Kinber, B. E. (*with* Tokatly, V. I.) Shortwave asymptotics of axisymmetric wave packets. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 761– (O. Vejvoda) **46** #526 35L05 (78.35)

(*with* Kotljar, A. B.) Use of symmetry in solving diffraction problems. *Radioteh. Èlektron.* **16** (1971), 473–482 (*Russian*); *translated as Radio Engrg. Electron. Phys.* (1971), 581–587. (Y. Hayashi) **50** #3776 78.35

(*with* Gazazjan, È. D.; Ivanjan, M. I.) The uniform short-wave asymptotics of parabolic antenna field. (Russian. Azerbaijani and English summaries) *Izv. Akad. N.- Armjan. SSR Ser. Fiz.* **13** (1978), *no.* 2, 87–95, 158. (Authors' summary) **58** #2539 78.35 (35C99)

Kinber, E. B. Frequency calculations of general recursive predicates and frequency enumeration of sets. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 23–25. (Stephen Bloom) **46** #3283 02F29

Frequency enumeration of sets. (Russian) *Algebra i Logika* **13** (1974), *no.* 398–419, 487. (Pavel Strnad) **52** #13354 02F43 (02F25, 68A20)

Frequency calculations on infinite samples. (Russian) *Latviĭsk. Gos. Univ. Uč Zap.* **210** *Teorija Algoritmov i Programm No.* 1 (1974), 48–67. (Zbl **335** #020 **58** #21512 02E10 (02F29, 68A20)

(*with* Bārzdiņš, J.; Podnieks, K. M.) The acceleration of the identification prediction of functions. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap.* **210** *Teorija Algoritmov i Programm No.* 1 (1974), 117–128. (Zbl **333** #02033) **58** #21523 02F (68A20)

Frequency calculations with a small number of errors. (Russian) *Latviĭsk. G Univ. Učen. Zap.* **210** *Teorija Algoritmov i Programm No.* 1 (1974), 206–213. (Zbl 3 #02021) **58** #21524 02F20 (68A20)

Identification in the limit of almost minimal Gödel numbers. (Russian) *Latvii. Gos. Univ. Učen. Zap.* **210** *Teorija Algoritmov i Programm No.* 1 (1974), 221–223. (Z **335** #02022) **58** #21525 02F20

Comparison of identification in the limit and standardization in the limit numbers of generally recursive functions. (Russian. English summary) Theory algorithms and programs, II. *Latvijas Valsts Univ. Zinātņ. Raksti* **233** (1975), 45–56, 2 (Author's summary) **58** #3624 68A05

Frequency computations in real time. (Russian. English summary) Theory algorithms and programs, II. *Latvijas Valsts Univ. Zinatn. Raksti* **233** (1975), 174–1 208. (Author's summary) **58** #3679 68A20

Frequency calculations on finite automata. (Russian. English summary inser *Kibernetika* (*Kiev*) **1976**, *no.* 2, 7–15. **57** #19174 94A30

On a theory of inductive inference. *Fundamentals of computation theory* (*Pr Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 435–440. *Lecture Notes in Comput. Sci., V* 56, *Springer, Berlin*, 1977. (John P. Helm) **58** #16220 02F20

(*with* Freĭvalds, R.) Identification in the limit of minimal Gödel numbers. (Russia English summary) *Theory of algorithms and programs, No.* 3 (*Russian*), *pp.* 3–34, 1 *Latviĭsk. Gos. Univ., Riga*, 1977. (Robert P. Daley) **58** #16218 02F20

Identification in the limit of minimal numbers for functions belonging to effective enumerable classes. (Russian. English summary) *Theory of algorithms and programs,* 3 (*Russian*), *pp.* 35–56, 153. *Latviĭsk. Gos. Univ., Riga*, 1977. (Robert P. Dale **58** #16219 02F20

On the speed-up of the identification of recursive functions in the limit by varyi the order of the questions. (Russian. English and German summaries) *Elektro Informationsverarbeit. Kybernetik* **13** (1977), *no.* 7-8, 369–383. (M. I. Dehtjar′) **56** #15383 02F20 (68A20)

Turing degrees of hypersimple Post sets. (Russian) *Latviĭsk. Mat. Ežegodnik Vy* 21 (1977), 164–170, 237. (Author's summary) **58** #10361 02F25

On btt-degrees of sets of minimal numbers in Gödel numberings. *Z. Math. Log Grundlagen Math.* **23** (1977), *no.* 3, 201–212. (G. N. Kobzev) **58** #21545 02F30

Kincaid, David R. Norms of the successive overrelaxation method. *Math. Comp.* **26** (1972 345–357. (D. M. Young, Jr.) **46** #10185 65F10

(*with* Young, David M.) The modified successive overrelaxation method with fixe parameters. *Math. Comp.* **26** (1972), 705–717. (Amnon Barak) **48** #10078 65F10

A class of norms of iterative methods for solving systems of linear equations *Numer. Math.* **20** (1972/73), 392–408. (L. Hageman) **49** #6594 65F35

On complex second-degree iterative methods. *SIAM J. Numer. Anal.* **11** (1974 211–218. (W. Niethammer) **49** #8302 65F10

Kinch, D. (*with* Geissinger, Ladnor) Representations of the hyperoctahedral groups. *Algebra* **53** (1978), *no.* 1, 1–20. (P. M. van den Broek) **58** #11092 20C15

Kinch, L. (*with* Eberhart, Carl; Williams, W.) Idempotent-generated regular semigroups. *J. Austral. Math. Soc.* **15** (1973), 27–34. (M. Yamada) **47** #8724 20M10

Kincl, J. (*with* Marek, Ivo) Relaxation length, and nonnegative solutions in neutro transport theory. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 2, 297–299. (M Drăganu) **54** #2046 82.45

Kind, Bernd Einbettungen in konvexe Hyperflächen des R^n. *Arch. Math.* (*Basel*) 2 (1973), 188–194. (Z. Nádeník) **47** #5796 53C45 (52A20)

Höhere Ableitungen konvexer Funktionen. *Arch. Math.* (*Basel*) **27** (1976), *no.* 299–305. (H. H. Keller) **53** #14120 46G05 (26A51)

(*with* Kleinschmidt, Peter) On the maximal volume of convex bodies with fe vertices. *J. Combinatorial Theory Ser. A* **21** (1976), *no.* 1, 124–128. (P. R. Goodey **53** #11500 52A40

Kindalev, B. S. Numerical solution of a fourth order parabolic equation with the use o cubic splines. (Russian) *Vyčisl. Sistemy Vyp.* 65 *Metody Splaĭn-Funkciĭ* (1975), 152–159 165. (Murli M. Gupta) **57** #14482 65M05

(*with* Luk′janova, R. G.; Fadeev, S. I.; Švedova, K. V.) On the calculation of the equilibrium of elastic constructions that are used in the electromechanics of magnetic tapes. (Russian) *Vyčisl. Sistemy Vyp.* 66 (1975), 33–60, 139–140. **56** #14010 73.65

van de wauw-de Kinder, Godelieve *See* **Van de Wauw-de Kinder, Godelieve**

Kinder, H. P. Zur exponentiellen Konvergenzgeschwindigkeit der Fehlerwahrscheinlichkeiten 2. Art bei einigen Tests im Zweistichprobenfall. (English and French summaries) *Math. Operationsforsch. Statist.* **6** (1975), *no.* 2, 239–252. (G. E Noether) **53** #9497 62G10

Kinder, Henner Gewinnstrategien des Anziehenden in einigen Spielen auf Graphen. *Arch. Math.* (*Basel*) **24** (1973), 332–336. (R. K. Guy) **49** #10391 90D99

Kinderlehrer, David Variational inequalities with lower dimensional obstacles. *Israel J.*

th. **10** (1971), 339–348. (M. Biroli) **46** #4129 45G99 (49F10)

The regularity of minimal surfaces defined over slit domains. *Pacific J. Math.* **37** 71), 109–117. (R. Osserman) **46** #4384 53A10

How a minimal surface leaves an obstacle. *Bull. Amer. Math. Soc.* **78** (1972), –970. (H. Beckert) **46** #5863 35Q99 (49A20)

Some open questions about variational inequalities. Proceedings of the ernational Symposium on Partial Differential Equations and the Geometry of rmed Linear Spaces (Jerusalem, 1972). *Israel J. Math.* **13** (1972), 149–154 (1973). (A. sa) **49** #1308 49F99

The analyticity of the coincidence set in variational inequalities. *Geometric measure ory and minimal surfaces* (*C.I.M.E., III Ciclo, Varenna*, 1972), *pp.* 173–187. *Edizioni emonese, Rome*, 1973. (Hugo Beirão da Veiga) **53** #14287 49F10

The regularity of the solution to a certain variational inequality. *Partial differential uations* (*Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif.*, 71), *pp.* 353–363. *Amer. Math. Soc., Providence, R.I.*, 1973. (F. J. Almgren, Jr.) #9058 49F10 (35J20)

How a minimal surface leaves an obstacle. *Acta Math.* **130** (1973), 221–242. (M. roli) **54** #8014 35J60 (49F10)

(*with* Brézis, Haïm) Inéquations variationnelles associées à des opérateurs ptiques non linéaires. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A209–A210. (H. ckert) **48** #6655 35J20

(*with* Brézis, Haïm) The smoothness of solutions to nonlinear variational equalities. *Indiana Univ. Math. J.* **23** (1973/74), 831–844. (J. Frehse) **50** #13881 J99 (35D10)

Remarks about the free boundaries occurring in variational inequalities. *New riational techniques in mathematical physics* (*Centro Internaz. Mat. Estivo* (*C.I.M.E.*), *Ciclo, Bressanone*, 1973), *pp.* 103–119. *Edizioni Cremonese, Rome*, 1974. (Author's troduction) **58** #7288 49B20

Some questions related to the coincidence set in variational inequalities. *Symposia athematica, Vol. XIV* (*Convegno di Teoria Geometrica dell'Integrazione e Varietà inimali, INDAM, Rome*, 1973), *pp.* 457–464. *Academic Press, London*, 1974. (H. eckert) **58** #30680 49F10

(*with* Friedman, Avner) A one phase Stefan problem. *Indiana Univ. Math. J.* **24** 974/75), *no.* 11, 1005–1035. (M. Biroli) **52** #6190 35K55

Elliptic variational inequalities. *Proceedings of the International Congress of athematicians* (*Vancouver, B.C.*, 1974), *Vol.* 2, *pp.* 269–273. *Canad. Math. Congress, ontreal, Que.*, 1975. (E. Giusti) **57** #3628 35J60 (35J67)

(*with* Stampacchia, Guido) A free boundary value problem in potential theory. rench summary) Collection of articles dedicated to Marcel Brelot on the occasion of s 70th birthday. *Ann. Inst. Fourier* (*Grenoble*) **25** (1975), *no.* 3-4, xvii, 323–344. uthors' summary) **58** #22609 31A25 (35J05)

The free boundary determined by the solution to a differential equation. *Indiana niv. Math. J.* **25** (1976), *no.* 2, 195–208. (Gianfranco Bottaro) **52** #14615 35J20

(*with* Friedman, Avner) A class of parabolic quasi-variational inequalities. *J. ifferential Equations* **21** (1976), *no.* 2, 395–416. (Oscar Montaldo) **54** #3160 35K10 9A20)

(*with* Nirenberg, L.) Regularity in free boundary problems. *Ann. Scuola Norm. Sup. isa Cl. Sci.* (4) **4** (1977), *no.* 2, 373–391. (A. Friedman) **55** #13066 35J25

(*with* Nirenberg, L.) Hodograph methods and the smoothness of the free boundary the one phase Stefan problem. *Moving boundary problems* (*Proc. Sympos. and orkshop, Gatlinburg, Tenn.*, 1977), *pp.* 57–69. *Academic Press, New York*, 1978. larence M. Ablow) **58** #1636 35K05

(*with* Spruck, Joel) The shape and smoothness of stable plasma configurations. *nn. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **5** (1978), *no.* 1, 131–148. (A. Elcrat) **58** #1627 35J99

Variational inequalities and free boundary problems. *Bull. Amer. Math. Soc.* **84** 978), *no.* 1, 7–26. (Antonino Maugeri) **57** #6759 35–02 (35K99, 49–02)

(*with* Nirenberg, L.) Analyticity at the boundary of solutions of nonlinear econd-order parabolic equations. *Comm. Pure Appl. Math.* **31** (1978), *no.* 3, 283–338. acques Robert) **57** #888 35K60

erman, Albert J. (*with* Das Gupta, Somesh) Classifiability and designs for sampling. *ankhyā Ser. A* **36** (1974), *no.* 3, 237–250. (Peter A. Lachenbruch) **52** #7020 62H30

On the distribution of the deviations from the mean. *Sankhyā Ser. B* **36** (1974), *no.* , 209–211. (Ramesh C. Srivastava) **53** #14792 62H10

(*with* Basu, J. P.; Odell, Patrick L.; Lewis, Truman O.) On independence of sample ean and translation invariant statistics of samples from multivariate normal opulations. *J. Amer. Statist. Assoc.* **70** (1975), 480–481. (Authors' summary) **51** #7151 62H15

(*with* Monahan, J. F.; Ramage, J. G.) Computer methods for sampling from tudent's *t* distribution. *Math. Comp.* **31** (1977), *no.* 140, 1009–1018. (James E. Gentle) **6** #1664 65C10

ermann, Margarete (*with* Herrmann, Christian; Wille, Rudolf) On modular lattices enerated by 1+2+2. *Algebra Universalis* **5** (1975), *no.* 2, 243–251. (Ann Miller) **2** #10526 06A30

ler, Evžen On the way to a mathematical theory of simulation. (German and Russian ummaries) *Elektron. Informationsverarbeit. Kybernetik* **12** (1976), *no.* 10, 497–504. Hannah Chen) **55** #1884 68A55

Mathematical theory of static systems. *Kybernetika* (*Prague*) **13** (1977), *no.* 3, 76–189. (I. Mezník) **58** #3791 68A55

ler, Heinrich *See* **Proceedings: IFAC World Congress, 50** #12339

ler, Jürgen ★Definitheitskriterien für nichtstationäre stochastische Spiele. Zur rlangung des akademischen Grades eines Doktors der Naturwissenschaften von der akultät für Mathematik der Universität Karlsruhe genehmigte Dissertation. *Universität arlsruhe, Karlsruhe*, 1971. vii+57 *pp.* (Jaap Wessels) **52** #7568 90D15 (90D05)

Spiele mit abzählbarem Baum. *Siebente Oberwolfach-Tagung über Operations esearch* (1974), *pp.* 141–154. *Operations Research Verfahren, Band XXI, Hain, eisenheim am Glan*, 1975. (Jaap Wessels) **56** #4873 90D15

Unendliche Spiele mit definiten 2×2-Teilspielen. *Arch. Math.* (*Basel*) **26** (1975), *no.* , 670–672. (Y. I. Kannai) **53** #2396 90D05

Über ein Minimaxtheorem von Yong. (English and French summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 3, 477–480. (Norbert Schmitz) **56** #14766 90D10

Schwach definite Spiele. (English and French summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 2, 199–205. (Y. I. Kannai) **57** #2593 90D05

King, A. R. (*with* Ellis, G. F. R.) Tilted homogeneous cosmological models. *Comm. Math. Phys.* **31** (1973), 209–242. (R. C. Gilbert) **50** #3867 83.53

(*with* Ellis, G. F. R.) Was the big bang a whimper? *Comm. Math. Phys.* **38** (1974), 119–156. (C. Gilbert) **51** #14868 83.53

New types of singularity in general relativity: the general cylindrically symmetric stationary dust solution. *Comm. Math. Phys.* **38** (1974), 157–171. (C. Gilbert) **51** #14870 83.53

Generalized shear-free singularities. *General Relativity and Gravitation* **5** (1974), *no.* 4, 371–377. (A. H. Taub) **53** #12479 83.53

Instability of intermediate singularities in general relativity. *Phys. Rev. D* (3) **11** (1975), 763–767. (Author's summary) **53** #12446 83.35

(*with* Hawking, Stephen W.; McCarthy, Patrick J.) A new topology for curved space-time which incorporates the causal, differential, and conformal structures. *J. Mathematical Phys.* **17** (1976), *no.* 2, 174–181. (S. Nanda) **52** #16528 83.57

Black-hole magnetostatics. *Math. Proc. Cambridge Philos. Soc.* **81** (1977), *no.* 1, 149–156. (Petr Hájíček) **54** #12110 83.35

King, Amy C. (*with* Shah, Swarupchand M.) Indices of Lindelöf functions and their derivatives. *Rocky Mountain J. Math.* **2** (1972), *no.* 4, 579–593. (Günter Frank) **46** #9345 30A64

See also **Women and mathematics, 58** #26676

King, B. J. (*with* Van Buren, A. L.) A general addition theorem for spheroidal wave functions. *SIAM J. Math. Anal.* **4** (1973), 149–160. (J. Meixner) **48** #6501 33A55

King, Benjamin (*with* Kaufman, G. M.) A Bayesian analysis of nonresponse in dichotomous processes. *J. Amer. Statist. Assoc.* **68** (1973), 670–678. (D. V. Lindley) **50** #11573 62D05

King, Bruce W. Presentations of metacyclic groups. *Bull. Austral. Math. Soc.* **8** (1973), 103–131. (W. Moser) **48** #2246 20D15

A polynomial with generalized Fibonacci coefficients. *Fibonacci Quart.* **11** (1973), *no.* 5, 527–532. (I. Niven) **48** #10965 10A35

Normal subgroups of groups of prime-power order. *Proceedings of the Second International Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), *pp.* 401–408. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin*, 1974. (R. M. Bryant) **51** #5754 20D15

King, Charles E. *See* **Demographic genetics, 52** #10091

King, Chen F. A note on Drazin inverses. *Pacific J. Math.* **70** (1977), *no.* 2, 383–390. (C. R. Putnam) **58** #2418 47B30 (47A05)

King, Clarence (*with* Harary, Frank; Mowshowitz, Abbe; Read, Ronald C.) Cospectral graphs and digraphs. *Bull. London Math. Soc.* **3** (1971), 321–328. (R. A. Brualdi) **45** #3249 05C20

A graph-theoretic programming language. *Graph theory and computing*, *pp.* 63–75. *Academic Press, New York*, 1972. (Narsingh Deo) **50** #1982 05C99 (68A10)

King, D. J. E. An analysis of coding based on the binary symmetric channel. *ATR—Austral. Telecommun. Res.* **4** (1970), *no.* 2, 43–52. (Toby Berger) **49** #10439 94A10

King, David A. (*with* Gingerich, Owen; Saliba, George A.) The 'Abd al-A'imma astrolabe forgeries. *J. Hist. Astronom.* **3** (1972), *no.* 3, 188–198. (Bruno Poizat) **58** #15838 01A30

Ibn Yunus' very useful tables for reckoning time by the sun. *Arch. History Exact Sci.* **10** (1973), *no.* 3-5, 342–394. (J. Vernet) **56** #5134 01A30

A double-argument table for the lunar equation attributed to Ibn Yūnus. *Centaurus* **18** (1973/74), 129–146. (From the introduction) **58** #44 01A30

al-Khalīlī's auxiliary tables for solving problems of spherical astronomy. *J. Hist. Astronom.* **4** (1973), *no.* 2, 99–110. (Author's review (Zbl **274** #01009)) **58** #21050 01A30

An analog computer for solving problems of spherical astronomy: the "shakkāzīya" quadrant of Jamāal al-Dīn al-Māridīnī. (Russian summary) *Arch. Internat. Hist. Sci.* **24** (1974), *no.* 95, 219–242. (E. S. Kennedy) **56** #44 01A30 (01A35)

On medieval Islamic multiplication tables. (Arabic and Spanish summaries) *Historia Math.* **1** (1974), 317–323. (Y. Dold) **58** #4810 01A30

(*with* Janin, Louis) Ibn al-Shāṭir's ṣandūq al-yawāqīt: an astronomical "compendium". (Arabic summary) *J. Hist. Arabic Sci.* **1** (1977), *no.* 2, 187–256. (19 *plates*) (E. S. Kennedy) **58** #26745 01A30

King, Ellen L. (*with* Hoggatt, Verner E., Jr.; Bicknell-Johnson, Marjorie) Fibonacci and Lucas triangles. *Fibonacci Quart.* **10** (1972), *no.* 5, 555–560. (H. Gupta) **46** #8953 10A35

King, G. M. The anisotropic harmonic oscillator group. *Proc. Cambridge Philos. Soc.* **75** (1974), 235–248. (L. O'Raifeartaigh) **49** #8534 81.22

A constructive approach to Cartier's theorem. *Quart. J. Math. Oxford Ser.* (2) **25** (1974), 341–349. (G. W. Mackey) **51** #805 22E45 (22E25)

King, Harry F. (*with* Dupuis, Michel; Rys, John) Evaluation of molecular integrals over Gaussian basis functions. *J. Chem. Phys.* **65** (1976), *no.* 1, 111–116. (Authors' summary) **57** #2349 81.65

(*with* Dupuis, Michel) Numerical integration using Rys polynomials. *J. Computational Phys.* **21** (1976), *no.* 2, 144–165. (Authors' summary) **57** #14344 65D30

King, Henry C. Real analytic germs and their varieties at isolated singularities. *Invent. Math.* **37** (1976), *no.* 3, 193–199. (Margherita Galbiati) **54** #13114 32C05 (32B10)

Approximating submanifolds of real projective space by varieties. *Topology* **15** (1976), *no.* 1, 81–85. (P. Orlik) **53** #435 14E25 (32C05, 57D15)

(*with* Akbulut, Selman) Real algebraic variety structures on P. L. manifolds. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 2, 281–282. (Louis H. Kauffman) **55** #13434 57C25 (32C05)

The number of critical points in Morse approximations. *Compositio Math.* **34** (1977), *no.* 3, 285–288. (C. G. Gibson) **56** #1330 57D70

Topological type of isolated critical points. *Ann. Math.* (2) **107** (1978), *no.* 2, 385–397. (Richard Randell) **58** #13081 57D45

King, Henry C. Instrumentation of the nineteenth and early twentieth centuries. The origins, achievement and influence of the Royal Observatory, Greenwich: 1675–1975 (Proc. 4th Joint Sympos. Internat. Astronom. Union and Union. Internat. Histoire et Philos. Sci., Greenwich, 1975). *Vistas Astronom.* **20** (1976), *no.* 1-2, 157–163. (Editors) **58** #15954 01A55

King, I. P. *See* **Sparse matrices and their applications, 48** #10075

King, Ivan R. *See* **Copernicus and modern dynamical astronomy, 48** #10246

King, J. P. Probability and positive linear operators. *Rev. Roumaine Math. Pures Appl.* **20** (1975), 325–327. (B. Wood) **51** #8693 41A35

King, J. R. *See* **King, John R.**

King, J. Thomas The approximate solution of parabolic initial boundary value problems by weighted least-squares methods. *SIAM J. Numer. Anal.* **9** (1972), 215–229. (R. Ansorge) **46** #4756 65N99

(*with* Groetsch, C. W.) The Bernstein polynomials and finite differences. *Math. Mag.* **46** (1973), 280–282. (H. J. Biesterfeldt, Jr.) **48** #4578 41A10

Extrapolation in the finite element method with penalty. *Constructive and computational methods for differential and integral equations (Sympos., Indiana Univ., Bloomington, Ind.*, 1974), *pp.* 261–270. *Lecture Notes in Math., Vol.* 430, *Springer, Berlin*, 1974. (Editors) **58** #19229 65N30

Semidiscrete least-squares methods for second order parabolic problems with nonhomogenous data. *Math. Comp.* **28** (1974), 405–411. (P. Gordon) **51** #9523 65N30

New error bounds for the penalty method and extrapolation. *Numer. Math.* **23** (1974), 153–165. (Stephen Hilbert) **53** #4572 65N15

A quasioptimal finite element method for elliptic interface problems. (German summary) *Computing* **15** (1975), *no.* 2, 127–135. (T. Styś) **53** #9677 65N30

Semidiscrete perturbed variational methods for the numerical solution of parabolic boundary value problems. *SIAM J. Numer. Anal.* **12** (1975), 59–72. (Murli M. Gupta) **52** #16050 65M15

(*with* Serbin, Steven M.) Boundary flux estimates for elliptic problems by the perturbed variational method. (German summary) *Computing* **16** (1976), *no.* 4, 339–347. (I. Aganović) **54** #6524 65N99

(*with* Falk, Richard S.) A penalty and extrapolation method for the stationary Stokes equations. *SIAM J. Numer. Anal.* **13** (1976), *no.* 5, 814–829. (Stephen Hilbert) **57** #11116 65N35

King, Jack Lester *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability, 52** #9426

King, James C. A program verifier. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems, pp.* 234–249. *North-Holland, Amsterdam*, 1972. (È. Orlovskiĭ) **55** #4594 65A05

(*with* Floyd, Robert W.) An interpretation-oriented theorem prover over integers. *J. Comput. System Sci.* **6** (1972), 305–323. (G. E. Minc) **46** #4805 68A40

Symbolic execution and program testing. *Comm. ACM* **19** (1976), *no.* 7, 385–394. (P. W. Baker) **54** #6541 68A05

(*with* Hantler, Sidney L.) An introduction to proving the correctness of programs. *Comput. Surveys* **8** (1976), *no.* 3, 331–353. (From the summary) **58** #13851 68A05

King, James R. The currents defined by analytic varieties. *Acta Math.* **127** (1971), *no.* 3-4, 185–220. (B. Shiffman) **52** #14359 32C30

(*with* Harvey, Reese) On the structure of positive currents. *Invent. Math.* **15** (1972), 47–52. (H. H. Johnson) **45** #5409 32H99 (58A25)

(*with* Griffiths, Phillip) Nevanlinna theory and holomorphic mappings between algebraic varieties. *Acta Math.* **130** (1973), 145–220. (W. Thimm) **55** #721 32H25 (14C30)

Refined residues, Chern forms, and intersections. *Value distribution theory (Proc. Tulane Univ. Program, Tulane Univ., New Orleans, La.*, 1972-1973), *Part A, pp.* 169–190. *Dekker, New York*, 1974. (J. Carlson) **50** #7565 32A25 (14C15, 32C25)

Global residues and intersections on a complex manifold. *Trans. Amer. Math. Soc.* **192** (1974), 163–199. (W. Barth) **49** #3198 32C30

Residues and Chern classes. *Differential geometry (Proc. Sympos. Pure Math., Vol. XXVII, Part* 2, *Stanford Univ., Stanford, Calif.*, 1973), *pp.* 91–97. *Amer. Math. Soc., Providence, R. I.*, 1975. (M. Herrera) **53** #856 32C30

King, Jean I. F. Schrödinger equation and quantum state codons in discrete transform space. *J. Mathematical Phys.* **15** (1974), 1849–1851. (Z. Janković) **50** #6352 81.44

King, John R. ★Production planning and control. An introduction to quantitative methods. Omega Management Science. Pergamon International Library of Science, Technology, Engineering and Social Studies. *Pergamon Press, Oxford-New York-Toronto, Ont.*, 1975. vii + 403 *pp.* (From the preface) **57** #18792 90B30

King, Larry Types of isomorphisms of transformation groups. *Math. Systems Theory* **5** (1971), 376–382. (Gustav A. Hedlund) **52** #1655 54H20

Actions of a noncompact semigroup with zero. *Semigroup Forum* **4** (1972), 224–231. (J. G. Horne) **46** #290 22A20

R-isomorphisms of transformation groups and prolongations. *Canad. J. Math.* **25** (1973), 338–344. (N. G. Markley) **51** #1786 54H15

(*with* Hanson, T. H. McH.) Noncompact semigroup actions. Collection of articles dedicated to Alfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander Doniphan Wallace on the occasion of his 68th birthday. *Semigroup Forum* **7** (1974), *no.* 1-4, 58–73. (J. M. Day) **52** #14137 22A15

King, Lucy Lam *See* **Some mathematical questions in biology, 48** #1732

King, M. L. (*with* Giles, D. E. A.) A note on Wallis' bounds test and negative autocorrelation. *Econometrica* **45** (1977), *no.* 4, 1023–1026. (H. Toutenburg) **56** #13483 62M10

King, Paul L. Metrics with values in endomorphisms of a fibre bundle. *J. Differential Geometry* **11** (1976), *no.* 1, 65–89. (Paul E. Ehrlich) **53** #9070 53C05 (53C10, 58H05)

On local combinatorial Pontrjagin numbers. I. *Topology* **16** (1977), *no.* 1, 99–105. (D. B. Fuks) **55** #11265 57D20

King, Peter R. *See* **Proceedings: Manitoba Conference on Numerical Mathematics, 48** #10034

King, R. B. Symmetry factoring of the characteristic equations of graphs corresponding to polyhedra. *Theoret. Chim. Acta* **44** (1977), *no.* 3, 223–243. (Author's summary) **58** #21850 05C99 (52A25)

King, R. C. (*with* Abramsky, Y. J.; Jahn, H. A.) Frobenius symbols and the group GL(n), O(n) and Sp(n). *Canad. J. Math.* **25** (1973), 941–959. (J. S. Frame) **48** #41 20G05

(*with* Butler, P. H.) The symmetric group: characters, products and plethysms *Mathematical Phys.* **14** (1973), 1176–1183. (Virendra Singh) **48** #3382 81.22

Branching rules using tensor methods. *Group theoretical methods in physics* (*Third Internat. Colloq., Centre Phys. Théor., Marseille*, 1974), *Vol.* 2, *pp.* 400–408. *C Nat. Recherche Sci., Centre Phys. Théor., Marseille*, 1974. (Jiří Patera) **58** #8 17B10 (22E70)

(*with* Butler, P. H.) Symmetrized Kronecker products of group representati *Canad. J. Math.* **26** (1974), 328–339. (Anthony Joseph) **49** #3051 22E70 (20 81.22)

Branching rules for $\mathrm{GL}(N)\supset_m$ and the evaluation of inner plethysms. *J. Mathematical Phys.* **15** (1974), 258–267. (Virendra Singh) **48** #10331 81.20

Branching rules for classical Lie groups using tensor and spinor methods. *J. Phy* **8** (1975), 429–449. (Author's summary) **53** #15136 81.22

Generalised Vandermonde determinants and Schur functions. *Proc. Amer. M Soc.* **48** (1975), 53–56. (M. Shafqat Ali) **51** #8136 15A15

Spinor representations. *Group theoretical methods in physics (Fourth Internat. Colloq., Nijmegen*, 1975), *pp.* 481–489. *Lecture Notes in Phys., Vol.* 50, *Springer, Be* 1976. (R. Mirman) **58** #1043 22E70

Weight multiplicities for the classical groups. *Group theoretical methods in phy (Fourth Internat. Colloq., Nijmegen*, 1975), *pp.* 490–499. *Lecture Notes in Phys., Vol. Springer, Berlin*, 1976. (R. Mirman) **58** #1044 22E70

(*with* Plunkett, S. P. O.) The evaluation of weight multiplicities using characters S-functions. *J. Phys. A* **9** (1976), *no.* 6, 863–887. (From the authors' summary) **56** # 22E70 (81.22, 20C35)

(*with* Qubanchi, A. H. A.) The evaluation of weight multiplicities of G_2. *J. Phys* **11** (1978), *no.* 8, 1491–1499. (Authors' summary) **58** #16992 22E70 (81.22)

King, Ralph A. The covariance structure of the departure process from $M/G/1$ que with finite waiting lines. *J. Roy. Statist. Soc. Ser. B* **33** (1971), 401–405. (M. Chaudhry) **47** #5987 60K25

King, Richard F. A fifth-order family of modified Newton methods. *Nordisk Tids Informationsbehandling (BIT)* **11** (1971), 409–412. (W. M. Kincaid) **46** #2847 65H05

Tangent methods for nonlinear equations. *Numer. Math.* **18** (1971/72), 298–3 (Gerhard Merz) **46** #2848 65H05

An improved Pegasus method for root finding. *Nordisk Tidskr. Informationsbehandling (BIT)* **13** (1973), 423–427. (W. M. Kincaid) **49** #4241 65H05

A family of fourth order methods for nonlinear equations. *SIAM J. Numer. An* **10** (1973), 876–879. (J. E. Dennis, Jr.) **49** #8326 65H05

Methods without secant steps for finding a bracketed root. (German summar *Computing* **17** (1976), *no.* 1, 49–57. (H. Shintani) **54** #4083 65H05

A secant method for multiple roots. *Nordisk Tidskr. Informationsbehandling (BI* **17** (1977), *no.* 3, 321–328. (Boro Döring) **58** #8217 65H05

King, Robert E. (*with* Paraskevopoulos, P. N.) A Kronecker product approach to p assignment by output feedback. *Internat. J. Control* **24** (1976), *no.* 3, 325–334. (Ki Kanai) **54** #7026 93B25

(*with* Paraskevopoulos, P. N.) Dynamic controller synthesis for multivariable systems. *Applications and research in information systems and sciences (Proc. Fi Internat. Conf., Univ. Patras, Patras*, 1976), *Vol.* 1, *pp.* 18–21. *Hemisphere, Washingt D.C.*, 1977. (S. G. Tzafestas) **58** #33272 93B99

Spectral characteristics of digital Laguerre filters. *Applications and research information systems and sciences (Proc. First Internat. Conf., Univ. Patras, Patras*, 197 *Vol.* 3, *pp.* 831–835. *Hemisphere, Washington, D.C.*, 1977. (Author's summary) **58** #15647 94A05

King, Roger C. (*with* Cover, T. M.) A convergent gambling estimate of the entropy English. *IEEE Trans. Inform. Theory* **24** (1978), *no.* 4, 413–421. (G. Dueck) **58** #97 94A15 (68A30)

King, T. (*with* Nemhauser, George L.) Some inequalities on the chromatic number of graph. *Discrete Math.* **10** (1974), 117–121. (A. C. Tucker) **50** #1953 05C15

King, W. F., III Analysis of demand paging algorithms. *Information processing* 71 (*Pro IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems, pp.* 485–490. *North-Holland, Amsterdam*, 1972. (Author's summary) **55** #13901 68A50

King-Hele, D. G. *See* **Place of astronomy in the ancient world, 57** #15838

Kingman, J. F. C. A class of positive-definite functions. *Problems in analysis (Lectures the Sympos. in honor of Salomon Bochner, Princeton Univ., Princeton, N.J.*, 1969), *pp* 93–109. *Princeton Univ. Press, Princeton, N.J.*, 1970. (David C. Williams) **51** #4414 60J25

Markov transition probabilities. V. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiet* **17** (1971), 89–103. (J. G. Mauldon) **45** #4504 60J35

★Regenerative phenomena. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons Ltd., London-New York-Sydney*, 1972. xii + 190 *pp.* (H Kesten) **50** #3353 60J10 (26A51)

Regenerative phenomena and the characterization of Markov transition probabilities. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistic and Probability (Univ. California, Berleley, Calif.*, 1970/1971), *Vol. III: Probabilit theory, pp.* 241–262. *Univ. California Press, Berkeley, Calif.*, 1972. (N. H. Bingham **53** #1744 60J25 (60K05)

On random sequences with spherical symmetry. *Biometrika* **59** (1972), 492–494. (S M. Samuels) **49** #8161 62E10

Semi-p-functions. *Trans. Amer. Math. Soc.* **174** (1972), 257–273 (1973). (J. Hachigian) **48** #4223 26A51 (60J25)

Some algebraic results and problems in the theory of stochastic processes with a discrete time parameter. *Stochastic analysis (a tribute to the memory of Rollo Davidson), pp.* 315–330. *Wiley, London*, 1973. (F. W. Steutel) **51** #4400 60J10 (60G45)

Homecomings of Markov processes. *Advances in Appl. Probability* **5** (1973), 66–102. (F. B. Knight) **54** #3865 60J55

Subadditive ergodic theory. With discussion by D. L. Burkholder, Daryl Daley, H. ten, P. Ney, Frank Spitzer and J. M. Hammersley, and a reply by the author. *Ann. bability* 1 (1973), 883–909. (K. Jacobs) **50** #8663 60F15 (28A65)

(*with* Burville, P. J.) On a model for storage and search. *J. Appl. Probability* **10** 73), 697–701. (W. J. Hendricks) **50** #11453 60J10 (60K30)

An intrinsic description of local time. *J. London Math. Soc.* (2) **6** (1973), 725–731. B. Knight) **47** #7822 60J55

On the oscillation of *p*-functions. *J. London Math. Soc.* (2) **6** (1973), 747–752. (F. oks) **47** #8789 26A51 (60J25)

(*with* Williams, David A.) The combinatorial structure of non-homogeneous rkov chains. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 77–86. (J. J. nter) **49** #6360 60J10

Regeneration. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), . 389–406. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. seph Horowitz) **51** #7006 60J25 (60K05, 60J10)

On the Chapman-Kolmogorov equation. *Philos. Trans. Roy. Soc. London Ser. A* **276** 74), 341–369. (Thomas G. Kurtz) **51** #7007 60J25 (26A51)

Anticipation processes. *Perspectives in probability and statistics* (*papers in honour of S. Bartlett on the occasion of his* 65*th birthday*), *pp.* 201–215. *Applied Probability ust, Univ. Sheffield, Sheffield*, 1975. (F. B. Knight) **53** #11766 60J25

The first birth problem for an age-dependent branching process. *Ann. Probability* **3** 975), *no.* 5, 790–801. (H. Kesten) **53** #4271 60J80

(*with* Taylor, Samuel James; Hawkes, Alan G.; Walker, A. M.; Cox, D. R.; Smith, drian; Hill, Bruce M.; Burville, P. J.; Leonard, Tom) Random discrete distribution. ith a discussion by S. J. Taylor, A. G. Hawkes, A. M. Walker, D. R. Cox, A. F. M. nith, B. M. Hill, P. J. Burville, T. Leonard and a reply by the author. *J. Roy. Statist. c. Ser. B* **37** (1975), 1–22. (Mir Ali) **51** #4505 62E99

Geometrical aspects of the theory of non-homogeneous Markov chains. *Math. oc. Cambridge Philos. Soc.* **77** (1975), 171–183. (M. Iosifescu) **52** #9377 60J10

A property of the derivatives of Markov transition probabilities. *Quart. J. Math. xford Ser.* (2) **26** (1975), 121–128. (David S. Griffeath) **51** #6998 60J10 (60J25, K05)

Subadditive processes. *École d'Été de Probabilités de Saint-Flour, V*–1975, *pp.* 7–223. *Lecture Notes in Math., Vol.* 539, *Springer, Berlin*, 1976. (R. T. Smythe) 5 #11388 60G99 (28A65, 60F15)

Coherent random walks arising in some genetical models. *Proc. Roy. Soc. London er. A* **351** (1976), *no.* 1664, 19–31. (James L. Cornette) **54** #8879 60J20 (92A10)

Remarks on the spatial distribution of a reproducing population. *J. Appl. robability* **14** (1977), *no.* 3, 577–583. (Stanley Sawyer) **56** #9686 60G55

On the properties of bilinear models for the balance between genetic mutation and election. *Math. Proc. Cambridge Philos. Soc.* **81** (1977), *no.* 3, 443–453. (Klaus linkelmann) **55** #5238 92A10

The asymptotic covariance of two counters. *Math. Proc. Cambridge Philos. Soc.* **82** 1977), *no.* 3, 447–452. (Author's summary) **58** #24606 60K25

The population structure associated with the Ewens sampling formula. *Theoret. opulation Biology* **11** (1977), *no.* 2, 274–283. (Author's summary) **58** #33117 92A10

Uses of exchangeability. *Ann. Probability* **6** (1978), *no.* 2, 183–197. (S. D. Chatterji) 8 #13238 60–02 (60F05, 60G99, 92A10)

A simple model for the balance between selection and mutation. *J. Appl. robability* **15** (1978), *no.* 1, 1–12. (Charles J. Mode) **57** #5177 92A10

Random partitions in population genetics. *Proc. Roy. Soc. London Ser. A* **361** 1978), *no.* 1704, 1–20. (Author's summary) **58** #26167 92A15 (92A10)

See also **Ibragimov, I. A.; et al., 48** #1287; **McNeil, Donald R.; et al., 49** #6390; **Davidson, Rollo, 51** #1973 *and* **Mardia, K. V., 53** #6811

sep, A. S. (*with* Gorev, V. V.; Rudakov, L. I.) Strong Langmuir turbulence of a plasma. (Russian) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no.* 5–6, 691–720. (J. S. Joel) **57** #15120 82.35

sley, Roger A. (*with* Stanton, Ralph G.) On a cubic surface block design (45, 12, 3). *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1971), *pp.* 451–456. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man.*, 1971. (Judith Q. Longyear) **48** #10843 05B05

(*with* Stanton, Ralph G.) The double-six block design (36,36,15,15,6). *Proceedings of the Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1971), *pp.* 581–588. *Dept. Comput. Sci., Univ. Manitoba, Winnipeg, Man.*, 1971. (From the authors' introduction) **54** #5004 05B05

(*with* Gryte, D. G.; Williams, H. C.) On certain forms of Fibonacci numbers. *Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1971), *pp.* 339–344. *Louisiana State Univ., Baton Rouge, La.*, 1971. (A. Peluso) **47** #6602 10A35

(*with* Stanton, Ralph G.) On a block design (56, 56, 11, 11, 2). *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont.*, 1971), *pp.* 231–244. *Lakehead Univ., Thunder Bay, Ont.*, 1971. (A. Gewirtz) **50** #1913 05B05

(*with* Stanton, Ralph G.) A survey of certain balanced incomplete block designs. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 305–310. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. (Authors' summary) **50** #138 05B05

(*with* Stanton, Ralph G.) Covering designs and intersection numbers. *Proceedings of the Second Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1972), *pp.* 207–210. *Congressus Numerantium, No. VII, Utilitas Math., Winnipeg, Man.*, 1973. (W. H. Mills) **50** #4356 (EA **51**) 05B40

On the number of matrices of fixed rank and size over a finite field. *Proceedings of the Fourth Manitoba Conference on Numerical Mathematics* (*Winnipeg, Man.*, 1974), *pp.* 287–292. *Congr. Numer., No. XII, Utilitas Math., Winnipeg, Man.*, 1975. (A. D. Porter) **51** #12889 15A33

A generalization of an integer weighing problem. *Ars Combinatoria* **2** (1976), 245–250. (H. Gupta) **54** #12630 10A45

See also **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing, 50** #4315

ngston, John G. (*with* Rogers, Colin) Developments of A. Kahane's paper: "On some transformations of Bäcklund type relative to certain equations of the form $Z_{uv} = f(Z)$". *Rev. Roumaine Math. Pures Appl.* **17** (1972), 1685–1693. (Manfred W. Kracht) **47** #7188 35A30

(*with* Rogers, Colin) Baecklund transformations with inversion applied to the Stokes-Beltrami equations. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. I. *Tensor* (*N.S.*) **24** (1972), 322–328. (J. C. Burns) **48** #9136 35Q99

(*with* Rogers, Colin) Application of Baecklund transformations to the Stokes-Beltrami equations. *J. Austral. Math. Soc.* **15** (1973), 179–189. (R. Thibault) **49** #11941 76.35

(*with* Waterhouse, John S.) Plane magnetohydrodynamic flows with constantly inclined magnetic and velocity fields. (French summary) *Z. Angew. Math. Phys.* **24** (1973), 653–658. (P. Germain) **48** #10302 76.35

(*with* Rogers, Colin; Castell, S. P.) On invariance properties of conservation laws in non-dissipative planar magneto-gasdynamics. (French summary) *J. Mécanique* **13** (1974), 343–354. (P. Germain) **51** #9652 76.35

(*with* Rogers, Colin) Nondissipative magneto-hydrodynamic flows with magnetic and velocity field lines orthogonal geodesics. *SIAM J. Appl. Math.* **26** (1974), 183–195. (S. I. Pai) **51** #12127 76.53

(*with* Rogers, Colin) On nonlinear equations amenable to the inverse scattering method. (French summary) *Canad. J. Phys.* **53** (1975), 58–61. (Authors' summary) **54** #12026 81.35

Plane gasdynamic flows in an orthogonal magnetic field. *Canad. J. Phys.* **54** (1976), *no.* 1, 34–38. (Đorđe Đukic) **53** #4720 76.35

Comparison of scoring systems in two-sided competitions. *J. Combinatorial Theory Ser. A* **20** (1976), *no.* 3, 357–362. (Bernard Harris) **54** #3794 60C05

(*with* Rogers, Colin) Reciprocal properties in quasi one-dimensional non-steady oblique field magneto-gasdynamics. (French summary) *J. Mécanique* **15** (1976), *no.* 1, 185–192. (R. M. Gundersen) **53** #15084 76.35

Kinikstul′, E. I. (*with* Kulikov, È. L.; Timčenko, L. P.) Estimate of error in the solution of interior problems of microwave electrodynamics. *Radiotehn. i Èlektron.* **17** (1972), 1793–1798 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **17** (1972), 1427–1431. (A. Nikodémusz) **51** #4860 78.49

Kinjapin, S. D. On the exponentially-discontinuous control of the simplest kind. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1972**, 39–40 (*Russian*); *translated as Mechanics of Solids* **7** (1972), *no.* 4, 33–34 (1973). (Peter Stavroulakis) **48** #13389 93D10

A bifurcation. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 3, 553–555. (V. G. Zadorožnii) **58** #11631 34C05

Kinjo, Yoshiyuki On relations among structurally stable systems. *Bull. Sci. Engrg. Div. Univ. Ryukyus Math. Natur. Sci. No.* 20 (1975), 7–8. (C. S. Hartzman) **54** #6204 58F10

Kinnebrock, W. On the existence of non-negative numerical solutions of the Boltzmann equation. (German summary) *Z. Angew. Math. Phys.* **25** (1974), 346–352. (D. F. Mayers) **49** #11839 65R05

Über die numerische Komplexität von Differenzenoperatoren. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, T243–T245. (Syvert P. Nørsett) **53** #9684 65Q05

Kinnen, Edwin (*with* Park, K. E.) Liapunov functions for non-linear difference equation stability analysis. *Internat. J. Control* (1) **15** (1972), 981–993. (Authors' summary) **47** #1516 93D05

(*with* Yokoyama, Ryuzo) Phase-variable canonical forms for linear, multi-input, multi-output systems. *Internat. J. Control* (1) **17** (1973), 1297–1312. (H. H. Rosenbrock) **48** #13337 93B10

Kinnersley, William (*with* Walker, Martin) Uniformly accelerating charged mass in general relativity. *Phys. Rev. D* (3) **2** (1970), 1359–1370. (W. B. Bonnor) **47** #6256 83.53

(*with* Walker, Martin) Some remarks on a radiating solution of the Einstein-Maxwell equations. *Methods of local and global differential geometry in general relativity* (*Proc. Regional Conf. on Relativity, Univ. Pittsburgh, Pittsburgh, Pa.*, 1970), *pp.* 48–85. *Lecture Notes in Physics, Vol.* 14, *Springer, Berlin*, 1972. (C. B. Collins) **55** #2046 83.53

Generation of stationary Einstein-Maxwell fields. *J. Mathematical Phys.* **14** (1973), 651–653. (J. Ławrynowicz) **48** #3436 (EA **50**) 83.53

(*with* Kelley, Edward F.) Limits of the Tomimatsu-Sato gravitational field. *J. Mathematical Phys.* **15** (1974), 2121–2126. (M. Sachs) **50** #9283 83.35

Recent progress in exact solutions. *General relativity and gravitation* (*Proc. Seventh Internat. Conf.* (*GR7*), *Tel-Aviv Univ., Ramat-Aviv*, 1974), *pp.* 109–135. *Halsted Press, New York*, 1975. (Richard Hansen) **55** #6339 53C50 (83.53)

Exact large amplitude capillary waves on sheets of fluid. *J. Fluid Mech.* **77** (1976), *no.* 2, 229–241. (Author's summary) **57** #14852 76.35

Kinney, J. R. (*with* Davis, Nancy) Quadratic irrationals in the lower Lagrange spectrum. *Canad. J. Math.* **25** (1973), 578–584. (W. W. Adams) **47** #8444 10F20 (10L99)

Kinney, John On the formation of polykays. *Symmetric functions in statistics* (*Proc. Sympos. in Honor of Paul S. Dwyer, Univ. Windsor, Windsor, Ont.*, 1971), *pp.* 101–119. *Univ. Windsor, Windsor, Ont.*, 1972. **49** #8162 62E10

The *k*-statistics, polykays and randomized sums. *Sankhyā Ser. A* **38** (1976), *no.* 3, 271–286. (Author's summary) **58** #31519 62E15

Kinney, L. L. (*with* Lin, D.; Kumar, K. S. P.) Platoon modeling for traffic control. *Proceedings of the* 1977 *IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 998–1003. *Inst. Electrical Electron. Engrs., New York*, 1977. (Authors' summary) **58** #20359 90B20

Kino, Akiko (*with* Myhill, John) A hierarchy of languages with infinitely long expressions. *Logic Colloquium '73* (*Bristol*, 1973), *pp.* 55–71. *Studies in Logic and the Foundations of Mathematics, Vol.* 80, *North-Holland, Amsterdam*, 1975. (Henry Africk) **52** #2817 02B25 (02D05)

Kinokuniya, Yoshio Set-theoretical foundations in the empiricist pragmatism. *Mem. Muroran Inst. Tech.* 7 (1970/71), 599–604. (M. Boffa) **46** #8836 02K20 (04A10)

Outside-standing subsidiary observations on mathematical logic. *Mem. Muroran Inst. Tech.* 7 (1970/72), 631–639. (J. Bacon) **48** #5812 02A05

Relativities between sets and measurements. *Mem. Muroran Inst. Tech.* **8**

(1973/75), *no.* 1, 29–41. (W. D. L. Appling) **54** #5414 28A10 (04A15)

Some extensional constitutions of integral. *Mem. Muroran Inst. Tech.* **8** (1973/75), *no.* 2, 423–428. (W. D. L. Appling) **54** #5415 28A10

Foundations of objectivist theory of events. *Mem. Muroran Inst. Tech.* **8** (1973/76), *no.* 3, 729–735. (B. van Rootselaar) **57** #9462 02A05

Some advancements in the structural theory of integrals. *Mem. Muroran Inst. Tech.* **9** (1977), *no.* 2, 581–588. (Ralph Henstock) **58** #6138 28A25

Kinoshita, Eisuke (*with* Kosako, Hideo; Kojima, Yoshiaki) A method of residue division. *Systems-Computers-Controls* **1** (1970), *no.* 4, 18–26 (1971). (M. S. Cheema) **46** #4691 65D99

(*with* Kosako, Hideo; Kojima, Yoshiaki) Logical implementation of arithmetic operations in the symmetric residue number system. *Bull. Univ. Osaka Prefecture Ser. A* **22** (1973), *no.* 2, 139–149. (R. N. Goss) **50** #6205 68A20

(*with* Kosako, Hideo; Kojima, Yoshiaki) Floating-point arithmetic algorithms in the symmetric residue number system. *IEEE Trans. Computers* **C-23** (1974), 9–20. (M. S. Cheema) **50** #9042 68A10

Kinoshita, Hiroshi A note on expansions of functions of velocity in the two-body problem. *Celestial Mech.* **15** (1977), *no.* 4, 501–505. (André Deprit) **56** #13860 70.34

Kinoshita, Hisae Forms and extensions in a purely inseparable extension. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **13**, *no.* 347–365, 101–110 (1975). (William C. Waterhouse) **55** #2863 12F15 (16A74)

Kinoshita, Kisei *See* **Zav′jalov, O. I.**, **58** #25456

Kinoshita, Kozo (*with* Murakami, Shinichi; Ozaki, Hiroshi) Universal-type binary sequence generator. *Tech. Rep. Osaka Univ.* **19** (1969), 607–618. (E. Maliszewski) **50** #4165 94A30

(*with* Murakami, Shinichi; Ozaki, Hiroshi) A note on the synthesis of binary sequence generators. *Systems-Computers-Controls* **1** (1970), *no.* 1, 9–16. (C. Tartia) **46** #6643 68A10

(*with* Yamamoto, Masaru; Murakami, Shinichi; Ozaki, Hiroshi) Synthesis of automata with redundant input sequences. *Tech. Rep. Osaka Univ.* **20** (1970), 733–740. **55** #7639 94A30 (68A25)

(*with* Fujiwara, Hideo) Diagnosable sequential machines with additional outputs. *Systems-Computers-Controls* **3** (1972), *no.* 6, 63–70 (1973). (H. D. Block) **51** #12440 94A25

(*with* Hosomi, Terumasa) Unate cascade realizable functions. *Systems-Computers-Controls* **4** (1973), *no.* 1, 1–9. (B. Hazeltine) **49** #4675 94A20

(*with* Fujiwara, Hideo) Realizations of output-observable sequential machines and their faults detections. *Systems-Computers-Controls* **4** (1973), *no.* 4, 78–85. (Authors' summary) **56** #11636 94A25

(*with* Fujiwara, Hideo) Design of diagnosable sequential machines utilizing extra outputs. *IEEE Trans. Computers* **C-23** (1974), 138–145. (Siegmar Gerber) **52** #7737 94A25 (68A25, 94A30)

(*with* Matsuda, Jun) Analysis of magnetic bubble logic systems. *Systems-Computers-Controls* **5** (1974), *no.* 1, 35–41 (1975). (B. Hazeltine) **56** #2683 94A20

(*with* Sasao, Tsutomu) Minimal logic circuits using magnetic bubble logic elements. *Systems-Computers-Controls* **5** (1974), *no.* 4, 63–71 (1975). (Shuzo Yajima) **52** #10266 94A20

(*with* Fujiwara, Hideo; Nagao, Yoichi) Checking experiments for incompletely specified sequential machines. *Systems-Computers-Controls* **5** (1974), *no.* 5, 21–27 (1975). (R. E. Stearns) **53** #5190 94A25

(*with* Fujiwara, Hideo) On easily testable sequential machines with extra inputs. *Systems-Computers-Controls* **5** (1974), *no.* 5, 75–82 (1975). (Authors' summary) **56** #11637 94A25

(*with* Matsuda, Jun) The two-dimensional bubble memory with switching function. *Systems-Computers-Controls* **6** (1975), *no.* 2, 29–35. (B. R. Myers) **56** #15195 94A20

(*with* Sasao, Tsutomu) Synthesis of multiple-output logic circuits with 2-input conservative logic elements. *Systems-Computers-Controls* **6** (1975), *no.* 5, 95–103. (B. Hazeltine) **56** #15209 94A20

(*with* Sasao, Tsutomu; Matsuda, Jun) On magnetic bubble logic circuits. *IEEE Trans. Computers* **C-25** (1976), *no.* 3, 247–253. (W.-K. Chen) **52** #12999 94A20

(*with* Takamatsu, Yuzo) NORNAND cellular arrays. *Systems-Computers-Controls* **7** (1976), *no.* 4, 28–35 (1977). (W. Wechler) **57** #15770 94A20

(*with* Fujiwara, Hideo) On easily testable asynchronous sequential machines. *Systems-Computers-Controls* **7** (1976), *no.* 4, 77–85 (1977). (Bolesław Mikołajczak) **56** #18172 94A25 (94A20)

(*with* Sasao, Tsutomu) Universality of *n*-input *n*-output conservative logic elements. *Systems-Computers-Controls* **7** (1976), *no.* 5, 28–35 (1977). (Michitaka Kameyama) **58** #4691 94A20

(*with* Sasao, Tsutomu) Realization of minimum circuits with two-input conservative logic elements. *IEEE Trans. Comput.* **27** (1978), *no.* 8, 749–752. (Michitaka Kameyama) **58** #4693 94A20

(*with* Sasao, Tsutomu) Cascade realization of 3-input 3-output conservative logic circuits. *IEEE Trans. Computers* **C-27** (1978), *no.* 3, 214–221. (Tatsuo Higuchi) **58** #4692 94A20

(*with* Fujiwara, Hideo) Connection assignments for probabilistically diagnosable systems. *IEEE Trans. Computers* **C-27** (1978), *no.* 3, 280–283. (S. L. Hakimi) **58** #9834 94A20

(*with* Fujiwara, Hideo) Some existence theorems for probabilistically diagnosable systems. *IEEE Trans. Computers* **C-27** (1978), *no.* 4, 379–384. (S. L. Hakimi) **58** #9835 94A20

(*with* Fujiwara, Hideo) Checking experiments for stable memory faults in sequential machines. *J. Design Automat. Fault-Tolerant Comput.* **2** (1978), *no.* 1, 3–14. (P. W. Baker) **57** #9319 94A20

Kinoshita, Michio A theorem to construct 3-way BIB designs. *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci. No.* 9 (1975), 29–31. (L. D. Baumert) **52** #13421 05B05

Kinoshita, Moto-o (*with* Kojima, Jun) A relative cohomology in the frame of the derived category. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 1, 10–12. (R. A. Piccinini) **58** #7740 58G05 (14F20, 35N10, 55B40)

Kinoshita, Shin'ichi On infinite cyclic actions on contractible open 3-manifolds and strong irreducibility. *Proceedings of the Second Conference on Compact Transformation* (*Univ. Mass., Amherst, Mass.*, 1971), *Part II*, *pp.* 323–327. *Lecture Notes in Math* 299, *Springer*, *Berlin*, 1972. (K. W. Kwun) **52** #6764 57E25 (57A10)

On elementary ideals of polyhedra in the 3-sphere. *Pacific J. Math.* **42** (89–98. (R. H. Fox) **47** #1042 55A25

(*with* Sikkema, Carl D.) Penetration indices of arc-and-ball pairs and uncou many quasi-translations of the 3-sphere. *Michigan Math. J.* **20** (1973), 309–319. Ball) **48** #12535 57A10

On elementary ideals of θ-curves in the 3-sphere and 2-links in the 4-sphere. *J. Math.* **49** (1973), 127–134. (J. S. Birman) **50** #5775 55A25

On elementary ideals of projective planes in the 4-sphere and oriented Θ-cur the 3-sphere. *Pacific J. Math.* **57** (1975), *no.* 1, 217–221. (Wilbur Whitten) **51** #14 57A15 (55A25)

Kinoshita, Takuma (*with* Sanada, Katsuhiko) On the series of independent functions. *Fac. Ed. Univ. Kagoshima* **24** (1972), 1–2. (G. U. Brauer) **48** #3084 60A10

Kinoshita, Toichiro (*with* Auberson, G.; Martin, André) Violation of the Pomerar theorem and zeros of the scattering amplitudes. *Phys. Rev. D* (3) **3** (1971), 3185– (R. Delbourgo) **48** #13039 81.30

(*with* Maharana, Jnanadeva) Average multiplicity and the zeros of multipa generating function. *J. Mathematical Phys.* **16** (1975), *no.* 11, 2294–2300. (Tua Chen) **52** #7354 81.30

(*with* Ukawa, Akira) Structure of leading infrared divergences in non-Abelian g theories. *Phys. Rev. D* (3) **16** (1977), *no.* 2, 332–346. (A. Rouet) **56** #10564

See also **Zav′jalov, O. I.**, **58** #25456

Kinoshita, Yasuyoshi Network synthesis using Chebyshev rational approximation. *Electron. Commun. Japan* **58** (1975), *no.* 8, 10–18. (Robert P. Kurshan) **54** #123 94A20

Kinosita, Kiyosi On the system of Pfaffian equations of Briot-Bouquet type. *Proc. J Acad.* **52** (1976), *no.* 6, 282–285. (J. D. Kečkič) **54** #3738 58A15 (34A25)

On the system of Pfaffian equations of Briot-Bouquet type. I. *J. Fac. Sci. U Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 341–355. (R. Gérard) **57** #3493 34 (58A15)

Kinowska, Małgorzata (*with* Gawecka, Aldona; Majewska-Tronowicz, Jadwiga) Cur bibliography of the history of science and technology. No. 8 (Oct.-Dec. 1972). (Pol *Kwart Hist. Nauki i Tech.* **18** (1973), *no.* 2, *suppl.*, 18 *pp.* (Editors) **52** #5264 01- (00A15)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 9 (Jan.-March 1973). (Polish) *Kwart. Nauki i Tech.* **18** (1973), *no.* 3, *suppl.*, 32 *pp.* (Editors) **52** #5265 01–XX (00A1

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 10 (April-June 1973). (Polish) *Kwart. Nauki i Tech.* **18** (1973), *no.* 4, *suppl.*, 20 *pp.* (Editors) **52** #5266 01–XX (00A1

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 11 (July-Sept. 1973). (Polish) *Kwart. Nauki i Tech.* **19** (1973), *no.* 1, *suppl.*, 18 *pp.* (Editors) **52** #5267 01–XX (00A15

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 12 (Oct.-Dec. 1973). (Polish) *Kwart. Nauki i Tech.* **19** (1974), *no.* 2, *suppl.*, 25 *pp.* (Editors) **52** #5268 01–XX (00A15

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 13 (Jan.-March 1974). (Polish) *Kw Hist. Nauki i Tech.* **19** (1974), *no.* 3, *suppl.*, 33 *pp.* (Editors) **52** #5269 01– (00A15)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 14 (April-June 1974). (Polish) *Kwart. H Nauki i Tech.* **19** (1974), *no.* 4, *suppl.*, 20 *pp.* (Editors) **52** #5270 01–XX (00A15)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 15 (July-Sept. 1974). (Polish) *Kwart. H Nauki i Tech.* **20** (1975), *no.* 1, *suppl.*, 22 *pp.* (Editors) **52** #5271 01–XX (00A15)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliogra of the history of science and technology. No. 16 (Oct.-Dec. 1974). (Polish) *Kwart. H Nauki i Tech.* **20** (1975), *no.* 2, *suppl.*, 18 *pp.* (Editors) **52** #5272 01–XX (00A15)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliograp of the history of science and technology. No. 17 (Jan.–March, 1975). (Polish) *Kwa Hist. Nauki i Tech.* **20** (1975), *no.* 3-4, *suppl.*, 18 *pp.* (Editors) **53** #7674 01–X (00A15)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliograph of the history of science and technology. No. 18/19. (April–Sept., 1975). (Polis *Kwart. Hist. Nauki i Tech.* **21** (1976), *no.* 1, *suppl.*, 41 *pp.* (Editors) **57** #2805 00A (01–02)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliograph of the history of science and technology. No. 20. (Oct.–Dec., 1975). (Polish) *Kwa Hist. Nauki i Tech.* **21** (1976), *no.* 2, *suppl.*, 20 *pp.* (Editors) **57** #2806 00A15 (01–0

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliograph of the history of science and technology. No. 21 (Jan.-March, 1976). (Polish) *Kwa Hist. Nauki i Tech.* **21** (1976), *no.* 3, *suppl.*, 20 *pp.* (Editors) **56** #8259 01–X (00A15)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliograph of the history of science and technology. No. 22. (April–June, 1976). (Polish) *Kwar Hist. Nauki i Tech.* **21** (1976), *no.* 4, *suppl.*, 16 *pp.* (Editors) **57** #2807 00A15 (01–0

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliograph of the history of science and technology. No. 23. (July–Sept., 1976). (Polish) *Kwar Hist. Nauki i Tech.* **22** (1977), *no.* 1, *suppl.*, 16 *pp.* (Editors) **57** #2808 00A15 (01–02

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliograph of the history of science and technology. No. 24 (Oct.–Dec. 1976). (Polish) *Kwart. His Nauki i Tech.* **22** (1977), *no.* 2, *suppl.*, 26 *pp.* (Editors) **57** #2809a 00A15 (01–02)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliography of the history of science and technology. No. 25. (Jan.–March, 1977). (Polish) *Kwart Hist. Nauki i Tech.* **22** (1977), *no.* 3, *suppl.*, 24 *pp.* (Editors) **57** #2809b 00A1 (01–02)

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliography the history of science and technology. No. 26. (April–July 1977). (Polish) *Kwart. ist. Nauki i Tech.* **22** (1977), *no.* 4, *suppl.*, 25 *pp.* (Editors) **57** #9387 00A15

(*with* Bełkowska, Krystyna; Majewska-Tronowicz, Jadwiga) Current bibliography the history of science and technology, No. 27 (July–Sept. 1977). (Polish) *Kwart. Hist. uk. Tech.* **23** (1978), *no.* 1, *suppl.*, 20 *pp.* (Editors) **58** #15779 00A15 (01A75)

Kin, A. N. *See* **Kinšt, A. N.**

Kin, N. V. *See* **Kinšt, N. V.**

Kin er, W. (*with* Della Torre, Edward) Convergence properties of the successive trapolated relaxation (S.E.R.) method. *J. Inst. Math. Appl.* **12** (1973), 175–185. (L. ox) **50** #15304 65F10

(*with* Della Torre, Edward) An iterative approach to the finite-element method in eld problems. *IEEE Trans. Microwave Theory Tech.* **22** (1974), 221–228. (J. W. lcLaurin) **50** #11813 65N30

Kir A. N. (*with* Kinšt, N. V.) Formalization of problems of diagnosis of electrical etworks. *Avtomat. i Telemeh.* **1973**, *no.* 2, 147–153 (*Russian. English summary*); *anslated as Automat. Remote Control* **34** (1973), *no.* 2, *part* 2, 298–303. (Authors' ımmary) **56** #18143 94A20

Kir, N. V. Optimal procedures for the detection of faults in a certain class of models of iagnostic units. (Russian) *Automatic control and methods of electrical measurement Proc. Seventh All-Union Conf., Novosibirsk*, 1965) (*Russian*), *pp.* 99–105. *Izdat. Nauka" Sibirsk. Otdel., Novosibirsk*, 1971. (D. Obradović) **48** #13223 90B25

(*with* Kinšt, A. N.) Formalization of problems of diagnosis of electrical networks. *vtomat. i Telemeh.* **1973**, *no.* 2, 147–153 (*Russian. English summary*); *translated as utomat. Remote Control* **34** (1973), *no.* 2, *part* 2, 298–303. (Authors' summary) **6** #18143 94A20

Kiala, Chandra M. R. (*with* Fischer, Patrick C.) Computations with a restricted number f nondeterministic steps (extended abstract). *Conference Record of the Ninth Annual CM Symposium on Theory of Computing* (*Boulder, Colo.*, 1977), *pp.* 178–185. *Assoc. omput. Mach., New York*, 1977. (Zvi Galil) **57** #18251 68A30 (68A25)

Kišev, Janko (*with* Prodanov, Ivan; Čobanov, Georgi I.) Degree of a mapping in xiomatic homology and cohomology theories. (Bulgarian summary) *Annuaire Univ. Sofia Fac. Math. Méc.* **68** (1973/74), 354–364 (1977). (R. E. Stong) **58** #18416 5C25

(*with* Skordev, Genčo S.) The Lefschetz fixed point theorem for homogeneous paces of locally compact groups. (Russian) *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 11, 1571–1573. (L. Górniewicz) **55** #4105 54H25 (55C20)

The Vietoris-Begle theorem for exact homology. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 1, 7–8. (Csaba Hatvany) **56** #9519 55B30

Homologically unstable points. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 3, 63–69. (I. Pop) **57** #1475 55B40

Kner, Eric C. An analytic recurrence procedure for computing the cross-multiplication coefficients in an analytic OTF method. *Optica Acta* **24** (1977), *no.* 12, 1237–1246. (Author's summary) **56** #14150 78.41

Kugasa, Yasuo A note on the number of generators of an ideal. *Proc. Japan Acad.* **47** (1971), 309–312. (L. J. Ratliff, Jr.) **45** #1893 13A15

ukawa, Masakiti Lipschitz spaces and Fourier series. (Japanese) *Sûgaku* **24** (1972), *no.* 1, 51–53. **58** #29807 42A64

Contractions of Fourier transforms in R_k. Collection of articles dedicated to Gen-ichirô Sunouchi on his sixtieth birthday. *Tôhoku Math. J.* (2) **24** (1972), 233–243. (K. R. Unni) **50** #10680 42A92

yapin, S. D. *See* **Kinjapin, S. D.**

zl, Franz Ein Null-Zwei-Gesetz auf Abelschen Halbgruppen. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **185** (1976), *no.* 8-10, 377–385 (1977). (Göran Högnäs) **58** #23342 43A05 (60B15)

sa, M. N. (*with* Grebenikov, E. A.) The Lagrange-Charpit method in the restricted circular three-body problem. (Russian) *Differencial'nye Uravnenija* **9** (1973), 2041–2047, 2116. (Q. K. Ghori) **48** #7720 70.35

(*with* Grebenikov, E. A.) On the irreducibility of the equations of the restricted circular, three-body problem to the Stäckel type equations. *Prikl. Mat. Meh.* **38** (1974), 364–366 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 334–336. (Authors' introduction) **51** #2387 70.34

(*with* Grebenikov, E. A.) A certain numerical method of testing hypotheses on the structure of the solutions of differential equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1212–1220, 1364. (R. S. Levitin) **51** #979 34A99 (65L99, 70.34)

otina, G. V. The affinor quasigroups in R_n and the metrics generated by them. (Russian) *Kalinin. Gos. Ped. Inst. Učen. Zap.* **93** (1971), 15–21. (B. Rozenfel'd (RŽMat **1972** #1 A1028)) **48** #4923 53A15

Quasigroups and groups of motions of certain linear collineation systems in P_5. (Russian) Motions in generalized differential-geometric spaces. *Penz. Ped. Inst. Učen. Zap.* **124** (1971), 73–82. (B. Rozenfel'd) **50** #3101 50D20

Projective metrics that are invariant with respect to quasigroups of certain linear collineation systems in P_3 and P_4. (Russian) *Studies in the theory of quasigroups and loops* (*Russian*), *pp.* 93–102, 197. *Izdat. "Štiinca", Kishinev*, 1973. (V. Havel) **50** #5614 50D20 (20N05)

Motions in P_4 with an absolute consisting of three points and one line. (Russian) *Volž. Mat. Sb. No.* 23 (1973), 70–76. (Adrian C. Albu) **52** #15267 53A20

Three-dimensional spaces of hyperbolic type of maximal mobility with linear absolutes. (Russian) *Geometry and topology, No.* 1 (*Russian*), *pp.* 62–68. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (A. K. Guc) **54** #1105 53A35

A biflag plane. (Russian) *Geometry and topology, No.* 1 (*Russian*), *pp.* 69–74. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (R. M. Geĭdel'man) **54** #11161 50C25

Motions in the spaces $P_4^{3_2}$ and $P_4^{3_1}$. (Russian) *Rjazan. Gos. Ped. Inst. Učen. Zap.* **1974** *Dvižen. Obobščen. Prostranstv.*, 66–74. (M. C. Chaki) **58** #18106 50D20

Biflag $(2k+1)$-spaces of elliptic type. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1286–1295, 1430. (E. J. F. Primrose) **50** #8270 50C25

Biflag spaces. (Russian) *Ukrain. Geometr. Sb. No.* 16 (1974), 14–21, i. (K. Svoboda) **52** #11759 53A40

Projective metrics that are invariant with respect to quasigroups and groups of linear systems of collineations of P_{3n} and P_{3n+2}. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 2(153), 55–61. (K. Radziszewski) **52** #6559 50C25

Generalized spaces of semihyperbolic type. (Russian) *Ukrain. Geometr. Sb. No.* 17 (1975), 62–69, 146. (B. Rozenfel'd) **52** #1506 50C25

(*with* Čahtauri, I. A.) A biaxial-flag space of hyperbolic type. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **83** (1976), *no.* 2, 305–308. (A. K. Guc) **58** #18136 50D99

Kiountouzis, E. A. Optimal L_p approximation techniques and data analysis. An investigation of alternatives to the least squares criterion. *Bull. Soc. Math. Grèce* (*N.S.*) **12** (1971), *no.* 1, 191–206. (G. Tintner) **45** #6156 65D15 (62G99)

Mathematical programming and L_p approximation. *Bull. Soc. Math. Grèce* (*N.S.*) **13** (1972), *no.* 1-2, 46–57. (G. Opfer) **51** #2261 65D99 (65K05)

(*with* Spyropoulos, Kyriakos J.; Young, Andrew) Discrete approximation in the L_1 norm. *Comput. J.* **16** (1973), 180–186. (D. C. Handscomb) **48** #5330 65D15

Kioustelidis, Johann Eine einheitliche Methode zur Herleitung von Reihenentwicklungen für ganze Funktionen vom Exponentialtyp. *Compositio Math.* **26** (1973), 203–232. (R. C. Buck) **49** #3184 32A15

Kioustelidis, John B. (*with* Petrou, John K.) A piecewise linear approximation of $\log_2 x$ with equal maximum errors in all intervals. *IEEE Trans. Computers* **C-24** (1975), *no.* 9, 858–861. (J. H. Curtiss) **51** #14530 65D20

The simplicity of the zero of norm-minimizing polynomials. *J. Approximation Theory* **18** (1976), *no.* 4, 383–387. (Myron S. Henry) **54** #10932 41A10

Algorithmic error estimation for approximate solutions of nonlinear systems of equations. (German summary) *Computing* **19** (1977/78), *no.* 4, 313–320. (N. N. Abdelmalek) **57** #14412 65H10

(*with* Spyropoulos, Kyriakos J.) L_1 approximations of strictly convex functions by means of first degree splines. (German summary) *Computing* **20** (1978), *no.* 1, 35–45. (Dietrich Braess) **57** #6962 41A15

Kipiani, G. G. The transformation of double series. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **61** (1971), 529–532. (O. E. Stanaitis) **45** #772 40B05

Estimates of a sequence of operators. (Russian. Georgian and English summaries) *Sakharth. SSR. Mecn. Akad. Moambe* **76** (1974), 277–280. (Alan Shuchat) **51** #11177 47B37

Convergence systems. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), 289–292. (Torbjörn Hedberg) **52** #8709 40A05 (28A20)

Convergence in measure, and in the sense of the L_p metric $(1<p<\infty)$, of singular integrals. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **78** (1975), *no.* 2, 301–303. (W. C. Connett) **55** #6100 42A40

Convergence in measures and in the sense of the L_p metric $(1<p<\infty)$, of double singular integrals. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **78** (1975), *no.* 3, 549–552. (W. C. Connett) **55** #6101 42A40

Kipiani, T. G. Direct and converse theorems on the approximation of a class of functions with a dominating mixed derivative. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 3, 541–544. (M. Tomić) **58** #17661 41A30

Kipnis, Claude Quasi-compacité de contractions positives d'un espace L^1 (suivant Brunel et Revuz). *Séminaire Goulaouic-Schwartz* 1973–1974: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 19, 8 *pp. Centre de Math., École Polytech., Paris*, 1974. (John G. Basterfield) **53** #4231 60J05

Majoration des semi-groupes de contractions de L^1 et applications. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **10** (1974), 369–384 (1975). (U. Krengel) **51** #8373 28A65 (47A35)

(*with* Cocozza, Christiane) Existence de processus Markoviens pour des systèmes infinis de particules. (English summary) *Ann. Inst. H. Poincaré Sect. B* (*N.S.*) **13** (1977), *no.* 3, 239–257. (F. L. Spitzer) **58** #7924 60K35

(*with* Cocozza, Christiane) Processus de vie et de mort sur **R** ou **Z**, avec interaction selon les particules les plus proches. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 20, A1291–A1293. (Authors' summary) **56** #3976 60K35

Kipnis, L. A. On the instability of a particular third-order linear system. *Prikl. Mat. Meh.* **38** (1974), 921–922 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 868–869 (1975). (R. Grimmer) **51** #6059 34D05

Kipnis, M. M. The realizations of predicate formulae. (Russian. English summary) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **20** (1971), 40–48, 283. (P. Hájek) **45** #1757 (E **48** #5808) 02F99

See also **Studies in constructive mathematics and mathematical logic**, **46** #8817

Kippenhahn, R. Instabilities in stellar evolution. *Synergetics* (*Proc. Internat. Workshop, Garmisch-Partenkirchen*, 1977), *pp.* 80–89. *Springer, Berlin*, 1977. (J. S. Joel) **58** #32825 85.35

Kipper, È. Ja. (*with* Taremjaè, A. H.) Estimation of indices of the dynamics of effectiveness of capital investments. (Russian) *Èkonom. i Mat. Metody* **13** (1977), *no.* 6, 1212–1218. (A. A. Piontkovskiĭ) **58** #20304 90A15

Kiprijanov, I. A. (*with* Ključancev, M. I.) Norms of fractional order, and estimates for a certain class of singular integrals. (Russian) *A collection of articles on function spaces and operator equations* (*Proc. Sem. Functional Anal., Math. Fac., Voronezh State Univ., Voronezh*, 1970)(*Russian*), *pp.* 45–62. *Voronež. Gos. Univ., Voronezh*, 1970. (P. Lizorkin) **55** #13232 46E35 (35C15)

Scales of function spaces with a weight and their applications. (Russian) *Imbedding theorems and their applications* (*Proc. Sympos., Baku*, 1966) (*Russian*), *pp.* 107–118, 245. *Izdat. "Nauka", Moscow*, 1970. (O. John) **47** #3977 46E35 (35Q99)

(*with* Ključancev, M. I.) The Poisson kernels for boundary value problems with a Bessel differential operator. (Russian) *Partial differential equations* (*Proc. Sympos.*) (*Russian*), *pp.* 119–134. *Izdat. "Nauka", Moscow*, 1970. (J. Kačur) **47** #5445 35J99 (35C15)

Certain problems for singular partial differential operators. (Russian) *Application of functional methods to the boundary value problems of mathematical physics* (*Proc. Third Soviet-Czechoslovak Conf., Novosibirsk*, 1971) (*Russian*), *pp.* 96–102. *Inst. Mat. Akad. Nauk SSSR. Sibirsk. Otdel., Novosibirsk*, 1972. (V. Djurikovič) **52** #3743 35L35

(*with* Ključancev, M. I.) A singular partial differential problem with boundary conditions on the surface of singularities. (Russian) *Dokl. Akad. Nauk SSSR* **202**

(1972), 1001–1003. (A. M. Abasov) **46** #554 35Q99

Asymptotic distribution of eigenvalues and eigenfunctions of a certain class of singular elliptic operators. (Russian) Studies in the theory of differentiable functions of several variables and its applications, IV. *Trudy Mat. Inst. Steklov.* **117** (1972), 159–179, 344. (H. Flaschka) **51** #6179 35P20

Degenerate differential operators of principal type. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 1247–1250. (Ju. V. Egorov) **50** #13859 35G05 (47F05)

A certain class of singular elliptic operators. II. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 560–568, 693. (Ja. A. Roĭtberg) **48** #4498 35J30

(*with* Kaščenko, N. A.) The averaging operator that is connected with a generalized shift. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 21–23. (J. Muszyński) **51** #1492 47G05 (35G99)

(*with* Ljahov, L. N.) A certain class of pseudodifferential operators. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 278–280. (Rémi Vaillancourt) **50** #10908 47G05 (35S05)

(*with* Aziev, A. A.) Estimations by means of energy integrals. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 14 *Sb. Statei Teor. Operator. Uravnenii* (1974), 41–49. (RŽMat **1975** #6 B909) **57** #6801 35G99

(*with* Bogačev, B. M.) Traces of functions belonging to a weight space. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 4, 756–758. (Angelo Favini) **53** #1249 46E35

Imbedding theorems and local solvability of singular and degenerate equations. (Russian) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata,* 1973) (*Russian*), *pp.* 50–53, 186–187. *Izdat. "Nauka" Kazah. SSR, Alma-Ata,* 1976. (Author's summary) **57** #17254 46E35 (35G05)

(*with* Katrahov, V. V.; Ljapin, V. M.) Boundary value problems in domains of general form for singular parabolic systems of equations. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 6, 1271–1274. (A. Borzymowski) **54** #13322 35K50

(*with* Aziev, A. A.) The local solvability of certain singular partial differential equations. (Russian) Studies in the theory of differentiable functions of several variables and its applications, VI. *Trudy Mat. Inst. Steklov.* **140** (1976), 181–190, 288. (Pavel Doktor) **57** #6795 35G05

(*with* Katrahov, V. V.) A class of one-dimensional singular pseudodifferential operators. (Russian) *Mat. Sb.* (*N.S.*) **104(146)** (1977), *no.* 1, 49–68, 175. (Ju. V. Egorov) **58** #23773 47G05

See also **Theory and applications of differentiable functions of several variables, 50** #9472

Kiprijanova, N. I. Estimations of the eigenfunctions of the singular Beltrami operator. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 9 *Sb. Rabot Uravn. Častn. Proizvodn. i Vyčisl. Mat.* (1973), 55–62. (RŽMat **1974** #6 B790) **57** #10270 35P15

A mean value theorem for a singular differential operator. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU No.* 14 *Sb. Statei Teor. Operator. Uravnenii* (1974), 50–53. (See RŽMat **1975** #7 B342) 35J25 (31A05)

Expansions in the eigenfunctions of certain singular differential operators. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 2, 281–284. (M. M. Skriganov) **55** #3556 35P10

Asymptotic behavior of the spectral function of singular differential operators. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 3, 523–525. (Jan Bochenek) **58** #11999 35P20

Kipšidze, Z. Š. Weighted arithmetic error-correcting codes. (Russian) Problems of applied mathematics—Mushelišvili eightieth birthday collection. *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **11** (1972), *no.* 1, 72–79. (Editors) **57** #11923 94A10

(*with* Klimiašvili, M. A.; Faĭn, S. B.) Polynomial error-correcting codes. (Russian) Problems of applied mathematics—Mushelišvili eightieth birthday collection. *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **11** (1972), *no.* 1, 80–86. (Editors) **57** #11924 94A10

Systems of weighted control equations that correct errors in the adders of electronic computers. (Russian) Questions of computational mathematics (A collection dedicated to the memory of M. B. Gagua). *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **12** (1973), *no.* 1, 178–183. (Editors) **54** #12358 94A10

(*with* Klimiašvili, M. A.; Kobašvili, T. V.; Urumov, I. O.; Habelašvili, G. I.) ★Некоторые весовые коды, исправляющие ошибки. (Russian) [Some weighted error-correcting codes] With a Georgian summary. *Izdat. Tbilis. Univ., Tbilisi,* 1978. 45 *pp.* (Stefan Dodunekov) **58** #20788 94A10

Kipur, T. R. (*with* Oleĭnikova, L. V.) A mathematical model of the control of the development of power stations in consolidated power systems. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1975**, *no.* 3, 110–117, 126. **52** #5128 90C99

Kirakosjan, R. M. Certain theorems on the elasto-plastic equilibrium of a body under variable external actions. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **24** (1971), *no.* 6, 25–32 (1972). (S. Drobot) **45** #8098 73.35

Minimum principles and some theorems on the elasto-plastic equilibrium of bodies under nonstationary effects of force and temperature. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **26** (1973), *no.* 2, 51–61. (From the author's summary) **54** #9268 73.49

The connections between the solutions of a boundary value problem in the thermoelastic and the thermoplastic formulation when the plastic properties of the material depend on the temperature. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **28** (1975), *no.* 4, 40–45, 76. (B. Vujanović) **57** #18406 73.49

Kiral, Erhan Decomposition of tensors over crystallographic point groups. (Turkish summary) *METU J. Pure Appl. Sci.* **4** (1971), 149–155. (A. Wyler) **46** #7405 20H15 (20C35)

An indirect method for decomposition of tensors over crystallographic point groups. (Turkish summary) *METU J. Pure Appl. Sci.* **4** (1971), 157–167. (A. Wyler) **46** #7406 20H15

(*with* Mert, Muhsin) On the number and enumeration of independent components of material tensors with compound symmetry. (Turkish summary) *METU J. Pure Appl. Sci.* **6** (1973), *no.* 3, 263–277. (Charles A. Nelson) **53** #12409 82.20 (73.53)

(*with* Smith, G. F.) On the constitutive relations for anisotropic materials—triclinic, monoclinic, rhombic, tetragonal and hexagonal crystal systems. (French, G an. Italian and Russian summaries) *Internat. J. Engrg. Sci.* **12** (1974), 471–490. P Boehler) **57** #2070 73.53

(*with* Mert, Muhsin) Symmetry restrictions on the constitutive equations for magnetic materials. *Internat. J. Engrg. Sci.* **15** (1977), *no.* 5, 281–294. (B. K. tta **58** #25392 78.20 (20H15)

(*with* Ersoy, Yasar) A dynamic theory for polarizable and magnetizable magneto-electro thermoviscoelastic, electrically and thermally conductive anis pic solids having magnetic symmetry. *Internat. J. Engrg. Sci.* **16** (1978), *no.* 7, 48 92. (Gérard A. Maugin) **58** #19634 73.53

Kiran, Usha (*with* Chilana, Ajit Kaur; Rani, K.) *S*-bornological function spaces. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **11 (31)** (1976), *no.* 2, 247–253. (ny Gulick) **56** #9241 46E10

(*with* Chilana, Ajit Kaur) Algebra of sequences in locally convex algebras. *th. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 121–129. (A. Pietsch) **57** #17288 99 (46A45)

Kiranagi, Basanavappa S. Lie algebra bundles. (French summary) *Bull. Sci. Math.* (02 (1978), *no.* 1, 57–62. (M. S. Raghunathan) **58** #18441 55F10 (14M99)

Kirby, Bruce J. *See* **Optimal control theory and its applications, 53** #1358 *and* **O al control theory and its applications, 56** #4930

Kirby, David On positive definite Hermitian matrices. *Matrix Tensor Quart.* **23** (197 3), 31–32. (G. E. Wall) **47** #6740 15A48

Coprimary decomposition of Artinian modules. *J. London Math. Soc.* (2) **6** (3), 571–576. (T. S. Shores) **47** #3372 13C05

Isomorphic Koszul complexes. *Mathematika* **20** (1973), 53–57. (R. E. Ma e) **48** #8484 13D99 (13H15)

Artinian modules and Hilbert polynomials. *Quart. J. Math. Oxford Ser.* (24 (1973), 47–57. (J. W. Brewer) **47** #4993 13E10

Relations between generalized Koszul complexes. (Italian summary) *Ann. at. Pura Appl.* (4) **98** (1974), 201–220. (G. Eisenreich) **53** #8048 13D99 (13H15)

Hilbert polynomials and powers of an ideal. (Italian summary) *Ann. Mat. a Appl.* (4) **101** (1974), 185–213. (W. Vogel) **51** #3158 13H15

A sequence of complexes associated with a matrix. *J. London Math. Soc.* 7 (1974), 523–530. (Y. C. Wu) **49** #2708 13D99

Idempotents in a graded ring. *J. London Math. Soc.* (2) **8** (1974), 375–376. (MacRae) **50** #294 13A99

(*with* Rand, D. A.) Regular rings and valuation ideals. *Quart. J. Math. Oxfor r.* (2) **25** (1974), 329–340. (M. Nagata) **51** #470 13A15

The reduction number of a one-dimensional local ring. *J. London Math. Soc.* ((1975), *no.* 4, 471–481. (J. L. Dawson) **52** #388 13H10

(*with* Adranghi, M. R.) A lattice of extension rings for a commutative ring. *Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 2, 225–234. (Richard Draper) **58** # 13B99 (13H99)

Kirby, J. *See* **Symposium: Mathematical Genetics, 52** #12848

Kirby, K. (*with* Ewens, Warren J.) The eigenvalues of the neutral alleles process. *Th t. Population Biology* 7 (1975), 212–220. (Edward D. Rothman) **57** #11834 9 5 (92A10)

Kirby, L. A. S. (*with* Paris, Jeff) Initial segments of models of Peano's axioms. *Set t y and hierarchy theory, V* (*Proc. Third Conf., Bierutowice,* 1976), *pp.* 211–226. *Lecture s in Math., Vol.* 619, *Springer, Berlin,* 1977. (James H. Schmerl) **58** #10423 02H

Kirby, M. J. L. The current state of chance-constrained programming. *Proceedings o e Princeton Symposium on Mathematical Programming* (*Princeton,* 1967), *pp.* 93– *Princeton Univ. Press, Princeton, N.J.,* 1970. (G. Tintner) **48** #7974 90C15

(*with* Charnes, A.; Cooper, W. W.) Chance-constrained programming: an extension of statistical method. *Optimizing methods in statistics* (*Proc. Sympos., State Univ., Columbus, Ohio,* 1971), *pp.* 391–402. *Academic Press, New York,* 1971. (I Stancu-Minasian) **49** #6925 90C15

(*with* Cassidy, R. G.; Field, C. A.) Recent results in games with random pa f matrices. *J. Math. Sci.* **6** (1971), 83–92 (1974). (From the summary) **57** #154 90D05

(*with* Cassidy, R. G.; Field, C. A.) Random payoff games with partial informat One person games against nature. *Rev. Française Informat. Recherche Opérationne* (1971), *Sér.* V-3, 3–17. (Romesh Saigal) **47** #3080 93E05

(*with* Love, H. R.; Swarup, Kanti) A cutting-plane algorithm for extreme p mathematical programming. *Cahiers Centre Études Recherche Opér.* **14** (1972), 27 (I. Maruşciac) **47** #3004 90C05

(*with* Girmes, D. H.) Most informative selection of regression variables for regressors. *J. Statist. Res.* **6** (1972), 30–35. (Mayer Alvo) **49** #8226 62J05

(*with* Love, H. R.; Swarup, Kanti) Extreme point mathematical programmi *Management Sci.* **18** (1972), 540–549. (I. Maruşciac) **46** #10399 90C05

(*with* Cassidy, R. G.; Field, C. A.) Solution of a satisficing model for ran payoff games. *Management Sci.* **19** (1972), *no.* 3, 266–271. (Authors' summary) **55** #12127 90D05 (90C50)

(*with* Love, H. R.; Swarup, Kanti) Extreme point programming with nonli constraints. *Discrete Math.* **5** (1973), 345–365. (I. Maruşciac) **49** #8667 90C40

(*with* Cassidy, R. G.; Field, C. A.) Partial information in two person games random payoffs. *Naval Res. Logist. Quart.* **20** (1973), 41–56. (Authors' summ **55** #10024 90D05 (93E05)

(*with* Swarup, Kanti; Love, H. R.) A primal-like algorithm for extreme p mathematical programming. *J. Math. Sci.* 7 (1972), 9–14 (1974). (Authors' summ **57** #11793 90C99

(*with* Cook, W. D.; Mehndiratta, S. L.) A game theoretic approach to a two f bidding problem. *Naval Res. Logist. Quart.* **22** (1975), *no.* 4, 721–739. (Norma Coleman, Jr.) **53** #7501 90D05 (90A10)

(*with* Cook, W. D.; Mehndiratta, S. L.) A linear fractional max-min proble *Operations Res.* **23** (1975), *no.* 3, 511–521. (J. Falk) **56** #17823 90C30

(*with* Cook, W. D.; Field, C. A.) Infinite linear programming in games with par information. *Operations Res.* **23** (1975), *no.* 5, 996–1010. (Authors' summary) **57** #2 90C05

Kirby, Robion C. Some conjectures about four-manifolds. *Actes du Congrès Internatio* *des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp*. 79–84. *Gauthier-Villars, Paris*, 1971. (F. Laudenbach) **55** #4181 57A15

(*with* Siebenmann, Laurence C.) Normal bundles for codimension 2 locally flat imbeddings. *Geometric topology* (*Proc. Conf., Park City, Utah*, 1974), *pp*. 310–324. *Lecture Notes in Math., Vol*. 438, *Springer, Berlin*, 1975. (T. B. Rushing) **53** #4072 57A35

(*with* Scharlemann, Martin G.) A curious category which equals TOP. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf., Tokyo*, 1973), 93–97. *Univ. Tokyo Press, Tokyo*, 1975. (B. J. Sanderson) **51** #9072 57C25 (57A99)

(*with* Siebenmann, Laurence C.) ★Foundational essays on topological manifolds, smoothings, and triangulations. With notes by John Milnor and Michael Atiyah. Annals of Mathematics Studies, No. 88. *Princeton University Press, Princeton, N.J.*; *University of Tokyo Press, Tokyo*, 1977. vii+355 *pp*. (Ronald J. Stern) **58** #31082 57–02 (57Axx)

A calculus for framed links in S^3. *Invent. Math*. **45** (1978), *no*. 1, 35–56. (Roger Fenn) **57** #7605 57A10 (55A25)

(*with* Melvin, Paul) Slice knots and property R. *Invent. Math*. **45** (1978), *no*. 1, 57–59. (L. Neuwirth) **57** #7606 57A10

ev, Kiril P. Linearly representable stochastic processes. (Russian. English summary) *Annuaire Univ. Sofia Fac. Math*. **66** (1971/72), 287–306 (1974). (A. I. Ponomarenko) **53** #14658 60G99

The general form of the correlation function of a certain class of non-stationary random processes. (Russian) *C. R. Acad. Bulgare Sci*. **24** (1971), 1441–1443. (Ju. I. Petunin) **45** #6068 60G99

Spectral decompositions of certain classes of non-stationary random processes. (Russian) *C. R. Acad. Bulgare Sci*. **24** (1971), 1601–1603. (Ju. I. Petunin) **45** #6069 60G99

A certain class of nonstationary random processes. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No*. 14 (1971), 150–169. (H. Salehi) **45** #7793 60G99

(*with* Gubrēev, G. M.) A certain class of nonstationary random processes with an unbounded infinitesimal operator. (Russian) *C. R. Acad. Bulgare Sci*. **25** (1972), 1021–1023. (H. Salehi) **48** #7010 47D05 (60J35)

A certain class of nonstationary random processes. (Russian) *C. R. Acad. Bulgare Sci*. **26** (1973), 587–589. (Petr Mandl) **47** #9698 60G05

(*with* Trojanski, Stanimir) A certain characterization of spaces with scalar product. (Russian) *C. R. Acad. Bulgare Sci*. **28** (1975), *no*. 4, 445–447. (From the text) **58** #7046 46C05

(*with* Trojanski, Stanimir) The Orlicz spaces associated with Orlicz functions that do not satisfy the D_2-condition. (Russian) *Serdica* **1** (1975), *no*. 1, 88–95. (P. Wojtaszczyk) **53** #11357 46E30

Dissipative random processes. (Russian) *Serdica* **1** (1975), *no*. 2, 199–217. (M. S. Livšic) **53** #14659 60G99 (47B44)

rch, A. (*with* Huckaba, J.) Additive subgroups of the rationals. *Math. Gaz*. **54** (1970), *no*. 389, 299–300. (Editors) **58** #11083 20–01

rch, Allan M. ★Elementary number theory: a computer approach. *Intext Educational Publishers, New York-London*, 1974. xi+339 *pp*. (J. B. Roberts) **50** #212 10–01 (10–04, 68–01)

rch, Gottfried *See* **Winter, Eduard J., 58** #21156

rch, Konrad (*with* Fucke, Rudolf; Nickel, Heinz) ★Darstellende Geometrie. Neunte Auflage. Lehrbücher der Mathematik. *VEB Fachbuchverlag, Leipzig*, 1977. viii+289 *pp*. (H. Brauner) **58** #7349 50–01

rch, Murray R. On Hewitt's γ-maximal spaces. *J. Austral. Math. Soc*. **14** (1972), 45–48. (S. P. Franklin) **47** #5806 54A10 (54A25)

rchberg, Eberhard Representations of coinvolutive Hopf-W^*-algebras and non-Abelian duality. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **25** (1977), *no*. 2, 117–122. (L. Longdon) **56** #6415 46L10

C^*-nuclearity implies CPAP. *Math. Nachr*. **76** (1977), 203–212. (I. Miyadera (Zbl **383** #46011)) **58** #23623 46L05 (46M05)

rchgässner, Klaus (*with* Sorger, P.) Stability analysis of branching solutions of the Navier-Stokes equations. *Applied mechanics* (*Proc. Twelfth Internat. Congr. Appl. Mech., Stanford Univ., Stanford, Calif*., 1968), *pp*. 257–268. *Springer, Berlin*, 1969. (A. Elcrat) **51** #12117 76.35

Multiple eigenvalue bifurcation for holomorphic mappings. *Contributions to nonlinear functional analysis* (*Proc. Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis*., 1971), *pp*. 69–99. *Academic Press, New York*, 1971. (Hugo Beirão da Veiga) **53** #3811 47H15

(*with* Lange, Herbert) The stability of cellular branching solutions of the Navier-Stokes equations. *Instability of continuous systems* (*IUTAM Sympos., Herrenalb*, 1969), *pp*. 162–166. *Springer, Berlin*, 1971. (J. P. Guiraud) **51** #4832 76.35

(*with* Kielhöfer, Hansjörg) Stability and bifurcation in fluid dynamics. Rocky Mountain Consortium Symposium on Nonlinear Eigenvalue Problems (Santa Fe, N.M., 1971). *Rocky Mountain J. Math*. **3** (1973), 275–318. (L. A. Segel) **47** #8001 76.35 (76.47)

(*with* Scheurle, Jürgen) Verzweigung und Stabilität von Lösungen semilinearer elliptischer Randwertprobleme. *Jber. Deutsch. Math.-Verein*. **77** (1975), *no*. 1, 39–54. (Authors' review (Zbl **304** #47056)) **58** #6683 35J65 (47H15)

Bifurcation in nonlinear hydrodynamic stability. *SIAM Rev*. **17** (1975), *no*. 4, 652–683. (Clarence M. Ablow) **52** #974 35B30 (76.47)

(*with* Scheurle, Jürgen) Bifurcation. *Dynamical systems* (*Proc. Internat. Sympos., Brown Univ., Providence, R.I*., 1974), *Vol. I*, *pp*. 115–129. *Academic Press, New York*, 1976. (J. S. Joel) **58** #29182 35J55 (47H15, 58E05)

Instability phenomena in fluid mechanics. *Numerical solution of partial differential equations, III* (*Proc. Third Sympos*. (*SYNSPADE*), *Univ. Maryland, College Park, Md*., 1975), *pp*. 349–371. *Academic Press, New York*, 1976. (E. Zeidler) **57** #18441 76.35 (47H15)

Preference in pattern and cellular bifurcation in fluid dynamics. *Applications of bifurcation theory* (*Proc. Advanced Sem., Univ. Wisconsin, Madison, Wis*., 1976), *pp*. 149–174. *Publ. Math. Res. Center, No*. 38, *Academic Press, New York*, 1977. (Michael Ghil) **58** #19715 76.35

Bifurcation of a continuum of unstable modes. *Synergetics* (*Proc. Internat. Workshop, Garmisch-Partenkirchen*, 1977), *pp*. 34–38. *Springer, Berlin*, 1977. (J. S. Joel) **58** #22772 34C10 (35B10)

Kirchgraber, Urs The transformational behaviour of perturbation theories. *Celestial Mech*. **7** (1973), 474–494. (L. F. Oster) **48** #7721 70.35

Uniform treatment of canonical perturbation theories. *J. Reine Angew. Math*. **259** (1973), 86–100. (F. V. Pohle) **47** #1349 70.35

Das Transformationsverhalten von Störungsgleichungen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech*. **54** (1974), T190–T191. (William B. Heard) **51** #7412 70.34

(*with* Vitins, M.) The structure of the secular system in nonlinear oscillations. *Celestial Mech*. **12** (1975), *no*. 2, 139–153. (Q. K. Ghori) **52** #12454 70.34

Error bounds for perturbation methods. Proceedings of the Fifth Conference on Mathematical Methods in Celestial Mechanics (Oberwolfach, 1975), Part II. *Celestial Mech*. **14** (1976), *no*. 3, 351–362. (D. Schmidt) **58** #11707 34D10

Error estimation for perturbed systems. *J. Reine Angew. Math*. **288** (1976), 202–206. (W. Skrapek) **54** #13229 32Dxx

See also **Proceedings: Oberwolfach Conference on Celestial Mechanics, 47** #7979; **Proceedings: Conference on Mathematical Methods in Celestial Mechanics, 54** #14484 *and* **Proceedings: Conference on Mathematical Methods in Celestial Mechanics, 54** #14485

Kirchheim, Alfred (*with* Böhm, Franz; Hempel, Lorenz; Krause, Heinz; Weise, Gotthard) ★Mathematische Standardmodelle der Operationsforschung. Zweite erweiterte Auflage. Die Arbeit des Autorenkollektivs wurde koordiniert von Heinz Krause. *Verlag Die Wirtschaft, Berlin*, 1972. 719 *pp*. (F. Weinberg) **48** #3445 90–01

Kirchheimer, Franz Zur Bestimmung der linearen Charaktere symplektischer Hauptkongruenzgruppen. *Math. Z*. **150** (1976), *no*. 2, 135–148. (Günter Köhler) **54** #5123 10D20 (20H25, 10D05, 10C30)

Die Normalteiler der symplektischen Gruppen über beliebigen lokalen Ringen. *J. Algebra* **50** (1978), *no*. 1, 228–241. (D. G. James) **58** #28209 20H05 (10C30)

Kirchner, Reinhard Ein Verfahren zum Entwurf von asynchronen Schaltwerken mit flankenempfindlichen Speichergliedern. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no*. 3, 109–124. (I. E. Strazdinš) **56** #15186 94A20

Kirchvogel, Paul Adolf Tycho Brahe als astronomischer Freund des Landgrafen Wilhelm IV. von Hessen-Kassel. (English summary) *Sudhoffs Arch*. **61** (1977), *no*. 2, 165–172. (Editors) **57** #12050 01A45

Kirczenow, G. *See* **Transport phenomena, 49** #12005

Kireev, V. I. (*with* Ivanov, M. Ja.) On the calculation of highly underexpanded supersonic submerged jets. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **16** (1976), *no*. 3, 750–757, 821. (Authors' summary) **54** #4329 76.65

Kireĭtov, V. R. Fibered modules and cobordisms. I. (Russian) *Sibirsk. Mat. Ž*. **14** (1973), 1006–1024, 1157. (Joel M. Cohen) **48** #12525 55F65 (18F15)

Fibered modules and cobordisms. II. (Russian) *Sibirsk. Mat. Ž*. **14** (1973), 1247–1258, 1366. (P. S. Landweber) **50** #8570 57D90 (55B20, 55F25)

(*with* Lavrent′ev, M. M.) A certain class of mappings of bisurfaces in three-space. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 259–260. (J. Král) **50** #5630 52A15

(*with* Lavrent′ev, M. M.) The branch points of optical hypersurfaces. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no*. 5, 1027–1030. (J. Král) **52** #12438 68A45

The problem of determining an optical surface from its representations. (Russian) *Funkcional. Anal. i Priložen*. **10** (1976), *no*. 3, 45–54. (Z. Nádeník) **54** #11875 68A45

Some geometric problems of surface illumination. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no*. 2, 261–263. (Leo Boček) **58** #7364 50B99

Kiremidjian, Garo K. Complex structures on Riemann surfaces. *Trans. Amer. Math. Soc*. **169** (1972), 317–336. (M. Schneider) **46** #9397 32G15 (30A46)

Classification of certain complex structures on the polydisc. *Amer. J. Math*. **95** (1973), 266–280. (L. R. Hunt) **48** #570 32G05

Deformations of complex structures on certain non-compact complex manifolds. *Ann. of Math*. (2) **98** (1973), 411–426. (R. O. Wells, Jr.) **48** #8853 32G05

Deformations of certain complex manifolds. *Discontinuous groups and Riemann surfaces* (*Proc. Conf., Univ. Maryland, College Park, Md*., 1973), *pp*. 269–281. *Ann. of Math. Studies, No*. 79, *Princeton Univ. Press, Princeton, N.J*., 1974. (Ngô van Quê) **50** #7587 32G05 (32G13)

On the extension of boundary integrable almost complex structure. *Bull. Amer. Math. Soc*. **80** (1974), 982–985. (R. Michael Range) **50** #10327 32G05 (32F10)

On deformations of complex compact manifolds with boundary. *Pacific J. Math*. **54** (1974), 177–190. (Ngô van Quê) **51** #5973 32G05

Extendible pseudo-complex structures. II. *J. Analyse Math*. **30** (1976), 304–329. **58** #28678 32G05 (53C15)

CR structures and their extensions. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Williams Coll., Williamstown, Mass*., 1975), *Part* 1, *pp*. 169–175. *Amer. Math. Soc., Providence, R.I*., 1977. (Ingo Lieb) **56** #15992 32G99 (32F99, 32C05)

Extendible pseudocomplex structures. *J. Approximation Theory* **19** (1977), *no*. 4, 281–303. (Daniel M. Burns, Jr.) **58** #28679 32G05

Kiremitdjian, Georges ★SISGOF. (French) Note ECSTASM No. 12. Publication Mathématique d'Orsay, Nos. 156–75.45. *U.E.R. Mathématique, Université Paris XI, Orsay*, 1975. 90 *pp*. (*not consecutively paged*) (Not reviewed) 68A05

★Vérification interactive de démonstrations mathématiques. Note ECSTASM, No. 13. Publication Mathématique d'Orsay, Nos. 156-75.45. *U.E.R. Mathématique, Université Paris XI, Orsay*, 1975. 94 *pp*. (*not consecutively paged*) (Editors) **58** #32126 68A40 (02–04, 02B10, 02D99)

See also **APLASM, 57** #14563a

Kirezci, Murat A remark on IBN-rings and free ideal rings. (Turkish summary) *METU J. Pure Appl. Sci*. **5** (1972), *no*. 1, 15–18. (W. G. Leavitt) **51** #12905 16A06

Kiričenko, B. I. (*with* Aleksandrov, E. L.) Carleman integral operators with infinite defect numbers. (Russian) *Studies in differential equations and the theory of functions* (*Russian*), *pp*. 3–13, 113. *Saratov. Univ., Saratov*, 1974. (Authors' summary) **58** #30505 47G05

Spectral functions of a certain class of matrix operators. (Russian) *Functional analysis, No*. 9: *Harmonic analysis on groups* (*Russian*), *pp*. 51–60. *Ul′janovsk. Gos. Ped.*

Inst., Ulyanovsk, 1977. (F.-H. Vasilescu) **57** #17353 47B15

(*with* Aleksandrov, E. L.) Carleman integral operators with kernels that depend on the difference and on the sum of the arguments. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 1, 3–22, 237. (P. P. Zabreĭko) **56** #1134 47G05

Kiričenko, M. F. ★Некоторые задачи устойчивости и управляемости движения. (Russian) [Some problems on the stability and controllability of motion] *Izdat. Kiev. Univ., Kiev*, 1972. 212 *pp.* (Djordje Djukic) **55** #11765 70.49

Stabilization of the motion of certain nonlinear systems with respect to linear approximation. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1312–1315. (P. Brunovský) **47** #2162 34H05

(*with* Koval'skiĭ, I. P.) The control of certain nonlinear systems. (Russian) *Certain questions on simulation and systems control* (*Russian*), *pp.* 53–62. *Izdat. "Naukova Dumka", Kiev*, 1973. (J. Jarník) **54** #7990 34H05 (49D99)

(*with* Kudīn, G. Ī.) The stabilization of nonlinear oscillations. (Russian) *Certain questions on simulation and systems control* (*Russian*), *pp.* 63–70. *Izdat. "Naukova Dumka", Kiev*, 1973. (Authors' introduction) **54** #649 34C15 (34D20)

(*with* Bublik, B. M.) ★Основы теории управления. (Russian) [Foundations of control theory] *Izdat. Ob"ed. "Višča Škola", Kiev*, 1975. 327 *pp.* (È. G. Al'breht) **55** #14277 93–01 (49–01)

(*with* Garaščenko, F. G.) Investigation of problems involving practical stability and stabilization of motion. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1975**, *no.* 6, 15–24 (*Russian*); *translated as Mechanics of Solids* **10** (1975), *no.* 6, 10–17. (P. C. Parks) **54** #1751 70.34

Analytic construction of minimax regulators in linear systems. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 7, 591–594, 669. (Author's summary) **58** #15434 93C05

(*with* Nakonečniĭ, O. G.) Minimax approach to the recurrent estimation of the states of linear dynamical systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 4, 52–55. (T. Tobias) **58** #9671 93E10

(*with* Garaščenko, F. G.; Ljaško, V. Ī.) Design of linear systems with a reference mathematical model by using the second method of Ljapunov. *Avtomatika* **1977**, *no.* 3, 41–49 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **10** (1977), *no.* 3, 32–38. (P. C. Parks) **58** #4525 93C40

(*with* Nakonečniĭ, O. G.) On minimax estimates of the states of linear dynamical systems. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 1, 7–9, 93. (A. Halanay) **57** #11880 93C15

(*with* Nakonečniĭ, O. G.) On a minimal estimate of the states of linear dynamical systems. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 34 (1978), 18–24, 164. (Franz Kappel) **58** #20676 93B30 (93E10)

Kiričenko, M. P. (*with* Molčanov, Ī. M.; Nīkolenko, L. D.) A certain batch of programs for the solution of systems of linear algebraic equations. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 1, 127–133. (A. S. Householder) **45** #9471 65F05

Kiričenko, N. F. *See* **Kiričenko, M. F.**

Kiričenko, V. F. Nearly Kähler structures that are induced by a triple vector product on six-dimensional submanifolds of Cayley's algebra. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 3, 70–75. (A. Gray) **49** #3793 53C55

Deformations of *K*-structures. (Russian. English summary) *Problems in geometry, Vol.* 7 (*Russian*), *pp.* 27–37, 301. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (J. Vanžura) **58** #12867 53C55

Almost Hermitian submanifolds of *K*-spaces. (Russian. English summary) *Problems in geometry, Vol.* 7 (*Russian*), *pp.* 39–47, 301. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (J. Vanžura) **58** #12868 53C55

Certain types of *K*-spaces. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 3(183), 163–164. (O. Kowalski) **57** #10643 53C25

Certain properties of tensors on *K*-spaces. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 6, 78–85. (O. Kowalski) **53** #9067 53B35

K-spaces of constant holomorphic sectional curvature. (Russian) *Mat. Zametki* **19** (1976), *no.* 5, 805–814. (D. I. Papuc) **54** #13812 53C55

K-spaces of constant type. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 2, 282–289, 478. (Jacek Gancarzewicz) **53** #11554 53C55

Properties of pure tensors on *K*-spaces. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 292 (1976), 11–16. (M. C. Chaki) **57** #10626 53B35

The differential geometry of *K*-spaces. (Russian) *Problems in geometry, Vol.* 8 (*Russian*), *pp.* 139–161, 279. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1977. (J. Szenthe) **58** #24150 53C55

K-spaces of maximal rank. (Russian) *Mat. Zametki* **22** (1977), *no.* 4, 465–476. (Aurel Bejancu) **57** #13756 53B35

Kiričenko, V. V. (*with* Drozd, Ju. A.) The quasi-Bass orders. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 328–370. (K. W. Roggenkamp) **46** #3546 16A18

(*with* Drozd, Ju. A.) Primary orders with a finite number of indecomposable representations. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 715–736. (K. W. Roggenkamp) **48** #4041 16A64

(*with* Drozd, Ju. A.) Letter to the editors: "Representations of completely decomposable rings" (Mat. Zametki 3 (1968), 643–650). (Russian) *Mat. Zametki* **14** (1973), 943. (Editors) **50** #2255 16A64

(*with* Drozd, Ju. A.; Roggenkamp, K. V.) Orders with one irreducible representation. (Ukranian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 22–24, 92. (J. Karásek) **48** #8469 13A15

(*with* Drozd, Ju. A.; Zavadskiĭ, A. G.) Matrix problems and integer representations. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **38** (1974), 291–293. (I. Reiner) **49** #7320 16A64

(*with* Gubarenc, N. M.) The structure of semiperfect right Noetherian and right hereditary prime rings. (Russian) *Mathematics collection* (*Russian*), *pp.* 18–22. *Izdat. "Naukova Dumka", Kiev*, 1976. (L. Bican) **56** #12048 16A12 (16A48)

Right Noetherian rings over which all finitely generated modules are semi-chain modules. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 1, 9–12, 92. (L. A. Koifman) **58** #5779 16A48 (16A46)

Generalized uniserial rings. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 4, 559–581. (L. A. Skornjakov) **53** #10866 16A46

(*with* Zavadskiĭ, A. G.) Torsion-free modules over primary rings. (Russian) Modules in representation theory and algebraic geometry. *Zap. Naučn. Sem. Lenin Otdel. Mat. Inst. Steklov.* (*LOMI*) **57** (1976), 100–116, 177. (K. W. Roggenk **58** #11026 16A64

(*with* Zavadskiĭ, A. G.) Semimaximal rings of finite type. (Russian) *Mat. Sb.* (**103(145)** (1977), *no.* 3, 323–345, 463. (L. A. Skornjakov) **56** #15706 16A64

Classification of the pairs of mutually annihilating operators in a graded spac representations of a dyad of generalized uniserial algebras. (Russian) Rings and l groups. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **75** (91–109, 196–197. (W. G. Leavitt) **58** #16723 15A21 (16A42)

Kiričevskiĭ, V. V. (*with* Vaĭnberg, D. V.; Gorodeckiĭ, A. S.; Saharov, A. S.) The element method in the mechanics of deformable bodies. (Russian) *Prikl. Meh.* **8** (*no.* 8, 3–28, 140. (P. P. Teodorescu) **50** #11964 73.65

Kirichenko, N. F. *See* **Kiričenko, M. F.**

Kirievskiĭ, L. A. Duality in complex mathematical programming. (Russian) *Proceedin the Fourth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1971), *No.* 2 (*Russian*), *pp.* 32–44. *Moskov. Inž.-Stroitel. Inst., Mo* 1971. (H. Weber) **57** #9068 90C25

(*with* Poljak, R. A.) The acceleration of the convergence of convex programm methods. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1024–1027. (S. Krčev **48** #1005 49D45 (90C25)

Methods for the simultaneous solution of the direct and the dual convex programming problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974** 3, 134–138. (A. Göpfert) **52** #16627 90C25

Kiriĭ, K. A. (*with* Bykov, Ja. V.) Periodic oscillations with large amplitude. I. (Russi *Differencial'nye Uravnenija* **8** (1972), 943–952. (H. I. Freedman) **46** #5742 34C

(*with* Bykov, Ja. V.) The branchings of the solutions of a certain class of nonli partial differential equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1627–1638, 1715. (B. A. Fleishman) **47** #9028 35B20 (35Q99)

(*with* Bykov, Ja. V.) Periodic oscillations with large amplitude. II. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1177–1186, 1355. (H. I. Freedman) **48** #6 34C25

(*with* Bykov, Ja. V.) Periodic oscillations with large amplitude. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 4, 604–610, 762. (K. W. Chang) **54** #30 34C25

Kirija, V. S. (*with* Mirianašvili, M. M.; Kereselidze, A. B.) Foundations of a nonholonomically covariant formulation of general relativity theory. (Russian) *Vysš. Učebn. Zaved. Fiz.* **1974**, *no.* 12, 55–60. (Authors' summary) **58** #25793 8

Kirijackis, E. An extremal problem in Euclidean space. (Russian. Lithuanian and Eng summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 2, 111–116, 220. (D. A. Brannan) **56** #8820 30A06

Kirik, P. Ja. *See* **Questions in applied mathematics, 48** #5448

Kirik of Novgorod *See* **Simonov, R. O., 58** #26819; **Simonov, R. O., 58** #26820a **Ivanov, V. V., 58** #26820b

Kirilenko, A. A. (*with* Masalov, S. O.) The computation of certain types of infi products. (Russian) *Radiotehn.* (*Har'kov*) *No.* 20 (1972), 155–161. (Bl. Sendov) **46** #2891 65N10

(*with* Masalov, S. O.; Šestopalov, V. P.) Diffraction of waves on a tape grid of "Venetian blind" type. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 413–428. Nikodémusz) **47** #6197 78.35 (78.65)

(*with* Šestopalov, V. P.; Jašina, N. P.) A strict solution of the problem of a circ waveguide with a step discontinuity. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), 6, 1482–1493, 1627. (Authors' summary) **56** #14177 78.65

Kiriljuk, L. V. A family of triangles with a common base and a constant ratio of the lat sides. (Russian) *Collection of scientific articles in the physical and mathematical scie* (*Publ. Grodno State Ped. Inst.*) (*Russian*), *pp.* 108–111, vii. *Izdat. "Vyšèĭšaja Ško Minsk*, 1974. (Author's summary) **57** #17479 50B05

Kiriljuk, M. Ī. (*with* Brodec'kiĭ, G. L.; Vinnickiĭ, V. P.) The distribution of the output f of a single-channel system with a mechanism that "takes walks". (Russian) *Comp control systems* (*Russian*), *pp.* 127–133. *Akad. Nauk Ukrain. SSR Inst. Kibernet., K* 1972. (František Zítek) **51** #2002 60K25

(*with* Brodec'kiĭ, G. L.; Vinnickiĭ, V. P.) Multipriority queueing system with unreliable mechanism that operates under "service, take a walk" conditions. (Russia *Complex control systems* (*Russian*), *pp.* 134–145. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (František Zítek) **51** #2003 60K25

(*with* Gončaruk, P. P.; Gul'čuk, G. G.; Malanjuk, L. B.) The real stability difference equations. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 132–135. (B. Jankó) **46** #8453 65Q05

(*with* Gul'čuk, G. G.; Lemiševs'kiĭ, G. A.) Determination of sojourn time of requests in a system with repeated queueing. *Avtomatika* **1974**, *no.* 3, 76–80 (*Ukrainian*); *translated as Soviet Automat. Control* **7** (1974), *no.* 3, 63–66. (Izhak Rub **51** #11703 60K25

Kirillov, A. A. ★Элементы теории представлений. (Russian) [Elements of the theory representations] *Izdat. "Nauka", Moscow*, 1972. 336 *pp.* (*errata insert*) (H. Moscov **53** #10985 22E45

★Пределы. (Russian) [Limits] Second revised edition. *Izdat. "Nauka", Mosc* 1973. 95 *pp.* (Editors) **49** #10822 26–01

Representations of the infinite-dimensional unitary group. (Russian) *Dokl. Ak Nauk. SSSR* **212** (1973), 288–290. (V. S. Varadarajan) **49** #5239 22E65 (46L99)

★Éléments de la théorie des représentations. Traduit du russe par A. Sossinsky [B. Sosinskiĭ]. *Éditions Mir, Moscow*, 1974. 347 *pp.* (Editors) **52** #14134 22–XX

(*with* Gindikin, S. G.; Fuks, D. B.) Work of I. M. Gel'fand in functional analys algebra and topology. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 1(175), 195–22 (Editors) **52** #7826 01A70 (22–03, 57–03)

Representations of certain infinite-dimensional Lie groups. (Russian. English summary) Collection of articles dedicated to the memory of Ivan Georgievič Petrovsk (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 1, 75–83. (Moscovici) **52** #667 22E65 (58D05, 58F05)

The method of orbits in representation theory. *Lie groups and their representatio*

Proc. Summer School, Bolyai János Math. Soc., Budapest, 1971), *pp*. 219–230. *Halsted, ew York*, 1975. (From the author's introduction) **55** #5801 22E45

(*with* Sunčeleev, R. R.) Algebra of measures on the group of affine transformations f the *p*-adic interval. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1975**, *no*. 2, 4. (J. S. Joel) **52** #3881 43A10 (22E50)

Lie algebra structures that have the property of being local. (Russian) *Funkcional. nal. i Priložen*. **9** (1975), *no*. 2, 75–76. (A. Verona) **52** #1778 58F05

★Elements of the theory of representations. Translated from the Russian by dwin Hewitt. Grundlehren der Mathematischen Wissenschaften, Band 220. *pringer-Verlag, Berlin-New York*, 1976. xi+315 *pp*. (Editors) **54** #447 22–XX 22E45)

(*with* Fedorov, F. I.) First order equations for a gravitational field in the vacuum. Russian. English summary) *Acta Phys. Polon. B* **7** (1976), *no*. 3, 161–167. (J. awrynowicz) **54** #6862 83.53

Local Lie algebras. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no*. 4(190), 57–76. (J. niatycki) **55** #11304a (E **55** #11304b) 58F05 (17B65)

Invariant differential operators on geometric quantities. (Russian) *Funkcional. Anal. Priložen*. **11** (1977), *no*. 2, 39–44, 95. (I. Vaisman) **56** #9564 58A99

Letter to the editors: Correction to "Local Lie algebras" (Uspehi Mat. Nauk 31 1976), no. 4(190), 57–76). (Russian) *Uspehi Mat. Nauk* **32** (1977), *no*. 1, (193), 268. (J. Sniatycki) **55** #11304b 58F05 (17B65)

See also **Seminar: Algebraic Groups**, **48** #11106; **Bourbaki, Nicolas**, **51** #14084; **ostant, Bertram**, 52 #5892; **Hewitt, Edwin; et al.**, 53 #688; **Hewitt, Edwin; et al.**, **4** #446; **Steinberg, Robert**, **57** #16422; **Lang, Serge**, **58** #16968 *and* **Bourbaki, Nicolas**, **58** #28083b

Klov, A. I. (*with* Gubanov, V. A.) Computation of the field of a counter pin transformer of acoustic surface waves by the Riemann-Hilbert method. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp*. 290 (1976), 84–88. (From the authors' text) **56** #14030 76.30

Klov, A. N. (*with* Bašmakov, M. I.) Lutz filtration of formal groups. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat*. **39** (1975), *no*. 6, 1227–1239, 1437. (Michiel Hazewinkel) **53** #2962 14L05

Commutative formal groups. (Russian) Modules in representation theory and algebraic geometry. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)* **57** (1976), 117–124, 177. (Michiel Hazewinkel) **56** #15664 14L05 (14G10)

Kllov, P. V. Existence of solutions of a certain class of linear stochastic operator equations. (Russian) *Mat. Issled*. **5** (1970), *no*. 3(17), 190–191. (W. A. Woyczyński) **45** #886b 46E35 (60H99)

Convexity properties of a certain family of random Sobolev function spaces. (Russian) *Mat. Issled*. **5** (1970), *no*. 3(17), 192–194. (W. A. Woyczyński) **45** #886a 46E35 (60H99)

llov, V. H. (*with* Vitjuk, V. F.) The oscillations of a fluid with a slanted bottom. (Russian) *Proceedings of a Conference on Boundary Value Problems* (*Kazan*, 1969) (*Russian*), *pp*. 67–71. *Izdat. Kazan. Univ., Kazan*, 1970. (From the introduction) **52** #7303 76.35

An electric field in a magnetohydrodynamic channel of rectangular cross-section with finite electrodes. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no*. 5(108), 38–45. (J. P. Guiraud) **45** #9590 78.31

Electric field in a MHD channel of rectangular cross section in the presence of the Hall effect. *Prikl. Mat. Meh*. **37** (1973), 459–468 (*Russian*); *translated as J. Appl. Math. Mech*. **37** (1973), 439–449 (1974). (W. H. Schoendorf) **48** #10323 78.45

An electric field in a magnetohydrodynamic channel of a rectangular cross section with finite electrodes in the presence of the Hall effect. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no*. 9(172), 76–86. (L. Dragoş) **57** #11305 76.35

See also **Proceedings: Conference on Boundary Value Problems**, **49** #7061

illov, V. P. (*with* Petrov, A. E.) A certain case of transformation of the coordinates of vertices of a graph. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no*. 5, 1091–1093. (W. Dörfler) **52** #10465 05C05

illova, A. A. *See* **Dixmier, Jacques**, **50** #5484

illova, F. M. (*with* Gabasov, R. F.) On method of synthesis of linear optimal systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol*. 1, *p*. 1, *Paper* 1*C*, 8 *pp*. *Inst. Mech. Engrs., London*, 1967. (From the authors' introduction) **56** #11273 93C50 (93E20)

(*with* Gabasov, R. F.) Theory of necessary conditions for optimality for discrete systems. *Avtomat. i Telemeh*. **1969**, *no*. 12, 39–47 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no*. 12, 1921–1928. **56** #11278 93C55

(*with* Gabasov, R. F.) Application of the principle of the maximum to the calculation of optimum equations of discrete systems. *Dokl. Akad. Nauk SSSR* **189** (1969), 963–966 (*Russian*); *translated as Soviet Physics Dokl*. **14** (1969/70), 1152–1154. (A. J. Lohwater) **45** #1642 49D99

(*with* Gabasov, R. F.) Dynamic programming in the theory of optimal singular control. *Avtomat. i Telemeh*. **1970**, *no*. 8, 5–10 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no*. 8, 1199–1204. (Robert O. Barr) **47** #925 49B10 (49C99)

(*with* Gabasov, R. F.) ★Качественная теория оптимальных процессов. (Russian) [The qualitative theory of optimal processes] Monographs in Theoretical Foundations of Technical Cybernetics. *Izdat. "Nauka", Moscow*, 1971. 507 *pp*. (Vadim Komkov) **58** #26190 93–01

(*with* Gabasov, R. F.; Sročko, V. A.; Tarasenko, N. V.) Conditions for high-order optimization. I. Derivation of singular controls (review). *Avtomat. i Telemeh*. **1971**, *no*. 5, 5–21 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no*. 5, *part* 1, 689–704. (Editors) **46** #767a 49C05

(*with* Gabasov, R. F.; Sročko, V. A.; Tarasenko, N. V.) Conditions of high-order optimality. II. Necessary conditions of high-order optimality (review). *Avtomat. i Telemeh*. **1971**, *no*. 6, 5–24 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no*. 6, *part* 1, 857–875. (Editors) **46** #767b 49C05

(*with* Gabasov, R. F.; Sročko, V. A.; Tarasenko, N. V.) Conditions for high-order optimality. III. Sufficient conditions for high-order optimality discrete systems (review). *Avtomat. i Telemeh*. **1971**, *no*. 7, 5–34 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no*. 7, *part* 1, 1013–1040. (Editors) **46** #767c 49C05

(*with* Gabasov, R. F.; Krahotko, V. V.) Controllability of multiloop systems with lumped parameters. *Avtomat. i Telemeh*. **1971**, *no*. 11, 18–25 (*Russian. English summary*); *translated as Automat. Remote Control* **1971**, *no*. 11, *part* 1, 1710–1717 (1972). (Authors' summary) **57** #15595 93B05

(*with* Gabasov, R. F.) Optimization of linear systems by the methods of functional analysis. *J. Optimization Theory Appl*. **8** (1971), 77–99. (Authors' summary) **45** #7559 47B99 (49A99, 90C05)

(*with* Gabasov, R. F.; Minjuk, S. A.) Controllability of linear two-parameter discrete systems. *Dokl. Akad. Nauk SSSR* **199** (1971), 1231–1233 (*Russian*); *translated as Soviet Math. Dokl*. **12** (1971), 1258–1260. (D. H. Chyung) **45** #1623 93B05

(*with* Poletaeva, I. A.; Čurakova, S. V.; Gabasov, R. F.) Controllability and synthesis of optimal dynamical systems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol*. 1: *Optimal and adaptive systems* (*Russian*), *pp*. 7–15, 305. *Izdat. "Nauka", Moscow*, 1972. (M. M. Konstantinov) **50** #3083 49E15

(*with* Gabasov, R. F.; Ževnjak, R. M.; Kopeĭkina, T. B.) Relative observability of linear systems. I. Standard systems. *Avtomat. i Telemeh*. **1972**, *no*. 8, 5–15, (*Russian*); *translated as Automat. Remote Control* **33** (1972), *no*. 8, *part* 1, 1251–1261 (1973). (I. H. Mufti) **52** #7603 93B05

(*with* Gabasov, R. F.; Krahotko, V. V.; Minjuk, S. A.) Theory of the controllability of linear discrete systems. I. The defining equation. (Russian) *Differencial'nye Uravnenija* **8** (1972), 767–773. (A. Halanay) **46** #8699 93B05

(*with* Gabasov, R. F.; Krahotko, V. V.; Minjuk, S. A.) Theory of the controllability of linear discrete systems. II. Ordinary systems. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1081–1091. (A. Halanay) **46** #8700 93B05

(*with* Gabasov, R. F.; Krahotko, V. V.; Minjuk, S. A.) Theory of the controllability of linear discrete systems. III. Systems with aftereffect. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1283–1291. (A. Halanay) **46** #8701 93B05

(*with* Gabasov, R. F.; Ževnjak, R. M.; Kopeĭkina, T. B.) Conditional observability of linear systems. (Russian. English summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **1** (1972), *no*. 3-4, 217–238. (V. N. Igolkin) **51** #7659 93E05

(*with* Gabasov, R. F.) High order necessary conditions for optimality. *SIAM J. Control* **10** (1972), 127–168. (P. Brunovský) **58** #33300 93C15 (49B10)

(*with* Gorohovik, V. V.) *n*-person linear differential games. (Russian) *Upravljaemye Sistemy No*. 10 (1972), 3–9. (Not reviewed) 90D25

(*with* Gabasov, R. F.) ★Оптимизация линейных систем: методы функционального анализа. (Russian) [Optimization of linear systems: methods of functional analysis] *Izdat. Beloruss. Gosudarstv. Univ., Minsk*, 1973. 246 *pp*. (*errata insert*) (V. Komkov) **56** #9403 49Cxx (49Bxx)

(*with* Gabasov, R. F.) ★Особые оптимальные управления. (Russian) [Singular optimal controls] Monographs in Theoretical Foundations of Technical Cybernetics. *Izdat. "Nauka", Moscow*, 1973. 256 *pp*. (V. Komkov) **56** #9404 49Cxx (49Bxx)

(*with* Gabasov, R. F.) Qualitative problems of optimal control. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Voprosy Prikl. Mat. i Kibernet*. **1973**, 3–15. (V. Komkov) **56** #16470 49–02

(*with* Gabasov, R. F.) Necessary optimality conditions of equality type in discrete systems. (Russian) *Differencial'nye Uravnenija* **9** (1973), 542–546, 590. (A. Halanay) **47** #5688 49B35 (39A12)

(*with* Gabasov, R. F.) Controllability of the spectrum of a linear dynamical system. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 204, 286. (Editors) **50** #4012 93B05

(*with* Gabasov, R. F.; Morduhovič, B. Š.) A discrete maximum principle. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 19–22. (J. Kučera) **49** #7878 49B10

(*with* Gabasov, R. F.) Control of multidimensional dynamical objects by means of a single signal. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1973**, *no*. 3, 78, 93. (P. Brunovský) **49** #4606 93B05

(*with* Gabasov, R. F.) ★Принцип максимума в теории оптимального управления. (Russian) [The maximum principle in optimal control theory] *Izdat. "Nauka i Tehnika", Minsk*, 1974. 272 *pp*. (V. Komkov) **56** #9368 49Bxx

(*with* Gabasov, R. F.) Inversion of certain necessary conditions for optimality. (Russian) *Dokl. Akad. Nauk BSSR* **18** (1974), 689–691, 764. (L. Mikołajczyk) **51** #1533 49B10

(*with* Gabasov, R. F.) The maximum principle in controllability theory. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1974**, *no*. 2, 35–36, 93. (M. M. Konstantinov) **50** #10975 49E15

(*with* Gabasov, R. F.) ★Методы оптимизации. (Russian) [Methods of optimization] *Izdat. Belorussk. Gos. Univ., Minsk*, 1975. 279 *pp*. (V. Komkov) **56** #10924 90Cxx

(*with* Gabasov, R. F.) ★Основы динамического программирования. (Russian) [Foundations of dynamical programming] *Izdat. Belorussk. Gosudarstv. Univ., Minsk*, 1975. 263 *pp*. (V. Komkov) **56** #10994 90C40

(*with* Gorohovik, V. V.) The scalarization of problems of vector optimization. (Russian) *Dokl. Akad. Nauk BSSR* **19** (1975), *no*. 7, 588–591, 666. (Zbl **333** #49011) **58** #7329 49D45

(*with* Gabasov, R. F.; Zabello, L. E.) Controllability of linear nonstationary systems. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no*. 5, 1035–1037. (G. Zatiašvili) **56** #9430 49E15

(*with* Gabasov, R. F.) ★The qualitative theory of optimal processes. Translated from the Russian by John L. Casti. Control and Systems Theory, Vol. 3. *Marcel Dekker, Inc., New York-Basel*, 1976. xlvi+640 *pp*. (Thomas S. Angell) **56** #9369 49Bxx (93Bxx)

(*with* Gabasov, R. F.) Methods of optimal control. (Russian) With an appendix "Existence of optimal controls" by B. Š. Morduhovič. *Current problems in mathematics, Vol*. 6 (*Russian*), *pp*. 133–261, 263 (*loose erratum*). *Itogi Nauki i Tehniki, Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1976. (Rolf Klötzler) **56** #1160 49–02 (93Cxx)

(*with* Gabasov, R. F.) ★Методы линейного программирования. Часть 1. Общие задачи. (Russian) [Linear Programming methods. Part 1. General Problems] *Izdat. Beloruss. Univ., Minsk*, 1977. 175 *pp*. (K. Zimmermann) **58** #4298 90C05

(*with* Gabasov, R. F.) Problems of the theory of optimal processes in systems with

aftereffect. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp*. 93–102, 303. *Izdat. "Naukova Dumka", Kiev*, 1977. (Authors' summary) **57** #13626 49A99 (93B05)

(*with* Gabasov, R. F.) Direct and dual minimal feasible methods for solving a general linear programming problem. *Avtomat. i Telemeh.* **1977**, *no*. 6, 85–96 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no*. 6, *part* 1, 845–854. (Santosh Kumar) **57** #5071 90C05

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969 *and* **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360a

Kirillova, L. S. (*with* Piontkovskiĭ, A. A.) Incorrect problems in optimal control theory (survey). *Avtomat. i Telemeh.* **1968**, *no*. 10, 5–17 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no*. 10, 1553–1563. (D. H. Chyung) **53** #5102 93C25

Kirilyuk, M. I. *See* **Kiriljuk, M. Ī.**

Kirin, N. E. ★Вычислительные методы теории оптимального управления. (Russian) [Computational methods of optimal control theory] *Izdat. Leningrad. Univ.*, 1968. 143 *pp*. (From the publisher's description) **55** #11135 49D05 (65K05)

(*with* Ivanov, A. P.) On methods of observing linear perturbable systems. (Russian) *Differencial'nye Uravnenija* **10** (1974), 788–791, 953. (I. Muntean) **50** #15989 93B05

★Методы последовательных оценок в задачах оптимизации управляемых систем. (Russian) [Sequential estimation methods in optimization problems of control systems] *Izdat. Leningrad. Univ., Leningrad*, 1975. 159 *pp*. (Editors) **58** #15573 93E10

(*with* Babkin, A. G.) Control synthesis based on iterative methods. *Avtomat. i Telemeh.* **1975**, *no*. 10, 12–17 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no*. 10, *part* 1, 1580–1584 (1976). (W. E. Schmitendorf) **53** #1373 49D45

Kirin, Vladimir G. On ordered k-tuples. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 7–14. (J.-L. Krivine) **50** #6845 02K15

Some remarks on the definition of subsequences. *Mat. Vesnik* **11(26)** (1974), 143–147. (S. M. Mazhar) **50** #13954 40A05

On free and independent terms of a formula. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **10(30)** (1975), *no*. 2, 207–217. (J. M. Plotkin) **54** #2449 02H05

A note on principal filters in Boolean algebras. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **11(31)** (1976), *no*. 1, 3–6. (Timothy Cramer) **53** #10674 06A40

Kir'jackiĭ, È. G. *See* **Kirjackis, E.**

Kir'jackiĭ, È. G. *See* **Kirijackis, E.**

Kirjackis, E. A certain operator in the space of functions analytic in the unit disc. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **12** (1972), *no*. 1, 129–137, 235. (Z. Rubinstein) **47** #5570 46E10 (34A20, 47B99)

Certain properties of functions with a non-vanishing divided difference. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **12** (1972), *no*. 2, 43–55, 201. (Z. Rubinstein) **47** #5242 30A32

Certain classes of univalent functions. (Russian. Lithuanian and Russian summaries) *Litovsk. Mat. Sb.* **12** (1972), *no*. 3, 75–84, 207. (Z. Rubinstein) **47** #5243 30A32 (30A40)

A certain class of rational univalent functions. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **13** (1973), *no*. 2, 79–89, 259. (T. Kubo) **48** #2363 30A32

Certain operators that are connected with a linear-fractional transformation. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **14** (1974), *no*. 1, 57–65, 227–228. (A. W. Goodman) **52** #770 30A98

A family of functions connected with a linear-fractional transformation of the unit circle. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no*. 1, 103–110, 247. (K. Szilárd) **54** #5452 30A32

Some operators connected with a linear-fractional transformation of the unit circle. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no*. 1, 111–122, 247. (K. Szilárd) **54** #5453 30A32

On a functional equation connected with divided differences. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no*. 2, 103–110, 242. (I. N. Baker) **54** #10907 39A10 (30A20)

On a family of univalent functions. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no*. 2, 111–116, 242. (Z. Rubinstein) **55** #5851 30A32

A limit property of functions with a non-zero divided difference. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **18** (1978), *no*. 2, 47–61, 216. (Author's summary) **58** #17073 30A36

Kir'jan, N. L. (*with* Zak, Ju. O.) Algorithms for analysis of transient modes of random processes in flow diagrams. *Avtomatika* **1976**, *no*. 5, 58–70 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **9** (1976), *no*. 5, 47–56. (Dominic S. P. Leung) **56** #17772 90B15

(*with* Zak, Ju. O.) The stochastic problem of distribution of a limited resource. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no*. 4, 56–63 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no*. 4, 23–31 (1978). (Authors' summary) **58** #15217 90C50 (90B30)

Kir'jan, S. V. (*with* Aliferov, V. V.) Optimal control synthesis for systems of hyperbolic type. (Russian. Loose summary) *Izv. Akad. Nauk Kirgiz. SSR* **1977**, *no*. 2, 28–34. (*errata insert*) (Authors' introduction) **56** #3724 49D99 (35L40)

Kir'janen, A. I. On the question of the stability of a nonlinear differential equation in Hilbert space. (Russian) *Methods and models of control, No. 7* (*Russian*), *pp*. 65–69, 121. *Redakcionno-Izdat. Otdel. Rižsk. Politehn. Inst., Riga*, 1974. (A. Szép) **52** #11238 34G05

Ljapunov's second method for nonlinear exponentially dichotomous equations. (Russian) *Mat. Fiz. Vyp*. 18 (1975), 16–22, 164. (K. B. Datta) **56** #6032 34D20

The existence of solutions of a nonlinear differential equation of Carathéodory type in a Banach space. (Russian) *Metody i Modeli Upravlenija Vyp*. 9 (1975), 101–102, 211. (S. Burýšek) **56** #16089 34G05

Kir'janov, B. F. Questions on the theory and design of multichannel pseudorandom sequence generators with one shift register. (Russian. English summary) *Probabilistic automata and their application* (*Russian*), *pp*. 103–116. *Izdat. "Zinatne", Riga*, 1971. (I. Văduva) **50** #8912 65C10

The equivalence of systems realizing a stochastic principle of computations. *Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 5, 121–128 (*Russian*); *translated as* *Cybernetics* **10** (1972), *no*. 5, 860–867. (Edward J. Davison) **49** #6993 93E99

(*with* Glova, V. I.; Leont'ev, A. G.; Rizaev, I. S.) Forming random sequenc the physical simulation of discrete communication channels. (Russian) *Coding discrete information transmission in communication systems* (*Russian*), *pp*. 141–151, *Izdat. "Nauka", Moscow*, 1976. (Authors' summary) **58** #15648 94A05

Kirjuhin, L. V. A problem of buckling of a rod under a longitudinal impact. (Rus English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no*. 5, 96–103 Sokołowski) **54** #14503 73.35

Kirjuhin, V. V. (*with* Apraksin, Ju. K.) An algorithm for the determination of relia estimates for discrete control systems. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) *no*. 6, 37–39. (P. Vondráček) **49** #10346 90B25

(*with* Polonskiĭ, D. V.) On the problem of finding the Hamiltonian cycles graph. (Russian) *Problemy Peredači Informacii* **11** (1975), *no*. 3, 70–72. (Aut summary) **58** #363 05C35

(*with* Apraksin, Ju. K.) The distribution of reliability norms among the blocks system. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no*. 1, 27–31. (Authors' summary) **58** #9188 90B25

Kirjutenko, Ju. A. Operators that commute with an operator of generalized integra (Russian) *Differential and integral equations, No.* 2 (*Russian*), *pp*. 243–254, 315. *Irk Gos. Univ., Irkutsk*, 1973. (Author's summary) **57** #1186 47B99

Generalized integration operators that can be continued analytically from (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 7(158), 47–53. (I. I. Ba **53** #13588 30A86

Kirk, Donald E. *See* **Conference: Asilomar, Circuits, Systems, and Computers**, **54** #98

van Kirk, J. *See* **Van Kirk, J.**

Kirk, J. E., Jr. The uniformizing function for a class of Riemann surfaces. *Pacific J. M* **40** (1972), 623–628. (Ian Richards) **46** #9334 30A46

Kirk, R. B. Sets which split families of measurable sets. *Amer. Math. Monthly* **79** (1 884–886. (T. P. Srinivasan) **47** #5201 28A05

(*with* Dressler, Robert E.) Non-measurable sets of reals whose measurable sub are countable. *Israel J. Math.* **11** (1972), 265–270. (T. A. Botts) **45** #3663 28A

Algebras of bounded real-valued functions. I. *Nederl. Akad. Wetensch. Proc. Se* **75** = *Indag. Math.* **34** (1972), 443–451. (L. Gillman) **47** #9260a 46E25

Algebras of bounded real-valued functions. II. *Nederl. Akad. Wetensch. Proc. A* **75** = *Indag. Math.* **34** (1972), 452–463. (L. Gillman) **47** #9260b 46E25

Topologies on spaces of Baire measures. *Bull. Amer. Math. Soc.* **79** (1973), 542– (J. F. Smith) **47** #2326 46E10

(*with* Foland, N. E.) Products of spaces with m-dense subsets. *Indiana Univ. M J.* **23** (1973/74), 155–161. (A. H. Stone) **48** #1135 54A25

A note on the Mackey topology for $(C^b(X)^*, C^b(X))$. *Pacific J. Math.* **45** (1 543–554. (James F. Porter) **50** #10779 46E10 (54C40)

Convergence of Baire measures. *Pacific J. Math.* **49** (1973), 135–148. (Mic Orkin) **50** #7467 28A32 (60B10)

Complete topologies on spaces of Baire measure. *Trans. Amer. Math. Soc.* (1973), 1–29. (Michael Orkin) **48** #4259 28A32 (60B05)

The Haar integral via non-standard analysis. *Pacific J. Math.* **58** (1975), *no* 517–527. (W. A. J. Luxemburg) **51** #13197 28A70 (02H25)

(*with* Crenshaw, J. A.) A generalized topological measure theory. *Trans. A Math. Soc.* **207** (1975), 189–217. (Richard Haydon) **51** #5880 28A32

(*with* Crenshaw, J. A.) Extension of real-valued α-additive set functions. *St Math.* **58** (1976), *no*. 2, 129–139. (Robert F. Wheeler) **54** #13013 28A10 (28A32

(*with* Rehmer, K.) A complete space of vector-valued measures. *Proc. Amer. M Soc.* **70** (1978), *no*. 2, 119–125. (K. Bichteler) **58** #6147 28A45

Kirk, William A. On successive approximations for nonexpansive mappings in Ban spaces. *Glasgow Math. J.* **12** (1971), 6–9. (G. F. Webb) **45** #7553 47H10

(*with* Royalty, W. D.) Fixed-point theorems for certain nonlinear nonexpans mappings. *Illinois J. Math.* **15** (1971), 656–663. (L. P. Belluce) **45** #1007 47H1

Fixed point theorems for nonlinear nonexpansive and generalized contract mappings. *Pacific J. Math.* **38** (1971), 89–94. (S. P. Singh) **46** #4290 47H10

(*with* Assad, Nadim A.) Fixed point theorems for set-valued mappings of contractive type. *Pacific J. Math.* **43** (1972), 553–562. (S. Swaminathan) **49** #621 54H25

(*with* Goebel, Kasimierz) A fixed point theorem for asymptotically nonexpans mappings. *Proc. Amer. Math. Soc.* **35** (1972), 171–174. (J.-P. Gossez) **45** #755 47H10

(*with* Gatica, Juan A.) Fixed point theorems for Lipschitzian pseudo-contract mappings. *Proc. Amer. Math. Soc.* **36** (1972), 111–115. (S. P. Singh) **46** #611 47H10

(*with* Goebel, Kasimierz; Shimi, Tawfik N.) A fixed point theorem in unifor convex spaces. (Italian summary) *Boll. Un. Mat. Ital.* (4) **7** (1973), 67–75. (M. Edelste **47** #9367 47H10

(*with* Goebel, Kasimierz) A fixed point theorem for transformations whose itera have uniform Lipschitz constant. *Studia Math.* **47** (1973), 135–140. (Kok Keong T **49** #1242 47H10

(*with* Goebel, Kasimierz; Thele, R. L.) Uniformly Lipschitzian families of transformations in Banach spaces. *Canad. J. Math.* **26** (1974), 1245–1256. (Kok Keo Tan) **50** #10919 47H10

Fixed point theorems for non-Lipschitzian mappings of asymptotically nonexpansive type. *Israel J. Math.* **17** (1974), 339–346. (R. Kannan) **49** #11330 47H10

(*with* Gatica, Juan A.) A fixed point theorem for k-set-contractions defined in cone. *Pacific J. Math.* **53** (1974), 131–136. (J. Daneš) **50** #5557 47H10

(*with* Gatica, Juan A.) Fixed point theorems for contraction mappings with applications to nonexpansive and pseudo-contractive mappings. Collection of articl on fixed point theory. *Rocky Mountain J. Math.* **4** (1974), 69–79. (R. Nussbaun **48** #9470 47H10

(*with* Caristi, James) Geometric fixed point theory and inwardness conditions. *T* *eometry of metric and linear spaces* (*Proc. Conf., Michigan State Univ., East Lansing, Mich.*, 1974), *pp*. 74–83. *Lecture Notes in Math., Vol.* 490, *Springer, Berlin*, 1975. (Simeon Reich) **53** #3806 47H10

(*with* Caristi, James) Mappings theorems in metric and Banach spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no*. 8, 891–894. (S. Fučík) **52** #6514 47H15

A remark on condensing mappings. *J. Math. Anal. Appl.* **51** (1975), *no*. 3, 629–632. (P. M. Fitzpatrick) **52** #1426 47H10

Fixed point theorems for nonexpansive mappings satisfying certain boundary conditions. *Proc. Amer. Math. Soc.* **50** (1975), 143–149. (Jerome Eisenfeld) **52** #1427 47H10

Caristi's fixed point theorem and the theory of normal solvability. *Fixed point theory and its applications* (*Proc. Sem., Dalhousie Univ., Halifax, N.S.*, 1975), *pp*. 109–120. *Academic Press, New York*, 1976. (P. M. Fitzpatrick) **56** #13002 47H10

Caristi's fixed point theorem and metric convexity. *Colloq. Math.* **36** (1976), *no*. 1, 81–86. (Chi-Song Wong) **55** #9061 54H25

(*with* Ray, William O.) A note on Lipschitzian mappings in convex metric spaces. *Canad. Math. Bull.* **20** (1977), *no*. 4, 463–466. (James Caristi) **57** #10681 54E35

(*with* Downing, David) Fixed point theorems for set-valued mappings in metric and Banach spaces. *Math. Japon.* **22** (1977), *no*. 1, 99–112. (Authors' summary) **57** #13592 47H10 (54H25)

(*with* Downing, David) A generalization of Caristi's theorem with applications to nonlinear mapping theory. *Pacific J. Math.* **69** (1977), *no*. 2, 339–346. (J. L. Solomon) **55** #13301 47H10 (54H25)

(*with* Schöneberg, Rainald) Some results on pseudo-contractive mappings. *Pacific J. Math.* **71** (1977), *no*. 1, 89–100. (Eugene Allgower) **58** #7234 47H10

(*with* Ray, William O.) A remark on directional contractions. *Proc. Amer. Math. Soc.* **66** (1977), *no*. 2, 279–283. (Christian Fenske) **56** #13003 47H10

(*with* Hu, Thakyin) Local contractions in metric spaces. *Proc. Amer. Math. Soc.* **68** (1978), *no*. 1, 121–124. (Harold Bell) **57** #4115 54E40 (54H25)

inskii, A. S. (*with* Gorjaga, A. V.) The decidability of the conjugacy problem cannot be transferred to finite extensions of groups. (Russian) *Algebra i Logika* **14** (1975), *no*. 4, 393–406. (M. Greendlinger) **54** #2813 20F10 (02G05)

(*with* Remeslennikov, V. N.) The isomorphism problem for solvable groups. (Russian) *Mat. Zametki* **18** (1975), *no*. 3, 437–443. (Juri A. Bahturin) **53** #628 20F10

lis, Z. A. (*with* Yurko, A. A.) Pattern recognition (an annotated bibliography). (Russian. English summary inserts) *Kibernetika* (*Kiev*) **1967**, *no*. 2, 94–101; *ibid*. **1967**, *no*. 6, 79–84; *ibid*. **1968**, *no*. 3, 86–91; *ibid*. **1968**, *no*. 5, 92–97. (*errata insert*) (Editors) **45** #8062 68A45

kman, Ellen E. Inertial coefficient rings and the idempotent lifting property. *Proc. Amer. Math. Soc.* **61** (1976), *no*. 2, 217–222 (1977). (F. DeMeyer) **54** #10324 16A32

The Pierce representation of an inertial coefficient ring. *Rocky Mountain J. Math.* **8** (1978), *no*. 3, 533–538. (F. DeMeyer) **57** #16357 16A64

kor, A. About neighborhoods of surfaces integrally unknotted in S^3. *Fund. Math.* **84** (1974), *no*. 2, 157–168. (S. S. Cairns) **48** #12536 57A10

A bouquet of unknotted polygonal simple closed curves. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 2, 115–119. (J. S. Birman) **53** #4039 (EA **54**) 55A40

See also **General topology and its relations to modern analysis and algebra**, **49** #3800

korov, I. (*with* Veselinov, Vasil Mladinov) A certain estimate of approximation of functions by generalized Landau polynomials. (Russian) *C. R. Acad. Bulgare Sci.* **23** (1970), 647–650. (J. Németh) **46** #9599 41A10

(*with* Veselinov, Vasil Mladinov) Determination of exact constants for the uniform approximation of functions by singular integrals. (Russian) *C. R. Acad. Bulgare Sci.* **31** (1978), *no*. 3, 269–272. (Wiesław Pleśniak) **58** #12122 41A35

korov, N. I. (*with* Zaĭcev, V. M.; Obrosov, I. I.; Trofimov, I. B.) Principles for the construction of error-correcting codes in a system of residue classes. (Russian) *New elements of systems of automation, remote control and computer technology*, *No*. 2 (*Russian*), *pp*. 153–161, 176. *Izdat.* "*Vyšèĭšaja Škola*", *Minsk*, 1972. (R. N. Goss) **54** #12362 94A10

kpatrick, David G. Determining graph properties from matrix representations. *Sixth Annual ACM Symposium on Theory of Computing* (*Seattle, Wash.*, 1974), *pp*. 84–90. *Assoc. Comput. Mach., New York*, 1974. (Jaroslav Nešetřil) **56** #17191 68A10 (05C99)

(*with* Kedem, Zvi M.) Addition requirements for rational functions. *SIAM J. Comput.* **6** (1977), *no*. 1, 188–199. (Authors' summary) **56** #13783 68A20

kpatrick, P. B. (*with* Room, T. G.) ★Miniquaternion geometry. An introduction to the study of projective planes. Cambridge Tracts in Mathematics and Mathematical Physics, No. 60. *Cambridge University Press, London*, 1971. viii + 176 *pp*. (G. Pickert) **45** #7590 50D35

A characterization of the Hall planes of odd order. *Bull. Austral. Math. Soc.* **6** (1972), 407–415. (T. G. Ostrom) **46** #2688 (EA **47**) 50D35

Collineation groups which are sharply transitive on an oval. *Bull. Austral. Math. Soc.* **11** (1974), 197–211. (F. C. Piper) **51** #11274 50D35 (05B25)

On homologies in finite combinatorial geometries. *Bull. Austral. Math. Soc.* **13** (1975), *no*. 1, 85–99. (J. André) **52** #152 05B35 (50D30)

rkwood, Craig W. (*with* Keeney, Ralph L.) Group decision making using cardinal social welfare functions. *Management Sci.* **22** (1975/76), *no*. 4, 430–437. (Neal Glassman) **53** #4911 90A05

Parametrically dependent preferences for multiattributed consequences. *Operations Res.* **24** (1976), *no*. 1, 92–103. (Author's summary) **55** #9837 90A10

Superiority conditions in decision problems with multiple objectives. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no*. 7, 542–544. (Yvo M. I. Dirickx) **56** #17709 90A05 (90A10)

rkwood, Robert L. The physics of a metric space with a time variable. *Internat. J. Theoret. Phys.* **7** (1973), 391–414. (Author's summary) **50** #15831 83.53

rlica, V. P. On the theory of invariance of dynamical systems. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1950–1956, 2110. (L. Reiziņš) **47** #2146 34C35

Invariance of systems with distributed lag. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no*. 3, 14–16, 94. (Author's summary) **53** #13783 34K15 (49B35)

Invariance of a certain linear system with lag. (Russian) *Differencial'nye Uravnenija* **9** (1973), 955–957, 979–980. (G. B. Gustafson) **47** #7182 34K99

(*with* Zabello, L. E.) Controllability of a linear nonstationary system with lag in the control. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no*. 5, 45–48, 137. (G. Zatiašvili) **49** #8701 93B05

Controllability of a certain linear system with lag. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1973**, *no*. 2, 64–65, 89. (V. M. Popov) **48** #9520 49E15

(*with* Sasonkin, A. M.) Controllability of linear systems with distributed lag in the control. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1003–1008, 1147. (M. M. Konstantinov) **50** #3084 49E15

(*with* Gomez, A. F.) The maximum principle for systems with a lag in the control. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1978**, *no*. 1, 5–8. (Editors) **58** #26372 93C99

Kirman, Alan P. (*with* Sondermann, Dieter) Arrow's theorem, many agents, and invisible dictators. *J. Econom. Theory* **5** (1972), *no*. 2, 267–277. (Authors' introduction) **56** #7780 90A05 (92A20)

(*with* Sobel, Matthew J.) Dynamic oligopoly with inventories. *Econometrica* **42** (1974), 279–287. (Authors' summary) **55** #14132 90A15 (90D45)

Learning by firms about demand conditions. *Adaptive economic models* (*Proc. Sympos., Math. Res. Center, Univ. Wisconsin, Madison, Wis.*, 1974), *pp*. 137–156. *Math. Res. Center, Univ. Wisconsin, Publ. No.* 34, *Academic Press, New York*, 1975. (Andrew Postlewaite) **56** #17730 90A15

(*with* Hildenbrand, Werner) ★Introduction to equilibrium analysis. Variations on themes by Edgeworth and Walras. Advanced Textbooks in Economics, Vol. 6. *North-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publishing Co., Inc., New York*, 1976. viii + 216 *pp*. (*loose errata*) *ISBN* 0-7204-3606-0 (Hal R. Varian) **57** #4992 90Axx (90–01)

Kirmani, S. N. U. A. Some results on Matusita's measure of distance. *J. Indian Statist. Assoc.* **6** (1968), 89–98. (D. S. Tracy) **49** #10008 62E99

Some limiting properties of Matusita's posts measure of distance. *Ann. Inst. Statist. Math.* **23** (1971), 157–162. **47** #4371 62E20 (94A15)

On a goodness-of-fit test based on Matusita's measure of distance. *Ann. Inst. Statist. Math.* **25** (1973), 493–500. (A. Goldman) **49** #10041 62G10

(*with* Beg, M. I.) On a characterization of exponential and related distributions. *Austral. J. Statist.* **16** (1974), *no*. 3, 163–166 (1975). (D. N. Shanbhag) **52** #9437 (E **55** #11459) 62E10

(*with* Alam, S. N.) On goodness of fit tests based on spacings. *Sankhyā Ser. A* **36** (1974), *no*. 2, 197–203. (Urs R. Maag) **52** #12199 62G10

(*with* Alam, S. N.) Asymptotic distribution of Kendall Sherman statistic. *J. Indian Statist. Assoc.* **13** (1975), 33–37. (Jacques A. Chevalier) **53** #14783 62G10 (62E20)

A lower bound on Bayes risk in classification problems. *Ann. Inst. Statist. Math.* **28** (1976), *no*. 3, 385–387. (Peter A. Lachenbruch) **55** #4525 62H30

(*with* Beg, M. I.) Corrigendum: "On a characterization of exponential and related distributions" (Austral. J. Statist. **16** (1974), no. 3, 163–166 (1975)). *Austral. J. Statist.* **18** (1976), *no*. 1-2, 85. (Editors) **55** #11459 62E10

(*with* Beg, M. I.) Characterization of the exponential distribution by a weak homoscedasticity. *Comm. Statist.—Theory Methods* **A7** (1978), *no*. 3, 307–310. (J. S. Huang) **58** #18825 62E10

Kirnickaja, È. F. (*with* Popa, M. N.; Sibirskiĭ, K. S.) New applications of the affine invariants of a quadratic differential system. (Russian) *Mat. Issled.* **10** (1975), *no*. 2 (36), 137–149, 284. (C. S. Coleman) **53** #13723a 34C05

Kiro, S. M. Academician È. D. Kollins. (Russian) *Voprosy Istor. Estestvoznan. i Tehn. No.* 2(31) (1970), 81–87. (Ju. M. Gaĭduk) **45** #1715 01A55

The scientific legacy of P. L. Čebyšev, and questions of the optimization of computations. (Russian) *Software of electronic digital computers* (*Proc. Second Math. School Optimization Organization Comput., Kaciveli*, 1971) (*Russian*), *pp*. 209–220. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (J. S. Joel) **57** #5605 01A55 (65–03)

An equation of M. V. Ostrogradskiĭ in the mathematical theory of heat conduction. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1972**, *no*. 1(38), 31–32, 125, 134. (Editors) **58** #27017 01A55 (35–03, 80.01)

I. V. Slešinskiĭ's papers in the theory of continued fractions. (Russian) *Continued fractions and their applications* (*Russian*), *pp*. 61–62, 106. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (J. S. Joel) **58** #27117 01A70 (30–03, 40–03)

(*with* Zagaĭnova, R. V.) A numerical study of special solutions of the fundamental equation of gas dynamics. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 33 (1977), 89–98, 161. (Authors' summary) **58** #32313 76.33

See also **Numerical analysis**, **57** #14317

Kirousis, Lefteris (*with* Harrington, Leo A.; Schlipf, John Stewart) A generalized Kleene-Moschovakis theorem. *Proc. Amer. Math. Soc.* **68** (1978), *no*. 2, 209–213. (S. S. Wainer) **57** #16020 02F27

Kirov, Georgi Hr. The maximal depth of a certain class of (0, 1)-matrices. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **5** (1968/69), *no*. 1, 189–193 (1971). (V. Tarakanov (RŽMat **1973** #1 V499)) **52** #5709 15A36

On the optimal solution of a problem in linear programming. (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **12(45)** (1969), 64–67. (Not reviewed) 90C05

The Dirichlet problem for a certain ultraparabolic equation. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **6** (1970), *no*. 2, 101–118 (1972). (J. Muszyński) **48** #6694 35K20

The stability of the solutions of singular integro-differential equations. (Bulgarian. Russian and English summaries) *Visš. Ped. Inst. Plovdiv Naučn. Trud.* **8** (1970), *no*. 1, 17–24. (V. V. Vasin) **49** #7717 45J05

(*with* Žečev, Ĭ. I.; Duškov, P. N.) A certain approximate method of solution of multidimensional integral equations. (Russian. German summary) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **9** (1971), *no*. 3, 15–24. (G. F. Miller) **45** #8046 65R05

(*with* Fesčiev, Ivan H.) Solvability in L_2 (γ) and the application of the method of moments to the approximate solution of nondegenerate two-dimensional singular integral equations with Cauchy kernels and constant coefficients. (Bulgarian. Russian and English summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **9** (1971), *no*. 3, 39–44. (D.

Przeworska-Rolewicz) **45** #9081 45L10

(*with* Fesčiev, Ivan H.; Vekova, G. Hr.) Approximation of the solutions of linear integral equations by means of spline functions. (Bulgarian. Russian and English summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **10** (1972), *no.* 1, 49–56. (M. Tvrdý) **46** #2914 65R05

(*with* Naĭdenova, M. Sl.; Željazkova, T. St.) Certain quadrature formulas for singular integrals. (Bulgarian. Russian and French summaries) *Visš. Ped. Inst. Plovdiv Naučn. Trud.* **10** (1972), *no.* 2, 35–45. (J. Švejda) **48** #1436 65D30

(*with* Fesčiev, Ivan H.) The application of the method of coincidences to the approximate solution of nondegenerate two-dimensional singular integral equations with Cauchy kernels and constant coefficients. (Bulgarian. Russian and English summaries) *Visš Ped. Inst. Plovdiv Naučn. Trud.* **10** (1972), *no.* 2, 47–53. (J. Švejda) **48** #1495 65R05

(*with* Trendafilov, Georgi St.) Quadrature formulae for the Schwarz integral, for integrals of Cauchy type and for singular integrals with kernel of Cauchy type. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 67–84 (1974). (B. Bojanov) **53** #11281 41A55

(*with* Trendafilov, Georgi St.; Gospodinov, M. G.) Quadrature formulae for certain singular integrals. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 85–96 (1974). (B. Bojanov) **53** #11282 41A55

Quadrature formulae for singular integrals that are constructed by means of generalized Bernšteĭn-Rogosinski sums. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 2, 93–102 (1974). (Author's summary) **57** #3712 41A55

(*with* Pavlov, P. K.; Raĭkov, N. S.) On a plane elasticity theory problem with mixed boundary conditions. *Prikl. Mat. Meh.* **37** (1973), 569–572 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 549–552 (1974). (R. C. T. Smith) **48** #10251 73.30

(*with* Trendafilov, Georgi St.) Quadrature formulas for singular integrals. (Bulgarian. Russian and German summaries) *Mathematics and mathematical education* (*Proc. Second Spring Conf. Bulgarian Math. Soc., Vidin,* 1973) (*Bulgarian*), *pp.* 127–134. *Izdat. B″lgar. Akad. Nauk., Sofia,* 1974. (Authors' summary) **49** #9504 41A55

The approximation of functions of two variables in a mixed metric. (Russian) Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 335–341. (H. Weber) **53** #3570 42A08 (41A25)

Approximation of functions of two variables by generalized Bernšteĭn-Rogosinski sums. (Russian) *Serdica* **2** (1976), *no.* 3, 197–204. (W. R. Madych) **56** #9162 42A08

(*with* Proĭnov, P. D.) The approximation of functions of several variables by trigonometric polynomials. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 6(181), 50–54. (W. R. Madych) **58** #6874 42A08

Kirova, N. N. (*with* Eleonskiĭ, V. M.; Petrov, V. M.) General type of solutions of the Landau-Lifshitz equations. *Ž. Èksper. Teoret. Fiz.* **68** (1975), *no.* 5, 1928–1936 (*Russian. English summary*); *translated as Soviet Physics JETP* **41** (1975), *no.* 5, 966–970. (T. Izuyama) **56** #2118 82.35

Kirpičnikov, S. N. Structure of differential equations of mechanics that are reducible to canonical form. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1973), 92–99, 154. (Djordje Djukic) **49** #1849 70.34

Kirpičnikov, V. M. (*with* Bondarenko, V. I.; Sukovatin, I. V.) Numerical solution of certain problems in control theory. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1975**, *no.* 6, 574–578. (Editors) **58** #26293 93C05

Kirpičnikova, N. Ja. The construction of the solutions concentrated near rays of the equations of elasticity theory for an inhomogeneous isotropic space. (Russian) *Trudy Mat. Inst. Steklov.* **115** (1971), 103–113. (J. L. Nowinski) **46** #1171 73.35

The propagation of surface waves that are concentrated near rays in an inhomogeneous elastic body of arbitrary form. (Russian) *Trudy Mat. Inst. Steklov.* **115** (1971), 114–130. (J. L. Nowinski) **45** #9577 73.35

(*with* Babič, V. M.) ★Метод пограничного слоя в задачах дифракции. (Russian) [The boundary layer method in diffraction problems] *Izdat. Leningrad. Univ., Leningrad,* 1974. 124 *pp.* (Zbl **317** #35001) **58** #1697 35L99

See also **Mathematical questions in the theory of wave diffraction, 48** #11732 *and* **Linear operators and operator equations, 49** #4718

Kirsanov, G. M. (*with* Ceĭtlin, G. E.; Juščenko, K. L.) On the question of automated deductive inference in a system of algorithmic algebras. (Russian) *Languages of systems programming and methods for their realization* (*Russian*), *pp.* 3–13. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev,* 1974. (Costică Cazacu) **56** #17234 68A40

(*with* Kekelija, V. I.; Ceĭtlin, G. E.) Realization of algorithmic algebra media in homogeneous structures. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 29–35. (A. V. Palagin) **56** #7312 68A15

(*with* Ceĭtlin, G. E.) Some questions of the completeness of an axiomatic system in algorithmic algebras. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 4, 35–37. (Jiří Adámek) **57** #18192 68A05

See also **Software of electronic digital computers, 50** #11832

Kirsanov, V. I. ★Элементы теории функций комплексного переменного и операционного исчисления. (Russian) [Elements of the theory of functions of a complex variable and of the operational calculus] *Severozapad. Zaočn. Politehn. Inst., Leningrad,* 1970. 139 *pp.* (*errata on back flap*) (Editors) **50** #4905 30–01 (44–01)

Kirsanova, G. V. Connections between the modulus of a vector function and that of its second derivative in a space of arbitrary finite dimension. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **225**, 137–144 (1969). (J. Friberg) **46** #3727 26A87

Inequalities between the moduli of functions and of their derivatives. (Russian) *Moskov. Aviacion. Inst. Ordžonikidze Trudy Vyp.* 224 *Nekotorye Voprosy Matematiki i ee Prepodavanija vo VTUZe* (1971), 5–12. **56** #15860 26A84

Relations between the upper bounds of the moduli of functions and their higher derivatives. (Russian) *Mat. Zametki* **14** (1973), 329–338. (J. Mařík) **50** #7446 26A84

Kirsanova, N. N. (*with* Morozov, V. A.) A certain generalization of the method of regularization. (Russian) *Computing methods and programming, XIV* (*Russian*), *pp.* 40–45. *Izdat. Moskov. Univ., Moscow,* 1970. (J. Štulc (Zbl **231** #65057)) **49** #7816 47A50 (65J05)

Kirsch, Arnold Ist die Grundriß-Aufriß-Abbildung injektiv? *Math.-Phys. Semesterber.* **19** (1972), 146–158. (L. Gyarmathi) **51** #13847 50D15

Die Funktionalgleichung $f(x+x')=f(x)+f(x')$ als Thema für den Oberstufenunterricht. *Math.-Phys. Semesterber.* **24** (1977), *no.* 2, 172–187. (Fro author's introduction) **56** #9118 39–01

See also **Arnold, Bradford H., 49** #9787; **Arnold, Bradford H., 52** #15328 **Courant, Richard; et al., 53** #12811

Kirsch, J. W. (*with* Cheng, Henry; Lee, R. S.) On the reattachment of a shock produced by an instantaneous energy release. *J. Fluid Mech.* **48** (1971), 241–263. (Broadbent) **48** #7758 76.35

Kirschenmann, Peter Concepts of randomness. Proceedings of the First Symposiu Exact Philosophy (McGill Univ., Montreal, Que., 1971). *J. Philos. Logic* **1** (1972 3-4, 395–414. (Claus-Peter Schnorr) **54** #14027 60A05 (02E15)

Kirschmer, Gottlob *See* **Weyl, Hermann, 56** #5183

Kirschner, H.-P. On the risk-equivalence of two methods of randomization in statistic *Multivariate Anal.* **6** (1976), *no.* 1, 159–166. (D. R. Truax) **55** #1554 62C05

On a theorem of Wald and Wolfowitz on randomization in statistics. *Manus Math.* **18** (1976), *no.* 3, 249–256. (Author's summary) **57** #7829 62C05

Eine Bemerkung zur Unverfälschtheit von Mittelwerttests unter Normalverteil Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *T*349–*T*351. (Willem Schaafsma) **54** #14240 62H15

(*with* Bönner, N.) Note on conditions for weak convergence of von Mises' differentiable statistical functions. *Ann. Statist.* **5** (1977), *no.* 2, 405–407. (P. K. **55** #1566 62E20

A note on the maximum probability property of MLE's in multiparameter exponential families. *Metrika* **24** (1977), *no.* 4, 209–213. (G. Roussas) **57** #108 62F10 (62F20)

Kiršin, A. V. (*with* Abutaliev, F. B.; Zinenberg, V. I.) A way of minimizing a functio several variables without calculating the derivatives. (Russian) *Voprosy Vyčisl. i* *Mat.* (*Tashkent*) *Vyp.* 22 (1973), 75–82, 197. (Authors' summary) **58** #19124 65

Kirson, Y. (*with* Yang, A. T.) Instantaneous invariants in three-dimensional kinemat *Trans. ASME Ser. E J. Appl. Mech.* **45** (1978), *no.* 2, 409–414. (Authors' summ **58** #19480 70.34

Kirstaĭn, B. M. *See* **Kirstein, Bernd Michael**

Kirštein, B. H. Invariant subrings of induced rings. (Russian) *Mat. Sb.* (*N.S.*) **87**((1972), 369–376. (A. N. Andrianov) **45** #8657 14L99 (13A99, 20G25)

Invariant subrings of an induced ring on the 4×4 symplectic group. (Russian) *Sb.* (*N.S.*) **89(131)** (1972), 227–233, 350. (O. M. Fomenko) **49** #2969 20G05 (12B40, 14K15, 22E50)

A property of modular functions that are constructed by means of the discrimir (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 5 (179), 227. (J. Spilker) **54** #126 10D05

Kirstein, B.-M. *See* **Barlow, Richard E.; et al., 58** #24807

Kirstein, Bernd Michael Monotonicity and comparability of time-homogeneous Ma processes with discrete state space. (German and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 1, 151–168. (George L. O'Brien) **54** #141 60J75

(*with* Franken, Peter) Zur Vergleichbarkeit zufälliger Prozesse. *Math. Nachr* (1977), 197–205. (Dietrich Stoyan) **57** #1679 60J99 (60G99)

(*with* Franken, Peter; Stoyan, Dietrich) Comparability and monotonicity of Markov processes. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (19 *no.* 1, 43–54. (T. Rolski) **56** #1461 60J05

müller-Kirsten, H. J. W. *See* **Müller-Kirsten, H. J. W.**

Kirtadze, G. Š. (*with* Gačečiladze, T. G.) A Wigner distribution for the eigenvalues of components of an operator of spin $\frac{1}{2}$ *n*. (Russian. Georgian and English summari *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), 349–352. (Authors' summary) **53** #15211 81.60

(*with* Gačečiladze, T. G.) A certain method for the determination of the spect of the generalized Fuks distribution. (Russian. Georgian and English summari *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), *no.* 3, 557–560. (From the authors' **56** #11478 94A05

(*with* Gačečiladze, T. G.; Mgvdeladze, T. N.) An informational theory of perturbations. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Ak Moambe* **87** (1977), *no.* 2, 321–324. (I. Vajda) **58** #20117 82.60 (94A15)

Kirtane, Jayant S. (*with* Jump, J. Roberts) On the interconnection structure of cell networks. *Information and Control* **24** (1974), 74–91. (D. Richardson) **49** #703 94A30

Kirtman, Bernard Variational form of Van Vleck degenerate perturbation theory particular application to electronic structure problems. *J. Chem. Phys.* **49** (19 3890–3894. (A. Corciovei) **49** #6858 82.49

Interchange theorems in degenerate perturbation theory. *J. Chem. Phys.* **49** (19 3895–3898. (A. Corciovei) **48** #7825 81.35

Kiruta, A. Ja. *See* **Aumann, Robert J.; et al., 58** #15223

Kirwan, Donald F. Harmonic oscillator expansions of the hydrogen atom. *J. Chem. P* **51** (1969), 857–858. (K. Veselić) **49** #1967 81.34

Kirwan, William E. The Koebe constant for a class of bounded domains. (Russian Polish summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **21** (1967), 5–9 (19 (M. Reade) **48** #4294 30A32

(*with* Brannan, D. A.) The growth of the maximum modulus of univalent functio *Duke Math. J.* **38** (1971), 805–818. (D. K. Thomas) **45** #5334 30A36

(*with* Aharonov, Dov) A method of symmetrization for plane condensers. *Indi Univ. Math. J.* **22** (1972/73), 603–610. (Y. Komatu) **47** #2052 30A44

(*with* Aharonov, Dov) A method of symmetrization and applications. *Trans. Am Math. Soc.* **163** (1972), 369–377. (Y. Komatu) **45** #516 30A26

(*with* Aharonov, Dov) A method of symmetrization and applications. II. *Tra Amer. Math. Soc.* **169** (1972), 279–291. (Y. Komatu) **47** #2042 30A26

(*with* Brannan, D. A.; Clunie, J. G.) On the coefficient problem for functions bounded boundary rotation. *Ann. Acad. Sci. Fenn. Ser. A I No.* 523 (1973), 18 (Harry B. Coonce) **49** #3108 30A34

(*with* Aharonov, Dov) Covering theorems for classes of univalent functions. *Can J. Math.* **25** (1973), 412–419. (E. P. Merkes) **47** #2041 30A26

Extremal problems for functions with bounded boundary rotation. *Ann. Acad. Sci. Fenn. Ser. A I Math. No.* 595 (1975), 19 *pp.* (J. G. Krzyż) **52** #14271 30A40

(*with* Schober, Glenn) On extreme points and support points for some families of univalent functions. *Duke Math. J.* **42** (1975), 285–296. (Louis Brickman) **51** #3416 30A32

(*with* Schober, Glenn) Extremal problems for meromorphic univalent functions. *J. Analyse Math.* **30** (1976), 330–348. (F. R. Keogh) **56** #3283 30A38

(*with* Pell, Richard) Extremal properties of a class of slit conformal mappings. *Michigan Math. J.* **25** (1978), *no.* 2, 223–232. (Louis Brickman) **58** #6213 30A36

See also **Zalcman, Lawrence**, **53** #776

K an, N. L. *See* **Kir′jan, N. L.**

K anov, B. F. *See* **Kir′janov, B. F.**

K ner, V. M. (*with* Tabačnikov, M. I.) A problem of optimal choice. (Russian) *Vyčisl. Mat. i Vyčisl. Tehn.* (*Kharkov*) **1971**, *no.* 2, 20–25, 158. (See RŽMat **1972** #2 V545) 90C30

The behavior of the trajectories of polyploid genetic systems with migrations. (Russian) *Numerical mathematics and computer technology, No. III* (*Russian*), *pp.* 141–143. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1972. (Author's introduction) **57** #5188 92A15

(*with* Rublineckiĭ, V. I.) The procedure "proceed to the nearest" in the traveling salesman problem. (Russian) *Numerical mathematics and computer technology, No. IV* (*Russian*), *pp.* 40–41, 137. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1973. (Authors' summary) **58** #9238 90C10 (90B10)

The behavior of the trajectories of a certain class of genetic systems. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 287–290. (Ju. I. Petunin) **50** #1749 92A10 (47B99)

(*with* Rublineckiĭ, V. I.) The upper bound of the length of the minimal route in the traveling salesman problem. (Russian) *Numerical mathematics and computer technology, No. V* (*Russian*), *pp.* 120–122, 167. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1974. (Authors' summary) **56** #14625 90B10 (90C05)

(*with* Ljubič, Ju. I.) An evolution equation and a limit theorem for general genetic systems without selection. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), *no.* 776–779. (Editors) **57** #15559 92A10

k nic, D. A. Formulation of quantum theory containing a differential with respect to the coupling constant. (Russian. English summary) *Problems of theoretical physics* (*in memory of I. E. Tamm*) (*Russian*), *pp.* 74–95, 484, 491. *Nauka, Moscow*, 1972. (From the summary) **58** #32538 81.35

K Emese (*with* Comsulea, Elena; Anghel, Ioana) The order of the syntactic elements of principal sentence in the Rumanian language determined by the method of the theory of graphs. *Comput. Linguist.* **5** (1966), 103–117. (André Lentin) **52** #12426 68A30

See also **Recherches sur la philosophie des sciences**, **52** #7764

l, Ottó (*with* Vértesi, Peter) On certain linear operators. I. *Acta Math. Acad. Sci. Hungar.* **22** (1971/72), 65–71. (A. Sharma) **45** #5629 41A35

Remarks on the estimation of the error of trigonometric and Lagrange interpolation. (Russian) *Proceedings of the Conference on the Constructive Theory of Functions* (*Approximation Theory*) (*Budapest*, 1969), *pp.* 255–259. *Akadémiai Kiadó, Budapest*, 1972. (J. Gregor) **53** #3574. 42A12

Lagrange interpolation with nodes at the roots of Sonin-Markov polynomials. (Russian) *Acta Math. Acad. Sci. Hungar.* **23** (1972), 389–417. (Hans-Jürgen Albrand) **47** #680 41A05

Certain interpolation processes of S. N. Bernšteĭn. (Russian) *Acta Math. Acad. Sci. Hungar.* **24** (1973), 353–361. (J. Szabados) **54** #3266 42A12

Investigation of a certain interpolation process. I. (Russian) *Acta Math. Acad. Sci. Hungar.* **25** (1974). 363–386. (J. Gregor) **54** #5713a 42A12

Investigation of a certain interpolation process. II. (Russian) *Acta Math. Acad. Sci. Hungar.* **26** (1975), 171–190. (J. Gregor) **54** #5713b 42A12

(*with* Névai, G. Pál) On an interpolational process with applications to Fourier series. *Acta Math. Acad. Sci. Hungar.* **26** (1975), *no.* 3-4, 385–403. (Paul Nevai) **53** #6206 42A12

(*with* Ho Tho Cao) Investigation of a certain interpolation process. III. (Russian) *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 1-2, 157–176. (J. Gregor) **55** #8665 42A12

(*with* Ho Tho Cao) A method of approximating continuous periodic functions by trigonometric polynomials. (Russian) *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 367–381. (Paul Nevai) **58** #23314 42A08

(*with* Ho Tho Cao) A method of approximating continuous functions by polynomials. (Russian) *Acta Math. Acad. Sci. Hungar.* **28** (1976), *no.* 3-4, 401–411. (Paul Nevai) **54** #5711 42A08

s, S. Rational assumption of interpolation reference points in the case of bivariate Lagrange interpolation. (German and Russian summaries) *Acta Tech. Acad. Sci. Hungar.* **76** (1974), 425–433. (C. A. Hall) **49** #10121 65D05

šakevič, Ju. L. A spectral function of Marčenko type for a difference operator. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn RSR Ser. A* **1972**, 118–121, 187. (J. Muszyński) **46** #4269 47B99 (39A12)

The spectral function of Marčenko type of a fourth order difference operator. (Russian) *Mat. Zametki* **11** (1972), 437–446. (R. C. Gilbert) **46** #4270 47B99 (39A12, 47E05)

The inverse problem for nonselfadjoint difference operators. (Russian) *Mat. Zametki* **11** (1972), 661–668. (R. C. Gilbert) **46** #7742 39A10 (47B45)

The spectral function of Marčenko type of an infinite system of difference equations. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 16 (1972), 59–68, 217. (R. C. Gilbert) **49** #7836 47B45 (39A10)

(*with* Ljance, V. È.) The radical of a certain normed ring. (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. Unīv. Ser. Meh.-Mat.* **1972**, *no.* 7, 53–60, 133. (Leo F. Boron) **50** #10905 47E05

Spectral functions of Marčenko type for difference equations. (Russian) *Methods for the quantitative and qualitative study of differential and integral equations* (*Russian*), *pp.* 54-59. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (I. M. Sheffer) **54** #5654 39A10

A spectral function of Marčenko type for a system of first order difference equations. (Russian) *Proceedings of the Sixth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1973), *Functional analysis and its applications* (*Russian*), *pp.* 179–196. *Akad. Nauk SSSR Central. Èkonom-Mat. Inst., Moscow*, 1975. (B. Crstici) **57** #17054 39A10 (47B45)

Perturbation of the Marčenko type spectral function of a second order difference operator. (Russian) *Mathematical programming and related questions* (*Proc. Seventh Winter School, Drogobych*, 1974), *Theory of operators in linear spaces* (*Russian*), *pp.* 185–198. *Central. Èkonom. Mat. Inst. Akad. Nauk SSSR, Moscow*, 1976. (Author's introduction) **58** #17944 47B45

Kischka, P. Zur Existenz von gleichmässig fastperiodischen Untertransformationsgruppen. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I, pp.* 157–166. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. (Manfred Denker) **56** #9556 57E05 (54H20, 54H15)

(*with* Henn, Rudolph) Über einige Anwendungen der semiinfiniten Optimierung. (English summary) *Z. Operations Res. Ser. A-B* **20** (1976), *no.* 1, A39–A58. (Klaus Lommatzsch) **54** #4681 90C50

(*with* Ballarini, Klaus) Anwendung eines verallgemeinerten Periodizitätsbegriffes in makroökonomischen Modellen. *Mathematical economics and game theory, pp.* 356–364. *Lecture Notes in Econ. and Math. Systems, Vol.* 141, *Springer, Berlin*, 1977. (Georg Bol) **56** #7811 90A15

Kise, Hiroshi Scheduling and branch-and-bound method. (Japanese) *Systems and Control* **17** (1973), 275–281. **47** #4622 90B35

(*with* Mine, Hisashi; Ibaraki, Toshihide) An algorithm for a certain kind of scheduling problem. (Japanese) *Keiei-Kagaku* **18** (1974), 23–37. (Authors' summary) **48** #13234 90B35

(*with* Ibaraki, Toshihide; Mine, Hisashi) A solvable case of the one-machine scheduling problem with ready and due times. *Operations Res.* **26** (1978), *no.* 1, 121–126. (Knut Richter) **57** #2525 90B35

Kise, V. A. *See* **Cybernetics and diagnostics**, **49** #12115

Kiselev, A. A. *See* **Kiseliovas, A.**

Kiselev, A. A. Projective hierarchies over general lattices. (Russian) Logic, algebra and numerical analysis, Vol. 2, no. 1. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **123** (1973), 99–162. (Igor Lavrov) **57** #5720a 02F35 (02K30)

Projective hierarchies over general lattices. II. (Russian) Logic, algebra and numerical analysis, Vol. 2, no. 2. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **125** (1973), 29–45. (Igor Lavrov) **57** #5720b 02F35 (02K30)

Letter to the editors: Correction to the paper by A. A. Kiselev "Projective hierarchies over general lattices. II" (Ivanov. Gos. Univ. Učen. Zap. **125** (1973), 29–45). (Russian) Logic, algebra and numerical analysis, Vol. 3, no. 1. *Ivanov. Gos. Univ. Učen. Zap.* **130** (1974), 92. (Igor Lavrov) **57** #5720c 02F35 (02K30)

Kiselev, A. A. (*with* Nagmetžanov, K. K.) T_g-systems. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1967**, *no.* 12, 6–9. (A. Zaharov (RŽMat **1968** #8 B59)) **46** #5924 42A60

Kiselev, A. I. (*with* Krasnov, M. L.; Makarenko, G. I.) ★Problems and exercises in integral equations. Translated from the Russian by George Yankovsky. Revised from the 1968 Russian edition. *Mir Publishers, Moscow*, 1971. 214 *pp.* (Editors) **50** #5389 45–01

(*with* Krasnov, M. L.; Makarenko, G. I.) The solvability of certain quasilinear parabolic systems of the plane. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 89 (1971), 41–49. (M. A. Dow) **54** #5627 35K60

(*with* Krasnov, M. L.; Makarenko, G. I.) ★Вариационное исчисление. (Russian) [Calculus of variations] *Izdat. "Nauka", Moscow*, 1973. 191 *pp.* (Editors) **50** #14408 49-01

(*with* Krasnov, M. L.; Makarenko, G. I.) ★Problems and exercises in the calculus of variations. Translated from the Russian by George Yankovsky [G. Jankovskiĭ] *Mir Publishers. Moscow*, 1975. 222 *pp.* (Editors) **52** #4059 49–01

(*with* Krasnov, M. L.; Makarenko, G. I.) ★Cálculo variacional (ejemplos y problemas). (Spanish) [Calculus of variations (examples and problems)] Translated from the Russian by Carlos Vega. *Editorial Mir, Moscow*, 1976. 191 *pp.* (Editors) **55** #1177 49–01

(*with* Krasnov, M. L.; Makarenko, G. I.) ★Интегральные уравнения. (Russian) [Integral equations] Second enlarged edition. *Izdat. "Nauka", Moscow*, 1976. 215 *pp.* (Editors) **58** #29887 45–01

(*with* Krasnov, M. L.; Makarenko, G. I.) ★Équations intégrales: problèmes et exercices. Traduit du russe par Irina Pétrova. *Éditions Mir, Moscow*, 1977. 208 *pp.* (C. Corduneanu) **57** #10380 45A05

Kiselev, A. P. A high frequency source between the branches of a hyperbola. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **25** (1972), 79–100. (S. Kaliski) **46** #4860 78.35

High-frequency point sources in inhomogeneous isotropic elastic media. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 829–831. (J. L. Nowinski) **52** #2329 73.35

Initial data for radiation formulas that describe fields of point sources in inhomogeneous elastic media. (Russian) *Questions in the dynamical theory of seismic wave propagation, No.* 15 (*Russian*), *pp.* 6–27, 220. *Izdat. "Nauka" Leningrad. Otdel., Leningrad*, 1975. (S. P. Gavelja) **57** #4759 73.35

Focusing of the WKB-solutions of the equation $[\Delta + k^2n^2(x)]u = 0$, $k \to \infty$. (Russian) Mathematical questions in the theory of wave propagation, 7. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst.* (*LOMI*) **51** (1975), 123–128, 218. (V. P. Milantiev) **54** #4347 78.41

Electromagnetic field near a focus. (Russian. English summary) Mathematical questions on the theory of wave propagation, 8. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **62** (1976), 126–136, 236–237. (Olavi Hellman) **58** #3978 78.41 (34E20)

Diffraction by a wedge with a circular cap. *Prikl. Mat. Meh.* **41** (1977), *no.* 5, 953–956 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 5, 981–984 (1979). (Author's summary) **58** #25363 76.41

See also **Mathematical problems in the theory of wave propagation**, **55** #4937

Kiselev, A. Z. A nonlinear filter for detection of Gaussian processes with a rational spectrum. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 1, 154–166 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 1, 136–147. (N. U. Ahmed) **45** #7409 45A05 (94A05)

A method of solving the vector equation of linear filtering. *Radiotehn. i Èlektron.* **16** (1971), 325–335 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 458–467. (Not reviewed) 94A05 (93E10)

Multidimensional nonlinear filter for discrimination of Gaussian processes with rational spectra. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 1, 159–165 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 1, 144–150. (K. S. Miller) **48** #10620 94A05

Kiselev, F. I. (*with* Demin, V. G.) A new class of periodic motions of a rigid body with one fixed point in a Newtonian force field. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 997–998. (Q. K. Ghori) **50** #3687 70.34

Kiselev, I. M. (*with* Zelenevskaja, E. A.; Tocenko, V. G.) Extension of an automaton to an automaton that translates a given input sequence. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 6, 15–18, 92. (J. Černý) **57** #15794 94A30

Kiselev, Ju. N. Differentiability with respect to initial values of the solution of the equations of the maximum principle in a case that is nearly linear. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 19–56. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (P. Sagirow) **45** #3102 49A10

The maximum principle is a sufficient condition of maximal time optimality for linear differential games. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *No.* 3 (*Russian*), *pp.* 26–35. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (O. Hájek) **45** #9733 93C05

Asymptotic solution of a certain problem that arises in the theory of optimal processes. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *No.* 1 (*Russian*), *pp.* 26–35. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (H. A. Antosiewicz) **46** #6120 49A10

(*with* Fedoseev, A. A.) A certain problem of geometric programming. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 146 *Vysš. Mat.* (1972), 55–59. (I. Maruşciac) **48** #10513 90C30

(*with* Astahov, Ju. N.; Venikov, V. A.; Gordievskiĭ, I. G.; Karasev, D. D.; Svešnikov, V. I.; Fedoseev, A. A.) Certain questions of the optimization of large systems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1145–1158, 1363. (Alexander M. Rubinov) **47** #8115 90C30

On the question of equations for the switching points of the optimal control in linear time-optimal problem. (Russian) Studies in differential equations and their applications. *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 201 (1974), 66–71. (Editors) **57** #18949 93C05 (49B99)

The rank of the functional matrix of the mapping that describes the isochrone surfaces in a linear time-optimality problem. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 260 (1975), 59–69. (Author's introduction) **57** #15639 93C30

(*with* Astahov, Ju. N.; Fedoseev, A. A.) The problem of geometric programming without forced constraints. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 1, 251–256, 280. (M. Mañas) **53** #15368 90C30

Kiselev, L. V. (*with* Garaščenko, E. I.) Approximate methods for the analysis and synthesis of nonlinear systems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control— Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 48–55, 475. *Izdat. "Nauka", Moscow*, 1972. (Editors) **48** #10573 93C10

Kiselev, M. I. (*with* Abgarjan, A. A.) A statistical description of the perturbed motion of artificial earth satellites. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **29** (1976), *no.* 3, 23–30, 77. (Authors' summary) **56** #17307 70.60

Kiselev, O. M. On the problem of the circumfluence of a gas filled shell by a plane stream of an ideal liquid. (Russian) *Izv. Akad. Nauk SSSR Ser. Meh. Židk. Gaza* **1971**, *no.* 3, 108–117. (L. Dragoş) **46** #8524 76.30

(*with* Kotljar, L. M.) On the problem of flow of a heavy fluid with two free surfaces. *Prikl. Mat. Meh.* **37** (1973), 849–856 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 804–811 (1974). (T. W. Kao) **50** #11967 76.30

Solution of the problem of jet flow of a weighted liquid with one free surface. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 12 (163), 79–82 (1976). (Şt. I. Gheorghiţă) **55** #1933 76.41

(*with* Rapoport, È. F.) Jet flow around an elastic plate. (Russian) *Izv. Akad. Nauk SSSR Meh. Židk. Gaza* **1976**, *no.* 4, 35–42. (Authors' summary) **54** #14565 73.65

(*with* Rapoport, È. F.) On the problem of a jet flow around an elastic shell. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 10(173), 97–100. (Şt. I. Gheorghiţă) **57** #11292 76.34

Solution of the problem of a jet stream of ponderable fluid with one free surface. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 13 (1976), 128–141. (From the text) **58** #25315 76.34

(*with* Troepol'skaja, O. V.) The flow of a heavy capillary fluid with a free surface. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 13 (1976), 142–150. (From the text) **58** #25311 76.30

Kiselev, O. N. (*with* Popkov, Ju. S.) Adaptive design of probabilistic systems. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos. Sensitivity, Adaptivity and Optimality, Ischia*, 1973), *pp.* 323–334. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (From the authors' introduction) **56** #11422 93E15 (93E20)

See also **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics**, 47 #4666 (EA 47) *and* **Proceedings: All-Union Conference on Automatic Control—Engineering Cybernetics**, **48** #3670

Kiselev, P. Ja. *See* **Questions in applied mathematics**, **48** #5448

Kiselev, V. A. (*with* Barabanov, A. T.) Certain problems on the synthesis of linear nonstationary automatic control systems with a singular point. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 4: *Control of moving objects* (*Russian*), *pp.* 256–280, 406. *Izdat. "Nauka", Moscow*, 1972. (Editors) **48** #8043 93C05

A method of synthesis of a certain class of linear nonstationary automatic control systems when there are random actions and random parameters. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 1321–1324. (V. Kolmanovskiĭ) **52** #5160 93E20

An approximate method for the analysis of linear stochastic automatic control systems of a certain class. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 6, 1296–1299. (V. N. Igolkin) **53** #10440 93E15

The principle of a majorizing system in the problem of the analytic study of li nonstationary control systems of a certain class. (Russian) *Dokl. Akad. Nauk SSSR* (1977), *no.* 5, 808–811. (From the text) **58** #26296 93C05

See also **Problems in theoretical physics**, **50** #12007

Kiselev, V. G. Filtration of measurements with incomplete information about the o and the measurement channels. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *n* 188–190 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 3, 145–147. (M Granger) **52** #10208 94A05

A numerical method for the optimal choice of discrete measurements. (Russian *Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 79–87, 267. (G. Bär) **49** #1772 65K05

Kiselev, V. V. (*with* Kon, E. L.) Application of the mathematical apparatus of orie Boolean differentials to the solution of the problems of the diagnosis of discrete dev (Russian) *Discrete systems, formal languages and algorithm complexity* (*Russian*) 3–15. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (A. A. Mullin) **58** #335 94A20 (68A05)

Hopf's equation in a field of random forces with an arbitrary distribution. (Russ *Izv. Vysš. Učebn. Zaved. Fizika* **1977**, *no.* 2, 77–82. (Author's summary) **58** #148 82.45

Kiseleva, N. A. *See* **History and methodology of the natural sciences**, **50** #1807

Kiseliov, A. I. *See* **Kiselev, A. I.**

Kiseliovas, A. (*with* Bandzaitis, A. A.) The decomposition of transformation matrices a sum of products of 6*j*-coefficients. (Russian. Lithuanian and English summar *Litovsk. Fiz. Sb.* **14** (1974), 11–18, 169. (Authors' summary) **57** #2238 81.22

An application of the diagram technique to the vibronic problem. (Russian) *Ves Leningrad. Univ. No.* 10, *Fiz. Him. Vyp.* 2 (1976), 7–14, 151. (A. A. Arsen'ev) **55** # 81.35

Adiabatic perturbation theory in molecular spectroscopy. (French summary) *Canad. J. Phys.* **56** (1978), *no.* 6, 615–647. (M. A. Rashid) **58** #4051 81.41

Kiselman, Christer O. Supports des fonctionnelles sur un espace de solutions d'une équation aux dérivées partielles à coefficients constants. *Séminaire Pierre Le* (*Analyse*) (*année* 1967-1968), *pp.* 118–126. *Lecture Notes in Math., Vol.* 71, *Sprin Berlin*, 1968. (P. Schapira) **51** #8814 46F15 (35E99)

Functionals on the space of solutions to a differential equation with cons coefficients. The Fourier and Borel transformations. *Math. Scand.* **23** (1968), 27 (1969). (Editors) **58** #28561 31B35 (35E10)

(*with* Gruman, Lawrence) Le problème de Levi dans les espaces de Banach à ba *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1296–A1299. (A. Hirschowitz) **45** #3 32F15 (46B15)

On the radius of convergence of an entire function in a normed space. Proceedi of the Sixth Conference on Analytic Functions (Krakow, 1974). *Ann. Polon. Math* (1976/77), *no.* 1-2, 39–55. (Richard M. Aron) **56** #6386 46G20 (32L05)

Geometric aspects of the theory of bounds for entire functions in normed spa *Infinite dimensional holomorphy and applications* (*Proc. Internat. Sympos., Univ. Esta de Campinas, São Paulo*, 1975), *pp.* 249–275. *North-Holland Math. Studies, Vol. Notas de Mat., No.* 54, *North-Holland, Amsterdam*, 1977. (P. Lelong) **57** #1288 32A15 (58C10)

Construction de fonctions entières à rayon de convergence donné. *Journées sur Fonctions Analytiques* (*Toulouse*, 1976), *pp.* 246–253. *Lecture Notes in Math., Vol. Springer, Berlin*, 1977. (L. I. Ronkin) **57** #678 32A15

Supports des profonctionnelles analytiques. *Séminaire Paul Krée*, 2*e année* (1975/76), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 9, 7 *Secrétariat Math., Paris*, 1977. (Author's introduction) **58** #11485 32A30 (46F9

Fonctions delta-convexes, delta-sousharmoniques et delta-plurisousharmoniqu *Séminaire Pierre Lelong* (*Analyse*), *année* 1975/76, *pp.* 93–107. *Lecture Notes in Ma Vol.* 578, *Springer, Berlin*, 1977. (Ph. Noverraz) **57** #715 32F05

Kisel'ov, P. Ja. (*with* Dīdkīvs'ka, T. V.) Conformal mapping of the unit disk onto half-plane with a crescent. (Ukrainian. English and Russian summaries) *Dopovīdī Ak Nauk Ukraïn. RSR Ser. A* **1973**, 20–24, 92. (R. Kühnau) **48** #514 30A24

Kish, Leslie (*with* Frankel, Martin Richard) Inference from complex samples. With discussions by G. Kalton, M. R. Sampford, F. Yates, P. J. Brown, J. Durbin, T. M. Smith, S. Konijn, W. Edwards Deming, V. P. Godambe, E. Thompson and W. Cochran. *J. Roy. Statist. Soc. Ser. B* **36** (1974), 1–37. (J. Sedransk) **51** #2064 62D

Optimal and proximal multipurpose allocation. *Proceedings of the Annual Meet of the American Statistical Association, Social Statistics Section* (*St. Louis, Mo.*, 1974), 111–118. *Amer. Statist. Assoc., Washington, D.C.*, 1975. (Mankal N. Murthy) **51** #92 62D05

(*with* Anderson, Dallas W.; Cornell, Richard G.) Quantifying gains from stratification for optimum and approximately optimum strata using a bivariate norm model. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 356, 887–892. (David Bellhouse) **55** #6629 62D05

Optima and proxima in linear sample designs. *J. Roy. Statist. Soc. Ser. A* 1 (1976), *no.* 1, 80–95. (Victor K. T. Tang) **56** #6956 62D05

See also **Mahalanobis, Prasanta Chandra**, 51 #2066; **Quantitative sociology**, **56** #2480; **Smith, T. M. F.**, **56** #4005 *and* **Discussion: Papers, International Association of Survey Statisticians**, **56** #4008

Kishen, K. (*with* Tyagi, B. N.) Recent developments in India in the construction confounded asymmetrical factorial designs. *A survey of combinatorial theory* (*Pr Internat. Sympos., Colorado State Univ., Fort Collins, Colo.*, 1971), *pp.* 313–321. *North-Holland, Amsterdam*, 1973. (Bhagwandas) **51** #2950 05B30

Kishi, Genya (*with* Maeda, Narimichi) Sampling theorems for signals given by line differential equations with constant coefficients. *Electron. Commun. Japan* **53** (1970), 4, 29–36. (J. Capon) **48** #13434 94A05

(*with* Ishii, Rokuya) Irreducibility of topological formulas in LCR networks. *Electron. Commun. Japan* **54** (1971), *no.* 10, 9–16. (B. R. Myers) **46** #8774 94A2

(*with* Kajitani, Yoji) Basis in the state of an LCR network and on existence network equations. *Electron. Commun. Japan* **55** (1972), *no.* 8, 1–8. (N. K. Bos **48** #13496 94A20

(*with* Uetake, Yoshikazu) Relation between topology and dependence formulas input impedances of an LCR network. *Electron. Commun. Japan* **56** (1973), *no.* 17–24. (W.-K. Chen) **50** #4132 94A20 (*with* Kajitani, Yoji) Topological considerations on minimal sets of variables scribing an LCR network. *IEEE Trans. Circuit Theory* **CT-20** (1973), *no.* 4, 335–340. uthors' summary) **56** #5071 94A20

Kis Kazuo A note on the invariant subspaces in L^{ϕ}. Collection of articles dedicated to dao Kashiwagi. *Collect. Papers Math. Soc. Wakayama Univ. No.* 1 (1970), 37–41. (T. Gamelin) **52** #1320 46J10

Homeomorphism between the open unit disk and a Gleason part. *J. Math. Soc. pan* **27** (1975), *no.* 3, 467–473. (T. W. Gamelin) **56** #6396 46J15

Analytic maps of the open unit disk onto a Gleason part. *Pacific J. Math.* **63** (1976), 2, 417–422. (N. K. Nikol′skiĭ) **54** #8295 46J10

The maximal ideal space of certain algebra $H^{\infty}(m)$. *J. Math. Soc. Japan* **30** (1978), 3, 483–493. (S. V. Hruščev) **58** #12382 46J10

Kis Masanori Puissance fractionnaire d'un noyau positif dont le carré est encore un yau. *Nagoya Math. J.* **44** (1971), 79–88. (M. Brelot) **46** #5658 31D05

An example of a positive non-symmetric kernel satisfying the complete maximum inciple. *Nagoya Math. J.* **48** (1972), 189–196. (R. M. Hervé) **47** #3692 31A15

Some remarks on the existence of a resolvent. (French summary) Collection of ticles dedicated to Marcel Brelot on the occasion of his 70th birthday. *Ann. Inst. urier (Grenoble)* **25** (1975), *no.* 3-4, xvii, 345–352. (Gunnar Forst) **53** #11081 C05

Quelques remarques sur l'existence de résolvantes (La propriété de la convergence minée des potentiels). *Séminaire de Théorie du Potentiel de Paris, No.* 2 (*Univ. Paris, aris*, 1975–1976), *pp.* 121–129. *Lecture Notes in Math., Vol.* 563, *Springer, Berlin*, 1976. uthor's summary) **58** #28557 31B15

L'unicité de la puissance fractionnaire. *Séminaire de Théorie du Potentiel de Paris, o.* 2 (*Univ. Paris, Paris*, 1975–1976), *pp.* 130–141. *Lecture Notes in Math., Vol.* 563, *ringer, Berlin*, 1976. (From the text) **58** #30452 47B37

Positive idempotents on a locally compact abelian group. *Kōdai Math. Sem. Rep.* **27** 976), *no.* 1-2, 181–187. (Christian Berg) **53** #5913 31C99

Kis na, Akira (*with* Ichikawa, Satoshi) Matric operational calculus and its applications. (With appendix) *Mem. Fac. Engrg. Kyoto Univ.* **33** (1971), 80–93. (A. Erdélyi) 6 #5955 44A40

(*with* Nitta, Tanzo) Solvability and state equations of RCG networks. *Electron. omm. Japan* **60** (1977), *no.* 8, 1–9. (Ernest S. Kuh) **58** #33571 94A20

(*with* Nitta, Tanzo) State equations of linear networks with dependent sources ased on network topology. *Electron. Comm. Japan* **60** (1977), *no.* 11, 28–36. (Authors' ummary) **58** #33572 94A20

Kis moto, Akitaka Dissipations and derivations. *Comm. Math. Phys.* **47** (1976), *no.* 1, 5–32. (Ola Bratteli) **53** #6335 46L05

Some remarks on Fröhlich's condition in $P(\phi)_2$ Euclidean field theory. *Comm. Math. Phys.* **47** (1976), *no.* 2, 117–129. (Thomas Spencer) **53** #7291 81.47

On uniqueness of KMS states of one-dimensional quantum lattice systems. *Comm. Math. Phys.* **47** (1976), *no.* 2, 167–170. (G. A. Elliott) **54** #2049 82.46

(*with* Araki, Huzihiro) Symmetry and equilibrium states. *Comm. Math. Phys.* **52** 1977), *no.* 3, 211–232. (R. H. Herman) **56** #4591 82.46

Remarks on compact automorphism groups of a certain von Neumann algebra. *ubl. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 2, 573–581. (Author's summary) 8 #17873 46L10

On the fixed point algebra of a UHF algebra under a periodic automorphism of roduct type. *Publ. Res. Inst. Math. Sci.* **13** (1977/78), *no.* 3, 777–791. (Dorte Olesen) 8 #17863 46L05

Equilibrium states of a semi-quantum lattice system. *Rep. Mathematical Phys.* **12** 1977), *no.* 3, 341–374. (Derek W. Robinson) **57** #18669 82.46

(*with* Takai, Hiroshi) On the invariant $\Gamma(\alpha)$ in C^*-dynamical systems. *Tôhoku Math. J.* (2) **30** (1978), *no.* 1, 83–94. (Ola Bratteli) **58** #2324 46L05 (22D10, 28A65)

Ki moto, Kazuo On abelian extensions of rings. II. *Math. J. Okayama Univ.* **15** 1971/72), 57–70. (H. F. Kreimer) **45** #6864 16A56

(*with* Tominaga, Hisao) On inner ρ-derivations. *Hokkaido Math. J.* **1** (1972), 10–113. (G. Michler) **47** #6784 16A72

Note on quadratic extensions of rings. II. *J. Fac. Sci. Shinshu Univ.* **7** (1972), 7–12. S. Yuan) **48** #341 16A56

(*with* Tominaga, Hisao) On decompositions into simple rings. II. *Math. J. Okayama Univ.* **18** (1975/76), *no.* 1, 39–41. (J. K. Luedeman) **53** #5656 16A40

A classification of free quadratic extensions of rings. *Math. J. Okayama Univ.* **18** 1975/76), *no.* 2, 139–148. (H. J. Weinert) **54** #10336 16A56

A classification of free extensions of rings of automorphism type and derivation ype. *Math. J. Okayama Univ.* **19** (1976/77), *no.* 2, 163–169. (H. Tominaga) **56** #12072 16A74 (16A56)

A note on submodules of a Galois extension of a ring with a cyclic Galois group of order p^e. *J. Fac. Sci. Shinshu Univ.* **12** (1977), *no.* 1, 37–40. (M. Orzech) **57** #9682 13B10

(*with* Nagahara, Takasi) On free cyclic extensions of rings. *Proceedings of the 10th Symposium on Ring Theory* (*Shinshu Univ., Matsumoto*, 1977), *pp.* 1–25. *Dept. Math., Okayama Univ., Okayama*, 1978. (F. Demeyer) **58** #28054 16A16 (16A74)

K ino, Kiyotaka (*with* Sunahara, Yoshifumi; Kabeuchi, Teruo; Asada, Yoshiharu; Aihara, Shin'ichi) On stochastic controllability for nonlinear systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 49–54. (Peter Stavroulakis) **50** #12415 93E20

(*with* Sunahara, Yoshifumi; Aihara, Shin'ichi) On stochastic observability of non-linear discrete-time dynamical systems. *Internat. J. Control* **19** (1974), 719–732. (V. N. Igolkin) **49** #8722 93E15

(*with* Sunahara, Yoshifumi; Aihara, Shin'ichi) On the stochastic observability and controllability non-linear systems. *Internat. J. Control* **22** (1975), *no.* 1, 65–82. (R. Rishel) **53** #2446 93B05 (93E10)

(*with* Sunahara, Yoshifumi; Aihara, Shin'ichi; Kamejima, Koji) On stochastic observability and controllability for nonlinear distributed parameter systems. *Information and Control* **34** (1977), *no.* 4, 348–371. (Pierre-Louis Lions) **58** #9699 93E15

K ore, Masao Odd perfect numbers not divisible by 3 are divisible by at least ten distinct primes. *Math. Comp.* **31** (1977), *no.* 137, 274–279. (Harvey Cohn) **55** #2727 10A20

On the number of distinct prime factors of n for which $\varphi(n)|n-1$. *Nieuw Arch. Wisk.* (3) **25** (1977), *no.* 1, 48–53. (Philip A. Leonard) **56** #2904 10A25

Addendum: "Odd integers N with five distinct prime factors for which $2-10^{-12}<\sigma(N)/N<2+10^{-12}$" (Math. Comp. **32** (1978), no. 141, 303–309). *Math. Comp.* **32** (1978), *no.* 141, *loose microfiche suppl.*, 12 *pp.* (Stefan A. Burr) **58** #5482b 10A20

Odd integers N with five distinct prime factors for which $2-10^{-12}<\sigma(N)/N<2+10^{-12}$. *Math. Comp.* **32** (1978), *no.* 141, 303–309. (Stefan A. Burr) **58** #5482a 10A20

Kishore, Nand (*with* Misra, S.) On the absolute Nörlund summability of a factored Fourier series. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **15(63)** (1971), *no.* 3, 351–365 (1973). (Kenneth A. Jukes) **48** #4618 42A28

(*with* Hotta, G. C.) On absolute matrix summability of a Fourier series. *Indian J. Math.* **13** (1971), 99–110. (F. P. Cass) **48** #11881 42A28

(*with* Adhikary, D. N.) Independence of the conditions of associativity in ternary operations. *Acta Sci. Math.* (*Szeged*) **33** (1972), 275–284. (H. A. Thurston) **47** #8748 20N10

(*with* Hotta, G. C.) On absolute Nörlund summability of a Fourier series. (Romanian summary) *An. Univ. Timişoara Ser. Şti. Mat.* **10** (1972), 171–182. (F. C. Hsiang) **49** #7683 42A28

(*with* Hotta, G. C.) On absolute Nörlund summability of a conjugate series. *Indian J. Math.* **14** (1972), 33–43. (F. P. Cass) **48** #11882 42A28

A note on the reduction on an n-ary operation to binary form. *Math. Education* **6** (1972), A77–A78. **46** #7130 08A25

(*with* Hotta, G. C.) A note on absolute Nörlund summability of a sequence of Fourier coefficients. *Math. Student* **40A** (1972), 5–12. (W. Beekmann) **49** #978 42A28

(*with* Samantray, U. N.) A note on the relative strength of two absolute summability methods. *Indian J. Math.* **15** (1973), 65–72. (G. U. Brauer) **50** #7887 40F05

(*with* Jena, S. C.) Absolute matrix summability of a sequence of Fourier coefficients. *Ranchi Univ. Math. J.* **7** (1976), 61–68. (B. Kuttner) **58** #29772 42A28

Kishore, Nawal (*with* Mishra, R. S.; Misra, Ram Bilas) On bisymmetric Finsler manifolds. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no.* 1, 157–164. (S. Kawaguchi) **57** #10633 53B40

(*with* Misra, Ram Bilas; Pandey, Paras Nath) Projective motion in an SNP-F_n. (Italian summary) *Boll. Un. Mat. Ital. A* (5) **14** (1977), *no.* 3, 513–519. (M. S. Al-Borney) **57** #17543 53B40

Kishore, Newal (*with* Mishra, R. S.) A statistical theory for weak homogeneous turbulence. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 8, 724–732. (William C. Meecham) **55** #1939 76.60

Kishpaugh, John R. L. *See* **Multivariate statistical methods: among-groups covariation, 51** #14407

Kishta, Mahmoud A. (*with* Beem, John K.) On generalized indefinite Finsler spaces. *Indiana Univ. Math. J.* **23** (1973/74) 845–853. (H. Rund) **48** #9593 53B40

Finsler spaces of constant singularities. (Arabic summary) *Arabian J. Sci. Engrg.* **3** (1977/78), *no.* 2, 93–97. (H. D. Pande) **58** #12805 53B40

Kisiel, C. C. *See* **Role and effectiveness of theories of decision in practice, 56** #10776

Kisielewicz, Michał ★Some properties of functional-partial differential equations of hyperbolic type. (Polish) *Państwowe Wydawnictwo Naukowe* [*Polish Scientific Publishers*], *Poznań*, 1971. 59 *pp.* (See RŽMat **1972** #1 B447K) 35R10

Some applications of the approximation theorem of Alexiewicz-Orlicz. *Demonstratio Math.* **7** (1974), 59–71. (D. K. Hughes) **51** #13398 34K05 (41A30)

On some applications of Bogoliubov method for hyperbolic equations. *Ann. Polon. Math.* **31** (1975), *no.* 1, 1–13. (V. Djurikovič) **52** #11280 35A35 (35L20)

The Orlicz type theorem for differential-integral equations with a lagging argument. *Ann. Polon. Math.* **31** (1975), *no.* 1, 65–71. (J. M. Cushing) **53** #6261 45J05 (34K05)

Description of a class of differential equations with set-valued solutions. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 2, 158–162. (C. R. Putnam) **54** #3120a 34G05

Description of a class of differential equations with set-valued solutions. II. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 3, 338–341. (C. R. Putnam) **54** #3120b 34G05

On the non-convergence of successive approximations in the theory of ordinary differential equations. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 267–270. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #28769 34A45

Approximation theorem for set-valued functions. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **61** (1976), *no.* 5, 364–367 (1977). (M. Vlach) **58** #12148 41A65

(*with* Serafin, B.; Sosulski, W.) Existence theorem for functional-differential equation with compact convex valued solutions. *Demonstratio Math.* **9** (1976), *no.* 2, 229–237. (Hans-Otto Walther) **53** #11189 34K05

(*with* Grytczuk, Krystyna) The existence of solutions of hereditary systems of hyperbolic type. *Demonstratio Math.* **9** (1976), *no.* 4, 545–561. (J. K. Hale) **55** #3574 35R10

Description of a class of hereditary differential-integral equations with non-converging successive approximations. *Funkcial. Ekvac.* **19** (1976), *no.* 3, 295–300. (H. E. Gollwitzer) **58** #6998 45L05 (45J05)

Method of averaging for differential equations with compact convex valued solutions. (Italian summary) *Rend. Mat.* (6) **9** (1976), *no.* 3, 397–408. (From the introduction) **58** #1451 34G05

(*with* Janiak, T.) Existence theorem for functional-differential contingent equations. *Ann. Polon. Math.* **35** (1977/78), *no.* 2, 159–166. (Karol Baron) **57** #10166 34K05

On the non-convergence of successive approximations in the Darboux problem for the equation $z''_{xy}=f(x,y,z)$. *Colloq. Math.* **38** (1977), *no.* 1, 103–110. (D. L. Colton) **56** #16115 35A35

Kisil′, R. I. (*with* Īvanel, V. K.; Maksimīv, Ē. M.) A generalized Maclaurin formula and its application. (Ukrainian. Russian summary) *Vīsnik L′vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 42–44, 185. (Authors' summary) **58** #28334 26A06

Kisil′, V. O. Conditions for convexity (concavity) of the output error function in a system without feedback. *Avtomatika* **1971**, *no.* 3, 21–24 (*Ukrainian*); *translated as Soviet Automat. Control* **4** (1971), *no.* 3, 19–23. (Author's summary) **46** #1398 93B99

Kisilevs′kiĭ, G. È. (*with* Brodskiĭ, M. S.) On the question of decomposing dissipative operators into unicellular ones. (Russian) *Mat. Issled.* **6** (1971), *no.* 3(21), 162–167, 203. (E. Heyn (Zbl **247** #47029)) **58** #23739 47B44

On the location of invariant subspaces of dissipative operators. *Hilbert space operators and operator algebra* (*Proc. Internat. Conf., Tihany*, 1970), *pp.* 347–349. *Colloq. Math. Soc. János Bolyai*, 5, *North-Holland, Amsterdam*, 1972. (J. Rovnyak) **52** #1356 47A15

Integral Volterra operators in certain Banach function spaces. (Russian) *Funkcional. Anal. i Priložen.* **8** (1974), *no.* 4, 85–86. (Edward Azoff) **50** #14279 47A15 (47G05)

Volterra operators with nuclear imaginary components. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 6, 794–797, 861. (S. G. Samko) **54** #8328 47A65

Kisilevsky, H. H. (*with* Boyd, David W.) The Diophantine equation $u(u+1)(u+2)(u+3)=v(v+1)(v+2)$. *Pacific J. Math.* **40** (1972), 23–32. (E. L. Cohen) **46** #5238 10B10

The Rédei-Reichardt theorem—a new proof. *Selected topics on ternary forms and norms* (*Sem. Number Theory, California Inst. Tech., Pasadena, Calif.*, 1974/75), *Paper No.* 6, 4 *pp. California Inst. Tech., Pasadena, Calif.*, 1976. (Yoshiomi Furuta) **55** #10422 12A25

(*with* Carroll, Joseph E.) Initial layers of Z_1-extensions of complex quadratic fields. *Compositio Math.* **32** (1976), *no.* 2, 157–168. (Alan Candiotti) **53** #10755 12A35

Number fields with class number congruent to 4 mod 8 and Hilbert's theorem 94. *J. Number Theory* **8** (1976), *no.* 3, 271–279. (Harvey Cohn) **54** #5188 12A65

(*with* Dummit, D. S.) Indices in cyclic cubic fields. *Number theory and algebra*, *pp.* 29–42. *Academic Press, New York*, 1977. (Wells Johnson) **57** #266 12A30

Kisilewicz, Jerzy (*with* Hasiewicz, Zygmunt; Zdrzałka, Stanisław) Evaluation of raw material composition by representative sampling in the control of a cement production process. (Polish. English and Russian summaries) *Podstawy Sterowania* **2** (1972), 361–376. (E. V. Bulinskaja) **48** #5307 62N10

Kisin, V. *See* **Kuroš, A. G., 56** #11888

Kisin, V. I. *See* **Sobol′, I. M., 53** #6975

Kiškin, B. P. (*with* Ogibalov, P. M.; Netrebko, V. P.) The life and work of Mihail Mitrofanovič Filonenko-Borodič. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27** (1972), *no.* 5, 124–129. (Editors) **48** #3682 01A70

See also **History and methodology of the natural sciences, 50** #1807

Kiskis, Joe U(1) gauge theories, fiber bundles, and stereographic projections in two dimensions. *Phys. Rev. D* (3) **16** (1977), *no.* 8, 2535–2539. (Author's summary) **58** #14730 81.55

Kisler, V. M. A particular method of convex programming. (Russian) *Operations research* (*models, systems, solutions*), *No.* 1 (*Russian*), *pp.* 10–18. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1970. (Alexander M. Rubinov) **47** #6320 90C25

Kislev, Yoav (*with* Plessner, Yakir) An applicable linear programming model of inter-temporal equilibrium. *Metroecon.* **25** (1973), 66–80. (From the authors' introduction) **55** #9868 90A15 (90C05)

Kisljakov, S. V. The embedding of free Boolean algebras in complete ones. (Russian) Investigations on linear operators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **30** (1972), 165–166. (S. Rudeanu) **48** #5944 06A40

Free subalgebras of complete Boolean algebras, and spaces of continuous functions. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 569–581, 693–694. (Z. Semadeni) **49** #4894 (E **52** #5508) 06A40 (46E25)

The Dunford-Pettis, Pełczyński and Grothendieck conditions. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 6, 1252–1255. (Constantin Niculescu) **53** #1241 46E15

Sobolev imbedding operators, and the nonisomorphism of certain Banach spaces. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 4, 22–27. (Pavel Doktor) **58** #30139 46E35

Noncomplemented uniform algebras. (Russian) *Mat. Zametki* **18** (1975), *no.* 1, 91–96. (J. Benkö) **52** #8943 46J10

A classification of the spaces of continuous functions on the ordinals. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 293–300, 420. (Z. Semadeni) **51** #13662 46E15 (04–XX, 54C35)

Letter to the editors: A correction to the paper: "Free subalgebras of complete Boolean algebras, and spaces of continuous functions" (Sibirsk. Mat. Ž. **14** (1973), 569–581, 693–694). (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 417. (Z. Semadeni) **52** #5508 06A40 (46E25)

Examples of extremal compacta on which the spaces of continuous functions are not isomorphic to conjugate spaces. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1975), 142–143, 154. (A. B. Németh) **52** #6393 46E15 (54C35)

Uniform algebras as Banach spaces. (Russian. English summary) Investigations on linear operators and the theory of functions, VII. *Zap. Naučn. Sem. Leningrad. Otdel Mat. Inst. Steklov.* (*LOMI*) **65** (1976), 80–89, 204. (Anthony G. O'Farrell) **58** #12389 46J15 (46E15)

Spaces with a "small" annihilator. (Russian. English summary) Investigations on linear operators and the theory of functions, VII. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **65** (1976), 192–195, 209. (Author's summary) **58** #17804 46E10

p-absolutely summing operators. (Russian) *Geometry of linear spaces and operator theory* (*Russian*), *pp.* 114–174. *Jaroslav. Gos. Univ., Yaroslavl*, 1977. (T. Figiel) **58** #30425 47B10 (46B99, 46L20)

See also **Investigations on linear operators and the theory of functions, 52** #14241 (EA **53**)

Kislov, N. V. Certain operator-differential equations of mixed type. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 146 *Vysš. Mat.* (1972), 60–69. (Stephen Balint) **49** #766 34G05 (47A50)

A boundary value problem for the Tricomi equation. (Russian) Studies in differential equations and their applications. *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 201 (1974), 71–78. (Editors) **58** #1708 35M05

A boundary value problem for a second order operator-differential equation type of the Tricomi equation. (Russian) *Differencial′nye Uravnenija* **11** (1975), 718–726, 766. (L. von Wolfersdorf) **52** #938 34G05 (35M05, 47A50)

An estimate of the intermediate derivatives for a class of functions. (Russian) *Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 240 (1975), 84–90. (J. Musielak) **57** #1 46E35

Kisluha, M. Ī. A solitary exciton in a molecular chain. (Russian. English sum *Ukrain. Fiz. Ž.* **21** (1976), *no.* 5, 829–836, 875. (Author's summary) **57** #2273

Kiso, Kazuhiro On deformation of solutions of involutive partial differential equa *Publ. Res. Inst. Math. Sci.* **10** (1974/75), *no.* 3, 763–776. (W. J. Sweeney) **52** #1 58H05

Infinite-dimensional intransitive Lie groups. (Japanese) Research on global a (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1976). *Sûrikaisekiken Kôkyûroku No.* 291 (1977), 31–45. (Hideki Omori) **58** #2927 58H05 (57D30)

Kisorževskiĭ, V. F. Optimal processing of signals in systems with multiple elements (channels) of reception. *Radiotehn. i Èlektron.* **17** (1972), 1974–1976 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **17** (1972), 1578–1580. (L. L. Ca **50** #6628 94A05

Kiss, Elemér Über eine Kategorie von Halbmoduln. (Romanian and Russian summ *Studia Univ. Babes-Bolyai Ser. Math.-Mech.* **19** (1974), *no.* 2, 11–15. (G. **51** #5680 16A78

On modular right ideals of a ring. *Acta Math. Acad. Sci. Hungar.* **30** (1977), 303–306. (J. Zelmanowitz) **56** #12050 16A20

(*with* Biró, B.; Pálfy, Péter Pál) On the congruence extension property. *Sem Forum* **15** (1977/78), *no.* 2, 183–184. (D. B. McAlister) **57** #6246 20M10 (08

A module-theoretic characterisation of rings with unity. *Acta Math. Acad Hungar.* **31** (1978), *no.* 3-4, 345–348. (T. Albu) **57** #16351 16A48

Kiss, Gábor ★Schachspiel mit Rechenmaschinen. With Hungarian and Russian summaries. ESZK, No. 17. *Computing Center for Universities, Budapest*, 1976. 65 Cvetković) **58** #3767 68A45

Kiss, Ildikó On characterizations of some classes of semigroups with 0. *Ann. Uni Budapest. Eötvös Sect. Math.* **13** (1970), 61–69 (1971). (Donald W. Miller) **47** # 20M10

Characterizations of semigroups being bands of left simple semigroups. *Ann. Sci. Budapest. Eötvös Sect. Math.* **14** (1971), 157–163 (1972). (Mohan S. P **50** #4791 20M10

Proof of a certain conjecture of László Fejes Tóth. (Hungarian) *Mat. Lap.* (1971), 135–141 (1972). (L. Gyarmathi) **48** #9550 52A10

On a generalization of a right [left] regular element of a semigroup S. *Acta Acad. Sci. Hungar.* **23** (1972), 101–103. (H. J. Weinert) **47** #376 20M10

A note on the Green's relation $\mathcal{H}$. *Acta Math. Acad. Sci. Hungar.* **23** (105–108. (J. B. Kim) **47** #1977 20M05

Kiss, M. *See* **Kiss-Mednyanszky, Maria**

Kiss, Péter A generalization of a number-theoretic problem. (Hungarian. English summary) *Mat. Lapok* **25** (1974), *no.* 1–2, 145–149 (1977). (Author's summary) **55** #12612 10A20

On one way of making automorphic numbers. *Publ. Math. Debrecen* **22** (197 3-4, 199–203. (J. M. Gandhi) **52** #3040 10A40

(*with* Bui Minh Phong) On the connection between the rank of apparition prime p in Fibonacci sequence and the Fibonacci primitive roots. *Fibonacci Qua* (1977), *no.* 4, 347–349. (V. C. Harris) **57** #3067 10A35

A generalization of a problem in number theory. *Math. Sem. Notes Kobe U* (1977), *no.* 3, 313–317. (A. G. Shannon) **57** #12362 10A30

Kissélev, A. *See* **Kiselev, A. I.**

Kissin, È. V. Decomposition into irreducible representations of the restriction of a representation of the group $\mathrm{SL}(n, C)$ to the subgroup $\mathrm{SL}(3, C)$. (Russian) *Trudy Moskov. Inst. Radiotehn. Èlektron. i Avtomat.* **1971**, *no.* 52 *Mat.*, 37–46. (RŽMat #2 A327) **58** #28290 22E45

A decomposition of the tensor product of certain representations of the $\mathrm{SL}(n, C)$ into irreducible representations. (Russian) *Uspehi Mat. Nauk* **26** (1971), (157), 225–226. (A. J. Coleman) **45** #3635 20G05 (43A80)

Decomposition into irreducible components of tensor products of representatic the principal series with representations of the complementary series of the $\mathrm{SL}(n, \mathrm{C})$. (Russian) *Trudy Moskov. Inst. Radiotehn., Èlektron. i Avtomat. Vyp.* 67 (1973), 65–78, 151. (Author's introduction) **58** #22401 22E45

C^*-algebras that are generated by dynamical systems and weighted shifts. (Rus *Dokl. Akad. Nauk SSSR* **216** (1974), 1215–1218. (László Zsidó) **56** #16389 46

C^*-algebras generated by dynamical systems and by N-dimensional weighted s (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 1061–1064. (Alain Guichardet) **52** #1332 46L05

The decomposition of certain tensor products of representations of principal by representation of the complementary series of the group $\mathrm{SL}(n, C)$ into irredu components. (Russian) *Funkcional. Anal. i Priložen.* **8** (1974), *no.* 2, 81–82. (C Mackey) **52** #5883 22E45

Kiss-Mednyanszky, Maria (*with* Matei, Şt.) Boolean algebras of pairs of pairs. (Roma Russian and German summaries) *Bul. Şti. Tehn. Inst. Politehn. Timişoara—Ser. Mat.-Fiz.-Mec. Teoret. Apl.* **15(29)** (1970), *no.* 1, 19–22. (Authors' summary) **49** # 06A40

(*with* Crstici, Borislav; Matei, Şt.) On real functions of cosine type defined group. (Romanian. Russian and English summaries) *Bul. Şti. Tehn. Inst. Poli Timişoara—Ser. Mat.-Fiz.-Mec. Teoret. Apl.* **15(29)**, (1970), *no.* 2, 115–120. (A. Climescu) **52** #1081 39A40

(*with* Matei, Şt.) On certain finite Boolean algebras generated by sets of po (Romanian. Russian and German summaries) *Bul. Şti. Tehn. Inst. Politehn. Timiş —Ser. Mat.-Fiz.-Mec. Teoret. Apl.* **17(31)** (1972), *no.* 2, 117–121. (R. S. Pierce) **48** #8330 06A40

Kist, Günter Peter Punktiert-affine Inzidenzgruppen und Fastkörpererweiterungen. *Math. Sem. Univ. Hamburg* **44** (1975), 233–248 (1976). (E. W. Ellers) **53** #13 50A20 (12K05)

Kinematische punktiert-affine Inzidenzgruppen. *Beiträge zur geometrischen Algebra* *roc. Sympos., Duisburg*, 1976), *pp*. 179–183. *Lehrbücher u. Monographien aus dem* *biete der Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäuser, Basel*, 1977. (E. W. Ellers) #13661 50A20

Kis Joseph (*with* Maserick, P. H.) BV-functions on semilattices. *Pacific J. Math.* **37** 971), 711–723. (A. T.-M. Lau) **46** #5543 26A45 (06A35)

Two characterizations of commutative Baer rings. *Pacific J. Math.* **50** (1974), 5–134. (Robert Gilmer) **49** #4988 13A15

Kis ri, È. I. (*with* Giorgadze, A. H.) On the question of the simulation of a process of dependent trials. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. kad. Moambe* **79** (1975), *no*. 1, 45–48. (I. Văduva) **53** #2497 93E99 (68A55)

Solution of Kolmogorov's system of differential equations for finite homogeneous larkov process (FHMP) by means of eigenvalues and eigenmatrices. (Georgian. ussian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no*. 2, 37–340. (S. A. Čobanjan) **55** #1498 60J35

The consolidation of the states of continuous Markov chains. (Russian. Georgian nd English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **83** (1976), *no*. 2, 325–328. V. Anisimov) **56** #6882 60J25

(*with* Giorgadze, A. H.; Safiulina, A. G.) Whirl decomposition of stochastic ystems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 2, 142–143. Authors' summary) **58** #15752 94A35

Parallel composition and decomposition of finite homogeneous Markov systems. Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 4, 147–148. (I. ramosil) **58** #33206 94A15 (60J10, 93E20, 94A35)

Kis r, Jane E. A simplification of the Bachmann method for generating large countable rdinals. *J. Symbolic Logic* **40** (1975), 171–185. (S. Feferman) **53** #2644 02D05

★Beginning model theory. The completeness theorem and some consequences. xford Logic Guides. *Clarendon Press, Oxford*, 1977. viii + 143 *pp*. (James H. Schmerl) **8** #27171 02–01 (02H05)

K er, A. Über die Differentialgleichungen für die Momente linearer Systeme mit ufälliger Parametererregung. Vorträge der Wissenschaftlichen Jahrestagung der esellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. ath. Mech.* **56** (1976), *no*. 3, T66–T67. (C. E. Langenhop) **54** #5571 34F05 93E99)

On the moments of linear systems excited by a coloured noise process. With iscussion. *Stochastic problems in dynamics* (*Sympos., Univ. Southampton, Southampton,* 976), *pp*. 36–53. *Pitman, London*, 1977. (Nicole El Karoui) **58** #9695 93E15

See also **Stochastic problems in dynamics**, **57** #2702

Ki er, Klaus-Peter (*with* Subramanian, Ramachandran) Die Zuverlässigkeit eines ystems mit redundanten störanfälligen Komponenten und Reparaturmöglichkeiten. English summary) *Z. Operations Res. Ser. A-B* **18** (1974), A117–A129. (B. Dimitrov) **51** #14926 90B25

(*with* Subramanian, Ramachandran; Venkatakrishnan, K. S.) Reliability of a repairable system with standby failure. *Operations Res.* **24** (1976), *no*. 1, 169–176. (G. K. Bhattacharyya) **55** #9316 60K10

See also **Symposium: Operations Research**, **58** #25852a; **Symposium: Operations Research**, **58** #25852b; **Symposium: Operations Research**, **58** #32839a; **Symposium: Operations Research**, **58** #32839b *and* **Symposium: Operations Research**, **58** #32839c

K n'ko, A. G. The elliptic curves $x^3+y^3=D$. (Russian) *Mat. Zametki* **10** (1971), 407–414. (J. Browkin) **45** #6822 14G10 (10H05)

K ński, Jan On operator-valued solutions of d'Alembert's functional equation. I. *Colloq. Math.* **23** (1971), 107–114. (J. Gil de Lamadrid) **47** #2428a 47D05 (39A40, 46N05)

On operator-valued solutions of d'Alembert's functional equation. II. *Studia Math.* **42** (1972), 43–66. (J. Gil de Lamadrid) **47** #2428b 47D05 (39A40, 46N05)

On uniform symmetrization of analytic matrix functions. *Studia Math.* **42** (1972), 67–86. (M. H. Protter) **46** #5838 35L40 (15A21)

On cosine operator functions and one-parameter groups of operators. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity. I. *Studia Math.* **44** (1972), 93–105. (J. A. Goldstein) **47** #890 47D10

On M. Kac's probabilistic formula for the solution of the telegraphist's equation. Collection of articles dedicated to the memory of Tadeusz Ważewski, III. *Ann. Polon. Math.* **29** (1974), 259–272. (J. A. Goldstein) **50** #7827 35L05 (47D05, 60Jxx)

Semi-groups of operators and some of their applications to partial differential equations. *Control theory and topics in functional analysis* (*Internat. Sem., Internat. Centre Theoret. Phys., Trieste*, 1974), *Vol. III*, *pp*. 305–405. *Internat. Atomic Energy Agency, Vienna*, 1976. (Author's summary) **58** #23751 47D05 (34G05)

Holomorphicity of semigroups of operators generated by sublaplacians on Lie groups. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp*. 283–297. *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (Yasuhiro Asoo) **57** #17381 47D05 (22E30)

See also **Schauder, Juliusz Paweł**, **58** #10260

, G. S. (*with* Haĭ, M. V.) Integral equations of three-dimensional thermoelasticity problems for solids with cracks. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no*. 12, 1105–1109, 1151. (M. Sokołowski) **53** #9817 73.45

(*with* Haĭ, M. V.) Temperature stresses in a strip that is weakened by arbitrarily oriented heat-insulated cracks. (Russian) *Mat. Metody i Fiz.-Meh. Polja Vyp.* 3 (1976), 20–26, 116. **56** #17352 73.45

(*with* Haĭ, M. V.) Integral equations of axially symmetric problems of thermoelasticity for a solid with cracks. (Russian) *Mat. Metody i Fiz.-Meh. Polja Vyp.* 6 (1977), 3–7, 108. (L. Jentsch) **58** #14146 73.35

A general method for the solution of three-dimensional heat conduction and thermoelasticity problems for a body with disc-shaped slits. (Russian) *Prikl. Meh.* **13** (1977), *no*. 12, 18–24, 140. (L. Jentsch) **57** #8283 73.31

a, Hideji Relativity of inertial forces. *Progr. Theoret. Phys.* **60** (1978), *no*. 4, 1204–1222. (Author's summary) **58** #19504 70.53 (53B30)

a, Michitake A problem on Riemann surfaces from the point of view of several complex variables. (Japanese) *Sûgaku* **23** (1971), *no*. 3, 219–225. **58** #28578 32A10 (30A46, 32A10)

a, Toru A common fixed point theorem for multivalued mappings. *Math. Japon.* **22** (1977), *no*. 1, 113–116. (S. P. Singh) **57** #13900 54H25

Kitada, Hitoshi A stationary approach to long-range scattering. *Osaka J. Math.* **13** (1976), *no*. 2, 311–333. (From the introduction) **58** #1743 35P25 (47A40)

On the completeness of modified wave operators. *Proc. Japan Acad.* **52** (1976), *no*. 8, 409–412. (J. R. Schulenberger) **54** #10896 35P25

Scattering theory for Schrödinger operators with long-range potentials. I. Abstract theory. *J. Math. Soc. Japan* **29** (1977), *no*. 4, 665–691. (A. G. Gibson) **58** #30372a 47A40 (35P25)

Scattering theory for Schrödinger operators with long-range potentials. II. Spectral and scattering theory. *J. Math. Soc. Japan* **30** (1978), *no*. 4, 603–632. (A. G. Gibson) **58** #30372b 47A40 (35P25)

Kitada, Toshiyuki Changes of Fourier coefficients and local Sidon sets. *Sci. Rep. Hirosaki Univ.* **23** (1976), *no*. 2, 61–64. (Willard Parker) **55** #6125 43A30 (43A46)

Kitada, Yasuhiko Classification of embeddings of a non-orientable manifold. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **18** (1971/72), 435–442. (L. S. Husch) **47** #9646 57D40

Semi-free circle actions on Spin^c-manifolds. *Publ. Res. Inst. Math. Sci.* **10** (1974/75), *no*. 3, 601–617. (R. E. Stong) **51** #9091 57D90 (57D85)

Determination of homotopy spheres that admit free actions of finite cyclic groups. *J. Math. Soc. Japan* **28** (1976), *no*. 2, 343–359. (Allan Edmonds) **53** #6604 57E25 (57D60)

Kitagawa, Hiroshi A thermodynamic theory of plasticity. *Tech. Rep. Osaka Univ.* **27** (1977), *no*. 1337-1363, 239–248. (S. Bhargava) **58** #14210 73.35 (80.60)

Kitagawa, Keiichiro Sur les polynômes exponentiels. *J. Math. Kyoto Univ.* **13** (1973), 489–496. (D. Drasin) **49** #9250 32A15 (30A66)

(*with* Sadamatsu, Takashi) A remark on a necessary condition of the Cauchy-Kowalevski theorem. *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no*. 2, 523–534. (J. Vanžura) **57** #13114 35A10

(*with* Sadamatsu, Takashi) Sur une condition suffisante pour que le problème de Cauchy faiblement hyperbolique soit bien posé. Cas de multiplicité de caractéristiques au plus triple. *J. Math. Kyoto Univ.* **17** (1977), *no*. 3, 465–499. (Authors' review (Zbl **383** #35044)) **58** #29318 35L30

(*with* Sadamatsu, Takashi) Sur une condition suffisante pour que le problème de Cauchy faiblement hyperbolique soit bien posé. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no*. 5, 167–170. (J. Kisyński) **58** #17545 35L30

Kitagawa, Tosio Dynamical systems and operators associated with a single neuronic equation. *Math. Biosci.* **18** (1973), 191–244. (Aldo De Luca) **49** #4592 92A05

Cell space approaches in biomathematics. *Math. Biosci.* **19** (1974), 27–71. (D. Rosenblatt) **48** #13305 92A05

Dynamical behaviours associated with a system of *N* neuronic equations with time lag. I. *Res. Inst. Fund. Information Sci. Res. Rep. No.* **46** (1974), 59 *pp*. (Aldo De Luca) **52** #10084 92A05 (39A10, 94A20)

Fuzziness in informative logics. *Fuzzy sets and their applications to cognitive and decision processes* (*Proc. U.S.-Japan Sem., Univ. Calif., Berkeley, Calif.*, 1974), *pp*. 97–124. *Academic Press, New York*, 1975. (Michio Sugeno) **57** #19098 94A15

Cell space approaches in biomathematics. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp*. 81–86. *IEEE Computer Soc., New York*, 1975. (From the introduction) **58** #9377 92A05

Dynamical behaviours associated with a system of *N* neuronic equations with time lag. II. *Res. Inst. Fund. Information Sci. Res. Rep. No.* 49 (1975), 87 *pp*. (Luigi Ricciardi) **58** #20854a 94A20 (92A05)

Dynamical behaviours associated with a system of *N* neuronic equations with time lag. III. *Res. Inst. Fund. Information Sci. Res. Rep. No.* 54 (1975), 97 *pp*. (Luigi Ricciardi) **58** #20854b 94A20 (92A05)

A mathematical formulation of information network system and its implications to artificial intelligence. *Res. Inst. Fund. Information Sci. Res. Rep. No.* 57 (1975), 31 *pp*. (From the author's introduction) **56** #11064 92A05 (94A20, 68A45)

Kitahara, Haruo (*with* Yorozu, Shinsuke) Sur l'homomorphisme de Chern-Weil local et ses applications au feuilletage. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no*. 16, Aii, A703–A706. (D. B. Fuks) **53** #11628 57D30

(*with* Yorozu, Shinsuke) On the cohomology groups of a manifold with a nonintegrable subbundle. *Proc. Amer. Math. Soc.* **59** (1976), *no*. 2, 201–204. (Yue Lin L. Tong) **55** #11271 57D30 (58G99)

(*with* Yorozu, Shinsuke) A formula for the normal part of the Laplace-Beltrami operator on the foliated manifold. *Pacific J. Math.* **69** (1977), *no*. 2, 425–432. (I. Vaisman) **55** #11272 58G99 (57D30)

Kitahara, K. (*with* Nicolis, G.; Malek-Mansour, M.; Van Nypelseer, A.) The onset of instabilities in nonequilibrium systems. *J. Statist. Phys.* **14** (1976), *no*. 5, 417–432. (Koichiro Matsuno) **54** #14690 82.60

(*with* Portnow, J.) Stability and fluctuation in chemical systems. *J. Statist. Phys.* **14** (1976), *no*. 6, 501–508. (Ronald F. Fox) **54** #6829 82.60

Kitahara, N. (*with* Yano, H.) An error estimation in Sturm-Liouville boundary-value problem. *J. Franklin Inst.* **305** (1978), *no*. 6, 351–357. (A. B. Stephens) **58** #3500 65L10

Kitahashi, Tadahiro (*with* Tezuka, Yoshikazu; Kasahara, Yoshiro) The orthogonal expansion of multi-valued functions and its application to realization with threshold elements. *Electron. Commun. Japan* **52** (1969), *no*. 9, 108–116. (Not reviewed) 94A05 (65D20)

(*with* Tezuka, Yoshikazu; Kasahara, Yoshiro; Nomura, Hirosato) Monotonicity of ternary logical functions and its applications to the analysis of ternary threshold functions. *Systems-Computers-Controls* **1** (1970), *no*. 1, 55–63. (A. Rose) **48** #56 02C05

(*with* Tezuka, Yoshikazu; Kasahara, Yoshiro; Nomura, Hirosato) Complete monotonicity as the necessary and sufficient condition for a ternary logical function to be a threshold function. *Systems-Computers-Controls* **1** (1970), *no*. 4, 34–40 (1971). (B. Hazeltine) **46** #6949 94A20

(*with* Takeuchi, Akihiro; Tanaka, Kohkichi) Behavior of stochastic automata in random media. *Systems-Computers-Controls* **2** (1971), *no*. 6, 81–83. (R. G. Buharaev) **54** #7147 94A35

(*with* Fujita, Yoneharu; Tanaka, Kohkichi) A consideration on compositions of many-valued logical functions. *Electron. Commun. Japan* **55** (1972), *no.* 5, 46–51. **56** #11565 94A20 (02C05)

(*with* Tanaka, Kohkichi) Orthogonal expansion of many-valued logical functions and its application to their realization with a single-threshold element. *IEEE Trans. Computers* **C-21** (1972), 211–218. (Authors' summary) **53** #15572 94A20

(*with* Takeuchi, Akihiro) Two-person zero-sum games between automata. *Electron. Commun. Japan* **56** (1973), *no.* 2, 40–45. (K. S. Fu) **52** #12813 90D05 (94A30)

(*with* Takeuchi, Akihiro) Interaction between random media and automata. *Electron. Commun. Japan* **56** (1973), *no.* 6, 42–46. (K. S. Fu) **52** #13038 94A35

(*with* Takeuchi, Akihiro; Tanaka, Kohkichi) Two-automata games. *Information Sci.* **7** (1974), 81–93. (N. Zierler) **48** #13282 90D05 (94A30)

(*with* Takeuchi, Akihiro; Tanaka, Kohkichi) On the language classes of strategy strings of homogeneous games at Nash points. *Systems-Computers-Controls* **5** (1974), *no.* 5, 50–57 (1975). (Y. C. Ho) **52** #12830 90D40 (94A30)

(*with* Nagami, Hitoshi; Tanaka, Kohkichi; Ae, Tadashi; Yoshida, Noriyoshi) Autonomous behaviors of feedback shift register with single threshold element. *Electron. Comm. Japan* **58** (1975), *no.* 8, 37–45. (J. C. Muzio) **57** #11953 94A20

(*with* Takeuchi, Akihiro; Tanaka, Kohkichi) Random environments and automata. *Information Sci.* **8** (1975), 141–154. (R. Theodorescu) **51** #7761 94A35 (68A25)

(*with* Kaneyori, S.; Tanaka, Kohkichi) On multi-valued perfect codes. *Proceedings of the Sixth International Symposium on Multiple-Valued Logic* (*Univ. Center, Utah State Univ., Logan, Utah*, 1976), *pp.* 169–174. *IEEE Comput Soc., Long Beach, Calif.*, 1976. (Authors' summary) **58** #20787 94A10

(*with* Nagami, Hitoshi; Tanaka, Kohkichi) Characterization of dynamical behavior associated with a single neural equation. *Math. Biosci.* **32** (1976), *no.* 3-4, 221–237. (Authors' summary) **58** #33098 92A05

(*with* Nagami, Hitoshi; Tanaka, Kohkichi) Cyclic sequences generated by shift register type threshold logic network. *Systems-Computers-Controls* **7** (1976), *no.* 3, 10–18 (1977). (Abraham Kandel) **57** #11954 94A20

(*with* Asano, Tetsuo; Tanaka, Kohkichi; Horino, Hiroshi; Amano, Nobutaka) A wire-routing scheme based on trunk-division methods. *IEEE Trans. Computers* **C-26** (1977), *no.* 8, 764–772. (András Recski) **56** #15165 94A20

Kitai, Carol Strongly homogeneous spaces. *Proc. Amer. Math. Soc.* **53** (1975), *no.* 1, 195–201. (P. Fletcher) **52** #11816 54C05 (54H99)

Kitaĭgorodskiĭ, S. A. Dynamics of the upper thermocline in the ocean. (Russian) *Oceanology, Vol.* 4 (*Russian*), *pp.* 6–34, 168. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1977. (E. Zeidler) **58** #19716 76.35 (86.35)

Kitajima, Hideo Features of plane simple loops. *Systems-Computers-Controls* **4** (1973), *no.* 6, 24–31. (F. W. Stallman) **50** #9080 68A45

Comments on: "On the residual correlation of finite-dimensional discrete Fourier transforms of stationary signals" (IEEE Trans. Information Theory **IT-21** (1975), 480–482) by M. Hamidi and J. Pearl. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 4, 544. (Editors) **56** #15157 94A15

Kitajima, Seizo (*with* Asai, Kiyoji) A method for optimizing control of multimodal systems using fuzzy automata. *Information Sci.* **3** (1971), 343–353. (J. D. Rutledge) **46** #3230 94A30

Kitakawa, Mōko *See* **Fukagawa, Hidetoshi**, **58** #26725

Kitamura, Kazuo (*with* Kanzaki, Teruo) On prime ideals of a Witt ring over a local ring. *Osaka J. Math.* **9** (1972), 225–229. (Joel Cunningham) **47** #8534 13K05

On the free quadratic extensions of a commutative ring. *Osaka J. Math.* **10** (1973), 15–20. (L. Bădescu) **48** #6071 13B10

On the group of quadratic extensions. *Math. Japon.* **20** (1975), *no.* 3, 259–267. (Johnny A. Johnson) **53** #5565 13C05

(*with* Kanzaki, Teruo) On odd type Galois extension with involution of semi-local rings. *Proc. Japan Acad.* **51** (1975), 117–122. (A. Rosenberg) **51** #8091 13B05 (13H99, 15A63)

(*with* Kanzaki, Teruo) Note on Hermitian forms over a non commutative ring. *Proceedings of the* 10*th Symposium on Ring Theory* (*Shinshu Univ., Matsumoto*, 1977), *pp.* 26–37. *Dept. Math., Okayama Univ., Okayama*, 1978. (E. Hornix) **58** #16754 16A28 (10C05, 16A50)

Kitamura, Saburo On the edge-chromatic number of a graph. *Rep. Fac. Sci. Engrg. Saga Univ. Math. No.* 3 (1975), 17–24. (M. Behzad) **51** #2972 05C15

Kitamura, Shin-ichi (*with* Takeno, Hyôitirô) On the Einstein tensors of spherically symmetric space-times. *Progr. Math.* (*Allahabad*) **3** (1969), *no.* 1-2, 7–26. (H. Lass) **46** #1278 83.53

(*with* Takeno, Hyôitirô) ★On some special kind of space-times. I. RRK No. 71-9. *Research Institute for Theoretical Physics, Hiroshima University, Hiroshima*, 1971. 12 *pp.* (Editors) **52** #16517 83.53

(*with* Takeno, Hyôitirô) ★On some special kind of space-times. II. RRK No. 71-12. *Research Institute for Theoretical Physics, Hiroshima University, Hiroshima*, 1971. 28 *pp.* (Editors) **52** #16518 83.53

(*with* Takeno, Hyôitirô) ★On the characteristic system of the space-time *V*. RRK No. 71-14. *Research Institute for Theoretical Physics, Hiroshima University, Hiroshima*, 1971. 23 *pp.* (Editors) **52** #16519 83.53

(*with* Takeno, Hyôitirô) Some studies on spherically symmetric space-times. *Math. Japon.* **16** (1971), 71–80. (C. Gilbert) **46** #6783 83.53

On the imbedding problem of the space-times **P** and **H**. *Tensor* (*N.S.*) **22** (1971), 229–237. (A. Barnes) **45** #3039 83.53

(*with* Takeno, Hyôitirô) ★Group of motions in the space-time *V*. I. RRK No. 72-20. *Research Institute for Theoretical Physics, Hiroshima University, Hiroshima*, 1972. 20 *pp.* (Editors) **52** #16522 83.53 (53B25)

(*with* Takeno, Hyôitirô) On some special kind of space-times. II. *Hokkaido Math. J.* **1** (1972), 43–62. (R. I. Pimenov) **47** #8072b 83.53

(*with* Takeno, Hyôitirô) On some special kind of space-times. I. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. I. *Tensor* (*N.S.*) **24** (1972), 266–272. (R. I. Pimenov) **47** #8072a 83.53

(*with* Takeno, Hyôitirô) On the characteristic system of the space-time *V*. Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's seventieth birthday, Vol. II. *Tensor* (*N.S.*) **25** (1972), 63–75. (R. I. Pimenov) **48** #13172 83.53

(*with* Takeno, Hyôitirô) ★Group of motions in the space-time *V*. II. RRK No. 73-1. *Research Institute for Theoretical Physics, Hiroshima University, Hiroshim* 19 *pp.* (Editors) **52** #16523 83.53 (53B25)

(*with* Takeno, Hyôitirô) On the imbedding of the space-time *V*. *Math. Ja* (1973), 137–148. (R. I. Pimenov) **50** #3870 83.53 (53B25)

(*with* Takeno, Hyôitirô) Group of motions in the space-time *V*. I, II, III. (*N.S.*) **27** (1973), 197–207; *ibid.* (*N.S.*) **27** (1973), 265–275; *ibid.* (*N.S.*) **28** (1974), (N. D. Sengupta) **49** #6880 83.53

(*with* Takeno, Hyôitirô) Parallel tensors in the space-time *V*. *Hokkaido Ma* (1975), *no.* 2, 196–204. (R. I. Pimenov) **51** #12281 83.53

(*with* Takeno, Hyôitirô) Parallel tensors in the space-time *H*. *Tensor* (*N* (1975), *no.* 2, 169–178. (R. I. Pimenov) **51** #12282 83.53

(*with* Takeno, Hyôitirô) On the spherically symmetric space-times and the space-times *P*, *H* and *V*. I. *Tensor* (*N.S.*) **30** (1976), *no.* 2, 165–168. (H. **57** #15260a 83.53

(*with* Takeno, Hyôitirô) On the spherically symmetric space-times and the space-times *P*, *H* and *V*. II. *Tensor* (*N.S.*) **30** (1976), *no.* 3, 297–304. (H. **57** #15260b 83.53

(*with* Takeno, Hyôitirô) On the c.s. method for some kinds of space-times. *Japon.* **22** (1977), *no.* 1, 151–158. (R. F. Biljalov) **56** #4690 83.53

Kitamura, Shinzo (*with* Nishimura, Masataro; Inagaki, Shogo) Ljapunov function circle criterion for a class of distributed parameter systems. (Japanese. English summary) *Systems and Control* **15** (1971), 507–514. (Y. Hayashi) **45** #7237 (93C20)

(*with* Nishimura, Masataro; Konishi, Hiroo) On zero cancellations of deco systems. (Japanese. English summary) *Systems and Control* **16** (1972), 576–580. (Authors' summary) **47** #1494 93B15

Recent trends in the study of distributed parameter systems. I. The current sta the study of stability. (Japanese) *Systems and Control* **18** (1974), *no.* 10, 553–55 Kanai) **52** #16738 93–02 (93D99)

(*with* Dohnomoto, T.; Kurematsu, Y.) Construction of a Lyapunov function perturbation method and its application to the transient stability problem of systems with non-negligible transfer conductances. *Internat. J. Control* **26** (1977), 405–420. (James A. Heiner) **58** #33375 93D05

(*with* Nakagiri, Shin'ichi; Murakami, Haruo) Mathematical treatment of con parameter identifiability for distributed systems of parabolic type. *Math. Sem. Kobe Univ.* **5** (1977), *no.* 1, 97–107. (Authors' introduction) **58** #9566 93C20 (35K99)

(*with* Nakagiri, Shin'ichi; Kuroe, Yasuaki) Identifiability of spatially varying parameters for distributed parameter systems of parabolic type. *Math. Sem. Notes Univ.* **5** (1977), *no.* 2, 285–288. (Guy Jumarie) **58** #26269 93B30 (93C20)

(*with* Nakagiri, Shin'ichi) Identifiability of spatially-varying and constant parameters in distributed systems of parabolic type. *SIAM J. Control Optimizati* (1977), *no.* 5, 785–802. (P. K. C. Wang) **56** #18045 93E10

Kitamura, Tai-ichi A remark on the converse of Cauchy's theorem. *Bull. Fac. Sci. Ib Univ. Ser. A No.* 4, 17–19 (1972). (F. W. Gehring) **45** #8808 30A02

(*with* Hamada, Taskashi; Yoshimura, Izumi) On the connectivities of the generalized line, middle and total graph. *Bull. Fac. Sci. Ibaraki Univ. Ser. A* (1975), 47–54. (T. Zamfirescu) **52** #159 05C10

Kitamura, Yoshimi On quasi-Frobenius extensions. *Math. J. Okayama Univ.* **15** (1971, 41–48. (H. Tominaga) **46** #204 16A36 (16A56)

A note on quotient rings over Frobenius extensions. *Math. J. Okayama Uni* (1971/72), 141–147. (John J. Hutchinson) **47** #8618 16A60

A generalization of finite projective Frobenius extensions. *Bull. Tokyo Gak Univ.* (4) **26** (1974), 31–38. (R. S. Cunningham) **49** #10738 16A56

A remark on the endomorphism ring theorem of quasi-Frobenius extensions. *Tokyo Gakugei Univ.* (4) **27** (1975), 55–59. (E. A. Rutter) **53** #5653 16A36

Centralizers of a module over a quasi-Frobenius extension. *Math. J. Okay Univ.* **17** (1975), *no.* 2, 103–123. (H. Tominaga) **53** #3002 16A36

A note on quotient rings over a quasi-Frobenius extension. *Math. J. Okay Univ.* **18** (1975/76), *no.* 1, 57–67. (Toyonori Kato) **53** #2992 16A08

Note on the maximal quotient ring of a Galois subring. *Math. J. Okayama Univ* (1976/77), *no.* 1, 55–60. (H. Tominaga) **55** #8079 16A08 (16A74)

Kitamura, Yuichi Remarks on the asymptotic relationships between solutions of systems of ordinary differential equations. *Hiroshima Math. J.* **6** (1976), *no.* 2, 403– (M. Ráb) **54** #657 34D10 (34D05)

(*with* Naito, Manabu) On the asymptotic relationships between two systems differential equations. *Hiroshima Math. J.* **7** (1977), *no.* 1, 201–215. (F. Bra **55** #3477 34K15

On nonoscillatory solutions of functional differential equations with a gen deviating argument. *Hiroshima Math. J.* **8** (1978), *no.* 1, 49–62. (T. Canturija) **57** #6739 34K15

(*with* Kusano, Takaŝi) Asymptotic properties of solutions of two-dimensional differential systems with deviating argument. *Hiroshima Math. J.* **8** (1978), *no.* 305–326. (Bhagat Singh) **58** #11813 34K20

(*with* Kusano, Takaŝi; Naito, Manabu) Asymptotic properties of solutions of *n* order differential equations with deviating argument. *Proc. Japan Acad. Ser. A Ma Sci.* **54** (1978), *no.* 1, 13–16. (Archibald Brown) **57** #13102 34K20

Asymptotic properties of functional differential equations with a general deviat argument. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 2, 32–35. (A. Elbe **58** #11819 34K25

Kitanin, A. L. (*with* Vasil'ev, A. M.) Nonstationary perturbation theory for the ener shifts of a degenerate level. (Russian. English summary) *Teoret. Mat. Fiz.* **24** (1975), 2, 219–229. (Auhors' summary) **57** #8710 81.47

Nonstationary perturbation theory for a degenerate discrete level. (Russian. Engl summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 3, 414–418. (Author's summary) **58** #148 82.47 (47B99)

Kitano, Koh-ichi The growth of the resolvent and hyperinvariant subspaces. *Tôhoku Ma J.* (2) **25** (1973), 317–331. (C. Apostol) **48** #4774 47A15

A note on hypercommutativity of operators in real Banach spaces. *Proc. Jap Acad.* **50** (1974), 201–204. (Bernard B. Morrel) **51** #3923 47A15

Some conditions on a reductive operator implying normality or spectrality. *Tôhoku h. J.* (2) **28** (1976), *no.* 2, 293–303. (P. Rosenthal) **54** #3483 47B40

Criteria for the normality of a compact operator. *Tôhoku Math. J.* (2) **28** (1976), *no.* 59–465. (C. M. Schneeberger) **56** #9306 47B05

A note on operators with reducing hyperinvariant subspaces. *Math. Rep. Toyama o.* 1 (1978), 47–53. (Mehdi Radjabalipour) **58** #7132 47A15 (47B15)

Masaki (*with* Ikeda, Yoshito) Notes on RC-preserving mappings. *Bull. Tokyo ugei Univ.* (4) **29** (1977), 53–60. (Edwin Duda) **56** #13144 54C10

, Yoshiyuki On the generalization of the genus. *Seminar on Modern Methods in nber Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No.* 20, 3 *pp. Inst. Statist. th., Tokyo*, 1971. (K. Szymiczek) **52** #336 12A20 (12A50, 12B05)

On the relation between the positive definite quadratic forms with the same resentation numbers. *Proc. Japan Acad.* **47** (1971), 439–441. (E. Hornix) **47** #8581 5A63

Two theorems on the class number of positive definite quadratic forms. *Nagoya th. J.* **51** (1973), 79–89. (Horst Pfeuffer) **48** #3885 10C15

Quaternary even positive definite quadratic forms of prime discriminant. *Nagoya th. J.* **52** (1973), 147–161. (M. Eichler) **49** #8932 10C05

On the asymptotic behaviour of Brauer-Siegel type of class numbers of positive inite quadratic forms. *Proc. Japan Acad.* **49** (1973), 789–790. (Horst Pfeuffer) #353 10C05 (12A50)

Class numbers of positive definite quinary quadratic forms. *Japan. J. Math.* (*N.S.*) 1975/76), *no.* 1, 85–100. (O. H. Körner) **57** #16196 10C15 (10C05)

Representations of quadratic forms and their application to Selberg's zeta functions. *goya Math. J.* **63** (1976), 153–162. (O. M. Fomenko) **54** #12647 10C15

Scalar extension of quadratic lattices. *Proc. Japan Acad.* **52** (1976), *no.* 5, 219–220. S. Hsia) **54** #5117 10C05 (12A95)

Tensor products of positive definite quadratic forms. *Proc. Japan Acad.* **52** (1976), 9, 498–500. (Ezra Brown) **54** #7375 10C05

Positive definite quadratic forms with the same representation numbers. *Arch. th.* (*Basel*) **28** (1977), *no.* 5, 495–497. (Ezra Brown) **56** #255 10C05

Tensor products of positive definite quadratic forms. *Nachr. Akad. Wiss. Göttingen th.-Phys. Kl. II* **1977**, *no.* 4, 31–44. (J. S. Hsia) **58** #27759 10C05 (15A63)

Class numbers of quadratic forms over real quadratic fields. *Nagoya Math. J.* **66** 77), 89–98. (Paul Ponomarev) **57** #12385 10C05 (12A50)

Scalar extension of quadratic lattices. *Nagoya Math. J.* **66** (1977), 139–149. (D. G. mes) **55** #5531 10C05

Scalar extension of quadratic lattices. II. *Nagoya Math. J.* **67** (1977), 159–164. (J. S. sia) **56** #2917 10C05 (12A80)

(*with* Hsia, John S.; Kneser, Martin) Representations of positive definite quadratic rms. *J. Reine Angew. Math.* **301** (1978), 132–141. (Thomas C. Craven) **58** #27758 C05

Representations of quadratic forms. *Nagoya Math. J.* **69** (1978), 117–120. (Maurice amant) **57** #3083 10E05

aev, M. K. (*with* Kasymov, K. A.) Asymptotic behavior of the solution of the auchy problem with an initial jump for a certain third order integro-differential uation of Fredholm type with a small parameter multiplying the highest derivative. ussian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 1, –41. (A. Corduneanu) **45** #5693 45M05

The Cauchy problem with an initial jump for integro-differential equations of redholm type with a small parameter multiplying the highest derivative. (Russian. azakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 1, 53–58. (A. orduneanu) **45** #5694 45M05

Asymptotic behavior of the solution of the problem with initial jump for higher rder integro-differential equations with a small parameter multiplying the highest erivative. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **971**, *no.* 3, 40–44. (M. I. Imanaliev) **46** #4133 45J05

(*with* Kasymov, K. A.) The asymptotic behavior of the solution of the problem with itial jump for a certain nonlinear integro-differential equation with a small parameter. ussian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 5, 3–60. (M. I. Imanaliev) **45** #7420 45M05 (45J05)

The asymptotic behavior of the solution of a problem with initial jumps for onlinear integro-differential equations that contain a small parameter. (Russian. azakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1972**, *no.* 1, 58–64. (M. vrdý) **46** #630 45J05

Asymptotic behavior of the solution of a problem with initial jump for Volterra type ntegrodifferential equations that contain a small parameter. (Russian. Kazakh ummary) *Vestnik Akad. Nauk Kazah. SSR* **1974**, *no.* 4, 69–73. (C. Avramescu) **0** #5403 45J05

oe, T. (*with* Tanaka, K.) Cabibbo angle in a six-quark gauge model. *Phys. Rev. D* (3) **8** (1978), *no.* 9, 3476–3481. (Authors' summary) **58** #25629 81.53

ljan, A. A. The problem of α-quasianalyticity in Denjoy-Carleman classes. (Russian. rmenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **10** (1975), o. 3, 207–241, 289. (Wiesław Pleśniak) **52** #8364 26A93

en, Andrew T. Algebraic Alexander-Spanier cohomology for Hausdorff algebras. *An. cad. Brasil. Ci.* **44** (1972), 367–375. (W. V. Vasconcelos) **48** #380 18H15

Watts cohomology and separability. *Pacific J. Math* **42** (1972), 99–104. (N. reenleaf) **47** #3491 18H10 (13H05)

ens, Clarence W., Jr. *See* **Transactions: Conference of Army Mathematicians**, 9 #4736 *and* **Transactions: Conference of Army Mathematicians**, **49** #4737

ens, Larry (*with* Swartz, Charles) Convergence in the dual of certain $K\{M_p\}$-spaces. *olloq. Math.* **30** (1974), 149–155. (J. Horváth) **50** #8060 46F05

er, Philip Fluxions, limits, and infinite littlenesse. A study of Newton's presentation of he calculus. *Isis* **64** (1973), *no.* 221, 33–49. (I. Grattan-Guinness) **58** #4850 01A45

Bolzano's ideal of algebraic analysis. *Studies in Hist. and Philos. Sci.* **6** (1975), *no.* 3, 29–269. (H. C. Kennedy) **58** #21214 01A55

Hilbert's epistemology. *Philos. Sci.* **43** (1976), *no.* 1, 99–115. (J. Corcoran and N. Goodman) **57** #2866 02A05 (00A05)

The plight of the Platonist. *Noûs* **12** (1978), *no.* 2, 119–136. (N. B. Cocchiarella) **58** #10273 02A05

Kiteley, Murray *See* **Studies in Wilfrid Sellars' philosophy**, **52** #10368

Kitik, M. G. On the question of "narrowing" of the branching in the problem of one work station. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 1, 145–147. (K. Wickwire) **46** #6802 90B35

Estimates of the rate of "reduction" of branching in priority problems. (Russian) *Prikl. Mat. i Programmirovanie No.* 8 (1972), 77–87. (Bojan Popović) **48** #5630 90B30

Priority intervals in problems of two machine tools. (Russian) *Prikl. Mat. i Programmirovanie No.* 10 (1973), 77–81, 152. (Author's summary) **48** #10480 90B35

Kito, Fumiki On expansion of functions in Fourier-type series about $Cn(x)$ and $Sn(x)$. *Keio Engrg. Rep.* **26** (1973), 67–76. (Not reviewed) 42A60

On Fourier-type expansion of functions which relate to elastic circular plates. *Keio Engrg. Rep.* **27** (1974), 63–72. (R. B. Kelman) **52** #1047 35P10 (34B25)

Kito, Masafumi (*with* Honma, Toshihisa) Wall stabilization of a sharp boundary toroidal plasma. *Phys. Fluids* **21** (1978), *no.* 2, 272–279. (Authors' summary) **56** #17502 78.35

Kitoaka, Yoshiyuki Tensor products of positive definite quadratic forms. II. *J. Reine Angew. Math.* **299/300** (1978), 161–170. (Ezra Brown) **57** #16192 10C05

Kitoroagè, I. D. (*with* Gojan, I. M.) Infinite intersections of primary ideals. (Russian) Topological structures and algebraic systems. *Mat. Issled. Vyp.* 44 (1977), 49–53, 178. (S. Lajos) **57** #12607 16A66

(*with* Gojan, I. M.) Infinite intersections of primary submodules. (Russian) Algebras and modules. *Mat. Issled. Vyp.* 48 (1978), 40–47, 168. (G. Eisenreich) **57** #12602 16A64

Kitoroagè, M. D. Nuclei in quasigroups. (Russian) *Mat. Issled.* **7** (1972), *no.* 1(23), 60–71. (H. Pflugfelder) **46** #5518 20N05

(*with* Beljavskaja, G. B.) Isotopy of A-quasigroups. (Russian) *Mat. Issled.* **8** (1973), *no.* 1(27), 3–19, 235. (K. Drbohlav) **50** #522 20N05

Certain isotopes of A-quasigroups. (Russian) Nets and quasigroups. *Mat. Issled. Vyp.* 39 (1976), 102–107, 233. (V. A. Artamonov) **56** #517 20N05

Kitov, A. A property of the statistical distribution of the planetary mass in the solar system. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Fiz.* **9** (1972), *no.* 1, 23–30 (1974). (D. ter Haar) **53** #10164 85.62

Kitov, A. I. (*with* Buslenko, N. P.; Ljusternik, L. A.; Frolov, G. D.) The works of N. A. Krinickiĭ in the field of applied mathematics (on the occasion of his sixtieth birthday). (Russian) *Mat. Voprosy Upravlen. Proizvodstvom Vyp.* 6 (1975), 4–7. (Editors) **57** #12105 01A70

See also **Digital computer technology and programming**, **50** #12421

Kitover, A. K. Commutant theorems for operators that are close to isometries of the space C. (Russian) *Funkcional. Anal. i Priložen.* 7 (1973), *no.* 2, 87–88. (T. Andô) **47** #4041 47A65 (47B99)

The spectrum of operators that are nearly automorphisms of Banach algebras. (Russian) Investigations on linear operators and the theory of functions, IV. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **39** (1974), 186–188. (L. Longdon) **49** #7777 46H05

The spectrum of operators in ideal spaces. (Russian. English summary) Investigations on linear operators and the theory of functions, VII. *Zap. Naučn. Sem. Leningrad. Otdel Mat. Inst. Steklov.* (*LOMI*) **65** (1976), 196–198, 209–210. (Author's summary) **58** #7190 47B37

Spectral properties of unitary and nearly unitary operators in the spaces C and L^p. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 5 (180), 57–65. (F.-H. Vasilescu) **57** #17367 47B37

See also **Investigations in linear operators and function theory**, **49** #5761

Kitsul, P. I. *See* **Kicul, P. I.**

Kitsunezaki, Naoki (*with* Kera, Kazuo; Terao, Yutaka) A generalization of the closed graph theorem. *Proc. Japan Acad.* **49** (1973), 812–815. (J. W. Baker) **51** #1331 46A30

Kittappa, R. (*with* Kleinman, Ralph E.) Acoustic scattering by penetrable homogeneous objects. *J. Mathematical Phys.* **16** (1975), 421–432. (Y. Hayashi) **54** #4317 76.45

Kittel, B. *See* **Foata, Dominique**, **58** #21646

Kittler, Josef A new feature selection procedure for pattern recognition based on supervised learning. *Fifth Conference on Optimization Techniques* (*Rome*, 1973), *Part I*, *pp.* 218–229. *Lecture Notes in Comput. Sci., Vol.* 3, *Springer, Berlin*, 1973. (From the author's introduction) **56** #10196 68A45

(*with* Young, Peter C.) A new approach to feature selection based on the Karhunen-Loeve expansion. *Pattern Recognition* **5** (1973), 335–352. (Authors' summary) **56** #10197 68A45

A nonlinear distance metric criterion for feature selection in the measurement space. *Information Sci.* **9** (1975), *no.* 4, 359–363. (Yoshinori Uesaka) **55** #6993 68A45

Mathematical methods of feature selection in pattern recognition. *Internat. J. Man-Machine Studies* **7** (1975), *no.* 5, 609–637. (J. Fritz) **53** #7158 68A45

A locally sensitive method for cluster analysis. *Pattern Rocognition* **8** (1976), *no.* 1, 23–33. (W. H. Schoendorf) **52** #15857 62H30 (68A45)

Methods of feature selection in the measurement space based on interclass distance measures. 8*e Congrès International de Cybernétique* (*Proc., Namur*, 1976), *pp.* 331–342. *Assoc. Internat. Cybernét., Namur*, 1977. (From the introduction) **58** #32137 68A45

The discriminant function approach to classification of incomplete pattern vectors. *Information processing* 77 (*Proc. IFIP Congr., Toronto, Ont.*, 1977), *pp.* 247–251. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam*, 1977. (Masamichi Shimura) **57** #14646 68A45

Classification of incomplete pattern vectors using modified discriminant functions. *IEEE Trans. Computers* **C-27** (1978), *no.* 4, 367–375. (Shingo Tomita) **57** #8209 68A45

Kitto, W. (*with* Wulbert, Daniel E.) Korovkin approximations in L_p-spaces. *Pacific J. Math.* **63** (1976), *no.* 1, 153–167. (S. J. Bernau) **54** #5708 41A65

Kiu, Sun Wah Two dimensional semi-stable Markov processes. *Ann. Probability* 3 (1975), *no.* 3, 440–448. (C. Stone) **52** #9399 60J80 (60J60)

Kiukaanniemi, E. *See* **Conference: Optimization Techniques**, **48** #5758

Kiusalaas, J. Optimal design of structures with buckling constraints. (Russian summary) *Internat. J. Solids and Structures* **9** (1973), 863–878. (V. Komkov) **48** #12972 73.49

Kivelidi, V. H. (*with* Hurgin, Ja. I.) Construction of probabilistic search. *Avtomat. i Telemeh.* **1970**, *no.* 11, 192–193 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 11, 1892–1894. (Authors' summary) **46** #1320 90B40

Kivinukk, A. The order of approximation of periodic functions. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised No.* 305 (1972), 238–246. (J. Németh) **51** #13561 42A08

A certain method for the approximation of functions of two variables. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised No.* 342 (1974), 143–155. (J. Németh) **52** #8765 42A08

Order of approximation in a Banach space. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised No.* 355 (1975), 165–178. (Dumitru Gaşpar) **52** #11441 41A65 (42A08)

A certain method for the approximation of functions of several variables. (Russian) Presented at the International Conference on the Theory of Approximation of Functions (Kaluga, 1975). *Mat. Zametki* **20** (1976), *no.* 4, 597–604. (M. F. Tīman) **58** #2013 42A92

Kivistik, L. A. (*with* Šaganova, T.) Modification of the Gomory method for partially integer problems. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 281 (1971), 211–222. (K. Zimmermann) **47** #1460 90C10

(*with* Hiĭèsalu, U.) The third Gomory algorithm in the case of two-sided constraints. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 22 (1971), 25–34. (E. Ja. Gabovič) **45** #9686 90C10

A projection method for the geometric solution of linear programming problems. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. Vyp* 31 (1974), 16–35. (R. Petrović) **53** #12570 90C05

The cutting-plane method for integer linear programming problems with additional alternative conditions. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 3, 245–250. (Author's summary) **56** #2371 90C10

(*with* Uri, M. Ĭ.) Solution of a linear programming problem with fixed costs. (Russian) *Trudy Vyčisl. Centra Tartu. Gos. Univ. Vyp.* 35 (1976), 3–17. **57** #2540 90C05

Kivity, Y. *See* **Computing methods in applied sciences and engineering**, **49** #4198

Kiwimagi, R. (*with* Griffiths, L.; Furtney, R.) Worst-case pattern evaluation of baseband channels. *IBM J. Res. Develop.* **21** (1977), *no.* 4, 340–349. (Harry H. Tan) **56** #11486 94A05

Kiya, Masaru (*with* Tamura, Hisataka; Arie, Mikio) Turbulent wakes behind two-dimensional bodies in a uniform shear flow. *Bull. JSME* **19** (1976), *no.* 129, 274–282. (P. C. Jain) **54** #11966 76.41

Kiyama, Nobiko On the evolution of mathematical terminology (arithmetic) in the Meiji period. *Sûgakushi Kenkyû No.* 49 (1971), 21–53. **58** #26737 01A25

Kiyek, K. Homogene Pseudobewertungen. *Arch. Math.* (*Basel*) **22** (1971), 602–611. (Y. Nakai) **46** #158 13A15

Pseudobetragsfunktionen auf Quotienten-körpern von Dedekindringen. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math.* **274/275** (1975), 244–257. (Witold Więsław) **53** #381 12J20 (12J10)

Kiyko, O. V. *See* **Kiĭko, O. V.**

Kiyono, Takeshi (*with* Shimasaki, Masaaki) On the solution of Laplace's equation by certain dual series equations. *SIAM J. Appl. Math.* **21** (1971), 245–257. (Authors' summary) **46** #2900 65N99

(*with* Murashima, Sadayuki) A method of evaluation of the function $K_{is}(x)$. *Mem. Fac. Engrg. Kyoto. Univ.* **35** (1973), 102–127. (R. P. Brent) **48** #5335 65D20

(*with* Ichida, Kozo; Yoshimoto, Fujiichi) Data fitting by a spline. *Mem. Fac. Engrg. Kyoto Univ.* **35** (1973), 237–250. (C. A. Hall) **48** #5326 65D10

(*with* Shimasaki, Masaaki) Numerical solution of integral equations in Chebyshev series. *Numer. Math.* **21** (1973), 373–380. (Y. Ikebe) **51** #12010 65R05

(*with* Shimasaki, Masaaki) Series equations involving Jacobi polynomials and mixed boundary-value problems of the Laplace equation. *Quart. Appl. Math.* **31** (1973/74), 53–73. (K. N. Srivastava) **54** #5761 45F10

(*with* Ichida, Kozo) Numerical integration in the irregular region. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **12** (1974), *no.* 1, 9–15. (Sven-Åke Gustafson) **53** #4494 65D30

(*with* Ichida, Kozo) Interpolation of multivariable functions with respect to random points. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), *no.* 3-4, 229–233. (D. C. Handscomb) **53** #6972 65C05 (65D05)

(*with* Ichida, Kozo) Numerical interpolation and differentiation of multivariable functions. *Internat. J. Comput. Math.* **4**, 111–120 (1974). (J. Spanier) **51** #11914 65C05 (65D25)

(*with* Hinata, Masahiro; Shimasaki, Masaaki) Numerical solution of Plateau's problem by a finite element method. *Math. Comp.* **28** (1974), 45–60. (J. Frehse) **48** #10151 65N35 (49F10)

(*with* Ichida, Kozo) Estimation of a probability density function of very many variables. *IEEE Trans. Systems, Man Cybernet.* **SMC-5** (1975), 463–466. (R. Pfaffenberger) **51** #11798 62G05 (65C05)

(*with* Ichida, Kozo; Yoshimoto, Fujiichi) Curve fitting by a piecewise cubic polynomial. (German summary) *Computing* **16** (1976), *no.* 4, 329–338. (Philip W. Smith) **53** #6981 65D10

(*with* Yoshimoto, Fujiichi; Ichida, Kozo) An automatic method for smoothing two-dimensional data with a piecewise bicubic polynomial. *Information Processing in Japan* **17** (1977), 99–103. (Authors' summary) **57** #18024 65D10

Kiyoto, Seiichi (*with* Kami, Yoshio; Arakawa, Teruaki) Method for numerical calculation of the standard elliptic integrals of the first and second kind. (Japanese. English summary) *Rep. Univ. Electro-Commun.* **22** (1971), 99–108. (S. Hitotumatu) **47** #1247 65D20

(*with* Kami, Yoshio; Arakawa, Teruaki) Programming method on accurate values of the elliptic integral of the third kind. (Japanese. English summary) *Rep. Univ. Electro-Commun.* **22** (1971), 109–118. (S. Hitotumatu) **47** #1248 65D20

Kizawa, Makoto (*with* Ito, Tetsuro) Semantic structure of natural language. *Systems-Computers-Controls* **7** (1976), *no.* 2, 1–10 (1977). (From the introduction) **58** #13887 68A10 (68A30, 68A50)

(*with* Mizoguchi, Riichiro; Shimura, Masamichi) Piecewise linear discrimina functions in pattern recognition. *Systems-Comput.-Controls* **8** (1977), *no.* 1, (1978). (Authors' summary) **58** #14007 68A45

Kizim, Ju. T. *See* **Mathematical simulation and the theory of electrical circuits**, **48**

Kižner, S. G. (*with* Èpšteĭn, A. M.) A certain economic problem of marketing. (Ru *Èkonom. i Mat. Metody* **9** (1973), 982–987. (S. Krčevinac) **49** #8607 90A99

Kizner, Z. I. Families of planes in Hilbert space and developable surfaces. (Ru *Uspehi Mat. Nauk* **26** (1971), *no.* 3(159), 201–202. (M. M. Day) **46** #648 (53B20)

Surfaces in Hilbert and in pseudo-Hilbert space. (Russian. English sum *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 2, 74–82. (J. Daneš) **52** 58B99 (53C40)

Kizyma, Ja. M. (*with* Rudnitskiĭ, V. B.) Stress-strain state of an elastic cylinder and in joint torsion. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. St* (1973), 411–420. (T. W. Ting) **52** #2349 73.45

(*with* Okrepkiĭ, B. S.) An axially symmetric contact problem of thermoelastic a half-space and cylinder. (Russian) *Mat. Metody i Fiz.-Meh. Polja Vyp.* **6** 43–49, 109. (B. A. Bondarenko) **57** #14736 73.35

See also **Mathematical physics**, **48** #5767

Kjaer, K. H. (*with* Heilmann, Ole J.) The Kirkwood-Salsburg equations for lattice with hard cores. *Phys. Lett. A* **58** (1976), *no.* 5, 287–289. (J. E. Lowther) **54** # 82.47

brink-Kjaer, O. *See* **Brink-Kjaer, O.**

Kjamešis, P. P. *See* **Kemėšis, P.**

Kjazimzade, Z. I. *See* **Dictionary: Automatic control**, **57** #5552

Kjazumov, G. K. (*with* Aliev, Rašid Musa) A boundary value problem for an integrodifferential equation of neutral type. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, 47–52. (A. Corduneanu) **57** #7069 45J05

(*with* Aliev, Rašid Musa) A boundary value problem for a second order non integro-differential equation with deviating argument. (Russian. Azerbaijani and E summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, 98–103. (Authors' summary) **58** #6985 45J05 (34K15)

Kjeldsen, Kjell (*with* Johnsen, V. B.) Loop-free compositions of certain finite auto *Information and Control* **22** (1973), 303–319. (I. M. Havel) **50** #6671 94A30

Distributions modulo subgroups of GF(q). *J. Combinatorial Theory Ser.* (1973), 112–114. (Author's summary) **47** #1630 05A15

(*with* Andresen, E.) On certain subgraphs of a complete transitively directed g *Discrete Math.* **14** (1976), *no.* 2, 103–119. (Authors' summary) **52** #10478 05

Loop-free compositions of certain finite automata. II. *Information and Cont* (1976), *no.* 3, 231–257. (I. M. Havel) **55** #2410 94A30

On the cycle structure of a set of nonlinear shift registers with symmetric fee functions. *J. Combinatorial Theory Ser. A* **20** (1976), *no.* 2, 154–169. (Rob Kurshan) **53** #5325 05A99 (94A20)

Characterization of the decomposable groups and group functions. *Informati Control* **34** (1977), *no.* 2, 107–122. (Zbl **379** #94059) **58** #22294 20D40

Kjelkerud, Eskil A computer program for the synthesis of switching circuits by decomposition. *IEEE Trans. Computers* **C-21** (1972), 568–573. (Author's sum **58** #33552 94A20 (68A05)

Kjellberg, Bo (*with* Sandström, Bengt) Asymptotic values of an entire function a derivative. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **2** (1976), 257–267. (I. N. **57** #6425 30A66

Kjösnes, Nils Johan The module of a family of parallel segments in a 'non-measu case. *Norske Vid. Selsk. Skr.* (*Trondheim*) **1971**, *no.* 2, 7 *pp.* (M. Ohtsuka) **45** #2 28A20

Kjun, O. I. The extendability of the solutions of equations with delayed argu (Russian) *Differencial'nye Uravnenija* **7** (1971), 1914–1917. (R. D. Driver) **47** # 45D05

The solvability of linear boundary value problems for an equation of neutral (Russian) *Differencial'nye Uravnenija* **9** (1973), 620–625, 782. (Á. Elbert) **49** #3 34K10

Kjurkčiev, Nikolaĭ V. (*with* Markov, Svetoslav M.) The numerical approximation point set "cross". (Bulgarian. English summary) *Annuaire Univ. Sofia Fac. Mat* (1971/72), 19–25 (1974). (A. Coţiu) **53** #11966 65D15 (41A50)

(*with* Sendov, Blagovest H.) Approximation by algebraic polynomials of func that are different from zero only at one point. (Bulgarian. English summary) *Ann Univ. Sofia Fac. Math. Méc.* **67** (1972/73), 573–579 (1976). (J. Szabados) **54** #10 41A10

(*with* Ivanov, Radostin P.) Methods for the solution of equations and systen equations that use quadratic functions. (Russian) *Serdica* **3** (1977), *no.* 3, 253- (Authors' summary) **58** #19099 65H10

Kjuršak, Ĭ. *See* **Kürschák, József**

Kjursten, K. D. *See* **Kürsten, K. D.**

Klaasen, Gene A. Existence theorems for boundary value problems of nth order ord differential equations. *Rocky Mountain J. Math.* **3** (1973), 457–472. (L. D. Four **50** #10409 34B15

Local uniqueness and existence of solutions of a three-point boundary problem. *SIAM J. Appl. Math.* **24** (1973), 425–428. (C. Avramescu) **47** #53 34B15

(*with* Dolan, J. Michael) Asymptotic order of solutions of $(ry')'+qy=0$. (It summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 48–53 (1975). (C. A. Swanson) **52** #14463 34C10

(*with* Dolan, J. Michael) On the disconjugate behavior of $y'''+py=0$. *SIA Appl. Math.* **27** (1974), 398–403. (C. A. Swanson) **50** #7668 34C10

(*with* Dolan, J. Michael) Strongly oscillatory and nonoscillatory subspaces of li equations. *Canad. J. Math.* **27** (1975), 106–110. (Gary D. Jones) **50** #10433 34

(*with* Dolan, J. Michael) Dominance of n-th order linear equations. *Rocky Mountain J. Math.* **5** (1975), 263–270. (D. Bobrowski) **50** #13718 34C10

Continuous dependence for N-point boundary value problems. *SIAM J. Math.* **29** (1975), 99–102. (D. Wexler) **53** #5980 34B15

An existence theorem for boundary value problems of nonlinear ordinary ferential equations. *Proc. Amer. Math. Soc.* **61** (1976), *no.* 1, 81–84. (C. E. ngenhop) **57** #6588 34B15

lakova, L. S. An approximate method of solution of a certain boundary value problem the theory of moment-free elastic spherical shells. (Russian) *Ž. Vyčisl. Mat. i Mat. z.* **13** (1973), 698–711, 813. (V. Komkov) **48** #3338 73.35 (73.65)

(*with* Stadnikova, N. A.) Computation of a conical body that is subject to the action a load concentrated at the vertex. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 5–969, 1076. (P. P. Teodorescu) **50** #11962 73.65

An approximate method for the solution of mixed boundary value problems in the eory of moment-free elastic spherical shells. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** 975), 148–162, 276. (B. A. Bondarenko) **51** #12102 73.65

The study of the correctness of boundary value problems of the theory of ro-torque thin elastic shells of positive curvature, and their solution by the net-point ethod. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 5, 1276–1288, 1362. (S. robot) **52** #16244 73.65

(*with* Stadnikova, N. A.) Solution of mixed boundary value problems of the theory zero-moment shells by the differential-difference method. (Russian) *Ž. Vyčisl. Mat. i at. Fiz.* **17** (1977), *no.* 2, 453–469, 548. (Authors' summary) **56** #14011 73.65

Kla, G. K. (*with* Livšic, È. M.) The problem of minimization of the sum of penalties in heduling. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 6, 99–100. . Tanaev (RŽMat **1969** #7 V327)) **46** #1313 90B35

(*with* Špil′berg, A. Ja.; Ljahovickiĭ, E. M.) A method of obtaining pseudo-random nctions with given characteristics. (Russian. English summary insert) *Kibernetika iev*) **1969**, *no.* 1, 58–60. (G. Tenengol′c (RŽMat **1969** #10 V67)) **46** #1039 M10

Certain properties of arithmetic cyclic codes that correct batches of errors. (Russian. nglish summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 5, 78–80. (Author's summary) #1455 94A10

Cyclic analogues of radical codes. (Russian) *Vyčisl. Mat. i Vyčisl. Tehn.* (*Kharkov*) **71**, *no.* 2, 62–63, 159. (See RŽMat **1972** #2 V474) 94A10

A generalization of Corr's substitution. (Russian) *Vyčisl. Mat. i Vyčisl. Tehn. harkov*) **1971**, *no.* 2, 64–65, 159. (See RŽMat **1972** #2 V476) 94A10

Linear codes over semisimple commutative rings. (Russian) *Vyčisl. Mat. i Vyčisl. ehn.* (*Kharkov*) **1971**, *no.* 2, 66–67, 159. (See RŽMat **1972** #2 V475) 94A10

A certain method of decoding. (Russian) *Numerical mathematics and computer chnology, No. III* (*Russian*), *pp.* 119–125. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. izkih Temperatur, Kharkov*, 1972. (From the text) **58** #33498 94A10

Majority decoding of linear codes. (Russian) *Problemy Peredači Informacii* **8** (1972), . 3, 21–26. (C. Reischer) **48** #5721 94A10

Properties of signals that are modulated by an *M*-sequence. (Russian) *Numerical athematics and computer technology, No. IV* (*Russian*), *pp.* 121–124, 138. *Akad. Nauk krain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1973. (Author's summary) **8** #9749 94A05

(*with* Višnjakova, N. I.) Modules of rank *I* over a generalized valuation ring. Russian) *Numerical mathematics and computer technology, No. V* (*Russian*), *pp.* 35–137, 168. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 974. (Authors' summary) **56** #11981 13C10

(*with* Višnjakova, N. I.) The injectivity of modules over a generalized valuation ing. (Russian) *Numerical mathematics and computer technology, No. V* (*Russian*), *pp.* 38–140, 168. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 974. (Authors' summary) **56** #11982 13C10

(*with* Barannik, Ju. L.) Indecomposable J_p-representations of a group of p^∞ type. *uestions on numerical mathematics and computer science* (*Proc. Res. Sem., Inst. Low emp. Phys. Engrg., Kharkov*, 1975) (*Russian*), *pp.* 59–63. *Izdat. "Naukova Dumka", iev*, 1976. (Robert L. Snider) **55** #5727 20C10

See also **Numerical mathematics and computer technology**, **53** #2571 *and* **umerical mathematics and computer technology**, **53** #2572

en, Herbert A. ★Potenzkategorien und ihre Anwendung auf den Beweis von rogrammeigenschaften. Mit einer Englischen Zusammenfassung. Universität Bonn nformatik Berichte, No. 8. *Institut für Informatik, Universität Bonn, Bonn*, 1975. i + 53 *p.* (W. B. Jones) **55** #6919 68A05 (18B99)

Potenzkategorien und ihre Anwendung auf den Beweis von Programmeigenschaften. *utomata theory and formal languages* (*Second GI Conf., Kaiserslautern*, 1975), *pp.* 52–258. *Lecture Notes in Comput. Sci., Vol.* 33, *Springer, Berlin*, 1975. (J. Lambek) 3 #5693 18B20 (68A25)

zky, Emil Determination of shortest path in a network with time-dependent dge-lengths. (German and French summaries) *Math. Operationsforsch. Statist.* 3 (1972), *o.* 4, 255–257. (Torrence D. Parsons) **48** #10890 05C35 (90B10)

A theoretical prediction of the input-output table. *Fifth Conference on Optimization Techniques* (*Rome*, 1973), *Part I*, *pp.* 484–492. *Lecture Notes in Comput. Sci., Vol.* 3, *Springer, Berlin*, 1973. (From the author's introduction) **56** #10764 90A05 (90B99)

Geometric programming and some applications. (Hungarian) *Tanulmányok—MTA Számitástechn. Automat. Kutató Int. Budapest No.* 8 (1973), 139 *pp.* (A. Majthay) **50** #1726 90C30

ter, R. D. *See* **Proceedings: IFAC World Congress**, **50** #12338

ge, James C. Convention T regained. *Philos. Studies* **32** (1977), *no.* 4, 377–381. (Editors) **58** #16099 02A05

n, Bruno (*with* Bingel, Werner A.) The convergence of the Rayleigh-Ritz method in quantum chemistry. I. The criteria of convergence. *Theoret. Chim. Acta* **44** (1977), *no.* 1, 9–26. (John P. Coleman) **56** #13106a 49G10 (81.65)

(*with* Bingel, Werner A.) The convergence of the Rayleigh-Ritz method in quantum chemistry. II. Investigation of the convergence for special systems of Slater, Gauss and two-electron functions. *Theoret. Chim. Acta* **44** (1977), *no.* 1, 27–43. (John P. Coleman) **56** #13106b 49G10 (81.65)

n, Moris *See* **Kline, Morris**

nbauer, Gabriel On Moebius transforms. *Univ. e Politec. Torino Rend. Sem. Mat.* **30** (1970/71), 75–80. (K. F. Klopfenstein) **46** #4254 47B15

★Real analysis. *American Elsevier Publishing Co., Inc., New York-London-Amsterdam*, 1973. xi + 436 *pp.* (See Zbl **263** #28001) 26–01

★Mathematical analysis. Pure and Applied Mathematics, Vol. 31. *Marcel Dekker, Inc., New York*, 1975. viii + 500 *pp.* (Editors) **52** #14182 26–02 (54–01)

Klamka, Jerzy Uncontrollability and unobservability of multivariable systems. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 5, 725–726. (Author's summary) **55** #14286 93B05

Uncontrollability and unobservability of composite systems. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 5, 539–540. (Author's summary) **55** #14287 93B05

Uncontrollability of composite systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 280–281. (Ethelbert N. Chukwu) **55** #2210 93B05

Estimation of controllability and reliability by means of the Jordan canonical form. (Polish. English and Russian summaries) *Podstawy Sterowania* **4** (1974), 349–369. (T. Kaczorek) **50** #15990 93B05

On the global controllability of perturbed nonlinear systems. *IEEE Trans. Automatic Control* **AC-20** (1975), 170–172. (T. Kaczorek) **55** #1203 49E15

On the local controllability of perturbed nonlinear systems. *IEEE Trans. Automatic Control* **AC-20** (1975), 289–291. (T. Kaczorek) **55** #5254 93B05

Controllability of nonlinear systems with delay in control. *IEEE Trans. Automatic Control* **AC-20** (1975), *no.* 5, 702–704. (Author's summary) **56** #11141 93B05 (93C10)

Estimation of the controllability of composite systems by means of the Jordan canonical form. (Polish. English and Russian summaries) *Podstawy Sterowania* **5** (1975), *no.* 1, 43–61. (T. Kaczorek) **53** #5078 93B05

Controllability and minimum energy control of linear systems with distributed delay in control. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **21** (1976), *no.* 4, 437–446. (Author's summary) **56** #11142 93B05

Relative controllability of nonlinear systems with delays in control. *Automatica–J. IFAC* **12** (1976), *no.* 6, 633–634. (D. H. Chyung) **56** #11143 93B05 (49E15)

Relative controllability and minimum energy control of linear systems with distributed delays in control. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 4, 594–595. (Ethelbert Chukwu) **53** #15443 93B05

Controllability of linear systems with time-variable delays in control. *Internat. J. Control* **24** (1976), *no.* 6, 869–878. (S. E. Dreyfus) **54** #12264 93B05 (49E15)

The controllability of systems with delay. (Polish. English and Russian summaries) *Podstawy Sterowania* **6** (1976), *no.* 2, 179–193. (Author's summary) **56** #17950 93B05

(*with* Dłotko, Tadeusz; Ligęza, Jan) Controllability and minimum energy control of linear systems. (Polish and Russian summaries) *Podstawy Sterowania* **6** (1976), *no.* 2, 211–217. **56** #14875 93B05 (93C05)

Relative controllability of linear systems with varying delay. (Russian summary) *Systems Sci.* **2** (1976), *no.* 3, 17–24. (D. H. Chyung) **55** #7479 93B05

(*with* Mikulski, Jerzy) Controllability of linear systems with delay in control. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976), 245–253. (Authors' summary) **57** #15598 93B05

(*with* Socha, Lesław) Some remarks about stochastic controllability. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 880–881. (Authors' summary) **56** #15107 93E99

On the controllability of linear systems with delays in the control. *Internat. J. Control* **25** (1977), *no.* 6, 875–883. (Author's summary) **58** #26239 93B05

Absolute controllability of linear systems with time-variable delays in control. *Internat. J. Control* **26** (1977), *no.* 1, 57–63. (Edward W. Kamen) **56** #14879 93B05

Relative and absolute controllability of discrete systems with delays in control. *Internat. J. Control* **26** (1977), *no.* 1, 65–74. (I. H. Mufti) **57** #9172 93B05

Minimum energy control of discrete systems with delays in control. *Internat. J. Control* **26** (1977), *no.* 5, 737–744. (Joseph D. Cole) **57** #5296 93C55

Klamkin, Murray S. On some soluble *N*th order differential equations. *Math. Mag.* **43** (1970), 272–275. (Editors) **45** #7140 34A05

A volume inequality for simplexes. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357–380 (1971), 3–4. (L. A. Santaló) **45** #7608 52A40

Asymmetric triangle inequalities. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357–380 (1971), 33–44. (W. J. Firey) **46** #2537 50B15 (52A40)

(*with* van Lint, Jacobus H.) An asymptotic problem in renewal theory. Collection of articles in honour of Professor H. C. Hamaker. *Statistica Neerlandica* **26** (1972), *no.* 3, 191–196. (K. B. Erickson) **52** #1916 60K05

(*with* Chakerian, Gulbank D.) Inequalities for sums of distances. *Amer. Math. Monthly* **80** (1973), 1009–1017. (Bernd Kind) **48** #9558 52A40

Two non-negative quadratic forms. *Elem. Math.* **28** (1973), 141–146. (G. D. Chakerian) **48** #6145 15A63 (52A40)

On solving non-homogeneous linear difference equations. *Fibonacci Quart.* **11** (1973), *no.* 2, 166–168. (I. Stamate) **52** #11386 39A10

(*with* Fishman, R. S.) A reliability problem. *Fibonacci Quart.* **11** (1973), *no.* 2, 169–173. (G. O. H. Katona) **47** #3201 05B20 (62N05)

(*with* Frucht W., Roberto) On best quadratic triangle inequalities. *Geometriae Dedicata* **2** (1973), 341–348. (G. D. Chakerian) **49** #7921 52A40

(*with* Chakerian, Gulbank D.) Minimal covers for closed curves. *Math. Mag.* **46** (1973), 55–61. (W. Moser) **47** #2496 52A40

(*with* Chakerian, Gulbank D.) Minimum triangles inscribed in a convex curve. *Math. Mag.* **46** (1973), 256–260. (K. Strubecker) **48** #2901 52A40

(*with* Bankoff, Leon; Erdős, Paul) The asymmetric propeller. *Math. Mag.* **46** (1973), 270–272. (S. R. Mandan) **48** #7099 50B10

Sums of squares representations for triangle inequalities. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412–460 (1973), 113–116. (W. Sibagaki) **48** #12311 52A40

(*with* Erdős, Paul) A triangle inequality. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 117–118. (C. Brumfiel) **48** #4208 26–01

(*with* Carlitz, Leonard) Stirling operators. *Collect. Math.* **25** (1974), *no.* 2, 185–212. (Harald Scheid) **54** #2491 05A19

Moving axes and the principle of the complementary function. *SIAM Rev.* **16** (1974), 295–302. (Djordje Djukic) **50** #9094 70.34

Extensions of the Weierstrass product inequalities. II. *Amer. Math. Monthly* **82**

(1975), *no.* 7, 741–742. (A. E. Danese) **51** #13164 26A87

A vector norm inequality. *Amer. Math. Monthly* **82** (1975), *no.* 8, 829–830. (A. E. Danese) **52** #684 26A86

(*with* Newman, Donald J.) Inequalities and identities for sums and integrals. *Amer. Math. Monthly* **83** (1975), *no.* 1, 26–30. (D. Boyd) **52** #5911 26A86

Geometric inequalities via the polar moment of inertia. *Math. Mag.* **48** (1975), 44–46. (O. Bottema) **50** #8306 52A40

(*with* Bottema, Oene) Joint triangle inequalities. *Simon Stevin* **48** (1975), 3–8. (S. R. Mandan) **51** #4024 50B15

An identity for simplexes and related inequalities. *Simon Stevin* **48** (1975), 57–64. (J. F. Rigby) **51** #1581 (E **54** #8427) 50B15

(*with* Zeitlin, David) On some *m*-fold summations. *Ars Combinatoria* **2** (1976), 15–21. (Roger C. Grimson) **55** #7802 05A19

(*with* Glasser, M. Lawrence) On some inverse tangent summations. *Fibonacci Quart.* **14** (1976), *no.* 5, 385–388. (P. D. Kathal) **54** #10915 40A05

On some multiple integrals. *J. Math. Anal. Appl.* **54** (1976), *no.* 2, 476–479. (W. P. Ziemer) **54** #2892 26A09

(*with* Nash, David) A spherical characterization of the normal distribution. *J. Math. Anal. Appl.* **55** (1976), *no.* 1, 156–158. (D. N. Shanbhag) **54** #3908 62E10

Extensions of some geometric inequalities. *Math. Mag.* **49** (1976), *no.* 1, 28–30. (Peter Bullen) **53** #3895 52A40

(*with* Gaskell, R. W.; Watson, P.) Triangulations and Pick's theorem. *Math. Mag.* **49** (1976), *no.* 1, 35–37. (H. Groemer) **53** #3881 52–01

(*with* Reid, James L.) Nonlinear differential equations equivalent to solvable nonlinear equations. *SIAM J. Math. Anal.* **7** (1976), *no.* 3, 305–310. (Eleanor M. James) **53** #3423 34C20

On extreme length flight paths. *SIAM Rev.* **18** (1976), *no.* 3, 486–488. (H. S. P. Grässer) **57** #7291 49–01 (69.00)

Erratum: "An identity for simplexes and related inequalities" (Simon Stevin **48** (1975), 57–64). *Simon Stevin* **50** (1976/77), *no.* 2, 144. (Editors) **54** #8427 50B15

(*with* Boas, Ralph P., Jr.) Extrema of polynomials. *Math. Mag.* **50** (1977), *no.* 2, 75–78. (N. D. Kazarinoff) **56** #5815 26A75

(*with* Schlesinger, Ernest C.) Diamond inequalities. *Math. Mag.* **50** (1977), *no.* 2, 96–98. (Erwin Lutwak) **55** #8961 52A40

On Chaplygin's problem. *SIAM J. Math. Anal.* **8** (1977), *no.* 2, 288–289. (J. E. Rubio) **55** #3901 49–01

(*with* Glasser, M. Lawrence) Some integrals of squares of Bessel functions. *Utilitas Math.* **12** (1977), 315–316. (F. Götze) **57** #16738 33A40

See also **Complements and comments**, **48** #1835

Klapcov, K. K. *See* **Nomography collection**, **48** #7641

Klapka, Irži *See* **Klapka, Jiří**

Klapka, Jindřich L. Optimal lot size determination of multistage production system. (Czech and loose Russian summaries) *Apl. Mat.* **23** (1978), *no.* 2, 81–97. (K. Zimmermann) **57** #15388 90B30 (90C50)

Klapka, Jiří The Wälsch invariant of line congruences in three-dimensional projective space P_3 and their Laplace transforms. (Russian) *Arch. Math.* (*Brno*) **8** (1972), 57–62 (1973). (V. Medek) **47** #4160 53A25 (50–XX)

See also **Obůrka, Oto, 54** #36; **Obůrka, Oto, 55** #7701 *and* **Brejcha, Josef, 58** #10161

Kłapyta, Janina The Darboux problem for partial differential functional equations of the hyperbolic type. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 16 (1974), 83–91. (D. Ramakrishna Rao) **50** #7829 35L05 (35R10)

On some partial differential-functional equations. *Zeszyty Nauk. Uniw. Jagielloń.* **441** *Prace Mat. Zeszyt* 18 (1977), 13–15. (Bolis Basit) **56** #901 35R10

Klar, Rainer ★Digitale Rechenautomaten. Eine Einführung. Zweite, erweiterte Auflage. Sammlung Göschen, Band 2050. *Walter de Gruyter, Berlin-New York*, 1976. 311 *pp.* (H. Rohleder) **54** #9159 68A25 (94A20)

Klarès, Bernard Champs de vecteurs holomorphes et éclatement de Hopf. Application au problème de la stabilité structurelle dans le cas des variétés obtenues à partir de $IP_1(C)\times IP_1(C)$ par éclatements successifs. *C. R. Acad. Sci. Paris. Sér. A-B* **274** (1972), A1281–A1284. (M. F. Atiyah) **45** #5410 32C10 (58F10)

Sur les champs de vecteurs holomorphes des variétés grassmanniennes. *Fonctions de plusieurs variables complexes* (*Sém. François Norguet*, 1970–1973; *à la mémoire d'André Martineau*), *pp.* 439–464. *Lecture Notes in Math., Vol.* 409, *Springer, Berlin*, 1974. (D. Lieberman) **50** #8549 57D25 (14M15, 32C10)

Étude des champs de vecteurs holomorphes sur les variétés obtenues par éclatements successifs de $\mathbf{P}_1(\mathbf{C})\times\mathbf{P}_1(\mathbf{C})$. Problème de la stabilité structurelle. *Fonctions de plusieurs variables complexes* (*Sém. François Norguet*, 1970–1973; *à la mémoire d'André Martineau*), *pp.* 465–492. *Lecture Notes in Math., Vol.* 409, *Springer, Berlin*, 1974. (I. Vaisman) **50** #5849 58F10 (32C10)

Problème de la stabilité structurelle des champs de vecteurs holomorphes sur certaines surfaces algébriques. *Journées de géométrie analytique* (*Univ. Poitiers, Poitiers*, 1972), *pp.* 73–78. *Bull. Soc. Math. France Suppl. Mém., No.* 38, *Soc. Math. France, Paris*, 1974. (James B. Carrell) **51** #9078 57D25 (32J25, 58F10)

Sur la monodromie des systèmes de Pfaff du type de Fuchs sur $P_m(C)$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 12, *Aii*, *A*447–*A*450. (D. Lieberman) **53** #2944 14D05

See also **Reeb, Georges H., 51** #1841

Klark, F. *See* **Clarke, Frank H.**

Klarner, David A. Methods for the general cell growth problem. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred*, 1969), *pp.* 705–720. *North-Holland, Amsterdam*, 1970. (R. C. Read) **45** #8564 05C30 (92A05)

Correspondences between plane trees and binary sequences. *J. Combinatorial Theory* **9** (1970), 401–411. (N. G. de Bruijn) **45** #1773 05C05

(*with* Rado, Richard) Linear combinations of sets of consecutive integers. *Amer. Math. Monthly* **80** (1973), 985–989. (I. Niven) **48** #8378 10A45 (10B05)

(*with* Rivest, Ronald L.) A procedure for improving the upper bound for the number of *n*-ominoes. *Canad. J. Math.* **25** (1973), 585–602. (R. C. Read) **48** #1943 05A20

The number of SDR's in certain regular systems. *Fibonacci Quart.* **11** (1973), *no.* 3, 267–270. (R. A. Brualdi) **49** #54 05A05

(*with* Rivest, Ronald L.) Asymptotic bounds for the number of convex *n*-om
Discrete Math. **8** (1974), 31–40. (R. C. Read) **49** #91 05B30

(*with* Rado, Richard) Arithmetic properties of certain recursively defined
Pacific J. Math. **53** (1974), 445–463. (S. Stein) **50** #9784 10A99 (04A05, 05B

Some remarks on the Cayley-Hamilton theorem. *Amer. Math. Monthly* **83** (
no. 5, 367–369. (Marvin Marcus) **54** #2688 15A24

A model for population growth. *Fibonacci Quart.* **14** (1976), *no.* 3, 277–281.
Keiding) **56** #17914 92A15

See also **Problems: Combinatorial theory**, **46** #8855

Klasa, J. Limit problems on topological stochastic groups and Bohr compactific
Limit theorems of probability theory (*Colloq., Keszthely*, 1974), *pp.* 135–148. *Colloq.*
Soc. János Bolyai, Vol. 11, *North-Holland, Amsterdam*, 1975. (H. Heyer) **53** #1
60B15

Estimation problem in probabilistic automata. *Proceeding of the Symposi*
Statistics and Related Topics (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 22,
Carleton Univ., Ottawa, Ont., 1975. (A. Paz) **52** #13035 94A35

See also **Report: Algebra Group**, **48** #5777

Klasa, Jacqueline Semisimplicity and von Neumann's regularity. *Semigroup Fo*
(1971), *no.* 4, 354–361. (A. Babakhanian) **46** #7345 18A20

Klasa, S. *See* **Report: Algebra Group**, **48** #5777

Klasa, Stanislas Sur la *K*-théorie algébrique et périodicité. *Comptes-Rendus des Jo*
d'Algèbre Pure et Appliquée (*Univ. Sci. Tech. Languedoc, Montpellier*, 1971), *pp.* 185–202. *Univ. Sci. Tech. Languedoc, Montpellier*, 1971. (A. A. Ranicki) **53** #5
18F25 (55B15)

On Steinberg groups. *Proceedings of the Conference on Orders, Group Ring*
Related Topics (*Ohio State Univ., Columbus, Ohio*, 1972), *pp.* 131–138. *Lecture N*
Math., Vol. 353, *Springer, Berlin*, 1973. (Keith Dennis) **50** #2303 18F25

On involutions and periodicity in algebra. *Comm. Algebra* **4** (1976), *no.* 1,
(From the author's introduction) **57** #414 18F99

Klasi, Melvin L. (*with* Wright, Fred M.) On existence and a dominated conver
theorem for weighted *g*-summability. *Proc. Amer. Math. Soc.* **34** (1972), 479–488.
Y. Pauc) **45** #5284 26A39 (28A25)

(*with* Wright, Fred M.; Baker, James D.) Substitution theorem for a wei
Lebesgue-Stieltjes integral. *J. London Math. Soc.* (2) **7** (1973), 181–192. (Piotr An
49 #5256 26A42

Klass, Michael J. (*with* Ferguson, Thomas S.) A representation of independent incr
processes without Gaussian components. *Ann. Math. Statist.* **43** (1972), 1634–
(Bert Fristedt) **51** #9224 60J30

Properties of optimal extended-valued stopping rules for S_n/n. *Ann. Probab*
(1973), 719–757. (Adhir K. Basu) **54** #14086 60G40 (62L15)

On stopping rules and the expected supremum of S_n/a_n and $|S_n|/a_n$. *Ann. Probability* **2** (1974), 889–905. (D. Siegmund) **52** #1864 60G40 (60G50)

Maximum antichains: a sufficient condition. *Proc. Amer. Math. Soc.* **45** (
28–30. (Joel Berman) **49** #7190 06A10

A survey of the S_n/n problem. *Statistical inference and related topics* (*Proc. Su*
Res. Inst. Statist. Inference for Stochastic Processes, Indiana Univ., Bloomington,
1974, *Vol.* 2; *dedicated to Z. W. Birnbaum*), *pp.* 179–201. *Academic Press, New*
1975. (H. Teicher) **52** #4398 60G40 (60F15, 62L15)

A generalization of Burnside's combinatorial lemma. *J. Combinatorial Theor*
A **20** (1976), *no.* 3, 273–278. (Dennis White) **53** #10598 05A15

Toward a universal law of the iterated logarithm. I. *Z. Wahrscheinlichkeitst*
und Verw. Gebiete **36** (1976), *no.* 2, 165–178. (R. J. Tomkins) **54** #3822 60F15

(*with* Hahn, Marjorie G.) Sample-continuity of square-integrable processes.
Probability **5** (1977), *no.* 3, 361–370. (Evarist Giné) **55** #13552 60G17

(*with* Teicher, Henry) Iterated logarithm laws for asymmetric random var
barely with or without finite mean. *Ann. Probability* **5** (1977), *no.* 6, 861–874. (
Tomkins) **56** #3925 60F15

Toward a universal law of the iterated logarithm. II. *Z. Wahrscheinlichkeitst*
und Verw. Gebiete **39** (1977), *no.* 2, 151–165. (R. J. Tomkins) **56** #6808 60F15

(*with* Myers, Lawrence E.) On stopping rules and the expected supremum of S_n
Pacific J. Math. **75** (1978), *no.* 2, 467–476. (Adhir K. Basu) **58** #24526 6
(62L15)

Klass, V. A. (*with* Krasil'nikov, V. N.) On the formal solution of problems of diffractio
spheres and cylinders with time-varying radii. (Russian. English summary) *Izv.*
Učebn. Zaved. Radiofizika **18** (1975), *no.* 12, 1855–1864. (Authors' summary) **57** #11
78.35

(*with* Krasil'nikov, V. N.) A study of integrodifferential equations that ar
problems of the diffraction of waves by spheres and cylinders with radii changi
time. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976),
116–127. (Authors' summary) **57** #8478 78.45

Klassen, G. I. On the question of the equivalence of knots and links. (Russian) *Tul.*
Ped. Inst. Učen. Zap. Mat. Kaf. Vyp. 2 *Geometr. i Algebra* (1970), 161–167.
Krötenheerdt) **53** #9195 55A25 (20F05)

Klassen, John E. (*with* Bector, C. R.; Bector, Meena K.) Duality for a nonlinear programming problem. *Utilitas Math.* **11** (1977), 87–99. (Bruce D. Craven) **55** #1
90C30

Klassen, V. I. Estimation of certain typical trigonometric sums encountered in radiophysics. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizik*
(1976), *no.* 4, 615–621. (Author's summary) **57** #2201 78.42

Klassen, V. J. *See* **Milne-Thomson anniversary issue**, **48** #5765

Klassen, V. P. On the occurrence and conjugacy problems for certain group extens
(Russian) *Questions in the theory of groups and semigroups* (*Russian*), *pp.* 87–95. *Tu*
Gos. Ped. Inst., Tula, 1972. (J. Wiegold) **54** #12911 20F10

The cyclicity of subgroups with an identity in groups with a δ-basis. (Russi
Applied mathematics, No. 2 (*Russian*), *pp.* 99–107, 160. *Tul'sk. Politehn. Inst., Tula,*
(Author's summary) **58** #28184 20F10

Klassen, Vyron M. The disappearing closed set property. *Pacific J. Math.* **43** (19
403–406. (Richard A. Alò) **47** #7699 54D99

Complexes with the disappearing closed set property. *Proc. Amer. Math. Soc*

72), 583–585. (K. W. Kwun) **46** #8229 57A15

las in, Theodore D. (*with* Glover, Fred) A generalized recursive algorithm for a class of istationary regeneration (scheduling) problems. *Naval Res. Logist. Quart.* **21** (1974), –246. (F. Weinberg) **49** #8652 90C10

lat nis (*with* Pascal, Madeleine) Recherche et étude des trajectoires planes du centre nertie d'un corps de révolution placé dans un champ newtonien. *C. R. Acad. Sci. ris Sér. A-B* **274** (1972), A1381–A1384. (Authors' summary) **45** #3045 85.34 .34)

(*with* Marchal, Christian) Mouvements gravitationnels de deux corps solides elconques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 3, 67–A169. (Authors' summary) **58** #14054 70.34

lat Diethard Über lineare Optimierungsprobleme mit Parametern in allen effizienten der Zielfunktion und der Restriktionen. (Russian, English and French nmaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **26** (1977), *no.* 5, –560. (Jon W. Tolle) **58** #32915 90C05

lat R. Zyklisches Enden bei Iterationsverfahren. Vorträge der Wissenschaftlichen restagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 75). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, *T*298–*T*300. (J. Miklíček) **54** #14408 Q05 (39A10)

lau Dieter ★Elementare Axiome der Mengenlehre. Einführung in die allgemeine engenlehre. I. Wissenschaftliche Taschenbücher, Band 81. *Akademie-Verlag, Berlin*; *rgamon Press, Oxford*; *Vieweg + Sohn, Braunschweig*, 1971. 124 *pp.* (G. T. Kneebone ol **231** #04002)) **52** #13390 04–01 (02Kxx)

Zum Kardinalzahlbegriff in der mehrwertigen Mengenlehre. *Theory of sets and ology* (*in honour of Felix Hausdorff*, 1868–1942), *pp.* 313–325. *VEB Deutsch. Verlag ssensch., Berlin*, 1972. (A. Tauts) **51** #10029 02C05 (04A05)

★Grundbegriffe der axiomatischen Mengenlehre. I. Einführung in die allgemeine engenlehre, II/1. Wissenschaftliche Taschenbücher, Band 82. *Akademie Verlag, rlin*, 1973. 142 *pp.* (G. T. Kneebone (Zbl **265** #04001)) **55** #103 04–01

★Grundbegriffe der axiomatischen Mengenlehre. II. Einführung in die allgemeine engenlehre, II/2. Wissenschaftliche Taschenbücher, Band 105. *Akademie Verlag, rlin*, 1973. 193 *pp.* (G. T. Kneebone (Zbl **265** #04002)) **55** #104 04–01

Zur Arithmetik mehrwertiger Zahlen. *Math. Nachr.* **57** (1973), 275–306. (A. Tauts) #4243 02C05 (02K10)

★Kardinal- und Ordinalzahlen. Teil 1. Einführung in die allgemeine Mengenlehre. /1. Wissenschaftliche Taschenbücher, Band 125. *Vieweg, Braunschweig*, 1974. 175 *pp.* . Tauts) **55** #2579 04–02 (02Kxx)

★Kardinal- und Ordinalzahlen. Teil 2. Einführung in die allgemeine Mengenlehre. /2. Wissenschaftliche Taschenbücher, Band 141. *Akademie-Verlag, Berlin*, 1974. 247 . (A. Tauts) **55** #2580 04–02 (04A10)

Universen in einer klassenfreien Mengenlehre mit Stufenbeziehung. *Math. Nachr.* (1974), 7–14. (Andreas Blass) **51** #2912 02K15 (02K35)

Eine axiomatische Mengenlehre mit dualen Mengen. *Math. Nachr.* **68** (1975), 7–323. (E. Mendelson) **52** #5418 02K10 (02K15)

Intervallstrukturen geordneter Körper. *Math. Nachr.* **75** (1976), 319–326. (G. lefeld) **56** #13584 65G05 (12J99, 02K10)

ová, Ol'ga *b*-equivalent multilattices. *Math. Slovaca* **26** (1976), *no.* 1, 63–72. (M. olibiar) **55** #12586 06A20

Characterization of distributive multilattices by a betweenness relation. *Math. ovaca* **26** (1976), *no.* 2, 119–129. (T. S. Blyth) **55** #7873 06A35

Lines in directed distributive multilattices. (Russian summary) *Math. Slovaca* **27** 977), *no.* 1, 55–64. (Evelyn Nelson) **56** #15520 06A35

er, John R. Soluble models of quantum gravitation. *Relativity* (*Proc. Relativity Conf. idwest, Cincinnati, Ohio*, 1969), *pp.* 1–17. *Plenum, New York*, 1970. (S. Deser) #6872 83.53

Headlights of the last decade in field theory. With discussion by J. M. Jauch, W. E. hirring and the author. *Fields and Quanta* **2** (1971/72), *no.* 3, 217–254. (John McEwan) 5 #7199 81.47

(*with* Hegerfeldt, Gerhard C.) Fields without partners. (Italian and Russian mmaries) *Nuovo Cimento A*(11) **10** (1972), 723–738. (H. Wakita) **48** #3409 81.47

Covariant diastrophic quantum field theory. *Phys. Rev. Lett.* **28** (1972), 769–772. I. Wakita) **46** #8588 81.47

Ultralocal spinor field models. *Ann. Physics* **79** (1973), 111–130. (B. Misra) 2 #12620 81.47

(*with* Ruskai, Mary Beth) Local products as operators. *J. Mathematical Phys.* **14** 973), 1199–1201. (H. Araki) **48** #13082 81.47

(*with* Shepp, Lawrence A.; Ezawa, H.) On the divergence of certain integrals of the iener process. (French summary) Colloque International sur les Processus Gaussiens les Distributions Aléatoires (Colloque Internat. du CNRS, No. 222, Strasbourg, 1973). *nn. Inst. Fourier* (*Grenoble*) **24** (1974), *no.* 2, vi, 189–193. (H. P. McKean, Jr.) 3 #6772 60J65

(*with* Ezawa, H.; Shepp, Lawrence A.) A path space picture for Feynman-Kac verages. *Ann. Physics* **88** (1974), 588–620. (G. Della Riccia) **52** #4895 81.60

(*with* Streit, Ludwig) Optical equivalence theorem for unbounded observables. *J. athematical Phys.* **15** (1974), 760–763. (M. J. Westwater) **49** #10293 81.47

(*with* Hegerfeldt, Gerhard C.) Field product renormalization and Vilson-Zimmermann expansion in a class of model field theories. (Italian and Russian ummaries) *Nuovo Cimento A*(11) **19** (1974), 153–172. (H. Wakita) **52** #9899 81.47

Soluble models and the meaning of nonrenormalizability. *International Symposium n Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 60–169. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (Editors) **58** #32634 1.60

On model fields with independent values at every space-time point. Collection of rticles dedicated to Paul Urban on the occasion of his seventieth birthday, I. *Acta Phys. ustriaca* **41** (1975), 237–247. (Sergio Albeverio) **54** #9452 81.47

On the meaning of a non-renormalizable theory of gravitation. GR7 (Papers from eventh Internat. Conf. on Gravitation and Relativity, Tel-Aviv, 1974). *General elativity and Gravitation* **6** (1975), *no.* 1, 13–19. (N. V. Mickevič) **55** #2033 83.53

(*with* Ezawa, H.; Shepp, Lawrence A.) Vestigial effects of singular potentials in diffusion theory and quantum mechanics. *J. Mathematical Phys.* **16** (1975), 783–799. (R. A. Minlos) **53** #4812 81.47 (60H10)

Soluble covariant nonrenormalizable quantum field theory. *Phys. Rev. D* (3) **12** (1975), *no.* 6, 1590–1594. (Jacques P. Leveille) **56** #14313 81.47

Ultralocal approach to quantum field theory: a survey of present results. International Conference on the Mathematical Problems of Quantum Field Theory and Quantum Statistics. Part I. Axiomatic Quantum Field Theory. *Trudy Mat. Inst. Steklov.* **135** (1975), 160–167, 259. (From the summary) **58** #25590 81.47

Challenging problems in singular dynamical systems. *Quantum dynamics: models and mathematics* (*Proc. Sympos., Centre for Interdisciplinary Res., Bielefeld Univ., Bielefeld*, 1975), *pp.* 185–200. *Acta Phys. Austriaca, Suppl. XVI, Springer, Vienna*, 1976. (Author's summary) **58** #32586 81.47

(*with* Narnhofer, Heide) Multi-component, independent-value quantum field models. *Acta Phys. Austriaca* **44** (1976), *no.* 1-2, 161–171. (L. Streit) **54** #9453 81.47

A characteristic glimpse of the renormalization group. *J. Mathematical Phys.* **17** (1976), *no.* 5, 826–830. (Ricardo Lima) **55** #5108 82.47

(*with* Narnhofer, Heide) Boundary conditions and singular potentials in diffusion theory. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1201–1209. (G. Della Riccia) **54** #14560 76.60 (82.60)

(*with* Narnhofer, Heide) Large-*N* behavior for independent-value models. *Phys. Rev. D* (3) **13** (1976), *no.* 2, 257–266. (F. R. Halpern) **56** #17582 81.41

Augmented quantum field theory: a proposal to extend conventional formulations. *Phys. Rev. D* (3) **14** (1976), *no.* 8, 1952–1964. (Author's summary) **58** #20039 81.53

Affine fields and the operator formulation of augmented scalar fields. *J. Math. Phys.* **18** (1977), *no.* 9, 1711–1719. (Charles L. Hammer) **56** #7624 81.47

Scale-covariant quantization. *Phys. Lett. B* **73** (1978), *no.* 2, 152–154. (Johan G. Belinfante) **57** #11487 81.47

See also **Concepts in hadron physics**, **48** #1596 *and* **Elementary particle physics: multiparticle aspects**, **48** #1597

von Klaudy, St. (*with* Leserer, M.) Dreistufige kleinste Quadrate–einige numerische Ergebnisse. *Metrika* **20** (1973), 193–195. (Klaus Hinkelmann) **54** #14296 62P20

Klaus, Georg ★Rationalität-Integration-Information. Entwicklungsgesetze der Wissenschaft in unserer Zeit. Kritische Information, No. 33. *Wilhelm Fink Verlag, Munich*, 1974. 302 *pp.* (Manfred Kochen) **55** #10186 00A25 (90A05, 93A99)

Klaus, M. The linear Boltzmann operator-spectral properties and short-wavelength limit. *Helv. Phys. Acta* **48** (1975), 99–129. (Author's summary) **54** #14678 82.47

Note on the spectrum of Boltzmann's collision operator. *Helv. Phys. Acta* **49** (1976), *no.* 2, 275–279. (Author's summary) **54** #9533 82.47

On the bound state of Schrödinger operators in one dimension. *Ann. Physics* **108** (1977), *no.* 2, 288–300. (Georges Bessis) **58** #20010 81.47 (47A40)

(*with* Scharf, G.) The regular external field problem in quantum electrodynamics. *Helv Phys. Acta* **50** (1977), *no.* 6, 779–802. (A. Rouet) **58** #8935 81.47

(*with* Scharf, G.) Vacuum polarization in Fock space. *Helv. Phys. Acta* **50** (1977), *no.* 6, 803–814. (S. Malin) **58** #4072 81.47

Boltzmann collision operator without cut-off. *Helv. Phys. Acta* **50** (1977), *no.* 6, 893–903. (Author's summary) **58** #25683 82.47

Klausmann, Hans-Siegfried ★Stochastische Entscheidungsbäume. Ein Beitrag zur Lösung von sequentiellen Entscheidungsproblemen bei Risiko. Mit einem Vorwort von M. Meyer. Beiträge zur Datenverarbeitung und Unternehmensforschung, Band 18. *Verlag Anton Hain, Meisenheim am Glan*, 1976. iv + 188 *pp.* (1 *foldout*) (Editors) **57** #5117 90C40 (90C15, 90C35)

Klawe, Maria Semidirect product of semigroups in relation to amenability, cancellation properties, and strong Følner conditions. *Pacific J. Math.* **73** (1977), *no.* 1, 91–106. (L. N. Argabright) **57** #10357 43A07

On the dimension of left invariant means and left thick subsets. *Trans. Amer. Math. Soc.* **231** (1977), *no.* 2, 507–518. (C. Chou) **56** #6280 43A07

Kleandrov, D. I. (*with* Frenkel', A. A.) Prediction of economic indices by means of the simple exponential smoothing method. (Russian) Statistical analysis of economic time series, and prediction. *Učen. Zap. Statist.* **22/23** (1973), 148–164. (A. I. Ponomarenko) **55** #7329 90A20

Klebanov, L. B. On a functional equation. *Sankhyā Ser. A* **32** (1970), 387–392. (D. Ramakrishna Rao) **45** #2358 39A30

A certain remark on the independence of tubular statistics and the sample mean. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 753–755. (M. E. Thompson) **45** #1324 62E15

(*with* Linnik, Ju. V.; Ruhin, A. L.) Sur certaines questions de l'estimation séquentielle. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A1733–A1734. (L. A. Aroian) **46** #1029 62L12

"Universal" loss functions and unbiased estimates. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 1249–1251. (S. Kullback) **45** #6118 62C99

(*with* Linnik, Ju. V.; Ruhin, A. L.) On "attraction domains" in the theory of sequential estimation. *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 296–303. *Lecture Notes in Math., Vol.* 330, *Springer, Berlin*, 1973. (Nitis Mukhopadhyay) **56** #9857 62L12

A characterization of the normal distribution by means of order statistics. (Russian) *Mat. Zametki* **13** (1973), 121–124. (R. H. Rodine) **47** #4390 62H05

The reconstruction of the distributions of the components of a random vector from the distributions of certain statistics. (Russian) *Mat. Zametki* **13** (1973), 889–892. (I. I. Kotlarski) **48** #12679 62E15

Inadmissibility of polynomial estimates for the location parameter. (Russian) *Mat. Zametki* **14** (1973), 885–893. (S. Kotz) **48** #12670 62C15

Admissibility of the sample mean as an estimate of the location parameter under nonquadratic loss. (Russian. German summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 339–349. (J. Wolfowitz) **47** #6006 62E10 (62C15)

The characterization of a certain family of distributions by the property of the independence of statistics. (Russian. German summary) *Teor. Verojatnost. i Primenen* **18** (1973), 639–642. (I. I. Kotlarski) **48** #12676 62E10

The condition for zero regression of one linear statistic on another. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 206–210. (I. I. Kotlarski) **48** #9911 62E10

Unbiased estimators and sufficient statistics. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 392–397. (S. Kotz) **49** #8180 62F10

(*with* Ruhin, A. L.) Families of distributions with location parameter and having a sufficient statistic of rank not greater than two. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 604–611. (J. L. Denny) **50** #8785 62E10 (62B05)

(*with* Kagan, A. M.; Fintušal, S. M.) Asymptotic behavior of polynomial Pitman estimators. (Russian) Statistical theory of estimation, I. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **43** (1974), 30–39, 169. (W. Hoeffding) **52** #1999 62F10 (62E10, 62E20)

Unbiased estimators and convex loss functions. (Russian) Statistical theory of estimation, I. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **43** (1974), 40–52, 169. (S. Kotz) **51** #2055 62C07

(*with* Melamed, I. A.) Characterization of the normal and gamma distributions by properties of the Fisher information. (Russian) Statistical theory of estimation, I. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **43** (1974), 53–58, 170. (I. I. Kotlarski) **52** #12157 62E10

(*with* Melamed, I. A.) Stability of characterizations of certain distributions by properties of the Fisher information. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 1, 21–24. (E. Lukacs) **52** #6953 62E10 (62B10)

A characterization of loss functions in the statistical theory of estimation. (Russian. English summary) Statistical theory of estimation, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **53** (1975), 130–141, 143. (W. Hoeffding) **52** #15801 62F10

(*with* Melamed, I. A.) The characterization of the normal and gamma distributions by properties of their Bayesian estimates. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no.* 1, 123–137, 247. (E. Lukacs) **54** #3906 62E10 (62F15)

$L_k^{(2)}$-sufficient subspaces for families with location and scale parameters. (Russian) *Mat. Zametki* **20** (1976), *no.* 2, 279–291. (E. Lukacs) **54** #8937 62B05 (62E10)

On the use of gain functions in the theory of statistical estimation. (Russian. German and English summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 5, 729–733. (B. Ja. Levit) **54** #14208 62F10

(*with* Melamed, I. A.) The asymptotic behavior of certain estimates of location and scale parameters. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 3, 41–56. (W. Hoeffding) **57** #1745 62F10 (62E20)

(*with* Melamed, I. A.) Fisher information in the presence of nuisance parameters, and some of its applications in the theory of statistical estimation. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 1, 21–23. (Lubomír Kubáček) **53** #14769 62F10

A general definition of unbiasedness. (Russian. German summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 3, 584–598. (W. Hoeffding) **54** #14209 62F10

(*with* Kagan, A. M.) Estimation of the stability in the problem of reconstructing the additive type of a distribution. (Russian. English summary) Continuity and stability in problems of probability theory and mathematical statistics. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **61** (1976), 68–74, 136. (I. I. Kotlarski) **55** #1402 60E05 (62E10)

(*with* Melamed, I. A.) Asymptotic ε-admissibility of the sample variance as an estimator of the population variance. (Russian. English summary) Continuity and stability in problems of probability theory and mathematical statistics. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **61** (1976), 75–83, 137. (W. Hoeffding) **57** #4396 62E10 (62C15)

(*with* Melamed, I. A.) A method of constructing statistical estimates of the parameters of families of distributions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **87** (1977), *no.* 3, 553–555. (Authors' summary) **58** #18864 62F10

Bayesian estimates that are stable with respect to the choice of the loss function. (Russian) *Mat. Zametki* **23** (1978), *no.* 2, 327–334. (A. L. Rukhin) **58** #13475 62F15 (62E10)

Klebanova, G. B. (*with* Jancevič, A. A.) On an interpolation problem for random fields. (Russian) *Mat. Fiz. i Funkcional. Anal. Vyp.* 2 (1971), 41–44, 236. (Authors' summary) **56** #13344 60G17

Meromorphic random processes. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 83 *Mat. i Meh. Vyp.* 37 (1972), 62–67, 121. (R. F. Gundy) **49** #1572 60G17

Klebansky, Boris (*with* Francez, Nissim; Pnueli, Amir) Backtracking in recursive computations. *Acta Informat.* **8** (1977), *no.* 2, 125–144. (Cristian Calude) **56** #4218 68A05 (02F43)

Klecel', M. Ja. (*with* Poljakov, V. E.) Construction of the common part of logical functions. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromeh.* **1976**, *no.* 6, 687–688. (From the text) **58** #20867 94A20

Klecha, Tadeusz Existence of generalized tensorial fields in linear asymmetric elastodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 111–119. (R. J. Knops) **49** #1864 73.35

Existence of surface waves in nonhomogeneous isotropic elastic semi-space with arbitrary variation of Poisson's ratio. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 11, 967–971. (J. Ignaczak) **57** #11261 73.35

Kłeczek, Mieczysław Connections of higher order. (Polish and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 8 *Zagadnienia Geometrii Różniczkowej* (1973), 41–46. (H. A. Eliopoulos) **51** #8978 53C05

Klee, K. (*with* Szüsz, P.) A Mercerian theorem for Nörlund means. *Monatsh. Math.* **77** (1973), 113–119. (S. M. Mazhar) **47** #9118 40G05

Klee, Victor (*with* Danzer, Ludwig; Grünbaum, Branko) ★Теорема Хелли и ее применения. (Russian) [Helly's theorem and its applications] Translated from the English (Proc. Sympos. Pure Math., Vol. VII, pp. 101–180, Amer. Math. Soc., Providence, R.I., 1963) by S. I. Zalgaller. Edited by I. M. Jaglom. *Izdat. "Mir", Moscow*, 1968. 160 *pp.* (Editors) **52** #15242 52A35

The greedy algorithm for finitary and cofinitary matroids. *Combinatorics* (*Proc. Sympos. Pure Math., Vol. XIX, Univ. California, Los Angeles, Calif.*, 1968), *pp.* 137–152. *Amer. Math. Soc., Providence, R.I.*, 1971. (D. J. A. Welsh) **48** #10865 05B35

Which generalized prisms admit H-circuits? *Graph theory and applications* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1972; *dedicated to the memo*… *W. T. Youngs*), *pp.* 173–178. *Lecture Notes in Math., Vol.* 303, *Springer, Berlin*, 1… (R. Cori) **51** #5395 05C35

(*with* Minty, George J.) How good is the simplex algorithm? *Inequalities, III* (*Proc. Third Sympos., Univ. California, Los Angeles, Calif.*, 1969; *dedicated to the mem*… *of Theodore S. Motzkin*), *pp.* 159–175. *Academic Press, New York*, 1972. (Rob… G. Jeroslow) **48** #10492 90C05

On a question of Colin Clark concerning three properties of convex sets. …ad. *Math. Bull.* **15** (1972), 535–537. (V. Zizler) **49** #5784 46B05 (52A05)

(*with* Doehlert, D. H.) Experimental designs through level reduction of the *d*-dimensional cuboctahedron. *Discrete Math.* **2** (1972), *no.* 4, 309–334. (L. D. Ba… **46** #1614 05B05 (62K99)

Unions of increasing and intersections of decreasing sequences of conve… *Israel J. Math.* **12** (1972), 70–78. (G. T. Sallee) **46** #4365 52A20

A remark on: "Some properties of ordered finite-dimensional spaces" (*Mathe… models in economics* (Proc. Sympos., and Conf. von Neumann Models, Warsaw, … pp. 315–327, North-Holland, Amsterdam, 1974) by Tomasz Bojdecki, Jerzy Łoś, … Skomorohin and Jerzy Zabczyk. *Mathematical models in economics* (*Proc. Symp*… *Conf. von Neumann Models, Warsaw*, 1972), *pp.* 329–331. *North-Holland, Ams*… 1974. (H. J. Biesterfeldt, Jr.) **51** #13628 46A40

Polytope pairs and their relationship to linear programming. *Acta Math.* **133** … 1–25. (P. McMullen) **49** #9739 52A25 (90C05)

(*with* Danaraj, Gopal) Shellings of spheres and polytopes. *Duke Math. J.* **41** … 443–451. (P. McMullen) **49** #9852 57C15 (52A25)

Convex polyhedra and mathematical programming. *Proceedings of the Intern*… *Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *Vol.* 1, *pp.* 485–490. *Canad.* … *Congress, Montreal, Que.*, 1975. (E. Jucovič) **55** #2127 90C05

(*with* Yandl, André) Some proximate concepts in topology. *Symposia Mathem*… *Vol. XVI* (*Convegno sulla Topologia Insiemistica e Generale, INDAM, Rome*, 197… 21–39. *Academic Press, London*, 1975. (L. Górniewicz) **53** #1514 54C55 (54H…

Ratio-sequences of chains in connected metric spaces. *The geometry of met*… *linear spaces* (*Proc. Conf., Michigan State Univ., East Lansing, Mich.*, 1974), *pp.* 13… *Lecture Notes in Math., Vol.* 490, *Springer, Berlin*, 1975. (Editors) **57** #1287 … (54E35)

A *d*-pseudomanifold with f_o vertices has at least $df_o-(d-1)(d+2)$ *d*-sim… *Houston J. Math.* **1** (1975), *no.* 1, 81–86. (D. Barnette) **52** #1526 52A25

(*with* Gale, David) Unique reducibility of subsets of commutative topo… groups and semigroups. Collection of articles dedicated to Werner Fenchel on h… birthday. *Math. Scand.* **36** (1975), 174–198. (K. H. Hofmann) **52** #8324 … (20K20, 20M10)

Spira's theorems on complete linear proofs of systems of linear inequa… *Mathematika* **22** (1975), *no.* 2, 112–121. (Ethan D. Bolker) **53** #11499 52A25 (68A20)

(*with* Quaife, Howard) Minimum graphs of specified diameter, connectivit… valence. I. *Math. Oper. Res.* **1** (1976), *no.* 1, 28–31. (Douglas D. Grant) **56** #2… 05C35

Can the measure of $\cup_1^n[a_i, b_i]$ be computed in less than $O(n \log n)$ steps? … *Math. Monthly* **84** (1977), *no.* 4, 284–285. (Fabrizio Luccio) **55** #9602 68A20 (68A50)

Impressions of mathematical education in the People's Republic of China. … *Math. Monthly* **84** (1977), *no.* 7, 509–517. (Editors) **58** #27094 01A65

A linearly compact convex set dense in every vector topology. *Arch. Math.* (… **28** (1977), *no.* 1, 80–81. (Marc Rogalski) **55** #1020 46A05 (52A05)

(*with* Jeffries, Clark; van den Driessche, Pauline) When is a matrix sign st… *Canad. J. Math.* **29** (1977), *no.* 2, 315–326. (Charles R. Johnson) **56** #5603 … (05C99)

(*with* Quaife, Howard) Classification and enumeration of minimum (*d*, 1, 3)-g… and minimum (*d*, 2, 3)-graphs. *J. Combinatorial Theory Ser. B* **23** (1977), *no.* 1, 8… (Douglas D. Grant) **57** #173 05C35

(*with* van den Driessche, Pauline) Linear algorithms for testing the sign stabil… a matrix and for finding *Z*-maximum matchings in acyclic graphs. *Numer. Ma*… (1977), *no.* 3, 273–285. (See Zbl **348** #65032, **352** #65020) 65F99

(*with* Danaraj, Gopal) The connectedness game and the *c*-complexity of c… graphs. *SIAM J. Appl. Math.* **32** (1977), *no.* 2, 431–442. (Irinel Dragan) **55** #10… 90D05 (68A20, 05C99)

See also **Control theory and the calculus of variations, 52** #15159 *and* **Prob… Geometry of metric and linear spaces, 53** #6419

Kleene, Stephen Cole ★Математическая логика. (Russian) [Mathematical logic] Translated from the English by Ju. A. Gastev. Edited and with two appendices by … Minc. *Izdat. "Mir", Moscow*, 1973. 480 *pp.* (Editors) **49** #10520 02–02

Realizability: a retrospective survey. *Cambridge Summer School in Mathem*… *Logic* (*Cambridge*, 1971), *pp.* 95–112. *Lecture Notes in Math., Vol.* 337, *Springer, B*… 1973. (D. Nelson) **50** #4263 02E15 (02–03, 02C15)

The work of Kurt Gödel. *J. Symbolic Logic* **41** (1976), *no.* 4, 761–778. (… Ebbinghaus) **55** #12441 (E **58** #16080) 02–03 (01A70)

(*with* Vesley, Richard Eugene) ★Основания интуиционистской математи… точки зрения теории рекурсивных функций. (Russian) [The foundations of intuitionistic mathematics from the viewpoint of the theory of recursive functi… Translated from the English by F. A. Kabakov and B. A. Kušner. Математиче… Логика и Основания Математики. [Monographs in Mathematical Logic and Foundations of Mathematics] *Izdat. "Nauk", Moscow*, 1978. 271 *pp.* (Editors) **58** #16196 02E05

An addendum to: "The work of Kurt Gödel" (J. Symbolic Logic **41** (1976), n… 761–778). *J. Symbolic Logic* **43** (1978), *no.* 3, 613. (Editors) **58** #16080 0… (01A70)

See also **Shoenfield, Joseph R., 49** #4768 *and* **Reminiscences of logicians, 52**

Kleffe, Jürgen Principal components of random variables with values in a separ… Hilbert space. (German and French summaries) *Math. Operationsforsch. Statis*… (1973), *no.* 5, 391–406. (Masashi Okamoto) **52** #12223 62H25 (*with* Pincus, R.) Bayes and best quadratic unbiased estimators for parameters of covariance matrix in a normal linear model. (German and French summaries) *ath. Operationsforsch. Statist.* **5** (1974), *no.* 1, 43–67. (D. R. Brillinger) **49** #6429 C10

(*with* Pincus, R.) Bayes and best quadratic unbiased estimators for variance mponents and heteroscedastic variances in linear models. (German and French nmaries) *Math. Operationsforsch. Statist.* **5** (1974), *no.* 2, 147–159. (Hardeo Sahai) #4536 62J10 (62F15)

Best quadratic unbiased estimators for variance components in the balanced o-way classification model. (German and Russian summaries) *Math. perationsforsch. Statist.* **6** (1975), *no.* 2, 189–196. (M. Atiqullah) **53** #4398 62J10

Bayes invariant quadratic estimators for variance components in linear models. erman and Russian summaries) *Math. Operationsforsch. Statist.* **6** (1975), *no.* 5, 3–767. (I. Guttman) **52** #12236 62J10 (62F15)

A note on MINQUE for normal models. (German and Russian summaries) *Math. perationsforsch. Statist.* **7** (1976), *no.* 5, 707–714. (C. R. Rao) **55** #6710 62J05

Best quadratic unbiased estimators for variance components in mixed linear models. *nkhyā Ser. B* **38** (1976), *no.* 2, 179–186. (Robert Hultquist) **57** #7890 62J05 2F10)

Best quadratic unbiased estimators for variance components in normal linear odels. (German summary) *Proceedings of the Fifth Conference on Probability Theory raşov*, 1974), *pp.* 325–328. *Editura Acad. R.S.R., Bucharest*, 1977. (C. R. Rao) #3219 62J05

Best unbiased estimators for variance components with application to the nbalanced one-way classification. *Biometrical J.* **19** (1977), *no.* 5, 313–328. (Robert ultquist) **57** #7891 62J05 (62F10)

Invariant methods for estimating variance components in mixed linear models. German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), . 2, 233–250. (M. Atiqullah) **56** #7036 62J10 (62F10, 62C07)

A note on ∞-MINQUE in variance covariance components models. (German and ussian summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 3, 37–343. (Jerome Senturia) **58** #18923 62J05

Optimal estimation of variance components—a survey. *Sankhyā Ser. B* **39** (1977), . 3, 211–244. (Author's summary) **58** #31611 62J05

A minimax property of C. R. Rao's MINQUE. (Russian summary) *Bull. Acad. olon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 4, 347–351. (Jerome Senturia) **8** #18924 62J05 (62C99)

(*with* Zöllner, I.) On quadratic estimation of heteroscedastic variances. (German nd Russian summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **9** (1978), *no.* 1, 7–44. (Susan D. Horn) **58** #24753 62J05

See also **Rudolph, Peter,** **55** #1651

Kleanov, S. B. (*with* Prival'skiĭ, V. B.; Time, I. V.) Stabilization of coefficients in a iscrete Kalman filter. *Avtomat. i Telemeh.* **1974**, *no.* 3, 76–82 (*Russian*); *translated as utomat. Remote Control* **35** (1974), *no.* 3, *part* 1, 410–416. (Editors) **56** #11381 3E10

(*with* Prival'skiĭ, V. B.; Time, I. V.) Stability of stationary Kalman corrector for iscrete-time communication channel. *Avtomat. i Telemeh.* **1975**, *no.* 12, 104–107 *Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 12, *art* 2, 2023–2026. (Seihaku Higuchi) **55** #7545 93E15 (94A05)

(*with* Prival'skiĭ, V. B.; Rožnov, A. V.; Time, I. V.) Limits of applicability of an daptive algorithm of adjustment of a digital linear filter. *Avtomat. i Telemeh.* **1977**, *no.* , 61–65 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *o.* 5, *part* 1, 664–667. (Authors' summary) **56** #11487 94A05

Kler, M. Lattice-type shells as the problem of the elasticity of discretized bodies. Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 577–583. (G. Paria) **9** #4399 73.65

A consistent approximation in the linear theory of elastic lattice-type shells. Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 585–589. (G. Paria) **9** #4400 73.65

Lagrangian and Eulerian finite element formulation for large strain elasto-plasticity. Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 3, 209–218. (I. M. Longman) **53** #12179 73.65

(*with* Winnicki, L.; Kwieciński, M.) Finite element analysis of elastic-plastic plane stress problem. (Polish and Russian summaries) *Rozprawy Inż.* **23** (1975), *no.* 4, 509–624. (From the summary) **57** #8356 73.65

(*with* Dems, K.) Physically and geometrically nonlinear analysis of structures using one- and two-dimensional finite elements. (Polish and Russian summaries) *Rozprawy Inz.* **24** (1976), *no.* 4, 771–786. (John M. T. Thompson) **55** #13932 73.65

(*with* Argyris, John H.; Knudson, W. C.) Elasto-plastic analysis of finite deformation problems. *Formulations and computational algorithms in finite element analysis* (*U.S.-Germany Sympos., Mass. Inst. Tech., Cambridge, Mass.*, 1976), *pp.* 440–467. *MIT Press, Cambridge, Mass.*, 1977. (N. Cristescu) **58** #8704 73.65

Kber, Martin A topological characterization of the real numbers. *J. London Math. Soc.* (2) **7** (1973), 199–202. (G. V. Krishnarao) **48** #9685 54F65

Kjnen, Jack P. C. (*with* Sprent, P.; Chambers, John M.; Rigal, J. L.; Brewer, Kenneth R. W.; Andrews, David F.; Müller, Manfred W.; Mihram, G. Arthur; Bonnieux, F.; Fellegi, Ivan P.; Brown, Robert A.; Wilkinson, G. N.) Discussion of the papers for Meeting 14. Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 4. *Bull. Inst. Internat. Statist.* **45** (1973), *book* 4, 279–286. (A. Goldman) **50** #6064 62J05

★Statistical techniques in simulation. Part I. Statistics: Textbooks and Monographs, Vol. 9. *Marcel Dekker, Inc., New York*, 1974. *pp.* i–xv+1–285. (E. J. Dudewicz) **55** #4548a 62K99 (62E25, 62F07, 65C05)

★Statistical techniques in simulation. Part II. Statistics: Textbooks and Monographs, Vol. 9. *Marcel Dekker, Inc., New York*, 1975. *pp.* i–xv+286–775. (E. J. Dudewicz) **55** #4548b 62K99 (62E25, 62F07, 65C05)

Screening designs for poly-factor experimentation. *Technometrics* **17** (1975), *no.* 4, 487–493. (D. V. Chopra) **52** #7042 62K15

man, E. G. The Green's function of a Sturm-Liouville equation with a normal operator-valued coefficient. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 5, 47–53. (Leo F. Boron) **51** #10789 34G05

Kleĭman, E. I. Free inverse semigroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1972), *no.* 3, 49–72, 140–141 (1973). (G. Pollák) **48** #4160 20M05

The lattice of varieties of inverse semigroups. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 7(170), 106–109. (Anna Ja. Aĭzenštat) **58** #10662 08A15 (20M05)

On basis of identities of Brandt semigroups. *Semigroup Forum* **13** (1976/77), *no.* 3, 209–218. (T. E. Hall) **56** #509 20M10

Some properties of the lattice of varieties of inverse semigroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10** (1977), *no.* 3 *Issled. po Sovremen. Algebre*, 56–72, 216–217. (Anna Ja. Aĭzenštat) **58** #936 20M05 (08A15)

Kleiman, Howard Totally real subfields of *p*-adic fields having the symmetric group as Galois group. *Canad. Math. Bull.* **14** (1971), 441–442. (W.-D. Geyer) **46** #9016 12F10

Irreducibility criteria. *J. London Math. Soc.* (2) **5** (1972), 133–138. (J. B. Kelly) **45** #3370 12E05

Normal integral bases and the Galois groups of Galois extensions of number fields. *J. Reine Angew. Math.* **255** (1972), 83–84. (L. R. McCulloh) **47** #8478 12A20 (12A55)

On irreducibility criteria of Dickson. *J. London Math. Soc.* (2) **7** (1974), 467–475. (J.-P. Lafon) **50** #270 12A20

A class of irreducible, soluble polynomials in $Q[x]$. *J. London Math. Soc.* (2) **7** (1974), 571–576. (E. Inaba) **49** #4969 12A20

A note on the Tarry-Escott problem. *J. Reine Angew. Math.* **278/279** (1975), 48–51. (M. A. Lee) **52** #10589 10B30

On the Diophantine equation $f(x,y)=0$. *J. Reine Angew. Math.* **286/287** (1976), 124–131. (Ray Steiner) **54** #5110 10B15

Kleĭman, Ju. G. The basis of a product variety of groups. I, II. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 95–97; *ibid.* **38** (1974), 475–483. (I. M. S. Dey) **51** #703 20E10

Kleiman, S. *See* **Théorie des intersections et théorème de Riemann-Roch,** **50** #7133

Kleiman, Steven L. Algebraic cycles and the Weil conjectures. *Dix esposés sur la cohomologie des schémas*, *pp.* 359–386. *North-Holland, Amsterdam*; *Masson, Paris*, 1968. (H. Popp) **45** #1920 14G13

Finiteness theorems for algebraic cycles. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 445–449. *Gauthier-Villars, Paris*, 1971. (Allen B. Altman) **54** #12765 14C10

(*with* Landolfi, John) Geometry and deformation of special Schubert varieties. *Compositio Math.* **23** (1971), 407–434. (Allen B. Altman) **47** #3405 14M15 (14M05)

(*with* Altman, Allen B.) On the purity of the branch locus. *Compositio Math.* **23** (1971), 461–465. (F. Oort) **46** #7233 (E **50** #326) 14A15

Motives. *Algebraic geometry, Oslo* 1970 (*Proc. Fifth Nordic Summer-School in Math., Oslo*, 1970), *pp.* 53–82. *Wolters-Noordhoff, Groningen*, 1972. (T. Oda) **52** #3152 14C10

Finiteness theorems for algebraic cycles. Appendix 1 to: "Motives" (*Algebraic geometry, Oslo 1970* (Proc. Fifth Nordic Summer-School in Math., Oslo, 1970), pp. 53–82, Wolters-Noordhoff, Groningen, 1972). *Algebraic geometry, Oslo* 1970 (*Proc. Fifth Nordic Summer-School in Math., Oslo*, 1970), *pp.* 83–88. *Wolters-Noordhoff, Groningen*, 1972. (T. Oda) **52** #3153 14C10

(*with* Laksov, Dan) On the existence of special divisors. *Amer. J. Math.* **94** (1972), 431–436. (Manfred Herrmann) **48** #2148 14H40 (14C20)

(*with* Laksov, Dan) Schubert calculus. *Amer. Math. Monthly* **79** (1972), 1061–1082. (Allen B. Altman) **48** #2152 14N10 (14M15)

Completeness of the characteristic system. *Advances in Math.* **11** (1973), 304–310. (Joel Roberts) **50** #9865 14C20 (14C05)

(*with* Altman, Allen B.) Correction to: "On the purity of the branch locus" (Compositio Math. **23** (1971), 461–465). *Compositio Math.* **26** (1973), 175–180. (F. Oort) **50** #326 14E20 (14E15)

(*with* Altman, Allen B.; Hoobler, Raymond T.) A note on the base change map for cohomology. *Compositio Math.* **27** (1973), 25–38. (M. Miyanishi) **49** #2740 14F20 (18F20)

(*with* Laksov, Dan) Another proof of the existence of special divisors. *Acta Math.* **132** (1974), 163–176. (Guerino Mazzola) **50** #9866 14C20 (14H99)

The transversality of a general translate. *Compositio Math.* **28** (1974), 287–297. (Joel Roberts) **50** #13063 14M15 (14N10)

(*with* Altman, Allen B.) Algebraic systems of linearly equivalent divisor-like subschemes. *Compositio Math.* **29** (1974), 113–139. (A. A. Iarrobino, Jr.) **51** #12843 14D05 (14C20)

(*with* Altman, Allen B.) A divisorial cycle acquiring an embedded component under a flat specialization. *Compositio Math.* **30** (1975), *no.* 3, 221–233. (A. A. Iarrobino, Jr.) **52** #3155 14D05 (14C20)

(*with* Altman, Allen B.) Joins of schemes, linear projections. *Compositio Math.* **31** (1975), *no.* 3, 309–343. (T. Oda) **53** #423 14C05

Problem 15: rigorous foundation of Schubert's enumerative calculus. *Mathematical developments arising from Hilbert problems* (*Proc. Sympos. Pure Math., Northern Illinois Univ., De Kalb, Ill.*, 1974), *pp.* 445–482. *Proc. Sympos. Pure Math., Vol. XXVIII, Amer. Math. Soc., Providence, R. I.*, 1976. (Gerhard Pfister) **55** #2946 14N10 (14M15)

r-special subschemes and an argument of Severi's. *Advances in Math.* **22** (1976), *no.* 1, 1–31. (Allen B. Altman) **55** #8033 14C20 (14H99, 14N10)

(*with* Altman, Allen B.) Compactifying the Jacobian. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 6, 947–949. (Knud Lønsted) **55** #2917 14H40 (14D05)

(*with* Altman, Allen B.; Iarrobino, Anthony A.) Irreducibility of the compactified Jacobian. *Real and complex singularities* (*Proc. Ninth Nordic Summer School/NAVF Sympos. Math., Oslo*, 1976), *pp.* 1–12. *Sijthoff and Noordhoff, Alphen aan den Rijn*, 1977. (T. Oda) **58** #16650 14C05 (14H40)

The enumerative theory of singularities. *Real and complex singularities* (*Proc. Ninth Nordic Summer School/NAVF Sympos. Math., Oslo*, 1976), *pp.* 297–396. *Sijthoff and Noordhoff, Alphen aan den Rijn*, 1977. (A. A. Iarrobino, Jr.) **58** #27960 14B05 (14C10, 14E15, 14N10)

(*with* Altman, Allen B.) Foundations of the theory of Fano schemes. *Compositio*

Math. **34** (1977), *no.* 1, 3–47. (Joel Roberts) **58** #27967 14C05 (14C20, 14M15, 14N10)

See also **Algebraic geometry**, **51** #3164 *and* **Roberts, Joel L.**, **52** #3154

Kleĭmann, P. Inhomogeneous models of allocation with fixed surcharges of two classes. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 753–756. (Tomas Gal) **57** #5082 90C10

Kleĭmenov, A. F. Problems of conflict control. *Prikl. Mat. Meh.* **39** (1975), *no.* 2, 225–234 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 2, 212–220. (G. Zatiašvili) **54** #14799 90D25

Kleĭmenova, G. S. (*with* Mudrov, V. I.) A certain construction of an automaton that is asymptotically optimal in a stationary random medium. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 3, 20–23. (Authors' summary) **45** #8461 94A35

Klein, Abel Renormalized products of the generalized free field and its derivatives. *Pacific J. Math.* **45** (1973), 275–292. (J. Glimm) **47** #6235 81.47

Quadratic expressions in a free boson field. *Trans. Amer. Math. Soc.* **181** (1973), 439–456. (Richard Kerner) **53** #10005 81.47

An explicitly solvable model in "Euclidean" field theory: the fixed source. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **28** (1973/74), 323–334. (R. A. Minlos) **52** #9920 81.60 (60G15)

(*with* Landau, Lawrence J.) The $:\phi^2:$ field in the $P(\phi)_2$ model. *Comm. Math. Phys.* **43** (1975), *no.* 2, 143–154. (S. Aramaki) **55** #13987 81.30

(*with* Landau, Lawrence J.) Singular perturbations of positivity preserving semigroups via path space techniques. *J. Functional Analysis* **20** (1975), *no.* 1, 44–82. (R. Høegh-Krohn) **52** #2473 81.47

When do Euclidean fields exist? *Lett. Math. Phys.* **1** (1975/76), *no.* 2, 131–133. (D. A. Dubin) **54** #14637 81.47

(*with* Landau, Lawrence J.) The $:\phi^2:$ field: infinite volume limit and bounds on the physical mass. (French summary) *Les méthodes mathématiques de la théorie quantique des champs* (*Colloq. Internat. CNRS, No.* 248, *Marseille*, 1975), *pp.* 223–235. *Éditions Centre Nat. Recherche Sci., Paris*, 1976. (Authors' introduction) **57** #18596 81.46

A characterization of Osterwalder-Schrader path spaces by the associated semigroup. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 5, 762–764. (J. Glimm) **53** #10040 81.60

(*with* Landau, Lawrence J.) An upper bound on the energy gap in the $(\lambda\phi^4+\sigma\phi^2)_2$ model. *J. Mathematical Phys.* **17** (1976), *no.* 1, 87–93. (Vincenzo Grecchi) **53** #12357 81.47

Gaussian OS-positive processes. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **40** (1977), *no.* 2, 115–124. (R. A. Minlos) **58** #14749 81.60 (60J99)

A generalization of Markov processes. *Ann. Probability* **6** (1978), *no.* 1, 128–132. (R. A. Minlos) **58** #24584 60J99

The semigroup characterization of Osterwalder-Schrader path spaces and the construction of Euclidean fields. *J. Functional Analysis* **27** (1978), *no.* 3, 277–291. (Author's summary) **58** #14750 81.60

(*with* Russo, Bernard) Sharp inequalities for Weyl operators and Heisenberg groups. *Math. Ann.* **235** (1978), *no.* 2, 175–194. (A. Kleppner) **58** #17687 43A30 (22E25, 81.22)

See also **Mathematics of contemporary physics**, **53** #7

Klein, Abraham (*with* Li, Ching Teh; Krejs, Franz) Matrix mechanics as a practical tool in quantum theory: the anharmonic oscillator. *Phys. Rev. D* (3) **12** (1975), *no.* 8, 2311–2324. (K. Kumar) **58** #20015 81.47

WKB approximation for bound states by Heisenberg matrix mechanics. *J. Mathematical Phys.* **19** (1978), *no.* 1, 292–297. (Author's summary) **56** #14252 81.34

(*with* Weldon, H. Arthur) Equations of motion, variational principles, and WKB approximations in quantum mechanics and quantum field theory: bound states. *Phys. Rev. D* (3) **17** (1978), *no.* 4, 1009–1030. (Raymond Streater) **58** #14671 81.47

Klein, Abraham A. (*with* Regev, Amitai) The codimensions of a PI-algebra. *Israel J. Math.* **12** (1972), 421–426. (L. W. Small) **48** #4020 16A38

A remark concerning embeddability of rings in fields. *J. Algebra* **21** (1972), 271–274. (L. Bokut') **45** #8670 16A08

Involutorial division rings with arbitrary centers. *Proc. Amer. Math. Soc.* **34** (1972), 38–42. (H. Tominaga) **46** #3560 16A40 (16A28)

PI-algebras satisfying identities of degree 3. *Trans. Amer. Math. Soc.* **201** (1975), 263–277. (M. F. Smiley) **50** #2234 16A38

Klein, Benjamin G. Homomorphisms of symbolic dynamical systems. *Math. Systems Theory* **6** (1972), 107–122. (Zbigniew Nitecki) **46** #4513 54H20

Klein, Bruce J. (*with* Gautschi, Walter) Recursive computation of certain derivatives—A study of error propagation. *Comm. ACM* **13** (1970), 7–9. (D. F. Mayers) **46** #1115 65Q05

Klein, D. (*with* Holm, S.) Identification of non-binding constraints and zero variables in linear programming. *First Symposium on Operations Research* (*Univ. Heidelberg, Heidelberg*, 1976), *Teil* 1, *pp.* 58–65. *Operations Research Verfahren, XXV. Hain, Meisenheim*, 1977. (Authors' introduction) **58** #32914 90C05

Klein, D. J. (*with* Junker, B. R.) Spin-free computation of matrix elements. I. Group-theoretical computation of Pauling numbers. *J. Chem. Phys.* **54** (1971), 4290–4296. (Philip H. Butler) **52** #4858 81.22

Degenerate perturbation theory. *J. Chem. Phys.* **61** (1974), 786–798. (Author's summary) **53** #12358 81.47

Kets of broken symmetry in the derivation of model Hamiltonians. (Spanish summary) *Rev. Mexicana Fis.* **23** (1974), *no.* 1-2, 243–256. (From the summary) **57** #8789 82.47

Finite groups and semisimple algebras in quantum mechanics. *Group theory and its applications, Vol. III, pp.* 1–93. *Academic Press, New York*, 1975. (William G. Harter) **57** #8561 81.22 (22E70)

(*with* Cantu, A. A.; Matsen, F. A.; Seligman, Thomas H.) A second quantized formulation of valence bond theory. *Theoret. Chim. Acta* **38** (1975), *no.* 4, 341–354. (Authors' summary) **56** #10574 81.47

Variational localized-site cluster expansions. I. General theory. *J. Chem. Phys.* **64** (1976), *no.* 12, 4868–4872. (Brian G. Wybourne) **57** #14976a 81.22

(*with* Garcia-Bach, M. A.) Variational localized-site cluster expansions. II. Trees and near trees. *J. Chem. Phys.* **64** (1976), *no.* 12, 4873–4877. (Brian G. Wybourne) **57** #14976b 81.22

Variational localized-site cluster expansions. III. Point group symmetry and supersymmetry. *Molecular Phys.* **31** (1976), *no.* 3, 783–796. (Brian G. Wy **57** #14976c 81.22

(*with* García-Bach, M. A.) Variational localized-site cluster expansions. IV. Hubbard and PPP models. *Molecular Phys.* **31** (1976), *no.* 3, 797–809. (Br Wybourne) **57** #14976d 81.22

Variational localized-site cluster expansions. V. Valence-bond and Heisenber models. *Molecular Phys.* **31** (1976), *no.* 3, 811–823. (Brian G. Wybourne) **57** #14 81.22

Klein, E. M. The numerical range of a Toeplitz operator. *Proc. Amer. Math.* (1972), 101–103. (K. F. Klopfenstein) **45** #5784 47B35

More algebraic properties of Toeplitz operators. *Math. Ann.* **202** (1973), 20 (Eric Nordgren) **48** #12134 47B35

Klein, Erwin ★Mathematical methods in theoretical economics. Topological and space foundations of equilibrium analysis. Economic Theory and Mathematical Economics. *Academic Press, New York-London*, 1973. xix + 388 *pp.* (Editors) **51** 69.00 (15–01, 54–01)

Topological methods in economics: general equilibrium theory. *Topology applications* (*Proc. Conf., Memorial Univ. Newfoundland, St. John's, Nfld.*, 197 101–121. *Lecture Notes in Pure and Appl. Math., Vol.* 12, *Dekker, New York*, (David Schmeidler) **51** #7589 90A15

Klein, Felix ★Gesammelte mathematische Abhandlungen. Erster Band: Liniengeo Grundlegung der Geometrie, zum Erlanger Programm. Herausgegeben von R. und A. Ostrowski (von F. Klein mit ergänzenden Zusätsen verzehen). Repri Erstauflagen [Verlag von Julius Springer, Berlin, 1921]. *Springer-Verlag, Berli York*, 1973. ii + xii + 612 *pp.* (1 *plate*) (Editors) **52** #10349 01A75

★Gesammelte mathematische Abhandlungen. Zweiter Band: Anschauliche Geometrie, Substitutionsgruppen und Gleichungstheorie, zur mathematischen P Herausgegeben von R. Fricke und H. Vermeil (von F. Klein mit ergänzenden Zus versehen). Reprint der Erstauflagen [Verlag von Julius Springer, Berlin, 1922]. *Springer-Verlag, Berlin-New York*, 1973. ii + vii + 713 *pp.* (Editors) **52** #10350 01A75

★Gesammelte mathematische Abhandlungen. Dritter Band: Elliptische Funktionen, insbesondere Modulfunktionen, hyperelliptische und Abelsche Funkti Riemannsche Funktionentheorie und automorphe Funktionen, Anhang verschi Verzeichnisse. Herausgegeben von R. Fricke, H. Vermeil und E. Bessel-Hagen (v Klein mit ergänzenden Zusätzen versehen). Reprint der Erstauflagen [Verlag von Springer, Berlin, 1923]. *Springer-Verlag, Berlin-New York*, 1973. ii + ix + 774 + 3 (Editors) **52** #10351 01A75

★Le programme d'Erlangen. Considérations comparatives sur les recherches géométriques modernes. Traduit de l'allemand par H. Padé. Préface de J. Dieud Postface de Françcois Russo. Collection "Discours de la Méthode". *Gauthier-V Éditeur, Paris-Brussels-Montreal, Que.*, 1974. xiv + 72 *pp.* (Editors) **50** #6772 0

See also **Geometrie**, **50** #8251; **Burau, Werner**, **53** #12833; **Vizgin, V. P.**, **56** #11708; **Vizgin, V. P.**, **58** #27055 *and* **Tripodi, Angelo**, **58** #27086

Klein, G. (*with* Moore, B. C.) Eigenvalue-generalized eigenvector assignment with feedback. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 1, 140–141. (Aut summary) **56** #2518 93B25

Klein, H. H. (*with* Byrne, R. N.) G2M, a two-dimensional diffusion time scale tok code. *J. Computational Phys.* **26** (1978), *no.* 3, 352–378. (Chung Y. Shen) **58** #148 82.65

Klein, H. S. (*with* DePree, J. D.) Characterization of collectively compact sets of li operators. *Pacific J. Math.* **55** (1974), 45–54. (J. W. Neuberger) **51** #11187 47 (47B05)

(*with* DePree, J. D.) Semi-groups and collectively compact sets of linear operat *Pacific J. Math.* **55** (1974), 55–63. (J. W. Neuberger) **51** #11188 47D05

Klein, Hans-Otto ★Eine intervallanalytische Methode zur Lösung von Integralgleichungen mit mehrparametrigen Funktionen. Gesellschaft für Mathem und Datenverarbeitung, Bonn, Ber. No. 69. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1973. 39 *pp.* (H. Ratschek) **50** #3624 65R05

Klein, J. Structures symplectiques ou J-symplectiques homogènes sur l'espace tange une variété. *Symposia Mathematica, Vol. XIV* (*Convegno di Geometria Simplettic Fisica Matematica, INDAM, Rome*, 1973), *pp.* 181–192. *Academic Press, London*, 1 (J. R. Vanstone) **52** #9285 58F05 (53C15)

Klein, J. J. Nonlinear wave equation with intrinsic wave particle dualism. (French summary) *Canad. J. Phys.* **54** (1976), *no.* 13, 1383–1390. (Günter Braunss) **53** #12 81.35

Klein, Jacob ★Greek mathematical thought and the origin of algebra. Translated f the German by Eva Brann. With an appendix containing Vieta's *Introduction to analytical art*, translated from the Latin by J. Winfree Smith. *The M.I.T. Pr Cambridge, Mass.-London*, 1968. xv + 360 *pp.* (Editors) **57** #12019 01A20

Klein, James R. Bound-state models from Gelfand-Levitan theory. *Amer. J. Phys.* (1976), *no.* 8, 754–758. (Harry E. Moses) **53** #15167 81.34

Klein, L. R. Dynamic analysis of economic systems. *Internat. J. Math. Ed. Sci. Tec* (1973), *no.* 3, 341–359. (Author's summary) **56** #9892 62P20

Klein, M. (*with* Tibrewala, R. K.) Finding negative cycles. *INFOR—Canad. J. Operational Res. and Information Processing* **11** (1973), 59–65. (A. Jaeger) **48** #829 05C20

Star radii for multivalent meromorphic functions. *Math. Japon.* **20** (1975), *no.* 59–63. (B. G. Eke) **52** #8402 30A32

Klein, Martin J. ★Paul Ehrenfest. Vol. 1. The making of a theoretical physicist. *North-Holland Publishing Co., Amsterdam-London*; *American Elsevier, New York*, 19 xvi + 330 *pp.* *ISBN* 0-7204-0163-1 (Not reviewed) 01A70

Mechanical explanation at the end of the nineteenth century. *Centaurus* **17** (197 *no.* 1, 58–82. (M. Kline) **56** #5163 01A55

(*with* Needell, Allan) Some unnoticed publications by Einstein. *Isis* **68** (1977), 244, 601–604. (Editors) **58** #15990 01A60 (01A75)

Klein, Morton (*with* Florian, Michael A.) Deterministic production planning with conca costs and capacity constraints. *Management Sci.* **18** (1971/72), 12–20. (A. Bensoussa

#6801 90B30

Klei Oskar Le principe d'équivalence d'Einstein utilisé pour une alternative de la smologie relativiste en regardant le système des galaxies comme limité et non comme nivers. *Mat.-Fys. Medd. Danske Vid. Selsk.* **39**, *no.* 2, 18 *pp.* (1974). (Author's mmary) **50** #15832 83.53

Generalization of Einstein's principle of equivalence so as to embrace the field uations of gravitation. *Phys. Scripta* **9** (1974), 69–72. (M. Carmeli) **56** #4671 .53

Electromagnetic theory treated in analogy to the theory of gravitation. *Nuclear ys. B* **92** (1975), 541–546. (Author's summary) **56** #2092 81.53

Kle Peter (*with* Klingenberg, Wilhelm) ★Lineare Algebra und analytische Geometrie. nd 1. B·I-Hochschulskripten, No. 748. *Bibliographisches Institut, annheim-Vienna-Zurich*, 1971. xiii + 288 *pp.* (Editors) **50** #7188 15–01

★Über die Kohomologie des freien Schleifenraums. Inaugural-Dissertation zur langung des Doktorgrades der Hohen Mathem.-Naturw. Fakultät der Rheinischen eidrich-Wilhelms-Universität zu Bonn. Bonn. Math. Schr. No. 55 (1972). *athematische Institut der Universität Bonn, Bonn*, 1972. v + 48 *pp.* (S. Y. Husseini) #1286 58E10 (55D35)

(*with* Klingenberg, Wilhelm) ★Lineare Algebra und analytische Geometrie. Band B. I.-Hochschultaschenbücher, No. 749. *Bibliographisches Institut, annheim-Vienna-Zurich*, 1972. xviii + 404 *pp.* (*loose errata*) (Editors) **50** #7189 –01

(*with* Klingenberg, Wilhelm) ★Lineare Algebra und analytische Geometrie. bungen zu Band 1 und 2. B. I.-Hochschultaschenbücher, Band 750. *Bibliographisches stitut, Mannheim-Vienna-Zurich*, 1973. viii + 172 *pp.* (Editors) **50** #7190 15–01

Der freie Schleifenraum für Räume mit fast freier rationaler Kohomologie-Algebra. *ath. Ann.* **209** (1974), 91–98. (M. Klingmann) **51** #1875 58E10 (55D35)

Kle Quentin L. (*with* Kaliski, Martin E.) Toward a theory of dense orbital behavior in a ass of autonomous one-dimensional nonlinear discrete-time systems. *Information and ontrol* **35** (1977), *no.* 3, 246–258. (Guy Jumarie) **58** #9555 93C10 (39A12, 58F15)

Kle, R. E. (*with* Cannon, John R.) On the observability and stability of the temperature istribution in a composite heat conductor. *SIAM J. Appl. Math.* **24** (1973), 596–602.). A. Lee) **51** #6545 49E20 (35K05)

Kle, R. L. (*with* Kasemratanasunti, W.) Implementation of non-linear estimators using uadrature formulae. *Internat. J. Control* **20** (1974), 835–848. (R. S. Bucy) **50** #4068 3E10

(*with* Wang, A. H.) Optimal discretization and updating procedures for Gauss uadrature estimators. *Proceedings of the IEEE Conference on Decision and Control cluding the 14th Symposium on Adaptive Processes* (*Houston, Tex.*, 1975), *pp.* 327–336. *nst. Electr. Electron. Engrs., New York*, 1975. (Tohru Katayama) **56** #11414 93E10 55D30)

(*with* Wang, A. H.) Gauss quadrature estimators. *IEEE Trans. Automatic Control* **C-22** (1977), *no.* 1, 70–73. (Authors' summary) **56** #8139 93E10

See also **Applications and research in information systems and sciences**, **57** #5213a

Kl, Roger W. *k*-class estimators: the optimum normalization for finite samples. *J. mer. Statist. Assoc.* **68** (1973), 445–451. (G. Tintner) **51** #7222 62P20

Kl, Ruben (*with* Giné M., Evarist) On quadratic variation of processes with Gaussian ncrements. *Ann. Probability* **3** (1975), *no.* 4, 716–721. (Simeon M. Berman) **51** #14239 60G15

A representation theorem on stationary Gaussian processes and some local properties. *Ann. Probability* **4** (1976), *no.* 5, 844–849. (Simeon M. Berman) **54** #3828 0G15

Kl, Tomáš Contact between manifolds in an affine space. (Slovak. English summary) *Mat. Časopis Sloven. Akad. Vied* **21** (1971), 131–140. (Libuše Marková) **46** #2570 53A15

A certain generalization of the theorems of Menelaos and Ceva. (Slovak. German summary) *Časopis Pěst. Mat.* **98** (1973), 22–25. (V. Volenec) **47** #5704 50B10

Certain relation between vector fields and distributions on a differentiable manifold. Loose Russian summary) *Časopis Pěst. Mat.* **101** (1976), *no.* 4, 370–374. (Jean Pradines) **56** #3873 58A30 (57D25)

K n, Vladislav The identification of linear system with a given structure by means of frequency responses. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 86, *Paper 46A*, 8 *pp. Inst. Mech. Engrs., London*, 1967. (Editors) **51** #9878 93B30

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360a

K n, Wilhelm Grundzüge einer finiten Systemtheorie. (English summary) *AEÜ–Arch. Elektron. Übertragungstech. Electron. Commun.* **28** (1974), 71–80. (Author's summary) **56** #11119 93A10

K n, William Perturbation solution of the Kirkwood-Salsburg equation. *J. Mathematical Phys.* **14** (1973), 1049–1059. (V. P. Milantiev) **52** #9928 82.45

Behavior of distribution functions in the thermodynamic limit. *J. Mathematical Phys.* **15** (1974), 1181–1185. (Chung Y. Shen) **53** #15224 82.45

Spectrum of the Kirkwood-Salsburg operator and phase transitions. *J. Mathematical Phys.* **16** (1975), 1482–1487. (J. Ginibre) **52** #12667 82.47

The Kirkwood-Salsburg equation and phase transitions. *J. Mathematical Phys.* **17** (1976), *no.* 5, 695–698. (Author's summary) **53** #7322 82.45

(*with* Grewe, N.) Rigorous derivation of the Kirkwood-Monroe equation for small activity. *J. Mathematical Phys.* **17** (1976), *no.* 5, 699–703. (Authors' summary) **53** #7323 82.45

(*with* Grewe, N.) Continuous order phase transitions on a decorated Cayley tree of connectivity two. *Z. Phys. B* **23** (1976), *no.* 2, 193–198. (Ole J. Heilmann) **54** #9503 82.05

inbaum, David G. (*with* Kupper, Lawrence L.) On testing hypotheses concerning standardized mortality ratios. *Theoret. Population Biology* **2** (1971), 290–298. (D. A. Sprott) **48** #5667 92A15

Testing linear hypotheses in generalized multivariate linear models. *Comm. Statist.* **1** (1973), 433–457. (M. J. Karson) **48** #9995 62J05 (62H15)

A generalization of the growth curve model which allows missing data. *J. Multivariate Anal.* **3** (1973), 117–124. (C. G. Khatri) **48** #5273 62H15

Kleinberg, Eugene M. Strong partition properties for infinite cardinals. *J. Symbolic Logic* **35** (1970), 410–428. (Andreas Blass) **46** #8839 04A20

(*with* Shore, Richard A.) Weak compactness and square bracket partition relations. *J. Symbolic Logic* **37** (1972), 673–676. (M. Benda) **48** #1927 02K35 (04A20)

Infinitary combinatorics. *Cambridge Summer School in Mathematical Logic* (*Cambridge*, 1971), *pp.* 361–418. *Lecture Notes in Math., Vol.* 337. *Springer, Berlin*, 1973. (Grigoriĭ V. Čudnovskiĭ) **49** #2400 04A20 (02K35)

A characterization of determinacy for Turing degree games. *Fund. Math.* **80** (1973), *no.* 3, 287–291. (C. G. Jockusch, Jr.) **48** #10787 02F30

(*with* Seiferas, Joel I.) Infinite exponent partition relations and well-ordered choice. *J. Symbolic Logic* **38** (1973), 299–308. (Andreas Blass) **49** #4782 04A20 (04A25)

Rowbottom cardinals and Jonsson cardinals are almost the same. *J. Symbolic Logic* **38** (1973), 423–427. (Keith J. Devlin) **49** #2385 02K35

A combinatorial property of measurable cardinals. *Z. Math. Logik Grundlagen Math.* **20** (1974), 109–111. (Alexander Kechris) **50** #9588 02K35 (04A20)

(*with* Henle, J. M.) A combinatorial proof of a combinatorial theorem. *Acta Math. Acad. Sci. Hungar.* **26** (1975), 3–7. (James D. Halpern) **52** #7911 04A20

(*with* Baumgartner, James E.; Harrington, Leo A.) Adding a closed unbounded set. *J. Symbolic Logic* **41** (1976), *no.* 2, 481–482. (James D. Halpern) **55** #7782 04A20 (02K05)

★Infinitary combinatorics and the axiom of determinateness. Lecture Notes in Mathematics, Vol. 612. *Springer-Verlag, Berlin-New York*, 1977. iii + 150 *pp.* *ISBN* 3-540-08440-1 (P. Štěpánek) **58** #109 02K15 (02K35, 04A20)

(*with* Abramson, Fred G.; Harrington, Leo A.; Zwicker, W. S.) Flipping properties: a unifying thread in the theory of large cardinals. *Ann. Math. Logic* **12** (1977), *no.* 1, 25–58. (Thomas J. Jech) **57** #116 02K35 (04A20)

AD⊢ "the $\aleph_n$ are Jonsson cardinals and $\aleph_\omega$ is a Rowbottom cardinal". *Ann. Math. Logic* **12** (1977), *no.* 3, 229–248. (John Hickman) **57** #9550 02K35 (04A25)

(*with* Henle, J. M.) A flipping characterization of Ramsey cardinals. *Z. Math. Logik Grundlagen Math.* **24** (1978), *no.* 1, 31–36. (Thomas J. Jech) **58** #5238 04A20 (02K35)

Kleindorfer, George B. Bounding distributions for a stochastic acyclic network. *Operations Res.* **19** (1971), 1586–1601. (Author's summary) **45** #9807 94A20

(*with* Kleindorfer, Paul R.; Kriebel, Charles H.; Thompson, Gerald L.) Discrete optimal control of production plans. *Management Sci.* **22** (1975), *no.* 3, 261–273. (D. Hochstädter) **53** #12556 90B30

Kleindorfer, Paul R. (*with* Glover, Keith) Linear convex stochastic optimal control with applications in production planning. *IEEE Trans. Automatic Control* **AC-18** (1973), *no.* 1, 56–59. (Takashi Yahagi) **55** #7549 93E20

(*with* Sertel, Murat R.) Equilibrium existence results for simple dynamic games. *J. Optimization Theory Appl.* **14** (1974), 613–631. (M. Rössler) **50** #12292 90D20

(*with* Gelders, L.) Coordinating aggregate and detailed scheduling decisions in the one-machine job shop. I. Theory. *Operations Res.* **22** (1974), *no.* 1, 46–60. (F. Giannessi) **54** #2173 90B35

(*with* Kriebel, Charles H.; Thompson, Gerald L.; Kleindorfer, George B.) Discrete optimal control of production plans. *Management Sci.* **22** (1975), *no.* 3, 261–273. (D. Hochstädter) **53** #12556 90B30

(*with* Newson, E. F. P.) A lower bounding structure for lot-size scheduling problems. *Operations Res.* **23** (1975), *no.* 2, 299–311. (Jeremy F. Shapiro) **56** #2327 90B35

(*with* Gelders, L.) Coordinating aggregate and detailed scheduling in the one-machine job shop. II. Computation and structure. *Operations Res.* **23** (1975), *no.* 2, 312–324. (F. Giannessi) **54** #2174 90B35

(*with* Elton, Edwin J.; Gruber, Martin J.) A closer look at the implications of the stable Paretian hypotheses. *Rev. Econom. Statist.* **57** (1975), 231–235. (John C. Gittins) **52** #2549 90A20

See also **Applied optimal control**, **58** #20281

Kleine-Büning, Hans (*with* Ottmann, Thomas) Kleine universelle mehrdimensionale Turingmaschinen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 4-5, 179–201. (P. C. Gilmore) **56** #15378 02F15

Kleĭnenberg, S. E. *See* **Cybernetics—in the service of Communism**, **48** #10432

Kleiner, A. F. Unbounded multipliers and summation of series. *Colloq. Math.* **28** (1973), 287–289. (W. Beekmann) **48** #11839 40C05

Kleĭner, B. G. (*with* Šindjapin, G. P.) On a certain class of exact particular solutions of the short-wave equations. *Prikl. Mat. Meh.* **34** (1970), 1150–1158 (*Russian*); *translated as J. Appl. Math. Mech.* **34** (1970), 1087–1096 (1971). (P. Germain) **47** #9946 76.35

Kleĭner, G. B. The decomposability of the elements of the exterior algebra of a free module. (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 4(160), 235–236. (Chr. U. Jensen) **45** #1897 13C10 (15A75)

Krull OP-rings are Plücker rings. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 289–307. (Chr. U. Jensen) **51** #5585 13F99

Systems of linear equations over commutative rings. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 6(174), 211–212. (C. Niţă) **52** #13878 15A06

(*with* Bromberg, G. L.; Buzova, N. I.) A model of the economic activity of a private enterprise industrial association. *Èkonom. i Mat. Metody* **10** (1974), 303–314. (A. Aganbegjan) **52** #7486 90A15

(*with* Ioffe, L. Š.; Sadovskiĭ, L. E.) The study of large-scale systems by means of the apparatus of general algebra. (Russian) Applied mathematics and transportation problems. *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp.* 473 (1974), 79–87. (From the author's text) **56** #14855 93A10

(*with* Ioffe, L. Š.) Algebraic aspects of the theory of hierarchical systems. (Russian) Applied mathematics and transportation problems. *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp.* 473 (1974), 88–98. (From the authors' introduction) **56** #14856 93A10

The reduction theorem of N. Bourbaki. (Russian) Applied mathematics and transportation problems. *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp.* 473 (1974), 156–160. (D.-M. Popescu) **54** #5215 13C10

Multivectors of rank 2. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 3(177), 207–208. (D. Ž. Đoković) **53** #495 15A75

(*with* Nikolaeva, N. L.; Zaĭdis, I. V.) Estimation of regression coefficients by the method of least squares. (Russian) *Statist. i Èlektron.-Vyčisl. Tehn. v Èkonom. No.* 8 (1975), 182–187. (Not reviewed) 62P20

(*with* Ioffe, L. Š.; Sadovskiĭ, L. E.) ★Алгебраические методы в теории больших систем (информационных, транспортных, управляющих). (Russian) [Algebraic methods in the theory of large-scale systems (information systems, transport systems, control systems)] *Moskov. Inst. Inž. Železnodorož. Transporta, Moscow*, 1976. 180 *pp.* (Jerzy Jarón) **58** #20639 93–01

(*with* Sirota, B. N.) A class of production functions. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 1, 48–55. (See RŽMat **1973** #6 V736) 90A15

(*with* Sadovskiĭ, L. E.; Ioffe, L. Š.) Questions regarding simulation of hierarchical systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 2, 14–22, 219 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977), *no.* 2, 12–19 (1978). (Authors' summary) **58** #20652 93A15 (90B10)

Realization of divisors, and factorable modules over Noetherian integrally closed rings. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 6(198), 225 (Chr. U. Jensen) **57** #5982 13A05

Kleĭner, G. V. Rank invariance of m-vectors over a commutative ring in the transition to a quotient field. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 3(195), 165. (D. Ž. Dokovič) **56** #12043 15A75

Kleĭner, Ĭ. Z. Closure operators and boundary operators in topological spaces. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 3, 387–389, 429. (M. Katětov) **58** #18318 54A05

Kleĭner, M. L. An example of a commutative atomically compact ring that is not a retract of any compact topological ring. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 8(183), 41–48. (V. N. Vizitiu) **57** #6114 16A80

Kleĭner, M. M. Partially ordered sets of finite type. (Russian) Investigations on the theory of representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **28** (1972), 32–41. (Ju. A. Drozd) **48** #10911 06A10

Faithful representations of partially ordered sets of finite type. (Russian) Investigations on the theory of representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **28** (1972), 42–59. (Ju. A. Drozd) **48** #10912 06A10

(*with* Roĭter, A. V.) Representations of differential graded categories. *Representations of algebras* (*Proc. Internat. Conf., Carleton Univ., Ottawa, Ont.*, 1974), *pp.* 316–339. *Lecture Notes in Math., Vol.* 488, *Springer, Berlin*, 1975. (C. M. Ringel) **55** #8106 16A64 (18B99)

(*with* Roĭter, A. V.) Representations of differential graded categories. (Russian) *Matrix problems* (*Russian*), *pp.* 5–70. *Akad. Nauk Ukrain. SSR Inst. Mat., Kiev*, 1977. (Sheila Brenner) **58** #28129 18D99 (15A21, 16A64)

See also **Investigations on the theory of representations, 52** #2785 (EA **52**)

Kleinerman, Jerome (*with* Liotta, Lance A.; Saidel, Gerald M.) Stochastic model of metastases formation. (French summary) *Biometrics* **32** (1976), *no.* 3, 535–550. (William H. Olson) **54** #14806 92A05

Kleinerman, Sergiu (*with* Liess, Otto) Uniqueness theorems in the Goursat problem for constant coefficient partial differential operators. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 4, 499–513. (J. Chrastina) **55** #10818 35E99

Kleinert, Andreas Zur Ballistik des Daniel Santbech. *Janus* **63** (1976), *no.* 1-3, 47–59. (J. S. Joel) **57** #15861 01A40

Kleinert, Hagen Algebra of Regge residues. *Lett. Nuovo Cimento* (2) **6** (1973), 583–586. (Not reviewed) 81.22

Bilocal form factors and Regge couplings. *Nuclear Phys.* **B65** (1973), 77–111. (E. S. Fradkin) **53** #12359 81.47

Algebra of currents and Regge couplings. With discussions. *Laws of hadronic matter* (*Internat. School Subnuclear Phys., Erice*, 1973), *pp.* 356–366. *Subnuclear Series, Vol.* 11, *Academic Press, New York*, 1975. (John McEwan) **57** #8691 81.47

Field theory of collective excitations. I. A soluble model. *Phys. Lett. B* **69** (1977), *no.* 1, 9–12. (Author's summary) **58** #8936 81.47

See also **Elementary particle physics: multiparticle aspects, 48** #1597

Kleinert, W. Bemerkungen zu einer Arbeit von Herrn G. Eisenreich. *Monatsb. Deutsch. Akad. Wiss. Berlin* **12** (1970), 759–763. (J. L. Palmquist) **45** #254 13H99

Kleinert, Werner Zur Theorie der perfekten und quasiperfekten Moduln. Beiträge zur Algebra und Geometrie, 3. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **5** (1974), 69–122. (G. Eisenreich) **52** #13794 13C10 (13H10, 14M05)

(*with* Fitzner, Heinz-Jörg; Kurke, Herbert; Pfister, Gerhard; Roczen, Marko; Zink, Thomas) Modulprobleme in der algebraischen Geometrie. I. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M* **6** *Beitr. Algebra Geom.* **4** (1975), 93–150. (J. S. Joel) **58** #10900 14D20

(*with* Fitzner, Heinz-Jörg; Kurke, Herbert; Pfister, Gerhard; Roczen, Marko; Zink, Thomas) Modulprobleme in der algebraischen Geometrie. II. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **7** (1976), 75–130. (J. S. Joel) **58** #22056 14–02 (14D20)

Kleinfeld, Erwin A generalization of commutative and associative rings. *Pacific J. Math.* **38** (1971), 95–101. (G. V. Dorofeev) **46** #5411 17E05

A generalization of commutative and alternative rings. II. *Canad. J. Math.* **24** (1972), 728–733. (M. F. Smiley) **45** #5186 (EA **46**) 17D05

Generalization of right alternative rings. *J. Algebra* **27** (1973), 604–624. (M. L. Tomber) **48** #11238 17D05

A generalization of commutative and alternative rings. III. *J. Indian Math. Soc.* (*N.S.*) **37** (1973), 55–60 (1974). (M. F. Smiley) **50** #10001 17C20

(*with* Coughlin, Raymond; Rich, Michael) Scalar dependent algebras. *Proc. Amer. Math. Soc.* **39** (1973), 69–72. (D. Rodabaugh) **47** #290 17A30

More on a generalization of commutative and associative rings. Collection of articles dedicated to the memory of Abraham Adrian Albert. *Scripta Math.* **29** *no.* 3-4, 351–357 (1973). (Ernest Stitzinger) **53** #3040 17A30

A generalization of $(-1,1)$ rings. *Pacific J. Math.* **53** (1974), 195–202. (Alekseĭ Gaĭnov) **50** #7268 17A30

A generalization of commutative and alternative rings. IV. *Proc. Amer. Math. Soc.* **46** (1974), 21–23. (M. F. Smiley) **54** #12847 17D05

(*with* Smith, Harry F.) Locally $(-1,1)$ rings. *Comm. Algebra* 3 (1975), 219–237. (I. P. Šestakov) **51** #8187 17A30

(*with* Anderson, Tim) A classification of 2-varieties. *Canad. J. Math.* **28** (1976), *no.* 2, 348–364. (C. Tsai) **53** #5676 17A05

Examples, counterexamples and the computer. *Computers in nonassociative* *and algebras* (*Special session, 82nd Annual Meeting Amer. Math. Soc., San Antonio* 1976), *pp.* 1–12. *Academic Press, New York*, 1977. (C. d'Souza) **57** #2922 (17D05)

(*with* Anderson, Tim) On a class of 2-varieties. *J. Algebra* **51** (1978), 367–374. (Ju. N. Mal'cev) **57** #9765 17A20

Kleinfeld, Margaret Humm More on a generalization of commutative and alternative *Pacific J. Math.* **56** (1975), *no.* 1, 159–170. (Ernest Stitzinger) **54** #12841 17A

A generalization of anti-commutative rings arising from 2-varieties. *Comm. A* **4** (1976), *no.* 10, 919–927. (Ernest Stitzinger) **54** #2740 17A30

Rings with $x(yz)=z(yx)$. *Comm. Algebra* **6** (1978), *no.* 13, 1369–1373. (Oda **58** #11042 17A30

Klein Haneveld, W. K. (*with* Ponstein, J.) On a general saddle-point condition in n spaces. *Math. Programming* **9** (1975), *no.* 1, 118–122. (A. D. Ioffe) **52** #4077

Kleinknecht, Reinhard Bemerkungen über eine vermeintliche Lösung des Antinomienproblems. *Z. Allgemeine Wissenschaftstheorie* **7** (1976), *no.* 1, 12 (Editors) **58** #16295a 02K15 (02A05, 02G20)

Kleinman, A. J. (*with* Kushner, Harold J.) Mathematical programming and the con Markov chains. *Internat. J. Control* (1) **13** (1971), 801–820. (D. S. Adorno) **46** #8 93E20 (90C05)

Kleinman, B. S. Gaussian transform evaluation of multicenter integrals with a shielded-Coulomb potential: $e^{-\gamma r}/r$. *J. Chem. Phys.* **49** (1968), 3323–3324. (Schulman) **47** #8031 81.33

Kleinman, David L. Stabilizing a discrete, constant, linear system with applicati iterative methods for solving the Riccati equation. *IEEE Trans. Automatic C* **AC-19** (1974), 252–254. (Arie Feuer) **54** #9789 (E **54** #12304) 93D15

Solving the optimal attention allocation problem in manual control. *IEEE T* *Automatic Control* **AC-21** (1976), *no.* 6, 813–821. (Robert J. Mulholland) **54** #9 93E99

(*with* Curry, Renwick E.) An equivalence between two representations for h attention sharing. *IEEE Trans. Systems Man Cybernet.* **SMC-6** (1976), *no.* 9, 650 (K. Nakamura) **58** #4466 92A25

See also **Barraud, Alain, 54** #12304

Kleinman, Ralph E. (*with* Keller, Joseph B.; Senior, T. B. A.) Dipole moments in Ra scattering. *J. Inst. Math. Appl.* **9** (1972), 14–22. (A. M. Sessler) **45** #8141 78.

(*with* Senior, T. B. A.) Rayleigh scattering cross sections. *Radio Sci.* **7** (1 937–942. (V. H. Weston) **48** #10315 78.35

(*with* Ahner, John F.) The exterior Neumann problem for the Helmholtz equa *Arch. Rational Mech. Anal.* **52** (1973), 26–43. (R. F. Millar) **49** #820 35J05

(*with* Hill, Robert Nyden; Pfaff, Edwin W.) Convergent long wavelength expa method for two-dimensional scattering problems. (French summary) *Canad. J. Ph* (1973), 1541–1564. (V. H. Weston) **52** #16287 78.35

(*with* Roach, Gary F.) Boundary integral equations for the three-dimensional Helmholtz equation. *SIAM Rev.* **16** (1974), 214–236. (V. Daniele) **52** #988

(*with* Kittappa, R.) Acoustic scattering by penetrable homogeneous object *Mathematical Phys.* **16** (1975), 421–432. (Y. Hayashi) **54** #4317 76.45

Iterative solutions of boundary value problems. *Function theoretic method* *partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 298- *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (S. Dümmel) **57** #67 35C10 (35J05)

(*with* Wendland, Wolfgang L.) On Neumann's method for the exterior Neu problem for the Helmholtz equation. *J. Math. Anal. Appl.* **57** (1977), *no.* 1, 170- (Rolf Leis) **55** #3518 35J05 (78.35)

(*with* Angell, Thomas S.) Optimal control problems in radiation and scatte *Symposium on Applied Mathematics* (*Delft Univ. Tech., Delft*, 1978), *pp.* 78–90. *Univ. Press, Delft*, 1978. (Authors' summary) **58** #8824 78.49

Kleinmann, P. (*with* Bank, Bernd) Note on the reduction of nonlinear integer programming to a sequence of linear integer optimization problems. (Czech summ *Ekonom.-Mat. Obzor* **11** (1975), *no.* 2, 162–164. (Authors' introduction) **57** #188 90C10

Kleinmichel, Dieter *See* **Birman, I. Ja., 53** #10268

Kleinmichel, Helmut Über die Gewinnung von Optimalitätsbedingungen für nichtkon Optimierungsaufgaben durch Lösung linearer Programme. (English and Russian summaries) *Z. Angew. Math. Mech.* **51** (1971), 587–594. (P. L. Hammer) **45** #82 90C30 (90C05)

Konvergenzaussagen und Fehlerabschätzungen für eine Klasse von Iterationsverfahren. *Beiträge Numer. Math.* **1** (1974), 61–74. (Charles W. Groet **54** #11770 65J05

(*with* Sadowski, Horst) Der verallgemeinerte RG-Algorithmus bei linearen Restriktionen, die Behandlung des Entartungsfalls und die Konvergenz des Verfahr *Beiträge Numer. Math.* 3 (1975), 37–55. (W. C. Rheinboldt) **54** #14367 65 (90C30)

Zur Konvergenz der Verfahren der zulässigen Richtungen. *Beiträge Numer. Ma* (1975), 115–117. (Siegfried Schaible) **56** #1710 65K05

(*with* Großmann, Christian) ★Verfahren der nichtlinearen Optimierung. Mit englischen und russischen Zusammenfassungen. Teubner-Texte zur Mathematik. *Teubner Verlagsgesellschaft, Leipzig*, 1976. 186 *pp.* (A. Göpfert) **55** #12101 90 (90–01)

(*with* Großmann, Christian; Vetters, K.) Minimaxprobleme und nichtlineare Optimierung. (English summary) *Z. Operations Res. Ser. A-B* **20** (1976), *no.* 1, *A*23–*A*38. (Peter Kall) **53** #2373 90C30 (49A40)

Kleinpenning, T. G. M. *See* **Proceedings: International Conference on Physical Aspect Noise in Solid State Devices, 53** #2253

Kleinrock, Leonard (*with* Muntz, Richard R.; Hsu, Jiunn) Tight bounds on the aver response time for time-shared computer systems. *Information processing* 71 (*Proc. I Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems*, *pp.* 124–133. *North-Holl Amsterdam*, 1972. (Masafumi Sasaki) **53** #10252 90B35 (68A99)

(*with* Fràtta, Luigi; Gerla, Mario) The flow deviation method: An approach store-and-forward communication network design. *Networks* **3** (1973), 97–133. (Authors' summary) **47** #1549 94A20 (*with* Kamoun, Farouk) Analysis of shared storage in a computer network vironment. *Proceedings of the Ninth Hawaii International Conference on System iences* (*Univ. Hawaii, Honolulu, Hawaii*, 1976), *pp*. 89–92. *Western Periodicals, North ollywood, Calif*., 1976. (Authors' summary) **57** #2762 94A20 (90B10, 68A99)

(*with* Kamoun, Farouk) Hierarchical routing for large networks. Performance aluation and optimization. *Comput. Networks* **1** (1976/77), *no*. 3, 155–174. (I. T. isch) **56** #11583 94A20

(*with* Gerla, Mario) On the topological design of distributed computer networks. pecial issue on computer communications. *IEEE Trans. Comm*. **COM-25** (1977), *no*. 1, –60. (Kenji Onaga) **56** #8193 94A20

Kleschmidt, Peter (*with* Ewald, Günther; Schulz, Christoph) Kombinatorische lassifikation symmetrischen Polytope. *Abh. Math. Sem. Univ. Hamburg* **45** (1976), 1–206. (G. T. Sallee) **54** #3587 52A25

Eine graphentheoretische Kennzeichnung der Stapelpolytope. *Arch. Math.* (*Basel*) (1976), *no*. 6, 663–667. (E. Jucovič) **57** #13700 52A25 (05C10)

Sphären mit wenigen Ecken. *Geometriae Dedicata* **5** (1976), *no*. 3, 307–320. (H. E. ebrunner) **58** #12728 52A25

(*with* Kind, Bernd) On the maximal volume of convex bodies with few vertices. *J. ombinatorial Theory Ser. A* **21** (1976), *no*. 1, 124–128. (P. R. Goodey) **53** #11500 A40

On facets with non-arbitrary shapes. *Pacific J. Math*. **65** (1976), *no*. 1, 97–101. (E. ucovič) **54** #13724 52A25

Konvexe Realisierbarkeit symmetrischer Sphären. *Arch. Math.* (*Basel*) **28** (1977), . 4, 433–435. (Bernd Kind) **57** #13964 57C05 (52A25)

Nicht-dualisierbare Sphären. *Geometriae Dedicata* **6** (1977), *no*. 4, 511–515. (G. wald) **58** #7397 52A25 (05C10)

Regular partitions of regular graphs. *Canad. Math. Bull*. **21** (1978), *no*. 2, 177–181. . Barnette) **58** #12729 52A25 (05C99)

Klštein, E. P. Line congruences in the space $R_n^{1(n-1)}$. (Russian) *Latviĭsk. Gos. Univ. Včen. Zap*. **204** *Bezrazmernoe, Evklidovo i Poluevklidovy Prostranstva No*. 3 (1974), 2–57. (RŽMat **1974** #12 A432) **58** #2609 53A15

Klstück, Gert Duals of weighted spaces of continuous functions. *Function spaces and ense approximation* (*Proc. Conf., Univ. Bonn, Bonn*, 1974), *pp*. 98–114. *Bonn. Math. chriften, No*. 81, *Inst. Angew. Math., Univ. Bonn, Bonn*, 1975. (Denny Gulick) 7 #7130 46E10 (41A65)

Der beschränkte Fall des gewichteten Approximations problems für vektorwertige unktionen. (English summary) *Manuscripta Math*. **17** (1975), *no*. 2, 123–149. (W. H. ummers) **53** #11364 46E40 (41A65)

Kli, Heinrich ★Resolutions in additive and non-additive categories. Queen's Papers in ure and Applied Mathematics, No. 32. *Queen's University, Kingston, Ont*., 1973. ii + 209 *pp*. (M. Barr) **50** #4703 18E05

On the construction of standard complexes. *J. Pure Appl. Algebra* **4** (1974), 43–260. (R. Fritsch) **50** #4698 18C15

Klman, Daniel J. Collections of subsets containing no two sets and their union. *ombinatorics* (*Proc. Sympos. Pure Math., Vol. XIX, Univ. California, Los Angeles, alif*., 1968), *pp*. 153–155. *Amer. Math. Soc., Providence, R.I*., 1971. (R. E. Greenwood) 7 #6496 05A05

(*with* Heilmann, Ole J.; Lieb, Elliott H.; Sherman, Seymour) Some positive definite functions on sets and their application to the Ising model. *Discrete Math*. **1** 1971/72), *no*. 1, 19–27. (T. Arai) **46** #10342 82.05 (05A05)

(*with* Edelberg, M.; Lubell, D.) Maximal sized antichains in partial orders. *Discrete Math*. **1** (1971/72), *no*. 1, 47–53. (R. P. Dilworth) **45** #5034 06A10

An algorithm for certain multi-commodity flow problems. *Networks* **1** (1971/72), 75–90. (Author's summary) **45** #4810 90B10

(*with* Krieger, Michael M.; Rothschild, B. L.) Configurations maximizing the number of pairs of Hamming-adjacent lattice points. *Studies in Appl. Math* **50** (1971), 115–119. (W. G. Brown) **47** #54 05B30 (94A10)

How many sums of vectors can lie in a circle of diameter $\sqrt{2}$? *Advances in Math*. **9**, 296–298 (1972). (G. D. Chakerian) **47** #4811 05A15 (52A40)

(*with* Lewin, Mordechai) Another proof of a result of Perry on chains of finite sets. *Amer. Math. Monthly* **79** (1972), 152–154. (J. E. Graver) **46** #71 05A05

(*with* Rothschild, B. L.) A generalization of Kaplansky's game. *Discrete Math*. **2** (1972), 173–178. (R. K. Guy) **46** #8873 05B30

Finding uncomplemented trees. *Studies in Appl. Math*. **51** (1972), 309–310. (J. Sedláček) **50** #152 05C05

Some combinatorial construction problems. *Combinatorial algorithms* (*Courant Comput. Sci. Sympos. 9, New York*, 1972), *pp*. 97–108. *Algorithmics Press, New York*, 1973. (R. J. Wilson) **50** #4399 05C99

(*with* Wang, D. L.) Algorithms for constructing graphs and digraphs with given valences and factors. *Discrete Math*. **6** (1973), 79–88. (S. L. Hakimi) **48** #5901 05C20

(*with* Milner, E. C.) On the average size of the sets in a Sperner family. *Discrete Math*. **6** (1973), 141–147. (N. S. Mendelsohn) **49** #2407 05A05

(*with* Spencer, Joel) Families of k-independent sets. *Discrete Math*. **6** (1973), 255–262. (G. F. Clements) **48** #1934 05A05

(*with* Wang, D. L.) On the existence of n-connected graphs with prescribed degrees $(n > 2)$. *Networks* **3** (1973), 225–239. (S. Znám) **49** #4874 05C99

(*with* Claus, A.) Cost allocation for a spanning tree. *Networks* **3** (1973), 289–304. (Author's summary) **48** #3469 90B05

(*with* Graham, R. L.) Increasing paths in edge ordered graphs. Collection of articles dedicated to the memory of Alfréd Rényi, II. *Period. Math. Hungar*. **3** (1973), 141–148. (J. W. Moon) **48** #5910 05C35

(*with* Hsieh, W. N.) Normalized matching in direct products of partial orders. *Studies in Appl. Math*. **52** (1973), 285–289. (Harald Scheid) **53** #7870 06A10

(*with* Barnett, Arnold) Optimal scheduling policies for some simple transportation systems. *Transportation Sci*. **7** (1973), 85–99. (H. Taylor) **49** #12064 90B15

On an extremal property of antichains in partial orders. The LYM property and some of its implications and applications. *Combinatorics* (*Proc. NATO Advanced Study Inst., Breukelen*, 1974), *Part 2: Graph theory; foundations, partitions and combinatorial geometry*, *pp*. 77–90. *Math. Centre Tracts, No*. 56, *Math. Centrum, Amsterdam*, 1974. (Harald Scheid) **50** #12829 06A10

(*with* Erdős, Paul) Extremal problems among subsets of a set. *Discrete Math*. **8** (1974), 281–294. (J. E. Graver) **48** #10821 05A05

(*with* Magnanti, T. L.) On the number of latent subsets of intersecting collections. *J. Combinatorial Theory Ser. A* **16** (1974), 215–220. (Václav Chvátal) **48** #8248 05A05

(*with* Wang, D. L.) A note on n-edge-connectivity. *SIAM J. Appl. Math*. **26** (1974), 313–314. (F. Harary) **49** #10613 05C99

A note on perfect elimination digraphs. *SIAM J. Comput*. **3** (1974), 280–282. (Author's summary) **56** #5351 05C20

(*with* Greene, Curtis; Magnanti, T. L.) Complementary trees and independent matchings. *Studies in Appl. Math*. **53** (1974), 57–64. (N. J. A. Sloane) **49** #8887 05B35

(*with* Halász, Sylvia) A note on random triangles. *Studies in Appl. Math*. **53** (1974), 225–237. (H. Groemer) **50** #11367 60D05

(*with* Krieger, Michael M.) An optimal bound for two dimensional bin packing. *16th Annual Symposium on Foundations of Computer Science* (*Berkeley, Calif*., 1975), *pp*. 163–168. *IEEE Computer Society, Long Beach, Calif*., 1975. (Witold Lipski) **54** #11176 52A45 (68A10, 90B05)

The number of Sperner families of subsets of an n element set. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. II*, 989–1001. *Colloq. Math. Soc. János Bolyai, Vol*. 10, *North-Holland, Amsterdam*, 1975. (Ian Anderson) **51** #7885 05A05

Extremal properties on partial orders. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C*., 1974), *Vol*. 2, *pp*. 465–469. *Canad. Math. Congress, Montreal, Que*., 1975. (Dennis White) **55** #5487 06A10

(*with* Greene, Curtis; Katona, Gyula) Extensions of the Erdős-Ko-Rado theorem. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp*. 223–231. *Academia, Prague*, 1975. (P. Erdős) **53** #2694 05A05

Algorithms. *Advances in Math*. **16** (1975), 233–245. (Claude Benzaken) **51** #7361 68A10

(*with* Golden, B.) Counting trees in a certain class of graphs. *Amer. Math. Monthly* **82** (1975), 40–44. (J. W. Moon) **51** #257 05C30

(*with* Bird, Elliott; Greene, Curtis) Automorphisms of lexicographic products. *Discrete Math*. **11** (1975), 191–198. (Hugo S. Sun) **51** #3279 20B25

(*with* Li, S.-Y.) A note on unigraphic sequences. *Studies in Appl. Math*. **54** (1975), *no*. 4, 283–287. (Author's review) **58** #5400 05C99

A note on some subset identities. *Studies in Appl. Math*. **54** (1975), *no*. 4, 289–292. (Author's summary) **56** #8386 05A19

(*with* Rothschild, B. L.) Asymptotic enumeration of partial orders on a finite set. *Trans. Amer. Math. Soc*. **205** (1975), 205–220. (D. A. Klarner) **51** #5326 05A15 (06A10)

(*with* Markowsky, G.) On Dedekind's problem: the number of isotone Boolean functions. II. *Trans. Amer. Math. Soc*. **213** (1975), 373–390. (O. Frink) **52** #2995 06A35 (05A15)

(*with* Erdős, Paul; Rothschild, B. L.) Asymptotic enumeration of K_n-free graphs. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Rome*, 1973), *Tomo II*, *pp*. 19–27. *Atti dei Convegni Lincei, No*. 17, *Accad. Naz. Lincei, Rome*, 1976. (J. Spencer) **57** #2984 05C30

Algorithms. *Surveys in applied mathematics* (*Proc. First Los Alamos Sympos. Math. in Natural Sci., Los Alamos, N.M*., 1974), *pp*. 89–101. *Academic Press, New York*, 1976. (Editors) **58** #32035 68A10

More on complementary trees. *Discrete Math*. **15** (1976), *no*. 4, 373–378. (Curtis Greene) **54** #5024 05C05

(*with* Greene, Curtis) The structure of Sperner k-families. *J. Combinatorial Theory Ser. A* **20** (1976), *no*. 1, 41–68. (Ralph Freese) **53** #2695 05A05 (06A20)

(*with* Greene, Curtis) Strong versions of Sperner's theorem. *J. Combinatorial Theory Ser. A* **20** (1976), *no*. 1, 80–88. (H. L. Abbott) **52** #10439 05A05

Some new results on the Littlewood-Offord problem. *J. Combinatorial Theory Ser. A* **20** (1976), *no*. 1, 89–113. (Ian Anderson) **52** #13409 05A15

Extremal properties of collections of subsets containing no two sets and their union. *J. Combinatorial Theory Ser. A* **20** (1976), *no*. 3, 390–392. (H. L. Abbott) **53** #12961 05A05

(*with* Kwiatkowski, D. J.) A lower bound on the length of a sequence containing all permutations as subsequences. *J. Combinatorial Theory Ser. A* **21** (1976), *no*. 2, 129–136. (Stephen Tanny) **54** #4995 05A05

(*with* Clapham, C. R. J.) The degree sequences of self-complementary graphs. *J. Combinatorial Theory Ser. B* **20** (1976), *no*. 1, 67–74. (Da-Lun Wang) **54** #7314 05C99

A note on the parity of the number of crossings of a graph. *J. Combinatorial Theory Ser. B* **21** (1976), *no*. 1, 88–89. (Richard K. Guy) **55** #12556 05C10

(*with* Rothschild, Bruce R.; Spencer, Joel) The number of semigroups of order n. *Proc. Amer. Math. Soc*. **55** (1976), *no*. 1, 227–232. (A. Gewirtz) **54** #2483 (EA **54**) 05A15 (20M99)

(*with* Wang, D. L.) Decomposition of a graph realizing a degree sequence into disjoint spanning trees. *SIAM J. Appl. Math*. **30** (1976), *no*. 2, 206–221. (F. Harary) **55** #192 05C99

(*with* Greene, Curtis; Katona, Gyula) Extensions of the Erdős-Ko-Rado theorem. *Studies in Appl. Math*. **55** (1976), *no*. 1, 1–8. (P. Erdős) **56** #15438 05A05

(*with* Furry, W. H.) Maximal rectilinear crossing of cycles. *Studies in Appl. Math*. **56** (1976/77), *no*. 2, 159–167. (Richard K. Guy) **58** #27584 05C10 (50B10)

(*with* Griggs, J. R.) A three part Sperner theorem. *Discrete Math*. **17** (1977), *no*. 3, 281–289. (Harald Scheid) **55** #12582 06A10

(*with* Koren, M.; Li, S.-Y. R.) On the existence of simultaneous edge disjoint realizations of degree sequences with "few" edges. *SIAM J. Appl. Math*. **32** (1977), *no*. 3, 619–626. (Sukhamay Kundu) **57** #5799 05C05

(*with* Chaiken, S.) Matrix tree theorems. *J. Combinatorial Theory Ser. A* **24** (1978), *no*. 3, 377–381. (R. C. Read) **58** #314 05C05

(*with* Barnett, Arnold) On two-terminal control of a shuttle service. *SIAM J. Appl. Math*. **35** (1978), *no*. 2, 229–234. (Anthony Ephremides) **58** #9598 93C99

Klement'ev, A. A. (*with* Petrovskiĭ, A. M.; Maslov, E. P.; Jašin, A. I.) Control of stochastic processes when the duration of the control interval can be regulated. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 226–236, 479. *Izdat. "Nauka", Moscow*, 1972. (V. Kolmanovsky) **51** #7690 93E20

Klement'ev, A. F. Improvement of the conditions for the stability of difference schemes of increased accuracy for the heat equation by the "vanishing viscosity" method. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1316–1319. (A. Ženíšek) **49** #6641 65N10

(*with* Kondrat'eva, G. A.) The regularization of an explicit difference scheme of increased accuracy for the multidimensional heat equation. (Russian) *Differencial'nye Uravnenija* **10** (1974), 355–357, 375. (T. Styś) **49** #6637 65N05

Klement'ev, Z. I. On the theory of measurable functions with respect to a measure in a Boolean algebra, and on the theory of an integral with values in a partially ordered *K*-space. (Russian) *Trudy Tomsk. Gos. Univ.* **163** (1963), 6–18. (Beloslav Riečan) **52** #14228 28A55

(*with* Ždanova, N. F.) On the question of the application of functional analysis to measure theory. (Russian) *Trudy Tomsk. Gos. Univ.* **163** (1963), 19–22. (Beloslav Riečan) **52** #14229 28A55

On defining the length of a curve in an abstract metric space. (Russian) *Trudy Tomsk. Gos. Univ.* **163** (1963), 23–25. (Beloslav Riečan) **52** #14238 28A75

On the question of presenting the theory of the Lebesgue integral. (Russian) *Trudy Tomsk. Gos. Univ.* **253** *Voprosy Mat. Vyp.* 5 (1974), 3–22. (*loose errata*) (Beloslav Riečan) **55** #3205 28A30

★Лекции по математическому анализу. (Russian) [Lectures on mathematical analysis] Вып. 1. Теория действительного числа и ее применения. [No. 1. Theory of the real number, and its applications] *Izdat. Tomsk. Univ., Tomsk*, 1975. 98 *pp.* (From the author's preface) **56** #3201 26–01

(*with* Efremova, I. P.) On the theory of abstract integrals on lattices. (Russian) Mathematical questions, No. 3. *Trudy Tomsk. Gos. Univ.* **220** (1975), 3–15. (See RŽMat **1975** #12 B978; MR **53** #5220) 28A55

The completeness of a metric space with a vector-valued measure. (Russian) Mathematical questions, No. 3. *Trudy Tomsk. Gos. Univ.* **220** (1975), 44–45. (Z. Lipecki) **53** #13511 28A45

See also **Mathematical questions**, **53** #5220

Klemke, Dieter Ein Henkin-Beweis für die Vollständigkeit eines Kalküls relativ zur Grzegorczyk-Semantik. *Arch. Math. Logik Grundlagenforsch.* **14** (1971), 148–161. (D. Nelson) **47** #8253 02C15 (02G20)

Klemm, Friedrich Geschichte der naturwissenschaft-lichen und technischen Museen. *Deutsches Museum-Abh. und Ber.* **41** (1973), *no.* 2, 59 *pp.* (Editors) **52** #13128 01A05

Klemm, H. On the operating characteristic "service level". *Inventory control and water storage* (*Proc. Conf., Győr*, 1971), *pp.* 169–178. *Colloq. Math. Soc. János Bolyai, No.* 7, *North-Holland, Amsterdam*, 1973. (H.-J. Girlich) **48** #10452 90B05

Klemm, Michael Charakterisierung der Gruppen PSL$(2,p^f)$ und PSU$(3,p^{2f})$ durch ihre Charaktertafel. *J. Algebra* **24** (1973), 127–153. (A. Dress) **47** #3554 20G05

Über die Reduktion von Permutationsmoduln. *Math. Z.* **143** (1975), *no.* 2, 113–117. (Peter M. Neumann) **52** #544 20B20

Über Charaktere mehrfach transitiver Gruppen. *Arch. Math.* (*Basel*) **27** (1976), *no.* 3, 241–248. (Jürgen Tappe) **54** #382 20B20

Permutationscharaktere und irreduzible Charaktere der symmetrischen Gruppe. *Mitt. Math. Sem. Giessen Heft* 121 (1976), 59–64. (D. Ž. Doković) **58** #5888 20C30

Charaktere mehrfach transitiver Permutationsgruppen. *Combinatoire et représentation du groupe symétrique* (*Actes Table Ronde CNRS, Univ. Louis-Pasteur Strasbourg, Strasbourg*, 1976), *pp.* 281–286. *Lecture Notes in Math., Vol.* 579, *Springer, Berlin*, 1977. (Jürgen Tappe) **57** #9819 20C15 (20B20)

Tensorprodukte von Charakteren der symmetrischen Gruppe. *Arch. Math.* (*Basel*) **28** (1977), *no.* 5, 455–459. (D. Z. Doković) **56** #15753 20C30

Primitive Permutationsgruppen von Primzahlpotenzgrad. *Comm. Algebra* **5** (1977), *no.* 2, 193–205. (Wolfgang Knapp) **56** #3099 20B20

Über den Vertauschungsring von Permutationsgruppen. *Comm. Algebra* **5** (1977), *no.* 3, 305–318. (Jürgen Tappe) **55** #3048 20B99

Klemm, P. (*with* Woźniak, Czesław) Non-linear theory of discrete Cosserat media. II. Special problems. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 201–207. (M. N. L. Narasimhan) **49** #10227 73.35

Klemm, R. J. (*with* Sposito, Vincent; Pyne, David A.) Useful least squares solutions over inequality restrictions. *J. Statist. Res.* **8** (1974), *no.* 2, 80–95. (Federico O'Reilly) **53** #4392 62J05

Klemm, Richard A. Detection of a coherent signal of known phase. *Information and Control* **28** (1975), 35–53. (Carl W. Helstrom) **54** #4806 (E **58** #33485) 94A05

(*with* Fields, J. N.) Classical calculation of correlation functions in a one-dimensional Fermi gas. *Phys. Rev. B* (3) **16** (1977), *no.* 11, 4841–4845. (P. Achuthan) **57** #2262 81.34

See also **Helstrom, Carl W.**, **58** #33485

Klemm, Uwe *See* **Whitesitt, J. Eldon**, **49** #10543 *and* **Whitesitt, J. Eldon**, **49** #10544

Klemola, Tapio On transportable forms. *Canad. Math. Bull.* **15** (1972), 93–101. (M. F. Atiyah) **47** #5306 32L10 (58A10)

See also **Rencontre: Analyse Complexe à Plusieurs Variables et les Systèmes Surdéterminés**, **55** #3292

Klenina, L. I. The solvability of the Cauchy-Dirichlet problem for nonlinear elliptic equations of infinite order. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 1, 27–29. (Ja. A. Roĭtberg) **54** #730 35J99

Klenk, Virginia ★Wittgenstein's philosophy of mathematics. *Martinus Nijhoff, The Hague*, 1976. viii + 128 *pp.* (Paul Ernest) **57** #15940 02A05

Intended models and the Löwenheim-Skolem theorem. *J. Philos. Logic* **5** (1976), *no.* 4, 475–489. (H.-D. Ebbinghaus) **58** #10274 02A05

Klenov, G. È. (*with* Iossel', Ju. Ja.; Pavlovskiĭ, R. A.) An approximate method of solving stationary heat conduction problems with mixed boundary conditions of the third kind. *Inž.-Fiz. Ž.* **27** (1974), *no.* 3, 507–512 (*Russian*); *translated as J. Engrg. Phys.* **27** (1974), *no.* 3, 1133–1137 (1976). (C. R. Illingworth) **53** #2156 80.65

(*with* Barnett, Arnold) Some optimization problems with bulk-service q s. *Studies in Appl. Math.* **58** (1978), *no.* 3, 277–290. (Richard F. Serfozo) **57** #1 60K25

See also **Problems: Infinite sets**, **52** #114; **Combinatorics**, **52** #7912 *and* ős, **Paul; et al.**, **54** #2470

Kleiza, Jonas Solution of a system of linear partial differential equations by Di let series. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), 4, 87–97, 235. (A. Haimovici) **47** #7194 35C10 (30A16)

Approximation of the solutions of a homogeneous system of differential equ ns. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 4 (1973), 31– 39. (J. Chrastina) **50** #10504 35A35 (35E99)

Approximation of the solutions of a system of differential equations with r lar singularities. (Russian. Lithuanian and English summaries) *Differencial'nye Uravn i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 7 (1974), 26, 155. (J. Chrastina) **50** #10500 35A20

(*with* Kleiza, Vytautas) A mathematical formulation of the problem of deter ng the magnetic field that arises in an electro-optic system. (Russian. Lithuania nd English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Pr sy Optimal. Upravlenija I Sekcija No.* 13 (1975), 61–70, 87 (1976). (See Zbl **339** #35(78.35

On sufficient conditions for the Cauchy problem in a real domain to be well- d. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), 1. 139–144, 249. (J. Chrastina) **54** #5597 35A10

The representation of the solution of a Cauchy problem by a Hartogs s. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no.* 3, 6 1, 232. (J. Chrastina) **54** #10640 32A05 (35C10)

Kleiza, Vytautas Sufficient conditions for the applicability of the Monte Carlo meth to solution of systems of nonlinear equations. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 2, 57–63, 201. (G. Vainikko) **47** #6 65H10

Solution of nonlinear difference equations by the Monte Carlo method. (Ru n. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.— y Sem. Processy Optimal. Upravlenija. I Sekcija No.* 3 (1973), 51–67, 101. (C.) **51** #2245 65C05 (65Q05)

Error estimation of the Monte Carlo Method in the solution of systems of nonl r equations. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **13** ( ). *no.* 1, 79–86, 232. (G. Vainikko) **47** #6083 65H10

An algorithm of the Monte Carlo method for the solution of a nonlinear differ al equation. (Russian. Lithuanian and English summaries) *Differencial'nye Uravne Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 7 (1974), 9–20 5. (C. Ilioi) **51** #2246 65C05

On the estimation of the probability of error of the rough Monte Carlo me l. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 10 (1974), 4 117 (1975). (Not reviewed) 65C05

The asymptotic representation of inverse functions. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Pro Optimal. Upravlenija I Sekcija Vyp.* 13 (1975), 51–60, 87 (1976). (Author's summ) **58** #31733 65D15

(*with* Kleiza, Jonas) A mathematical formulation of the problem of determinin magnetic field that arises in an electro-optic system. (Russian. Lithuanian and En summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Opt Upravlenija I Sekcija No.* 13 (1975), 61–70, 87 (1976). (See Zbl **339** #35036)

A numerical criterion for the uniqueness of the solution of systems of algebraic transcendental equations. (Russian. Lithuanian and English summaries) *Litovsk. Sb.* **15** (1975), *no.* 3, 133–137, 229. (S. Măruşter) **55** #4597 65C05 (65H10)

Simulation of a nonlinearity by a sequence of Markov chains. (Russian. Lithua and English summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 4, 125–131, 245. (R. S. G) **53** #11961 65C05

Calculation of the inverse functions by the Monte Carlo method. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no.* 2, 117– 242–243. (V. Dupač) **56** #7103 65C05

Solution of functional equations by the Monte Carlo method. (Russian. Lithua and English summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 1, 127–131, 213. (V. Du **56** #7104 65C05

Klema, V. C. (*with* Smith, B. T.; Boyle, J. M.; Dongarra, J. J.; Garbow, B. S.; Ik Yasuhiko; Moler, Cleve B.) ★Matrix eigensystem routines—EISPACK guide. Sec edition. Lecture Notes in Computer Science, Vol. 6. *Springer-Verlag, Berlin-New Y* 1976. ix + 551 *pp. ISBN* 3-540-07546-1 (Editors) **58** #13662a 65F15 (65–04)

Klembara, Michael A. (*with* Parker, Donald B.) Intersections of normally contained Fit classes. *Rev. Colombiana Mat.* **11** (1977), *no.* 1-4, 113–119. (Hartmut Laue) **58** #2 20D10

Klembeck, Paul F. On Geroch's counterexample to the algebraic Hopf conjecture. *P Amer. Math. Soc.* **59** (1976), *no.* 2, 334–336. (Bruce L. Reinhart) **55** #1250 53C

Function theory on complete open Hermitian manifolds. *Several complex varia* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 2, *Williams Coll., Williamstown, M* 1975), *pp.* 111–114. *Amer. Math. Soc., Providence, R.I.*, 1977. (M. L. Gromov) **57** # 32C10 (53C55)

Geodesic convexity and plurisubharmonicity on Hermitian manifolds. *Math. A* **226** (1977), *no.* 3, 237–245. (Tosiaki Kori) **56** #671 32F05

A complete Kähler metric of positive curvature on C^n. *Proc. Amer. Math. Soc.* (1977), *no.* 2, 313–316. (Aurel Bejancu) **56** #676 32F99 (53C55)

Kähler metrics of negative curvature, the Bergmann metric near the boundary, a the Kobayashi metric on smooth bounded strictly pseudoconvex sets. *Indiana U Math. J.* **27** (1978), *no.* 2, 275–282. (H. Wu) **57** #3455 32F15 (32H15, 53C55)

Klement, Heinz Involutorische Funktionen in der Analysis. *Praxis Math.* **18** (1976), *no.* 85–89. (RŽMat **1976** #11 B4) **58** #6091 26–01

Reelle Funktionen als Hüllenoperationen. *Praxis Math.* **19** (1977), *no.* 5, 113–1 (J. S. Lipiński) **55** #8269 26A03

Kl v, V. I. (*with* Lizarev, A. D.) A certain generalization of the hypergeometric uation. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 12, 2170–2174, 2299. Hans-Jürgen Glaeske) **55** #10740 33A30 (34A25)

(*with* Lizarev, A. D.) A class of equations integrable in generalized hypergeometric nctions. (Russian) *Mat. Fiz. Vyp.* 23 (1978), 67–74, 114. (Authors' summary) #17244 33A30

Kl e, Hans Deformation of schemes defined by vanishing of Pfaffians. *J. Algebra* **53** 978), *no.* 1, 84–92. (Tomás Sánchez Giralda) **58** #16657 14D15

Kl e, Jan ★Deformations of graded algebras. Mathematics Preprint Series, No. (1975). *Matematisk Institutt, Universitetet i Oslo, Oslo*, 1975. i+46 *pp.* (Not reviewed) 16A78

Kl er, L. Ja. (*with* Oleĭnik-Ovod, Ju. A.) Selection of optimal dynamic conditions for diation of malignant tumors. (Russian. English summary insert) *Kibernetika* (*Kiev*) **968**, *no.* 6, 93–98. **45** #8307 92A05

Kl ner, Adam (*with* Lipsman, Ronald L.) The Plancherel formula for group extensions. II. *Ann. Sci. École Norm. Sup.* (4) **5** (1972), 459–516; *ibid.* (4) **6** (1973), 103–132. (G. . Mackey) **49** #7387 22D10 (22E45)

(*with* Lipsman, Ronald L.) Group extensions and the Plancherel formula. *armonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, illiams Coll., Williamstown, Mass.*, 1972), *pp.* 235–238. *Amer. Math. Soc., Providence, .I.*, 1973. (Editors) **48** #11390 22D10 (43A30)

(*with* Baggett, Larry) Multiplier representations of abelian groups. *J. Functional nalysis* **14** (1973), 299–324. (R. C. Busby) **51** #791 22D12

Continuity and measurability of multiplier and projective representations. *J. unctional Analysis* **17** (1974), 214–226. (R. C. Busby) **51** #790 22D12

Kl ein, Joseph B. (*with* Greenwell, D. L.; Hemminger, Robert L.) Forbidden subgraphs. *roceedings of the Fourth Southeastern Conference on Combinatorics, Graph Theory and omputing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1973), 389–394. *Utilitas Math., innipeg, Man.*, 1973. (L. W. Beineke) **50** #6924 05C99

Characterizing line dipseudographs. *Proceedings of the Sixth Southeastern onference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca aton, Fla.*, 1975), *pp.* 429–442. *Congressus Numerantium, No. XIV, Utilitas Math., innipeg, Man.*, 1975. (G. Chartrand) **53** #190 05C20

(*with* Hemminger, Robert L.) Line pseudo-digraphs. *J. Graph Theory* **1** (1977), *no.* , 365–377. (L. W. Beineke) **57** #5812 05C20

Hamiltonian cycles in Cayley color graphs. *J. Graph Theory* **2** (1978), *no.* 1, 65–68. A. T. White) **58** #5350 05C25

Kl ev, A. S. *See* **Theory of languages and methods of construction of programming ystems**, **48** #7682

K ov, V. V. (*with* Vasil'ev, V. Ī.; Zaharov, Ju. E.; Kanatov, Ī. Ī.; Konovalenko, V. V.) nalysis and classification of situations generated by random processes using the group ethod of data handling. *Avtomatika* **1975**, *no.* 1, 57–65 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 1, 46–53. Authors' summary) **54** #8983 62H30

K ova, L. M. The tensor product of two irreducible unitary representations of the semidirect product MO(n, 1) = SO(n, 1) ⓢ R^{n+1}. (Russian) *Functional analysis, No. 9: Harmonic analysis on groups* (*Russian*), *pp.* 61–70. *Ul'janovsk. Gos. Ped. Inst., Ul'yanovsk*, 1977. (J. Niederle) **58** #6077 22E45

K sig, R. W. (*with* Polak, Elijah) Efficient implementations of the Polak-Ribière conjugate gradient algorithm. *SIAM J. Control* **10** (1972), 524–549. (H. Schwetlick) **48** #10109 65K05

(*with* Polak, Elijah) A method of feasible directions using function approximations, with applications to min max problems. *J. Math. Anal. Appl.* **41** (1973), 583–602. (V. Ionescu) **50** #1727 90C30

(*with* Polak, Elijah) An adaptive precision gradient method for optimal control. *SIAM J. Control* **11** (1973), 80–93. (Katsutoshi Tamura) **53** #9638 65K05

An algorithm for nonlinear multicommodity flow problems. *Networks* **4** (1974), 343–355. (Thomas L. Magnanti) **56** #7899 90B10 (94A05, 90C35)

A general theory of convergence for constrained optimization algorithms that use antizigzagging provisions. *SIAM J. Control* **12** (1974), 598–608. (Y. Cherruault) **50** #15335 65K05

K stov, E. A. (*with* Sirazetdinov, T. K.) A method of distributed moments in time-optimal problems. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 130 (1971), 33–41. (N. N. Petrov) **46** #9840 49B35

(*with* Sirazetdinov, T. K.) Problem of optimal response-time in distributed systems with random properties. *Avtomat. i Telemeh.* **1972**, *no.* 3, 35–42 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 3, *part* 1, 377–383. (N. U. Ahmed) **53** #12723 93E20

tte, Reinhard Erkennung allgemein rekursiver Funktionen. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **12** (1976), *no.* 4-5, 227–243. (G. Wechsung) **54** #2435 02F20 (68A10)

Indexmengen und Erkennung rekursiver Funktionen. *Z. Math. Logik Grundlagen Math.* **22** (1976), *no.* 3, 231–238. (Zbl **356** #02036) **58** #21526 02F20 (68A20)

(*with* Goetze, Bernhard G.; Gillo, D.) Der iterierte Limes rekursiver Funktionen und die arithmetische Hierarchie. *Z. Math. Logik Grundlagen Math.* **23** (1977), *no.* 3, 265–272. (Authors' summary) **58** #16235 02F35

tzing, Dennis R. (*with* Dress, Andreas W. M.) On prime ideals in representation rings. *Math. Z.* **133** (1973), 285–300. (I. Reiner) **48** #11266 20C05

vačev, B. I. The solution of a fractional linear programming problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 6, 27–31. (R. Smolkin (RŽMat **1969** #6 V337)) **46** #1349 90C30

vačev, V. I. Certain systems that are complete in P_k. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1970**, *no.* 5, 139–140. (I. G. Rosenberg) **45** #3169 02C05 (94A30)

Criteria for the completeness of permutation systems that contain transpositions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 6, 143–144. (József Pelikán) **48** #6221 20B10

Tests for completeness in a symmetric group of finite degree. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 3, 22–25. (Václav E. Beneš) **54** #7594 20B05

evčeni, A. S. *See* **Logic**, **55** #7717

Kleven, D. J. Morley's theorem and a converse. *Amer. Math. Monthly* **85** (1978), *no.* 2, 100–105. (L. M. Kelly) **57** #7356 50B99

Klevenskiĭ, A. E. An invariant model for transforming the shape of the cross-section of engineering objects when using the kinematic method for the simulation of geometric concepts on a computer. (Russian) *Computer science in mechanical engineering* (*Russian*), *pp.* 41–50. *Akad. Nauk Beloruss. SSR Inst. Tehn. Kibernet., Minsk*, 1971 (1972). (Author's summary) **50** #15481 68A55

Klevorick, Alvin K. (*with* Baumol, William J.) Input choices and rate-of-return regulation: An overview of the discussion. *Bell J. Econom. and Management Sci.* **1** (1970), 162–190. (Authors' summary) **49** #12051 90A15

The behavior of a firm subject to stochastic regulatory review. *Bell J. Econom. and Management Sci.* **4** (1973), 57–88. (I. J. Good) **49** #2044 (E **52** #2121) (E **52** #2122) 90A15

Correction to: "The behavior of a firm subject to stochastic regulatory review" (Bell J. Econom. and Management Sci. **4** (1973), 57–88). *Bell J. Econom. and Management Sci.* **5** (1974), *no.* 2, 713–714. (I. J. Good) **52** #2122 62P20 (90A15)

Kleyle, Robert M. Upper and lower posterior probabilities for discrete distributions. *Ann. Statist.* **3** (1975), 504–511. (V. P. Godambe) **50** #11574 62D05

(*with* Dahiya, Ram C.) Estimation of parameters of mixed failure time distribution from censored data. *Comm. Statist.* **4** (1975), *no.* 9, 873–882. (H. L. Harter) **51** #14375 62F10 (62N05)

Kleyner, G. B. *See* **Kleĭner, G. B.**

Kli, V. *See* **Klee, Victor**

Klibanov, M. V. (*with* Aksenov, V. A.) The basis of skeleton-vectors of an ordinary connected graph. (Russian) *Upravljaemye Sistemy No.* 8 (1971), 76–83. (See RŽMat **1972** #5 V270) 05C99

(*with* Rutner, Ja. F.) An inverse problem for the heat equation. (Russian) *Differential equations and their applications, No. 2* (*Russian*), *pp.* 55–57, 176. *Kuĭbyšev. Gos. Ped. Inst., Kuybyshev*, 1975. (Authors' summary) **58** #29490 35R30 (35K05)

(*with* Lavrent'ev, M. M.) A certain inverse problem for an equation of parabolic type. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1647–1651, 1717. (M. A. Atahodžaev) **52** #6225 35R30 (35K10)

(*with* Lavrent'ev, M. M.) A certain integral equation of the first kind, and the inverse problem for a parabolic equation. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 4, 782–783. (Stefan Balint) **52** #6340 45A05 (35R30)

A certain class of inverse problems for a parabolic equation and for problems of integral geometry. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 1, 29–31. (S. V. Temko) **52** #1070 35R30

A certain problem of integral geometry, and the inverse problem for a parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 1, 75–84, 238. (W. J. Firey (Zbl **325** #53058)) **58** #6780 35R30 (53C65)

The inverse problem for a parabolic equation, and a certain problem of integral geometry. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 3, 564–570, 716. (V. Olariu (Zbl **335** #35080)) **58** #12045 35R30 (35K99)

On a class of operator equations of the first kind. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 3, 82–83. (S. G. Samko) **58** #2109 45N05 (47H15)

Klíč, Alois Value distribution of meromorphic functions and their derivatives. *Časopis Pěst. Mat.* **100** (1975), *no.* 4, 325–333. (Genkō Hiromi) **52** #14297 30A70

Kliem, Wolfhard (*with* Andersen, Lone) Pohlke's theorem proved by means of cylindrical surfaces. (Danish. English summary) *Nordisk Mat. Tidskr.* **23** (1975), *no.* 2, 73–78. (E. J. F. Primrose (Zbl **313** #50008)) **55** #3952 50D15

(*with* Jørgensen, A. E.) About the torques of fictitious forces. *Z. Angew. Math. Mech.* **55** (1975), *no.* 9, 534–535. (N. D. Sengupta) **52** #7246 70.34

Kliemann, Wolfgang (*with* Müller, Norbert) ★Logik und Mathematik für Sozialwissenschaftler. I. Grundlagen formalisierter Modelle in den Sozialwissenschaften. Uni-Taschenbücher, No. 208. *Wilhelm Fink Verlag, Munich*, 1973. 307 *pp.* (*loose errata*) (Editors) **52** #13045 00A05

(*with* Müller, Norbert) ★Logik und Mathematik für Sozialwissenschaftler. Band 2. Bestandteile und Methoden formalisierter Modelle in den Sozialwissenschaften. Uni-Taschenbücher, No. 528. *Wilhelm Fink Verlag, Munich*, 1976. 668 *pp.* (Editors) **53** #5211 00A05

Kliemt, Manfred (*with* Kämpfe, Hansgerd; Kunze, Werner) Probleme der mathematischen Modellierung arbeitsteiliger Prozesse. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **18** (1976), *no.* 2, 225–233. (G. Tintner) **55** #9867 90A15

Klifford, A. *See* **Clifford, A. H.**

Kligienė, Nerutė Certain properties of random sequences belonging to the class $R_m^{(n)}$. (Russian. English summary) *Statist. Problemy Upravlenija—Trudy Sem. No.* 1 (1971), 42–60. (A. Ja. Dorogovcev) **48** #10016 62M10

The computation of the correlation functions of autoregressive sequences. (Russian. English and Lithuanian summaries) *Statist. Problemy Upravlenija—Trudy Sem. No.* 4 (1973), 136–147. (H. Toutenburg) **48** #12759 62M10

A study of the accuracy of the maximum likelihood estimate of the time of change of the parameters of an autoregression equation. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravlenija–Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 12 (1975), 42–70. (Józef Pergel) **54** #9012a 62M10

On the estimation of the change point in the autoregressive sequence. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Processes and the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974), *Vol. A*, *pp.* 325–334. *Reidel, Dordrecht*, 1977. (Ju. I. Petunin) **58** #18971 62M10

The probability of error in the classification of random sequences by the Bayesian method. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 19 (1977), 59–79, 125. (László Györfi) **57** #7876 62H30 (62M10)

An asymptotic estimate of the probability of misclassification of autoregressive sequences. (Russian. Lithuanian and English summaries) *Statist. Problemy Upravlenija —Trudy Sem. Processy Optimal. Upravlenija V Sekcija Vyp.* 19 (1977), 81–101, 127. (O. Gulyás) **57** #7877 62H30 (62M10)

Asymptotic rate of convergence of the probability of error in the classification of stationary sequences. (Russian. Lithuanian and English summaries) *Statist. Problemy*

Upravlenija—Trudy Sem Processy Optimal. Upravlenija V Sekcija Vyp. 24 (1977), 73–81, 92. (Author's summary) **58** #18984 62M99 (62H30)

Klīh, Ju. O. Resonance phenomena in time-optimal problems for systems that are nearly linear. (Russian) *Problems in analytical mechanics, stability and control theories* (*Second Četaev Conf., Kazan*, 1973) (*Russian*), *pp*. 164–168, 339. *Izdat. "Nauka", Moscow*, 1975. (I. Muntean) **56** #16484 49B10

Averaging methods in quasilinear optimal control problems with a quadratic functional. (Russian) *Analytic and qualitative methods for the study of differential and differential-difference equations* (*Russian*), *pp*. 95–107. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (Rolf Klötzler) **58** #2552 49B50

Klijn, Nico A comment on: "Expenditure, savings and habit formation" (Internat. Econom. Rev. **15** (1974), 786–797) by C. Lluch. *Internat. Econom. Rev*. **18** (1977), *no*. 3, 771–778. (Zvi Artstein) **57** #5018 90A15

Klika, Manfred Zeilenmaxima in verallgemeinerten Pascalschen Dreiecken. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math*. **274/275** (1975), 27–37. (Harald Scheid) **51** #10114 05A10 (10A40)

Klikh, Ju. A. *See* **Mītropol's'kiī, Ju. O., 52** #11199

Klikušin, A. G. (*with* Lades, V. I.) The minimization of combination schemes of automata by permutation of the arguments. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no*. 5, 37–43, 140. (See Zbl **351** #94027) 94A20

Moore automata that are given by a certain sequence of special form. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no*. 2, 131–133, 188. (Author's summary) **58** #26600 94A25

(*with* Lades, V. I.) The synthesis of sampled-data automata that control shifts. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no*. 2, 27–35, 140. (Authors' summary) **58** #9909 94A30 (94A20)

The polynomial completeness of some problems of the minimization of partial automata. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no*. 4, 340–341, 381–382. (Jan Grabowski) **58** #19353 68A20 (94A25)

Klimanov, V. I. A mixed form of physically nonlinear equations of bending of shallow shells and plates. (Russian) *Studies of three-dimensional designs, No*. 1 (*Russian*), *pp*. 4–15, 154. *Izdanie Ural. Politehn. Inst., Sverdlovsk*, 1977. (Vadim Komkov) **58** #32288b 73.53

See also **Studies of three-dimensional designs, 58** #32288a

Klimanov, V. P. (*with* Porhovnik, V. A.) The computation of the unconditional probability distribution of the number of batches in a multipriority queueing system with absolute priority of servicing. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no*. 2, 70–73. (Editors) **50** #3390 60K25

(*with* Porhovnik, V. A.) Certain questions of the analysis of homogeneous exponential queueing networks. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp*. 183 (1974), 104–112. (H. T. Tašmanov) **55** #11434 60K25

(*with* Porhovnik, V. A.) Analysis of a single server queueing system with relative priority. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp*. 183 (1974), 113–122. (H. T. Tašmanov) **55** #11435 60K25

Klimanova, T. M. *See* **Boguslavskaja, T. M.**

Klimantov, V. A. *See* **Cybernetics and computer technology, 50** #12334

Klimas, A. (*with* Ramnath, R. V.; Sandri, G.) On the compatibility problem for the uniformization of asymptotic expansions. *J. Math. Anal. Appl*. **32** (1970), 482–504. (H. A. Lauwerier) **46** #4078 41A60

(*with* Hanson, F. B.; Ramanathan, G. V.; Sandri, G.) Uniformly valid asymptotic solution to a Volterra equation on an infinite interval. *J. Mathematical Phys*. **14** (1973), 1592–1600. (C. Avramescu) **48** #6860 45L05

Klimenko, A. I. (*with* Pogosjan, I. A.) An estimate of the load of the two-priority system $M/G/1$ with a restriction on the waiting time. (Russian) *Systems analysis and algorithmization of production processes* (*Russian*), *pp*. 107–114. *Inst. Kibernet. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Z. Khalil) **53** #14719 60K25

(*with* Pogosjan, I. A.) A single-server queueing system with waiting time and relative priority. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no*. 2, 94–97. (See Zbl **292** #60155) 60K25

(*with* Pogosjan, I. A.) A single-server system $E_k/G/1$ with relative priority and a restriction on the waiting time. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no*. 5, 76–79. (A. Obretenov) **56** #1501 60K25

Klimenko, Ju. I. (*with* Bagrov, V. G.; Šapovalov, V. N.; Šahmatov, V. M.; Èkle, G. G.) New exact solutions of the Dirac equation. I. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1973**, *no*. 7, 95–101. (Editors) **58** #32526a 81.35

(*with* Bagrov, V. G.; Byzov, N. N.; Gitman, D. M.; Meškov, A. G.; Šapovalov, V. N.; Šahmatov, V. M.) New exact solutions of the Dirac equation. V. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1975**, *no*. 9, 106–112. (Editors) **58** #32526f 81.35

Klimenko, R. K. On the question of the approximation of the Lagrange constant in mean value theorems. (Russian) *Software of electronic digital computers* (*Proc. Sem. Numer. Anal., Kiev*, 1971) (*Russian*), *pp*. 310–316. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1971. (E. L. Albasiny) **53** #1961 65L05

A use of the Lagrange constant for the approximate solution of the Cauchy problem for ordinary differential equations. (Russian) *Software of electronic digital computers* (*Proc. Sem. Numer. Anal., Kiev*, 1971) (*Russian*), *pp*. 317–327. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1971. (E. L. Albasiny) **53** #1962 65L05

See also **Numerical analysis, 58** #31701

Klimenko, V. G. Minimax filters for nonlinear systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 4, 49–51. (T. Tobias) **58** #9672 93E10

Observability of systems with a changing mathematical model. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no*. 2, 171–174. (Author's summary) **58** #26240 93B05

Klimenko, V. M. (*with* Striževskiī, V. L.) Group-theoretic investigation of three-photon scattering of light. (Russian) *Quantum electronics, No*. 4 (*Russian*), *pp*. 173–184. "*Naukova Dumka*", *Kiev*, 1969. (Authors' review (RŽFiz **1970** #12 D929)) **45** #1491 81.22

Klimenko, V. T. Construction of doubly branched fundamental solutions of the Cauchy problem of homogeneous rotation-invariant hyperbolic operators with constant coefficients. (Russian. English summary) *Boundary value problems of mathematical physics* (*Russian*), *pp*. 293–302. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (J. Chrastina) **48** #6638 35E05 (35L25)

The fundamental solutions of the Cauchy problem for hyperbolic operators th invariant with respect to rotation. (Russian. English summary) *Linear boundary problems of mathematical physics* (*Russian*), *pp*. 140–152. *Izdanie Inst. Mat. Akad. Ukrain. SSR, Kiev*, 1973. (V.-V. Olariu) **51** #3706 35L25

(*with* Ostapenko, V. M.) Approximation of functions of several variables by differential operators. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SS A* **1978**, *no*. 4, 295–298, 381. (B. Bojanov) **58** #1831 41A05

Klimenkov, V. N. (*with* Komjak, I. I.) The normal solvability in the sense of Hausdo the Dirichlet problem for a degenerate elliptic system of second order equa (Russian) *Differencial'nye Uravnenija* **13** (1977), *no*. 1, 84–89, 189. (Authors' sum **57** #13173 35J55

Klimentov, S. B. (*with* Fomenko, V. T.) Bendings of surfaces of genus $p\geqslant 0$ of po extrinsic curvature in a Riemannian space. (Russian) *Dokl. Akad. Nauk SSSR* (1976), *no*. 5, 1064–1066. (A. V. Pogorelov) **54** #8531 53C45

(*with* Fomenko, V. T.) Rigidity of closed surfaces of genus $p\geqslant 1$ and of po extrinsic curvature. (Russian) *Mat. Sb.* (*N.S.*) **101(143)** (1976), *no*. 3, 402–415, 45 Szenthe) **56** #1236 53C45

Bendability of surfaces of positive curvature. (Russian) *Mat. Zametki* **19** (1976 5, 815–823. (A. V. Pogorelov) **54** #11249 53C45

Bendings of surfaces of genus $p\geqslant 0$ of positive extrinsic curvature. (Russ *Ukrain. Geometr. Sb. Vyp*. 19 (1976), 37–56, ii. (A. V. Pogorelov) **58** #12855 5

Infinitesimal bendings of surfaces of genus $p>0$ of positive extrinsic curvature a boundary condition of generalized sliding. (Russian) *Ukrain. Geometr. Sb. Vy* (1976), 57–65, ii. (A. V. Pogorelov) **58** #12856 53C45

Klimentov, S. I. (*with* Prokopov, B. I.) Synthesis of asymptotically stable algorith adaptive system with reference model by Lyapunov's direct method. *Avtomat. i Telemeh*. **1974**, *no*. 10, 97–104 (*Russian. English summary*); *translated as Aut Remote Control* **35** (1974), *no*. 10, *part* 2, 1625–1632 (1975). (Author's summ **56** #11298 93D05

(*with* Furasov, V. D.; Afanas'ev, V. N.; Markov, V. N.; Nečaev, A. M.) Ada controller synthesis and Lyapunov's vector functions. (Russian) With a loose En translation. *Problems of Control and Information Theory/Problemy Upravlenija i T Informacii* **6** (1977), *no*. 4, 175–187. (Authors' summary) **58** #26380 93D05

Klimiašvili, M. A. (*with* Kipšidze, Z. Š.; Faĭn, S. B.) Polynomial error-correcting c (Russian) Problems of applied mathematics—Mushelišvili eightieth birthday collec *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom*. **11** (1972), *no*. 1, 80–86. (Edi **57** #11924 94A10

Coding and decoding methods for error-correcting polynomial codes. (Russ *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom*. **12** (1973), *no*. 2, 117–130. (V Amerbaev) **53** #10470 94A10

Classes of codes that correct nonsymmetric errors. (Russian. Georgian and En summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no*. 1, 141–144. Nemetz) **53** #10471 94A10

(*with* Kipšidze, Z. Š.; Kobašvili, T. V.; Urumov, I. O.; Habelašvili, G. I.) ★Некоторые весовые коды, исправляющие ошибки. (Russian) [Some weighted error-correcting codes] With a Georgian summary. *Izdat. Tbilis. Univ., Tbilisi*, 197 *pp*. (Stefan Dodunekov) **58** #20788 94A10

Klīmik, A. U. A certain class of representations of a current algebra. (Russian. En summary) *Teoret. Mat. Fiz*. **1** (1969), *no*. 3, 318–328. (Author's summary) **57** #49 81.47 (81.22)

Factorization of the representations with highest weight of a semisimple Lie alg by representations of a regular subalgebra. (Russian) *Mat. Zametki* **8** (1970), 703– (J. Gil de Lamadrid) **45** #5272 22E60

Representations of the Gell-Mann-Dashen algebra. (Russian. English summa *Teoret. Mat. Fiz*. **5** (1970), *no*. 2, 167–180. (Author's summary) **57** #14977 8 (22E70)

The Wigner-Eckart theorem for locally compact groups. (Russian. English summary) *Teoret. Mat. Fiz*. **8** (1971), *no*. 1, 55–60. (Author's summary) **57** #99 22D10 (81.22)

Ideals of Gell-Mann-Dashen algebras. (Ukrainian. English and Russian summari *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 975–978, 1053. (M. Slater) **48** #11 17B05 (81.22)

Linear representations of Gell-Mann-Dashen algebras. (Ukrainian. English Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 1073–1075, 1 (M. Slater) **48** #11232 17B05 (81.22)

The Wigner-Eckart theorem and covariant operators. (Russian. English summa *Teoret. Mat. Fiz*. **13** (1972), *no*. 3, 327–342. (Author's summary) **57** #8562 8 (22E70)

Analytic continuation of the Fourier transform of functions on a complex semisimple Lie group. (Ukrainian. English and Russian summaries) *Dopovīdī A Nauk Ukraïn. RSR Ser. A* **1973**, 971–975, 1052. (J. S. Joel) **57** #3305 22E30

(*with* Gavrilik, O. M.) Indecomposable representations of the algebras so(n, 1) iso(n). (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. R Ser. A* **1974**, 586–589, 668. (J. S. Joel) **58** #5802 17B10

The tensor product of representations of semisimple Lie groups. (Russian) *Zametki* **16** (1974), 731–739. (J. S. Joel) **58** #1027 22E45

(*with* Gavrilik, O. M.) ★Analysis of the representations of the Lorentz and Euclidean groups of n-th order. Report ITP-75-18E. *Akad. Nauk Ukrain. SSR I Teoret. Fiz., Kiev*, 1975. 34 *pp*. (Wayne J. Holman, III) **58** #1040 22E70 (22E45

(*with* Gruber, Bruno) Properties of linear representations with a highest weight the semisimple Lie algebras. *J. Mathematical Phys*. **16** (1975), *no*. 9, 1816–1832. (J. Antoine) **52** #10960 22E70

On the tensor product of representations of semisimple Lie groups. *Lett. Ma Phys*. **1** (1975/77), *no*. 5, 375–377. (A. O. Barut) **55** #10605 22E45

Matrix elements of tensor operators. *Rep. Mathematical Phys*. **7** (1975), *no*. 153–166. (V. Syamala Devi) **52** #4859 81.22

The Fourier transform of functions on a group. (Russian) *Ukrain. Mat. Ž.* (1975), 3–12, 141. (W. Słowikowski) **55** #562 22D10

(*with* Širokov, V. A.) ★On the tensor product of representations of the grou

O$_0$(n, 1) and U(n, 1). Report ITP-76-5E. *Akad. Nauk Ukrain. SSR Inst. Teoret. Fiz., iev*, 1976. 52 *pp*. (Wayne J. Holman, III) **58** #6088 22E70

(*with* Gavrilik, O. M.) ★The representations of the groups U(n, 1) and SO$_0$(n, 1). Russian summary) *Akad. Nauk Ukrain. SSR Inst. Teoret. Fiz., Kiev*, 1976. 63 *pp*. Wayne J. Holman, III) **58** #28321 22E70

Structure of the elementary representations of the group U(n, 1). (Russian) *athematics collection* (*Russian*), *pp*. 214–218. *Izdat. "Naukova Dumka", Kiev*, 1976. Editors) **58** #28322 22E70

(*with* Širokov, V. A.) Irreducible and indecomposable representations of the lgebras U(n, 1) and IU(n). (Russian) *Mathematics collection* (*Russian*), *pp*. 218–221. *zdat. "Naukova Dumka", Kiev*, 1976. (Editors) **58** #11233 22E45 (17B10)

(*with* Širokov, V. A.) Tensor product of representations of the groups U(n, 1) and pin (n, 1). (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *o*. 12, 1073–1076, 1141. (D. Miličić) **56** #5795 22E45

(*with* Gavrilik, O. M.) Intertwining operators for the group U(n, 1). (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no*. 6, 803–807, 862. (Editors) **57** #6296 22E45

Matrix elements of irreducible representations of the group IU(n). (Russian. English ummary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no*. 12, 1103–1105, 1151. Author's summary) **57** #9912 22E70 (81.22)

(*with* Golod, P. Ī.) Representations of the groups Sp(n, 1). (Russian. English ummary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no*. 2, 102–105, 191. (Yasuhiro Asoo) **58** #1023 22E45

(*with* Gruber, Bruno) Multiplicity free and finite multiplicity indecomposable epresentations of the algebra su(1, 1). *J. Math. Phys.* **19** (1978), *no*. 10, 2009–2017. (A. O. Barut) **58** #25483 17B10 (81.22)

Kl ik, V. U. A transfer theorem for nonclassical Markov chains. (Russian. English ummary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no*. 2, 106–109, 191. (B. Kronfeld) **57** #4335 60J10

Kl in, A. V. *See* **Control in space**, **48** #13319

Kl kiewicz, Wojciech The concept of process structure. (Polish. Russian and English ummaries) *Arch. Automat. i Telemech.* **16** (1971), 71–79. (Author's summary) **54** #12433 00A25 (93A05, 69.00)

Kl kin, V. M. The extension of a vector-valued measure. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no*. 5(108), 46–53. (Piotr Antosik) **45** #501 28A45

(*with* Arekškin, G. Ja.; Aleksjuk, V. N.) Certain properties of vector-valued mesures. (Russian) Questions of modern mathematics and methods of teaching it at nstitutions of higher learning. *Leningrad. Gos. Ped. Inst. Učen. Zap.* **404** (1971), 298–321. (Editors) **56** #5829 28A45

Certain tests for absolute equicontinuity of a family of masses. (Russian) Questions of modern mathematics and methods of teaching it at institutions of higher learning. *Leningrad. Gos. Ped. Inst. Učen. Zap.* **404** (1971), 380–396. (From the author's introduction) **56** #5827 28A25 (28A15)

(*with* Pjatkin, A. I.) On a theorem of F. Cafiero. (Russian) *Functional analysis, No. 2* (*Russian*), *pp*. 155–161. *Ul'janovsk. Gos. Univ., Ulyanovsk*, 1973. (L. Ja. Savel'ev) **56** #3237 28A45

The extension of a vector-valued measure. II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no*. 6 (133), 52–57. (Piotr Antosik) **49** #5834 46G10 (28A45)

(*with* Agafonova, L. V.) Nikodým's theorem for triangular set functions. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 669–674, 703. (L. Ja. Savel'ev) **50** #571 28A45

Certain properties of triangular set functions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 1 (152), 108–110. (Beloslav Riečan) **51** #8366 28A45

A certain class of set functions, and their application in the theory of vector-valued measures. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 2(153), 116–118. (L. Ja. Savel'ev) **52** #5935 28A45

Certain questions of the theory of vector-valued measures. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 7(158), 54–63. (Igor Kluvánek) **53** #8377 28A45

Vector measures in a topological group. (Russian) *Mat. Zametki* **17** (1975), *no*. 5, 789–796. (Miloslav Duchoň) **54** #506 28A45

(*with* Nikiforov, V. M.) Some properties of absolutely triangular set functions. I. (Russian) *Functional analysis, No. 9: Harmonic analysis on groups* (*Russian*), *pp*. 71–83. *Ul'janovsk. Gos. Ped. Inst., Ulyanovsk*, 1977. (Ivan Dobrakov) **58** #11305 28A10

Finitely additive set functions in a topological group. (Russian) *Mat. Zametki* **21** (1977), *no*. 6, 847–854. (Przemyslaw Kranz) **57** #6361 28A45

Some properties of triangular set functions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no*. 2(189), 36–44. (S. A. Čobanjan) **58** #11306 28A10

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region**, **46** #1532 *and* **Hercen Lectures**, **47** #4749

mko, A. S. Quasi-elliptic coplanar transition in a central field with arbitrary structure. (Russian. English summary) *Vestnik Leningrad. Univ.* **1978**, *no*. 7 *Mat. Meh. Astronom. vyp*. 2, 127–136, 165. (Author's summary) **58** #14031 70.31

mko, Eugene M. On the entropy of a product endomorphism in infinite measure spaces. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **12** (1969), 290–292. (Author's summary) **54** #510 28A65

(*with* Yackel, James W.) Some aspects of search strategies for Wiener processes. *Statistical decision theory and related topics* (*Proc. Sympos., Purdue Univ., Lafayette, Ind.*, 1970), *pp*. 225–237. *Academic Press, New York*, 1971. (E. C. Posner) **49** #9964 60J65

(*with* Neuts, Marcel F.) The single server queue in discrete time-numerical analysis. II. *Naval Res. Logist. Quart.* **20** (1973), 305–319. (Vijendra P. Singh) **48** #1344 60K25

(*with* Neuts, Marcel F.) The single server queue in discrete time-numerical analysis. III. *Naval Res. Logist. Quart.* **20** (1973), 557–567. (Vijendra P. Singh) **48** #5206 60K25

An algorithm for calculating indices in Fàa di Bruno's formula. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 38–49. (Jozef Mikloško) **48** #5338 65D25

Note on weakly wandering functions. *Sankhyā Ser. A* **37** (1975), *no*. 2, 281–286. (Andrés del Junco) **56** #3249 28A65

(*with* Yackel, James W.) Optimal search strategies for Wiener processes. *Stochastic Processes Appl.* **3** (1975), 19–33. (Olavi Hellman) **52** #6896 60J65 (60G40, 62L15)

See also **Fedorov, V. V.**, **53** #6916

Klimko, Lawrence A. (*with* Hettmansperger, Thomas P.) A note on the strong convergence of distributions. Collection of articles dedicated to Jerzy Neyman on his 80th birthday. *Ann. Statist.* **2** (1974), 597–598. (Authors' summary) **50** #6024 62E20 (60F05)

(*with* Antle, Charles E.; Rademaker, A.) Tests for normality versus lognormality. *Comm. Statist.* **4** (1975), *no*. 11, 1009–1019. (H. E. Reinhardt) **53** #6839 62F05

(*with* Nelson, Paul I.) Unbalanced data: Comment on "The use of the *R*( ) -notation with unbalanced data" (Amer. Statist. **30** (1976), no. 1, 30–33) by F. M. Speed and R. R. Hocking. With a reply by Speed and Hocking. *Amer. Statist.* **30** (1976), *no*. 4, 205–206. (From the authors' text) **56** #7041 62J10

(*with* Nelson, Paul I.) On conditional least squares estimation for stochastic processes. *Ann. Statist.* **6** (1978), *no*. 3, 629–642. (B. M. Brown) **58** #13580 62M99

Klimkulov, Y. A problem with constraints on the control. (Russian) *Optimization of processes in systems with distributed parameters* (*Russian*), *pp*. 33–45, 107. *Izdat. "Ilim", Frunze*, 1976. (Author's summary) **56** #13072 49D99

Klimo, P. (*with* Dowker, J. S.) Dirac monopoles for general gauge theories. *Internat. J. Theoret. Phys.* **8** (1973), 409–417. (Authors' summary) **51** #2542 81.53

Klimontovič, Ju. L. ★Кинетическая теория неидеального газа и неидеальной плазмы. (Russian) [Kinetic theory of a nonideal gas and a nonideal plasma] *Izdat. "Nauka", Moscow*, 1975. 352 *pp*. (H. S. Green) **56** #2128 82.45

(*with* Belyĭ, V. V.) Kinetic fluctuations in a Brownian motion. (Russian. English summary) *Teoret. Mat. Fiz.* **34** (1978), *no*. 2, 233–243. (Authors' summary) **58** #19782 76.60

Klimopoulos, S. (*with* Markellos, V. V.) A new family of periodic oscillations in the Störmer problem: the principal asymmetric. *Astrophys. and Space Sci.* **48** (1977), *no*. 2, 471–482. (Authors' summary) **56** #10242 70.34 (58F10)

Klimov, D. M. *See* **Control in space**, **48** #8041

Klimov, G. P. Invariant decision rules in sequential analysis. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 1254–1257. (O. Gulyás) **46** #2770 62C99

★Инвариантные выводы в статистике. (Russian) [Invariant inferences in statistics] *Izdat. Moskov. Univ., Moscow*, 1973. 186 *pp*. (A. L. Ruhin) **52** #15750 62A05

Time-sharing queueing systems. I. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 558–576. (František Zítek) **51** #2013 60K25

(*with* Kuz'min, A. D.) Invariant estimators. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no*. 2, 309–331. (A. L. Ruhin) **52** #6930 62A05 (62Cxx)

An ergodic theorem for regenerative processes. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no*. 2, 402–405. (A. M. Zaharin) **58** #3083 60K05

Klimov, N. I. (*with* Pil'tjaĭ, G. Z.; Šeptickaja, T. A.) An estimate of the absolute constant in the Goldbach-Šnirel'man problem. (Russian) *Studies in number theory, No. 4* (*Russian*), *pp*. 35–51. *Izdat. Saratov. Univ., Saratov*, 1972. (M. I. Israilov) **54** #2607 10J15

A refinement of the estimate of the absolute constant in the Goldbach-Šnirel'man problem. (Russian) Number theory: collection of studies in additive number theory. *Kuĭbyšev. Gos. Ped. Inst. Naučn. Trudy* **158** (1975), 14–30. (J. W. Porter) **58** #27865 10J15

Klimov, V. E. (*with* Kovalenko, E. A.) An algorithm for the analysis of the planarity of a graph and its realization. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 348 *Teor. Grafov* (1977), 118–122. (D. Ja Kesel'man) **58** #32036 68A10 (05C10)

Klimov, V. N. Embeddings of semigroups in factorizable semigroups. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 1025–1036, 1157. (B. Pondělíček) **48** #6292 20M10

Principal congruences of semigroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no*. 3, 35–43, 134 (1975). (Jaroslav Ježek) **55** #8217 20M10

Semigroups that are regular in the sense of Mal'cev. (Russian) *Algebraic studies* (*Russian*), *pp*. 10–23, 119. *Izdanie Ural. Politehn. Inst., Sverdlovsk*, 1976. (G. Pollák) **57** #9877 20M10

Congruences of semigroups. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no*. 6(169), 114–117. (Anna Ja. Aĭzenštat) **58** #5995 20M05

Congruences on complete 0-simple semigroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no*. 1, *Issled. Sovremen. Algebre*, 16–23, 150 (1976). (G. Pollák) **57** #9878 20M05 (20M10)

Congruences of globally idempotent semigroups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10** (1977), *no*. 3 *Issled. po Sovremen. Algebre*, 73–105, 217. (P. Goralčík) **58** #6006 20M10

Klimov, V. S. Imbedding theorems for symmetric spaces. (Russian) *Mat. Sb.* (*N.S.*) **79(121)** (1969), 171–178. (RŽMat **1970** #2 B122) **58** #23544 46E35

Nontrivial solutions of boundary value problems for semilinear elliptic equations. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **35** (1971), 428–439. (B. A. Fleishman) **46** #5823 35J60 (47H15)

The rearrangements of differentiable functions. (Russian) *Mat. Zametki* **9** (1971), 629–638. (M. Cotlar) **46** #9713 46E35

The nonnegative solutions of boundary value problems for second order elliptic equations. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 718–726. (J. Nečas) **49** #5560 35J25

The method of partitioning the phase space into domains with increases of constant sign of the phase coordinates. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1972**, *no*. 6, 674–676. (G. Bojadžiev) **47** #574 34D99 (34C99)

Imbedding theorems for Orlicz spaces and their application to boundary value problems. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 334–348. (H. Triebel) **48** #12033 46E35

Positive solutions of the Neumann problem for quasilinear elliptic equations. (Russian) *Differencial'nye Uravnenija* **9** (1973), 504–510, 589. (H. Marcinkowska) **48** #4496 35J25

Continuous branches of the eigenfunctions of quasilinear elliptic problems. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1845–1850, 1926. (Author's summary) **56** #9104 35P99 (35J65, 58G15)

A certain test of the decay of an oscillatory process. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no*. 6 (133), 58–60. (G. Bojadžiev) **49** #5467 34C10

A certain condition for the solvability of the Dirichlet problem. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1298–1302, 1342. (G. Albinus) **50** #7811 35J65

Isoperimetric inequalities and imbedding theorems. (Russian) *Dokl. Akad. Nuak SSSR* **217** (1974), 272–275. (H. Triebel) **50** #975 46E35

Imbedding theorems, and the intermediate spaces of Calderón. (Russian) *Funkcional. Anal. i Priložen.* **8** (1974), *no.* 1, 79. (J. Albrycht) **52** #14980 46E35

Continuous branches of periodic solutions of quasilinear parabolic equations. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 434–438, 462. (O. Vejvoda) **49** #793 35B10

Variational problems with strong nonlinearities. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 8 (1974), 78–91. (O. John) **56** #16143 35J65

Extension theorems for symmetric spaces. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 8 (1974), 92–107. (J. Musielak) **57** #7145 46E35

Non-zero periodic solutions of systems of differential equations. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 12 (1975), 65–74. (M. Bertolino) **56** #16063 34C25

Boundary value problems in Orlicz-Sobolev spaces. (Russian) *Qualitative and approximate methods for the investigation of operator equations, No.* 1 (*Russian*), *pp.* 75–93. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the introduction) **58** #29205 35J65 (46E30)

Imbedding theorems and geometric inequalities. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 3, 645–671, 710. (J. Albrycht) **54** #8264 46E35 (46E30)

Functionals with an infinite number of critical values. (Russian) *Mat. Sb.* (*N.S.*) **100(142)** (1976), *no.* 1, 102–116, 166. (Ju. G. Borisovič) **54** #1289 58E05 (47H10)

The rotation of potential vector fields. (Russian) *Mat. Zametki* **20** (1976), *no.* 2, 253–260. (Ju. G. Borisovič) **54** #11114 47H05 (58E05)

Periodic and stationary solutions of quasilinear parabolic equations. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 3, 692–696, 718. (O. Vejvoda) **54** #690 35B10 (35K10)

Klimov, V. V. (*with* Gridasov, V. I.; Mazanova, L. V.) An application of generalized Fourier series to the computation of closed circular cylindrical shells under concentrated loads. (Russian) *Differential equations and numerical analysis, No.* 1 (*Russian*), *pp.* 84–90. *Izdat. Saratov. Univ., Saratov*, 1972. (B. A. Bondarenko) **49** #1865 73.35

Estimates of the guaranteed payoff under constraints on the solution of a matrix game. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 2, 24–30 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 2, 208–214. (J. Rosenmüller) **52** #5052 90D05

Klimowicz, A. A. On certain locally finite groups with abelian Sylow p-subgroups. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 3, 274–280. (T. O. Hawkes) **52** #10890 20E25

Formation theory in locally finite groups. *Proc. London Math. Soc.* (3) **30** (1975), 257–286. (S. E. Stonehewer) **52** #5806 20E25

Injectors in certain classes of locally π-soluble groups. *Ark. Mat.* **14** (1976), *no.* 1, 119–124. (B. Hartley) **54** #2810 20E25

Fitting theory in a class of locally finite groups. *J. Algebra* **39** (1976), *no.* 1, 249–254. (Daniel Segal) **53** #618 20E25

Sylow structure and basis normalizers in a class of locally finite groups. *J. London Math. Soc.* (2) **13** (1976), *no.* 1, 69–79. (Daniel Segal) **53** #617 20E25

Sufficient conditions for the existence of F-projectors. *J. London Math. Soc.* (2) **13** (1976), *no.* 3, 424–426. (S. E. Stonehewer) **55** #8183 20E20

$\mathfrak{X}$-prefrattini subgroups of π-soluble groups. *Arch. Math.* (*Basel*) **28** (1977), *no.* 6, 572–576. (B. Hartley) **56** #12113 20D10

Criteria for a satisfactory formation theory. *Arch. Math.* (*Basel*) **29** (1977), *no.* 2, 116–117. (Leo J. Alex) **57** #6201 20E25

A characterization of the saturated closure of a homomorph of Lie algebras. *Arch. Math.* (*Basel*) **30** (1978), *no.* 6, 578–579. (Donald W. Barnes) **58** #11048 17B30

Klimušev, A. I. Uniform asymptotic stability of systems of differential equations with aftereffect, containing a small parameter that multiplies the derivatives. (Russian) *Ural. Politehn. Inst. Sb. No.* 211 *Differencial'nye Uravnenija i Teorija Uprugosti* (1973), 30–43, 120. (D. Baĭnov) **49** #785 34K20

Stability in the first approximation of nonlinear systems of differential equations with a small parameter multiplying the derivatives. (Russian) *Ural. Politehn. Inst. Sb. No.* 211 *Differencial'nye Uravnenija i Teorija Uprugosti* (1973), 44–54, 120. (D. Baĭnov) **49** #786 34K20

Klimyk, A. U. *See* **Klīmik, A. U.**

Klin, M. H. The number of graphs for which a given permutation group is an automorphism group. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1970**, *no.* 6, 131–137. (H. Fleischner) **45** #6694 05C25

V-rings and their connection with the automorphism groups of binary relations. (Russian) *Mat. Issled.* 7 (1972), *no.* 1(23), 204–205. (L. Fuchs) **46** #201 16A26

(*with* Kalužnin, L. A.) Certain maximal subgroups of symmetric and alternating groups. (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 91–121. (József Pelikán) **45** #6906 20B10

(*with* Kalužnin, L. A.) Some numerical invariants of permutation groups. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 18 (1976), 81–99, 222. (J. D. Dixon) **57** #3221 20B05

Klinc, Tomaž (*with* Kuščer, Ivan) Effect of lateral leakage on neutron waves. *Transport Theory Statist. Phys.* **1** (1971), *no.* 1, 41–58. (Madhoo Kanal) **55** #9777 82.45

On completeness of eigenfunctions of the one-speed transport equation. *Comm. Math. Phys.* **41** (1975), 273–279. (Ian Lerche) **56** #10655 82.45

See also **Publications: Department of Mathematics, 51** #16 *and* **Publications: Department of Mathematics, 51** #17

Klincsek, G. T. About the # function. *Canad. Math. Bull.* **19** (1976), *no.* 4, 455–460. (Roger L. Jones) **56** #13352 60G45

A square function inequality. *Ann. Probability* **5** (1977), *no.* 5, 823–825. (Roger L. Jones) **56** #13351 60G45

Klincsek, Geza (*with* Vraciu, George; Klincsek, Iulia) Methods for the numerical solution of the problem of quadratic programming. (Romanian. English summary) *Stud. Cerc. Mat.* **21** (1969), 1249–1261. (C. Bergthaller and M. Dragomirescu) **47** #3012 90C20

Klincsek, Iulia (*with* Vraciu, George; Klincsek, Geza) Methods for the numerical solution of the problem of quadratic programming. (Romanian. English summary) *Stud. Cerc. Mat.* **21** (1969), 1249–1261. (C. Bergthaller and M. Dragomirescu) **47** #3012 90C20

Klincsik, Mihály Study of stability on a finite interval of time using differential inequalities. (Hungarian. Russian summary) *Alkalmaz. Mat. Lapok* **2** (1976), *no.* 3-4, 277 (1977). (Author's summary) **58** #1423 34D20

Kline, George L. N. A. Vasil'ev and the development of many-valued logics. *Contribu to logic and methodology in honor of J. M. Bocheński, pp.* 315–326. *North-Hol Amsterdam*, 1965. (Charles G. Morgan) **54** #7186 02–03 (02C05, 01A60)

Kline, Kenneth A. (*with* DeSilva, Carl N.) Variational principles for linear coupled thermoelasticity with microstructure. (Russian summary) *Internat. J. Solids and Structures* 7 (1971), 129–142. (S. N. Murthy) **46** #10279 73.49

Predictions from polar fluid theory which are independent of spin boun condition. *Trans. Soc. Rheol.* **19** (1975), *no.* 1, 139–145. (S. I. Pai) **52** #4807

Kline, Morris Logic or pedagogy. (Bulgarian) Translated from the English by B. Pe (Amer. Math. Monthly 77 (1970), 264–282). *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* 1 (1971), 232–249. (Editors) **53** #14 00A25

★Mathematical thought from ancient to modern times. *Oxford University New York*, 1972. xvii + 1238 *pp.* ((Zbl **277** #01001)) **57** #12010 01–01

Carl B. Boyer—in memoriam. *Historia Math.* **3** (1976), 387–394. (Editors) **57** #12121 01A70

★Why the professor can't teach. Mathematics and the dilemma of unive education. *St. Martin's Press, New York*, 1977. vi + 288 *pp. ISBN* 0-312-87867-2 (Michael Otte) **58** #20963 00A25

See also **Collection: Magnus, Wilhelm, 48** #1838

Kling, Rob Fuzzy PLANNER: reasoning with inexact concepts in a procedural problem-solving language. *J. Cybernet.* **3** (1973), *no.* 4, 1–16. (Masaharu Mizur **56** #7369 68A45

Fuzzy-PLANNER: reasoning with inexact concepts in a procedural problem-solving language. *J. Cybernet.* **4** (1974), *no.* 2, 105–122. (Author's summ **56** #13823 68A45

Kling, U. (*with* Ádám, András) On the behaviour of some cyclically symmetric netw (German summary) *Acta Cybernet.* **1** (1971), 69–79. (I. T. Frisch) **46** #6937 94

Klingbeil, Eberhard ★Variationsrechnung. *Bibliographisches Institut, Mannheim-Vienna-Zürich*, 1977. 332 *pp.* (J. D. Logan) **56** #9346 49–01

Klingelhöfer, Klaus Nichtlineare Störungen linearer Rand-Eigenwertprobleme mit mehrfachem Eigenwert. *Mitt. Math. Sem. Giessen No.* 94 (1971), 61–69. (B. Hell **46** #6098 47F05 (47H99)

Klingen, Helmut Zur Struktur der Siegelschen Modulgruppe. *Math. Z.* **136** (1974), 169–178. (J. S. Joel) **58** #5520 10D05 (20H05, 32N05)

Über Poincarésche Reihen vom Exponentialtyp. *Math. Ann.* **234** (1978), *n* 145–157. (S. Raghavan) **58** #525 10D20

Klingen, Jutta (*with* Brunotte, Horst; Steurich, Manfred) Einige Bemerkungen zu Einheiten in reinen kubischen Körpern. *Arch. Math.* (*Basel*) **29** (1977), *no.* 2, 154– (Harvey Cohn) **56** #15604 12A30

Klingen, Norbert Elementar äquivalente Körper und ihre absolute Galoisgruppe. *Math.* (*Basel*) **25** (1974), 604–612. (G. Cherlin) **50** #9844 12F10 (02H15, 12L1

Zur Idealstruktur in Nichtstandard-modellen von Dedekindringen. Collectio articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine An Math.* **274/275** (1975), 38–60. (G. Cherlin) **52** #8120 13L05 (02H15, 02H25)

(*with* Jehne, Wolfram) Superprimes and a generalized Frobenius symbol. *Arith.* **32** (1977), *no.* 3, 209–232. (*errata insert*) (G. Cherlin) **55** #12694 12 (02H25)

Zahlkörper mit gleicher Primzerlegung. *J. Reine Angew. Math.* **299/300** (1 342–384. (K. Lakkis) **58** #10817 12A45 (12A65)

Klingenberg, Wilhelm ★Grundlagen der Geometrie. B. I. Hochschulskripten, 746a. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1971. 92 *pp.* (H. S. M. Cox **48** #2882 50Axx

(*with* Klein, Peter) ★Lineare Algebra und analytische Geometrie. Band I. B·I-Hochschulskripten, No. 748. *Bibliographisches Institut, Mannheim-Vienna-Zu* 1971. xiii + 288 *pp.* (Editors) **50** #7188 15–01

Closed geodesics. *Differentialgeometrie im Grossen* (*Tagung, Math. Forschungsi Oberwolfach*, 1969), 77–103. *Ber. Math. Forschungsinst. Oberwolfach, Heft* 4, *Bibliographisches Inst., Mannheim*, 1971. (J. S. Joel) **55** #6475 58E10 (53C20)

Geodätischer Fluss auf Mannigfaltigkeiten vom hyperbolischen Typ. *Invent. M* **14** (1971), 63–82. (J. W. Robbin) **45** #6034 58F15 (34C35)

(*with* Flaschel, P.) ★Riemannsche Hilbertmannigfaltigkeiten. Periodische Geodätische. Mit einem Anhang von H. Karcher. Lecture Notes in Mathematics, 282. *Springer-Verlag, Berlin-New York*, 1972. vi + 211 *pp.* (M. Klingmann) **49** #627 58E05 (49F15, 58E10)

(*with* Klein, Peter) ★Lineare Algebra und analytische Geometrie. Band 2. I.-Hochschultaschenbücher, No. 749. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1972. xviii + 404 *pp.* (*loose errata*) (Editors) **50** #7189 15–01

Closed geodesics on Riemannian manifolds. *Proceedings of the Thirteenth Bien Seminar of the Canadian Mathematical Congress* (*Dalhousie Univ., Halifax, N. S.*, 19 *Vol.* 1, *pp.* 69–92. *Canad. Math. Congr., Montreal, Que.*, 1972. (C. S. Weaver) **53** #11661 58E10 (53C20)

(*with* Takens, Floris) Generic properties of geodesic flows. *Math. Ann.* **197** (19 323–334. (L. A. Santaló) **46** #6402 58F99

(*with* Klein, Peter) ★Lineare Algebra und analytische Geometrie. Übungen Band 1 und 2. B. I.-Hochschultaschenbücher, Band 750. *Bibliographisches Inst Mannheim-Vienna-Zurich*, 1973. viii + 172 *pp.* (Editors) **50** #7190 15–01

★Eine Vorlesung über Differentialgeometrie. Heidelberger Taschenbücher, B 107. *Springer-Verlag, Berlin-New York*, 1973. x + 135 *pp.* (Samuel I. Goldberg) **54** #3598 53–XX

Hyperbolic closed geodesics. *Dynamical systems* (*Proc. Sympos., Univ. Bahia, Salvador*, 1971), *pp.* 155–164. *Academic Press, New York*, 1973. (J. R. Vansto **53** #9299 58F15 (58E10)

Geschlossene Geodätische. *Abh. Math. Sem. Univ. Hamburg* **39** (1973), 10–14. Klingmann) **49** #3766 53C20

Le théorème de l'indice pour les géodésiques fermées. *C. R. Acad. Sci. Paris A-B* **276** (1973), A1005–A1008. (L. A. Santaló) **47** #4289 58E10

The theory of closed geodesics. *Eigenvalues of non-linear problems* (*Centro Intern

Mat. Estivo (*C.I.M.E.*), *III Ciclo*, *Varenna*, 1974), *pp*. 85–137. *Edizioni Cremonese*, *Rome*, 1974. (J. S. Joel) **56** #16679 58E10

Riemannian manifolds with geodesic flow of Anosov type. *Ann. of Math*. (2) **99** (1974), 1–13. (Robert Roussarie) **51** #14149 58E10 (58F15)

Der Indexsatz für geschlossene Geodätische. *Math. Z*. **139** (1974), 231–256. (M. Klingmann) **51** #6878 58E10

The index theorem for closed geodesics. *Tôhoku Math. J*. (2) **26** (1974), 573–579. (R. S. Palais) **50** #11314 58E10

(*with* Gromoll, Detlef; Meyer, Wolfgang) ★Riemannsche Geometrie im Großen. Zweite Auflage. Lecture Notes in Mathematics, Vol. 55. *Springer-Verlag*, *Berlin-New York*, 1975. vi + 287 *pp*. (Editors) **51** #1651 53Cxx (58–02)

Das Indextheorem für geschlossene Geodätische. (French summary) With questions by J. E. Marsden and A. Voros and replies by the author. *Géométrie symplectique et physique mathématique* (*Colloq. Internat. CNRS*, *No*. 237, *Aix-en-Provence*, 1974), *pp*. 305–312. *Éditions Centre Nat. Recherche Sci*., *Paris*, 1975. (M. L. Gromov) **57** #7664 58E10

Neuere Entwirklungen in der Theorie der geschlossenen Geodätischen. 7. *Steiermärkisches Mathematisches Symposium* (*Graz*, 1975), *Ber. No*. 41, 11 *pp*. *Ber. Mat.-Statist. Sektion*, *Forschungszentrum Graz*, *No*. 38-45, *Math.-Statist. Sektion*, *Forschungszentrum Graz*, *Graz*, 1975. (J. S. Joel) **54** #8716 58E10

(*with* Sasaki, Shigeo) On the tangent sphere bundle of a 2-sphere. *Tôhoku Math. J*. (2) **27** (1975), 49–56. (R. J. Crittenden) **50** #14591 53C35

Existence of infinitely many closed geodesics. *J. Differential Geometry* **11** (1976), *no*. 2, 299–308. (Jill P. Mesirov) **54** #6195 58E10 (53C20)

★Lectures on closed geodesics. Third edition. *Mathematisches Institut der Universität Bonn*, *Bonn*, 1977. 210 *pp*. (*not consecutively paged*) (Y. Mutô) **57** #1346 53C20 (58E10)

★A course in differential geometry. Translated from the German by David Hoffman. Graduate Texts in Mathematics, Vol. 51. *Springer-Verlag*, *New York-Heidelberg*, 1978. xii + 178 *pp*. *ISBN* 0-387-90255-4 (Editors) **57** #13702 53–01 (58–01)

★Lectures on closed geodesics. Grundlehren der Mathematischen Wissenschaften, Vol. 230. *Springer-Verlag*, *Berlin-New York*, 1978. x + 227 *pp*. *ISBN* 3-540-08393-6 (Y. Mutô) **57** #17563 53C20 (58E10)

Über den Index geschlossener Geodätischer auf Flächen. *Nagoya Math. J*. **69** (1978), 107–116. (Y. Mutô) **57** #4234 58E10 (53C20)

See also **Differentialgeometrie im Großen**, **48** #9596; **Geometrie**, **50** #8251; **Differential geometry**, **51** #6863; **Kijowski, Jerzy; et al.**, **56** #9586; **Simon, Carl P.; et al.**, **57** #1550; **Voros, A.**, **57** #7678 *and* **Weinstein, Alan**, **58** #31307

K ger, A. *See* **Applications of Walsh functions**, **48** #8080

K ger, Allen Patterns and search statistics. *Optimizing methods in statistics* (*Proc. Sympos*., *Ohio State Univ*., *Columbus*, *Ohio*, 1971), *pp*. 303–337. *Academic Press*, *New York*, 1971. (Arnold Griffith) **50** #15469 68A45

(*with* Alexandridis, Nikitas A.) Real-time Walsh-Hadamard transformation. *IEEE Trans. Computers* **C-21** (1972), 288–292. (Authors' summary) **47** #2852 68A10

K ger, H. G. Heat transfer in perfused biological tissue. I. General theory. *Bull. Math. Biol*. **36** (1974), 403–415. (L. I. Rubinstein) **51** #4867 80.35

Heat transfer in perfused biological tissue. II. The "macroscopic" temperature distribution in tissue. *Bull. Math. Biology* **40** (1978), *no*. 2, 183–199. (Gail A. Carpenter) **58** #4412 92A05

K ger, Kenneth (*with* Mason, Geoffrey) Centralizers of *p*-groups in groups of characteristic 2, *p*-type. *J. Algebra* **37** (1975), *no*. 2, 362–375. (David C. Hunt) **52** #10873 20D15

Finite groups of order $2^a3^b13^c$. *J. Algebra* **41** (1976), *no*. 2, 303–326. (Geoffrey Mason) **54** #2784 20D05

ngman, Darwin (*with* Charnes, Abraham; Glover, Fred) The lower bounded and partial upper bounded distribution model. *Naval Res. Logist. Quart*. **18** (1971), 277–281. (H. Zegeling) **47** #1283 65K05 (90B99)

(*with* Glover, Fred) Higher order tree dual approximation methods for the distribution problem. *Management Sci*. **18** (1972), 574–583. (F. Giannessi) **47** #6302 90C05

(*with* Glover, Fred; Napier, Al) Basic dual feasible solutions for a class of generalized networks. *Operations Res*. **20** (1972), 126–136. (P. Vondráček) **47** #3115 94A20

(*with* Glover, Fred; Napier, Al) An efficient dual approach to network problems. *Opsearch* **9** (1972), 1–18. (K. Swarup) **48** #10455 90B10

(*with* Glover, Fred; Karney, D.; Napier, Al) A computation study on start procedures, basis change criteria, and solution algorithms for transportation problems. Mathematical programming. *Management Sci*. **20** (1973/74), 793–813. (M. M. Flood) **50** #6478 90C05

(*with* Glover, Fred) On the equivalence of some generalized network problems to pure network problems. *Math. Programming* **4** (1973), 269–278. (M. Dragomirescu) **47** #6393 94A20

(*with* Glover, Fred) Concave programming applied to a special class of 0-1 integer programs. Mathematical programming and its applications. *Operations Res*. **21** (1973), 135–140. (G. Berman) **50** #3943 90C25

(*with* Glover, Fred) The generalized lattice-point problem. Mathematical programming and its applications. *Operations Res*. **21** (1973), 141–155. (M. Mañas) **50** #3949 90C30

(*with* Glover, Fred) A note on computational simplifications in solving generalized transportation problems. *Transportation Sci*. **7** (1973), 351–361. (Authors' summary) **54** #6502 65K05 (90B10)

(*with* Barr, R. S.; Glover, Fred) An improved version of the out-of-kilter method and a comparative study of computer codes. *Math. Programming* **7** (1974), 60–86. (Authors' summary) **55** #9599 68A20 (90B99)

(*with* Glover, Fred; Ross, G. Terry) Finding equivalent transportation formulations for constrained transportation problems. *Naval Res. Logist. Quart*. **21** (1974), 247–254. (Romesh Saigal) **49** #8647 90C05 (90B10)

(*with* Russell, Robert A.) The transportation problem with mixed constraints. *Operational Res. Quart*. **25** (1974), 447–455. (Ion Dobre) **51** #12324 90C05 (90B05)

(*with* Glover, Fred; Stutz, John) The disjunctive-facet problem: formulation and solution techniques. *Operations Res*. **22** (1974), *no*. 3, 582–601. (From the authors' summary) **57** #2585 90C50

(*with* Glover, Fred; Napier, Al) A note on finding all shortest paths. *Transportation Sci*. **8** (1974), 3–12. (Kenji Onaga) **51** #9775 90B10

(*with* Glover, Fred) Finding minimum spanning trees with a fixed number of links at a node. *Combinatorial programming*: *methods and applications* (*Proc. NATO Advanced Study Inst*., *Versailles*, 1974), *pp*. 191–201. *NATO Advanced Study Inst. Ser*., *Ser. C*: *Math. and Phys. Sci*., *Vol*. 19, *Reidel*, *Dordrecht*, 1975. (Richard D. Ringeisen) **53** #7112 68A10 (05C35, 90C35)

(*with* Charnes, Abraham; Cooper, William W.; Niehaus, R. J.) Explicit solutions in convex goal programming. *Management Sci*. **22** (1975/76), *no*. 4, 438–448. (A. Majthay) **55** #2135 90C25

(*with* Russell, Robert A.) Solving constrained transportation problems. *Operations Res*. **23** (1975), *no*. 1, 91–106. (J. A. Tomlin) **54** #4683 90C50

(*with* Glover, Fred) Finding minimum spanning trees with a fixed number of links at a node. *Progress in operations research*, *Vols. I*, *II* (*Proc. Sixth Hungarian Conf*., *Eger*, 1974), *pp*. 425–439. *Colloq. Math. Soc. János Bolyai*, *Vol*. 12, *North-Holland*, *Amsterdam*, 1976. (Michel Chein) **55** #12116 90C35 (05C05)

(*with* Glover, Fred) New advances in the solution of largescale network and network-related problems. *Progress in operations research*, *Vols. I*, *II* (*Proc. Sixth Hungarian Conf*., *Eger*, 1974), *pp*. 441–460. *Colloq. Math. Soc. János Bolyai*, *Vol*. 12, *North-Holland*, *Amsterdam*, 1976. (R. Bolstein) **57** #15377 90B10

(*with* Glover, Fred) Improved convexity cuts for lattice point problems. *J. Optimization Theory Appl*. **19** (1976), *no*. 2, 283–291. (C. Bergthaller) **54** #12199 90C05

(*with* Hultz, John; Russell, Robert A.) An advanced dual basic feasible solution for a class of capacitated generalized networks. *Operations Res*. **24** (1976), *no*. 2, 301–313. (K. Swarup) **54** #4674 90C35

(*with* Glover, Fred; Napier, Al) Equivalence of generalized network and generalized transportation problems. *Opsearch* **13** (1976), *no*. 2, 93–100. (Jonathan Halpern) **56** #2285 90B10

(*with* Hultz, John) Solving singularly constrained generalized network problems. *Appl. Math. Optim*. **4** (1977/78), *no*. 2, 103–119. (M. Mañas) **57** #15414 90C05

(*with* Barr, R. S.; Glover, Fred) The alternating basis algorithm for assignment problems. *Math. Programming* **13** (1977), *no*. 1, 1–13. (K. G. Murty) **56** #2400 90C35

(*with* Barr, R. S.; Glover, Fred) The generalized alternating path algorithm for transportation problems. *European J. Oper. Res*. **2** (1978), *no*. 2, 137–144. (Suresh Chandra) **58** #15126 90C05

(*with* Elam, Joyce; Mulvey, John M.) An evaluation of mathematical programming and minicomputers. *European J. Oper. Res*. **3** (1979), *no*. 1, 30–39. (Authors' summary) **58** #25908 90B10 (90–04)

See also **Mathematical programming**, **48** #7956

Klingmann, Manfred Kurven auf orientierbaren Flächen. (English summary) *Manuscripta Math*. **8** (1973), 111–130. (S. Y. Husseini) **48** #9618 53C40 (57D40)

Klini, S. K. *See* **Kleene, Stephen Cole**

Klink, Helge-K. Eine Feinabschätzung des Doppelintegrals mit Cauchy-Singularität und deren Anwendung auf die Methode der sukzessiven Approximation bei partiellen komplexen Differentialgleichungen. *Math. Nachr*. **79** (1977), 291–294. (R. N. Pederson) **57** #6447 30A86 (35F20)

Klink, William H. (*with* Smith, Granville J., II) Symmetries imposed on two-particle systems. III. Energy dependence of partial-wave amplitudes. *Phys. Rev. D* (3) **2** (1970), 2912–2926. (Anthony Joseph) **47** #9969 81.22

Multiparticle partial-wave amplitudes and inelastic unitarity. I. General formalism; Racah coefficients for the Poincaré group. *Phys. Rev. D* (3) **4** (1971), 2260–2280. (Author's summary) **52** #9901 81.47

(*with* Warren, Russell E.) Projective representations and the relation of internal to space-time symmetries. *J. Mathematical Phys*. **13** (1972), 306–312. (A. O. Barut) **45** #6304a 81.22

(*with* Warren, Russell E.) Position operators as "internal" symmetries. *J. Mathematical Phys*. **13** (1972), 312–316. (A. O. Barut) **45** #6304b 81.22

Multiparticle partial-wave amplitudes and inelastic unitarity. II. Analysis of three-body unitarity. *Phys. Rev. D* (3) **7** (1973), 2980–2989. (Author's summary) **52** #9902 81.47

Multiparticle partial-wave amplitudes and inelastic unitarity. III. Solution of the three-body unitarity equations using characteristic operator functions. *Phys. Rev. D* (3) **7** (1973), 2989–2997. (Author's summary) **52** #9903 81.47

Expansions in Breit-Wigner amplitudes and biorthogonal functions. *J. Mathematical Phys*. **15** (1974), 565–569. (R. A. Askey) **50** #1662 81.42

(*with* Johnson, Lloyd E.) Multiparticle partial-wave amplitudes and inelastic unitarity. IV. A scattering model with production and its characteristic operator function. *Phys. Rev. D* (3) **9** (1974), 1057–1064. (Authors' summary) **52** #9904 81.47

Two applications of the Racah coefficients of the Poincaré group. *J. Mathematical Phys*. **16** (1975), 1247–1252. (M. Carmeli) **52** #7348 81.22

(*with* Payne, G. L.) Approximating with nonorthogonal basis functions. *J. Computational Phys*. **21** (1976), *no*. 2, 208–226. (Authors' summary) **56** #16999 65D10

van Klinken, J. Comparison of financing systems and contribution levels with the Steffensen-Jensen inequality. Relation between the "generation" and the "year" system. (Dutch) *Verzekerings-Arch*. **51** (1974), *no*. 2, 145–167. (H. L. Seal) **52** #7496 90A99 (90C47)

Kliot-Dašinskiĭ, M. I. ★Алгебра матриц и векторов. (Russian) [The algebra of matrices and vectors] *Izdat. Leningrad. Univ*., *Leningrad*, 1974. 160 *pp*. (Editors) **50** #9888 15–01

Klipker, I. A. (*with* Ruda, L. G.; Ciskaridze, K. Š.) A certain algorithm for the minimization of the summary length of the edges of a graph. (Russian. Georgian summary) *Math. Kibernet. Zogieth. Sakith. Gamokw. No*. 1 (1973), 75–80. (D. Cvetković) **49** #4854 05C35 (*with* Burštein, M. I.) 2-enumerable trees. (Russian. Georgian and English summaries) *Gamoqeneb. Math. Inst. Sem. Mohsen. Anotacie. Vyp.* 10 (1975), 27–32. (Jaroslav Nešetřil) **54** #5040 05C30

(*with* Gol'dberg, M. K.) A numbering of a uniform tree that minimizes the sum of the lengths of the edges. (Russian. Georgian and English summaries) *Gamoqeneb. Math. Inst. Sem. Mohsen. Anotacie. Vyp.* 10 (1975), 65–71. (W. Dörfler) **53** #10646 05C35

An abstract characteristic of the semiring of binary relations on a finite set. (Russian. Georgian summary) *Thbilis. Univ. Šrom. A* **9(157)** (1975), 33–41. (Teo Sturm) **55** #10535 16A78 (08A05)

(*with* Gol'dberg, M. K.) An algorithm for minimal numeration of tree vertices. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 3, 553–556. (G. Bär) **53** #13024 05C30 (68A10)

Klippert, J. On the uniform convergence of trigonometric interpolating polynomials to functions in the class $C^*{}_T(\omega)$. *Acta Math. Acad. Sci. Hungar.* **25** (1974), 33–45. (F. C. Hsiang) **51** #1240 42A12

Klir, George J. Processing of fuzzy activities of neutral systems. *Progress in cybernetics and systems research* (*Second European Meeting, Vienna,* 1974), *Vol. I: General systems, engineering systems, biocybernetics and neural systems, pp.* 21–24. *Hemisphere, Washington, D.C.,* 1975. (Kiyoji Asai) **58** #26227 93A99 (94A99)

See also **Operational Research, 49** #12059 *and* **Applied general systems research, 58** #4473

Kliś, Czesław (*with* Ryll-Nardzewski, Czesław) On a problem of J. Mikusiński on HEM integral. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 3, 301–304. (W. F. Pfeffer) **56** #570 28A30

An example of noncomplete normed (K)-space. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 5, 415–420. (M. Balanzat) **58** #17795 46B99

Klittich, Manfred *See* **Föllinger, Otto, 50** #12331

Klix, Wolf-Dieter Ein Beitrag zur Übertragung der euklidischen Liniengeometrie auf die Kleinsche Hyperquadrik des P_5. *Wiss. Z. Techn. Univ. Dresden* **19** (1970), 1387–1395. (J. Hoschek) **48** #1022 50C25

Eine Möglichkeit zur projektiven Erfassung kotierter Projektionen des dreidimensionalen Raumes. *Wiss. Z. Techn. Univ. Dresden* **21** (1972), 761–766. (E. W. Ellers) **48** #4901 50D20

Mathematisches Lehrfach "Darstellende Geometrie". Gegenwärtige Situation und Ansätze zur Verbesserung. *Wiss. Z. Techn. Univ. Dresden* **24** (1975), *no.* 3-4, 549–553. (Editors) **52** #1502 50–01

(*with* Harms, Susanne) Ein Algorithmus zur automatischen Lösung konstruktiver Problemstellungen. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg M* **8** *Beitr. Algebra Geom.* **6** (1977), 55–69. (Wolfgang Böhm) **58** #5101 02E10 (50–04, 68A10)

See also **Grundlagen der Geometrie und algebraische Methoden, 48** #12227

Kljac'ka, L. M. (*with* Zaĭcev, D. Ī.) Groups with a certain system of complemented abelian subgroups. (Russian) *Groups with systems of complemented subgroups* (*Russian*), *pp.* 180–222, 228. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev,* 1971. (Sergei A. Syskin) **48** #8644 20F30

Kljackin, V. I. Equilibrium hydrodynamic fluctuations in an ideal gas. *Izv. Akad. Nauk SSSR Ser. Fiz. Atmosfer. i Okeana* **7** (1971), *no.* 5, 486–495 (*Russian*); *translated as Izv. Acad. Sci. USSR Atmospher. Ocean. Phys.* **7** (1971), *no.* 5, 317–321. (Author's summary) **57** #2154 76.60

The space-time description of stationary and homogeneous turbulence. (Russian) *Izv. Akad. Nauk SSSR Ser. Meh. Židk. Gaza* **1971**, *no.* 4, 120–127. (J. W. Thomas) **46** #2987 76.60

(*with* Tatarskiĭ, V. I.) The diffusion of rays in a medium with random inhomogeneities. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 706–717. (J. E. Rosenthal) **46** #1208 78.35

(*with* Tatarskiĭ, V. I.) A new method of successive approximations in the problem of wave propagation in a medium with random large scale inhomogeneities. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 1400–1415. (J. E. Rosenthal) **46** #1209 78.35

(*with* Tatarskiĭ, V. I.) Statistical theory of light propagation in a turbulent medium. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), *no.* 10, 1433–1455. (From the authors' text) **57** #14940 78.60

On the statistical theory of the propagation of light in a medium with random inhomogeneities. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **18** (1975), *no.* 1, 63–68. (Author's summary) **57** #2207 78.60

Dynamical systems with non-Gaussian delta-correlated fluctuations of the parameters. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **18** (1975), *no.* 10, 1454–1469. (Author's summary) **57** #819 34F05

Dynamical systems with parameter fluctuations in the form of processes of telegraphic type. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 4, 562–575. (Author's summary) **57** #8488 78.60

(*with* Tatarskiĭ, V. I.) On the statistical theory of wave propagation in random stratified media. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 7, 1040–1053. (Authors' summary) **58** #25708 82.60

A remark on stochastic boundary value problems. (Russian. English summary) *Izv. Vysš. Učebn Zaved. Radiofizika* **20** (1977), *no.* 8, 1165–1170. (E. S. Čičkin) **56** #17106 65L15 (93E20)

The methods of quantum field theory in the dynamics of linear stochastic systems. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 11, 1698–1703. (Author's summary) **57** #2388 82.60 (81.60)

See also **Collection: Oscillations and waves in nonlinear media, 49** #4705

Kljačkin, V. I. On the theory of nonlinear transformations of random processes. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radofizika* **17** (1974), 134–147. (Ī. M. Stojanov) **49** #4637 93E99

Stress field in a compressible fluid and the excitation of elastic shells. *Akust. Ž.* **23** (1977), *no.* 5, 766–775 (*Russian*); *translated as Soviet Physics Acoust.* **23** (1977), *no.* 5, 438–443. (T. Bryant Moodie) **57** #14853 76.35

Kljačko, A. A. Varieties of p-groups of small class. (Russian) *Ordered sets and lattices, No.* 1 (*Russian*), *pp.* 31–42. *Izdat. Saratov. Univ., Saratov,* 1971. (L. G. Kovács) **54** #7623 20E10

A connection between varieties of groups and of Lie rings. (Russian) *Stu algebra, No.* 4 (*Russian*), *pp.* 43–50, 124. *Izdat. Saratov. Univ., Saratov,* 1974. Kukin) **55** #444 17B60

Lie elements in a tensor algebra. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1296–1430. (D.-M. Popescu) **51** #8178 16A68

Homogeneous Lie elements, and varieties of nilpotent groups. (Russian) *Mat. Nauk* **29** (1974), *no.* 6(180), 171–172. (A. A. Iskander) **55** #12818 (EA 20E10

Kljačko, T. L. The distribution of resources among the different versions of how to the goals of a national economic plan. (Russian) *Èkonom. i Mat. Metody* **12** (197 6, 1140–1152. (D. Obradović) **58** #20305 90A15

Kljaus, E. M. (*with* Frankfurt, U. I.; Frenk, A. M.) ★Гендрик Антон Лоренц (1853–1928). (Russian) [Hendrik Antoon Lorentz (1853–1928)] *Izdat. "Nauka", Moscow,* 1974. 240 *pp.* (Editors) **52** #10337 01A70

Kljaus, P. S. A special case of the bottleneck traveling salesman problem. (Russian) *Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 1, 61–65, 141. (V. D. Dim **51** #14632 68A10

Structure of the optimal solutions of some classes of traveling salesman prob (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 6, 95–98, 14 Ja. Gabovič) **56** #14670 90C05 (90B10)

Ključancev, M. I. (*with* Kiprijanov, I. A.) Norms of fractional order, and estimates certain class of singular integrals. (Russian) *A collection of articles on function space operator equations* (*Proc. Sem. Functional Anal., Math. Fac., Voronezh State Voronezh,* 1970)(*Russian*), *pp.* 45–62. *Voronež. Gos. Univ., Voronezh,* 1970. (P. Lizo **55** #13232 46E35 (35C15)

(*with* Kiprijanov, I. A.) The Poisson kernels for boundary value problems Bessel differential operator. (Russian) *Partial differential equations* (*Proc. Sym* (*Russian*), *pp.* 119–134. *Izdat. "Nauka", Moscow,* 1970. (J. Kačur) **47** #5445 (35C15)

(*with* Kiprijanov, I. A.) A singular partial differential problem with boun conditions on the surface of singularities. (Russian) *Dokl. Akad. Nauk SSSR* (1972), 1001–1003. (A. M. Abasov) **46** #554 35Q99

Estimates of the fundamental solutions of singular boundary value problems parameter. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 1284–1286. (Margaret Dow) **49** #7606 35K35

The construction of r-even solutions of singular differential equations. (Russ *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 5, 1004–1007. (J. Chrastina) **52** #112 35C99 (34A25)

Integrals of fractional order, and singular boundary value problems. (Russ *Differencial'nye Uravnenija* **12** (1976), *no.* 6, 983–990, 1139–1140. (I. Kiguradze) **54** #13181 34A25 (34A10)

Ključko, V. I. (*with* Kuz'min, I. V.; Javna, A. A.) ★**Элементы вероятностных мод** АСУ. (Russian) [Fundamentals of probabilistic models of automatic control syste "*Sovetskoe Radio*", *Moscow,* 1975. 335 *pp.* (From the publisher's description) **55** #12376 94A35 (92A25)

Ključkovs'kiĭ, Ju. B. (*with* Gaĭda, R. P.) Transformation properties of the integral motion of a classical quasirelativistic two-particle system. (Russian. English summ *Ukrain. Fiz. Ž.* **22** (1977), *no.* 4, 609–616, 698. (Authors' summary) **57** #4949

(*with* Gaĭda, R. P.) Lagrangian formulation of the relativistic N body probler the classical theory of instantaneous action at a distance. (Russian. English summ *Ukrain. Fiz. Ž.* **22** (1977), *no.* 4, 617–625, 699. (E. Leimanis) **56** #17669 83.34

Ključnikova, V. G. (*with* Špakova, S. G.; Martinenko, V. S.) A study of the oscillation spherical shells in nonclassical formulation. (Russian) *Prikl. Meh.* **13** (1977), *no* 15–20, 140. (From the text) **57** #14706 73.34

Kljuĭnik, Ī. F. The differential equations of Kolmogorov in the theory of Markov proce (Russian) *Mathematical physics, No.* 12 (*Russian*), *pp.* 46–49, 167. *Izdat. "Nauk Dumka", Kiev,* 1972. (B. Kronfeld) **48** #12650 60J10

A certain test of the sign-definiteness of forms of even order, and its applicat (Russian) *Mathematical physics, No.* 16 (*Russian*), *pp.* 103–112, 197. *Izdat. "Nauk Dumka", Kiev,* 1974. (Bert-Wolfgang Schulze) **49** #3323 35J99

The application of three-dimensional determinants to the computation of invariants of tensors of higher ranks. (Ukrainian. English and Russian summari *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 158–160, 191. (Author's summa **48** #11144 15A15

The matrix representation of tensors. (Ukrainian. English and Russian summari *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 210–213, 285. (J. Karásek) **49** #505 15A72

Conditions for forms of even order to be sign definite or sign constant. (Russia *Mathematical methods, and physical and mechanical fields, No.* 1 (*Russian*), *pp.* 15–215. "*Naukova Dumka*", *Kiev,* 1975. (M. Švec) **54** #13233 34D20

(*with* Pustomel'nikov, Ī. P.) The relation between branching continued fracti and three-by-three matrices. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Ī. No.* 106 (1975), 90–94, 203. (Authors' summary) **58** #21920 10A30

Necessary and sufficient conditions for the sign-definiteness of a form of order f in three variables. (Russian) *Theoretical and applied questions of algebra and differen equations* (*Russian*), *pp.* 45–48, 119. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev,* 197 **58** #28047 15A72 (10C10)

(*with* Kalenjuk, P. Ī.) A determinant criterion for the sign constancy of bin forms. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 104–106, 191. (Authors' summary) **58** #5518 10C10

(*with* Kalenjuk, P. Ī.; Obšta, A. F.) Ellipticity conditions in the sense of Doug and Nirenberg. (Russian) *Mat. Fiz. Vyp.* 22 (1977), 91–93, 125. (G. Albinus) **57** #68 35J45

Kljušin, Jaroslav Equivalence theorems for general positional games. (Russian. Engl summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius,* 197 (*Russian*), *pp.* 169–173. *Izdat. "Mintis", Vilnius,* 1973. (J. R. Isbell) **50** #6543 90D99

The complete memory of players in differential games with incomplete informatio (Russian. Lithuanian and English summaries) *Mat. Metody v Social. Nauk.—Tru Sem. Processy Optimal. Upravlenija II Sekcija No.* 7 (1976), 96–110. (Author's summar

#26074 90D25

Information structure and strategy equivalence in differential games. (Russian) *kl. Akad. Nauk SSSR* **232** (1977), *no.* 1, 20–23. (A. B. Kuržanskiĭ) **56** #17870 D25

Klju, V. L. Spaces with regularly refinable coverings. (Russian) *Dokl. Akad. Nauk SR* **204** (1972), 782–783. (W. M. Fleischman) **47** #9539 54D20

Sur les espaces pseudo-paracompacts. *Bull. Soc. Roy. Sci. Liège* **42** (1973), 523–528. . J. Lutzer) **50** #1202 54D20

Klju kov, V. D. Bifurcation of the deformation process and the concept of continued ding. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1972**, 16–20 (*Russian*); *translated as echanics of Solids* **7** (1972), *no.* 5, 13–17 (1973). (L. A. Segel) **50** #3725 73.53

(*with* Kupavcev, V. V.) Two-sided estimates of critical loadings of nonuniformly mpressed rods. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 3, 561–564. (J. L. winski) **58** #8694 73.49

Klo B. E. The deviations of classes of functions. (Russian. English summary) *Vestnik oskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 3, 43–50. (G. Godini) **49** #3406 A65

Linear deviations of the classes $\tilde{W}_p^\alpha$, and approximations in spaces of multipliers. ussian) *Mat. Zametki* **18** (1975), *no.* 1, 97–108. (Dumitru Gaşpar) **52** #11425 A35

Approximations of differentiable functions by functions of greater smoothness. ussian) *Mat. Zametki* **21** (1977), *no.* 1, 21–32. (Bl. Sendov) **58** #1896 41A50

Klo, Jacenty The sufficient condition for linear constant time-lag systems to be normal stems. *Ann. Polon. Math.* **32** (1976), *no.* 2, 187–205. (*errata insert*) (From the author's troduction) **56** #13053 49B35

An illustrative example for the Perron condition. *Ann. Polon. Math.* **35** (1977/78), . 1, 11–14. (James S. Muldowney) **57** #803 34D05

A necessary and sufficient condition for normality of linear control system with elays. *Ann. Polon. Math.* **35** (1977/78), *no.* 3, 305–312. (M. J. Davies) **57** #5229 3B05

Klo, A. V. (*with* Giorgadze, A. H.) The expansion of stochastic matrices in terms of ementary matrices. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. kad. Moambe* **67** (1972), 561–563. (George P. Barker) **48** #11164 15A51

Klo, L. M. *See* **Theory of optimal processes**, **48** #3535

Klden, Peter E. General control systems without backwards extension. *Differential ames and control theory* (*Proc. NSF-CBMS Regional Res. Conf., Univ. Rhode Island, ingston, R.I.*, 1973), *pp.* 49–58. *Lecture Notes in Pure Appl. Math., Vol.* 10, *Dekker, New ork*, 1974. (E. O. Roxin) **57** #15587 93A05

Generalised Markovian control systems. *J. Austral. Math. Soc.* **18** (1974), 485–491. H. Taylor) **51** #9931 93E15

Some remarks on relative stability. *J. Austral. Math. Soc. Ser. B* **19** (1975), *no.* 1, 12–115. (Peter A. Cook) **52** #7659 93D99

Aggregation-decomposition and equi-ultimate boundedness. *J. Austral. Math. Soc. Ser. B* **19** (1975/76), *no.* 2, 249–258. (T. Yoshizawa) **58** #9620 93D05 (34D20)

Asymptotic invariance and limit sets of general control systems. *J. Differential Equations* **19** (1975), *no.* 1, 91–105. (Stephen H. Saperstone) **52** #15192 49E20

Eventual stability in general control systems. *J. Differential Equations* **19** (1975), *no.* 1, 106–124. (Mark A. Aĭzerman) **52** #6544 49E20

Chaotic difference equations are dense. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 3, 371–379. (L. Losonczi) **55** #5809 26A18

An attainability set model for dynamical games. *J. Differential Equations* **21** (1976), *no.* 1, 197–230. (O. Hájek) **56** #2439 90D25

A differential game without a qualitative saddle point. *J. Optimization Theory Appl.* **20** (1976), *no.* 2, 251–254. (E. O. Roxin) **54** #12238 90D25

(*with* Diamond, Phil) Converse theorems for stochastic exponential stability. *Internat. J. Control* **25** (1977), *no.* 4, 507–512. (Jürgen Groh) **57** #2716 93E15 (93D05)

(*with* Pearson, R. A.) The numerical solution of stochastic differential equations. *J. Austral. Math. Soc. Ser. B* **20** (1977), *no.* 1, 8–12. (J. D. Borwankar) **57** #1650 60H20

(*with* Bennett, A. F.) Boundary conditions for limited-area forecasts. *J. Atmospheric Sci.* **35** (1978), *no.* 6, 990–996. (Michael Ghil) **58** #14986 86.35 (35L50)

Topologies for general semidynamical systems. *J. Differential Equations* **27** (1978), *no.* 1, 92–105. (From the introduction) **58** #31009 54H20

ek, T. (*with* Lempers, F. B.) On a simple transformation for second-order autocorrelated disturbances in regression analysis. *Statistica Neerlandica* **27** (1973), 69–75. (P. K. Bhattacharya) **51** #2174 62J05

Note on a large-sample result in specification analysis. *Econometrica* **43** (1975), *no.* 5–6, 933–936. (Author's summary) **55** #13710 62P20

(*with* Lempers, F. B.) Post-experiment introduction of constraints on parameters. *J. Comput. Appl. Math.* **1** (1975), *no.* 4, 235–237. (M. Atiqullah) **55** #9426 62J05

izner, S. M. (*with* Kosmodamīans'kiĭ, O. S.) The quasiregularity of infinite systems of algebraic equations that arise in the solution of doubly periodic problems of nonlinear elasticity theory. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 35–42. *Naukova Dumka, Kiev*, 1971. (J. L. Nowinski) **47** #2882 73.30

kov, Ju. A. *See* **Klokovs, J.**

kov, V. I. The stabilization of the rotary motion of a spaceship. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 19 *Mat. Meh. Astronom. Vyp.* 4, 145–148, 158. **54** #11888 70.34

kov, V. V. Application of a new auxiliary function in the proof of uniqueness of the solution of the generalized Frankl shock problem. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 6 (1969), 73–78. (Zbl **216**, 259) **58** #17570 35M05

The uniqueness of the solution of boundary value problems of the type of Frankl shock problems. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 7 (1970), 142–147. (Zbl **206**, 398) **58** #17571 35M05

okovs, J. (*with* Šķērstēna, A.) A certain method of solving the Sturm-Liouville problem for a second order ordinary differential equation. I. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 105–116. *Izdat. "Zinatne", Riga*, 1971. (K. Najzar) **47** #6098 65L10

(*with* Pospelov, L. N.) A priori estimates of the solutions of a two-point boundary value problem for the *n*th order equation. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 10 (*Russian*), *pp.* 43–59. *Izdat. "Zinatne", Riga*, 1972. (M. Kakabadze) **49** #9311 34B15

Uniqueness of the solution of boundary value problems for systems of two first order differential equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1377–1385. (A. A. Juščenko) **47** #540 34B15

(*with* Gudkovs, V.; Ļepins, A.; Ponomarev, V. D.) ★Двухточечные краевые задачи для обыкновенных дифференциальных уравнений. (Russian) [Two-point boundary value problems for ordinary differential equations] *Izdat. "Zinatne", Riga*, 1973. 135 *pp.* (N. Pavel (Zbl **274** #34017)) **56** #5999 34B15

(*with* Bespalova, S. A.; Sedola, H. M.) Methods for finding real roots. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 12 (*Russian*), *pp.* 25–37. *Izdat. "Zinatne", Riga*, 1973. (I. Păvăloiu) **49** #11794 65H05

(*with* Šķērstēna, A.) A certain method of solving the Sturm-Liouville problem for a second order ordinary differential equation. II. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 12 (*Russian*), *pp.* 99–109. *Izdat. "Zinatne", Riga*, 1973. (K. Najzar) **49** #6625 65L10 (34B05)

(*with* Vasil'ev, N. I.) The solvability of boundary value problems in the small. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1187–1194, 1355. (C. Avramescu) **47** #8962 34B15

(*with* Pospelov, L. N.) Conditions for a priori boundedness of the solutions of boundary value problems for third order equations. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1425–1431, 1548. (M. Švec) **49** #9312 34B15

(*with* Vasil'ev, I. I.; Šķērstēna, A.) ★Дополнительные главы численного анализа. Часть I. Применение полиномов Чебышева в численном анализе. (Russian) [Supplementary chapters in numerical analysis. Part I. Application of Čebyšev polynomials in numerical analysis] *Latviĭsk Gos. Univ., Riga*, 1975. 94 *pp.* (A. Coţiu) **57** #10983 65-01

(*with* Vasil'ev, I. I.; Šķērstēna, A.) ★Дополнительные главы численного анализа. Часть II. Численное решение дифференциальных и интегральных уравнений. (Russian) [Supplementary chapters in numerical analysis. Part II. Numerical solution of differential and integral equations] *Latviĭsk. Gos. Univ., Riga*, 1975. 111 *pp.* (A. Coţiu) **57** #10984 65-01

(*with* Lomakina, A. I.) A certain boundary value problem with singularities at the endpoints of the interval. (Russian) *Latvian mathematical yearbook*, 17 (*Russian*), *pp.* 179–186, 278. *Izdat. "Zinatne", Riga*, 1976. (Authors' summary) **58** #1350 34B15

(*with* Bespalova, S. A.) A three-point boundary vlaue problem for a nonlinear third order ordinary differential equation. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 6, 963–970, 1139. (I. Kiguradze) **54** #13187 34B15

(*with* Vasil'ev, N. I.) The convergence of the expansions of certain functions in series of Čebyšev polynomials. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 3–11, 243. (L. Berg) **57** #10314 41A10

(*with* Vasil'ev, N. I.; Lomakina, A. I.) A three-point boundary value problem. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 90–101, 244. (I. Kiguradze) **56** #12388 34B15

(*with* Lepins, L.) A two-point boundary value problem for a certain fourth order system with quadratic terms. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 123–132, 245. (I. Kiguradze) **56** #12382 34B15

(*with* Lepins, L.) The first boundary value problem for a certain fourth order system. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 12, 2149–2157, 2301. (J. Jarník) **57** #10069 34B15

Development of the theory of boundary value problems for ordinary differential equations in Soviet Latvia. (Russian) *Latvijas PSR Zinātņ. Akad. Vēstis* **1978**, *no.* 2(367), 12–19, 160. (Editors) **57** #12095 01A65

Klonecki, Witold On identifiability of mixtures of composed Poisson distributions. (Polish summary) *Zastos. Mat.* **12** (1971), 259–271. (M. Skalsky) **47** #1098 60E05

A note on optimal $C(\alpha)$-tests for homogeneity of the Poisson distribution. (Polish summary) *Zastos. Mat.* **13** (1972/73), 497–505. (I. Vincze) **50** #8794 62F05

(*with* Zonn, Włodzimierz) Jerzy Spława-Neyman. (Polish) *Wiadom. Mat.* (2) **16**, 55–70 (1973). (Editors) **56** #11717 01A70

(*with* Gnot, Stanisław; Zmyślony, Roman) Uniformly minimum variance unbiased estimation in Euclidean vector spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 4, 281–286. (Authors' summary) **57** #17924 62F10

(*with* Gnot, Stanisław; Zmyślony, Roman) Best linear plus quadratic unbiased estimation of parameters in mixed linear models. (Polish summary) *Zastos. Mat.* **15** (1976/77), *no.* 4, 455–462. (Prem K. Goel) **57** #7887 62J05 (62F10)

A new model of the mechanism of induction of pulmonary tumors in mice. (Polish summary) *Zastos. Math.* **15** (1976), *no.* 2, 163–186. (M. E. Wise) **54** #6983 92A05

(*with* Bartoszyński, Robert) Some thoughts about the contribution of Jerzy Neyman to statistics. *Proceedings of the Symposium to honour Jerzy Neyman* (*Warsaw*, 1974), *pp.* 9–15. *Państw. Wydawn. Nauk., Warsaw*, 1977. (Editors) **58** #4932 01A70

Optimal $C(\alpha)$ tests for homogeneity. *Proceedings of the Symposium to honour Jerzy Neyman* (*Warsaw*, 1974), *pp.* 161–175. *Państw. Wydawn. Nauk., Warsaw*, 1977. (From the introduction) **58** #24686 62F10

(*with* Gnot, Stanisław; Zmyślony, Roman) Uniformly minimum variance unbiased estimation in various classes of estimators. I. (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 2, 199–210. (J. K. Baksalary) **56** #16932 62J05

(*with* Gnot, Stanisław; Zmyślony, Roman) Linear spaces and the theory of best linear unbiased estimation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 1, 69–72. (Authors' summary) **58** #24683 62F10 (62J05)

See also **Proceedings: Symposium to honour Jerzy Neyman**, **56** #1520

Klop, Jan Willem On solvability by λ*I*-terms. *λ-calculus and computer science theory* (*Proc. Sympos., Rome*, 1975), *pp.* 342–345. *Lecture Notes in Comput. Sci., Vol.* 37, *Springer, Berlin*, 1975. (Henk Barendregt) **57** #9497 02C20

(*with* Barendregt, Henk P.; Bergstra, Jan; Volken, Henri) Representability in lambda algebras. *Nederl. Akad. Wetensch. Proc. Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 5, 377–387. (R. Hindley) **55** #2512 02C20 (*with* Barendregt, Henk P.; Bergstra, Jan; Volken, Henri) Degrees of sensible lambda theories. *J. Symbolic Logic* **43** (1978), *no*. 1, 45–55. (J. P. Seldin) **57** #15981 02C20

See also **Barendregt, Henk P., 53** #2611

Klopfenstein, Kenneth F. (*with* Telste, John) Visualizing uniform continuity of functions of several variables. *Amer. Math. Monthly* **81** (1974), 623–625. (T. A. Botts) **49** #5262 26A54

A note on Hilbert spaces of factorial series. *Indiana Univ. Math. J.* **25** (1976), *no*. 11, 1073–1081. (D. Trutt) **56** #16350 46E20

Klopfenstein, R. W. (*with* Davis, C. B.) PECE algorithms for the solution of stiff systems of ordinary differential equations. *Math. Comp.* **25** (1971), 457–473. (W. H. Enright) **45** #8005 65L99

Numerical differentiation formulas for stiff systems of ordinary differential equations. *RCA Rev.* **32** (1971), 447–462. (W. R. Boland) **45** #2930 65D25

(*with* Pelios, A.) Minimal error constant numerical differentiation (N.D.) formulas. *Math. Comp.* **26** (1972), 467–475. (L. Fox) **46** #6561 65D25

Klopotov, I. D. Exact solution of the first fundamental problem of the plane theory of elasticity for a domain that is bounded by a hyperbola. (Russian) *Dinamika Splošn. Sredy Vyp*. 13 *Dinamika Židk. so Svobod. Granicami* (1973), 163–169, 190. (Author's summary) **56** #17315 73.30

Kłopotowski, Andrzej Limit theorems for sums of dependent random vectors in R^d. *Dissertationes Math.* (*Rozprawy Mat.*) **151** (1977), 58 *pp*. (G. K. Eagleson) **57** #4294 60F05

Klopsch, Peter Invariante, von Spiegelungen erzeugte Untergruppen orthogonaler Gruppen. *Geometriae Dedicata* **1** (1972), *no*. 1, 85–99. (A. Cronheim) **46** #7243 20H20 (10C30)

Vollständige Spiegelungsgruppen metrischer Vektorräume über bewerteten Körpern. *Geometriae Dedicata* **3** (1974), 177–190. (R. Lingenberg) **50** #4773 20H15

Gegen Loten abgeschlossene Untergruppen metrischer Vektorräume. (English summary) *J. Geometry* **10** (1977), *no*. 1-2, 69–84. (H. Gross) **58** #30697 50A15 (15A63)

Klos, A. Solvability of networks. *Proc. Inst. Elec. Engrs.* **119** (1972), 325–333. (W.-K. Chen) **50** #12467 94A20

Klos, Joël (*with* Wittmann, Alfred) ★Dictionary of data processing including applications in industry, administration and business. Auf Englisch, Deutsch und Französisch. Zweite Auflage. *Oldenbourg, Munich*, 1973. 335 *pp*. (Zbl **266** #68006) **58** #19277 68–XX

(*with* Wittmann, Alfred) ★Dictionary of data processing including applications in industry, administration and business. In English, German and French. Third, revised edition. *Elsevier Scientific Publishing Co., Amsterdam-Oxford-New York*, 1977. x+347 *pp. ISBN* 0-444-99823-3 (Editors) **58** #26663 00A20 (68–01)

Kłos, Zbigniew Characterization of the stability of a flow with variable velocity profile of a fluid with finite electroconductivity in a magnetic field. (Polish. Russian and English summaries) *Mech. Teoret. Stos.* **9** (1971), 433–440. (I. O. Bohachevsky) **46** #6712 76.41

koch-Klose, Abel *See* **Koch-Klose, Abel**

Kłosińska, Wiktoria (*with* Jończyk, Barbara) On uniform convergence of the sequence of the functions with plurality of variables. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódź. No*. 245 *Mat. No*. 8 (1976), 17–23. **58** #28395 28A20

Klosinski, L. F. (*with* Alexanderson, G. L.) A Fibonacci analogue of Gaussian binomial coefficients. *Fibonacci Quart.* **12** (1974), 129–132. (L. Carlitz) **50** #7015 10A40 (05A10)

Kłosowiak, Tomasz (*with* Machura, Marek) The use of minimization methods in the two-dimensional cross-spring hinge problem. *Comput. Methods Appl. Mech. Engrg.* **12** (1977), *no*. 3, 337–351. (A. D. Ljaško) **57** #14815 73.65

Kłosowicz, B. (*with* Lur'e, K. A.) On the optimal nonhomogeneity of a torsional elastic bar. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **24** (1972), 239–249. (I. Tadjbakhsh) **47** #9938 73.49

Kłosowska, Maria The domain of attraction of a non-Gaussian, stable distribution in a Hilbert space. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 215–218. (Richard S. Ellis) **46** #8270 60B10

The domain of attraction of a normal distribution in a Hilbert space. *Studia Math.* **43** (1972), 195–208. (A. D. de Acosta) **48** #7323 60B05

A characterization of the domain of attraction of a normal distribution in a Hilbert space. *Colloq. Math.* **28** (1973), 323–327. (A. D. de Acosta) **49** #9892 60B05

The domain of attraction of a non-Gaussian stable distribution in a Hilbert space. *Colloq. Math.* **32** (1974), 127–136. (M. M. Rao) **51** #1898 60B05

The domain of attraction of non-Gaussian stable distribution in a Hilbert space. II. *Colloq. Math.* **38** (1977), *no*. 1, 141–146. (M. M. Rao) **57** #7733 60F05

On the domain of attraction for generalized convolution algebras. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no*. 5, 669–677. (N. H. Bingham) **55** #13531 60E05

Kloss, K. E. (*with* Bateman, Paul T.; Brown, John Wesley; Hall, R. S.; Stemmler, Rosemarie M.) Linear relations connecting the imaginary parts of the zeros of the zeta function. *Computers in number theory* (*Proc. Sci. Res. Council Atlas Sympos. No*. 2, *Oxford*, 1969), *pp*. 11–19. *Academic Press, London*, 1971. (M. Mikolás) **48** #8408 10H05

Klossek, Sonja Kommutative Spiegelungsräume. *Mitt. Math. Sem. Giessen Heft* 117 (1975), vi+72 *pp*. (R. Artzy) **53** #10966 20N05 (50A20)

Kloster, S. C. On the number of independent components of the Ricci tensor and related tensors. *Tensor* (*N.S.*) **27** (1973), 45–48. (C. W. Kilmister) **49** #4524 83.53

(*with* Som, M. M.; Das, Anadijiban) On the stationary gravitational fields. *J. Mathematical Phys.* **15** (1974), 1096–1102. (M. Carmeli) **49** #12034 (E **55** #2034) 83.53

(*with* Som, M. M.; Das, Anadijiban) Erratum: "On the stationary gravitational fields" (J. Mathematical Phys. **15** (1974), 1096–1102). *J. Mathematical Phys.* **17** (1976), *no*. 3, 441. (M. Carmeli) **55** #2034 83.53

Klostermair, A. (*with* Hoffmann, K.-H.) Approximationen mit Lösungen von Differentialgleichungen. *Approximation theory* (*Proc. Internat. Colloq., Inst. Angew. Math., Univ. Bonn, Bonn*, 1976), *pp*. 237–273. *Springer, Berlin*, 1976. (From the introduction) **58** #29683 41A50

(*with* Hoffmann, K.-H.) A semi-infinite linear programming procedure and applications to approximation problems in optimal control. *Approximation the* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1976), *pp*. 379–389. *Academic* *New York*, 1976. (Dobre Ion) **55** #7372 90C05 (93A15)

Kloth, Siegfried Gruppentheoretisches Axiomensystem einer äquiaffinen Geometr Raumes. *Studien zur Algebra und ihre Anwendungen* (*mit Anwendungen in der Mathematik, Physik und Rechentechnik*), *pp*. 57–59. *Schr. Zentralinst. Math. Mech.* *Wissensch. DDR, Heft* 16, *Akademie Verlag, Berlin*, 1972. (A. Cronheim) **49** #7 50D10

Über involutorische Produkte dreier Involutorischer. *Wiss. Z. Pädagog. Ho* "*Karl Liebknecht*" *Potsdam* **16** (1972), 219–225. (H. W. Guggenheimer) **48** #7 50D10

Räumliche äquiaffine Spiegelungsgeometrie. *Math. Nachr.* **57** (1973), 87–12 Lingenberg) **49** #7902 50D05

See also **Boltjanskiĭ, V. G.; et al., 50** #3108

Klotz, A. H. (*with* Russell, G. K.) The structure of non symmetric unified field the *Acta Phys. Polon. B* **4** (1973), 579–588. (Authors' summary) **50** #15833 83.53

Spherical symmetry in Rainich's theory. *Acta Phys. Polon. B* **6** (1975), 479–488. (Author's summary) **57** #18704 83.35 (83.53)

(*with* Gregory, L. J.) On the variational derivation of Einstein's strong field equations. *J. Austral. Math. Soc. Ser. B* **19** (1975/76), *no*. 3, 381–386. (Not review 83.49

(*with* Gregory, L. J.) The motion of spinless particles in general relativity. *A* *J. Phys.* **31** (1978), *no*. 1, 105–110. (Richard Hansen) **57** #11609 83.53

Klotz, Frederick S. Twistors and the conformal group. *J. Mathematical Phys.* **15** (2242–2247. (Raymond Barre) **50** #14821 57E15 (22E05)

A manifestly scale-invariant space-time calculus. (Italian and Russian summa *Nuovo Cimento B* (11) **28** (1975), *no*. 1, 93–104. (H. A. Buchdahl) **52** #12700

Klotz, Jerome H. Markov chain clustering of births by sex. *Proceedings of the* *Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971, *Vol. IV*: *Biology and health*), *pp*. 173–185. *Univ. Calif* *Press, Berkeley, Calif.*, 1972. (Niels Keiding) **54** #6417 62M05

(*with* Govindarajulu, Z.) A note on the asymptotic distribution of the one-sa Kolmogorov-Smirnov statistic. *Amer. Statist.* **27** (1973), 164–165. (V. J. Yohai) **50** #1381 62E20 (62G10)

Statistical inference in Bernoulli trials with dependence. *Ann. Statist.* **1** (373–379. (M. B. Woodroofe) **52** #2000 62F10 (62E15)

(*with* Johnson, Charles A.) The atom probe and Markov chain statistics of clustering. *Technometrics* **16** (1974), 483–493. (I. Cuculescu) **51** #9401 62M05

(*with* Huang, T'i Yüan) Bahadur efficiency of linear rank statistics for scale alternatives. *Ann. Statist.* **3** (1975), *no*. 4, 947–954. (M. Raghavachari) **52** #94 62G20

Truncated geometric response-duration of response models for clinical trial *Amer. Statist. Assoc.* **71** (1976), *no*. 354, 331–334. (Niels Keiding) **53** #11853 6 (62F05)

(*with* Teng, James) One-way layout for counts and the exact enumeration o Kruskal-Wallis *H* distribution with ties. *J. Amer. Statist. Assoc.* **72** (1977), *no*. 165–169. (From the summary) **58** #31520 62E15

Testing a linear constraint for multinomial cell frequencies and disease screen *Ann. Statist.* **6** (1978), *no*. 4, 904–909. (Graham J. G. Upton) **58** #13465 6 (62P10)

(*with* Li, Shou Hua) Components of variance estimation for the split-plot desig *Amer. Statist. Assoc.* **73** (1978), *no*. 361, 147–152. (Robert Hultquist) **58** #135 62J10

Klotz, Volker Ein Aufstiegsverfahren zur Konstruktion polynomialer Minimallösunge der komplexen Ebene. (English summary) *Numerische Methoden der Approximationstheorie, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1975). 233–255. *Internat. Ser. Numer. Math., Vol*. 30, *Birkhäuser, Basel*, 1976. (Auth summary) **58** #22573 30A82 (41A10)

Gewisse rationale Tschebyscheff-Approximationen in der komplexen Ebene. *Approximation Theory* **19** (1977), *no*. 1, 51–60. (R. Wegmann (Zbl **354** #300 **58** #28522 30A82

(*with* Blatt, Hans-Peter; Herzfeld, U.) Ein Approximationsproblem aus der Pharmakokinetik. *J. Approximation Theory* **21** (1977), *no*. 1, 89–106. (John M. Ka **57** #2629 92A05

Klotz, W. Arithmetic progressions in finite sets of real numbers. *Glasgow Math. J.* (1973), 101–104. (H. Gupta) **48** #5982 10A35 (10B05)

Generalization of some theorems on sets of multiples and primitive sequences. *A* *Arith.* **32** (1977), *no*. 1, 15–26. (S. L. G. Choi) **55** #2827 10L10 (10H20)

Klotzek, Benno Die affinen Räume einer Dimension ⩾3 mit Fano-Axiom im Aufbau Geometrie aus dem Spiegelungsbegriff. *Math. Nachr.* **50** (1971), 245–303. (G. Pick **47** #7579 50D05

Die affinen Räume einer Dimension ⩾3 mit Fanoaxiom im Aufbau der Geome aus dem Spiegelungsbegriff. *Studien zur Algebra und ihre Anwendungen* (*mit Anwendungen in der Mathematik, Physik und Rechentechnik*), *pp*. 61–69. *Schr. Zentralinst. Math. Mech. Akad. Wissensch. DDR, Heft* 16, *Akademie Verlag, Ber* 1972. (F. Radó) **50** #5611 50D05

Arbeiten über affine und äquiaffine Spiegelungsgeometrie. *Wiss. Z. Pädag Hochsch.* "*Karl Liebknecht*" *Potsdam* **16** (1972), 169–179. (E. W. Ellers) **48** #710 50D10

Ebene äquiaffine Spiegelungsgeometrie. *Math. Nachr.* **55** (1973), 89–131. (G. Schellekens) **48** #7104 50D10

(*with* Quaisser, Erhard) Büschel, Unterstrukturen und Orthogonalitätsrelationen äquiaffinen Ebenen. *Math. Nachr.* **58** (1973), 337–371. (R. Lingenberg) **49** #11379 50D10

Affine und äquiaffine Spiegelungsgeometrie sowie metrische Relationen in affin Ebenen. *Grundlagen der Geometrie und algebraische Methoden* (*Internat. Kolloq., Pädagog. Hochsch.* "*Karl Liebknecht*", *Potsdam*, 1973), *pp*. 28–48. *Potsdamer Forschungen, Reihe B, Heft* 3, *Pädagog. Hochsch.* "*Karl Liebknecht*", *Potsdam*, 1974. (Bachmann) **51** #8941 50D10

Kegelschnitte und Büschel in äquiaffinen Ebenen. (Russian and English summaries) *iss. Z. Pädagog. Hochsch. "Karl Liebknecht" Potsdam* **21** (1977), *no.* 1, *part* 2, 133–144. uthor's introduction) **58** #30722 50D10

See also **Grundlagen der Geometrie und algebraische Methoden**, **48** #12227 *and* **oltjanskiĭ, V. G.; et al.**, **50** #3108

Kl er, Reinhard (*with* Feske, Klaus) Ein Verfahren zur logischen Synthese von ombinationsschaltungen mit Datenselektoren auf der Grundlage des Hilbertschen ntwicklungssatzes. *Wiss. Z. Techn. Univ. Dresden* **24** (1975), *no.* 3-4, 587–594. uthors' summary) **58** #9833 94A20

Kl ler, Rolf Feldtheorie und numerische Probleme der Variationsrechnung. Vierte agung über Probleme und Methoden der Mathematischen Physik (Karl-Marx-Stadt, 968). *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **11** (1969), 313–317. (J. Frehse) 5 #2549 49C10

Randwertprobleme als lineare Optimierungsaufgaben. *Beiträge Anal. No.* 1 (1971), 5–82. (L. Collatz) **45** #8011 49B10 (34B05)

Zur Feldtheorie der mehrdimensionalen Variationsrechnung. Tagungsbericht zur rsten Tagung der *WK* Analysis (1970). *Beiträge Anal. No.* 4 (1972), 159–165. (H. S. P. rässer) **48** #12219 49C10

Direkte Methoden bei irregulären Variationsproblemen. *Beiträge Anal. No.* 5 1973), 7–17. (L. C. Young) **48** #9487 49A15

Zum 23. Problem von D. Hilbert. *Beiträge Anal. Heft* 6 (1974), 7–15. (Author's eview (Zbl **307** #49028)) **58** #18034 49A25

Beziehungen zwischen quadratischen Optimierungsproblemen, linearen unktionalgleichungen und linearen Optimierungsaufgaben. *Beiträge Anal. Heft* 6 1974), 133–138. (William Boykin) **56** #3714 49B99

Quadratische Optimierung. 5. *Tagung über Probleme und Methoden der athematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *eft* 2, *pp.* 297–304. *Wiss. Schr. Techn. Hochsch. Karl-Marx-Stadt, Techn. Hochsch., arl-Marx-Stadt*, 1975. (Murat R. Sertel) **58** #20428 90C20 (49B30)

Beweis einer Vermutung über *n*-Orbiformen kleinsten Inhalts. (English and Russian ummaries) *Z. Angew. Math. Mech.* **55** (1975), *no.* 10, 557–570. (G. D. Chakerian) 3 #3884 52A10 (90C25)

On Pontryagin's maximum principle for multiple integrals. *Beiträge Anal. Heft* 8 1976), 67–75. (W. E. Schmitendorf) **56** #1170 49B20

Monotone Operatoren und irreguläre Variationsprobleme. (English summary) *heory of nonlinear operators* (*Proc. Fourth Internat. Summer School, Acad. Sci., Berlin,* 975), *pp.* 111–123. *Abh. Akad. Wiss. DDR Abt. Math.-Natur.-Tech., Jahrgang* 1977, 1, *kademie-Verlag, Berlin*, 1977. (H. Beckert) **58** #30530 47H05 (49A99)

Kl da, Josef Kongruenzen in Brandtschen Gruppoiden. *Grundlagen der Geometrie und lgebraische Methoden* (*Internat. Kolloq., Pädagog. Hochsch. "Karl Liebknecht", Potsdam*, 1973), *pp.* 120–122. *Potsdamer Forschungen, Reihe B, Heft* 3, *Pädagog. Hochsch. "Karl Liebknecht", Potsdam*, 1974. (T. G. Ostrom) **50** #8272 50D05 20L05)

Kongruenzen in Brandtschen Gruppoiden. *Geometriae Dedicata* **3** (1974), 347–355. (J. André) **50** #8273 50D05 (20L05)

Eine Bemerkung über ausgezeichnete Kongruenzrelationen der Brandtschen Gruppoiden. *Comment. Math. Univ. Carolinae* **16** (1975), 277–291. (T. G. Ostrom) **54** #12930 20L05

Eine Bemerkung über eine Koordinatisierung der Translationsebenen. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 1, 101–107. (J. André) **52** #11729 50D35

(*with* Bureš, Jarolím) One generalization of quasifield. (Russian summary) *Math. Slovaca* **26** (1976), *no.* 4, 271–285. (J. André) **55** #3957 50D35 (12K05)

Ternary rings associated to translation plane. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 1, 169–181. (D. Klucký) **55** #11143 50D35 (20N10)

K th, Richard ★Abschätzungen im Bereich der Schwarzschen Derivierten und gewisser Verallgemeinerungen. Inaugural-Dissertation zur Erlangung des Doktorgrades der Hohen Mathematisch-Naturwissenschaftlichen Fakultät der Rheinischen Friedrich-Wilhelm-Universität Bonn, Bonn, 1975. Bonner Mathematische Schriften, Nr. 82. *Mathematisches Institut der Universität Bonn, Bonn*, 1976. v + 126 *pp.* (Jochen Becker) **58** #11346 30A30 (30A68)

K ve, Torleiv On a class of partition congruences. *Årbok Univ. Bergen Mat.-Natur. Ser.* **1969**, *no.* 11, 10 *pp.* (1970). (O. M. Fomenko) **55** #7921 10D05 (10J20)

Power sums of integers with missing digits. *Math. Scand.* **28** (1971), 247–251. (M. C. Wunderlich) **46** #8993 10J10

Representations of integers as sums of powers with increasing exponents. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 342–346. (K. Thanigasalam) **48** #3905 10J10

Periodicity of recurring sequences in rings. *Math. Scand.* **32** (1973), 165–168 (1974). (M. B. Boisen, Jr.) **48** #8474 13A99

Linear recurring sequences in Boolean rings. *Math. Scand.* **33** (1973), 5–12. (N. J. A. Sloane) **49** #169 06A40 (10A35)

Sums of distinct primes. *Nordisk Mat. Tidskr.* **21** (1973), 138–140. (J. M. Gandhi) **49** #7208 10A45 (10–04)

On exponential recurring sequences. *Math. Scand.* **34** (1974), 44–50. (S. Znám) **50** #12896 10A35

Expressing a prime as difference between two numbers containing all the previous primes. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **14** (1974), 40–44. (Harvey Cohn) **49** #4921 10A30 (10–04)

A class of harmonically convergent sets. *J. Austral. Math. Soc. Ser. A* **20** (1975), *no.* 3, 301–304. (Roland Fischer) **52** #247 10A30

Sums of distinct elements from a fixed set. *Math. Comp.* **29** (1975), *no.* 132, 1144–1149. (George E. Andrews) **53** #2820 10A40 (10B35)

Sums of distinct Gaussian primes. *Nordisk Mat. Tidskr.* **23** (1975), *no.* 1, 20–22. (S. L. G. Choi) **52** #5556 10A45

A generalization of Euler's theorem. *Portugal. Math.* **35** (1976), *no.* 1-2, 111–112. (L. Carlitz) **55** #244 10A10

(*with* Helleseth, Tor; Mykkeltveit, Johannes) The weight distribution of irreducible cyclic codes with block length $n_1((q^l-1)/N)$. *Discrete Math.* **18** (1977), *no.* 2, 179–211. (R. J. McEliece) **56** #5041 94A10

The modular *n*-queen problem. *Discrete Math.* **19** (1977), *no.* 3, 289–291 (1978). (D. Cvetković) **57** #2952 05B30 (05A20)

The weight distribution for a class of irreducible cyclic codes. *Discrete Math.* **20** (1977/78), *no.* 1, 87–90. (Author's summary) **58** #33499 94A10

Pumping languages. *Internat. J. Comput. Math.* **6** (1977/78), *no.* 2, 115–125. (K. P. Lee) **57** #8183 68A30

Two non-closure results on families of *L* languages. *BIT* **18** (1978), *no.* 1, 109–111. (From the text) **57** #18252 68A30

(*with* Helleseth, Tor; Mykkeltveit, Johannes) On the covering radius of binary codes. *IEEE Trans. Inform. Theory* **24** (1978), *no.* 5, 627–628. (Authors' summary) **58** #20786 94A10

On the no-three-in-line problem. II. *J. Combinatorial Theory Ser. A* **24** (1978), *no.* 1, 126–127. (Michael Henle) **57** #2962 05B99 (05B30)

On complements of unary L languages. *J. Comput. System Sci.* **16** (1978), *no.* 1, 56–66. (Jürgen Dassow) **57** #8184 68A30

Klovo, A. G. Approximation in the space $W_{2,2}^{1,2}$. (Russian) *Application of functional analysis in approximation theory, No. 5* (*Russian*), *pp.* 47–54. *Kalinin. Gos. Univ., Kalinin*, 1975. (Editors) **58** #29056 35A35

Klovskiĭ, D. D. (*with* Soĭfer, V. A.) Capacity of multipath channels. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 1, 16–25. (O. Gulyás) **50** #6629 94A05

Klowski, Joachim Der unaufhebbare Primat der Logik, die Dialektik des Ganzen und die Grenze der Logik. *Z. Allgemeine Wissenschaftstheorie* **4** (1973), *no.* 1, 41–53. (Author's summary) **55** #7723 02A05

Kloza, Marian *See* **Selected problems in the foundations of systems theory**, **55** #12186 *and* **Synthesis of structures of complex automation systems**, **56** #4931

Klubnikin, P. F. Questions on the theory of multivariable combined systems with a common output. (Russian) *Theory and methods of construction of multivariable control systems* (*Russian*), *pp.* 154–169, 337. *Izdat. "Nauka", Moscow*, 1973. (Author's summary) **51** #15056 93B05

Kluchine, V. *See* **Kljušin, V. L.**

Klucký, Dalibor An elementary case of the reduction principle in algebraic geometry. (Czech. German summary) *Sb. Praci Přírodověd. Fak. Univ. Palackého v Olomouci* **21** (1966), 23–32. (J. Čižmár) **47** #223 14A99

(*with* Marková, Libuše) Ternary rings with zero associated to translation planes. *Czechoslovak Math. J.* **23(98)** (1973), 617–628. (J. L. Zemmer) **48** #9543 50D35

(*with* Marková, Libuše) Planar ternary rings with zero belonging to translation planes. *Grundlagen der Geometrie und algebraische Methoden* (*Internat. Kolloq., Pädagog. Hochsch. "Karl Liebknecht", Potsdam*, 1973), *pp.* 116–120. *Potsdamer Forschungen, Reihe B, Heft* 3, *Pädagog. Hochsch. "Karl Liebknecht", Potsdam*, 1974. (F. Radó) **51** #13855 50D35

Ternary rings with zero associated to Desarguesian and Pappian planes. *Czechoslovak Math. J.* **24(99)** (1974), 607–613. (R. Artzy) **50** #10997 50D05

One application of isotopies of planar ternary rings. *Geometriae Dedicata* **3** (1974/75), 487–492. (R. Artzy) **51** #1601 50D35

Two theorems on homomorphism of projective nets. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci Mat.* **16** (1977), 149–153. (E. W. Ellers) **58** #23967 50A20 (50D35)

Kluczny, Czesław (*with* Czech, Adam) The stability of nonlinear parabolic equations with random coefficients. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No.* 24 (1974), 37–51. (J. Zabczyk) **51** #12399 93E15

A certain form of the matrix e^{At}. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Şląsk. Mat.-Fiz. Zeszyt* 25 (1974), 3–10. (O. Pokorná) **55** #5659 15A21 (34A30)

Kluge, Eike-Henner W. Objects as universals: a re-appraisal of the *Tractatus*. *Dialogue* **12** (1973), 64–77. (Not reviewed) 02A05

Frege et les termes sans référence. *Dialogue* **14** (1975), *no.* 2, 254–280. (Editors) **58** #21395 02A05

Freges Begriff des Logischeinfachen. *Studien zu Frege, Band II*, *pp.* 51–66. *Problemata, No.* 43, *Frommann-Holzboog, Stuttgart*, 1976. (From the introduction) **58** #21396 02A05 (01A55, 02–03)

Frege, Leibniz et alii. (English. German summary) *Studia Leibnitiana* **9** (1977), *no.* 2, 266–274. (Author's summary) **58** #9971 00A25

See also **Frege, Gottlob**, **45** #6566 *and* **Frege, Gottlob**, **47** #1564

Kluge, P.-D. *See* **Operationsforschung**, **57** #4990a *and* **Operationsforschung**, **57** #4990c

Kluge, Reinhard Zur approximativen Lösung konvexer Minimumprobleme mit Nebenbedingungen und nichtlinearer Variationsungleichungen über Folgen linearer algebraischer Gleichungssysteme. *Math. Nachr.* **48** (1971), 341–352. (T. A. Porsching) **45** #4608 65K05

Näherungsverfahren zur approximativen Lösung nichtlinearer Variationsungleichungen. *Math. Nachr.* **51** (1971), 343–356. (H. Beckert) **46** #9827 47H99 (49D30, 65J05)

Über eine Klasse abstrakter Differentialgleichungen beliebiger Ordnung im Banach-Raum. *Monatsb. Deutsch. Akad. Wiss. Berlin* **13** (1971), 731–740. (J. Calvert) **52** #6135 34G05

Zur Existenz und numerischen Approximation von Lösungen abstrakter Differentialgleichungen erster Ordnung mit Bochner-integrablen rechten Seiten. *Math. Nachr.* **53** (1972), 263–276. (J. Prouse) **49** #767 34G05 (65L05)

Näherungsverfahren für ein Problem der optimalen Steuerung mit abstrakten Differentialgleichungen erster Ordnung. *Math. Nachr.* **54** (1972), 229–248. (M. Ráb) **48** #661 34G05

(*with* Bruckner, Gottfried) Iterationsverfahren bei Folgen von Abbildungen und nichtlineare Probleme mit monotonen Operatoren. *Math. Nachr.* **54** (1972), 335–353. (J. Daneš) **47** #7536 47H15 (65J05)

Folgen und iterationsverfahren bei Folgen nichtlinearer Variationsungleichungen. *Theory of nonlinear operators* (*Proc. Summer School, Babylon*, 1971), *pp.* 39–47. *Academia, Prague*, 1973. (G. H. Meyer) **52** #9642 (EA **53**) 65N30

Zur numerischen Approximation von nichtlinearen Eigenwertproblemen und Fixpunktbifurkationen für mehrdeutige abbildungen. *Theory of nonlinear operators* (*Proc. Summer School, Babylon*, 1971), *pp.* 49–55. *Academia, Prague*, 1973. (V. Šeda) **52** #15135 47H10

(*with* Bruckner, Gottfried) Iterationsverfahren für einige nichtlineare Probleme mit

Nebenbedingungen. *Math. Nachr.* **56** (1973), 345–369. (Hans-Jürgen Albrand) **48** #4860 47H15 (65J05)

Näherungsverfahren für einige nichtlineare Probleme. *Theory of nonlinear operators* (*Proc. Summer School, Neuchâtel*, 1972), *pp.* 133–146. *Schr. Zentralinst. Math. Mech. Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin*, 1974. (A. Szép) **50** #3035 47H15 (34G05)

(*with* Bruckner, Gottfried) Gewöhnliche nichtlineare Differentialgleichungen und Differentialungleichungen im Hilbertraum und monotone Operatoren. *Theory of nonlinear operators* (*Proc. Summer School, Neuchâtel*, 1972), *pp.* 147–153. *Schr. Zentralinst. Math. Mech. Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin*, 1974. (A. Szép) **50** #3036 47H15 (34G05)

(*with* Bruckner, Gottfried) Über einige Klassen nichtlinearer Differentialgleichungen und -ungleichungen im Hilbert-Raum. *Math. Nachr.* **64** (1974), 5–32. (Jean Mawhin) **51** #1511 47H15 (34G05)

On a class of iteration methods. *Math. Nachr.* **73** (1976), 7–18. (B. T. Poljak) **55** #4658 65J05 (47H15)

(*with* Telschow, Gerhard) On the convergence and speed of convergence of some iteration methods for variational inequalities. II. *Math. Nachr.* **75** (1976), 73–89. (H. Jeggle (Zbl **387** #49037)) **58** #30557 47H15 (65J05)

Approximation methods for the determination of parameters in nonlinear problems. *Theory of nonlinear operators* (*Proc. Fourth Internat. Summer School, Acad. Sci., Berlin*, 1975), *pp.* 125–134. *Abh. Akad. Wiss. DDR Abt. Math.-Natur.-Tech., Jahrgang* 1977, 1, *Akademie-Verlag, Berlin*, 1977. (V. V. Vasin) **58** #12630 49D10 (47H15)

(*with* Telschow, Gerhard) On the convergence and speed of convergence of some iteration methods for variational inequalities. I. *Theory of nonlinear operators* (*Proc. Fourth Internat. Summer School, Acad. Sci., Berlin*, 1975), *pp.* 135–163. *Abh. Akad. Wiss. DDR Abt. Math.-Natur.-Tech., Jahrgang* 1977, 1, *Akademie-Verlag, Berlin*, 1977. (V. V. Vasin) **58** #18056 49D30

Über eine Klasse von Minimumproblemen mit Nebenbedingungen. *Math. Nachr.* **78** (1977), 37–64. (Ekkehard W. Sachs) **58** #12578 49A25 (49D15)

(*with* Langmach, Hartmut) On some problem of determination of functional parameter in partial differential equations. *Distributed parameter systems: modelling and identification* (*Proc. IFIP Working Conf., Rome*, 1976), *pp.* 298–309. *Lecture Notes in Control and Information Sci., Vol.* 1, *Springer, Berlin*, 1978. (From the introduction) **58** #23943 49D99 (35R30, 65K05)

See also **Theory of nonlinear operators**, **49** #3610 *and* **Theory of nonlinear operators**, **57** #1154

Kluge, W. A dynamic memory with fast random access and page transfer properties. (French and German summaries) *Digital Process.* **1** (1975), *no.* 4, 279–293. (K. H. V. Booth) **53** #15022 68A50

(*with* Gillert, Heinz; Winkler, Wolfgang) Eine zufällige Zeittransformation. Collection of articles dedicated to the memory of Wolfgang Richter. *Math. Nachr.* **70** (1975), 217–229. (E. Arjas) **54** #3858 60J25 (60K15)

Klugman, Stuart Discounted and rapid subfair red-and-black. *Ann. Statist.* **5** (1977), *no.* 4, 734–745. (Lester E. Dubins) **55** #11389 60G99

Kluit, P. G. On the normalizer of $\Gamma_0(N)$. *Modular functions of one variable, V* (*Proc. Second Internat. Conf., Univ. Bonn, Bonn*, 1976), *pp.* 239–246. *Lecture Notes in Math., Vol.* 601, *Springer, Berlin*, 1977. (L. Alayne Parson) **58** #513 10D05

Kluitenberg, G. A. (*with* Ciancio, Vincenzo) On linear dynamical equations of state for isotropic media. I. General formalism. *Phys. A* **93** (1978), *no.* 1-2, 273–286. (Authors' summary) **58** #19883 80.60 (73.60)

Klukovits, L. On commutative universal algebras. *Acta Sci. Math.* (*Szeged*) **34** (1973), 171–174. (A. Yaqub) **47** #6593 08A25

Hamiltonian varieties of universal algebras. *Acta Sci. Math.* (*Szeged*) **37** (1975), 11–15. (G. Grätzer) **53** #5438 08A25

Klukowski, Julian On Boolean orthomodular posets. *Demonstratio Math.* **8** (1975), 5–10. (M. J. Maczyński) **51** #5423 06A10

On the representation of Boolean orthomodular partially ordered sets. *Demonstratio Math.* **8** (1975), *no.* 4, 405–423. (R. A. Melter) **52** #5496 06A10

(*with* Traczyk, Tadeusz) On some numerical representation of Post algebras. *Colloq. Math.* **37** (1977), *no.* 1, 11–22. (M. J. Mączyński) **57** #2911 02J05 (06A40)

Operators in multi-valued logic. *Demonstratio Math.* **10** (1977), *no.* 2, 329–338. (U. Wybraniec-Skardowska) **58** #21439 02C05 (02J05, 94A20, 94A20)

Klumpp, A. R. *See* **Control in space**, **48** #8041

Klumpp, Rainer Achsberechnungen mit Hilfe der Ausgleichungs- und Optimierungsrechnung. Von der Universität Stuttgart zur Erlangung der Würde eines Doktor-Ingenieurs (Dr.-Ing.) genehmigte Dissertation, Munich, 1973. *Deutsche Geodät. Kommiss. Bayer. Akad. Wiss. Reihe C No.* 194 (1973), 87 *pp.* (Author's summary) **56** #9991 65K05 (86.65)

Klun, Miroslav I. A characterization of varieties of inverse semigroups. *Semigroup Forum* **10** (1975/76), *no.* 1, 1–7. (Anna Ja. Aĭzenštat) **52** #5834 20M10

(*with* Isbell, John R.; Schanuel, Stephen H.) Affine parts of algebraic theories. I. *J. Algebra* **44** (1977), *no.* 1, 1–8. (Hugo Volger) **57** #2555 02H10 (18C10)

(*with* Isbell, John R.; Schanuel, Stephen H.) Affine parts of algebraic theories. II. *Canad. J. Math.* **30** (1978), *no.* 2, 231–237. (Hugo Volger) **57** #12640 18C10

Klunker, E. B. (*with* Jones, D. J.; South, J. C., Jr.) On the numerical solution of elliptic partial differential equations by the method of lines. *J. Computational Phys.* **9** (1972), 496–527. (P. G. Ciarlet) **46** #2899 65N99

Klunnik, O. O. The application of *p*-analytic functions to the calculation of a certain class of moment-free shells of revolution under concentrated stress. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 10 (1970), 67–77. (Author's summary) **45** #4722 73.30

(*with* Makarov, V. L.) The difference Green's function in generalized axially symmetric potential theory. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 18 (1972), 84–91. (S.-F. Sburlan) **46** #6624 65N20

(*with* Makarov, V. L.) Some differential properties of the solutions of boundary value problems for a certain equation of elliptic type. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 511–515, 574. (H. Marcinkowska) **50** #13873 35J25

(*with* Makarov, V. L.) The solution of boundary value problems of the theory of generalized axially symmetric potential in discrete formulation. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 22 (1974), 3–14, 169. (C. R. Deeter) **51** # 65N99 (31C20)

(*with* Makarov, V. L.) Elimination of singularities in the solution of boundary problems in the theory of generalized axially symmetric potential. (Russian. E summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 4, 304–309, 383. Temko) **57** #16633 31A25

(*with* Makarov, V. L.; Burkovskaja, V. L.) The smoothness of the solution Dirichlet problem of generalized axially symmetric potential theory. (Russian. E summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 33 (1977), 67–81, 160. (Authors' sum **57** #667 31B20

Klupp, H. (*with* Schnorr, Claus-Peter) A universally hard set of formulae with resp non-deterministic Turing acceptors. *Information Processing Lett.* **6** (1977), *no.* 2, 3 (Jan van Leeuwen) **56** #4241 68A20 (02B99)

Klusch, Dieter On certain infinite series. *Arch. Math.* (*Basel*) **29** (1977), *no.* 3, 280–28 Grosswald) **56** #15582 10H10

Kluvánek, Igor An example concerning the projective tensor product of vector meas *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 81–83. (A. Mallios) **47** #825 4 (28A45, 46M05)

A compactness property of Fourier-Stieltjes transforms. *Mat. Časopis Sloven. Vied* **20** (1970), 84–86. (K. A. Ross) **46** #7805 43A25

(*with* Bukovský, Lev) The number of one-coloured graphs. *Proceedings of the Australian Conference on Combinatorial Mathematics* (*Univ. Newcastle, Newcastle*, 1 *pp.* 235–239. *Univ. of Newcastle Res. Associates, Newcastle*, 1972. (S. A. Burr) **51** #12600 05C35

Positive-definite signals with maximal energy. *J. Math. Anal. Appl.* **39** (1 580–585. (Y. Domar) **47** #2273 43A35

The extension and closure of vector measure. *Vector and operator valued mea and applications* (*Proc. Sympos., Alta, Utah*, 1972), *pp.* 175–190. *Academic Press, York*, 1973. (J. E. Huneycutt, Jr.) **49** #521 28A45

On the product of vector measures. *J. Austral. Math. Soc.* **15** (1973), 22–2 Schmets) **48** #2341 28A45

The range of a vector-valued measure. *Math. Systems Theory* **7** (1973), 44–54. Uhl, Jr.) **48** #495 28A45

(*with* Knowles, Gregory) Liapunov decomposition of a vector measure. *Math.* **210** (1974), 123–127. (N. Dinculeanu) **49** #10853 28A45

(*with* Knowles, Gregory) Attainable sets in infinite-dimensional spaces. *Systems Theory* **7** (1974), *no.* 4, 334–351. (C. Olech) **58** #30611 49A50 (46G99

The range of a vector measure. *Bull. Amer. Math. Soc.* **81** (1975), 609–611. (Er F. Thomas) **51** #13182 28A45

(*with* Knowles, Gregory) ★Vector measures and control systems. North-Ho Mathematics Studies, Vol. 20. Notas de Matemática, No. 58. [Notes on Mathem No. 58] *North-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publis Co., Inc., New York*, 1976. ix + 180 *pp.* (J. J. Uhl, Jr.) **58** #17033 28A45 (46 49A35)

Characterization of the closed convex hull of the range of a vector-valued meas *J. Functional Analysis* **21** (1976), *no.* 3, 316–329. (J. J. Uhl, Jr.) **53** #14123 46 (28A45)

Conical measures and vector measures. (French summary) *Ann. Inst. Fo* (*Grenoble*) **27** (1977), *no.* 1, v, 83–105. (J. J. Uhl, Jr.) **57** #9936 28A45 (46G10)

Klüver, Jürgen ★Operationalismus. Kritik und Geschichte einer Philosophie der exa Wissenschaften. With an English summary. Reihe "Problemata", No. 2. *Frommann-Holzboog, Stuttgart*, 1971. 220 *pp.* (Evandro Agazzi) **57** #17 00A25 (02A05)

See also **Wissenschaftstheorie**, **53** #2579

Kluwick, Alfred (*with* Bodonyi, R. J.) Freely interacting transonic boundary layers. *Fluids* **20** (1977), *no.* 9, 1432–1437. (C. R. Illingworth) **57** #11326 76.41

de Kluyver, Cornelis A. (*with* Salkin, Harvey M.) The knapsack problem: a survey. *Res. Logist. Quart.* **22** (1975), 127–144. (Csaba Fabian) **53** #7469 90C10

The doubtful region in discriminant analysis. *New Zealand Oper. Res.* **4** (1976), 2, 118–142. (Jean-Louis Boursin) **54** #8981 62H30

Optimal recruitment policies. *Internat. J. Systems Sci.* **8** (1977), *no.* 2, 231– (From the summary) **58** #15124 90B99

A generalized upper bounding algorithm for large-scale generalized goal programming problems. *Internat. J. Systems Sci.* **8** (1977), *no.* 8, 883–904. (A. Williams) **58** #9301 90C50 (90C05)

Klyachkin, V. I. *See* **Kljačkin, V. I.**

Klyatskin, V. I. *See* **Kljackin, V. I.**

Klyushnikov, V. D. *See* **Kljušnikov, V. D.**

Kmenta, J. (*with* Oberhofer, Walter) Estimation of standard errors of the characteri roots of a dynamic econometric model. *Econometrica* **41** (1973), *no.* 1, 171–177. (F the authors' introduction) **56** #7091 62P20

(*with* Oberhofer, Walter) A general procedure for obtaining maximum likelih estimates in generalized regression models. *Econometrica* **42** (1974), 579–590. (Auth summary) **55** #13674 62J05

Kmet', A. B. *See* **Many-Valued elements and structures**, **53** #5140

Kmet, Andrej Graphic solution of cubic equations with quadratic parabola. (Sloven English summary) *Obzornik Mat. Fiz.* **19** (1972), *no.* 2, 50–52. (Author's summa **56** #6541 50B05

Some examples of simple difference equations. (Slovenian. English summa *Obzornik Mat. Fiz.* **21** (1974), 112–120. (Author's summary) **56** #9123 39A10

Kmet', Daniel (Matej) *See* **Butkovič, Štefan**, **58** #16019

Kmeta, M. A. Determining the parameters and improving the order of a model of a lin stationary automatic control system. (Russian) *Èlektroènerget. i Avtomat.* (*Kishin Vyp.* 13 (1972), 94–103, 127. (Author's summary) **57** #2676 93C05

Kmety, François Resolution des singularités des courbes. *Fonctions de plusieurs variab complexes* (*Sém. François Norguet*, 1970–1973; *à la mémoire d'André Martineau*), 505–521. *Lecture Notes in Math., Vol.* 409, *Springer, Berlin*, 1974. (Jean Gira **52** #11105 32C45 (14H20)

See also **Zariski, O.**, **54** #2662

Kn **, H. F. P.** (*with* Köhler, W. E.; Eggermont, G. E. J.; 't Hooft, G. W.) Kinetic theory nonequilibrium alignment phenomena in dilute polyatomic gases in external magnetic d electric fields. *Z. Naturforsch. A* **33** (1978), *no.* 7, 761–777. (Authors' summary) 3 #14824 82.47

Kn **John J.** System error bounds for Lagrange polynomial estimation of band-limited nctions. *IEEE Trans. Information Theory* **IT-21** (1975), 474–476. (K. S. Miller) 3 #12711 93E10

Kn **Otto** Wachstumsordnung und Index der Lösungen linearer Differentialgleichungen it rationalen Koeffizienten. (English summary) *Manuscripta Math.* **18** (1976), *no.* 3, 99–316. (Günter Frank) **53** #13688 34A20

Kn**uk, John, Jr.** (*with* Hartmann, Carlos R. P.) An optimal algorithm for testing stuck-at ults in random access memories. *IEEE Trans. Computers* **C-26** (1977), *no.* 11, 141–1144. (Chantal Robach) **57** #5459 94A20

Kn **K.** (*with* Dornfeld, Engelbert; Kuklewski, Julian) Quadrifocals in two-dimensional inkowski space. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu at.* **14** *Zastos. Mat.* (1973), 103–112. (V. Medek) **54** #13711 50C25

ma**kowska-Knap, Krystyna** *See* **Majorkowska-Knap, Krystyna**

Kn**ecz, G.** General relativistic theory of Lagrangian functions of "Bose" fields in scalar epresentation. *J. Phys. A* **2** (1969), 262–266. (L. F. Oster) **47** #4584 83.53

Generalized mechanics as a representation of the ordinary mechanics. *Acta Phys. olon. B* **5** (1974), 605–611. **53** #12139 70.53

Kn**owski, Stanisław** (*with* Turán, Pál) Further developments in the comparative prime umber theory. VII. *Acta Arith.* **21** (1972), 193–201. (H. W. Brinkmann) **46** #1729 0H20

(*with* Turán, Pál) On the sign changes of $(\pi(x)-\mathrm{li}\,x)$. I. *Topics in number theory Proc. Colloq., Debrecen,* 1974), *pp.* 153–169. *Colloq. Math. Soc. János Bolyai, Vol.* 13, *orth-Holland, Amsterdam,* 1976. (S. Ikehara) **55** #12657a 10H15

(*with* Turán, Pál) On the sign changes of $(\pi(x)-\mathrm{li}\,x)$. II. *Monatsh. Math.* **82** (1976), *o.* 2, 163–175. (S. Ikehara) **55** #12657b (E **55** #12657c) 10H15

(*with* Turán, Pál) On prime numbers $\equiv 1$ resp. 3 mod 4. *Number theory and lgebra, pp.* 157–165. *Academic Press, New York,* 1977. (Dieter Leitmann) **57** #5926 0H15 (10H10)

See also **Obituary: Knapowski, Stanisław**, **46** #15a; **Turán, Pál**, **46** #15b; **Bibliography: Knapowski, Stanisław**, **46** #15c; **Pintz, János**, **55** #12657c *and* **Browkin, Jerzy**, **56** #11713

K**pp, Anthony W.** (*with* Stein, Elias M.) The existence of complementary series. *Problems in analysis* (*Papers dedicated to Salomon Bochner,* 1969), *pp.* 249–259. *Princeton Univ. Press, Princeton, N.J.,* 1970. (P. C. Trombi) **50** #7416 22E45

(*with* Stein, Elias M.) Intertwining operators for semisimple groups. *Ann. of Math.* (2) **93** (1971), 489–578. (G. I. Ol′šanskiĭ) **57** #536 22E45

(*with* Williamson, Richard E.) Poisson integrals and semisimple groups. *J. Analyse Math.* **24** (1971), 53–76. (R. A. Gangolli) **46** #7444 22E15 (43A05)

(*with* Stein, Elias M.) Irreducibility theorems for the principal series. *Conference on Harmonic Analysis* (*Univ. Maryland, College Park, Md.,* 1971), *pp.* 197–214. *Lecture Notes in Math., Vol.* 266, *Springer, Berlin,* 1972. (G. I. Ol′šanskiĭ) **54** #10499 22E45

Bounded symmetric domains and holomorphic discrete series. *Symmetric spaces* (*Short Courses, Washington Univ., St. Louis, Mo.,* 1969–1970), *pp.* 211–246. *Pure and Appl. Math., Vol.* 8, *Dekker, New York,* 1972. (S.-s. Chen (Zbl **242** #32022)) **57** #537 22E45 (32M15)

(*with* Okamoto, Kiyosato) Limits of holomorphic discrete series. *J. Functional Analysis* **9** (1972), 375–409. (L. N. Argabright) **45** #8774 (EA **46**) 22E45

Determination of intertwining operators. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, Mass.,* 1972), *pp.* 263–268. *Amer. Math. Soc., Providence, R.I,* 1973. (P. C. Trombi) **49** #3032 22E45

Commutativity of intertwining operators. *Bull. Amer. Math. Soc.* **79** (1973), 1016–1018. (R. Goodman) **48** #11399 22E45

(*with* Harvey, Reese) Positive (p,p) forms, Wirtinger's inequality, and currents. *Value distribution theory* (*Proc. Tulane Univ. Program, Tulane Univ., New Orleans, La.,* 1972–1973), *Part A, pp.* 43–62. *Dekker, New York,* 1974. (D. Lieberman) **50** #7573 (EA **50**) 32C30 (14C30, 32J25)

(*with* Stein, Elias M.) Singular integrals and the principal series. III. *Proc. Nat. Acad. Sci. U.S.A.* **71** (1974), 4622–4624. (G. Warner) **51** #3358 22E45

A Szegő kernel for discrete series. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.,* 1974), *Vol.* 2, *pp.* 99–104. *Canad. Math. Congress, Montreal, Que.,* 1975. (A. Korányi) **55** #10606 22E45 (32M15)

Weyl group of a cuspidal parabolic. *Ann. Sci. École Norm. Sup.* (4) **8** (1975), *no.* 2, 275–294. (S. I. Gel′fand) **51** #13138 22E45

(*with* Stein, Elias M.) Singular integrals and the principal series. IV. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), 2459–2461. (Garth Warner) **51** #13139 22E45

(*with* Kemeny, John G.; Snell, J. Laurie) ★Denumerable Markov chains. Second edition. With a chapter on Markov random fields, by David Griffeath. Graduate Texts in Mathematics, No. 40. *Springer-Verlag, New York-Heidelberg-Berlin,* 1976. xii+484 *pp.* (Editors) **53** #11748 60Jxx (60Gxx)

Commutativity of intertwining operators. II. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 2, 271–273. (Allan J. Silberger) **53** #10986 22E45

(*with* Wallach, Nolan R.) Szegö kernels associated with discrete series. *Invent. Math.* **34** (1976), *no.* 3, 163–200. (E. A. Thieleker) **54** #7704 22E45

(*with* Zuckerman, Gregg) Classification of irreducible tempered representations of semi-simple Lie groups. *Proc. Nat. Acad. Sci. U.S.A.* **73** (1976), *no.* 7, 2178–2180. (P. C. Trombi) **57** #538 22E45

(*with* Zuckerman, Gregg) Classification theorems for representations of semisimple Lie groups. *Non-commutative harmonic analysis* (*Actes Colloq., Marseille-Luminy,* 1976), *pp.* 138–159. *Lecture Notes in Math., Vol.* 587, *Springer, Berlin,* 1977. (A. U. Klimyk) **57** #16474 22E45

See also **Mathematics: Periodical collection of translations of foreign articles**, **50** #12534

app, Charles H. (*with* Basuthakur, S.) On optimal output feedback. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 6, 823–825. (Hsi-han Yeh) **54** #14828 93C15

Traffic density estimation for single and multilane traffic. *Transportation Sci.* **7** (1973), 75–84. (Author's summary) **50** #12197 90B20

(*with* Basuthakur, Sibnath) Minimax control in substate space of a system with process uncertainty. (French, German and Russian summaries) *Automatica—J. IFAC* **10** (1974), 37–47. **56** #15104 93E99

Knapp, H. *See* **Gröbner, Wolfgang**, **52** #12334

Knapp, Hans Georg Some logical remarks on a proof by Leibniz. *Ratio* **12** (1970), *no.* 2, 125–137. (Editors) **58** #27232 02A05 (01A45, 02–03)

Bemerkungen zu "Normative wissenschaft ohne Normen—aber mit Werten" (Conceptus 7 (1973), no. 21-22, 57–64) von M. Bunge. *Conceptus* **8** (1974), *no.* 24, 57–62. (N. B. Cocchiarella) **57** #67 02C10

Knapp, Karlheinz Das Bild des Hurewicz-Homomorphismus $h:\pi_*^s(BZ_p)\rightarrow K_1(BZ_p)$. *Math. Ann.* **223** (1976), *no.* 2, 119–138. (K. H. Mayer) **54** #6135 55E10

On the K-homology of classifying spaces. *Math. Ann.* **233** (1978), *no.* 2, 103–124. (C. S. Hoo) **57** #10704 55F40 (57D85)

Rank and Adams filtration of a Lie group. *Topology* **17** (1978), *no.* 1, 41–52. (Raphael Zahler) **57** #10703 55E45 (55H25, 57F99)

Knapp, Robert E. Higher-order curvature and local solvability of D_θ. *Proc. Nat. Acad. Sci. U.S.A.* **70** (1973), 797–798. (R. H. Bowman) **48** #7138 53B15

A generalization of the curvature invariant. *J. Differential Geometry* **10** (1975), *no.* 3, 467–489. (W. J. Sweeney) **52** #9296 58G05 (53C05)

Knapp, Wolfgang On the point stabilizer in a primitive permutation group. *Math. Z.* **133** (1973), 137–168. (Bhama Srinivasan) **49** #2902 20B05

Primitive Permutationsgruppen mit einem Subkonstituenten, dessen Stabilisatorgruppe Fitting-frei 1st. *Arch. Math.* (*Basel*) **25** (1974), 472–475. (David R. Mason) **50** #13210 20B05

Primitive Permutationsgruppen mit einem Subkonstituenten vom Grad 2^f. *Math. Z.* **136** (1974), 261–275. (David R. Mason) **51** #8219 20B15

(*with* Bürker, Michael) Zur Vermutung von Sims über primitive Permutationsgruppen. *Math. Z.* **144** (1975), *no.* 1, 19–24. (David R. Mason) **52** #5771 20B05

(*with* Bürker, Michael) Zur Vermutung von Sims über primitive Permutationsgruppen. II. *Arch. Math.* (*Basel*) **27** (1976), *no.* 4, 352–359. (David R. Mason) **54** #12868 20B15

Primitive Permutationsgruppen mit einem zweifach primitiven Subkonstituenten. *J. Algebra* **38** (1976), *no.* 1, 146–162. (Lino Di Martino) **53** #3073 20B15

Remarks on a theorem of Wielandt. *Arch. Math.* (*Basel*) **30** (1978), *no.* 3, 242–246. (J. D. Dixon) **58** #11084 20B05

Lineare p-auflösbare Gruppen. *Math. Z.* **159** (1978), *no.* 2, 181–196. (T. Ono) **58** #16875 20D10

Knast, Robert Finite-state probabilistic languages. *Information and Control* **21** (1972), 148–170. (K. S. Fu) **48** #1526 68A30

An approximate theorem for Borsuk's conjecture. *Proc. Cambridge Philos. Soc.* **75** (1974), 75–76. (H. Hadwiger) **51** #6599 52A45

(*with* Martinek, Jacek) Reading functions and an extension of Kleene theorem for some families of languages. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik,* 1977), *pp.* 127–134. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin,* 1977. (Kenneth B. Salomon) **58** #3732 68A30

(*with* Brzozowski, Janusz A.) The dot-depth hierarchy of star-free languages is infinite. *J. Comput. System Sci.* **16** (1978), *no.* 1, 37–55. (H. Jürgensen) **57** #11183 68A30

Knaster, Bronisław *See* **Commemoration of the 80th birthday of Professor Bronisław Knaster**, **52** #13261; **Nitka, W.**, **56** #15311 *and* **Duda, Roman**, **56** #15323

Knauer, Bernd Normalformen planarer Graphen. I, II. (English summaries) *Computing* (*Arch. Elektron. Rechnen*) **10** (1972), 121–136; *ibid.* **10** (1972), 137–152. (H. Rohleder) **47** #1678 05C99

Ein algorithmisches Planaritätskriterium. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Ljubljana, 1972). *Z. Angew. Math. Mech.* **53** (1973), T215–T216. (H. A. Jung) **51** #2967 05C10

A simple planarity criterion. *J. Assoc. Comput. Mach.* **22** (1975), 226–230. (E. M. Reingold) **50** #12777 05C10 (05–04)

Knauer, E. *See* **Barlow, Richard E.; et al.**, **58** #24807

Knauer, Ulrich Morita equivalence of semigroups. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 2(164), 173–174. (G. Pollák) **52** #14112 20M10

(*with* Mihalev, A. V.) Endomorphism monoids over acts. *Mini-Conference on Semigroup Theory* (*József Attila Univ., Szeged,* 1972), *pp.* 35–37. *József Attila Univ., Szeged,* 1973. (M. Kilp) **53** #10960 20M20

(*with* Mihalev, A. V.) Endomorphism monoids of acts over monoids. *Semigroup Forum* **6** (1973), *no.* 1, 50–58. (M. Friedberg) **52** #626 20M15

Column monomic matrix monoids. *Math. Nachr.* **74** (1976), 135–141. (M. Friedberg) **55** #5774 20M20

A note on Baer monoids. *Semigroup Forum* **13** (1976/77), *no.* 2, 143–148. (Louis Herman) **55** #3129 20M99

Knauff, W. Metrische L_p-Theorie mit funktionalanalytischen Methoden. *Methoden und Verfahren der mathematischen Physik, Band* 10, *pp.* 163–184. *Bibliographisches Institut, Mannheim,* 1973. (R. D. Moyer) **51** #8362 46E30 (28A30)

(*with* Kreß, Rainer) Optimale Approximation linearer Funktionale auf periodischen Funktionen. (English summary) *Numer. Math.* **22** (1973/74), 187–205. (J. W. Schmidt) **50** #2779 41A65 (65D15)

Optimale Approximation mit Nebenbedingungen an lineare Funktionale auf $H^2(E_\rho)$ und $L^2(E_\rho)$. (English summary) *Computing* **14** (1975), *no.* 3, 235–250. (G. Godini) **55** #13743 65D30

(*with* Kreß, Rainer) Optimale Approximation mit Nebenbedingungen an lineare Funktionale auf periodischen Funktionen. (English summary) *Numer. Math.* **25** (1975/76), *no.* 2, 149–152. (Walter Trebels) **53** #4484 65D15

Zur optimalen Approximation linearer Funktionale auf analytischen Funktionen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, *T*245–*T*247. (Hans-Jürgen Albrand) **54** #906 46E20 (65D15)

Konvergenzsätze einer funktionalanalytischen L_p-theorie. *Methoden und Verfahren der mathematischen Physik, Band* 16, *pp.* 131–155. *Bibliographisches Inst., Mannheim,* 1976. (From the introduction) **58** #2212 46E30 (46F99)

Fehlernormen zur Quadratur analytischer Funktionen. (English summary) *Computing* **17** (1976/77), *no.* 4, 309–322. (I. P. Mysovskih) **55** #9497 65D30

Gewichtsoptimale Quadraturformeln bei analytischen Funktionen. (English summary) *Computing* **18** (1977), *no.* 1, 59–66. (G. Blanch) **55** #11577 65D30

Knauss, D. C. (*with* Wilson, R. S.; Bendler, J. T.) On removal of projection operators from perturbation theory of single particle time correlation function. *Phys. Lett.* **46A** (1974), 355–356. (Authors' summary) **50** #12104 82.47

Kneale, William C. Leibniz and the picture theory of language. *Rev. Internat. Philos.* **20** (1966), *no.* 2-3, 204–215. (Editors) **58** #27233 02A05 (01–XX, 02–03)

Numbers and numerals. *British J. Philos. Sci.* **23** (1972), 191–206. (Paul Ernest) **57** #12006 00A25 (02A05)

Knebusch, Manfred Runde Formen über semilokalen Ringen. *Math. Ann.* **193** (1971), 21–34. (Gerhard Pfister) **45** #172 10C15

(*with* Scharlau, Winfried) Über das Verhalten der Witt-Gruppe bei galoischen Körpererweiterungen. *Math. Ann.* **193** (1971), 189–196. (G. Maxwell) **45** #1955 15A63 (10C05, 16A74)

(*with* Scharlau, Winfried) Quadratische Formen und quadratische Reziprozitätsgesetze über algebraischen Zahlkörpern. *Math. Z.* **121** (1971), 346–368. (E. Hornix) **50** #4486 10C05 (12A65, 15A63)

(*with* Rosenberg, Alex; Ware, Roger) Structure of Witt rings and quotients of Abelian group rings. *Amer. J. Math.* **94** (1972), 119–155. (J. S. Hsia) **45** #5164 16A48 (10C05)

On the uniqueness of real closures and the existence of real places. *Comment. Math. Helv.* **47** (1972), 260–269. (C. F. Moppert) **47** #4977 12D15 (13K05)

(*with* Rosenberg, Alex; Ware, Roger) Grothendieck and Witt rings of hermitian forms over Dedekind rings. *Pacific J. Math.* **43** (1972), 657–673. (J. S. Hsia) **47** #8535 13K05 (15A63)

Specialization of quadratic and symmetric bilinear forms, and a norm theorem. Collection of articles dedicated to Carl Ludwig Siegel on the occasion of his seventy-fifth birthday, III. *Acta Arith.* **24** (1973), 279–299. (T. Y. Lam) **50** #2075 10C05 (15A63)

Real closures of semilocal rings, and extension of real places. *Bull. Amer. Math. Soc.* **79** (1973), 78–81. (A. Rosenberg) **50** #7104 12D15 (10C05, 12J99, 13B99)

On the extension of real places. *Comment. Math. Helv.* **48** (1973), 354–369. (A. Rosenberg) **49** #2681 12D15 (15A63)

(*with* Rosenberg, Alex; Ware, Roger) Signatures on semilocal rings. *J. Algebra* **26** (1973), 208–250. (G. A. Efroymson) **48** #6103 13K05 (10C05)

(*with* Baeza, Ricardo) Annullatoren von Pfisterformen über semilokalen Ringen. *Math. Z.* **140** (1974), 41–62. (O. H. Körner) **53** #10712 10C05 (15A63)

Generalization of a theorem of Artin-Pfister to arbitrary semilocal rings, and related topics. *J. Algebra* **36** (1975), *no.* 1, 46–67. (G. A. Efroymson) **52** #3052 (EA **54**) 10B35 (06A70, 13H99)

Real closures of commutative rings. I. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math.* **274/275** (1975), 61–89. (A. Rosenberg) **52** #8105 13B05 (12D15, 15A63)

Real closures of commutative rings. II. *J. Reine Angew. Math.* **286/287** (1976), 278–313. (A. Rosenberg) **55** #2870 13B05 (13H99, 15A63)

(*with* Wright, Michael J.) Bewertungen mit reeller Henselisierung. *J. Reine Angew. Math.* **286/287** (1976), 314–321. (J. Browkin) **54** #7440 12D15

On algebraic curves over real closed fields. I. *Math. Z.* **150** (1976), *no.* 1, 49–70. (W.-D. Geyer) **54** #10218 (E **56** #12011) 12D15 (14H99, 14G99)

On algebraic curves over real closed fields. II. *Math. Z.* **151** (1976), *no.* 2, 189–205. (W.-D. Geyer) **56** #368 14H99 (12D15, 10C05)

Generic splitting of quadratic forms. I. *Proc. London Math. Soc.* (3) **33** (1976), *no.* 1, 65–93. (D. B. Shapiro) **54** #230 10C05

Symmetric bilinear forms over algebraic varieties. *Conference on Quadratic Forms—1976* (*Proc. Conf., Queen's Univ., Kingston, Ont.*, 1976), *pp.* 103–283. *Queen's Papers in Pure and Appl. Math., No. 46, Queen's Univ., Kingston, Ont.*, 1977. (W.-D. Geyer) **58** #16506 10C05 (12D15, 14F05, 18F25)

Some open problems. *Conference on Quadratic Forms—1976* (*Proc. Conf., Queen's Univ., Kingston, Ont.*, 1976), *pp.* 361–370. *Queen's Papers in Pure and Appl. Math., No. 46, Queen's Univ., Kingston, Ont.*, 1977. (Editors) **58** #27760 10C05

Real closures of algebraic varieties. *Conference on Quadratic Forms—1976* (*Proc. Conf., Queen's Univ., Kingston, Ont.*, 1976), *pp.* 548–568. *Queen's Papers in Pure and Appl. Math., No. 46, Queen's Univ., Kingston, Ont.*, 1977. (W.-D. Geyer) **58** #16662 14E20 (10C05, 12D15)

Signatures on Frobenius extensions. *Number theory and algebra, pp.* 167–186. *Academic Press, New York*, 1977. (A. Prestel) **58** #5628 13B99 (10C10, 12D15)

Berichtigung zu der Arbeit: "On algebraic curves over real closed fields" (Math. Z. **150** (1976), no. 1, 49–70). *Math. Z.* **155** (1977), *no.* 3, 299. (Editors) **56** #12011 14H99 (12D15)

Generic splitting of quadratic forms. II. *Proc. London Math. Soc.* (3) **34** (1977), *no.* 1, 1–31. (Daniel B. Shapiro) **55** #379 15A63

Remarks on the paper: "Equivalent topological properties of the space of signatures of a semilocal ring" (Publ. Math. Debrecen **23** (1976), no. 3-4, 283–289) by A. Rosenberg and R. Ware. *Publ. Math. Debrecen* **24** (1977), *no.* 1-2, 181–188. (A. Rosenberg) **56** #12042 15A63 (13H99)

(*with* Arason, Jón Kristinn) Über die Grade quadratischer Formen. *Math. Ann.* **234** (1978), *no.* 2, 167–192. (Horst Pfeuffer) **58** #21933 10C05

Knecht, Herbert H. Leibniz et Euclide. *Studia Leibnitiana* **6** (1974), 131–143. (Editors) **58** #26898 01A45

Kneece, R. Royce (*with* Brace, J. W.) Approximation of strictly singular and strictly cosingular operators using nonstandard analysis. *Trans. Amer. Math. Soc.* **168** (1972), 483–496. (From the introduction) **58** #30490 47D15 (02H25, 47B05)

Kneis, Gert Eine kanonische Gestalt für indefinite quadratische Differentialformen und globale Darstellungen für negativ gekrümmte Flächen im R^3. *Beiträge zur komplexen Analysis und deren Anwendungen der Differentialgeometrie, pp.* 145–169. *Schr. Zentralinst. Math. Mech. Akad. Wissensch. DDR, Heft 18, Akademie-Verlag, Berlin*, 1974. (R. N. Abdulaev) **53** #11547 53C45

Holomorphe Funktionen mit Werten in einem pseudotopologischen Vektorraum. *Math. Nachr.* **62** (1974), 147–161. (H. H. Keller) **51** #14135 58B10 (30A96, 4 58C20)

(*with* Gähler, Siegfried; Gähler, Werner) Completion of pseudo-topological spaces. *Math. Nachr.* **75** (1976), 185–206. (Bernd Müller) **56** #12810 46A15 (46M99)

Equicontinuity and the theorem of Arzela-Ascoli in uniform convergence sp *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth P Topological Sympos., Prague*, 1976), *Part B, pp.* 231–236. *Soc. Czechoslovak Mathematicians and Physicists, Prague*, 1977. (C. H. Cook) **57** #13817 54A20

Zum Satz von Arzela-Ascoli in pseudouniformen Räumen. *Math. Nachr.* **79** (49–54. (A. B. Németh) **58** #18319 54A05 (54C05)

Kneppo, P. (*with* Isermann, R.) Rechnergestützter Entwurf von Regelalgorithme Prozessrechner. (English summary) *Regelungstech.* **24** (1976), *no.* 6, 189–196. (Au summary) **58** #9518 93B35 (65K05)

Knerr, Barry F. The porous medium equation in one dimension. *Trans. Amer. Math* **234** (1977), *no.* 2, 381–415. (M. H. Protter) **58** #11917 35K15

Kneschke, A. Über das finite eindimensionale Wärmeleitungsproblem. 5. *Tagung Probleme und Methoden der Mathematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *Heft* 2, *pp.* 395–409. *Wiss. Schr. T Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt*, 1975. (C. R. Illingw **55** #9734 80.65

Kneser, Adolf *See* **Festschrift: Weber, Heinrich, 50** #12626; **Müürsepp, Peeter, 52** #13221 *and* **Müürsepp, Peeter, 57** #15924

Kneser, Hellmuth *See* **Wielandt, Helmut, 50** #12606 *and* **Wielandt, Helmut, 55** #12

Kneser, Martin ★Lectures on Galois cohomology of classical groups. With an appe by T. A. Springer. Notes by P. Jothilingam. Tata Institute of Fundamental Rese Lectures on Mathematics, No. 47. *Tata Institute of Fundamental Research, Bon* 1969. ii + 158 *pp.* (R. Steinberg) **49** #5195 20G10 (12A60)

Witts Satz für quadratische Formen über lokalen Ringen. *Nachr. Akad. Göttingen Math.-Phys. Kl. II* **1972**, 195–203. (F. A. Sherk) **46** #9849 50B25 (10

(*with* Kallmann, A.; Stuhler, Ulrich) Invariante Untermoduln quadratischer Moduln. *J. Reine Angew. Math.* **258** (1973), 51–54. (Manfred Knebusch) **49** #3 15A63

Lineare Abhängigkeit von Wurzeln. *Acta Arith.* **26** (1974/75), *no.* 3, 307–308. Ledermann) **51** #10311 12F10 (10F35)

(*with* Hsia, John S.; Kitaoka, Yoshiyuki) Representations of positive definite quadratic forms. *J. Reine Angew. Math.* **301** (1978), 132–141. (Thomas C. Cra **58** #27758 10C05

Kneubühl, F. K. (*with* Baltes, H. P.) Thermal radiation in finite cavities. *Helv. Phys.* **45** (1972/73), 481–529. (From the summary) **57** #14943 78.65

Kneževič, Julka Asymptotic solutions of certain systems of differential equations. (Serbo-Croatian. Russian summary) *Mat. Vesnik* **13(28)** (1976), *no.* 1, 63–69. Izjumova) **54** #654 34D05

The case of periodic functions in the generalized "chemical equation". (Serbo-Croatian. Russian summary) *Mat. Vesnik* **13(28)** (1976), *no.* 1, 70–74. Bojadžiev) **53** #6015 34C25

A certain differential equation with a rational right-hand side. (Serbo-Croa Russian summary) *Mat. Vesnik* **13(28)** (1976), *no.* 1, 75–79. (D. Izjumova) **54** #6 34D05

Knibb, D. (*with* Scraton, R. E.) On the solution of parabolic partial differential equat in Chebyshev series. *Comput. J.* **14** (1971), 428–432. **47** #9861 65P05

The numerical solution of parabolic partial differential equations using the met of Lanczos. *J. Inst. Math. Appl.* **11** (1973), 181–190. (M. R. Occorsio) **49** #84 65N99

Knichal, Vladimír *See* **Kurzweil, Jaroslav, 51** #2836; **Kurzweil, Jaroslav, 51** #5238 **Kurzweil, Jaroslav, 52** #5310

Knickmeyer, Joe W. Linear connexions on the square of the tangent bundle. *J. Lo Math. Soc.* (2) **5** (1972), 589–595. (K. Yano) **47** #983 53C05 (53C60)

Kniesner, Thomas J. An indirect test of complementarity in a family labor supply mo *Econometrica* **44** (1976), *no.* 4, 651–669. (A. L. Nagar) **57** #4466 62P20

Knight, A. J. Primals passing multiply through elliptic normal curves. *Proc. London M Soc.* (3) **23** (1971), 445–458. (J. A. Todd) **45** #267 14H20

On the intersection matrices of curves lying on irregular algebraic surfaces. *London Math. Soc.* **4** (1972), 179–183. (William F. Hammond) **48** #6107 (E **50** #98 14C15

Correction: "On the intersection matrices of curves lying on irregular algeb surfaces" (Bull. London Math. Soc. 4 (1972), 179–183). *Bull. London Math. So* (1975), 96. (William F. Hammond) **50** #9863 14C15

Knight, Bruce *See* **Some mathematical questions in biology, 48** #1732

Knight, Bruce W. A stochastic problem in visual neurophysiology. *Stochastic differen equations* (*Proc. Sympos. Appl. Math., New York*, 1972), *pp.* 1–19. *SIAM-AMS Pr Vol. VI, Amer. Math. Soc., Providence, R. I.*, 1973. (Alwyn C. Scott) **54** #1480 92A05

See also **Stochastic point processes: statistical analysis, theory, and applicati 48** #10008

Knight, C. J. Remainders of metric completions. *Bull. Austral. Math. Soc.* **7** (19 367–376. (K. D. Magill, Jr.) **48** #3016 54E50

Compactness and ordinals. *Glasgow Math. J.* **13** (1972), 153–158. (L. Gillm **48** #1138 54A25 (04A10)

(*with* Moran, William; Pym, John) The topologies of separate continuity. II. *Pr Cambridge Philos. Soc.* **71** (1972), 307–319. (V. S. Varadarajan) **45** #9282 54B99

Knight, Dan (*with* Cahalan, Robert F.) Construction of planar diagrams. *Phys. Rev. D* **14** (1976), *no.* 8, 2126–2136. (J. G. Taylor) **56** #4455 81.05

Knight, Frank B. A reduction of continuous square-integrable martingales to Browni motion. *Martingales* (*Rep. Meeting, Oberwolfach*, 1970), *pp.* 19–31. *Lecture Notes Math., Vol.* 190, *Springer, Berlin*, 1971. (Mamoru Kanda) **51** #6967 60G45 (60J

Some condensation processes of McKean type. *J. Appl. Probability* **8** (197 399–406. (H. Kesten) **45** #1255 60J99

The local time at zero of the reflected symmetric stable process. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **19** (1971), 180–190. (H. P. McKean, J

5 #9387 60J55

On Markov processes with right-deterministic germ fields. *Ann. Math. Statist.* **43** 972), 1968–1976. (Thomas E. Armstrong) **50** #8723 60J40

(*with* Pittenger, Arthur O.) Excision of a strong Markov process. *Z. 'ahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 114–120. (P. W. Millar) 7 #9734 60J40

Local variation of diffusion in local time. *Ann. Probability* **1** (1973), 1026–1034. ze Leung Lai) **53** #1754 60J60

Existence of small oscillations at zeros of Brownian motion. *Séminaire de robabilités, VIII* (*Univ. Strasbourg, année universitaire* 1972-1973), *pp.* 134–149. *Lecture otes in Math., Vol.* 381, *Springer, Berlin*, 1974. (S. J. Taylor) **51** #9240 60J65

A predictive view of continuous time processes. *Ann. Probability* **3** (1975), *no.* 4, 73–596. (H. P. McKean, Jr.) **52** #4394 60G25 (60J25)

A characterization of the Cauchy type. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 1, 30–135. (A. L. Ruhin) **52** #15602 60E05 (62E10)

(*with* Meyer, Paul-André) Une caractérisation de la loi de Cauchy. *Z. Vahrscheinlichkeitstheorie und Verw. Gebiete* **34** (1976), *no.* 2, 129–134. (A. L. Ruhin) 3 #1687 60E05

On prediction processes. *Probability* (*Proc. Sympos. Pure Math., Vol. XXXI, Univ. llinois, Urbana, Ill.*, 1976), *pp.* 79–85. *Amer. Math. Soc., Providence, R. I.*, 1977. (Marc or) **56** #6855 60G99

Knt, G. H. Morley's theorem. *New Zealand Math. Mag.* **13** (1976), *no.* 1, 5–8. (M. J. reenberg) **54** #3568 50B05

Knt, J. H. (*with* Philip, John R.) Exact solutions in nonlinear diffusion. *J. Engrg. 1ath.* **8** (1974), 219–227. (K. K. Sen) **51** #14761 80.35

Knt, J. M. (*with* Aharonov, Yakir; Lerner, E. C.; Huang, H. W.) Oscillator phase tates, thermal equilibrium and group representations. *J. Mathematical Phys.* **14** (1973), 46–756. (H. Wakita) **48** #10332 81.22

(*with* Aharonov, Yakir; Hsieh, G. T. C.) Are super-radiant phase transitions ossible? *Phys. Rev. A* (3) **17** (1978), *no.* 4, 1454–1462. (Authors' summary) **58** #14550 81.31

Knt, J. T. ★Commutative algebra. London Mathematical Society Lecture Note Series, . *Cambridge University Press, London-New York*, 1971. viii + 128 *pp.* (R. E. MacRae) 8 #8465 13–02

Knt, John L. On the existence of moments of the partially restricted reduced-form stimators from a simultaneous-equation model. *J. Econometrics* **5** (1977), *no.* 3, 15–321. (V. K. Srivastava) **55** #9477 62P20

Knt, Julia F. Complete types and the natural numbers. *J. Symbolic Logic* **38** (1973), 13–415. (Nigel J. Cutland) **49** #2359 02H15 (02B25)

Generic expansions of structures. *J. Symbolic Logic* **38** (1973), 561–570. (M. 'asuhara) **49** #2353 02H10

Types omitted in uncountable models of arithmetic. *J. Symbolic Logic* **40** (1975), *o.* 3, 317–320. (Nigel J. Cutland) **52** #2869 - 02H13

Omitting types in set theory and arithmetic. *J. Symbolic Logic* **41** (1976), *no.* 1, 5–32. (John T. Baldwin) **53** #10579 02H05 (02K15)

Hanf numbers for omitting types over particular theories. *J. Symbolic Logic* **41** 1976), *no.* 3, 583–588. (From the introduction) **58** #5170 02H05

A complete $L_{\omega_1\omega}$-sentence characterizing $\aleph_1$. *J. Symbolic Logic* **42** (1977), *no.* 1, 9–62. (Nigel J. Cutland) **58** #10407 02H10 (02B25)

Skolem functions and elementary embeddings. *J. Symbolic Logic* **42** (1977), *no.* 1, 4–98. (Stephen Comer) **58** #5179 02H13

An inelastic model with indiscernibles. *J. Symbolic Logic* **43** (1978), *no.* 2, 331–334. G. Georgescu) **58** #10412 02H13

Prime and atomic models. *J. Symbolic Logic* **43** (1978), *no.* 3, 385–393. (Guus 3roesterhuizen) **58** #21578 02H13

Kht, P. R. S. Algebraic equivalence of ordinal numbers. *Fund. Math.* **73** (1971/72), *no.* , 235–247. (C. D. H. Cooper) **45** #1769 04A10

Kht, R. B. (*with* Aziz, A. K.) Existence of generalized solutions of quasi-linear elliptic quations in two independent variables. *Analytic methods in mathematical physics Sympos., Indiana Univ., Bloomington, Ind.*, 1968), *pp.* 405–413. *Gordon and Breach, New York*, 1970. (A. Haimovici) **49** #3320 35J65

Kht, Ronald A. Dynamical systems of characteristic 0. *Pacific J. Math.* **41** (1972), 47–457. (R. C. McCann) **47** #2578 54H20 (34C35)

Structure and characterizations of certain continuous flows. *Funkcial. Ekvac.* **17** 1974), 223–230. (Roger C. McCann) **52** #1656 54H20

On dynamical systems of characteristic 0^+. *Math. Systems Theory* **9** (1975/76), *no.* , 368–377. (L. King) **58** #12962 54H20

A characterization of certain compact flows. *Proc. Amer. Math. Soc.* **64** (1977), *no.* , 52–54. (Gustav A. Hedlund) **55** #13397 54H20

Kht, William A run-like statistic for ecological transects. (French summary) *Biometrics* **0** (1974), 553–555. (R. M. Cormack) **50** #6021 62E15 (92A05)

See also **Mathematical problems in biology**, **49** #10392

Kht, William J. Absolute continuity of some vector functions and measures. *Canad. J. Math.* **24** (1972), 737–746. (A. de Korvin) **46** #9271 28A15 (28A45, 60G17)

Existence of solutions of differential equations in Banach space. *Bull. Amer. Math. Soc.* **80** (1974), 148–149. (K. Goebel) **49** #768 34G05

Solutions of differential equations in *B*-spaces. *Duke Math. J.* **41** (1974), 437–442. R. Showalter) **49** #9363 34G05

Counterexample to a theorem on differential equations in Hilbert space. *Proc. Amer. Math. Soc.* **51** (1975), 378–380. (J. E. Lagnese) **51** #8573 34G05

Khten, Carol M. Differentials on quotients of algebraic varieties. *Trans. Amer. Math. Soc.* **177** (1973), 65–89. (J. J. Etayo) **48** #2144 14F10

Khtly, George H. A Cauchy problem for the Navier-Stokes equations in R^n. *SIAM J. Math. Anal.* **3** (1972), 506–511. (D. E. Edmunds) **47** #655 35Q10 (76.35)

(*with* Sather, D.) Nonlinear buckled states of rectangular plates. *Arch. Rational Mech. Anal.* **54** (1974), 356–372. (J. W. Craggs) **50** #1600 73.35

(*with* Sather, D.) Nonlinear axisymmetric buckled states of shallow spherical caps. *SIAM J. Math. Anal.* **6** (1975), *no.* 6, 913–924. (S.-F. Sburlan) **52** #2351 73.47

Some mathematical problems from plate and shell theory. *Nonlinear functional analysis and differential equations* (*Proc. Conf., Mich. State Univ., East Lansing, Mich.*, 1975), *pp.* 245–268. *Lecture Notes in Pure and Appl. Math., Vol.* 19, *Marcel Dekker, New York*, 1976. (From the introduction) **58** #8689 73.47 (35Q99)

(*with* Sather, D.) Existence and stability of axisymmetric buckled states of spherical shells. *Arch. Rational Mech. Anal.* **63** (1976/77), *no.* 4, 305–319. (R. J. Knops) **55** #9672 73.46

Some asymptotic properties of solutions of the Navier-Stokes equations. *Dynamical systems* (*Proc. Internat. Sympos., Univ. Florida, Gainesville, Fla.*, 1976), *pp.* 139–155. *Academic Press, New York*, 1977. (Jacques Mauss) **57** #920 35Q10 (35B40)

Knill, Ronald J. On the homology of a fixed point set. *Bull. Amer. Math. Soc.* **77** (1971), 184–190. (R. K. Lashof) **45** #9320 55C20

On the relationship of local to global fixed-point indexes. *Symposium on Infinite-Dimensional Topology* (*Louisiana State Univ., Baton Rouge, La.*, 1967), *pp.* 185–197. *Ann. of Math. Studies, No.* 69, *Princeton Univ. Press, Princeton, N. J.*, 1972. (J. Kučera) **53** #9200 55C20 (54H25, 58B05)

The Lefschetz fixed point theorem for noncompact locally connected spaces. *Trans. Amer. Math. Soc.* **174** (1972), 185–198. (C. B. Thomas) **47** #4249 55C20

The Seifert and Van Kampen theorem via regular covering spaces. *Pacific J. Math.* **49** (1973), 149–160. (A. Dold) **49** #11493 55A10

A general setting for local fixed point theory. *J. Math. Pures Appl.* (9) **54** (1975), *no.* 4, 389–428. (L. Janos) **55** #9075 55C20

The Lefschetz fixed point theorem for compact groups. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 1, 148–152. (Gencho Skordev) **56** #13204 55C20 (22C05)

On the index of isolated closed tori. *Differential topology, foliations and Gelfand-Fuks cohomology* (*Proc. Sympos., Pontifícia Univ. Católica, Rio de Janeiro*, 1976), *pp.* 196–211. *Lecture Notes in Math., Vol.* 652, *Springer, Berlin*, 1978. (M. C. Irwin) **58** #24392 58F99 (47H10, 57D30)

Knirk, Dwayne L. New developments in the application of hyperspherical coordinates to atomic wave functions. *Phys. Rev. Lett.* **32** (1974), 651–654. (Author's summary) **57** #11438 81.33

Accurate and efficient quadrature for Volterra integral equations. *J. Computational Phys.* **21** (1976), *no.* 4, 371–399. (Sean McKee) **54** #1681 65R05

Knispel, R. Read only memory evaluation of sequential machine decomposition. *Proceedings of the Third Manitoba Conference on Numerical Mathematics* (*Winnipeg, Man.*, 1973), *pp.* 253–270. *Utilitas Math., Winnipeg, Man.*, 1974. (B. Hazeltine) **50** #12478 94A25

Knjaz', A. I. *See* **Cybernetics and computer technology**, **47** #4546 *and* **Cybernetics and computer technology**, **48** #7523

Knjazev, A. V. A change of variables method for equations in Banach spaces. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1584–1591, 1631. (G. Vainikko) **47** #5674 47H15 (65J05)

Knjazev, P. N. The strong convergence of adjoint operators. (Russian) *Vestnik. Beloruss. Gos. Univ. Ser. I* **1970**, *no.* 3, 11–13, 92. (Edward Azoff) **49** #1152 47A05

(*with* Ha Vuĭ) The weak convergence of operators. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 2, 23–27, 138–139. (A. B. Buche) **52** #15061 47A55

Knjazeva, A. K. (*with* Graĭfer, L. B.; Gusman, S. Ja.) Problems of the classification of open complex manifolds. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 218 (1969), 53–55. (G. K. Kiremidjian) **45** #5408 32C10

Knjazeva, V. F. An algorithm for the solution of linear programming problems with poorly formalizable constraints. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no.* 2, 53–59, 142 (1975). (Bruce D. Craven) **54** #2184 90C05

Knjažickiĭ, B. Ja. (*with* Fedotkin, M. A.) A study and optimization of the process of traffic flow on intersections by means of a specialized physical model. (Russian. English summary) Theory of oscillations, applied mathematics and cybernetics. *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 1085–1095. (I. Văduva) **48** #10458 90B20

Knobbe, E. J. (*with* Nahi, Nasser E.) Optimal linear recursive estimation with uncertain system parameters. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 2, 263–266. (Arild Thowsen) **56** #5009 93E10

Knobe, Bruce (*with* Knobe, Kathleen) A method for inferring context-free grammars. *Information and Control* **31** (1976), *no.* 2, 129–146. (Gianni Aguzzi) **54** #11859 68A30

Knobe, Kathleen (*with* Knobe, Bruce) A method for inferring context-free grammars. *Information and Control* **31** (1976), *no.* 2, 129–146. (Gianni Aguzzi) **54** #11859 68A30

Knoblauch, Tom Toroidal arcs are cellular. *Proc. Amer. Math. Soc.* **35** (1972), 607–610. (R. C. Lacher) **46** #2651 54F15

Imbedding deleted 3-manifold neighborhoods in E^3. *Illinois J. Math.* **18** (1974), 598–601. (W. Haken) **52** #1698 57A10

Imbedding compact 3-manifolds in E^3. *Proc. Amer. Math. Soc.* **48** (1975), 447–453. (Wolfgang H. Heil) **51** #4252 57A10

Knoble, H. D. (*with* Benton, T. C.) Common zeros of two Bessel functions. *Math. Comp.* **32** (1978), *no.* 142, 533–535. (F. Götze) **58** #1303 33A40 (65D20)

Knobloch, Eberhard Die entscheidende Abhandlung von Leibniz zur Theorie linearer Gleichungssysteme. *Studia Leibnitiana* **4** (1972), *no.* 3-4, 163–180. (Editors) **58** #21136 01A45

★Die mathematischen Studien von G. W. Leibniz zur Kombinatorik. Auf Grund fast ausschliesslich handschriftlicher Aufzeichnungen dargelegt und kommentiert. Studia Leibnitiana. Supplementa. Band XI. *Franz Steiner Verlag GMBH, Wiesbaden*, 1973. xvi + 277 *pp.* (Author's review) **58** #26899 01A45 (05–03, 05A99)

Leibnizens Studien zur Theorie der symmetrischen Funktionen. *Centaurus* **17** (1973), *no.* 4, 280–294. (F. C. Kreiling) **58** #10051 01A45 (05A10)

Zur Überlieferungsgeschichte des Bachetschen Gewichtsproblems. *Sudhoffs Arch.* **57** (1973), 142–151. (Editors) **58** #21137 01A45 (05–03, 10–03)

Unbekannte Studien von Leibniz zur Eliminations- und Explikationstheorie. *Arch. History Exact Sci.* **12** (1974), 142–173. (D. J. Struik) **58** #26900 01A45

The mathematical studies of G. W. Leibniz on combinatorics. (German summary) *Historia Math.* **1** (1974), 409–430. (R. H. Atkin) **57** #2836 01A50 (05–03)

Der Leibnizsche *Dialogus de arte computandi*. *NTM Schr. Geschichte Naturwiss. Tech. Medizin* **11** (1974), *no.* 2, 10–32. (P. Bockstaele) **56** #15294 01A45

Marin Mersennes Beiträge zur Kombinatorik. *Sudhoffs Arch.* **58** (1974), 356–379.

(P. Bockstaele) **56** #15295 01A45

Studien von Leibniz zum Determinantenkalkül. *Akten des II. Internationalen Leibniz-Kongresses (Hannover, 1972), Band II: Wissenschaftstheorie und Wissenschaftsgeschichte, pp.* 37–45. *Studia Leibnitiana Suppl., Vol. XIII, Steiner, Wiesbaden,* 1975. (Editors) **58** #26901 01A45

★Die mathematischen Studien von G. W. Leibniz zur Kombinatorik: Textband. Im Anschluss an den gleichnamigen Abhandlungsband zum ersten Mal nach den Originalhandschriften herausgegeben. Studia Leibnitiana. Supplementa, Vol. XVI. *Franz Steiner Verlag GMBH, Wiesbaden,* 1976. viii + 339 *pp. ISBN* 3-515-02111-6 (H. C. Kennedy) **58** #4964 01A75

Die mathematischen Studien von G. W. Leibniz zur Kombinatorik. (English summary) *Janus* **63** (1976), *no.* 1-3, 1–25. (F. C. Kreiling) **58** #10052 01A45 (05–03)

See also **Leibniz, Gottfried Wilhelm, 58** #27151

Knobloch, Edgar Stochastic tidal disruption of clusters. *Astrophys. J.* **218** (1977), *no.* 2, *part* 1, 406–414. (D. ter Haar) **57** #11651 85.60

The diffusion of scalar and vector fields by homogeneous stationary turbulence. *J. Fluid Mech.* **83** (1977), *no.* 1, 129–140. (G. Papincolaou) **57** #2155 76.60

Knobloch, H. W. On optimal control problems with bounded state variables. *Conference on the Theory of Ordinary and Partial Differential Equations (Univ. Dundee, Dundee, 1972), pp.* 103–119. *Lecture Notes in Math., Vol.* 280, *Springer, Berlin,* 1972. (D. H. Chyung) **56** #9380 49B15

Linearization and integral manifolds. *Équations différentielles et fonctionnelles non linéaires (Actes Conf. Internat. "Equa-Diff 73", Brussels/Louvain-la-Neuve, 1973), pp.* 473–478. *Hermann, Paris,* 1973. (Wolfgang Hahn) **53** #953 34C30

(*with* Kappel, Franz) ★Gewöhnliche Differentialgleichungen. Mathematische Leitfäden. *B. G. Teubner, Stuttgart,* 1974. 332 *pp.* (U. Simon (Zbl **283** #34001)) **58** #28735 34–01 (49–01, 58–01)

On optimal control problems with state space constraints. *Optimization and optimal control (Proc. Conf., Oberwolfach, 1974), pp.* 177–187. *Lecture Notes in Math., Vol.* 477, *Springer, Berlin,* 1975. (Editors) **58** #18030 49A20

Die Eindeutigkeit des Grenzzyklus bei der Liénardschen Differentialgleichung. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math.* **274/275** (1975), 175–186. (R. B. Grafton) **52** #14460 34C05

Das Pontryaginsche Maximumprinzip für Probleme mit Zustandsbeschränkung. I. (English and Russian summaries) *Z. Angew. Math. Mech.* **55** (1975), *no.* 10, 545–556. (Rolf Klötzler) **58** #12600a 49B15

Das Pontryaginsche Maximumprinzip für Probleme mit Zustandsbeschränkung. II. (English and Russian summaries) *Z. Angew. Math. Mech.* **55** (1975), *no.* 11, 621–634. (Rolf Klötzler) **58** #12600b 49B15

Local controllability in nonlinear systems. *Dynamical systems (Proc. Internat. Sympos., Univ. Florida, Gainesville, Fla., 1976), pp.* 157–174. *Academic Press, New York,* 1977. (Ethelbert N. Chukwu) **57** #13654 49E30

Hopf bifurcation via integral manifolds. *VII. Internationale Konferenz über Nichtlineare Schwingungen (Berlin, 1975), Band I, Teil* 1, *pp.* 413–429. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin,* 1977. **58** #22824 34C30 (58F10)

(*with* Schmitt, Klaus) Non-linear boundary value problems for systems of differential equations. *Proc. Roy. Soc. Edinburgh Sect. A* **78** (1977/78), *no.* 1-2, 139–159. (J. W. Bebernes) **58** #1351 34B15

See also **Differential games and applications, 57** #15525

Knoche, Norbert Der Satz von Osgood-Hartogs für reelle Funktionen. *Jber. Deutsch. Math.-Verein.* **73** (1971/72), *part* 1, 138–148. (Zbl **222** #26020) **58** #1059 26A82

Über Funktionen mehrerer Veränderlicher, die als Funktionen ihrer einzelnen Variablen bestimmte algebraische Eigenschaften aufweisen. *Math.-Phys. Semesterber.* **18** (1971), 205–212. (J. Kajiwara) **51** #8462 32D15

Ergänzung zu: "Der Satz von Osgood-Hartogs für reelle Funktionen" (Jber. Deutsch. Math.-Verein. **73** (1971), part 1, 138–148). *Jber. Deutsch. Math.-Verein.* **75** (1973/74), *no.* 3, *part* 1, 144–149. (Zbl **276** #26016) **58** #1060 26A82

Knode, Ronald B. (*with* Brainerd, Walter S.) Some criteria for determining recognizability of a set. *Information and Control* **21** (1972), 171–184. (A. Paz) **48** #7664 68A30 (94A30)

Knödel, Walter Ein Verfahren zur Feststellung der Isomorphie von endlichen, zusammenhängenden Graphen. (English summary) *Computing (Arch. Elektron. Rechnen)* **8** (1971), 329–334. (G. Laman) **45** #5009 05C99 (68A25)

(*with* Bukovics, Erich) Erich Bukovics 1921–1975. *Computing* **14** (1975), *no.* 1-2, 1–3. (Editors) **52** #13207 01A70

New gossips and telephones. *Discrete Math.* **13** (1975), *no.* 1, 95. (H. P. Edmundson) **51** #15169 94A10

Knoebel, R. Arthur Products of independent algebras with finitely generated identities. *Algebra Universalis* 3 (1973), 147–151. (A. Astromoff) **50** #2036 08A25

A simplification of the functional completeness proofs of Quackenbush and Sierpinski. *Algebra Universalis* **4** (1974), 133–134. (A. Yaqub) **50** #9751 08A25

Congruence-preserving functions in quasiprimal varieties. *Algebra Universalis* **4** (1974), 287–288. (A. Shafaat) **50** #6978 08A15

A comment on Balbes' representation theorem for distributive quasi-lattices. *Fund. Math.* **90** (1975/76), *no.* 2, 187–188. (Johnny A. Johnson) **52** #10529 06A35

Further conclusions on functional completeness. *Fund. Math.* **99** (1978), *no.* 2, 93–112. (A. Salomaa) **58** #5447 08A05 (02C05)

Knoedler, J. L. *See* **Control in space, 48** #13320

Knoefel, Peter K. Felice Fontana (1730–1805). Works unpublished and works unwritten. *Physis—Riv. Internaz. Storia Sci.* **18** (1976), *no.* 2, 185–197. (Editors) **57** #12059 01A50

Knof, Hans (*with* Hell, Otto) Berechnung von Eigenschaften zweiatomiger Moleküle Ein- und Zweizentrenintegrale mit Slater-Funktionen. (English summary) *Z. Naturforsch.* **28a** (1973), 142–173. (P. J. Roberts) **53** #7267 81.33

Knoflíček, František 4-nets of the 3rd kind and construction of a 4-net of the 3rd kind and of order 6. (Czech and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* B-**56** (1975), 55–61. (R. Artzy) **52** #4115 50D35

Knoke, James D. Testing for randomness against autocorrelated alternatives: the parametric case. *Biometrika* **62** (1975), *no.* 3, 571–575. (E. Parzen) **54** #6422 62M10

Testing for randomness against autocorrelation: alternative tests. *Biometr* (1977), *no.* 3, 523–529. (G. Tusnády) **58** #8089 62M10

Knol, Wolter ★Generalizations of two relations in Bessel function theory. Dc dissertation, University of Groningen. *Rijksuniversiteit te Groningen, Groningen,* iii + 118 *pp.* (F. W. J. Olver) **50** #10363 33A40

Knoll, J. (*with* Schaeffer, R.) Semiclassical scattering theory with complex trajector Elastic waves. *Ann. Physics* **97** (1976), *no.* 2, 307–366. (Y. Avishai) **53** #12 81.35

(*with* Schaeffer, R.) Complex paths and uniform approximations in a semi-cl description of direct reactions. *Phys. Rep.* **31C** (1977), *no.* 2, 159–207. (P. Ach **56** #14141 78.35 (81.35)

Knöll, L. (*with* Hüttner, B.) On the theory of the combined influence of collisio Doppler broadening on the shape of spectral lines. *Acta Phys. Polon. A* **52** (1977), 135–147. (Authors' summary) **58** #32583 81.47

Knoll, Otto Testing the prediction capacity of econometric models. (Slovak. Ru English and German summaries) *Second National Conference on Mathematical M in Economics (Harmónia, 1972) (Czech), pp.* 133–149. *Ekonom.-Mat. Lab. Ek Ústavu Českoslov. Akad. Věd, Prague,* 1973. (M. Maňas) **49** #11746 62P20

Knolle, Helmut Periodic solutions of ordinary differential equations and the rotati associated vector fields. (Italian summary) *Ann. Mat. Pura Appl.* (4) **101** (237–245. (Jean Mawhin) **51** #1020 34C25

Existenz periodischer Lösungen eines heteronomen Liénardschen Systems. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), T206–T208. (F. M. Arscott) **53** #11164 34C25

Lotka-Volterra equations with time delay and periodic forcing term. *Math. B* **31** (1976), *no.* 3-4, 351–375. (Author's summary) **58** #33150 92A15 (34K15)

Knöller, Friedrich Wilh. 2-dimensionale Singularitäten und Differentialformen. *Math.* **206** (1973), 205–213. (F. Hirzebruch) **49** #5015 14J15 (32J10, 32C40)

Ein Beitrag zur Klassifikationstheorie der Hilbertschen Modulflächen. *Arch.* (*Basel*) **26** (1975), 44–50. (William F. Hammond) **52** #13858 14J25 (10D20)

Fortsetzungsdefekte zweidimensionaler abelscher Quotienten-Singularitäten. *Ann.* **213** (1975), 33–41. (F. Hirzebruch) **53** #5933 32C40 (14J15)

Elementare Berechnung der Multiplizitäten *n*-dimensionaler Spitzen. *Math.* **225** (1977), *no.* 2, 131–143. (G. van der Geer) **57** #16674a 32C40 (14J25)

Korrektur zur: "Elementaren Berechnung der Multiplizitäten *n*-dimensionaler Spitzen" (Math. Ann. **225** (1977), no. 2, 131–143). *Math. Ann.* **231** (1977), *no.* 1, 9 (G. van der Geer) **57** #16674b 32C40 (14J25)

Knoop, Hans-Bernd On Hermite interpolation in normed vector spaces. *J. Approxim Theory* **11** (1974), 327–337. (A. Bacopoulos) **54** #10955 41A65

(*with* Haußmann, Werner) Konvergenzordnung einer Folge positiver linearer Operatoren. *Rev. Anal. Numér. Théor. Approx.* **4** (1975), *no.* 2, 123–130 (1976). (Ed **58** #29653 41A35

Eine Folge positiver Interpolationsoperatoren. *Acta Math. Acad. Sci. Hunga* (1976), *no.* 3-4, 263–265. (G. Mühlbach) **54** #5687 41A25

(*with* Pottinger, Peter) Ein Satz vom Korovkin-Typ für C^k-Räume. *Math. Z.* (1976), *no.* 1, 23–32. (W. J. Kotzé) **54** #3259 41A65

Interpolationspolynome bezüglich Jacobi-Knoten. Vorträge der Wissenschaftli Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttir 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, *T*300–*T*302. (W. J. Kotzé) **54** #90 65D05

Knop, Larry E. Normal subgroups of groups which are products of two Abelian subgro *Proc. Amer. Math. Soc.* **40** (1973), 37–41. (G. Pic) **47** #8703 20F25

Sufficient conditions for the solvability of factorizable groups. *J. Algebra* **38** (1 *no.* 1, 136–145. (N. Ito) **52** #14041 20D40

Knop, Osvald (*with* Palmer, Edgar M.; Robinson, Robert W.) Arrangements of p charges having zero electric-field gradient. *Acta Crystallographica* **A31** (1975), *n* 19–31. (Authors' summary) **56** #4575 (E **56** #4577) 82.05

(*with* Barker, William W.; White, Peter S.) Univalent (monodentate) substitu on convex polyhedra. *Acta Crystallographica* **A31** (1975), *no.* 4, 461–472. (Auth summary) **56** #14403 82.05

(*with* Palmer, Edgar M.; Robinson, Robert W.) Addendum and corrigenda: "Arrangements of point charges having zero electric-filed gradient" (Acta Crystallographica **A31** (1975), no. 1, 19–31). *Acta Crystallographica* **A31** (1975), *n* 704. (Authors' summary) **56** #4577 82.05

Univalent (monodentate) substitution on convex polyhedra. II. Listing of c indices. *Acta Crystallographica* **A32** (1976), *no.* 1, 65–66. (Author's summary) **56** #14404 82.05

Arrangements of point charges having zero electric-field gradient. II. *Acta Crystallographica* **A32** (1976), *no.* 1, 147–149. (Author's summary) **56** #4576 82.

(*with* Melnyk, Theodor William; Smith, William Robert) Extremal arrangement points and unit charges on a sphere: equilibrium configurations revisited. (Fre summary) *Canad. J. Chem.* **55** (1977), *no.* 10, 1745–1761. (Authors' summary) **56** #2848 05B30 (52A40)

Knop, Robert E. A note on hypercube partitions. *J. Combinatorial Theory Ser. A* **15** (19 338–342. (George E. Andrews) **49** #2419 05A17

Knopf-Lenoir, C. (*with* Kernevez, Jean-Pierre; Touzot, G.; Verchery, Georges) An identification method applied to an orthotropic plate bending experiment. *Internat Numer. Methods Engrg.* **12** (1978), *no.* 1, 129–139. (G. Tiwari) **57** #8349 73.65

Knopfmacher, John (*with* Burger, G. E.) Submodules, subalgebras and ideals in fin modules or nilpotent algebras over Dedekind domains. *J. London Math. Soc.* (2 (1972), 681–690. (R. L. Kruse) **47** #1852 16A22

Arithmetical properties of finite rings and algebras, and analytic number theory. *Reine Angew. Math.* **252** (1972), 16–43. (R. Ayoub) **47** #1769 10K99

Arithmetical properties of finite rings and algebras, and analytic number theory. Categories and analytic number theory. *J. Reine Angew. Math.* **254** (1972), 74–99. (Narkiewicz) **51** #387 10H25 (16A46)

Arithmetical properties of finite rings and algebras, and analytic number theory.

nite modules and algebras over Dedekind domains. *J. Reine Angew. Math.* **259** 73), 157–170. (W. Narkiewicz) **51** #388 10H25 (13F05)

A prime-divisor function. *Proc. Amer. Math. Soc.* **40** (1973), 373–377. (J. M. andhi) **48** #6036 10H25

(*with* Ridley, J. N.) Prime-independent arithmetical functions. *Ann. Mat. Pura pl.* (4) **101** (1974), 153–169. (M. C. Wunderlich) **52** #13685 10H25 (10M99)

Arithmetical properties of finite rings and algebras, and analytic number theory. IV. elative asymptotic enumeration and *L*-series. *J. Reine Angew. Math.* **270** (1974), –114. (W. Narkiewicz) **51** #389 10H25 (13F05)

Arithmetical properties of finite rings and algebras, and analytic number theory. V. ategories and relative analytic number theory. *J. Reine Angew. Math.* **271** (1974), –121. (W. Narkiewicz) **51** #390 10H25

★Abstract analytic number theory. North-Holland Mathematical Library, Vol. 12. *orth-Holland Publishing Co., Amsterdam-Oxford*; *American Elsevier Publishing Co., c., New York*, (1975). ix + 322 *pp*. (W. Narkiewicz) **54** #7404 10H25 (10H40, M05)

On the asymptotic enumeration of finite rings and modules. *Arch. Math.* (*Basel*) **26** 975), *no*. 6, 615–619. (W. Narkiewicz) **53** #5508 10H25 (12C99, 20K99)

On measures of fuzziness. *J. Math. Anal. Appl.* **49** (1975), 529–534. (Editors) 5 #7584 94A15

Arithmetical properties of finite rings and algebras, and analytic number theory. VI. aximum orders of magnitude. *J. Reine Angew. Math.* **277** (1975), 45–62. (W. arkiewicz) **52** #3088 10H25

Fourier analysis of arithmetical functions. *Ann. Mat. Pura Appl.* (4) **109** (1976), 77–201. (Henri Joris) **55** #7976 10K20 (10K35)

Finite modules and algebras over rings of algebraic functions. *Bull. London Math. oc.* **8** (1976), *no*. 3, 289–293. (W.-D. Geyer) **54** #12684 10H25 (14G10, 12C99)

Arithmetical properties of finite graphs and polynomials. *J. Combinatorial Theory er. B* **20** (1976), *no*. 3, 205–215. (Hugo S. Sun) **53** #10740 10H15 (05C99)

An abstract prime number theorem relating to algebraic function fields. *Arch. ath.* (*Basel*) **29** (1977), *no*. 3, 271–279. (George E. Andrews) **57** #282 12A90 10H15)

Generalised Euler constants. *Proc. Edinburgh Math. Soc.* (2) **21** (1978/79), *no*. 1, 5–32. (S. L. Segal) **57** #12432 10H99 (44A10)

off, L. (*with* Dáng Dình Áng) A note on L_1-approximations by exponential olynomials and Laguerre exponential polynomials. Collection of articles dedicated to L. Walsh on his 75th birthday, VII. *J. Approximation Theory* **6** (1972), 272–275. (A. harma) **50** #842 41A30

ov, P. S. On the question of prediction for random fields. (Russian) *Theory of optimal olutions* (*Proc. Sem., Kiev*, 1968), *No*. 3 (*Russian*), 74–83. *Akad. Nauk Ukrain. SSR, iev*, 1969. (O. Gulyás) **47** #1226 62M20 (60G25)

(*with* Gubenko, L. G.; Štatland, È. S.) A certain problem of control of uasidiffusion processes. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *o*. 3 (*Russian*), 98–102. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (F. L. Spitzer) 7 #10116 93E20

A certain problem of control of a Markov process that satisfies a certain stochastic ifferential equation. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *No*. (*Russian*), 109–116. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (F. M. Kirillova) **45** #4876 93E20

The optimal estimators of certain characteristics of a homogeneous and isotropic aussian field. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1968), *No*. 5 (*Russian*), 134–140. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (F. M. Kirillova) **45** #6113 62F10

The control of random functions that satisfy stochastic differential equations. (Russian) *Mathematical methods for the study and optimization of systems* (*Proc. Sem. Theory of Optimal Decisions, Kiev*, 1970) (*Russian*), *pp*. 184–188. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1971. (I. M. Stojanov) **52** #5161 93E20

Remarks on the estimation of the correlation function of a stationary Gaussian process. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no*. 6, 85–86. (G. Tusnády) **46** #1038 62M10

Estimation of the spectral density of a homogeneous random field. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no*. 2, 48–50. (Z. Zerakidze) **48** #1410 62M15

Filtering and prediction problems for random functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no*. 6, 74–78. (A. Ja. Dorogovcev) **48** #1415 62M20 (60H10)

(*with* Štatland, È. S.) The absolute continuity of measures corresponding to certain random fields on the plane. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp*. 153–169. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Editors) **54** #14080 60G30

The estimation of the spectrum of a stationary Gaussian process. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 8 (1973), 73–85, 176. (M. A. Mirzahmedov) **55** #1677 62M15

The estimation of the parameter of a nonlinear regression function. (Russian) *Theory of random processes. Questions of statistics and control* (*Russian*), *pp*. 80–84. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1974. (Ryszard Zieliński) **57** #7907 62L20

(*with* Baženov, L. G.) Filtering and prediction for random fields satisfying stochastic differential equations. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no*. 6, 153–157, 222 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no*. 6, 118–123. (H. J. Kushner) **54** #12309 93E10

(*with* Štatland, È. S.) On distinguishing hypotheses for a certain class of stochastic systems with distributed parameters. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no*. 2, 106–107. (D. A. Darling) **52** #9362 60G30

Remarks on the minimization of nondifferentiable functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no*. 2, 44–45. (B. T. Poljak) **55** #6848 65K05 (90C15, 62L20, 58C20)

Estimation of the nonlinear regression parameter by the method of stochastic approximation. (Russian) *Kibernetika* (*Kiev*) **1975**, *no*. 6, 141–142. (Vladimir Katkovnik) **56** #16957 62L20

Estimation of the mathematical expectation of a random process by the stochastic approximation method. (Russian) *Methods of operations research and reliability theory in systems analysis* (*Russian*), *pp*. 75–79. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1976. (Editors) **58** #31656 62L20

(*with* Dorogovcev, A. Ja.) The consistency of estimates of a function continuous in a domain that are based on observations at a finite set of points of its range of values with random errors. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no*. 12, 1065–1069, 1140. (G. Manija) **55** #6653 62F10

Filtering of random functions. *Avtomatika* **1976**, *no*. 2, 22–26 (*Ukrainian. English summary*); *translated as Soviet Automat. Control* **9** (1976), *no*. 2, 17–20. (A. P. Roberts) **56** #15040 93E10 (60G35)

On some estimates for nonlinearly occurring regression parameters of a random field. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 14 (1976), 67–74, 155. (G. Tusnády) **54** #14283 62M15

(*with* Dorogovcev, A. Ja.) On the properties of an estimator for the parameters of a nonstationary Gaussian regression of a random field. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 15 (1976), 54–67, 155. (Authors' summary) **55** #4561 62M10

On asymptotic properties of some estimators of nonlinear regression. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 15 (1976), 73–82, 155. (Jiří Anděl) **54** #1506 62M10

(*with* Dorogovcev, A. Ja.) Asymptotic properties of a nonparametric estimate of a function of two variables. (Russian) *Theory of random processes, No*. 5 (*Russian*), *pp*. 27–35, 112. *Izdat. "Naukova Dumka", Kiev*, 1977. (M. A. Mirzahmedov) **57** #7857 62G05

The recurrent estimation of the parameter of a nonlinear regression function. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 4, 97–102. (Ĭ. M. Stojanov) **58** #3253 62M10 (62L20)

(*with* Dorogovcev, A. Ja.) An estimate of a two-dimensional signal from observations with additive random noise. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 17 (1977), 61–79, 164. (Wolfgang Winkler) **57** #7916 62M99

Estimation of the parameter of a nonlinear regression function by the stochastic approximation method. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No*. 19 (1978), 87–92, 159. (Ryszard Zieliński) **58** #18956 62L20 (62L12)

See also **Methods of operations research and of reliability theory in systems analysis, 56** #4721 *and* **Theory of optimal decisions, 58** #32847

Knopp, Konrad (*with* von Mangoldt, H.) ★Einführung in die höhere Mathematik für Studierende und zum Selbststudium. Band I: Zahlen, Funktionen, Grenzwerte, analytische Geometrie, Algebra, Mengenlehre. Vierzehnte Auflage. *S. Hirzel Verlag, Leipzig*, 1970. xvi + 564 *pp*. (Editors) **49** #10477 00A05

★Elemente der Funktionentheorie. Achte Auflage. Sammlung Göschen, Band 1109. *Walter de Gruyter & Co., Berlin*, 1971. ii + 144 *pp*. (Editors) **49** #9163 30–01

See also **von Mangoldt, H., 49** #10478; **von Mangoldt, H., 49** #10479; **Lösch, Friedrich, 49** #10480 *and* **Lösch, Friedrich, 56** #8250

Knopp, Marvin Isadore Bounded and integrable automorphic forms. *Indiana Univ. Math. J.* **22** (1972/73), 769–778. (C. Earle) **46** #7505 30A58

Remarks on a problem of H. Rademacher in the theory of modular forms. *J. Res. Nat. Bur. Standards Sect. B* **77B** (1973), *no*. 3-4, 81–83. (J. Lehner) **53** #13116 10D05

Some new results on the Eichler cohomology of automorphic forms. *Bull. Amer. Math. Soc.* **80** (1974), 607–632. (I. Kra) **49** #9193 30A58 (10D15, 32N10)

Rational period functions of the modular group. With an appendix by Georges Grinstein. *Duke Math. J.* **45** (1978), *no*. 1, 47–62. (J. Lehner) **58** #5522 10D10

Knopp, Paul J. (*with* Sinkhorn, Richard) Permanents of special classes of doubly stochastic matrices. *Linear and Multilinear Algebra* **4** (1976), *no*. 2, 129–136. (Peter M. Gibson) **54** #10301 15A51

Knöpp, Ulrich Zur Regelung des linearen Wärmeleiters. (English summary) *Regelungstech. Prozeß-Datenverarbeit.* **18** (1970), *no*. 3, 111–115. (F. J. Beutler) **52** #7639 93C20 (93D99, 93E20)

Über die Inversion gewisser unendlicher Matrizen. *J. Reine Angew. Math.* **291** (1977), 30–43. (K. Veselić) **56** #8592 15A09 (47A05)

Knops, Hubert J. F. Infinite spin dimensionality limit for nontranslationally invariant interactions. *J. Mathematical Phys.* **14** (1973), 1918–1920. (R. A. Minlos) **50** #12109 82.60

(*with* Gallavotti, Giovanni) Block-spins interactions in the Ising model. *Comm. Math. Phys.* **36** (1974), 171–184. (M. E. Mayer) **49** #4505 82.47

Exact relation between the solid-on-solid model and the *XY* model. *Phys. Rev. Lett.* **39** (1977), *no*. 12, 766–769. (M. Lawrence Glasser) **56** #10635 82.05

Knops, R. J. (*with* Payne, Lawrence E.) ★Uniqueness theorems in linear elasticity. Springer Tracts in Natural Philosophy, Vol. 19. *Springer-Verlag, New York-Berlin*, 1971. ix + 130 *pp*. (I. Hlaváček) **54** #9249 73.35

(*with* Payne, Lawrence E.) Hölder stability and logarithmic convexity. *Instability of continuous systems* (*IUTAM Sympos., Herrenalb*, 1969), *pp*. 248–255. *Springer, Berlin*, 1971. (Dahsoong Yü) **51** #13416 35B35 (34D30)

(*with* Payne, Lawrence E.) Growth estimates for solutions of evolutionary equations in Hilbert space with applications in elastodynamics. *Arch. Rational Mech. Anal.* **41** (1971), 363–398. (Howard A. Levine) **48** #9068 35B40 (47A50)

Logarithmic convexity and other techniques applied to problems in continuum mechanics. *Symposium on Non-Well-Posed Problems and Logarithmic Convexity* (*Heriot-Watt Univ., Edinburgh*, 1972), *pp*. 31–54. *Lecture Notes in Math., Vol*. 316, *Springer, Berlin*, 1973. (Howard A. Levine) **53** #6126 35R25 (35Q99, 73.35)

(*with* Hills, R. N.) Continuous dependence for the compressible linearly viscous fluid. *Arch. Rational Mech. Anal.* **51** (1973), 54–59. (W. F. Ames) **49** #4413 76.35

(*with* Levine, Howard A.; Payne, Lawrence E.) Non-existence, instability, and growth theorems for solutions of a class of abstract nonlinear equations with applications to nonlinear elastodynamics. *Arch. Rational Mech. Anal.* **55** (1974), 52–72. (Jerome Eisenfeld) **51** #1093 35G20 (47H15)

(*with* Hills, R. N.) Concavity and the evolutionary properties of a class of general materials. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no*. 3, 239–243 (1975). (Jerome

Eisenfeld) **52** #12478 73.35

Comments on nonlinear elasticity and stability. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 271–290. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #32281 73.49

(*with* Straughan, Brian) Non-existence of global solutions to non-linear Cauchy problems arising in mechanics. *Trends in applications of pure mathematics to mechanics* (*Conf., Univ. Lecce, Lecce*, 1975), *pp.* 187–206. *Monographs and Studies in Math., Vol.* 2, *Pitman, London*, 1976. (L. E. Payne) **58** #1764 35Q99 (35R20, 73.35)

(*with* Straughan, Brian) Convergence of solutions of the equations of dynamic linear dipolar elasticity to the solutions of classical elastodynamics. (Polish and Russian summaries) Symposium on Continuum Models of Discrete Systems (Jodłowy Dwór, 1975). *Arch. Mech.* (*Arch. Mech. Stos.*) **28** (1976), *no.* 3, 431–441. (Authors' summary) **57** #4760 73.35 (35Q99)

(*with* Straughan, Brian) Continuous dependence theorems in the theory of linear elastic materials with microstructure. *Internat. J. Engrg. Sci.* **14** (1976), *no.* 6, 555–565. (M. Sokołowski) **57** #11251 73.34

(*with* Hills, R. N.) Qualitative results for a class of general materials. *SIAM J. Appl. Math.* **30** (1976), *no.* 3, 424–451. (Peter J. Chen) **54** #6624 73.35

(*with* Payne, Lawrence E.) On potential wells and stability in nonlinear elasticity. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 1, 177–190. (Joseph J. Roseman) **57** #11262 73.35

See also **Symposium: Non-Well-Posed Problems and Logarithmic Convexity, 51** #6098 *and* **Nonlinear analysis and mechanics: Heriot-Watt Symposium, 56** #15260

Knorozov, Ju. V. *See* **Cybernetics—in the service of Communism, 48** #10432

Knorr, Georg (*with* Shoucri, Magdi M.) Numerical integration of the Vlasov equation. *J. Computational Phys.* **14** (1974), *no.* 1, 84–92. (L. Fox) **52** #16217 70.65

Knorr, Jeffrey B. (*with* McIsaac, Paul R.) A group theoretic investigation of the single-wire helix. *IEEE Trans. Microwave Theory Tech.* **19** (1971), 854–861. (Y. Hayashi) **50** #3769 78.20

Knorr, Knut Der Grauertsche Projektionssatz. *Invent. Math.* **12** (1971), 118–172. (G. Trautmann) **46** #7552 32C35

(*with* Forster, Otto) Ein Beweis des Grauertschen Bildgarbensatzes nach Ideen von B. Malgrange. (English summary) *Manuscripta Math.* **5** (1971), 19–44. (G. Trautmann) **46** #7551 32C35

(*with* Schneider, Michael) Relativexzeptionelle analytische Mengen. *Math. Ann.* **193** (1971), 238–254. (Y.-T. Siu) **45** #2208 32F10

(*with* Forster, Otto) Relativ-analytische Räume und die Kohärenz von Bildgarben. *Invent. Math.* **16** (1972), 113–160. (G. Trautmann) **48** #4344 32C35

(*with* Forster, Otto) Espaces analytiques relatifs. *Fonctions analytiques de plusieurs variables et analyse complexe* (*Colloq. Internat. CNRS, No.* 208, *Paris* 1972), *pp.* 51–52, "*Agora Mathematica*", *No.* 1, *Gauthier-Villars, Paris*, 1974. (From the authors' text) **57** #696 32C15

(*with* Forster, Otto) Über die Deformationen von Vektorraumbündeln auf kompakten komplexen Räumen. *Math. Ann.* **209** (1974), 291–346. (Andrew Markoe) **51** #10695 32G05

(*with* Forster, Otto) Ein neuer Beweis des Satzes von Kodaira-Nirenberg-Spencer. *Math. Z.* **139** (1974), 257–291. (H. Kerner) **50** #13607 32G05 (32G13)

See also **Mathematics: Periodical collection of translations of foreign articles, 49** #4722

Knörr, Reinhard Ringepimorphismen und Morita-projektive Moduln über kommutativen Dedekind-Ringen. *Comment. Math. Helv.* **50** (1975), 267–275. (H. H. Storrer) **52** #13795 13C10 (13F05)

Uniserial blocks of symmetric and alternating groups. *Arch. Math.* (*Basel*) **27** (1976), *no.* 6, 584–587. (A. Kerber) **55** #3058 20C30

Morita-injektive Moduln über kommutativen Dedekind-Ringen. *J. Reine Angew. Math.* **281** (1976), 149–163. (V. C. Cateforis) **52** #10713 13C10 (16A52)

Blocks, vertices and normal subgroups. *Math. Z.* **148** (1976), *no.* 1, 53–60. (William H. Gustafson) **53** #5723 20C20

Semisimplicity, induction, and restriction for modular representations of finite groups. *J. Algebra* **48** (1977), *no.* 2, 347–367. (I. M. Isaacs) **57** #6169 20C20 (20C05)

Knorr, Wilbur Richard ★The evolution of the Euclidean elements. A study of the theory of incommensurable magnitudes and its significance for early Greek geometry. Synthese Historical Library, Vol. 15. *D. Reidel Publishing Co., Dordrecht-Boston, Mass.*, 1975. xi + 374 *pp. ISBN* 90-277-0509-7 (From the author's introduction) **57** #12003 01A20

Archimedes and the measurement of the circle: a new interpretation. *Arch. History Exact Sci.* **15** (1975/76), *no.* 2, 115–140. (H. L. L. Busard) **58** #15805 01A20

Problems in the interpretation of Greek number theory: Euclid and the "fundamental theorem of arithmetic". *Studies in Hist. and Philos. Sci.* **7** (1976), *no.* 4, 353–368. (William C. Waterhouse) **58** #15806 01A20 (10A25)

Archimedes' neusis-constructions in spiral lines. *Centaurus* **22** (1978/79), *no.* 2, 77–98. (H. L. L. Busard) **58** #4785 01A20

Knotek, Miroslav (*with* Šplíchal, Josef) On the unattained eightieth birthday of Jaroslav Janko. (Czech) *Ekonom.-Mat. Obzor* **10** (1974), 221–222. (Editors) **49** #8801 01A70

Knothe, Herbert Bemerkungen zur Isoperimetrie des Kreises auf der Kugel. *Arch. Math.* (*Basel*) **22** (1971), 325–327. (H. Sachs) **45** #5877 52A40

Knothe, K. (*with* v. Blumenthal, N.; Bock, H.-M.; Drechsler, J.; Erbe, H.; Giencke, E.; Hieronimus, K.; Kalzidu, D.; Krause, Günter; Lehmann, Daniel; Petersen, J.; Rinneberg, Chr.) ★Einführung in finite Berechnungsverfahren. Redaktionelle Bearbeitung: Klaus Hieronimus, Klaus Knothe und Jürgen Petersen. *Abteilung Publikationen, Universitätsbibliothek, Technische Universität Berlin, Berlin*, 1972. xiii + 394 *pp.* (Editors) **50** #9133 (EA **51**) 73.65 (65N30)

Knott, G. D. Hashing functions. *Comput. J.* **18** (1975), *no.* 3, 265–278. (Robert Wagner) **52** #7238 68A50 (68A05)

Knott, M. (*with* Durbin, J.) Components of Cramér-von Mises statistics. I. *J. Roy. Statist. Soc. Ser. B* **34** (1972), 290–307. (D. R. Truax) **51** #2132 62G10

The distribution of the Cramér-von Mises statistic for small sample sizes. *J. Roy. Statist. Soc. Ser B* **36** (1974), 430–438. (M. Raghavachari) **51** #2135 62G10 (62E15)

On the minimum efficiency of least squares. *Biometrika* **62** (1975), 129–13 John) **51** #9378 62J05

(*with* Durbin, J.; Taylor, C. C.) Components of Cramér-von Mises statistics. *Roy. Statist. Soc. Ser. B* **37** (1975), 216–237. (D. R. Truax) **52** #6994 (E **57** #109 62G10

(*with* Durbin, J.; Taylor, C. C.) Corrigendum: "Components of Cramér-von statistics. II" (J. Roy. Statist. Soc. Ser. B **37** (1975), 216–237). *J. Roy. Statist. Soc.* **39** (1977), *no.* 3, 394. (Editors) **57** #10906 62G10

See also **Analysis of survey data, 58** #13416

Knott, Roger P. On isomorphic group rings. *J. London Math. Soc.* (2) **5** (1972), 546 (A. H. Rhemtulla) **48** #2020 06A55

Group algebras of some generalised soluble groups. *Proc. Edinburgh Math. Sc* **18** (1972/73), 1–5. (K. W. Gruenberg) **48** #6248 20E15 (16A26)

The Brown-McCoy radical of certain group algebras. *J. London Math. Soc.* (1973), 617–625. (Donald S. Passman) **47** #6825 20C05 (16A26)

Knowles, Frank Semigroups with identity on E^3. *Michigan Math. J.* **20** (1973), 161 (John A. Hildebrant) **47** #1998 22A15

Idempotents in the boundary of a Lie group. *Pacific J. Math.* **44** (1973), 191 (P. S. Mostert) **47** #3592 22A15 (22E99)

A characterization of a class of semigroups. *Semigroup Forum* **6** (1973), 42–49. (Anne L. Hudson) **51** #5833 22A15

Knowles, Gregory (*with* Kluvánek, Igor) Liapunov decomposition of a vector meas *Math. Ann.* **210** (1974), 123–127. (N. Dinculeanu) **49** #10853 28A45

(*with* Kluvánek, Igor) Attainable sets in infinite-dimensional spaces. *Math. Sys Theory* **7** (1974), *no.* 4, 334–351. (C. Olech) **58** #30611 49A50 (46G99)

Lyapunov vector measures. *SIAM J. Control* **13** (1975), 294–303. (L. von Wolfersdorf) **52** #9053 (EA **53**) 49E15 (46G10)

(*with* Kluvánek, Igor) ★Vector measures and control systems. North-Hol Mathematics Studies, Vol. 20. Notas de Matemática, No. 58. [Notes on Mathema No. 58] *North-Holland Publishing Co., Amsterdam-Oxford; American Elsevier Publi Co., Inc., New York*, 1976. ix + 180 *pp.* (J. J. Uhl, Jr.) **58** #17033 28A45 (46 49A35)

On Liapunov vector measures. *Measure theory* (*Proc. Conf., Oberwolfach*, 1975 61–67. *Lecture Notes in Math., Vol.* 541, *Springer, Berlin*, 1976. (Igor Kluvá **56** #573 28A45 (46G10, 49E15)

Time optimal control of infinite-dimensional systems. *SIAM J. Control Optimization* **14** (1976), *no.* 5, 919–933. (H. A. Antosiewicz) **54** #1045 49A25

Über das bang-bang-Prinzip bei Kontrollproblemen aus der Wärmeleitung. *Math.* (*Basel*) **29** (1977), *no.* 3, 300–307. (È. G. Al'breht) **57** #10540 49A20 (49

Remarks on bang-bang control in a Hilbert space. *J. Optimization Theory App* (1977), *no.* 1, 51–57. (H. O. Fattorini) **55** #8925 49A35

Some remarks on infinite-dimensional nonlinear control without convexity. *J. Control Optimization* **15** (1977), *no.* 5, 830–840. (L. D. Berkovitz) **56** #93 49A25

Knowles, Ian Note on a limit-point criterion. *Proc. Amer. Math. Soc.* **41** (1973), 117– (J. V. Baxley) **47** #8964 34B20

On a limit-circle criterion for second-order differential operators. *Quart. J. M Oxford Ser.* (2) **24** (1973), 451–455. (R. R. D. Kemp) **52** #14442 34B20

On second-order differential operators of limit-circle type. *Ordinary and pa differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp.* 184–187. *Lec Notes in Math., Vol.* 415, *Springer, Berlin*, 1974. (K. R. Schneider) **54** #13194 34

Some remarks on a limit-point condition. *Bull. London Math. Soc.* **6** (19 325–332. (J. W. Heidel) **50** #13702 34B20

A limit-point criterion for a second-order linear differential operator. *J. Lor Math. Soc.* (2) **8** (1974), 719–727. (William N. Everitt) **51** #3597 34B20

On the number of zeros of solutions of a second-order linear differential equati *Quart. J. Math. Oxford Ser.* (2) **26** (1975), *no.* 104, 507–510. (Stanley B. Elias **52** #14466 34C10

On essential self-adjointness for singular elliptic differential operators. *Math.* **227** (1977), *no.* 2, 155–172. (Christian G. Simader) **55** #13094 35P05

Knowles, J. D. (*with* Babiker, Abdel Ghayoum A.) An example concerning comple regular measures, images of measurable sets and measurable selections. *Mathematik* (1978), *no.* 1, 120–124. (B. R. Gelbaum) **58** #6129 28A10

Knowles, James K. (*with* Horgan, Cornelius O.) Eigenvalue problems associated Korn's inequalities. *Arch. Rational Mech. Anal.* **40** (1970/71), 384–402. (Edit **55** #13920 73.35 (35J25, 26A84)

(*with* Sternberg, Eli) On a class of conservation laws in linearized and fi elastostatics. *Arch. Rational Mech. Anal.* **44** (1971/72), 187–211. (G. P. Cherepa (Čerepanov)) **49** #1883 73.49

On the spatial decay of solutions of the heat equation. (German summary) *Angew. Math. Phys.* **22** (1971), 1050–1056. (D. T. Haimo) **45** #7307 35K05

(*with* Sternberg, Eli) An asymptotic finite-deformation analysis of the elastost field near the tip of a crack. (German summary) *J. Elasticity* **3** (1973), *no.* 2, 67– (From the authors' summary) **57** #14767 73.41

(*with* Sternberg, Eli) Finite-deformation analysis of the elastostatic field near the of a crack: reconsideration and higher-order results. (German summary) *J. Elasticit* (1974), *no.* 3, 201–233. (Authors' summary) **57** #14768 73.41

(*with* Horgan, Cornelius O.) A note on conformal mappings of convex doma *Utilitas Math.* **5** (1974), 75–78. (J. L. Kazdan) **49** #9176 30A30

(*with* Sternberg, Eli) On the singularity induced by certain mixed boundary conditions in linearized and nonlinear elastostatics. *Internat. J. Solids and Structures* (1975), *no.* 11, 1173–1201. (G. P. Cherepanov) **52** #9762 73.35

On finite anti-plane shear for incompressible elastic materials. *J. Austral. Ma Soc. Ser. B* **19** (1975/76), *no.* 4, 400–415. (R. J. Knops) **57** #14738a 73.35

(*with* Sternberg, Eli) On the ellipticity of the equations of nonlinear elastostatics a special material. Special issue dedicated to A. E. Green. *J. Elasticity* **5** (1975), *no.* 3 341–361. (Tommaso Ruggeri) **57** #14737 73.35 (73.00)

(*with* Sternberg, Eli) On the failure of ellipticity of the equations for finite elastostatic plane strain. *Arch. Rational Mech. Anal.* **63** (1976), *no.* 4, 321–336 (197 (F. V. Pohle) **55** #4853 73.35

The finite anti-plane shear field near the tip of a crack for a class of incompressible stic solids. (French summary) *Internat. J. Fracture* **13** (1977), *no.* 5, 611–639. (M. kołowski) **57** #2050 73.35

A note on anti-plane shear for compressible materials in finite elastostatics. *J. stral. Math. Soc. Ser. B* **20** (1977/78), *no.* 1, 1–7. (R. J. Knops) **57** #14738b .35

A note on the spatial decay of a minimal surface over a semi-infinite strip. *J. Math. al. Appl.* **59** (1977), *no.* 1, 29–32. (Joseph J. Roseman) **55** #10842 35J60 (49F10)

es, Robert J. (*with* Cook, Thurlow A.) Some results on Auerbach bases for finite mensional normed spaces. (French summary) *Bull. Soc. Roy. Sci. Liège* **42** (1973), 8–522. (G. J. O. Jameson) **50** #2879 46B15

(*with* Cook, Thurlow A.) Incomplete reflexive spaces without Schauder bases. *Proc. ambridge Philos. Soc.* **74** (1973), 83–86. (N. J. Kalton) **47** #5544 46A05

The strongest locally convex topology consistent with a Schauder basis. (French mmary) *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 3-4, 165–168. (Tosun Terzioğlu) #6275 46A35

es, Thomas W. An artificial-variable elimination method for solving block-diagonal ogramming problems. *Operations Res.* **21** (1973), 712–727. (F. Giannessi) **50** #12229 90C05

sen, Finn (*with* Kempf, George R.; Mumford, David; Saint-Donat, Bernard) Toroidal embeddings. I. Lecture Notes in Mathematics, Vol. 339. *Springer-Verlag, erlin-New York*, 1973. viii + 209 *pp.* (G. Harder) **49** #299 14E15 (14D20, 14E05, M20, 20G15)

(*with* Mumford, David) The projectivity of the moduli space of stable curves. I. reliminaries on "det" and "Div". *Math. Scand.* **39** (1976), *no.* 1, 19–55. (P. E. ewstead) **55** #10465 14H10 (14F05, 14C05)

sen, Finn Faye (*with* Brun, Viggo) On the possibility of finding certain criteria for the rationality of a number defined as a limit of a sequence of rational numbers. *Math. cand.* **31** (1972), 231–236. (R. F. Churchhouse) **47** #4937 10F35 (10F30)

sen, Harold K. The realization of near-optimal feedback controllers. *Theory and plications of variable structure systems* (*Proc. Sem., Sorrento*, 1972), *pp.* 53–68. *cademic Press, New York*, 1972. (Katsutoshi Tamura) **53** #5099 93C15

(*with* Zazworsky, Raymond M.) Controllability and observability of linear me-invariant compartmental models. *IEEE Trans. Automat. Control* **23** (1978), *no.* 5, 72–877. (Authors' summary) **58** #26254 93B05

sen, Niels Chr. Individual and social optimization in a multiserver queue with a eneral cost-benefit structure. *Econometrica* **40** (1972), 515–528. (A. Descloux) 0 #15898 90B99

sen, Ole (*with* Pedersen, Kurt Møller) The link between "determination" and onservation of motion in Descartes' dynamics. *Centaurus* **13** (1968/69), *no.* 2, 183–186. See Zbl **194**, 2) 70.00 (01A45)

son, W. C. (*with* Argyris, John H.; Kleiber, M.) Elasto-plastic analysis of finite eformation problems. *Formulations and computational algorithms in finite element nalysis* (*U.S.-Germany Sympos., Mass. Inst. Tech., Cambridge, Mass.*, 1976), *pp.* 40–467. *MIT Press, Cambridge, Mass.*, 1977. (N. Cristescu) **58** #8704 73.65

pel, Frieder (*with* von Benda, Heike) Hjelmslev-Gruppen über lokalen Ringen. *eometriae Dedicata* **5** (1976), *no.* 2, 195–206. (A. Cronheim) **55** #3937 50A15

Homomorphismen von Bewegungsgruppen und projektiv-metrischen Räumen. *Beiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg*, 1976), *pp.* 185–187. *ehrbücher u. Monographien aus dem Gebiete der Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäuser, Basel*, 1977. (F. Bachmann) **58** #12667 50A20 (50D45)

Lotketten in metrischen Ebenen. (English summary) *J. Geometry* **10** (1977), *no.* 1-2, 35–105. (A. Cronheim) **58** #23965 50A15

(*with* Bachmann, Friedrich) Verallgemeinertes Lotschnittaxiom. *Math. Z.* **155** 1977), *no.* 3, 205–217. (Peter Brückmann) **56** #13109 50A15

s, Max-Albert Sur le théorème de Skolem-Noether. *Comptes Rendus du Deuxième K-Colloque* (*Univ. Sci. Tech. Languedoc, Montpellier*, 1970), *pp.* 60–66. *Univ. Sci. et Tech. Languedoc, Montpellier*, 1971. (A. Rosenberg) **48** #11184 16A16 (16A72)

(*with* Ojanguren, Manuel) Sur le polynôme caractéristique et les automorphismes es algèbres d'Azumaya. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 225–231. (A. Rosenberg) **50** #13106 16A16 (13A20)

(*with* Ojanguren, Manuel) Sur quelques applications de la théorie de la descente à étude de groupe de Brauer. *Comment. Math. Helv.* **47** (1972), 532–542. (Andy R. Magid) **50** #2146 13A20

(*with* Ojanguren, Manuel) A note on the automorphisms of maximal orders. *J. Algebra* **22** (1972), 573–577. (Lindsay N. Childs) **46** #5372 16A18

(*with* Ojanguren, Manuel) ★Théorie de la descente et algèbres d'Azumaya. Lecture Notes in Mathematics, Vol. 389. *Springer-Verlag, Berlin-New York*, 1974. iv + 163 *pp.* (F. DeMeyer) **54** #5209 13A20 (16A10)

(*with* Ojanguren, Manuel) A Mayer-Vietoris sequence for the Brauer group. *J. Pure Appl. Algebra* **5** (1974), 345–360. (C. Small) **51** #5572 13A20 (12G05, 18H10)

(*with* Ojanguren, Manuel) A norm for modules and algebras. *Math. Z.* **142** (1975), 33–45. (Loren D. Olson) **51** #3139 13A20

(*with* Ojanguren, Manuel; Saltman, David J.) On Brauer groups in characteristic *p*. *Brauer groups* (*Proc. Conf., Northwestern Univ., Evanston, Ill.*, 1975), *pp.* 25–49. *Lecture Notes in Math., Vol.* 549, *Springer, Berlin*, 1976. (F. DeMeyer) **55** #2869 13A20

(*with* DeMeyer, Frank) The Brauer group of a real curve. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 2, 227–232. (G. A. Efroymson) **54** #320 14G99 (14F05)

(*with* Ojanguren, Manuel) Modules and quadratic forms over polynomial algebras. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 223–226. (M. S. Raghunathan) **58** #16641 13F20 (15A63)

See also **Topology and algebra**, **58** #15778

sel, L. Vergleich zweier Testverfahren zur Symmetrieprüfung in 4-Felder-Tafeln. *Metrika* **24** (1977), *no.* 3, 175–186. (Jon Stene) **58** #7999 62F20 (62D05)

th, Donald E. The analysis of algorithms. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 3, *pp.* 269–274. *Gauthier-Villars, Paris*, 1971. (Kurt Mehlhorn) **54** #11839 68A10 (68A20)

Examples of formal semantics. *Symposium on Semantics of Algorithmic Languages*, *pp.* 212–235. *Lecture Notes in Math., Vol.* 188, *Springer, Berlin*, 1971. (D. Vaida) **49** #1834 68A30

(*with* de Bruijn, Nicolaas Govert; Rice, Stephen O.) The average height of planted plane trees. *Graph theory and computing*, *pp.* 15–22. *Academic Press, New York*, 1972. (P. E. O'Neil) **58** #21737 05C05

Mathematical analysis of algorithms. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol.* 1: *Foundations and systems*, *pp.* 19–27. *North-Holland, Amsterdam*, 1972. (Maurice Mignotte) **53** #7122 68A20 (68A10)

Ancient Babylonian algorithms. Twenty-fifth anniversary of the Association for Computing Machinery. *Comm. ACM* **15** (1972), *no.* 7, 671–677; *errata, ibid.* **19** (1976), *no.* 2, 108; MR **52** #13133. (Editors) **52** #13132 (E **52** #13133) 01A15

George Forsythe and the development of computer science. Collection of articles in honor of George E. Forsythe (ACM Student Competition Award Papers). *Comm. ACM* **15** (1972), *no.* 8, 721–726. (Editors) **52** #7802 01A70 (68–03)

(*with* Graham, Ronald L.; Motzkin, Theodore S.) Complements and transitive closures. *Discrete Math.* **2** (1972), 17–29. (B. Csákány) **48** #1933 05A05 (04A05)

(*with* Bender, Edward A.) Enumeration of plane partitions. *J. Combinatorial Theory Ser. A* **13** (1972), 40–54. (M. S. Cheema) **45** #8622 10J20 (05A17)

★The art of computer programming. Volume 3. Sorting and searching. Addison-Wesley Series in Computer Science and Information Processing. *Addison-Wesley Publishing Co., Reading, Mass.-London-Don Mills, Ont.*, 1973. xi + 722 *pp.* (1 *foldout*) (M. Muller) **56** #4281 68A50

(*with* Floyd, Robert W.) The Bose-Nelson sorting problem. *A survey of combinatorial theory* (*Proc. Internat. Sympos., Colorado State Univ., Fort Collins, Colo.*, 1971), *pp.* 163–172. *North-Holland, Amsterdam*, 1973. (A. L. Rosenberg) **51** #4710 68A10

The dangers of computer-science theory. *Logic, methodology and philosophy of science, IV* (*Proc. Fourth Internat. Congr., Bucharest*, 1971), *pp.* 189–195. *Studies in Logic and Foundations of Math., Vol.* 74, *North-Holland, Amsterdam*, 1973. (From the author's introduction) **56** #17174 68–01

Permutations with non-negative partial sums. *Discrete Math.* **5** (1973), 367–371. (D. J. Kleitman) **47** #4812 05A15

(*with* Stevenson, Francis R.) Optimal measurement points for program frequency counts. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **13** (1973), 313–322. (E. Ikaunieks) **49** #4304 68A20

★Surreal numbers. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1974. iii + 119 *pp.* (John W. Dawson, Jr.) **57** #11983 00A05 (02–01)

Computer science and its relation to mathematics. *Amer. Math. Monthly* **81** (1974), 323–343. (K. H. V. Booth) **49** #4297 68A10

(*with* Amble, O.) Ordered hash tables. *Comput. J.* **17** (1974), 135–142. (A. L. Rosenberg) **50** #1559 68A10

The asymptotic number of geometries. *J. Combinatorial Theory Ser. A* **16** (1974), 398–400. (Stephen Tanny) **49** #94 05B35

Wheels within wheels. *J. Combinatorial Theory Ser. B* **16** (1974), 42–46. (A. C. Shershin) **49** #2450 05C20

(*with* Fredman, Michael L.) Recurrence relations based on minimization. *J. Math. Anal. Appl.* **48** (1974), 534–559. (Authors' summary) **57** #12364 10A35

★The art of computer programming. Volume 1: Fundamental algorithms. Second printing of the Second edition. Addison-Wesley Series in Computer Science and Information Processing. *Addison-Wesley Publishing Co., Reading, Mass.-London-Amsterdam*, 1975. xxii + 634 *pp.* (1 *table on lining papers*) (Editors) **51** #14624 68A05

(*with* Moore, Ronald W.) An analysis of alpha-beta pruning. *Artificial Intelligence* **6** (1975), *no.* 4, 293–326. (Arnold Griffith) **52** #9714 68A45 (68A20)

Random matroids. *Discrete Math.* **12** (1975), *no.* 4, 341–358. (Robert E. Bixby) **53** #10623 05B35

Estimating the efficiency of backtrack programs. Collection of articles dedicated to Derrick Henry Lehmer on the occasion of his seventieth birthday. *Math. Comp.* **29** (1975), 122–136. (Y. Perl) **51** #9571 68A20

Computer science and its relation to mathematics. (Slovenian. English summary) Translated from the English by Tamara Bohte [Amer. Math. Monthly **81** (1974), 323–343]. *Obzornik Mat. Fiz.* **22** (1975), *no.* 4, 129–138. (Editors) **58** #8422a 68–01 (65–01)

Computer science and its relation to mathematics. II. (Slovenian) Translated from the English by Tamara Bohte [Amer. Math. Monthly **81** (1974), 323–343]. *Obzornik Mat. Fiz.* **22** (1975), *no.* 5, 161–167. (Editors) **58** #8422b 68–01 (65–01)

(*with* Yao, Andrew Chi Chih) Analysis of the subtractive algorithm for greatest common divisors. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), *no.* 12, 4720–4722. (P. J. Weinberger) **54** #5102 10A30 (10–04)

★The state of the art of computer programming. Errata to *The art of computer programming, Vols. 1 and 2*, Addison-Wesley, Reading, Mass., 1969. STAN-CS-76-551. *Computer Science Department, School of Humanities and Sciences, Stanford University, Stanford, Calif.; distributed by National Technical Information Service, U. S. Department of Commerce, Springfield, Va.*, 1976. i + 57 *pp.* (Editors) **57** #18169 68–02

★Mariages stables et leurs relations avec d'autres problèmes combinatoires. Introduction à l'analyse mathématique des algorithmes. Collection de la Chaire Aisenstadt. *Les Presses de l'Université de Montréal, Montreal, Que.*, 1976. 106 *pp.* *ISBN* 0-8405-0342-3 (Fabrizio Luccio) **58** #8470 68A10 (05–XX)

(*with* Yao, Andrew Chi Chih) The complexity of nonuniform random number generation. *Algorithms and complexity* (*Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1976), *pp.* 357–428. *Academic Press, New York*, 1976. (George Marsaglia) **55** #4598 65C10 (68A20)

Errata: "Ancient Babylonian algorithms" (Comm. ACM **15** (1972), no. 7, 671–677). *Comm. ACM* **19** (1976), *no.* 2, 108. (Editors) **52** #13133 01A15

The computer as master mind. *J. Recreational Math.* **9** (1976/77), *no.* 1, 1–6. (Stephen J. Garland) **55** #7645 00A05 (68–01)

Computer science and its relation to mathematics. (Slovak) Translated from the English by Branislav Rovan. *Pokroky Mat. Fyz. Astronom.* **21** (1976), *no.* 2, 88–96. (Editors) **58** #4752 00A05 (68–01)

(*with* Trabb Pardo, Luis) Analysis of a simple factorization algorithm. *Theoret. Comput. Sci.* **3** (1976/77), *no.* 3, 321–348. (R. F. Churchhouse) **58** #16485 10A25 (68A20)

★Искусство программирования для ЭВМ. Том 2: Получисленные алгоритмы. (Russian) [The art of computer programming. Vol. 2: Seminumerical algorithms] Translated from the English by G. P. Babenko, È. G. Belaga and L. V. Maĭstrov. Edited by K. I. Babenko. *Izdat. "Mir" Moscow*, 1977. 724 *pp*. (J. S. Joel) **58** #19279 68-02

Notes on generalized Dedekind sums. *Acta Arith*. **33** (1977), *no*. 4, 297–325. (E. Grosswald) **58** #5483 10A20 (10A30, 65C10, 68A15, 68A40)

Deletions that preserve randomness. *IEEE Trans. Software Engrg*. **SE-3** (1977), *no*. 5, 351–359. (William H. Burge) **57** #4709 68A50

A generalization of Dijkstra's algorithm. *Information Processing Lett*. **6** (1977), *no*. 1, 1–5. (Guy Chaty) **56** #13763 68A10

(*with* Morris, James H., Jr.; Pratt, Vaughan R.) Fast pattern matching in strings. *SIAM J. Comput*. **6** (1977), *no*. 2, 323–350. (B. Chandrasekaran) **56** #10198 68A45

(*with* Paterson, Michael S.) Identities from partition involutions. *Fibonacci Quart*. **16** (1978), *no*. 3, 198–212. (G. L. Alexanderson) **58** #21652 05A17 (10A45)

(*with* Jonassen, Arne T.) A trivial algorithm whose analysis isn't. *J. Comput. System Sci*. **16** (1978), *no*. 3, 301–322. (A. D. Booth) **57** #18208 68A10 (68A50)

(*with* Garey, Michael R.; Graham, Ronald L.; Johnson, David Stifler) Complexity results for bandwidth minimization. *SIAM J. Appl. Math*. **34** (1978), *no*. 3, 477–495. (W. Dörfler) **57** #18220 68A20 (05C99)

See also **Wrench, John W., Jr.**, **53** #4473; **Mendès-France, Michel**, **53** #6973 *and* **Languages and automata**, **55** #1857

Knuth, Előd A structured computer system model. *Computers and mathematics with applications*, *pp*. 327–336. *Pergamon, Oxford*, 1976. (Immo O. Kerner) **56** #4209 68-00 (68A05, 68A20)

(*with* Feind, F.; Radó, P.; Varsányi, J.) Homogeneous event indexes. *Acta Cybernet*. **3** (1976/77), *no*. 1, 43–55. (I. Mezník) **55** #9631 68A55

On the solvability of resource allocation problems. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **3** (1977), *no*. 1-2, 27–63. (Author's summary) **58** #20346 90B10 (90C50)

See also **Theory of operating systems**, **57** #4562

Knuts, Lars-Runar Combining two integer programming algorithms. *Acta Acad. Åbo. Ser. B* **33**, *no*. 12, 8 *pp*. (1973). (Jeremy F. Shapiro) **54** #9662 90C10

Knutson, Donald ★Algebraic spaces. Lecture Notes in Mathematics, Vol. 203. *Springer-Verlag, Berlin-New York*, 1971. vi+261 *pp*. (H. Kurke) **46** #1791 14A20 (13J15, 14F20)

A lemma on partitions. *Amer. Math. Monthly* **79** (1972), 1111–1112. (J. Blass) **47** #3310 10A45

★λ-rings and the representation theory of the symmetric group. Lecture Notes in Mathematics, Vol. 308. *Springer-Verlag, Berlin-New York*, 1973. iv+203 *pp*. (H. K. Farahat) **51** #679 20C30

Binomial λ-rings and a topological corollary. *Proc. Amer. Math. Soc*. **50** (1975), 83–84. (J. A. Schafer) **51** #14050 55G25

Knutson, G. W. *See* **Problems: Differential geometry**, **51** #13876

Knyr, V. A. (*with* Ašerova, R. M.; Smirnov, Ju. F.; Tolstoĭ, V. N.) Some group theoretical aspects of the method of generalized hyperspherical functions. *Jadernaja Fiz*. **21** (1975), *no*. 5, 1126–1134 (*Russian*); *translated as Soviet J. Nuclear Phys*. **21** (1975), *no*. 5, 580–584. (Daniel A. Akyeampong) **53** #2164 81.22

Ko, D. C. (*with* Breuer, Melvin A.) Self-checking of multi-output combinational circuits using extended-parity technique. *J. Design Automat. Fault-Tolerant Comput*. **2** (1978), *no*. 1, 29–62. (G. Saucier) **57** #5460 94A20

Ko, D. R. S. (*with* Benney, D. J.) The propagation of long large amplitude internal waves. *Stud. Appl. Math*. **59** (1978), *no*. 3, 187–199. (Alberto Valli) **58** #25320 76.35 (35Q99)

Ko, Hwei Mei Fixed point theorems for point-to-set mappings and the set of fixed points. *Pacific J. Math*. **42** (1972), 369–379. (S. T. Lin) **47** #4079 47H10 (54H25)

(*with* Ts'ai, Yüeh Hsia) Fixed point theorems with localized property. *Tamkang J. Math*. **8** (1977), *no*. 1, 81–85. (E. Fadell) **57** #7566 54H25

Ko, Jae Ha An approximate solution of boundary value problems for integro-differential equations. (Korean. English summary) *Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-po* **23** (1975), *no*. 4, 180–184. (Editors) **55** #10982 45J05

On the approximate solution of boundary value problems for integro-differential equations. (Korean. English summary) *Su-hak kwa Mul-li* **19** (1975), *no*. 3, 10–14. (From the author's summary) **56** #1002 45L05

Approximate solution of integro-partial differential equations by the variational method. (Korean. English summary) *Su-hak kwa Mul-li* **20** (1976), *no*. 2, 4–7. (Author's summary) **56** #1755 65R05

Ko, K. (*with* Kuehl, H. H.) Korteweg-de Vries soliton in a slowly varying medium. *Phys. Rev. Lett*. **40** (1978), *no*. 4, 233–236. (Authors' summary) **58** #14579 81.35

Ko, K. C. C. (*with* Fung, P. C. W.) Non-linear scattering probability of longitudinal plasma waves in a magnetoactive plasma system. *Astrophys. and Space Sci*. **52** (1977), *no*. 1, 105–135. (Giulio Mattei) **56** #17515 78.47

Ko, M. K. W. (*with* Newman, Ezra T.) A remark on null infinity. *General Relativity and Gravitation* **6** (1975), *no*. 6, 595–599. (C. J. S. Clarke) **55** #2035 83.53

(*with* Newman, Ezra T.; Tod, K. P.) $\mathcal{K}$-space and null infinity. *Asymptotic structure of space-time* (*Proc. Sympos., Univ. Cincinnati, Cininnati, Ohio*, 1976), *pp*. 227–271. *Plenum, New York*, 1977. (Garry Ludwig) **58** #4172 83.53

(*with* Newman, Ezra T.; Penrose, R.) The Kähler structure of asymptotic twistor space. *J. Mathematical Phys*. **18** (1977), *no*. 1, 58–64. (Charles A. Nelson) **55** #2036 83.53

Ko, Wai Lee (*with* Mittra, Raj) A new approach based on a combination of integral equation and asymptotic techniques for solving electromagnetic scattering problems. *IEEE Trans. Antennas and Propagation* **AP-25** (1977), *no*. 2, 187–197. (Authors' summary) **58** #8820 78.45

Ko, Young So (*with* Kim, Jong Soo; Lee, Heon Koo; Lee, Il Hae) A note on a finite difference analogue of mixed boundary value problem. *J. Korean Math. Soc*. **8** (1971), 19–23. (S. V. Parter) **46** #4749 65N10

Koba, Zirô (*with* Nielsen, Holger Bech) Generalized Veneziano model from the point of view of manifestly crossing-invariant parametrization. *Z. Physik* **229** (1969), 243–263. (D. B. Fairlie) **49** #4466 81.30

Koban, M. A. Equivalence lattices that are not congruence lattices. (Russian) *Mat. Issled*. **8** (1973), *No*. 2 (28), 72–79, 189. (G. Grätzer) **48** #5964 08A25

Kobašvili, T. V. (*with* Habelašvili, G. I.; Urumov, I. O.) Determination of minima ode distance for a class of cyclic AN-codes. (Russian. Georgian summary) *Collec of articles on programming* (*Russian*), *pp*. 63–72. *Tbilis. Gos. Univ. Inst. Prikl. Mat*., 1975. (From the text) **58** #33497 94A10

(*with* Habelašvili, G. I.; Urumov, I. O.) Finding cyclic representatives of lic arithmetic codes. (Russian. Georgian and English summaries) *Sakharth. SSR Akad. Moambe* **79** (1975), *no*. 1, 49–52. (Heinrich Seidel) **53** #2514 94A10

(*with* Kipšidze, Z. Š.; Klimiašvili, M. A.; Urumov, I. O.; Habelašvili, G. I.) ★Некоторые весовые коды, исправляющие ошибки. (Russian) [Some weighted error-correcting codes] With a Georgian summary. *Izdat. Tbilis. Univ., Tbilisi*, 1 45 *pp*. (Stefan Dodunekov) **58** #20788 94A10

Kobatake, Yonosuke (*with* Aizawa, Yōji) A theory of oscillatory instability in tw ate systems in relation to nerve excitation. *Bull. Math. Biology* **38** (1976), *no*. 4, 351–3 (F W. Stallmann) **58** #4399 92A05 (34K20)

Kobayashi, E. T. *See* **Matsushima, Yozo**, **49** #11553

Kobayashi, Hiroaki (*with* Yoshikawa, Tsueneo) Comments on: "Optimal minima der observer-estimators for discrete linear time-varying systems" (IEEE Trans. Aut tic Control **AC-15** (1970), 416–426) by Edison Tse and Michael Athans. *IEEE* ns *Automatic Control* **AC-17** (1972), 272–273. (Authors' summary) **50** #15999 9

(*with* Yoshikawa, Tsueneo) Observability of decentralized discrete-time rol systems. *Internat. J. Control* **22** (1975), *no*. 1, 83–95. (Ruth Curtain) **52** # 93B05

(*with* Hanafusa, Hideo; Yoshikawa, Tsueneo) Pole assignability and controll ity of decentralized control systems. (Japanese. English summary) *Systems and Con* 20 (1976), *no*. 10, 557–565. (Authors' summary) **58** #26241 93B05

(*with* Hanafusa, Hideo; Yoshikawa, Tsueneo) Controllability under decentr ed information structure. *IEEE Trans. Automatic Control* **AC-23** (1978), *no*. 2, 182–1 P E. Sarachik) **58** #15377 93B05

(*with* Hanafusa, Hideo; Yoshikawa, Tsueneo) Suboptimal control of decentr ed control systems. (Japanese. English summary) *Systems and Control* **22** (1978), 3. 169–177. (Tohru Katayama) **58** #4580 93E20

Kobayashi, Hisashi Correlative level coding and maximum-likelihood decoding. *E Trans. Information Theory* **IT-17** (1971), 586–594. (Robert Lucky) **53** #10472 10

(*with* Reiser, Martin) The effects of service time distributions on system performance. *Information processing 74* (*Proc. IFIP Congress, Stockholm*, 197 pp 230–234. *North-Holland, Amsterdam*, 1974. (Takehisa Fujisawa) **53** #14720 25

(*with* Reiser, Martin) Accuracy of the diffusion approximation for some qu ng systems. *IBM J. Res. Develop*. **18** (1974), 110–124. (D. P. Gaver) **51** #9258 25

Application of the diffusion approximation to queueing networks. I. Equili m queue distributions. *J. Assoc. Comput. Mach*. **21** (1974), 316–328. (C. Mohan) **50** #3391 60K25

Application of the diffusion approximation to queueing networks. II. Nonequilibrium distributions and applications to computer modeling. *J. Assoc. C ut. Mach*. **21** (1974), 459–469. (C. Mohan) **57** #7802 60K25

(*with* Reiser, Martin) Queuing networks with multiple closed chains: theor nd computational algorithms. Papers on system performance evaluation. *IBM J s. Develop*. **19** (1975), 283–294. (Izhak Rubin) **52** #4464 60K30

(*with* Konheim, Alan G.) Queueing models for computer communications s m analysis. Special issue on computer communications. *IEEE Trans. Comm*. **CO** 25 (1977), *no*. 1, 2–29. (Stuart Schwartz) **56** #3969 60K25 (94A05)

See also **Compstat**, **49** #9990

Kobayashi, Isamu Remarks on the large sieve method. *Seminar on Modern Meth in Number Theory* (*Inst. Statist. Math., Tokyo*, 1971), *Paper No*. 21, 3 *pp*. *Inst. S t. Math., Tokyo*, 1971. (J. W. Porter) **52** #3091 10H30

A note on the Selberg sieve and the large sieve. *Proc. Japan. Acad*. **49** (1973). 5. (R. J. Wilson) **48** #3903 10H30

Kobayashi, K. *See* **Frontiers of pattern recognition**, **52** #9723

Kobayashi, Kazuaki On the exterior space of $(n,k,2)$-link. *J. Fac. Sci. Hokkaido Univ r. I* **21** (1970/71), 184–195. (R. J. Daverman) **45** #4395 55A25

Correction to: "On a piecewise linear link isotopy group". *Hokkaido Math*. 1 (1972), 305. (Editors) **47** #5884 57C45

On homotopically trivial links. *J. Fac. Sci. Hokkaido Univ. Ser. I* **22** (1972), 7 3. (R. J. Daverman) **46** #4519 55A25

On a piecewise linear link isotopy group. *J. Fac. Sci. Hokkaido Univ. Ser*. 2 (1972), 79–98. (C. H. Edwards, Jr.) **46** #4545 (E **47** #5884) 57C45

Finding a homeomorphism between almost homeomorphic manifolds. *Hok o Math. J*. **3** (1974), 279–289. (I. Ivanšić) **51** #1835 57C10

On a PL embedded 2-sphere in 4-manifold. *Hokkaido Math. J*. **4** (1975), 2, 268–272. (Roger Fenn) **51** #9073 57C35 (57D95)

Almost immersions. *Hokkaido Math. J*. **5** (1976), *no*. 1, 81–87. (R. J. Daver **52** #15485 57C35

A generalization of Whitney lemma. *Hokkaido Math. J*. **5** (1976), *no*. 2, 155- (Kenneth C. Millett) **54** #11337 57A35

(*with* Tsukui, Yasuyuki) The ball coverings of manifolds. *J. Math. Soc. Jap* 8 (1976), *no*. 1, 133–143. (H. J. Charlton) **52** #11933 57C99

On a homotopy version of 4-dimensional Whitney's lemma. *Math. Sem. Notes Univ*. **5** (1977), *no*. 1, 109–116. (John Hempel) **56** #16634 57A15

Kobayashi, Keisuke Solution of diffusion equation in $r-z$ geometry by finite Fo transformation. *J. Nuclear Sci. and Tech*. **11** (1974), *no*. 12, 561–570. (L. I. Rubins **53** #15240 82.65

Kobayashi, Kenji K. (*with* Izutsu, Masaaki) Exact solution of the n-dimensional sine-Gordon equation. *J. Phys. Soc. Japan* **41** (1976), *no*. 3, 1091–1092. (Autl summary) **56** #9587 58F05

Kobayashi, Kingo (*with* Sato, Shunsuke; Izumi, Masako) A self-dual network derived a single neuronic equation. *Biol. Cybernet*. **18** (1975), *no*. 3-4, 209–215. (K. P. Had **58** #26145 92A05

(*with* Sato, Shunsuke) Asymptotic distribution of eigenvalues and degeneratio sparse random matrices. *Bull. Math. Statist*. **17** (1976/77), *no*. 3–4, 83–99. (Willian Olson) **57** #1601 60B99 (81.60)

Ko ashi, Kojiro A note on extending equivalence theories of algorithms. *Information ocessing Lett.* **3** (1974/75), 54–56. (Vladimir Lifšic) **52** #2843 02E10 (02G20, A10)

Solutions of the two-dimensional firing squad synchronization problem having small ing time. *Proceedings of the International Symposium on Uniformly Structured tomata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 3–170. *IEEE Computer Soc., New York*, 1975. (Author's summary) **58** #4731 A30

The firing squad synchronization problem for two-dimensional arrays. *Information d Control* **34** (1977), *no.* 3, 177–197. (Bolesław Mikołajczak) **56** #15234 94A30

Ko ashi, Kozo Three-dimensional canonical algebra and SO(4,2) dynamical group. *ogr. Theoret. Phys.* **44** (1970), 817–819. (D. B. Lichtenberg) **46** #6731 81.22

Eigenvalues of the Casimir operators of U(n) and SU(n) for totally symmetric and tisymmetric representations. *Progr. Theoret. Phys.* **49** (1973), 345–347. (D. R. arthasarathy) **51** #2506 81.22

Ko ashi, Kunitake On the mean fourth power of $|L(1/2+it, x)|$. (Japanese) haracteristics of arithmetic functions (Proc. Sympos., Res. Inst. Math. Sci., Kyoto niv., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 274 (1976), 1–6. (S. Ikehara) 5 #15583 10H10 (10G05)

Ko ashi, Kusuo Some remarks to the construction of branching Markov processes with ge and sign. *Hiroshima Math. J.* **3** (1973), 439–449. (Thomas G. Kurtz) **49** #6389 J80

On the semilinear heat equations with time-lag. *Hiroshima Math. J.* **7** (1977), *no.* 2, 59–472. (L. E. Bobisud) **56** #12680 35R10 (35K05)

(*with* Sirao, Tunekiti; Tanaka, Hiroshi) On the growing up problem for semilinear eat equations. *J. Math. Soc. Japan* **29** (1977), *no.* 3, 407–424. (J. Smoller) **56** #9076 5K55

Ko ashi, Makoto (*with* Hattori, Chuichiro; Kondo, Hiroki; Maskawa, Toshihide) onlinear realizations of groups and chiral transformations in the quark model. *Progr. heoret. Phys.* **43** (1970), 1334–1342. (Anthony Joseph) **46** #1224 81.22

Ko yashi, Masanori (*with* Mori, Yukio) Lagrange formulation for particles with pin-three. *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **5**, *no.* 4, 292–301 (1975). (E. yriakopoulos) **53** #12389 81.53

Reciprocity theorem for a region with inhomogeneous bianisotropic media and urface impedance. *IEEE Trans. Microwave Theory Tech.* **MTT-24** (1976), *no.* 2, 14–116. (N. D. Sengupta) **54** #1880 78.35

(*with* Mori, Yukio) Lagrange formulation of the symmetric theory of massive spin-3 elds. *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **5** *no.* 5, 381–390 (1976). (Editors) 6 #7649 81.53

Lagrange formulation of the 85-component theory for massive *spin*-3 fields. *Sci. ep. Fac. Ed. Gifu Univ. Natur. Sci.* **6**, *no.* 1, 1–4 (1977). (Author's summary) **57** #4864 81.22

(*with* Kawasaki, Mamoru) Lagrange formulation of the symmetric theory of assive spin-3 fields. *Phys. Rev. D* (3) **17** (1978), *no.* 2, 446–456. (Authors' summary) 7 #2272 81.35

K yashi, Masataka (*with* Kondo, Toshimi; Takagi, Takuro) Torsion of elastic cylinders aving cross-sections with curvilinear boundaries. (Russian. English summary) *Res. Rep. Nagaoka Tech. College* **14** (1978), *no.* 2, 19–32. (Editors) **58** #19521 73.30

K yashi, Minoru (*with* Tsuchiya, Susumu) Hypersurfaces of a Euclidean space R^{4m}. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 935–940. (G. D. Ludden) **47** #5773 53C15

(*with* Tsuchiya, Susumu) Invariant submanifolds of an f-manifold with omplemented frames. *Kōdai Math. Sem. Rep.* **24** (1972), 430–450. (Y. Tashiro) **47** #7649 53C15

Complex hypersurfaces with vanishing Bochner curvature tensor. *Proc. Japan Acad.* **50** (1974), 208–211. (A. L. Vitter, III) **52** #9123 53C40 (32C10)

(*with* Tsuchiya, Susumu) Some conditions for constancy of the holomorphic sectional curvature. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 3, 379–384. (Koichi Ogiue) **53** #6475 53C55

(*with* Tsuchiya, Susumu) Holomorphic isomorphism which preserves certain holomorphic sectional curvature. *Kōdai Math. Sem. Rep.* **29** (1977), *no.* 1-2, 103–119. (Koichi Ogiue) **57** #4060 53C55

K ayashi, Shinju On the l-dimension of the ideal class groups of Kummer extensions of a certain type. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **18** (1971), 399–404. (Paul Hartung) **46** #1752 12A35

On integral bases of $\mathbf{Q}(\sqrt[l]{m})$. (Japanese) *Sûgaku* **24** (1972), *no.* 1, 54–55. **58** #27902 12A55

On the 3-rank of the ideal class groups of certain pure cubic fields. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 209–216. (T. Metsänkylä) **48** #3919 12A50 (12A30, 12A45, 12A65)

On the 3-rank of the ideal class groups of certain pure cubic fields. II. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **21** (1974), 263–270. (T. Metsänkylä) **50** #4532 12A30 (12A50)

On the 1-class rank in some algebraic number fields. *J. Math. Soc. Japan* **26** (1974), 668–676. (G. Whaples) **51** #435 12A50 (12A55)

Complete determination of the 3-class rank in pure cubic fields. *J. Math. Soc. Japan* **29** (1977), *no.* 2, 373–384. (P. Roquette) **56** #11956 12A50 (12A30)

K ayashi, Shōji Schwarz's lemma in H_p spaces. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 3, 291–299. (Ch. M. Stanton (Zbl **336** #30010)) **57** #16572 30A42 (30A78)

On H_p classification of plane domains. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 4, 458–463. (M. H. Heins) **56** #621 30A78

On local harmonic majorants of subharmonic functions. *J. Analyse Math.* **31** (1977), 287–292. (M. H. Heins) **58** #6286 31A05 (30A46)

On a classification of plane domains for Hardy classes. *Proc. Amer. Math. Soc.* **68** (1978), *no.* 1, 79–82. (Author's summary) **58** #6256 30A78

ayashi, Shoshichi Pseudo-distances intrinsèques sur les espaces complexes. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 181–185. *Gauthier-Villars, Paris*, 1971. (J. S. Joel) **54** #7862 32H15

Invariante Distanzen auf Komplexen Räumen. *Differentialgeometrie im Großen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1969), *pp.* 231–234. *Ber. Math. Forschungsinst. Oberwolfach, Heft* 4, *Bibliographisches Inst., Mannheim*, 1971. (J. S. Joel) **50** #7593 32H15 (32H20)

(*with* Ochiai, Takushiro) G-structures of order two and transgression operators. *J. Differential Geometry* **6** (1971/72), 213–230. (G. Tsagas) **46** #823 53C10

(*with* Ochiai, Takushiro) Satake compactification and the great Picard theorem. *J. Math. Soc. Japan* **23** (1971), 340–350. (H. Wu) **45** #5418 32H25

★Transformation groups in differential geometry. Ergebnisse der Mathematik und ihrer Grenzgebiete, Band 70. *Springer-Verlag, New York-Heidelberg*, 1972. viii + 182 *pp.* (R. L. Bishop) **50** #8360 53C10

(*with* Nagano, Tadashi) Riemannian manifolds with abundant isometries. *Differential geometry* (*in honor of Kentaro Yano*), *pp.* 195–219. *Kinokuniya, Tokyo*, 1972. (Samuel I. Goldberg) **50** #11083 53C20

(*with* Ochiai, Takushiro) Compact homogeneous complex manifolds with positive tangent bundle. *Differential geometry* (*in honor of Kentaro Yano*), *pp.* 221–232. *Kinokuniya, Tokyo*, 1972. (F. Hirzebruch) **48** #2432 32M10

Schwarz lemma. *Symmetric spaces* (*Short Courses, Washington Univ., St. Louis, Mo.*, 1969–1970), *pp.* 247–254. *Pure and Appl. Math., Vol.* 8, *Dekker, New York*, 1972. (Michael J. Field) **53** #5947 32H20

(*with* Kiernan, Peter) Satake compactification and extension of holomorphic mappings. *Invent. Math.* **16** (1972), 237–248. (W. Barth) **46** #9398 32H20

(*with* Ochiai, Takushiro) Three-dimensional compact Kähler manifolds with positive holomorphic bisectional curvature. *J. Math. Soc. Japan* **24** (1972), 465–480. (T. Ohkubo) **46** #8146 53C55

(*with* Ochiai, Takushiro) Characterizations of complex projective spaces and hyperquadrics. *J. Math. Kyoto Univ.* **13** (1973), 31–47. (J. A. Morrow) **47** #5293 32C10

(*with* Kiernan, Peter) Holomorphic mappings into projective space with lacunary hyperplanes. *Nagoya Math. J.* **50** (1973), 199–216. (D. A. Pelles) **48** #4353 32H20

Some remarks and questions concerning the intrinsic distance. *Tôhoku Math. J.* (2) **25** (1973), 481–486. (D. A. Pelles) **48** #8856 32H15

Some problems on intrinsic distances and measures. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 306–317. *Greek Math. Soc., Athens*, 1974. (Adib A. Fadlalla) **58** #1269 32H15

On hyperbolic complex spaces and extension problems. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf., Tokyo*, 1973), *pp.* 333–341. *Univ. Tokyo Press, Tokyo*, 1975. (A. L. Vitter, III) **52** #8502 32H20

(*with* Ochiai, Takushiro) Meromorphic mappings onto compact complex spaces of general type. *Invent. Math.* **31** (1975), *no.* 1, 7–16. (Hirotaka Fujimoto) **53** #5948 32H99 (32H25)

Negative vector bundles and complex Finsler structures. *Nagoya Math. J.* **57** (1975), 153–166. (S. Ramanan) **51** #13299 32L10

(*with* Avérous, Geneviève) On automorphisms of spaces of nonpositive curvature with finite volume. *Differential geometry and relativity*, *pp.* 19–26. *Mathematical Phys. and Appl. Math., Vol.* 3, *Reidel, Dordrecht*, 1976. (Rolf Sulanke) **56** #1229 (EA **55/56**) 53C35 (57E05, 32M15)

Intrinsic distances, measures and geometric function theory. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 3, 357–416. (Peter Kiernan) **54** #3032 32Hxx

(*with* Kiernan, Peter) Comments on Satake compactification and Picard theorem. *J. Math. Soc. Japan* **28** (1976), *no.* 3, 577–580. (J. S. Joel) **57** #722 32J05

Intrinsic distances associated with flat affine or projective structures. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, 129–135. (Marcus Wright) **56** #3361 32H15

See also **Differential geometry (in honor of Kentaro Yano), 48** #2941

Kobayashi, Susumu (*with* Nikaidô, Hukukane) Dynamics of wage-price spirals and stagflation in the Leontief-Sraffa system. *Internat. Econom. Rev.* **19** (1978), *no.* 1, 83–102. (Trout Rader) **57** #11679 90A15

Kobayashi, Tadashi On the radial distribution of zeros and poles of a meromorphic function. *Kōdai Math. Sem. Rep.* **26** (1974/75), 58–68. (D. F. Shea) **51** #13227 30A70

On the deficiency of an entire function of finite genus. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 3, 320–328. (Fred Gross) **54** #2969 30A70

On the lower order of an entire function. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 4, 484–495. (L. R. Sons) **54** #10600 30A66

Distribution of values of entire functions of lower order less than one. *Kōdai Math. Sem. Rep.* **28** (1976/77), *no.* 1, 33–37. (Fred Gross) **55** #8355 30A64

On a characteristic property of the exponential function. *Kōdai Math. Sem. Rep.* **29** (1977), *no.* 1-2, 130–156. (Author's introduction) **58** #22556 30A66

Entire functions with three linearly distributed values. *Kodai Math. J.* **1** (1978), *no.* 1, 133–158. (J. Nikolaus) **58** #17088 30A66 (30A70)

Kobayashi, Takashi An index of dendrograms. (Japanese) *Keiei-Kagaku* **17** (1973), 88–97. (Author's summary) **47** #6160 68A45

Classification techniques in cluster analysis: application to the the sorting problem. (Japanese) *Keiei-Kagaku* **18** (1974), 3–10. (Author's summary) **48** #12928 68A45

Kobayashi, Tatsuhiko (*with* Tanaka, Kaoru; Ōtake, Shigeo; Ōyama, Makoto; Tanaka, Mitsuru; Hamada, Toshio; Michiwaki, Yoshimasa) On Shuzen Hashimoto, an arithmetician itinerant in the prefecture Gumma. (Japanese) *Sûgakushi Kenkyû No.* 70 (1976), 1–10. **58** #15827 01A25

(*with* Tanaka, Kaoru; Iizuka, Masaaki; Ōtake, Shigeo; Ōyama, Makoto; Hamada, Toshio; Tanaka, Mitsuru; Michiwaki, Yoshimasa) *Sansho (Book of Mathematics)* dated 1749. (Japanese) *Sûgakushi Kenkyû No.* 75 (1977), 9–20. **58** #26738 01A25

Kobayashi, Teiichi On some secondary cohomology operations. *Hiroshima Math. J.* **1** (1971), 41–73. (Gerald Lieberman) **46** #9984 55G20

(*with* Sugawara, Masahiro) K_Λ-rings of lens spaces $L^n(4)$. *Hiroshima Math. J.* **1** (1971), 253–271. (M. Mahowald) **47** #1061 55E20

(*with* Sugawara, Masahiro) On stable homotopy types of stunted lens spaces. *Hiroshima Math. J.* **1** (1971), 287–304. (M. Mahowald) **47** #1062 57A65 (55E10)

Immersions and embeddings of lens spaces. *Hiroshima Math. J.* **2** (1972), 345–352. (S. Y. Husseini) **48** #7300 57D40

Note on γ-operations in KO-theory. *Hiroshima Math. J.* **4** (1974), 425–434. (R. J. Milgram) **50** #8522 55G25

(*with* Maki, Haruo; Yoshida, Toshio) Remarks on extendible vector bundles over lens spaces and real projective spaces. *Hiroshima Math. J.* **5** (1975), *no.* 3, 487–497. (R. L. E. Schwarzenberger) **52** #6716 55F50

Some Z_q-equivariant immersions. *Hiroshima Math. J.* **6** (1976), *no.* 2, 343–351. (R. L. E. Schwarzenberger) **53** #14508 57D40 (55G25)

(*with* Murakami, Shinichi; Sugawara, Masahiro) Note on J-groups of lens spaces. *Hiroshima Math. J.* **7** (1977), *no.* 1, 387–409. (J. F. Adams) **55** #4167 55F50

(*with* Sugawara, Masahiro) On stable homotopy types of stunted lens spaces. II. *Hiroshima Math. J.* **7** (1977), *no.* 3, 689–705. (M. Mahowald) **57** #4155 55D15

(*with* Fujii, Kensô; Shimomura, Katsumi; Sugawara, Masahiro) KO-groups of lens spaces modulo powers of two. *Hiroshima Math. J.* **8** (1978), *no.* 3, 469–489. (Richard R. Patterson) **58** #24241 55B15

Kobayashi, Toshihiro (*with* Sawaragi, Yoshikazu) Distributed parameter differential games. (Japanese) *Systems and Control* **18** (1974), 101–111. (Authors' summary) **49** #2122 90D25

(*with* Sawaragi, Yoshikazu) On the observability of distributed parameter systems. (Japanese. English summary) *Systems and Control* **18** (1974), *no.* 12, 703–711. (Takashi Yahagi) **53** #2464 93C20 (93B05)

The problem of state determination in distributed parameter systems. (Japanese. English summary) *Systems and Control* **19** (1975), *no.* 9, 497–504. (Kimio Kanai) **53** #12671 93B30

Initial state determination for distributed parameter systems. *SIAM J. Control Optimization* **14** (1976), *no.* 5, 934–944. (P. K. C. Wang) **53** #11472 49E99

Initial state determination for distributed parameter systems with discrete-time measurement datâ. (Japanese. English summary) *Systems and Control* **20** (1976), *no.* 8, 444–451. (Author's summary) **57** #18968 93C20

Two-player zerosum distributed parameter differential games and sensitivity synthesis of optimal strategies. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 24 (1977), 1–22. (A. I. Subbotin) **56** #8041 90D25

A well-posed approximate method for initial state determination of discrete-time distributed parameter systems. *SIAM J. Control Optimization* **15** (1977), *no.* 6, 947–958. (Author's summary) **57** #18917 93B05 (49E30)

Some remarks on controllability for distributed parameter systems. *SIAM J. Control Optim.* **16** (1978), *no.* 5, 733–742. (Jerzy Klamka) **58** #26242 93B05 (93C20)

Kobayashi, Tsunehiro (*with* Shibasaki, Ichiro) Functional integral representation for the Green's function of the dual resonance model. *Progr. Theoret. Phys.* **46** (1971), 968–983. (J. E. Marsden) **46** #4883 81.46

Kobayashi, Y. (*with* Fujikawa, H.; Kurano, Masami) On efficiency of inferences of transition probabilities to Markovian decision processes. *Bull. Math. Statist.* **15** (1972/73), *no.* 3-4, 113–122. (H. Bandemer) **48** #10435 90A05

Kobayashi, Yasutaka The N-stage transition probability in Estes stochastic model. Collection of articles dedicated to Sadao Kashiwagi. *Collect. Papers Math. Soc. Wakayama Univ. No.* 1 (1970), 21–28. (M. Iosifescu) **52** #1898 60J20

A simple derivation of some properties of the inverse Gaussian distribution. (Japanese, English summary) *Mem. Fac. Ed. Shiga Univ. Natur. Sci. No.* 25 (1975), 4–8. (J. S. Huang) **57** #10877 62E15

A Bayesian approach to some missing value problem in a Latin square. (Japanese. English summary) *Mem. Fac. Ed. Shiga Univ. Natur. Sci. No.* 26 (1976), 1–4. (U. B. Paik) **57** #10895 62F15 (62K99)

Kobayashi, Yasuyuki (*with* Hamada, Noboru) On the block structure of BIB designs with parameters $v=22$, $b=33$, $r=12$, $k=8$, and $\lambda=4$. *J. Combinatorial Theory Ser. A* **24** (1978), *no.* 1, 75–83. (S. S. Shrikhande) **57** #12252 05B05

Kobayashi, Yoshikazu A note on Cauchy problems of semi-linear equations and semi-groups in Banach spaces. *Proc. Japan Acad.* **49** (1973), 514–519. (G. F. Webb) **49** #1254 47H15

On approximation of nonlinear semi-groups. *Proc. Japan Acad.* **50** (1974), 729–734. (A. Pazy) **51** #8911 47H99

Difference approximation of Cauchy problems for quasi-dissipative operators and generation of nonlinear semigroups. *J. Math. Soc. Japan* **27** (1975), *no.* 4, 640–665. (A. Pazy) **53** #3812 47H15

Difference approximation of evolution equations and generation of nonlinear semigroups. *Proc. Japan Acad.* **51** (1975), *no.* 6, 406–410. (S. Fučík) **52** #4050 47H15

Difference approximation of evolution equations and generation of nonlinear semigroups. Functional analysis and numerical analysis for nonlinear problems (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1974). *Sûrikaisekikenkyûsho Kôkyûroku No.* 258 (1975), 78–87. (G. F. Webb) **58** #22881 34G05 (47H99)

(*with* Kobayasi, Kazuo) On perturbation of non-linear equations in Banach spaces. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 3, 709–725. (From the introduction) **57** #17419 47H15

Kobayashi, Yuji Existence of fundamental systems of ideals of definition on a formal prescheme. *Math. Japon.* **17** (1972), 15–19. (C. Bănică) **49** #2723 14A25

Homomorphisms on N-semigroups into R_+ and the structure of N-semigroups. *J. Math. Tokushima Univ.* **7** (1973), 1–20. (T. Tamura) **48** #3831 06A50 (20M10)

Irreducible bases on N-semigroups. *J. Math. Tokushima Univ.* **8** (1974), 9–12. (T. Tamura) **50** #10126 20M10

(*with* Tamura, Takayuki) Quasi-order preserving homomorphisms of commutative semigroups into the non-negative reals. *Math. Japon.* **22** (1977), *no.* 3, 267–285. (Mohan S. Putcha) **57** #12752 20M30

Conditions for commutative semigroups to have nontrivial homomorphisms into nonnegative (positive) reals. *Proc. Amer. Math. Soc.* **65** (1977), *no.* 2, 199–203. (H. Jürgensen) **56** #5762 20M15

On extending functionals on commutative semigroups. Seminar on semigroup theory (Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1977). *Sûrikaisekikenkyûsho Kôkyûroku No.* 292 (1977), 90–97. (Mohan S. Putcha) **57** #12753 20M30

The Hilbert series of some graded algebras and the Poincaré series of some local rings. *Math. Scand.* **42** (1978), *no.* 1, 19–33. (James Hein) **58** #5643 13F20 (13J05, 15A78, 18G99)

Kobayashi, Yuko One condition for $R(K)=A(K)$. *Proc. Japan Acad.* **48** (1972), 578–580. (J. Garnett) **48** #2774 46J10 (30A98)

Kobayashi, Yumiko On differential forms in differentiable manifolds admitting a vector field. *Natur. Sci. Rep. Ochanomizu Univ.* **26** (1975), *no.* 1, 7–12. (David Blair) **52** 264 58A10

hironaka-Kobayashi, Yumiko *See* **Hironaka-Kobayashi, Yumiko**

Kobayasi, Kazuo Note on approximation of nonlinear semigroups. *Proc. Japan A* 50 (1974), 735–737. (A. Pazy) **51** #8912 47H99

(*with* Kobayashi, Yoshikazu) On perturbation of non-linear equations in ach spaces. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 3, 709–725. (From the introduction) **57** #17419 47H15

Kobayasi, Michimasa On a generalization of the resolvent equation. *Sci. Rep.* kyo *Kyoiku Daigaku Sect. A* **11**, 268–271 (1972). (D. W. Stroock) **47** #2675 60J3

Kobe, Donald H. Derivation of Maxwell's equations from the local gauge invaria of quantum mechanics. *Amer. J. Phys.* **46** (1978), *no.* 4, 342–348. (Author's sum ry) **57** #4836 78.35

Kobeisse, H. (*with* Hajj, F. Y.; Nassif, Nabil R.) On the numerical solution of Schroedinger's radial equation. *J. Computational Phys.* **16** (1974), 150–159. (C. ese Fischer) **50** #6390 81.65

Kobel'kov, G. M. Existence theorems for certain problems of elasticity theory. (Ru n) *Mat. Zametki* **17** (1975), *no.* 4, 599–609. (E. Goldhagen) **53** #3519 35Q99 (7

A numerical method for the solution of the Stokes problem. (Russian) *Ž.* isl. *Mat. i Mat. Fiz.* **15** (1975), *no.* 3, 786–789, 814. (T. Styś) **51** #11988 65N10

The estimation of the rate of convergence of a certain difference scheme f he contact problem of elasticity theory. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (197 no. 4, 1066–1069, 1092. (Raičo Lazarov) **52** #12504 73.65

Solution of the rigid contact problem for an incompressible material. (Russia Ž. *Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 4, 987–995, 1086. (M. O. Bašeleĭšvili) **54** # 04 73.35

Equivalent normings of subspaces of L_2. (Russian. English summary) *Anal. M* 3 (1977), *no.* 3, 177–186. (L. Losonczi) **57** #1101 46E30 (73.46)

An iteration method for the solution of difference problems in elasticity t y. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 5, 776–779. (B. A. Bondar o) **55** #13934 73.65

Kobel'kov, Ju. P. (*with* Kobjakov, I. I.) The existence and uniqueness of the soluti of boundary value problems for differential equations with deviating argument. (Rus) *Differencial'nye Uravnenija* **10** (1974), 792–798, 954. (G. B. Gustafson) **49** #9 34K10

Kobel'skiĭ, V. L. (*with* Viro, O. Ja.) The Volodin-Kuznecov-Fomenko conjecture on Heegaard diagrams is false. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 5(197), 175 6. (A. Černavskiĭ) **57** #7609 57A10

Kober, Hermann The infinite strip in the complex plane and Poisson's operator. *J. L* on *Math. Soc.* (2) **4** (1972), 753–759. (B. Muckenhoupt) **45** #8813 30A86

See also **Fuchs, Wolfgang H. J., 52** #5303 *and* **Fettis, Henry E., 53** #4455

Kobilīns'kiĭ, M. A. (*with* Bugriĭ, A. Ī.; Ēnkovs'kiĭ, L. L.; Šelest, V. P.) DAMA and l ge asymptotic behaviour. *Nuovo Cimento A* (11) **12** (1972), 377–386. (George Zipfe) **49** #1961 81.30

(*with* Bugriĭ, A. Ī.; Cohen-Tannoudji, G.; Ēnkovs'kiĭ, L. L.) Dual amplitudes h Mandelstam analyticity. *Fortschr. Physik* **21** (1973), 427–506. (D. I. Olive) **53** #7 81.30

(*with* Bugriĭ, A. Ī.; Ēnkovs'kiĭ, L. L.; Čikovanī, Z. Ē.) Is it possible to re e multipoles in DAMA? (Russian. English summary) *Ukrain. Fiz. Ž.* **19** (1974), 359 5. 518. (Authors' summary) **57** #8589 81.30

Kobilov, U. È. (*with* Atahodžaev, M. A.) A problem for Laplace's equation. (Russian) *Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no.* 4, 80–82. (S. V. Temko) **55** #83 31A25

Kobin, Terry S. (*with* Guha, Ratan K.) Structural equivalences of lists. *Proceedings* e *Eighth Hawaii International Conference* (*Univ. Hawaii, Honolulu, Hawaii,* 1975) 258–260. *Western Periodicals Co., North Hollywood, Calif.,* 1975. (K. H. V. B) **50** #11885 68A50

Kobiske, Ronald A. (*with* Parker, Leonard) Solution of the Einstein-Maxwell equation r two unequal spinning sources in equilibrium. *Phys. Rev. D* (3) **10** (1974), 2321–2 ; *erratum, ibid.* (3) **11** (1975), 1714. (Authors' summary) **53** #15249 83.35

Kobjakov, I. I. Conditions for negativity of the Green's function of a two-point boun y value problem with deviating argument. (Russian) *Differencial'nye Uravnenija* **8** (1 , 443–452. (G. B. Gustafson) **45** #3888 34K10

(*with* Kobel'kov, Ju. P.) The existence and uniqueness of the solutions of boun value problems for differential equations with deviating argument. (Russian) *Differencial'nye Uravnenija* **10** (1974), 792–798, 954. (G. B. Gustafson) **49** #93 34K10

Kobkov, V. V. (*with* Kvasov, B. I.) Splines with supplementary nodes. II. Their limits certain properties. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **5** (1974), *no.* 4, 48 (RŽMat **1975** #6 B1322) **58** #31725 65D10

(*with* Kvasov, B. I.) Certain properties of cubic Hermitian splines with supplementary nodes. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 1007–1010. Zegeling) **51** #14517 65D05

An iteration splitting method. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **7** (1 *no.* 5, 79–82. (G. W. Hedstrom) **56** #13696 65N20

Kobkova, V. I. *See* **Application of functional methods to the boundary value problem mathematical physics, 50** #14144

Koble, H. *See* **Control in space, 48** #13320

Kobler, H.-D. Vergleichende Untersuchungen zu Dualitäts- und Sattelpunktaussagen Extremalaufgaben in Vektorräumen. *Wiss. Z. Tech. Hochsch. Ilmenau* **23** (1977), *n* 81–109. (A. A. Melikjan) **58** #26012 90C30 (49D99)

Koblic, N. I. *See* **Koblitz, Neal I.**

Kobliska, Gary (*with* Zadeh, Norman) On optimal doubling in backgammon. *Managem Sci.* **23** (1976/77), *no.* 8, 853–858. (Edward Thorp) **57** #2594 90D05

Koblitz, Neal I. p-adic variation of the zeta-function over families of varieties defined o finite fields. *Compositio Math.* **31** (1975), *no.* 2, 119–218. (J. S. Milne) **54** #265 14G10

Non-integrality of the periods of cusp forms outside the critical strip. (Russia *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 3, 52–55. (K.-B. Gundlach) **53** #794 10D05

★*p*-adic numbers, *p*-adic analysis, and zeta-functions. Graduate Texts in Mathematics, Vol. 58. *Springer-Verlag, New York-Heidelberg*, 1977. x+122 *pp.* *SBN* 0-387-90274-0 (Daniel Barsky) **57** #5964 12B20 (12B40, 14G10, 14G20)

2-adic and 3-adic ordinals of $(1/j)$-expansion coefficients for the weight 2 Eisenstein series. *Bull. London Math. Soc.* **9** (1977), *no.* 2, 188–192. (V. V. Šokurov) **56** #8496 10D15 (10A20)

Gamma function identities and elliptic differentials on Fermat curves. *Duke Math. J.* **45** (1978), *no.* 1, 87–99. (J. W. S. Cassels) **57** #16309 14G25 (10D15)

Interpretation of the *p*-adic log gamma function and Euler constants using the Bernoulli measure. *Trans. Amer. Math. Soc.* **242** (1978), 261–269. (Daniel Barsky) **58** #10836 12B40 (12B30)

See also **Manin, Ju. I., 56** #15345

Kori, Takuji (*with* Minai, Ryoichiro) Non-stationary random excitations of a linear discrete system. *Proceedings of the Sixteenth Japan National Congress for Applied Mechanics* (*Univ. Tokyo, Tokyo*, 1966), *pp.* 324–332. *Sci. Council of Japan, Tokyo*, 1967. (M. D. Srinath) **51** #15133 93E25

Kranov, G. P. An iterative approximation method of solution of differential equations of order *m*. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 131 (1972), 42–53. (W. S. Loud) **48** #612 34A50 (65L05)

An iterative approximation method of solution of a system of differential equations. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 131 (1972), 54–66. (W. S. Loud) **48** #613 34A50 (65L05)

Iterative approximation method for solving heat conduction equations. *Inž.-Fiz. Ž.* **27** (1974), *no.* 3, 513–523 (*Russian*); *translated as J. Engrg. Phys.* **27** (1974), *no.* 3, 1138–1145 (1976). (Samuel Levy) **52** #16307 80.65

Numerical solution of the heat equation when the boundary conditions are represented in a δ-like form. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 277 (1975), 60–67. (Author's summary) **58** #3555 65N99

Numerical solution of the heat equation in the case of complex boundary conditions. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 277 (1975), 68–72. (Author's summary) **58** #8849 80.65

rin, A. I. (*with* Martynenko, Ju. G.) Application of the theory of singularly perturbed equations to the study of gyroscopic systems. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 1, 52–55. (G. V. Hmelevskaja-Plotnikova) **54** #14481 70.34

(*with* Martynenko, Ju. G.) Asymptotic solution of a weakly nonlinear system. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 6, 1008–1019, 1155. (E. Riekstiņš) **58** #6558 34E05

rin, R. Ju. *See* **Information languages, 56** #13844

brinskiĭ, A. A. (*with* Kobrinskiĭ, A. E.) On the construction of motions of manipulation systems. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 5, 1030–1033. (I. Meznik) **54** #4735 93A10

brinskiĭ, A. E. (*with* Kobrinskiĭ, A. A.) On the construction of motions of manipulation systems. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 5, 1030–1033. (I. Meznik) **54** #4735 93A10

brinskiĭ, Ja. N. (*with* Zubov, N. N.) Ensuring stability in potential logical networks. I. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 149–159 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1071–1081. (From the summary) **57** #19129a 94A20

(*with* Zubov, N. N.) Stabilization of transitions in potential logical circuits. II. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 2, 97–105 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 62–69. (From the summary) **57** #19129b 94A20

brinskiĭ, M. N. (*with* Anisovič, V. V.) Calculation of the effects of box diagrams with two resonances in the intermediate state. *Jadernaja Fiz.* **13** (1971), 168–180 (*Russian*); *translated as Soviet J. Nuclear Phys.* **13** (1971), 95–101. (L. O'Raifeartaigh) **48** #10333 81.22

brinskiy, Ya. N. *See* **Kobrinskiĭ, Ja. N.**

buchi, Youichi (*with* Nishio, Hidenosuke) Properties of certain state sets in the system of one-dimensional iterative automata. *Systems-Computers-Controls* **2** (1971), *no.* 3, 29–36 (1972). (S. Huzino) **46** #8786 94A30

(*with* Nishio, Hidenosuke) Some regular state sets in the system of one-dimensional iterative automata. *Information Sci.* **5** (1973), 199–216. (John T. Gill) **47** #10160 94A30

An index of continuity in cellular space and continuous cellular spaces. *Proceedings of the International Symposium on Uniformly Structured Automata and Logic* (*Internat. Inst. Advanced Study Soc. Informat. Sci., Tokyo*, 1975), *pp.* 113–118. *IEEE Computer Soc., New York*, 1975. (Author's summary) **58** #33597 94A30

(*with* Nishio, Hidenosuke) Fault tolerant cellular spaces. Collection of papers on cellular automata and developmental systems (Conf. Biologically Motivated Automata Theory, MacLean, Va., 1974). *J. Comput. System Sci.* **11** (1975), *no.* 2, 150–170. (E. Ikaunieks) **52** #10273 94A30 (92A05)

Signal propagation in 2-dimensional threshold cellular space. *J. Math. Biol.* **3** (1976), *no.* 3–4, 297–312. (Luigi M. Ricciardi) **55** #2381 94A20

Two characterization theorems of locally catenative developmental systems. *Information Processing Lett.* **6** (1977), *no.* 4, 120–124. (K. P. Lee) **56** #1821 68A30

obuškin, A. P. (*with* Šelest, V. P.) Some applications of the relativistic quark model. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* 3 (1972), *no.* 3, 571–605. (Authors' summary) **58** #14612 81.46

obussen, J. A. (*with* Broer, L. J. F.) Canonical transformations and generating functionals. *Physica* **61** (1972), 275–288. (Authors' summary) **50** #6345 81.35

obylin, A. M. (*with* Stojan, Ju. G.; Šiškin, V. N.) A solution of the problem of single-line die stamping that takes the whole operation into account. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 1117–1123. **48** #7960 90C05

obylinskiĭ, N. A. *See* **Kobilins'kiĭ, M. A.**

obyljanskiĭ, V. A. (*with* Voĭčuk, V. A.; Krjaževskih, A. P.) Multivariate probability density of the envelope of a normal inhomogeneous random field. *Radiotehn. i Èlektron.* **16** (1971), 2311–2314 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 2119–2122. (Kazimierz Sobczyk) **49** #6789 78.60

obyšev, A. A. *See* **Numerical analysis, and statistical models of complex systems, 54** #2378

obza, Jiří Polynomial solutions of a homogeneous second order linear differential equation. (Czech. Russian summary) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **33** (1971), 37–49. (O. Borůvka) **50** #5071 34A30

Zur Bestimmung der Grundintegrale von Differentialgleichung $y''=q(x)y$. (Czech summary) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **37** (1972), 23–33. (H. W. Guggenheimer) **49** #10964 34C10

Die Transformationsfunktion für eine Differentialgleichung zweiter Ordnung. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **45** *Mat.* **14** (1974), 5–16. (E. Barvínek) **52** #851 34A30

Methods of Adams type with second derivatives. (Russian. Czech summary) *Apl. Mat.* **20** (1975), *no.* 6, 389–405. (E. S. Čičkin) **53** #1963 65L05

Stability of the second derivative linear multistep formulas. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci Mat.* **16** (1977), 167–184. (Author's introduction) **58** #31870 65L99

Kobzarev, I. Ju. (*with* Gribov, V. N.; Mur, V. D.; Okun, L. B.; Popov, V. S.) Properties of amplitudes that do not satisfy the conditions of the Pomeranchuk theorem. *Jadernaja Fiz.* **12** (1970), 1271–1285 (*Russian*); *translated as Soviet J. Nuclear Phys.* **12** (1971), 699–706. (Authors' summary) **51** #14788 81.30

Kobzarev, V. I. (*with* Zagorskiĭ, T. Ja.) Periodic solutions of a parabolic system. (Russian) *Differential equations and their applications* (*Russian*), *pp.* 172–181, 218–219. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Authors' summary) **58** #29069 35B10 (35K40)

Kobzaš, S. Convex antiproximinal sets in the spaces c_0 and c. (Russian) *Mat. Zametki* **17** (1975), 449–457. (Vladimir L. Levin) **53** #11340 46B05 (41A65)

Kobzev, G. N. btt-reducibility. I, II. (Russian) *Algebra i Logika* **12** (1973), 190–204, 244; *ibid.* **12** (1973), 433–444, 492. (R. A. Di Paola) **53** #5275 02F25 (02F30)

The complete btt-degree. (Russian) *Algebra i Logika* **13** (1973), 22–25, 120. (R. A. Di Paola) **51** #7843 02F25 (02F30)

Pointwise decomposable sets. (Russian) *Mat. Zametki* **13** (1973), 893–898. (B. Węglorz) **48** #8214 (E **58** #27401) 02F25

Errata: "Pointwise decomposable sets" (Mat. Zametki **13** (1973), 893–898). (Russian) *Mat. Zametki* **14** (1973), *no.* 6, 944. (Editors) **58** #27401 02F25

r-separated sets. (Russian. Georgian summary) *Studies in mathematical logic and the theory of algorithms* (*Russian*), *pp.* 19–30. *Izdat. Tbilis. Univ., Tbilisi*, 1975. (A. N. Dëgtev) **57** #12192 02F25

Recursively enumerable *bw*-degrees. (Russian) *Mat. Zametki* **21** (1977), *no.* 6, 839–846. (A. N. Degtev) **57** #5715 02F30

Maximal *m*-degrees. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 2, 325–327. (Stephen L. Bloom) **56** #5249 02F30

Kobzev, V. N. The strong law of large numbers and $S_x(p,r)$, $\tilde{S}_x(p,r)$-systems. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 1, 53–55. (A. Weron) **57** #17789 60F15

Systems of convergence and limit theorems for subsequences of random elements. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **88** (1977), *no.* 3, 537–540. (V. J. Paulauskas) **58** #18642 60B10 (60F05)

Koç, Cemal (*with* Ikeda, Masatoshi) On generalized Clifford algebras. *J. Algebra* **23** (1972), 133–136. (A. O. Morris) **49** #5052 15A66

A note on the commutativity of rings. (Turkish summary) *METU J. Pure Appl.* **6** (1973), *no.* 2, 127–129. (Stuart A. Steinberg) **54** #2738 16A70

(*with* Ikeda, Masatoshi) On the commutator ideal of certain rings. *Arch. Math.* (*Basel*) **25** (1974), 348–353. (A. Yaqub) **50** #9965 16A48

(*with* Kaya, Arif) Remarks on some commutativity theorems. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **40** (1975), 1–3 (1978). (J. Luh) **58** #16786 16A70

Koc, V. S. Synthesis of schemes of *k*-valued logic. (Russian) *Avtomat. i Vyčisl. Tehn.* **1971**, *no.* 3, 9–13. (I. G. Rosenberg) **46** #9214 20M15 (02C05, 94A20)

See also **Theory of finite automata and its applications, 50** #16177

Koçak, Cevdet An extremum problem in conformal mapping. (Turkish summary) *İstanbul Tek. Üniv. Bül.* **24** (1971), *no.* 1, 122–127. (H. Renelt) **48** #8779 30A38

A method for approximate construction of solution of first order differential equations. (Turkish summary) *İstanbul Tek. Üniv. Bül.* **24** (1971), *no.* 2, 97–101. (J. Hurt) **48** #6519 34A45

An extremum problem in conformal mapping. *İstanbul Tek. Üniv. Bül.* **28** (1975), *no.* 1, 105–119. (W. C. Royster) **58** #28474 30A38

An extremum problem in conformal mapping and the use of Schottky functions for solution. (Turkish summary) *İstanbul Tek. Üniv. Bül.* **29** (1976), *no.* 2, 87–102. (Author's summary) **58** #11362 30A36

Kocan, Daniel A characterization of some spectral manifolds for a class of operators. *Illinois J. Math.* **16** (1972), 359–369. (P. Rosenthal) **46** #2474 47B40 (47A60)

Kočandrlová, M. Pseudoriemannsche Metriken mit Anwendungen. *Acta Univ. Carolinae—Math. et Phys.* **12** (1971), *no.* 2, 21–29 (1972). (P. Drăgilă) **47** #9441 53A20

Kočarii, A. P. Imbedding theorems with weights for the class $B^1_{p,\alpha}(U)$ in domains with a nonsmooth boundary. (Russian) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata*, 1973) (*Russian*), *pp.* 61–64, 187–188. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (Author's summary) **57** #17256 46E35

Kočarjan, A. E. (*with* Čavčanidze, V. V.; Žukovin, V. E.; Kaloev, M. A.) Certain problems of systems analysis based on the theory of artificial conceptual intelligence (ACI). (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 2, 321–324. (Stephen Soule) **53** #2058 68A45

Kočarjan, G. S. (*with* Džrbašjan, M. M.) Uniqueness theorems for certain classes of analytic functions. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 98–134. (C. Tanaka) **48** #8810 30A86

A uniqueness theorem for functions of several variables. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **64** (1977), *no.* 3, 143–150. (Wiesław Pleśniak) **58** #11290 26A93

Kočarli, A. F. Weight estimates for the mixed derivatives of functions. (Russian) *Functional analysis and its application* (*Russian*), *pp.* 193–203. *Izdat. "Èlm", Baku*, 1971. (Pavel Doktor) **54** #3389 46E35

The compactness of sets of differentiable functions defined in a region. (Russian.

Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **27** (1971/72), *no.* 11-12, 10–13. (J. Peetre) **46** #4189 46E35

Some weighted imbedding theorems in a domain with a nonsmooth boundary. (Russian) Studies in the theory of differentiable functions of several variables and its applications, V. *Trudy Mat. Inst. Steklov.* **131** (1974), 128–146, 246. (H. Triebel) **50** #976 46E35

See also **Theory and applications of differentiable functions of several variables**, **52** #14951

Kočarovs'kiĭ, V. G. Uryson operators in a space of homogeneous harmonic polynomials. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 804–811, 862. (L. Méder) **49** #3462 43A85

Integral operators in the space $L^2(S^2)$ whose kernels depend on complete normal elliptic Legendre integrals. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 18 (1976), 29–35, 141. (Author's summary) **58** #12524 47G05

Kocay, W. L. (*with* Stanton, Ralph G.; Dirksen, P. H.) Computation of a combinatorial function. *Proceedings of the Fifth British Combinatorial Conference* (*Univ. Aberdeen, Aberdeen*, 1975), *pp.* 569–578. *Congressus Numerantium, No. XV, Utilitas Math., Winnipeg, Man.*, 1976. (Richard T. Bumby) **52** #13609 10A20 (10A30)

(*with* Stanton, Ralph G.; Graham, J. Wesley) A generalized rank for a square matrix. *Proceedings of the Fifth Manitoba Conference on Numerical Mathematics* (*Univ. Manitoba, Winnipeg, Man.*, 1975), *pp.* 619–624. *Congressus Numerantium, No. XVI, Utilitas Math. Publ., Winnipeg, Man.*, 1976. (D. J. Hartfiel) **53** #8088 15A03

Kocegub, P. H. (*with* Afanas'ēv, M. M.) A certain problem on the optimal control of a positional electric drive. (Russian) *Theory of optimal processes* (*Russian*), *pp.* 3–14. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (M. M. Konstantinov) **48** #8046 93C15

(*with* Afanas'ēv, M. M.; Savčenko, V. S.) The construction of the optimal diagram of the armature current of a positional electric drive motor. (Russian) *Theory of optimal processes* (*Russian*), *pp.* 94–108. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (M. M. Konstantinov) **48** #8047 93C15

Kocela, Edward Properties of some generalizations of the notion of continuity of a function. *Fund. Math.* **78** (1973), *no.* 2, 133–139. (D. R. Traylor) **47** #9512 54A10

Semi-uniform convergence of a sequence of functions. *Demonstratio Math.* **9** (1976), *no.* 3, 359–365. (R. S. Booth) **55** #6052 40A05 (28A20)

(*with* Świątkowski, Tadeusz) On some characterization of uniform convergence. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódz. Mat. No.* 7 (1976), 11–15. (Ivan L. Reilly) **54** #8543 54A20

Kočergin, A. V. Solution of the Cauchy problem for an equation of the second kind with two curves of degeneracy. (Russian) *Volž. Mat. Sb. No.* 8 (1971), 120–123. (A. Haimovici) **46** #4008 35M05

The *M* problem for an equation of mixed type with two curves of degeneracy. (Russian) *Volž. Mat. Sb. No.* 8 (1971), 124–126. (A. Haimovici) **46** #4009 35M05

The absence of mixing in special flows over a rotation of the circle and in flows on a two-dimensional torus. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 515–518. (L. Reiziņš) **46** #5751 34C35 (58F99)

Change of time in flows, and mixing. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 1275–1298. (J.-P. Conze) **49** #10855 28A65

Mixing in special flows over a rearrangement of segments and in smooth flows on surfaces. (Russian) *Mat. Sb.* (*N.S.*) **96(138)** (1975), 471–502, 504. (D. Newton (Zbl **321** #28012)) **58** #24383 58F15 (28A65)

The homology of functions over dynamical systems. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 4, 795–798. (D. Newton) **55** #3218 28A65

Nondegenerate saddles, and the absence of mixing. (Russian) *Mat. Zametki* **19** (1976), *no.* 3, 453–468. (D. Newton) **54** #3761 58F15 (28A65)

See also **Nitecki, Zbigniew**, **58** #31211

Kočergin, V. P. (*with* Marčuk, G. I.; Sarkisian, A. S.) Calculations of flows in a baroclinic ocean: numerical methods and results. *Geophys. Fluid Dynamics* **5** (1973), *no.* 1, 89–99. (Editors) **57** #15289 86.65 (76.65)

(*with* Ščerbakov, A. V.) Second order difference schemes for the approximation of an elliptic equation with a small parameter multiplying the highest derivatives. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **5** (1974), *no.* 1, 88–97. **56** #13682 65N05

Kočeškov, G. V. (*with* Gusakov, V. M.) An approximate method for the solution of a certain boundary value problem. (Russian) *Mat. Fiz. Vyp.* 20 (1976), 77–80, 113. (Authors' summary) **58** #3554 65N99

A variant of the method of steepest descent. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 11 *Teor. Optimal. Processov* (1977), 36–39. (Editors) **58** #30667 49D10

Kočetkov, A. N. Extremal problems for negative subharmonic functions in the unit disc. (Russian) *Moskov. Inž.-Stroitel. Inst. Sb. Trudov No.* 130 (1975), 7–17. (W. K. Hayman) **56** #12285 31A05

Kočetkov, E. S. (*with* Višnevskiĭ, V. M.) Algorithms for servicing stochastic flows of demands in an inventory-control problem. *Avtomat. i Telemeh.* **1973**, *no.* 3, 32–37 (*Russian. English summary*); *translated as Automat. Remote Control* **34** (1973), *no.* 3, *part* 1, 366–370. (C. Mohan) **54** #4611 90B05

Kočetkov, Ju. A. Optimal control of deterministic systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1976**, *no.* 1, 158–166 (*Russian*); *translated as Engrg. Cybernetics* **14** (1976), *no.* 1, 118–126 (1977). (Jiří V. Outrata) **58** #15489 93C99 (49C05)

Kočetkov, Ju. Ju. (*with* Gorin, E. A.; Mitjagin, B. S.) Certain properties of derivations in Banach algebras. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 18 (1973), 160–165, v. (P. Saworotnow) **48** #6935 46H20

Kočetkov, N. N. (*with* Bel'tjukov, B. A.) On a certain modification of the method of successive approximations for Volterra integral equations and its application to eigenvalue problems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 5 (120), 3–10. (M. Tvrdý) **47** #731 45D05

(*with* Bel'tjukov, B. A.) The method of Volterra integral equations in eigenvalue problems with several parameters. (Russian) *Differencial'nye Uravnenija* **9** (1973), 922–930, 978. (C. Corduneanu) **48** #6856 45J05

Kočetkov, V. I. (*with* Bedrov, Ja. A.; Goričev, Ju. V.; Gorodeckiĭ, V. I.; Zaharov, V. N.; Kanarev, L. E.; Krut'ko, P. D.; Letov, A. M.; Mogilevskiĭ, V. D.; Ponomarev, V. M.; Tret'jakov, V. E.) ★Нелинейная оптимизация систем автоматического управления. (Russian) [Nonlinear optimization of automatic control systems] Edited by V Ponomarev. Nonlinear Automatic Control Systems, Vol. 5. *Izdat. "Mašinostroe Moscow*, 1970. 307 *pp.* (F. M. Kirillova) **50** #12363 93C10

Kočetkov, V. K. The multiple differentiation of one parameter families of schlicht functions. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 367–373. (J. G. Krzyż) **45** #5 30A36

Integral representation of analytic functions. (Russian) *Ukrain. Mat. Ž.* **24** (1 825–829, 862. (D. A. Brannan) **47** #3687 30A86

Extremal properties of certain new special classes of univalent functions. (Russ *Theory of functions. Differential equations and their applications, No.* 1 (*Russian*), 73–89, 216. *Kalmyck. Gos. Univ., Elista*, 1976. (Author's summary) **58** #28466 30A32 (30A38)

Higher order parabolic univalent functions. (Russian) *Theory of functions. Differential equations and their applications, No.* 1 (*Russian*), *pp.* 90–95, 216–217. *Kalmyck. Gos. Univ., Elista*, 1976. (Author's summary) **58** #28469 30A36

Kočetkov, V. T. (*with* Andreev, N. I.; Dostupov, B. G.; Kazakov, I. E.; Kozlov, Ju. Poceluev, A. V.; Sajutin, Ju. V.; Smirnov, V. I.; Sotskiĭ, N. M.; Tihonov, V. Černeckiĭ, V. I.) ★Статистические методы в проектировании нелинейных си автоматического управления. (Russian) [Statistical methods in the design of nonli automatic control systems] Edited by B. G. Dostupov. Nonlinear Automatic Co Systems, Vol. 6. *Izdat. "Mašinostroenie", Moscow*, 1970. 407 *pp.* (*errata insert*) (V Igolkin) **50** #9403 93E20

See also **Control in space**, **48** #8041

Kočetkova, Z. M. The isochrony of a system of three differential equations in the prese of a family of nonperiodic solutions in the neighborhood of the origin. (Russi *Differencial'nye Uravnenija* **7** (1971), 2279–2282. (J. Jarník) **45** #2257 34C15

Kočetov, I. I. (*with* Rahmatulina, A. H.) Solution of certain boundary value problems elliptic equations by means of integral equations of the first kind. (Russian) *Dokl. Ak Nauk SSSR* **215** (1974), 532–534. (D. K. Gvazava) **49** #5561 35J25

A certain method of solving exterior boundary value problems for second or elliptic equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 3, 779–781, (T. Styś) **51** #14617 65P05

Kočev, V. A. On the question of methods for the integration of ordinary linear differen equations with polynomial coefficients. (Russian) *Ural. Politehn. Inst. Sb. No. Differencial'nye Uravnenija i Teorija Uprugosti* (1973), 55–67, 121. (J. F. Heyda) **49** #5430 34–03 (01A55)

The development of methods for the integration of linear first order partial differential equations in the nineteenth century. (Russian) *Ural. Politehn. Inst. Sb.* 211 *Differencial'nye Uravnenija i Teorija Uprugosti* (1973), 68–78, 121. (J. F. Hey **49** #5527 35–03 (01A55)

Kočeva, M. D. The damped oscillations of a double pendulum that is mounted on the of a rotating shaft. (Russian) *Ural. Politehn. Inst. Sb. No.* 211 *Differencial'nye Uravnenija i Teorija Uprugosti* (1973), 13–21, 120. (W. S. Loud) **49** #730 34C15

The circular motions of a double pendulum that is mounted on the axis of a rotat shaft. (Russian) *Ural. Politehn. Inst. Sb. No.* 211 *Differencial'nye Uravnenija i Teo Uprugosti* (1973), 22–29, 120. (W. S. Loud) **49** #731 34C15

Koch, Andrzej Metric problems in the double-image model of a linear representati (Polish. English summary) *Zeszyty Nauk. Akad. Górn.-Hutniczej—Mat.-Fiz.-Chem.* 13 (1973), 7–30. (V. Medek) **50** #10999 50D15

The coincidence figure of the double-image model of a linear representati (Polish. English summary) *Zeszyty Nauk. Akad. Górn.-Hutniczej—Mat.-Fiz.-Chem.* 13 (1973), 31–44. (V. Medek) **50** #11000 50D15

(*with* Raczyński, Tadeusz) The representation of basic elements of space by mea of double images that are obtained by the application of the coincidence figure o double-image model. (Polish. English summary) *Zeszyty Nauk. Akad. Górn.-Hutnic —Mat.-Fiz.-Chem. No.* 13 (1973), 127–131. (V. Medek) **50** #11001 50D15

Koch, Etan (*with* Perles, Micha A.) Covering efficiency of trees and k-trees. *Proceedings the Seventh Southeastern Conference on Combinatorics, Graph Theory, and Comput* (*Louisiana State Univ., Baton Rouge, La.*, 1976), *pp.* 391–420. *Congressus Numerantiu No. XVII, Utilitas Math., Winnipeg, Man.*, 1976. (V. Krishnamoorthy) **56** #15473 05C05

halter-Koch, Franz *See* **Halter-Koch, Franz**

Koch, Gary G. (*with* Grizzle, James E.; Starmer, C. Frank) Analysis of categorical data linear models. (French summary) *Biometrics* **25** (1969), *no.* 3, 489–504. (Autho summary) **52** #2041 62H20

An alternative approach to multivariate response error models for sample surv data with applications to estimators involving subclass means. *J. Amer. Statist. Ass* **68** (1973), 906–913. (D. S. Tracy) **51** #4485 62D05

(*with* Forthofer, Ronald N.) An extension of the symmetric sum approach to t estimation of variance components. (German summary) *Biometrische Z.* **16** (197 3–14. (D. S. Tracy) **50** #8851 62J10

(*with* Freeman, Daniel H., Jr.; Freeman, Jean L.) Strategies in the multivaria analysis of data from complex surveys. (French summary) *Internat. Statist. Rev.* (1975), *no.* 1, 59–78. (Chien-Pai Han) **55** #13625 62D05 (62J05)

(*with* Landis, J. Richard) A review of statistical methods in the analysis of da arising from observer reliability studies. I. *Statistica Neerlandica* **29** (1975), *no.* 101–123. (Robert K. Tsutakawa) **51** #11902a 62P10

(*with* Landis, J. Richard) A review of statistical methods in the analysis of da arising from observer reliability studies. II. *Statistica Neerlandica* **29** (1975), *no.* 151–161. (Robert K. Tsutakawa) **51** #11902b 62P10

(*with* Landis, J. Richard) A one-way components of variance model for categoric data. (French summary) *Biometrics* **33** (1977), *no.* 4, 671–679. (Robert Hultquis **58** #3231 62J10

See also **Survey of statistical design and linear models**, **51** #2039

Koch, Giorgio (*with* Bruni, Carlo; Di Pillo, Gianni) Mathematical models and identification of bilinear systems. *Theory and applications of variable structure system* (*Proc. Sem., Sorrento*, 1972), *pp.* 137–152. *Academic Press, New York*, 1972. (P. Brunovský) **53** #12670 93B30

(*with* Bruni, Carlo; Di Pillo, Gianni) Bilinear systems: an appealing class of "nearl linear" systems in theory and applications. *IEEE Trans. Automatic Control* **AC-1**

1974), 334–348. (David L. Elliott) **54** #2278 93C10

(*with* Bruni, Carlo; Giovenco, Maria Adelaide; Strom, Roberto) The immune esponse as a variable structure system. *Variable structure systems with application to conomics and biology* (*Proc. Second U.S.-Italy Sem.*, 1974), *pp.* 244–264. *Lecture Notes n Econom. and Math. Systems*, *Vol.* 111, *Springer*, *Berlin*, 1975. (Authors' summary) 6 #4892 92A05

(*with* Bruni, Carlo) A degenerate (bounded rate) class of distributed parameter ystems. *Distributed parameter systems*: *modelling and identification* (*Proc. IFIP Working Conf.*, *Rome*, 1976), *pp.* 138–152. *Lecture Notes in Control and Information Sci.*, *Vol.* 1, *Springer*, *Berlin*, 1978. (Authors' summary) **58** #26328 93C20 (92A25)

(*with* Bruni, Carlo; Giovenco, Maria Adelaide; Strom, Roberto) Modeling of the mmune response: a system approach. *Theoretical immunology*, *pp.* 379–414. *mmunology Ser.*, *Vol.* 8, *Dekker*, *New York*, 1978. (Rodney D. Gentry) **57** #15544 2A05

See also **Fachtagung: Gesellschaft für Informatik, Programmiersprachen**, **48** #10176

K, Helmut Zum Satz von Golod-Schafarewitsch. *Math. Nachr.* **42** (1969), 321–333. (J. P. Labute) **45** #380 20E15 (12A25)

★Galoissche Theorie der *p*-Erweiterungen. Mit einem Geleitwort von I. R. Šafarevič. *Springer-Verlag*, *Berlin-New York*; *VEB Deutscher Verlag der Wissenschaften*, *Berlin*, 1970. x + 161 *pp.* (*loose errata*) (J. P. Labute) **45** #233 12B15

Über das Normenrestsymbol einer lokalen unverzweigten Erweiterung von 2-Potenzgrad. *Math. Nachr.* **52** (1972), 355–369. (J. Browkin) **53** #8021 12B10 (12B25)

Klassifikation der eindimensionalen formalen Gruppen über endlichen Körpern. *Math. Nachr.* **54** (1972), 277–283. (Loren D. Olson) **48** #3974 14L05

(*with* Zink, Wilhelm) Über die 2-Komponente der Klassengruppe quadratischer Zahlkörper mit zwei Diskriminantenteilern. *Math. Nachr.* **54** (1972), 309–333. (Morris Newman) **49** #2660 12A50

★Теория Галуа *p*-расширений. (Russian) [The Galois theory of *p*-extensions] With an introduction by I. R. Šafarevič. Translated from the German by L. V. Kuz'min. *Izdat.* "*Mir*", *Moscow*, 1973. 199 *pp.* (Editors) **49** #10666 12B15

Über das Normenrestsymbol einer lokalen unverzweigten Erweiterung von 2-Potenzgrad. (Russian summary) Proceedings of the International Conference on Number Theory (Moscow, 1971). *Trudy Mat. Inst. Steklov.* **132** (1973), 93–98, 265. (G. Whaples) **48** #11060 12B10

Zur Galoisschen Theorie der maximalen *p*-Erweiterungen mit vorgegebenen Verzweigungsstellen. *Math. Nachr.* **61** (1974), 47–50. (Jack Sonn) **51** #3121 12A60

(*with* Venkov, B. B.) The *p*-tower of class fields for an imaginary quadratic field. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **46** (1974), 5–13, 140. (J. Browkin) **52** #3120 12A65 (20F20)

Über den *p*-Klassenkörperturm eines imaginär-quadratischen Zahlkörpers. *Journées Arithmétiques de Bordeaux* (*Conf.*, *Univ. Bordeaux*, *Bordeaux*, 1974), *pp.* 57–67. *Astérisque*, *Nos.* 24-25, *Soc. Math. France*, *Paris*, 1975. (G. Whaples) **52** #13741 12A65 (20F20)

Verallgemeinerung einer Konstruktion von Lubin-Tate in der Theorie der Barsotti-Tate-Gruppen. *Symposia Mathematica*, *Vol. XV* (*Convegno di Struttore in Corpi Algebrici*, *INDAM*, *Rome*, 1973), 487–498 *pp. Academic Press*, *London*, 1975. (Michiel Hazewinkel) **52** #10756 14L05

Zum Satz von Golod-Schafarewitsch. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew. Math.* **274/275** (1975), 240–243. (J. S. Joel) **55** #8002 12A65

(*with* Pieper, Herbert) ★Zahlentheorie. Ausgewählte Methoden und Ergebnisse. Studienbücherei. *VEB Deutscher Verlag der Wissenschaften*, *Berlin*, 1976. 232 *pp.* (W. Schwarz) **55** #12604 10–01

Fields of class two and Galois cohomology. *Algebraic number fields*: *L-functions and Galois properties* (*Proc. Sympos.*, *Univ. Durham*, *Durham*, 1975), *pp.* 609–624. *Academic Press*, *London*, 1977. (William C. Waterhouse) **56** #15610 12A60

Classification of the primitive representations of the Galois group of local fields. *Invent. Math.* **40** (1977), *no.* 2, 195–216. (J. Browkin) **56** #8540 12B15

Über Pro-*p*-Gruppen der kohomologischen Dimension 2. *Math. Nachr.* **78** (1977), 285–289. (S. P. Demuškin) **57** #9672 12B20 (12G10)

Galois group of a *p*-closed extension of a local field. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 1, 19–22. (J. Browkin) **57** #12466 12B15

See also **Proceedings: International Conference on Number Theory**, **51** #5463 *and* **Sitzungsberichte: Plenums und der Klasse der Akademie der Wissenschaften der DDR**, **55** #2447

och, J. (*with* Appel, Kenneth I.; Haken, Wolfgang) Every planar map is four colorable. II. Reducibility. *Illinois J. Math.* **21** (1977), *no.* 3, 491–567. (Frank Allaire) **58** #27598b 05C15

See also **Appel, Kenneth I.; et al.**, **58** #27598d

och, K. R. (*with* Pope, A. J.) Uniqueness and existence for the geodetic boundary value problem using the known surface of the earth. *Bull. Géodésique* (*N.S.*) *No.* 106 (1972), 467–476. (P. Caloi) **48** #13184 86.35 (35J05)

Least squares adjustment and collocation. *Bull. Géod.* **51** (1977), *no.* 2, 127–135. (Author's summary) **56** #10746 86.62

och, Karl *See* **Behnke, Heinrich**, **52** #13201

och, Philip O. On the product of Schubert classes. *J. Differential Geometry* **8** (1973), 349–358. (S. I. Gel'fand) **49** #2774 14M15 (14N10, 20G05)

och, R. J. (*with* Pall, Gordon) Centralizers of rootless integral matrices. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts*, *Amherst*, *Mass.*, 1971), *Part II*, *pp.* 76–80. *Lecture Notes in Math.*, *Vol.* 299, *Springer*, *Berlin*, 1972. (R. Schultz) **50** #11296 57E10

(*with* Hofmann, Karl Heinrich; Mostert, Paul S.) Alexander Doniphan Wallace on his 68th birthday. Collection of articles dedicated to Alfred Hoblitzelle Clifford on the occasion of his 65th birthday and to Alexander Doniphan Wallace on the occasion of his 68th birthday. *Semigroup Forum* 7 (1974), *no.* 1-4, 10–31. (Editors) **51** #7788 01A70

och, Rainer Maximum-Likelihood-Schätzungen von Parametern der Gamma- und Betaverteilung. (English and French summaries) *Math. Operationsforsch. Statist.* **5** (1974), *No.* 4/5, 333–355. (Author's summary) **51** #14376 62F10

Koch, Richard Drachennetze. *Osterreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no.* 8-10, 619–636. (M. A. Akivis) **58** #7414 53A05

Diagonale Netze aus Schmieg- und Krümmungslinien. I. (English summary) *J. Geometry* **7** (1976), *no.* 2, 125–155. (V. V. Gol'dberg) **54** #8458 53A05

Drachennetze mit geradlinigen Hauptdiagonalen. (English summary) *J. Geometry* **8** (1976), *no.* 1-2, 19–32. (V. V. Gol'dberg) **57** #7404 53A05

Diagonale Netze aus Schmieg- und Krümmungslinien in windschiefen Flächen. *Arch. Math.* (*Basel*) **29** (1977), *no.* 4, 435–443. (George Stamou) **57** #7405 53A05

Diagonale Netze aus Schmieg- und Krümmungslinien. II. (English summary) *J. Geometry* **9** (1977), *no.* 1-2, 163–194. (Vladislav Goldberg) **58** #12752 53A20

Striktionseigenschaften von Regelscharen im E^n. (English summary) *Monatsh. Math.* **83** (1977), *no.* 2, 133–146. (George Stamou) **57** #13734 53A25

Ebene *P*-Netze. *Arch. Math.* (*Basel*) **30** (1978), *no.* 6, 651–655. (G. Tsagas) **58** #12774 53B20

Eine Kennzeichnung der hyperbolischen Paraboloide bis auf Isometrien. *J. Reine Angew. Math.* **299/300** (1978), 238–246. (P. Scherk) **58** #7415 53A05

Koch, Richard M. (*with* Lowenthal, Franklin) Uniform finite generation of three-dimensional linear Lie groups. *Canad. J. Math.* **27** (1975), 396–417. (Rolf Sulanke) **55** #3159 22E15

(*with* Lowenthal, Franklin) On generating subgroups of the affine group on the plane by pairs of infinitesimal transformations. *Rocky Mountain J. Math.* **6** (1976), *no.* 1, 119–131. (G. J. Schellekens) **53** #3193 22E15

On filtered Lie algebras. *Indiana Univ. Math. J.* **26** (1977), *no.* 1, 115–124. (B. N. Allison) **55** #5710 17B55

(*with* Lowenthal, Franklin) Uniform finite generation of Lie groups locally-isomorphic to SL(2, *R*). *Rocky Mountain J. Math.* **7** (1977), *no.* 4, 707–724. (Robert E. Beck) **58** #6065 22E15

Koch, Wolfgang (*with* Langensiepen, Gerd; Richter, Claus) Untersuchungen zu Verfahren der erweiterten quadratischen Optimierung. *Wiss. Z. Techn. Univ. Dresden* **26** (1977), *no.* 3-4, 653–659. (G. Opfer) **57** #2565 90C20

Köchel, Peter Ein stochastisches Lagerhaltungsmodell für mehrere miteinander verbundene Lager. (English and Russian summaries) *Math. Operationsforsch. Statist.* **6** (1975), *no.* 3, 413–426. (Author's summary) **56** #2273 90B05

Ein Minimax-Lagerhaltungsmodell für ein System von mehreren miteinander verbundenen Lagern. (English and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 6, 905–925. (P. Neumann) **56** #2274 90B05

Über die optimale Lagerhaltung in einem System von Lagern: eine Näherungslösung. (English and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 1, 105–118. (Knut Richter) **56** #14616 90B05

Kochen, Manfred (*with* Hantler, Sidney L.) ASP: a program using stored hypotheses to select actions. *J. Cybernet.* **3** (1973), *no.* 3, 1–12. (W. W. Armstrong) **50** #6232 68A45

Representations and algorithms for cognitive learning. *Artificial Intelligence* **5** (1974), 199–216. (K. D. Günther) **50** #4002 92A25 (68A45)

See also **Fuzzy sets and their applications to cognitive and decision processes**, **52** #2264

Kochen, S. (*with* Young, A. D.; Körner, Stephan; Roquette, Peter) Abraham Robinson. *Bull. London Math. Soc.* **8** (1976), *no.* 3, 307–323. (Editors) **53** #12846 01A70

Kochen, Simon The model theory of local fields. ⊧ *ISILC Logic Conference* (*Proc. Internat. Summer Inst. and Logic Colloq.*, *Kiel*, 1974), *pp.* 384–425. *Lecture Notes in Math.*, *Vol.* 499, *Springer*, *Berlin*, 1975. (Editors) **58** #27918 12B99 (02H15, 12L10)

See also **Mathematical problems in biology**, **49** #10392

Kochenberger, Gary A. (*with* Dinkel, John J.; McCarl, Bruce) An approach to the numerical solutions of geometric programs. *Math. Programming* **7** (1974), 181–190. (Kailash C. Kapur) **50** #3946 90C30 (65K05)

(*with* Dinkel, John J.; McCarl, Bruce) A computational study of methods for solving polynomial geometric programs. *J. Optimization Theory Appl.* **19** (1976), *no.* 2, 233–259. (Elmor L. Peterson) **54** #4664 90C30

(*with* Dinkel, John J.; Elliott, William H.) Computational aspects of cutting-plane algorithms for geometric programming problems. *Math. Programming* **13** (1977), *no.* 2, 200–220. (Donald M. Topkis) **57** #9084 90C99

(*with* Dinkel, John J.) On sensitivity analysis in geometric programming. *Operations Res.* **25** (1977), *no.* 1, 155–163. (R. N. Kaul) **56** #7989 90C25

(*with* Dinkel, John J.; Elliott, William H.) A linear programming approach to geometric programs. *Naval Res. Logist. Quart.* **25** (1978), *no.* 1, 39–53. (J. Borwein) **58** #9215 90C05 (90C30)

(*with* Dinkel, John J.) An implementation of surrogate constraint duality. *Operations Res.* **26** (1978), *no.* 2, 358–364. (Nobuo Sannomiya) **58** #9272 90C30

Kochenburger, Ralph J. Minimal time response of an unstable process. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 11, *Paper 6B*, 9 *pp. Inst. Mech. Engrs.*, *London*, 1967. **56** #11192 93B99

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360a

Kochendörffer, Rudolf ★Group theory. Translated from the German. *McGraw-Hill*, *London-New York-Sydney*, 1970. vii + 297 *pp.* (Editors) **48** #382 20–01

★Introduction to algebra. *Wolters-Noordhoff Publishing*, *Groningen*, 1972. x + 414 *pp.* (W. Dörfler) **53** #5212 00A05

★Einführung in die Algebra. Vierte, neubearbeitete Auflage. Hochschulbücher für Mathematik, Band 18. *VEB Deutscher Verlag der Wissenschaften*, *Berlin*, 1974. 353 *pp.* (From the author's foreword) **54** #4879 00A05

Kocher, Carl A. Criteria for bound-state solutions in quantum mechanics. *Amer. J. Phys.* **45** (1977), *no.* 1, 71–74. (Author's summary) **54** #9467 81.49

Kochergin, V. P. *See* **Kočergin, V. P.**

Kochetkov, E. S. *See* **Kočetkov, E. S.**

Kochetkov, Yu. A. *See* **Kočetkov, Ju. A.**

Kochhar, R. K. (*with* Trehan, S. K.) The oscillations and the stability of rotating masses with toroidal magnetic fields. II. *Astrophys. J.* **168** (1971), 265–280. (Authors' summary) **54** #4515 83.35

(*with* Trehan, S. K.) The oscillations and the stability of rotating masses with magnetic fields. III. *Astrophys. J.* **181** (1973), 519–521. (Authors' summary) **54** #4516 83.35

Koch-Klose, Abel Leibniz-Bibliographie: Neue Titel 1969–1971. *Studia Leibnitiana* **3** (1971), *no.* 4, 309–320. (Editors) **58** #27150 01A75

Kochman, Fred Bernstein polynomials and Milnor algebras. *Proc. Nat. Acad. Sci. U.S.A.* **73** (1976), *no.* 8, 2546. (Tatsuo Suwa) **56** #5932 32C40

Kochman, Stanley O. The homology of the classical groups over the Dyer-Lashof algebra. *Bull. Amer. Math. Soc.* **77** (1971), 142–147. (R. K. Lashof) **47** #2601 55F45

Symmetric Massey products and a Hirsch formula in homology. *Trans. Amer. Math. Soc.* **163** (1972), 245–260. (G. Hirsch) **48** #9721 55G30 (55B40, 55D35)

Homology of the classical groups over the Dyer-Lashof algebra. *Trans. Amer. Math. Soc.* **185** (1973), 83–136. (R. K. Lashof) **48** #9719 55F45 (55G99)

A chain functor for bordism. *Trans. Amer. Math. Soc.* **239** (1978), 167–196. (Joel M. Cohen) **58** #7607 55B20 (55H25)

Kochnev, L. V. *See* **Kočnev, L. V.**

Kocić, Vlajko Lj. (*with* Maksimović, Dragoslav M.) Variations and generalizations of an inequality due to Bohr. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 412-460 (1973), 183–188. (Victor I. Levin) **48** #4244 26A87

A note on the convergence of certain sequences. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 461-497 (1974), 173–177. (W. Beekmann) **50** #13956 40A05

On the convergence of sequences defined by recurrent relations. *Math. Balkanica* **5** (1975), 155–162. (Christopher Caldwell) **58** #17621 39A10

(*with* Kečkić, Jovan D.) On the convergence of certain sequences. V. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **18(32)** (1975), 103–106. (B. Choczewski) **51** #13509 40A05

A theorem on the convergence of sequences defined by recurrent relations. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 498-541 (1975), 149–152. (W. Beekmann) **52** #3774 40A05

General solutions of certain nonlinear partial differential equations. *Mat. Vestnik* **1(14)(29)** (1977), *no.* 2, 193–196. (J. R. Cannon) **57** #3584 35C05

Some examples for nonlinear superposition. *Publ. Inst. Math.* (*Beograd*) (*N. S.*) **22(36)** (1977), 139–143. (W. F. Ames) **57** #3586 35C05

(*with* Kečkić, Jovan D.) Oscillating solutions of linear differential equations. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 135–137. (Wadi Mahfoud) **58** #11641 34C10

Theorems on nonlinear superpositions: the general first order equation. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 577–598 (1977), 45–48. (S. N. Kružkov) **57** #3585 35C05

A few remarks on a previous paper regarding the convergence of certain sequences: "A theorem on the convergence of sequences defined by recurrent relations" (Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No. 498-541 (1975), 149–152). *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 577-598 (1977), 38. (Editors) **57** #6931 40A05

Kočieru, A. G. Some applications of geometric transformations in the theory of shells. (Russian) *Studies in discrete geometry* (*Russian*), *pp.* 140–145, 150. *Izdat. "Štiinca", Kishinev*, 1974. (D. I. Papuc) **52** #4794 73.53

Kočin, B. P. *See* **Hercen Lectures, 47** #4749

Kočin, N. E. *See* **Erugin, N. P., 54** #4899

Kočina, G. F. Some properties of regular spaces of vector sequences. (Russian) *Collection of papers by graduate students. Exact sciences: Mathematics, mechanics* (*Russian*), *pp.* 43–49. *Izdat. Kazan. Univ., Kazan*, 1976. (Editors) **58** #30036 46A45

Kočina, N. N. A certain periodic solution of the diffusion equation. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1967**, *no.* 1, 77–83. (V. Đurikovič) **45** #2301 35B10 (65M99)

Certain nonlinear problems for the equation of heat conduction. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1972**, *no.* 3, 123–128. (A. Göpfert) **46** #9529 35K05

The regulation of the level of the subsoil waters in irrigation. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1973**, *no.* 5, 125–133. (V. Komkov) **56** #10372 76.35

polubarinova-Kočina, P. Ja. *See* **Polubarinova-Kočina, P. Ja.**

Kočinjan, L. S. (*with* Sarkisjan, S. C.) Some properties of the solutions of Beltrami equations with analytic coefficients. (Russian) *Some problems in modern function theory* (*Proc. Conf. Modern Problems of Geometric Theory of Functions, Inst. Math., Acad. Sci. USSR, Novosibirsk*, 1976) (*Russian*), *pp.* 139–142. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1976. (Editors) **58** #22590 30A88

(*with* Gol'dberg, A. A.; Sarkisjan, S. C.) Some theorems of Picard type. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **13** (1978), *no.* 1, 23–35, 183. (W. K. Hayman) **58** #11413 30A70

Kocjuba, A. V. (*with* Grobov, V. O.) The application of the Cayley-Klein parameters in the investigation of a quasiprecessional motion of a free solid body. (Russian) *Prikladna. Meh.* 7 (1971), *no.* 7, 37–43. (E. Leimanis) **46** #6666 (EA **47**) 70.34

(*with* Grobov, V. O.) Jacobi's method in the problem of nonstationary motion around the center of masses of an uncontrolled body that is entering the atmosphere at a hypersonic speed. (Russian) *Analytic and qualitative methods of the theory of differential equations* (*Russian*), *pp.* 62–73. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (Djordje Djukić) **50** #15497 70.34

See also **Nonlinear oscillations and stability of motion, 57** #12950

Kock, Anders ★Monader og universel algebra. (Danish) [Monads and universal algebra] With an appendix by Kirsten Hermann. Lecture Notes Series, No. 17. *Matematisk Institut, Aarhus Universitet, Aarhus*, 1969. 33 *pp.* (V. Kuz'minov (RŽMat **1971** #11 A372)) **46** #1876 18C15

On double dualization monads. *Math. Scand.* **27** (1970), 151–165 (1971). (G. M. Kelly) **50** #435 18C15

(*with* Wraith, Gavin) ★Elementary toposes. Lecture Notes Series, No. 30. *Matematisk Institut, Aarhus Universitet, Aarhus*, 1971. i+118 *pp.* (H. Gonshor) **49** #7324 18Axx (02K15)

Closed categories generated by commutative monads. *J. Austral. Math. Soc.* **12** (1971), 405–424. (J. R. Isbell) **45** #5190 18D15

Bilinearity and Cartesian closed monads. *Math. Scand.* **29** (1971), 161–174 (1972). (J. R. Isbell) **46** #9141 18D15

Strong functors and monoidal monads. *Arch. Math.* (*Basel*) **23** (1972), 113–120. (J. R. Isbell) **46** #3591 18D10

(*with* Mikkelsen, Christian Juul) Topos-theoretic factorization of non-standard extensions. *Victoria Symposium on Nonstandard Analysis* (*Univ. Victoria, Victoria,* 1972), *pp.* 122–143. *Lecture Notes in Math., Vol.* 369, *Springer, Berlin*, 1974. (Ma Bunge) **58** #841 18C99 (02H20)

(*with* Lecouturier, P.; Mikkelsen, Christian Juul) Some topos theoretic conce finiteness. *Model theory and topoi* (*Conf., Berlin*, 1973), *pp.* 209–283. *Lecture No Math., Vol.* 445, *Springer, Berlin*, 1975. (Christian Maurer) **52** #2882 02K10 (06A20, 18A15)

Linear algebra in a local ringed site. *Comm. Algebra* **3** (1975), 545–561. (K. Bu **52** #5690 14M15 (18F20)

Universal projective geometry via topos theory. *J. Pure Appl. Algebra* **9** (1976 *no.* 1, 1–24. (Lawrence Neff Stout) **55** #3959 50D35 (18F20)

A simple axiomatics for differentiation. *Math. Scand.* **40** (1977), *no.* 2, 183 (Gavin Wraith) **56** #12098 18F99 (58A99)

Taylor series calculus for ring objects of line type. *J. Pure Appl. Algebra* **12** (1 *no.* 3, 271–293. (Sadayuki Yamamuro) **58** #18529 58C20 (12H05, 14K05)

See also **Handbook: Mathematical logic, 58** #10395

Kočkarev, B. S. The stability of probabilistic automata. (Russian. English summary in *Kibernetika* (*Kiev*) **1968**, *no.* 2, 24–30. (A. Mučnik (RŽMat **1968** #12 V390)) **45** # 94A35

A certain sufficient condition for the definiteness of an event that is represent a probabilistic automaton. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1969), 12–20. (E. Ikaunieks) **45** #8463 94A35

Testing the realizability of a certain sufficient condition of the stability of probabilistic automata (v.a.). (Russian. English summary insert) *Kibernetika* (**1969**, *no.* 4, 45–47. (G. Blohina (RŽMat **1970** #2 V387)) **46** #1522 94A35

Kockelkorn, Götz ★Zweistufige Produktionsfunktionen mit konstanten Substitutionselastizitäten. Berichte aus dem Institut für Statistik und Versicherungsmathematik und aus dem Institut für Angewandte Statistik der F Universität Berlin, Heft 13. *Physica-Verlag, Würzburg*, 1972. 157 *pp.* (Georg **56** #14594 90A15

Kockelkorn, Ulrich (*with* Rüger, Bernhard) Schätzung der Komponenten einer Zeit mit konstanter Saisonfigur nach der Methode der gleitenden Durchschnitte. (Eng French and Russian summaries) *Statist. Hefte* (*N.F.*) **14** (1973), 237–270. (J. L. Lun **50** #15220 62M10

(*with* Rüger, Bernhard) Strukturgleichungen und Schätzformeln bei der Zeitreihenanalyse nach der Methode der gleitenden Durchschnitte. (English summa *Allgemein. Statist. Arch.* **59** (1975), *no.* 2, 135–160. (Authors' summary) **55** #136 62M10

Kočkin, N. N. (*with* Ivanov, V. N.) Direct product of matrices and the multiplicatio binary numbers. (Russian) *Avtometrija* **1977**, *no.* 5, 100–103, 111. (Authors' summ **58** #27709 10A05

Kočladze, O. Š. (*with* Aleksidze, M. A.) A certain algorithm for congruent crin identification. I. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom* (1971), *no.* 4, 67–75. (L. Bitay) **55** #1861 68A45 (65S05)

(*with* Aleksidze, M. A.) A certain algorithm for congruent criminal identifica II. (Russian) Problems of applied mathematics–Mushelišvili eightieth birthday collection. *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **11** (1972), *no.* 1, 10 (L. Bitay) **55** #1862 68A45 (65S05)

Kočladze, Z. Ju. (*with* Čavčanidze, V. V.) Visual pattern recognition on the basis of analytic method of concept formation. (Russian. Georgian and English summar *Sakharth. SSR Mecn. Akad. Moambe* **70** (1973), 565–567. (Authors' summary) **55** #4808 68A45

Kočnev, L. V. Optimum distribution of resources with a certain type of restriction. *Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 88–90 (*Russian*); *translated as En Cybernetics* **10** (1972), *no.* 6, 1016–1019. (V. F. Dem'janov) **52** #5037 90C30 (65K05)

Kočnev, V. L. (*with* Tarasov, G. P.) Construction of suboptimal scheduling plans by use of directed search. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no* 46–49. (Marcel Rădulescu) **47** #6296 90B35

Kocsis, B. *See* **Fried, Ervin; et al., 52** #10318

Kocsis, J. *See* **Fried, Ervin; et al., 52** #10318

Koctjuk, È. N. *See* **Cybernetics and computer technology, 47** #4546

Kočubeĭ, A. N. (*with* Gorbačuk, M. L.; Ribak, M. O.) Dissipative extensions of differential operators in a space of vector-valued functions. (Russian) *Dokl. Akad. N SSSR* **205** (1972), 1029–1032. (H. Baumgärtel) **46** #9801 (EA **47**) 47E05

The extreme points of the set of solutions of the truncated matrix moment probl (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser* **1972**, 418–421, 477. (Ju. L. Daleckiĭ) **47** #4021 46N05 (44A50)

Nonselfadjoint abstract differential operators with discrete spectrum. (Russia *Differencial'nye Uravnenija* **9** (1973), 1601–1608, 1739. (Stefan Balint) **49** #122 47E05 (34B25)

The selfadjointness and *J*-selfadjointness of abstract differential operators. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Se* **1973**, 602–604, 668. (J. Bognár) **48** #4833 47E05

The best approximation in normed modules. (Russian) *Ukrain. Mat. Ž.* **25** (19 103–106, 143. (M. M. Day) **47** #829 46H25 (41A65)

The selfadjointness and the nature of the spectrum of certain classes of abstr differential operators. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 811–815, 862. (H. Baumgärtel) **48** #12152 47E05

The expansion in root vectors of abstract differential operators. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 7, 1341–1342, 1352. (Leo F. Boron) **51** #11197 47E05 (34B25)

Extensions of symmetric operators and of symmetric binary relations. (Russia *Mat. Zametki* **17** (1975), 41–48. (E. Durszt) **51** #1471 47B25

The spectrum of nonselfadjoint perturbations of abstract differential operat (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 5, 667–669, 718. (Boris Pavlov) **52** #1165 47E05 (34G05)

The negative part of the spectrum of abstract differential operators. (Russia *Spectral theory of operators and infinite-dimensional analysis* (*Russian*), *pp.* 88–1 *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Boris Pavlov) **58** #7209 47E05 (34G05)

The spectrum of selfadjoint extensions of a symmetric operator. (Russian) *Mat. metki* **19** (1976), *no.* 3, 429–434. (E. R. Deal) **53** #14198 47B25

The selfadjointness of a differential operator with a singular unbounded erator-valued coefficient. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 4, 453–462, 573. o F. Boron) **54** #11108 47E05 (34G05)

Fundamental solutions of operator-differential equations. (Russian) *ferencial′nye Uravnenija* **13** (1977), *no.* 9, 1588–1596, 1732. (Author's summary) #13053 34G05 (35R20)

Extensions of a nondensely defined symmetric operator. (Russian) *Sibirsk. Mat. Ž.* (1977), *no.* 2, 314–320, 478. (E. Durszt) **56** #16430 47B25

See also **Applications of functional analysis to problems of mathematical physics**, #30341

očevskiĭ, I. D. (*with* Petrov, B. N.; Petrov, V. V.; Ulanov, G. M.; Ageev, V. M.; porožec, A. V.; Uskov, A. S.) The beginning of an information theory of control. ussian) *Proceedings of the Fourth All-Union Conference on Automatic ntrol—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control ussian*), *pp.* 145–154, 477. *Izdat. "Nauka", Moscow*, 1972. (Authors' summary) #10134 93B99 (94A15)

(*with* Petrov, B. N.; Petrov, V. V.; Ulanov, G. M.; Ageev, V. M.; Zaporožec, A. Marin, N. A.; Uskov, A. S.) Informational foundations of the theory of control tems with feedback. (Russian) *Engineering cybernetics, Vol.* 5 (*Russian*), *pp.* 5–78, . *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1973. (A. A. llin) **52** #12869 93A10 (94A15)

(*with* Petrov, B. N.; Ulanov, G. M.; Gol′denblat, I. I.; Hazen, È. M.; Ul′janov, S. Informational aspects of the qualitative theory of dynamical systems. (Russian) *gineering cybernetics, Vol.* 7 (*Russian*), *pp.* 5–201, 444. *Akad. Nauk SSSR Vsesojuz. t. Naučn. i Tehn. Informacii, Moscow*, 1976. (Vadim Komkov) **58** #9557 93C10 .02)

(*with* Čarikov, A. S.) Integral estimation of the insensitivity of dynamical systems. ussian) *Sensitivity of control systems* (*Proc. All-Union School-Sem., Vladivostok,* 75), *Vol. I* (*Russian*), *pp.* 185–195, 330. *Akad. Nauk SSR Dal′nevostočn. Naučn. Centr, adivostok*, 1976. (Editors) **58** #15507 93D05 (93B35)

(*with* Petrov, B. N.; Ulanov, G. M.; Gol′denblat, I. I.; Krineckiĭ, O. E.; Ul′janov, V.) Informational aspects of the qualitative theory of dynamical systems. (Russian) *gineering cybernetics, Vol.* 8, *Parts* 1-2 (*Russian*), *pp.* 102–208, 362. *Akad. Nauk SSSR esojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1977. (Vadim Komkov) **58** #15322 –01 (49–01, 94A15)

Kočinskiĭ, A. I. A method for determining the number of channels of a queueing system m observations on the output flow. (Russian) *Methods of operations research and iability theory in systems analysis* (*Russian*), *pp.* 41–54. *Akad. Nauk Ukrain. SSR Inst. bernet., Kiev*, 1976. (M. V. Kartašov) **58** #24587 60K10

A closed queueing system with unreliable sources of customers. (Russian) *Methods operations research and reliability theory in systems analysis* (*Russian*), *pp.* 55–59. *Akad. uk Ukrain. SSR Inst. Kibernet., Kiev*, 1976. (M. V. Kartašov) **58** #24607 60K25

Kočjov, Ju. V. (*with* Čurakov, E. P.) Slightly sensitive discrete systems with random oments of quantization. (Russian) *Sensitivity of control systems* (*Proc. All-Union hool-Seminar Theory of Sensitivity of Control Systems and its Application, Vladivostok,* 75), *Vol. I* (*Russian*), *pp.* 95–106, 326. *Akad. Nauk SSR Dal′nevostočn. Naučn. Centr, adivostok*, 1976. (Editors) **58** #9516 93B35

Koc, M. F. On a new *Q*-method for the solution of extremal problems in certain special asses of analytic functions that are connected with functions having positive real part the disk. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 17 (1972), 2–162. (T. Kubo) **46** #5628 30A76

Bounds of starlikeness and convexity for certain special classes of analytic functions the disc. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 7 (182), 57–60. (A. . Goodman) **56** #8830 30A32

Koia, A. I. The Riemann problem with a generalized coefficient. (Russian) *Ukrain. Mat.* **29** (1977), *no.* 6, 817–823, 854. (L. A. Aksent′ev) **57** #16621 30A88

Kon, Leopold (*with* Szapiel, Wojciech) Sur certaines classes de fonctions holomorphes éfinies par une intégrale de Stieltjes. (Polish and Russian summaries) *Ann. Univ. ariae Curie-Skłodowska Sect. A* **28** (1974), 39–51 (1976). (D. A. Storvick) **55** #10695 30A76

(*with* Szapiel, Wojciech) Sur certaines sous-classes de fonctions typiquement réelles. Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 15–120. (E. C. Schlesinger) **49** #5356 30A76

Kola, L. J. *See* **Advances in computers**, **50** #3628

Kóc, László T. On some basic theoretical problems of fuzzy mathematics. *Acta Cybernet.* (1976/77), *no.* 3, 225–237. (Masamichi Shimura) **57** #9370 94A99 (04A99)

R-fuzzy algebra–a method for the objective description of ill-defined problems. Hungarian. Russian and English summaries) *Informác.-Elektron.* **11** (1976), *no.* 3, 91–198. (János Demetrovics) **55** #7471 93A05 (68A45)

(*with* Hajnal, Miklos) A new fuzzy calculus and its application as a pattern ecognition technique. *Modern trends in cybernetics and systems* (*Proc. Third Internat. ongr., Bucharest*, 1975), *Vol. II*, *pp.* 103–118. *Springer, Berlin*, 1977. (Shinichi Tamura) **6** #8370 04A99 (02C05, 68A45)

(*with* Hajnal, Miklos) A new attempt to axiomatize fuzzy algebra with an pplication example. (Russian summary) *Problems of Control and Information heory/Problemy Upravlenija i Teorii Informacii* **6** (1977), *no.* 1, 47–66. (Michio Sugeno) **6** #11668 94A99 (06A40)

Ko, Masato (*with* Kondo, Jiro) Several methods on nonlinear filtering. (Japanese) *eiei-Kagaku* **17** (1973), 32–42. (Authors' summary) **47** #6381 94A05 (60G35)

Maximum likelihood identification of noise statistics and adaptive prediction. *J. perations Res. Soc. Japan* **18** (1975), *no.* 1-2, 16–39. (Lennart Ljung) **53** #15514 3E10

(*with* Seinfeld, John H.) Numerical implementation of distributed parameter filters ith application to problems in air pollution. *Distributed parameter systems: modelling nd identification* (*Proc. IFIP Working Conf., Rome*, 1976), *pp.* 42–69. *Lecture Notes in ontrol and Information Sci., Vol.* 1, *Springer, Berlin*, 1978. (From the text) **58** #26483 93E20

Koira, Kunihiko (*with* Morrow, James A.) ★Complex manifolds. *Holt, Rinehart and Winston, Inc., New York-Montreal, Que.-London*, 1971. vii+192 *pp.* (D. C. Spencer) **46** #2080 32C10

Holomorphic mappings of polydiscs into compact complex manifolds. *J. Differential Geometry* **6** (1971/72), 33–46. (H. Wu) **46** #386 32A30 (32H25)

See also **Collected works: Kodaira, Kunihiko**, **51** #2845; **Collected works: Kodaira, Kunihiko**, **51** #2846; **Collected works: Kodaira, Kunihiko**, **51** #2847; **Symposium: Complex Manifolds**, **53** #8467 *and* **Complex analysis and algebraic geometry**, **55** #2882

Kodaira, Kunio (*with* Hashida, On) Repeated calls resulting from data terminal busy and delayed delivery service. *Electron. Commun. Japan* **58** (1975), *no.* 3, 1–9. (I. Gh. Ciobanu) **55** #12012 90B15

Kodama, Akio On generalized Siegel domains. *Osaka J. Math.* **14** (1977), *no.* 2, 227–252. (Ichiro Satake) **58** #1286 32M10 (32A07)

(*with* Sakane, Yusuke) Remarks on compact complex hypersurfaces of compact complex parallelisable nilmanifolds. *Tôhoku Math. J.* (2) **29** (1977), *no.* 1, 57–60. (Gerd Fischer) **56** #8925 32M10 (22E25)

Kodama, Masanori A type of statistical inventory problems with emergency and delivery lags. *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 1, (1966), *part* 1, 7–21. (I. Văduva) **52** #12735 90B05

A delivery-lag inventory control process with emergency and non-stationary stochastic demands. III. *Mem. Fac. Gen. Ed. Kumamoto Univ. Natur. Sci. No.* 3 (1968), *part* 1, 9–23. (D. L. Iglehart) **53** #10222 90B05

(*with* Fukuta, Jiro; Takamatsu, Shunro) Mission reliability for a 1-unit system with allowed down-time. *IEEE Trans. Reliab.* **R-22** (1973), *no.* 5, 268–270. (R. Subramanian) **53** #15326 90B25

(*with* Deguchi, Hiroyasu) Reliability considerations for a 2-unit redundant system with Erlang-failure and general repair distributions. *IEEE Trans. Reliab.* **R-23** (1974), *no.* 2, 75–81. (C. Mohan) **52** #12743 90B25 (62N05)

(*with* Fukuta, Jiro) Mission reliability for a redundant repairable system with two dissimilar units. *IEEE Trans. Reliab.* **R-23** (1974), *no.* 4, 280–282. (Menachem Dishon) **54** #2170 90B25

(*with* Nakamichi, Hiroshi; Fukuta, Jiro; Takamatsu, Shunro) Reliability consideration on a repairable multicomponent system with redundancy in parallel. *J. Operations Res. Soc. Japan* **17** (1974), *no.* 1, 39–48. (Sami Abdelhamid) **53** #6952 62N05 (62F25)

(*with* Fukuta, Jiro) Renewal theoretical approach to the mission reliability of a redundant repairable system with two dissimilar units. *Bull. Math. Statist.* **16** (1975), *no.* 3-4, 103–114. (Henry W. Block) **52** #4448 60K10 (90B25)

(*with* Takamatsu, Shunro; Fukuta, Jiro; Nakamichi, Hiroshi) Reliability analysis of a complex system with dissimilar units under preemptive repeat repair discipline. *J. Operations Res. Soc. Japan* **18** (1975), *no.* 1-2, 1–15. (A. P. Basu) **52** #12750 90B25 (62N05)

(*with* Rajamannar, G.) Availability analysis of a two-unit (dissimilar) system with a warm standby. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **22** (1975), *no.* 1, 27–33. (B. Dimitrov) **53** #9414 60K20 (90B25)

(*with* Itoi, Takashi) The effect of switch-over device on availability of a 2-dissimilar-unit redundant system with a warm standby. *Bull. Math. Statist.* **17** (1976/77), *no.* 3-4, 39–47. (S. K. Srinivasan) **58** #3087 60K10

Probabilistic analysis of a multicomponent series-parallel system under preemptive repeat repair discipline. *Operations Res.* **24** (1976), *no.* 3, 500–515. (Peter Purdue) **54** #4615 90B25

(*with* Itoi, Takashi; Murakami, Tatsuo; Nishida, Toshio) Reliability analysis of a parallel redundant system with two dissimilar correlated units. *Tech. Rep. Osaka Univ.* **26** (1976), *no.* 1308–1336, 403–409. (Authors' summary) **58** #8109 62N05

(*with* Ohi, Fumio; Nishida, Toshio) Stationary independent shock models and application of shock models to the system reliability analysis. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **24** (1977), *no.* 4, 181–190. (Authors' summary) **58** #24590 60K10 (62N05)

(*with* Nishida, Toshio; Shimosakon, Takio; Hamano, Masanobu) On the substitutional two-commodity inventory system. *Tech. Rep. Osaka Univ.* **27** (1977), *no.* 1364-1393, 307–315. (Authors' summary) **56** #17758 90B05

(*with* Ohi, Fumio; Nishida, Toshio) $M+1$-out-of-$N:G$ system with correlated failure and single repair facility. (Japanese summary) *J. Operations Res. Soc. Japan* **21** (1978), *no.* 1, 96–108. (R. Subramanian) **57** #15385 90B25

Kodama, Masao New method of difference analogue of Poisson's equation and its applications. *Electron. Commun. Japan* **56** (1973), *no.* 4, 66–73. (Pierre Hillion) **54** #1645 65N05

Kodama, Shinzo (*with* Maeda, Hajime; Ikeda, Masao) Stability criteria of a feedback system with backlash—an extension of frequency-domain conditions by the multiplier method. *Systems-Computers-Controls* **1** (1970), *no.* 2, 45–52 (1971). (Authors' summary) **53** #15495 93D15

(*with* Maeda, Hajime) A system-theoretic consideration for block-diagram manipulation rules. *Systems-Computers-Controls* **1** (1970), *no.* 3, 1–9 (1971). (J. Szelezsán) **48** #1743 93A10

(*with* Maeda, Hajime; Ikeda, Mitsuaki) Extended stability conditions for a feedback system with backlash. *Internat. J. Control* (1) **13** (1971), 881–895. (Jan C. Willems) **46** #10466 93D10

(*with* Ikeda, Masao; Maeda, Hajime) Stabilization of linear systems. *SIAM J. Control* **10** (1972), 716–729. (W. M. Wonham) **48** #13333 93B05

(*with* Ikeda, Masao; Maeda, Hajime) On the stabilization of uniformly completely controllable systems by means of state-variable feedback. *Systems-Computers-Controls* **3** (1972), *no.* 4, 9–14 (1973). (Leonard Weiss) **50** #12390 93D15

(*with* Ikeda, Masao) Large-scale dynamical systems: state equations, Lipschitz conditions, and linearization. Large-scale networks. *IEEE Trans. Circuit Theory* **CT-20** (1973), 193–202. (T. Kaczorek) **51** #5078 93A15

(*with* Ikeda, Masao; Maeda, Hajime) Design of multivariable feedback control systems and nonlinear systems. (Japanese) *Systems and Control* **17** (1973), 662–671. (Kunihiko Ichikawa) **52** #2683 93D15

(*with* Ikeda, Masao; Maeda, Hajime) Estimation and feedback in linear time-varying systems: a deterministic theory. *SIAM J. Control* **13** (1975), 304–326.

(Edward J. Davison) **55** #2209 93B05 (93C50)

(*with* Suda, Nobuhide) Polynomial matrices and their applications (the foundations). (Japanese) *Systems and Control* **19** (1975), *no.* 4, 190–200. (Katsutoshi Tamura) **53** #13269 15A21

(*with* Suda, Nobuhide) Polynomial matrices and their applications (the applications). (Japanese) *Systems and Control* **19** (1975), *no.* 5, 255–264. (Katsutoshi Tamura) **53** #13270 15A21 (93B25)

(*with* Yoshida, Kaname; Yasui, Munekazu) An optimization method of nonconvex programming problem by a vector index approach. (Japanese. English summary) *Systems and Control* **20** (1976), *no.* 9, 491–500. (Nobuo Sannomiya) **58** #15196 90C30

(*with* Yoshida, Kaname; Bamba, Eiichi) A decomposition technique for large-scale geometric programming problems. (Japanese. English summary) *Systems and Control* **20** (1976), *no.* 12, 689–697. (See RŽMat **1977** #7 V755.) 90C30

(*with* Maeda, Hajime; Kajiya, Fumihiko) System-theoretic considerations for compartmental analysis—transfer functions of mammillary systems. *Systems-Computers-Controls* **7** (1976), *no.* 3, 27–33 (1977). (Authors' summary) **58** #33227 93A99 (92A05)

(*with* Ikeda, Masao; Umefuji, Osamu) Stabilization of large-scale linear systems. *Systems-Computers-Controls* **7** (1976), *no.* 3, 34–41 (1977). (Peter J. Moylan) **56** #14993 93D15 (93A15)

(*with* Ohta, Yuzo; Kanegae, Shin Ichi) Stability of nonlinear discrete feedback systems treated by the measure of an operator. *Systems-Computers-Controls* **7** (1976), *no.* 4, 59–68 (1977). **58** #26402 93D15

(*with* Kagawa, Masayuki; Maeda, Hajime; Ikeda, Masao) A system-theoretic consideration for block diagram manipulation rules. *Systems-Computers-Controls* **7** (1976), *no.* 4, 86–94 (1977). (James A. Heinen) **58** #9511 93B30 (93B05)

(*with* Maeda, Hajime; Kajiya, Fumihiko) Compartmental system analysis: realization of a class of linear systems with physical constraints. *IEEE Trans. Circuits and Systems* **CAS-24** (1977), *no.* 1, 8–14. (F. T. Lindstrom) **58** #15284 92A05 (93C05)

(*with* Yoshida, Kaname) On the noninferior solution for the problems with nondifferentiable vector-valued objective function. (Japanese. English summary) *Systems and Control* **21** (1977), *no.* 5, 295–303. (Masao Ikeda) **58** #30635 49A99

(*with* Maeda, Hajime; Saitoh, Yutaka) Structure and state equations of composite linear sampled-data systems—comparison with continuous-time systems. (Japanese. English summary) *Systems and Control* **21** (1977), *no.* 10, 579–584. (Authors' summary) **58** #9595 93C55

(*with* Yoshida, Kaname) The convergence of parametric optimization problem. (Japanese. English summary) *Systems and Control* **21** (1977), *no.* 11, 627–635. (Authors' summary) **58** #15168 90C25

(*with* Maeda, Hajime; Ohta, Yuzo) Asymptotic behavior of nonlinear compartmental systems: nonoscillation and stability. *IEEE Trans. Circuits and Systems* **25** (1978), *no.* 6, 372–378. (Robert J. Mulholland) **58** #15285 92A05 (93C10, 93D99)

(*with* Yamaki, N.; Watanabe, T.) Effect of initial deflections on the buckling of circular cylindrical shells under torsion. *Rep. Inst. High Speed Mech. Tôhoku Univ.* **33** (1978), 53–71. (Authors' summary) **58** #19601 73.35

Kodama, Tetsuo Residuenfreie Differentiale und der Cartier-Operator algebraischer Funktionenkörper. *Arch. Math.* (*Basel*) **22** (1971), 271–274. (K. Kiyek) **45** #1919 14H05

Residue free differentials and the Cartier operator for algebraic function fields of one variable. *Canad. J. Math.* **24** (1972), 905–914. (R. A. Smith) **47** #8549 14H05 (14F10)

Kodama, Yuji Complete integrability of nonlinear evolution equations. *Progr. Theoret. Phys.* **54** (1975), *no.* 3, 669–686. (J. A. Goldstein) **55** #5011 81.35

(*with* Wadati, Miki) Wave propagation in nonlinear lattice. III. *J. Phys. Soc. Japan* **41** (1976), *no.* 5, 1499–1504. (J. Smoller) **54** #14611 81.35 (35Q99)

(*with* Wadati, Miki) A canonical transformation for the Sine-Gordon equation. *Progr. Theoret. Phys.* **56** (1976), *no.* 1, 342–343. (Brian DeFacio) **54** #9415 81.35

(*with* Wadati, Miki) Theory of canonical transformations for nonlinear evolution equations. I. *Progr. Theoret. Phys.* **56** (1976), *no.* 6, 1740–1755. (Pierre Sergent) **57** #10282a 35Q99 (35A30)

(*with* Aoyama, Shogo) Soliton creation-annihilation operators as the canonical transformation. *Progr. Theoret. Phys.* **56** (1976), *no.* 6, 1970–1971. **54** #12036 81.47

A canonical transformation for equation of the form $\phi_{xt} = h(\phi)$. *J. Phys. Soc. Japan* **42** (1977), *no.* 3, 1029–1033. (Kotik K. Lee) **55** #4277 58F05 (58A15)

Theory of canonical transformations for nonlinear evolution equations. II. *Progr. Theoret. Phys.* **57** (1977), *no.* 6, 1900–1916. (Pierre Sergent) **57** #10282b 35Q99 (35A30)

Kodama, Yukihiro Note on shape theory. Unsolved problems on topological spaces (Conf., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1973). *Sûrikaisekikenkyûsho Kôkyûroku No.* 194 (1973), 41–56. (R. B. Sher) **54** #3650 54C56

(*with* Watanabe, Tadashi) A note on Borsuk's *n*-movability. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 289–294. (S. Mardešić) **49** #11462 54C56

On the shape of decomposition spaces. *J. Math. Soc. Japan* **26** (1974), 636–646. (C. W. Patty) **50** #14732 55C15 (54C56)

On D-spaces and fundamental dimension in the sense of Borsuk. *Fund. Math.* **89** (1975), *no.* 1, 13–22. (S. Mardešić) **54** #6133 (E **55** #9081) 55D99 (54F45)

On embeddings of spaces into ANR and shapes. *J. Math. Soc. Japan* **27** (1975), *no.* 4, 533–544. (R. R. Summerhill) **53** #3993 54C56

(*with* Ono, Jin) On two notions of shape for pairs of spaces. *General Topology and Appl.* **6** (1976), *no.* 2, 207–225. (Thomas J. Sanders) **52** #15355 54C56 (55D99)

Decomposition spaces and shape in the sense of Fox. *Fund. Math.* **97** (1977), *no.* 3, 199–208. (S. K. Kaul) **56** #16623 55D99 (54B15)

Multivalued maps and shape. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 1, 133–142. (R. R. Summerhill) **56** #16622 55D99 (54F20)

On product of shape and a question of Sher. *Pacific J. Math.* **72** (1977), *no.* 1, 115–134. (Jerzy Dydak) **58** #13017 55D99

A remark on the dimensional fullvaluedness. *Proc. Japan Acad.* **53** (1977 113–115. (A. R. Pears) **55** #11241 55C10

A remark on the union of pointed FANR's. (Russian summary) *Bull. Acac Sci. Sér. Sci. Math. Astronom. Phys.* **26** (1978), *no.* 3, 255–260. (V. A. **58** #12907 54C56 (54C55)

(*with* Spież, Stanisław; Watanabe, Tadashi) On shape of hyperspaces. *Fun* **100** (1978), *no.* 1, 59–67. (S. Mardešić) **58** #7547 54C56 (55D99)

(*with* Ono, Jin; Watanabe, Tadashi) AR associated with ANR-sequence an *Gen. Topology Appl.* **9** (1978), *no.* 2, 71–88. (Ross Geoghegan) **58** #18422 (54C56)

On shape of product spaces. *General Topology and Appl.* **8** (1978), *no.* 2, 1 (V. A. Kalinin) **57** #17636 55D99

Fine movability. *J. Math. Soc. Japan* **30** (1978), *no.* 1, 101–116. (S. M **58** #24176 54C56 (55D99)

See also **Dydak, Jerzy, 55** #9081

Kodandapani, K. L. A note on easily testable realizations for logic functions. *IEEI Computers* **C-23** (1974), 332–333. (Author's summary) **58** #33553 94A20

(*with* Setlur, Rangaswamy V.) Reed-Muller canonical forms in multivalue *IEEE Trans. Comput.* **C-24** (1975), 628–636. (János Demetrovics) **51** #12429 (02C05)

(*with* Pradhan, Dhiraj K.) Further results on *m*-RMCexpansions for *m* functions. *Proceedings of the Sixth International Symposium on Multiple-Value* (*Univ. Center, Utah State Univ., Logan, Utah,* 1976), *pp.* 88–92. *IEEE Compu Long Beach, Calif.*, 1976. (Authors' summary) **58** #20855 94A20

(*with* Setlur, Rangaswamy V.) A note on minimal Reed-Muller canonical f switching functions. *IEEE Trans. Computers* **C-26** (1977), *no.* 3, 310–313. (B. Ha **56** #11584 94A20

(*with* Seth, Sharad C.) Diagnosis of faults in linear tree networks. *IEEE Computers* **C–26** (1977), *no.* 1, 29–33. (G. Saucier) **54** #14885 94A20

(*with* Seth, Sharad C.) On combinational networks with restricted fan-out. *Trans. Computers* **C-27** (1978), *no.* 4, 309–318. (Ljudmil Dakovski) **57** #11951 94A20

Kodell, Ralph L. (*with* Gentle, James E.; Smith, Patricia L.) On the distribution studentized bivariate range. *Technometrics* **17** (1975), *no.* 4, 501–505. (T. D. D **53** #1805 (E **55** #9365) 62E15

(*with* Matis, J. H.) Estimating the rate constants in a two-compartment st model. (French summary) *Biometrics* **32** (1976), *no.* 2, 377–390. **55** #1584 #9376) 62F10 (92A99)

(*with* Matis, J. H.) Corrections to: "Estimating the rate constants in a two-compartment stochastic model" (Biometrics **32** (1976), no. 2, 377–390). *Bi* **32** (1976), *no.* 4, 954. (Editors) **55** #9376 62F10

See also **Smith, Patricia L., 55** #9365

Kodera, Kyōko A relation formula for linear ordinary differential equations with al function coefficients. (Japanese) *J. Tsuda College No.* 8 (1976), 77–90. (Hiroshi **57** #12961 34A30

On the Cauchy problem for ordinary differential equations in a Banach (Japanese) *J. Tsuda College No.* 10 (1978), 57–65. (Sadakazu Aziawa) **58** # 34G05

Koditschek, Daniel E. (*with* Narendra, Kumpati S.) Fixed structure automata in a multi-teacher environment. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977) 616–624. (K. D. Gunther) **56** #13490 62P15 (68A35)

Köditz, Helmut ★Erweiterung von Riemannschen Überlagerungsflächen. Dissertat Erlangung des Doktorgrades der naturwissenschaftlichen Fakultät der Julius-Maximilians-Universität Würzburg. *Julius-Maximilian Universität Würzbur Würzburg*, 1972. iii+73 *pp.* (Zbl **258** #30005) **57** #9960 30A46

(*with* Timmann, Steffen) Randschlichte meromorphe Funktionen auf en Riemannschen Flächen. *Math. Ann.* **217** (1975), *no.* 2, 157–159. (H. H. M **55** #10665 30A46

Über die Häufigkeit fortsetzbarer holomorpher Funktionen auf Rieman Flächen. *Math. Z.* **143** (1975), *no.* 2, 145–148. (M. Ohtsuka) **51** #8434 30A

(*with* Doppel, Karl; Timmann, Steffen) Bemerkungen über Fixpunktmengen schlichter Funktionen. (Italian and English summary) *Rend. Ist. Mat. Univ. T* (1976), *no.* 2, 162–166 (1977). (R. A. Horn) **57** #3375 30A36

Kodlin, Dandward *See* **Proceedings: Berkeley Symposium on Mathematical Statist Probability, 52** #9425

Kodnár, Rudolf (*with* Nečas, Jindřich; Poracká-Diviš, Zita) Remarks on a nonlinear theory of thin elastic plates. *Mat. Časopis Sloven. Akad. Vied* **20** (1970), (Catherine Bandle) **46** #2227 35K10 (73.35)

Probleme nichtlinearer Operatoren bei Untersuchung der Stabilität dünner und Schalen. *Instability of continuous systems* (*IUTAM Sympos., Herrenalb,* 196 119–124. *Springer, Berlin*, 1971. (S. Drobot) **51** #4804 73.49

Über die schwache Halbstetigkeit von unten eines Types nichtquadratischer Funktionale. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* **25** (1971), (D. E. Edmunds) **46** #7971 47F05 (35J60, 73.35)

Bemerkungen zu einem System von nichtlinearen Gleichungen. *Acta Fac. Natur. Univ. Comenian. Math. Publ.* **28** (1972), 17–50. (E. Zeidler) **47** #656 (47H15, 73.35)

Kodratoff, Y. (*with* Bermond, Jean-Claude) Une heuristique pour le calcul de l'ind transitivité d'un tournoi. (Loose English summary) *Rev. Française Automat. Inf Recherche Opérationnelle Sér. Rouge Informat. Théor.* **10** (1976), *no.* R-1, 83–92. Moon) **54** #5033 05C20

Kodua, D. M. (*with* Dokvadze, K. A.; Salija, R. N.; Cipurija, I. E.; Čubinišvili, T. certain approach to the problem of the short-term prediction of demand. (Ru Georgian summary) *Math. Kibernet. Zogieth. Sakith. Gamokw. No.* 1 (1973), 15–2 Obradovič) **52** #12752 90B30

(*with* Dokvadze, K. A.; Salija, R. N.; Cipurija, I. E.; Čubinišvili, T. N algorithm for the short-term prediction of demand. (Russian. Georgian summ *Math. Kibernet. Zogieth. Sakith. Gamokw. No.* 1 (1973), 25–38. (D. Obradović) **52** #12753 90B30

M. I. *See* **Mathematical simulation and the theory of electrical circuits, 48** #3287

, Max Jordan algebras and differential geometry. *Actes du Congrès International Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp*. 279–283. *Gauthier-Villars, Paris*, 1971. (O. ps) **55** #3021 17C99 (53C35)

Über Standard-Konstruktionen von nicht-assoziativen Algebren. *Bayer. Akad. s. Math.-Natur. Kl. S.-B.* **1974**, 35–57 (1975). (Arie H. Boers) **52** #516 17A99

Was sind und was sollen Algebren? *Math.-Phys. Semesterber.* **23** (1976), *no*. 2, –191. (Arie H. Boers) **54** #12848 17E05

Die Riccati-sche Differentialgleichung und nicht-assoziative Algebren. *Abh. Math. n. Univ. Hamburg* **46** (1977), 129–141. (F. D. Veldkamp) **57** #6130 17C50

(*with* Dorfmeister, Josef) Relative Invarianten und nicht-assoziative Algebren. *th. Ann.* **228** (1977), *no*. 2, 147–186. (A. L. Oniščik) **56** #438 17C35 (17A99, 320)

Shozo A method for the inverse Laplace transform on a digital computer. panese. English summary) *Res. Rep. Miyagi Tech. College No.* 6 (1969), 57–61. thor's summary) **54** #1555 65D30

Manfred (*with* Kolp, Otto) Zum Satz von Borisow-Fedosejew. (English and ssian summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 379–382. thors' summary) **47** #6123 (EA **55/56**) 68A15

Ein Verfahren für die Bestimmung eines Schwellenwertelementes zu einer monoton chsenden selbstdualen Schwellenwertfunktion. (English and Russian Summaries) *ktron. Informationsverarbeit. Kybernetik* **10** (1974), 431–443. (See Zbl **307** #94039) A20

(*with* Franke, Günter) Zum Testen und Komplettieren von asynchronen Automaten züglich Prellunempfindlichkeit. (English and Russian summaries) *Elektron. ormationsverarbeit. Kybernetik* **13** (1977), *no*. 6, 281–294. (Authors' summary) #33544 94A20

(*with* Mel′nikov, M. S.) Three methods for the type allocation of states in tree-like mmutation. (Russian) *Izv. Vysš. Učbn. Zaved. Èlektromehanika* **1977**, *no*. 2, 146–151, 5. (Authors' summary) **56** #2679 94A20

See also **Structure and methodological recommendations for the creation of systems automated design of discrete devices, 50** #16067

F. S. (*with* Carroll, Francis W.) Separately continuous Banach-valued functions on mpact groups. *J. London Math. Soc.* (2) **4** (1971), 100–102. (T. Husain) **45** #3637 A15 (46E10)

r, Anne Rings with quasi-injective cyclic modules. *Quart. J. Math. Oxford Ser.* (2) (1974), 51–55. (Lawrence S. Levy) **50** #7255 16A52

Pre-self-injective duo rings. *Proc. Amer. Math. Soc.* **60** (1976), 31–34 (1977). (T. S. ores) **54** #7548 16A52

r, Conrad J. Quine on ontological controversies. Americana. *Rev. Internat. Philos.* (1972), *no*. 1-2, 111–129. (Editors) **58** #27234 02A05

r, Donald O. The analytic properties of G_{2n} spaces. *Proc. Amer. Math. Soc.* 35 972), 201–206. (T. T. Long) **46** #644 46B05

(*with* Giles, J. R.) On numerical ranges of elements of locally *m*-convex algebras. *cific J. Math.* **49** (1973), 79–91. (P. Civin) **49** #1117 46H05

(*with* Giles, J. R.; Joseph, G.; Sims, Brailey) On numerical ranges of operators on cally convex spaces. *J. Austral. Math. Soc. Ser. A* **20** (1975), *no*. 4, 468–482. (John uncan) **52** #6459 47A10

r, Gary J. (*with* Whinston, Andrew B.; Wright, Gordon P.) The solution of eontief substitution systems using matrix iterative technqiues. *Management Sci.* **21** 974/75), *no*. 11, 1295–1302. (M. Yamasaki) **53** #4959 90C05

(*with* Whinston, Andrew B.; Wright, Gordon P.) An iterative procedure for ondiscounted discrete-time Markov decisions. *Naval Res. Logist. Quart.* **21** (1974), 19–723. (Stratton C. Jaquette) **52** #7527 90D05

(*with* Whinston, Andrew B.; Wright, Gordon P.) Fixed cost minimization over a eontief substitution system. *Rev. Française Automat. Informat. Recherche pérationnelle Sér. Verte* **8** (1974), *no*. V-2, 119–124. (Kailash C. Kapur) **50** #3925 0C05 (90B05)

(*with* Whinston, Andrew B.; Wright, Gordon P.) ★Optimization over Leontief ubstitution systems. *North-Holland Publishing Co., Amsterdam-Oxford; American lsevier Publishing Co., Inc., New York*, 1975. x+221 *pp*. (W. F. Tyndall) **54** #4632 0C05

A comment on Rao's class $\mathfrak{M}$ and $\bar{S}$ matrices. *Management Sci.* **23** (1976/77), *no*. 1, 1247. (Ikuyo Kaneko) **58** #32916 90C05

ler, John E. Errata: "Folding a strip of stamps" (J. Combinatorial Theory 5 (1968), 35–152). *J. Combinatorial Theory Ser. A* **19** (1975), *no*. 3, 367. (M. S. Cheema) 2 #2910 05A15

n, R. *See* **Problems: Population genetics, 56** #17911

n, Uwe (*with* Thomas, D. L.) On statistics independent of a sufficient statistic: Basu's emma. *Amer. Statist.* **29** (1975), 40–42. (Reinhard Michel) **51** #7069 62B05

in, A. I. Continuous representation of the structure of a hierarchical system. *Izv. kad. Nauk SSSR Tehn. Kibernet.* **1974**, *no*. 2, 15–22 (*Russian*); *translated as Engrg. ybernetics* **12** (1974), 10–17. (G. Bojadžiev) **52** #12866 93A10

, Pol Dž. *See* **Cohen, Paul J.**

derink, J. J. (*with* van Doorn, A. J.) Visual perception of rigidity of solid shape. *J. Math. Biol.* 3 (1976), *no*. 1, 79–85. (David Foster) **53** #7528 92A05 (92A25)

(*with* van Doorn, A. J.) Local structure of movement parallax of the plane. *J. Opt. Soc. Amer.* **66** (1976), *no*. 7, 717–723. (R. F. Millar) **54** #7005 92A25 (78.53)

e, A. (*with* Bouwkamp, C. J.; Janssen, Paul) Note on pantactic squares. *Math. Gaz.* 54 (1970), *no*. 390, 348–351. (Editors) **58** #18065 50–04

en, William Characterizing the circle. *Amer. Math. Monthly* **78** (1971), 993–996. (K.-A. Schmitt) **45** #5870 52A10

ig, Eldo C. (*with* Frederick, Terry J.) Formal analysis for a general automaton. *Progress of cybernetics* (*Proc. Internat. Congr., London*, 1969), *Vol. 2: Cybernetics and industry, social and economic consequences, cybernetics and artifacts*, *pp*. 613–640. *Gordon and Breach, London*, 1970. (Z. Bavel) **46** #3236 94A30

(*with* Frederick, Terry J.) General system of interactive automata. I. Analysis for defining the graph model. *Cybernetica* **14** (1971), 89–131. **55** #10162 94A30

(*with* Frederick, Terry J.) General system of interactive automata. II. Analysis for an effective operation. *Cybernetica* **14** (1971), 297–334. **55** #10163 94A30

(*with* Frederick, Terry J.) Analysis for an effective operation of a general automaton: Recursive methods applied to a graph model. I, II. *J. Cybernet.* **1** (1971), *no*. 1, 53–70; *ibid.* **1** (1971), *no*. 2, 49–66. (Authors' summary) **56** #5084 94A30

A language information theory. Obligatory relations. *Cybernetica* **17** (1974), 57–79. (B. Brainerd) **51** #4738 68A30

Koenig, Evan F. Theory of graphs: applications to automaton systems. *Kybernetes* **5** (1976), *no*. 3, 137–143. (G. Berman) **57** #5511 94A30

Koenig, Herman E. (*with* Thompson, Wiley E.) Stability of a class of interconnected systems. *Internat. J. Control* (1) **15** (1972), 751–763. (Authors' summary) **47** #1518 93D05

Koenig, Michel (*with* Zolésio, Jean-Paul) Problèmes numériques relatifs aux fonctions de Walsh. *C. R. Acad. Sci. Paris Sér. A-B* **271** (1970), A1074–A1077. (R. Liedl) **45** #1425 65D20 (65T05)

(*with* Zolésio, Jean-Paul) Localisation d'un objet de forme convexe donnée. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A850–A852. (Z. Diviš) **47** #936 49D99

Koenker, Roger (*with* Bassett, Gilbert, Jr.) Regression quantiles. *Econometrica* **46** (1978), *no*. 1, 33–50. (P. J. Huber) **57** #14279 62J05 (62G35)

Koeppen, Hans *See* **Jahresfeier: Geburt von Nicolaus Copernicus, 48** #29

Koerber, Peter (*with* Ottmann, Thomas) Simulation endlicher Automaten durch Ketten aus einfachen Bausteinautomaten. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **10** (1974), 133–148. (E. Ikaunieks) **51** #15246 94A30 (94A20)

Koerffy, A. (*with* Moessinger, P.) Equité et altruisme dans le partage pragmatique. *Math. Sci. Humaines No.* 50 (1975), 5–14. (Jean-Louis Boursin) **54** #9616 90A10

Koerts, J. (*with* Abrahamse, A. P. J.) ★On the theory and application of the general linear model. Second impression. *Rotterdam University Press, Rotterdam*, 1971. ix+185 *pp*. (J. N. K. Rao) **51** #7170 62J05 (62H10, 62P20, 90Axx)

(*with* Dubbelman, C.; Abrahamse, A. P. J.) A new class of disturbance estimators in the general linear model. *Statistica Neerlandica* **26** (1972), 127–142. (Arthur Cohen) **52** #7029 62J05

(*with* de Leede, E.) Statistical inference and subjective probabilities. *Statistica Neerlandica* **27** (1973), 139–161. (M. E. Wise) **50** #11562 62A99

(*with* Teekens, R.; Louter, A. S.) On the robustness of an estimator of the mean of the dependent variable in a multiplicative model. *Statistica Neerlandica* **27** (1973), 171–179. (D. S. Tracy) **50** #8812 62F10

See also **Teekens, R., 49** #6538

Koestner, A. Beispiele von Sphärenbündeln über S^2. *Math. Ann.* **220** (1976), *no*. 3, 211–213. (P. Orlik) **53** #9250 57D60 (32C40, 57E25)

Koether, Robb T. A general test for divisibility. *Pi Mu Epsilon J.* **5**, 420–424 (1973). (G. Greaves) **48** #2050 10A25

Koevoets, Danielle (*with* Dirickx, Yvo M. I.) A continuous review inventory model with compound Poisson demand process and stochastic lead time. *Naval Res. Logist. Quart.* **24** (1977), *no*. 4, 577–585. (C. Mohan) **58** #9165 90B05

Koewing, J. W. (*with* Crosbie, A. L.) Two-dimensional isotropic scattering. *J. Math. Anal. Appl.* **57** (1977), *no*. 1, 91–109. (Authors' summary) **57** #8954 85.35

Kof, M. M. The representation of certain classes of functions by means of the Stieltjes transform. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I. Mat. Meh.* **29** (1974), *no*. 4, 27–39. (Piotr Antosik) **50** #7962 44A15

Kofinti, N. K. On a new boundary condition in general relativity. *Progr. Theoret. Phys.* **47** (1972), 1410–1417. (W. B. Bonnor) **47** #8067 (EA **47**) 83.53

Kofler, Eduard Entscheidungen bei teilweise bekannter Verteilung der Zustände. (English summary) *Z. Operations Res. Ser. A-B* **18** (1974), A141–A157. (M. Mañas) **52** #2624 90D35

(*with* Menges, Günter) ★Entscheidungen bei unvollständiger Information. Lecture Notes in Economics and Math. Systems, Vol. 136. *Springer-Verlag, Berlin-New York*, 1976. xii+357 *pp*. (Norbert Schmitz) **55** #2064 90A05

Konfidenzintervalle in Entscheidungen bei Ungewissheit. (English, French and Russian summaries) *Statist. Hefte* (*N.F.*) **17** (1976), *no*. 1, 2–21. (Author's summary) **56** #3997 62C05

(*with* Menges, Günter) Stochastic linearisation of indeterminateness (towards a theory of games and decisions under partial information). *Mathematical economics and game theory*, *pp*. 53–63. *Lecture Notes in Econ. and Math. Systems, Vol.* 141, *Springer, Berlin*, 1977. (Ulrich Rieder) **55** #14251 90D35

Taking into account confidence measures in the valuation of statistical inferences. (German, French and Russian summaries) *Statist. Hefte* (*N.F.*) **18** (1977), *no*. 2, 70–82. (Author's summary) **56** #3994 62A99

See also **Bühler, Wolfgang F., 52** #2625

Kofler, Jakob Mit welcher Wahrscheinlichkeit gilt der grosse Fermat-Satz? *Praxis Math.* **14** (1972), *no*. 11, 281–283. (P. Erdős) **57** #12378 10B15

Goldbach-Vermutung fast sicher! *Praxis Math.* **15** (1973), *no*. 4, 85–89. (Editors) **58** #5564 10J15

Gibt es unendlich viele Primzahlzwillinge? *Praxis Math.* **15** (1974), 285–288. (J. B. Roberts) **55** #5509 10A25

Partielle Differentiation und implizites Differenzieren. *Praxis Math.* **18** (1976), *no*. 10, 255–256. (Not reviewed) 26A03

Kofman, A. *See* **Kaufmann, A.**

Kofner, Ja. A. Δ-metrizable spaces. (Russian) *Mat. Zametki* **13** (1973), 277–287. (R. Telgársky) **48** #3014 54E35

Symmetrizable spaces and quotient maps. (Russian) *Mat. Zametki* **14** (1973), 713–722. (R. Telgársky) **49** #3850 54E25

Kofoed-Hansen, O. *See* **School: JINR-CERN, High Energy Physics, 48** #3377

Kofroň, Josef Die ableitungsfreien Fehlerabschätzungen von Quadraturformeln. I. (Czech summary) *Apl. Mat.* **17** (1972), 39–52. (F. Stenger) **45** #2918 65D30

Die ableitungsfreien Fehlerabschätzungen von Quadraturformeln. II. (Czech summary) *Apl. Mat.* **17** (1972), 124–136. (F. Stenger) **45** #6186 65D30 (41A55)

Die ableitungsfreien Fehlerabschätzungen von Interpolationsformeln. (Czech summary) *Apl. Mat.* **17** (1972), 137–152. (G. Meinardus) **45** #4593 65D05 (30A80)

Koga, Ryuji (*with* Iwazumi, Tetsuo) Optimal feedback control of a nuclear reactor as a distributed parameter system. *J. Nuclear Sci. and Tech.* **10** (1973), 674–684. (Marshall Slemrod) **51** #14844 82.49

Optimal control of a nuclear power reactor core with a coupled nuclear thermo-hydrodynamics model. *Mem. School Engrg. Okayama Univ.* **11** (1976), *no.* 1, 19–30. (Author's summary) **56** #1166 49A20 (82.49)

Koga, Tosiro Synthesis of a resistively terminated cascade of uniform lossless transmission lines and lumped passive lossless two-ports. *IEEE Trans. Circuit Theory* **CT-18** (1971), 444–455. (B. Levitt) **47** #3118 94A20

Koga, Toyoki A relativistic field theory of the electron. *Internat. J. Theoret. Phys.* **15** (1976), *no.* 2, 99–119. (Author's summary) **56** #7729 83.35

Koga, Yoshiaki A method for detecting and deciding properties of hazard in combinational logic network. *Mem. Defense Acad.* **11** (1971), 381–396. (B. Lercher) **48** #10684 94A20

(*with* Sasaki, Isao) Theoretical analysis of wiring modes and failure modes for automatic wiring checks. *Information Processing in Japan* **15** (1975), 96–102. (A. D. Booth) **53** #15573 94A20

(*with* Suzuki, Yau) Three-port network reliability evaluation. *Electron. Comm. Japan* **60** (1977), *no.* 12, 87–93. (Authors' summary) **58** #33554 94A20

Kogalovskiĭ, S. R. (*with* Rorer, M. A.) On the question of the definability of the concept of definability. (Russian) Logic, algebra and numerical analysis, Vol. 2, No. 2. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **125** (1973), 46–72. (O. V. Belegradek) **58** #10289 02B15

Reductions in second-order logic. (Russian) *Philosophy and logic* (*Russian*), *pp.* 363–397. *Nauka, Moscow*, 1974. (Editors) **58** #27298 02B15

Certain simple consequences of the axiom of constructibility. (Russian. English summary) Collection of articles dedicated to Andrzej Mostowski on his sixtieth birthday, VII. *Fund. Math.* **82** (1974/75), 245–267. (P. Štěpánek) **51** #150 02K15 (02K30)

Certain criteria for localness for higher order formulas. (Russian) Logic, algebra and numerical analysis, Vol. 3, no. 1. *Ivanov. Gos. Univ. Učen. Zap.* **130** (1974), 3–18. (M. M. Erimbetov) **57** #5730 02H05

(*with* Čepurnov, B. A.) Some criteria for the hereditariness and localness of higher order formulas. (Russian) *Studies in set theory and nonclassical logics* (*Russian*), *pp.* 127–156. *Izdat. "Nauka", Moscow*, 1976. (From the introduction) **58** #21423 02B15 (02H05, 02J10)

Local properties. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 6, 1275–1278. (O. V. Belegradek) **54** #7240 (EA **55**/**56**) 02H05

Kogan, A. B. (*with* Èm, V. S.) A model representation of the ensemble organization of the subcellular elements of a neuron. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1977**, *no.* 3, 97–100, 120. (Authors' summary) **58** #15281 92A05

Kogan, B. I. (*with* Janbihs, G.) The construction of optimal graphs of the circulation of airplanes. (Russian) *Èkonom. i Mat. Metody* **5** (1969), 890–895. (Authors' introduction) **46** #10392 90B10

Kogan, B. Ja. (*with* Babuškin, F. M.; Rybašov, M. V.) Automatic setup of problems on analog computers in hybrid systems (review). *Avtomat. i Telemeh.* **1971**, *no.* 5, 129–146 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 5, *part* 2, 799–813. (Authors' summary) **46** #1126 68A10

Kogan, B. L. (*with* Gehtman, M. M.) Representation of the solution of the Cauchy problem for the wave equation in the form of a series of exponential functions. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **24** (1969), *no.* 4, 87–95. (Author's summary) **55** #6022 35L05

"Resonance" representations of the solutions of a first order hyperbolic system in the plane. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1250–1262, 1341–1342. (V. Rosa) **45** #5575 35L40

(*with* Gehtman, M. M.) Resonance representation of the solution of the wave equation. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), *no.* 1, 9–15. (A. Nikodémusz) **46** #2236 35L05

Kogan, B. M. The influence of inhomogeneity of the material on the concentration of stresses around a circular aperture in plane problems of elasticity theory. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1978**, *no.* 1, 22–27, 94. (M. O. Bašeleĭšvili) **58** #8654 73.35

Kogan, B. Ya. *See* **Kogan, B. Ja.**

Kogan, D. A. Certain questions on the approximation of functions by linear operators obtained through convolution. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1972), *no.* 2, 49–59, 172. (P. C. Sikkema) **50** #2785 42A08

Questions on the approximation of functions by linear operators that are obtained by means of *r*-tuple convolution. (Russian) *Sverdlovsk. Gos. Ped. Inst. Naučn. Trudy Sb.* 185 *Mat. Vyp.* 6 (1974), 68–77. (V. A. Popov) **55** #959 42A08

Generalization of a certain matrix convolution, and its application to Fourier series. (Russian) *Sverdlovsk. Gos. Ped. Inst. Naučn. Trudy Sb. No.* 219 *Algebra i Mat. Anal.* (1974), 208–222. (F. Ustina) **52** #8722 40G99 (42A20)

On the question of *r*-fold convolution of the $(C,1)$ method. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 355 (1975), 187–195. (Author's summary) **54** #5717 42A24

The saturation class of the method obtained by means of *r*-fold convolution. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no.* 2 *Issled. Sovremen. Mat. Anal.*, 40–50, 215 (1977). (M. Hasumi) **58** #12160 42A24

Kogan, D. I. Certain generalizations of the notion of a regular set. (Russian) *Gor'kov. Gos. Univ. Učen. Zap. No.* 105 (1969), 13–16. (F. Gécseg) **45** #6538 94A30

(*with* Glebskiĭ, Ju. V.; Liogon'kiĭ, M. I.; Talanov, V. A.) Volume and fraction of satisfiability of formulas of the lower predicate calculus. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 2, 17–27. (Ju. Gurevič (RŽMat **1969** #9 A72)) **46** #42 02G99

(*with* Bedina, A. A.) Certain classes of discrete controlled systems and languages. (Algorithmic problems). (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 441–449. (I. Meznik) **45** #4913 68A30

Additive vector systems, a problem of translation. (Russian) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 1774–1775. (I. M. Havel) **45** #8443 93B99

(*with* Glebskiĭ, Ju. V.) Additively controllable systems and languages: Certain algorithmic problems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 4, 25–29. (W. Wechler) **46** #4792 68A30

D-sets, Δ-sets and undecidable problems of discrete control. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 358–364. (G. Wec **46** #3282 02F27 (02E10, 90D99)

Algorithmic problems for a certain class of multi-stage games. (Russian. summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius,* (*Russian*), *pp.* 174–176. *Izdat. "Mintis", Vilnius*, 1973. (M. Tetruašvili) **56** #1 02G05 (90D20)

(*with* Glebskiĭ, Ju. V.; Liogon'kiĭ, M. I.) On a certain discrete walk pr (Russian) *Gor'kov. Gos. Univ. Učen. Zap. Vyp.* 166 *Teorija Kolebaniĭ, Prikl. Kibernet.* (1973), 186–194. (From the authors' introduction) **56** #5257 02F47 (20M05)

bisnovatyĭ-Kogan, G. S. *See* **Bisnovatyĭ-Kogan, G. S.**

Kogan, I. I. Diagnostic experiments for two automaton states. (Russian. English su insert) *Kibernetika* (*Kiev*) **1974**, *no.* 3, 36–38. (Author's summary) **57** #19175 94A30

Kogan, I. V. Estimated length of a minimal simple conditional diagnostic exper *Avtomat. i Telemeh.* **1973**, *no.* 2, 162–166 (*Russian. English summary*); *transl Automat. Remote Control* **34** (1973), *no.* 2, *part* 2, 162–166. (V. Gorlov (RŽMat 19 V422)) **57** #2787 94A30

The construction of checking and diagnostic tests for combinational devices. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 1, 37–42. (From the a introduction) **50** #6658 94A20

Checking the absence of constant faults at a point of a combinational (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no.* 2, 31–36. (Author's sur **58** #4671 94A20

Kogan, Ja. A. Comparison of nonoptimal and optimal strategies in certain probl control of random processes. (Russian) *Adaptive systems of automatic control Sem., Kiev*, 1968), *No.* 1 (*Russian*), *pp.* 70–86. *Akad. Nauk Ukrain. SSR, Kiev*, 19 Lipcer (RŽMat **1970** #3 V109)) **46** #1440 93E20

(*with* Aven, O. I.) Some problems of optimization of complex computer sy *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 3: *Ecology and engineering, Large scale sensitivity optimization and adaptation theory, Paper No. pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 [1972]. (Bojan Popovic) **53** 93E20 (68A99)

(*with* Aven, O. I.; Boguslavskiĭ, L. B.) Some aspects of the non-parametric of replacement algorithms. *International Computing Symposium* (*Antibes*, 197 225–331. *North-Holland, Amsterdam*, 1975. (Authors' summary) **57** #8215 6

(*with* Aven, O. I.) Stochastic control of paging in a two-level computer me *Automatica—J. IFAC* **11** (1975), 309–313. (T. C. Wesselkamper) **52** #16191

(*with* Kondakov, V. F.) Control in *L*-loop data transmission networks. *Avt Telemeh.* **1976**, *no.* 5, 165–173 (*Russian. English summary*); *translated as A Remote Control* **37** (1976), *no.* 5, *part* 2, 789–796. (Authors' summary) **56** # 90B15 (94A20)

(*with* Litvin, V. G.) Computing the characteristics of a queueing system with buffer and operating in a random environment. *Avtomat. i Telemeh.* **1976**, *no.* 12 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *part* 1, 1828–1835 (1977). (Ralph L. Disney) **55** #11436 60K25

(*with* Aven, O. I.; Boguslavskiĭ, L. B.) Some results on distribution-free ana paging algorithms. *IEEE Trans. Computers* **C-25** (1976), *no.* 7, 737–745. (Trân-Quôc-Tê) **56** #1661 68A50

A class of hierarchical paging algorithms. (Hungarian and Russian sumn Theory of operating systems (3rd Visegrád Winter School, Visegrád, 1977). *Tanulmányok-MTA Számitástechn. Automat. Kutató Int. Budapest No.* 69 (1977) (Jan van Leeuwen) **58** #3785 68A50

(*with* Litvin, V. G.) A model of a multiprogrammed computer that operate two types of programs. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1978**, *no.* 3, 68– (N. N. Mirenkov) **58** #25077 68A05 (68A55)

Kogan, L. A. (*with* Fedorova, T. V.) The Fourier coefficients of certain cusp (Russian) *Taškent. Inst. Inž. Železnodorož. Transporta Trudy No.* 56 (1968), 93–9 RŽMat **1969** #4 A99) 10D15 (10C15)

A certain extension of A. Weil's hypothesis, and the representation of numb positive forms. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn Moambe* **59** (1970), 533–536. (Editors) **57** #3078 10D10 (10B35)

★О представлении целых чисел положительно определенными квадрати формами. (Russian) [The representation of integers by positive definite quadratic With appendices by V. M. Viktorov, I. Abdullaev, A. Mirsalihov and A. Sag *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1971. 188 *pp.* (V. L. Popov) **49** #8934 (10B35)

I. M. Vinogradov's hypothesis on the least quadratic nonresidue and represer of numbers by quadratic forms. (Russian) *Dokl. Akad. Nauk SSSR* **198** 1263–1264. (B. Novák) **45** #174 10C05

(*with* Mirsalihov, A.) The representability of theta-series by Eisenstein series. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 2, 6–7. (E **47** #8438 10C15 (10D15)

(*with* Sagintaev, A.) Certain formulas of Bulygin-Mordell type. (Russian. summary) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 4, 6–8. (J. S. Joel) **50** #12919

(*with* Abdullaev, I.) Elliptic curves and the representation of numbers by quadratic forms. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1971**, 3–4. (O. Fomenko (Zbl **252** #10017)) **51** #5485 10B35

Elliptic curves and modular forms. (Russian) *Dokl. Akad. Nauk SSSR* **204** 275–278. (A. N. Andrianov) **46** #1706 10D05 (14G99)

(*with* Sagintaev, A.) Modular forms and quadratic forms in six variables. (R Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1972**, *no.* 1, 3–4. (R. A. Rankin) **49** 10C05

(*with* Mirsalihov, A.) The representability of theta-series by Eisenstein series. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **16** (197 1, 23–27. (B. Novák) **45** #6761 10D99

(*with* Fedorova, T. V.) Exact formulas for the number of representations of numbers by certain quadratic forms in four variables. (Russian) *Volž. Mat. Sb.* (1973), 96–101. (A. Malyšev (RŽMat **1974** #9 A154)) **50** #9798 10C15 (10B

Kogan, L. M. (*with* Karštedt, I. M.) Optimal stand-by with a choice of set-ups. *Izv.*

auk SSSR Tehn. Kibernet. **1971**, *no.* 2, 41–45 (*Russian*); *translated as Engrg. ybernetics* **9** (1971), *no.* 2, 241–245. (D. H. Chyung) **45** #8278 90C25

(*with* Gal′perin, A. M.; Karštedt, I. M.) Application of duality theory to the olution of discrete optimization problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **972**, *no.* 5, 35–40 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 5, 780–786. M. J. Davies) **48** #10502 90C25

Ko n, M. N. *See* **Cercignani, Carlo, 53** #2238

Ko n, N. Ja. On the theory of a single axis gyrostabilizer. I, II. (Russian. English ummary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 345–357; *ibid.* **14** (1971), 58–370. (B. Dolapčiev) **46** #1159 70.34 (34D99)

Ko n, S. M. (*with* Baranenkov, G. S.; Demidovič, B. P.; Efimenko, V. A.; Lunc, G. L.; oršneva, E. F.; Syčeva, E. P.; Frolov, S. V.; Šostak, R. Ja.; Janpol′skiĭ, A. R.) ★Problems in mathematical analysis. Edited by B. Demidovich [B. P. Demidovič]. ranslated from the Russian by G. Yankovsky [G. Jankovskiĭ]. Third printing. *Mir ublishers, Moscow*, 1973. 496 *pp.* (Editors) **50** #2398 26–01

(*with* Baranenkov, G. S.; Demidovič, B. P.; Efimenko, V. A.; Frolov, S. V.; Lunc, G. L.; Poršneva, E. F.; Syčeva, E. P.; Šostak, R. Ja.; Janpol′skiĭ, A. R.) ★Esercizi e problemi di analisi matematica. A cura di B. Demidovič. Tradutto dell'edizione russa di 1959. Nuova Biblioteca di Cultura, Serie Scientifica, No. 138. *Editori Riuniti, Rome*; *Edizioni Mir, Moscow*, 1975. 486 *pp.* (Editors) **54** #2370 00A05 (26–01)

(*with* Baranenkov, G. S.; Demidovič, B. P.; Efimenko, V. A.; Lunc, G. L.; oršneva, E. F.; Syčeva, E. P.; Frolov, S. V.; Šostak, R. Ja.; Janpol′skiĭ, A. P.) ★Problems in mathematical analysis. Under the editorship of B. Demidovich. Translated from the Russian by G. Yankovsky. Fourth printing. *Mir Publishers, Moscow*, 1976. 496 *pp.* (Editors) **55** #5804 26–01

K an, T. I. On the question of the solution of systems of equations. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 316 *Voprosy Meh. i Mat.* (1968), 1–6. (J. S. Shipman) **50** #6147 65H10

A certain iteration process for functional equations. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 320 (1968), 46–53. (B. Poljak (RŽMat **1969** #8 B699)) **45** #7974 65Q05

A certain modification of Newton's method for functional equations. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 320 (1968), 54–57. (I. Šelihova (RŽMat **1969** #6 B752)) **45** #7975 65Q05

K an, V. I. Operators that are generated by I_p-matrices in the case of maximal defect indices. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 11 (1970), 103–107. (S. Suljagić) **45** #4195 47B25

(*with* Rofe-Beketov, F. S.) On the question of the defect numbers of symmetric differential operators with complex coefficients. (Russian) *Mat. Fiz. i Funkcional. Anal. Vyp.* 2 (1971), 45–60, 237. (Authors' summary) **56** #16452 47E05 (34B25)

(*with* Rofe-Beketov, F. S.) On square-integrable solutions of symmetric systems of differential equations of arbitrary order. *Proc. Roy. Soc. Edinburgh Sect. A* **74** (1974/75), 5–40 (1976). (N. G. Kazakova) **56** #12392 34B25 (34C99)

(*with* Gol′dman, I. I.; Krivčenkov, V. D.; Galickiĭ, V. M.) ★Problems in quantum mechanics. Collected and edited by D. ter Haar. Third Edition. *Pion, London*, 1975. 468 *pp.* ISBN 0-85086-050-4 (Editors) **56** #7517 81.00

(*with* Rofe-Beketov, F. S.) On the question of the deficiency indices of differential operators with complex coefficients. Translated from the Russian by E. R. Dawson (Mat. Fiz. i Funkcional Anal. No. 2 (1971), 45–60). *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no.* 4, 281–298 (1975). (R. L. Anderson) **52** #15106 47E05 (34B25)

gan, V. P. The averaging method and invariant surfaces of a point mapping. (Russian) *Theory of oscillations, applied mathematics and cybernetics, No.* 1 (*Russian*), *pp.* 49–61. *Gor′kov. Gos. Univ., Gorky*, 1973. (J. S. Joel) **57** #16835 34C30

(*with* Gurtovnik, A. S.; Neĭmark, Ju. I.) Toroidal invariant manifolds and resonances in discrete dynamical systems. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 167–182, 284. (Ju. E. Gliklih) **53** #13746 34C30

gan, V. R. The asymptotic behavior of the Laplace-Beltrami operator on the unit sphere S^{n-1}. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **12** (1969), 1675–1680. (D. Judge) **47** #653 35P20 (47F05)

The asymptotic behavior of the Laplace-Beltrami operator in the n-dimensional ball E^n. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **12** (1969), 1681–1689. (D. Judge) **47** #652 35P20 (47F05)

(*with* Krahnov, A. D.) Asymptotic behavior of eigenvalues and eigenfunctions of the Laplace operator on a compact Riemannian manifold. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 448–453. (H. Triebel) **46** #547 35P20 (53C20, 58G99)

(*with* Voevodin, A. F.; Esipovič, L. Ja.) A difference method for calculating nonstationary one-dimensional gas flows. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 4, 1006–1016, 1086. (V. Komkov) **56** #17494 76.65

(*with* Krahnov, A. D.) The canonical operator on a closed trajectory. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 2(177), 60–70. (J. S. Joel) **58** #31301 58G15 (58F05)

ogan, V. S. (*with* Zlotnik, B. M.) A method of transforming permutation $n!$-codes. *Avtomat. i Telemeh.* **1975**, *no.* 1, 139–142 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 1, 125–128. (Authors' summary) **56** #11523 94A10

ogan, V. Z. *See* **Mathematics and progress in science and technology, 48** #8170

ogan, Yakov A. *See* **Kogan, Ja. A.**

oganov, A. V. The speed of the simulation of computing media on a network with a decrease in dimension. (Russian) *Problemy Peredači Informacii* 7 (1971), *no.* 2, 97–105. (T. Rus) **47** #6131 68A25

The interrelation between the simulation of computing media from a fixed initial state and from an arbitrary initial state. (Russian) *Problemy Peredači Informacii* 7 (1971), *no.* 4, 73–77. (T. Rus) **47** #6132 68A25

Independent automata. *Avtomat. i Telemeh.* **1972**, *no.* 3, 83–87 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 3, *part* 1, 421–425. (Etsuro Moriya) **53** #12795 94A30

Automata that distinguish random media. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 2, 68–80. (I. Kramosil) **48** #3653 94A35

(*with* Vasil′ev, A. V.) A certain model of optimal behavior in an unknown medium. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 4, 58–65. (R. Petrovič) **48** #10538 90D40

Deceleration under universal simulation. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 3, 85–93. (Bolesław Mikołajczak) **58** #4732 94A30

Koganov, L. M. The number of pairs of independent partitions of a finite set. (Russian) *Combinatorial and asymptotic analysis* (*Russian*), *pp.* 71–80. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1975. (Editors) **58** #27533 05A17

(*with* Egoryčev, G. P.) A short proof of certain combinatorial identities published in the "Journal of Combinatorial Theory". (Russian) *Asymptotic and enumeration problems of combinatorial analysis* (*Russian*), *pp.* 103–107. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1976. (Melvyn B. Nathanson) **58** #27537 05A19 (05C30)

(*with* Egoryčev, G. P.) Some combinatorial identities. II. (Russian) *Combinatorial and asymptotic analysis, No.* 2 (*Russian*), *pp.* 128–131. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1977. (Editors) **58** #27539 05A19

A combinatorial identity. (Russian) *Combinatorial and asymptotic analysis, No.* 2 (*Russian*), *pp.* 136–141. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1977. (Editors) **58** #27540 05A19

(*with* Vilenkin, N. Ja.) A combinatorial proof of certain identities. (Russian) *Mat. Zametki* **24** (1978), *no.* 2, 295–298, 303. (J. B. Roberts) **58** #21662 05A19

Kogbetliantz, Ervand (*with* Krikorian, Alice) ★Handbook of first complex prime numbers. Part 1: List of first 332, 395 complex prime numbers $(m+in)$. Part 2: Tables of decomposition of real primes of type $(4N+1)$ into sums of two squares. *Gordon and Breach Science Publishers, London-New York-Paris*, 1971. *Part I*: vi + 241 *pp.*; *Part II*: vii + 998 *pp.* (Editors) **50** #11712 65A05 (10–04)

Kogelman, Stanley (*with* Keller, Joseph B.) Transient behavior of unstable nonlinear systems with applications to the Bénard and Taylor problems. *SIAM J. Appl. Math.* **20** (1971), 619–637. (M. Švec) **45** #3836 34B15

(*with* Keller, Joseph B.) Asymptotic theory of nonlinear wave propagation. *SIAM J. Appl. Math.* **24** (1973), 352–361. (W. F. Ames) **47** #5412 35B40

Kogelschatz, Hartmut A dynamic input-output model with variable production structure. *Production theory* (*Proc. Internat. Sem., Univ. Karlsruhe, Karlsruhe*, 1973), *pp.* 109–120. *Lecture Notes in Econom. and Math. Systems, Vol.* 99, *Springer, Berlin*, 1974. (A. C. Williams) **53** #10196 90A15 (90B30)

(*with* Goldstein, Bernd H.) On the sensitivity of key sector indices. *Theory and applications of economic indices* (*Proc. Internat. Sympos., Univ. Karlsruhe, Karlsruhe*, 1976), *pp.* 389–400. *Physica-Verlag, Würzburg*, 1978. (Trout Rader) **58** #4213 90A10

Kogge, Peter M. (*with* Stone, Harold S.) A parallel algorithm for the efficient solution of a general class of recurrence equations. *IEEE Trans. Computers* **C-22** (1973), 786–793. (Luciano Biasini) **52** #16104 68A10

Parallel solution of recurrence problems. *IBM J. Res. Develop.* **18** (1974), 138–148. (E. M. Reingold) **49** #6552 65D15

Kogh, R. J. A theorem a day. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 879–883. (Editors) **47** #3137 01A70 (22A15)

Kogiso, Motokazu (*with* Takahashi, Hidewo) Group-theoretical method in the many-beam theory of electron diffraction. *J. Phys. Soc. Japan* **42** (1977), *no.* 1, 223–229. (P. Pascual) **54** #14595 81.22

Kogo, Kusunori The optimal spacing of systematic statistics in the joint estimation of several unknown parameters. *Tech. Rep. Kansai Univ. No.* 16 (1975), 165–171. (A. K. Md. Ehsanes Saleh) **52** #15802 62F10 (62G30)

Kogonija, P. G. Generalized Lagrange spectra. (Russian. Georgian summary) *Thbilis. Univ. Šrom. A* **1(137)** (1971), 35–43. (S. V. Kotov) **48** #10993 (EA **49**) 10F10

The set of values of a certain functional. (Russian. Georgian summary) Collection of articles dedicated to Academician N. I. Mushelišvili on the occasion of his eightieth birthday. *Thbilis. Univ. Šrom. A* **4(146)** (1972), 7–14. (J. W. S. Cassels) **48** #10991 10F05

Generalized Lagrange spectra. (Russian. Georgian summary) *Thbilis. Univ. Šrom. A* **10(158)** (1975), 3–5. (S. V. Kotov) **54** #12672 10F35

Kogure, Yōzō The lattice oscillations of Cayley trees. (Japanese) *J. Saitama Univ. Fac. Ed. Math. Natur. Sci.* **24** (1975), 5–10. (Not reviewed) 92A05

Kogut, Jan An empirical finite Bayesian decision problem for a Markov chain. (Polish. English and Russian summaries) *Prace Nauk Inst. Mat. Politechn. Wrocław. No.* 11 *Ser. Stud. i Materiały No.* 10 *Problemy rachunku prawdopodobieństwa* (1975), 67–76. (Author's summary) **53** #6812 62C25 (62C10)

Koh, C. J. Use of commutation relations in eigenvalue problems. *Nanyang Univ. J. Part I* **4** (1970), 120–122. (S. Newberger) **45** #8180 81.47

Koh, Eusebio L. (*with* Zemanian, A. H.) The complex Hankel and I-transformations of generalized functions. *SIAM J. Appl. Math.* **16** (1968), 945–957. (See Zbl **167**, 415) 44A15 (44A40)

A representation of Hankel transformable generalized functions. *SIAM J. Math. Anal.* **1** (1970), 33–36. (See Zbl **201**, 450) 46F99

Non-uniqueness of the solution to a generalized Dirichlet problem. *Canad. Math. Bull.* **17** (1974), *no.* 4, 605–606. (D. L. Colton) **51** #10825 35A05

The n-dimensional distributional Hankel transformation. *Canad. J. Math.* **27** (1975), 423–433. (J. N. Pandey) **52** #3895 44A15 (46F10)

(*with* Conlan, J.) A fractional differentiation theorem for the Laplace transform. *Canad. Math. Bull.* **18** (1975), *no.* 4, 605–606. (K. M. Saksena) **53** #14034 44A30 (44A15, 26A33)

Association of variables in n-dimensional Laplace transform. *Internat. J. Systems Sci.* **6** (1975), 127–131. (R. S. Dahiya) **50** #10708 44A30

A Mikusinski calculus for the Bessel operator B_μ. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 291–300. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #29882 44A40

(*with* Conlan, J.) Fractional derivatives, Laplace transforms and association of variables. *Internat. J. Systems Sci.* **7** (1976), *no.* 5, 591–596. (R. S. Dahiya) **54** #10986 44A15 (46F10)

(*with* Conlan, James) On the Meijer transformation. *Internat. J. Math. Math. Sci.* **1** (1978), *no.* 2, 145–159. (Ekkehard Krätzel) **58** #2062 44A40

Application of an operational calculus to certain time-varying systems. *Internat. J. Systems Sci.* **9** (1978), *no.* 5, 595–601. (M. Cîrnu) **58** #6955 44A45 (93A10)

Koh, Hel'mut *See* **Koch, Helmut**

Koh, Khee-meng A note on Stone lattices. *Nanta Math.* **4** (1970), 15–21. (A. C. Choudhury) **46** #7109 06A35

On the Frattini sub-semilattice of a semilattice. *Nanta Math.* **5** (1971), *no.* 1, 22–33. (T. S. Fofanova) **45** #6707 06A20

On the lattice of convex sublattices of a lattice. *Nanta Math.* **5** (1972), *no.* 3, 18–37. (A. C. Choudhury) **50** #4421 06A20

(*with* Chen, C. C.) On the lattice of convex sublattices of a finite lattice. *Nanta Math.* **5** (1972), *no.* 3, 93–95. (A. C. Choudhury) **50** #4422 06A20

Idempotent algebras with one essentially binary polynomial. (Chinese summary) *Nanyang Univ. J. Part III* **6** (1972), 18–27. (G. Čupona) **54** #7355 08A15

(*with* Grätzer, George; Makkai, Michael) On the lattice of subalgebras of a Boolean algebra. *Proc. Amer. Math. Soc.* **36** (1972), 87–92. (Ph. Dwinger) **46** #8928 06A40

(*with* Chen, C. C.; Tan, S. K.) Frattini sublattices of distributive lattices. *Algebra Universalis* **3** (1973), 294–303. (R. P. Dilworth) **50** #2004 06A35

On the Frattini sublattice of a finite modular planar lattice. *Algebra Universalis* **3** (1973), 304–317. (R. P. Dilworth) **50** #2001 06A30

(*with* Chen, C. C.) A characterization of finite distributive planar lattices. *Discrete Math.* **5** (1973), 207–213. (B. Zelinka) **47** #3264 06A35

On sublattices of a lattice. *Nanta Math.* **6** (1973), *no.* 1, 68–79. (Joel Berman) **49** #2475 06A20

(*with* Poh, K. S.) On the non-chain Frattini sublattices of finite distributive lattices. *Nanta Math.* **7** (1974), *no.* 2, 86–93. (Claude Benzaken) **51** #12646 06A35

(*with* Teh, H. H.) On directed postman problem. (Chinese summary) *Nanyang Univ. J. Part* III **8/9** (1974/75), 14–26. (Narsingh Deo) **54** #12569 05C35 (68A10)

(*with* Goh, M. K.) Frattini sublattices of finite modular planar lattices. (Chinese summary) *Nanyang Univ. J. Part III* **8/9** (1974/75), 47–60. (James W. Lea, Jr.) **56** #15515 06A30

(*with* Chen, C. C.; Tan, S. K.) On the Frattini sublattice of a finite distributive lattice. *Algebra Universalis* **5** (1975), 88–97. (R. P. Dilworth) **52** #2990 06A35

A survey of Frattini sublattices of lattices. Proceedings of the Second Simposium Mathematik (Univ. Malaya/Univ. Kebangsaan Malaysia, Kuala Lumpur, 1974). *Bull. Malaysian Math. Soc. Special Issue* (1975), 25–41. (Ralph Freese) **54** #12583 06A20

On the Frattini subalgebra of a Stone algebra. *Colloq. Math.* **33** (1975), *no.* 1, 47–58. (Johnny A. Johnson) **52** #7988 06A35

(*with* Poh, K. S.) Characterizations of finite distributive lattices representing minimal non-chain Frattini sublattices. *Nanta Math.* **8** (1975), *no.* 1, 14–29. (From the authors' introduction) **56** #5381 06A35

(*with* Tan, S. K.) On length- and width-dimensions of finite distributive lattices. *Nanta Math.* **8** (1975), *no.* 2, 70–75. (Leo Esakia) **53** #13058 06A35

On the shortest-path problem and Dijkstra's algorithm. *Bull. Malaysian Math. Soc.* **7** (1976), *no.* 1, 46–53. (1 *loose figure*) (András Frank) **56** #2289 90B10

Even circuits in directed graphs and Lovasz's conjecture. *Bull. Malaysian Math. Soc.* **7** (1976), *no.* 3, 47–52. (R. L. Hemminger) **56** #2863 05C20

(*with* Poh, K. S.) Frattini subalgebras of finite Stone algebras. *J. Singapore Nat. Acad. Sci.* **5** (1976), *no.* 1, 63–69. (R. Beazer) **55** #225 06A35

(*with* Chen, C. C.) On the number of maximal sublattices of a finite distributive lattice. *Nanta Math.* **9** (1976), *no.* 1, 95–97. (R. Balbes) **55** #12590 06A35

(*with* Chen, C. C.; Poh, K. S.) On maximal sublattices of lattices. *Nanta Math.* **9** (1976), *no.* 1, 98–105. (R. P. Dilworth) **55** #5489 06A20

(*with* Poh, K. S.) On finite distributive lattices whose $\Phi(L)$ are C_4. *Tamkang J. Math.* **7** (1976), *no.* 1, 57–66. (P. Crawley) **54** #10093 06A35

(*with* Chua, T. C.) On the complementation of the CS(L) of a lattice L. *Tamkang J. Math.* **7** (1976), *no.* 2, 145–150. (Terence P. Speed) **58** #10638 06A20

On the stability number of a graph. *Nanta Math.* **10** (1977), *no.* 1, 53–57. (From the text) **58** #21851 05C99

An algorithm for finding all cliques in a finite distributive lattice. *Southeast Asian Bull. Math.* **1** (1977), *no.* 2, 22–25. (Ralph Freese) **56** #8458 06A35

(*with* Chen, C. C.) An algorithm for determining $F(L)$ in finite distributive lattices. *Algebra Universalis* **8** (1978), *no.* 2, 151–158. (Henner Kröger) **57** #5848 06A35

Koh, Kwangil On prime one-sided ideals. *Canad. Math. Bull.* **14** (1971), 259–260. (T. S. Shores) **47** #1880 16A66

On functional representations of a ring without nilpotent elements. *Canad. Math. Bull.* **14** (1971), 349–352. (P. Vámos) **51** #5673 16A64

(*with* Mewborn, Ancel C.) On prime rings with ascending chain condition on annihilator right ideals and nonzero injective right ideals. *Canad. Math. Bull.* **14** (1971), 443–444. (K. W. Roggenkamp) **48** #336 16A46

Quasisimple modules and other topics in ring theory. *Lectures on rings and modules* (*Tulane Univ. Ring and Operator Theory Year*, 1970-1971, *Vol. I*), *pp.* 323–428. *Lecture Notes in Math., Vol.* 246, *Springer, Berlin*, 1972. (Z. Papp) **49** #341 16–XX

On a representation of a strongly harmonic ring by sheaves. *Pacific J. Math.* **41** (1972), 459–468. (S. Teleman) **47** #8626 16A64 (46J25)

(*with* Luh, Jiang) Maximal regular right ideal space of a primitive ring. *Trans. Amer. Math. Soc.* **170** (1972), 269–277. (J. K. Luedeman) **46** #3548 16A20

(*with* Luh, Hang) Maximal regular right ideal space of a primitive ring. II. *Trans. Amer. Math. Soc.* **180** (1973), 127–141. (J. K. Luedeman) **49** #2816 (EA **50**) 16A20

On von Neumann regular rings. *Canad. Math. Bull.* **17** (1974), 283–284. (J. K. Luedeman) **50** #9951 16A30

On the complete ring of quotients. *Canad. Math. Bull.* **17** (1974), 285–288. (G. Michler) **50** #13104 16A08

On lifting idempotents. *Canad. Math. Bull.* **17** (1974), *no.* 4, 607. (Jitendra Manocha) **53** #10856 16A32

(*with* Luh, Jiang; Putcha, Mohan S.) On the associativity and commutativity of algebras over commutative rings. *Pacific J. Math.* **63** (1976), *no.* 2, 423–430. (Michael Rich) **54** #12842 17A30

Koh, Kyung Shik A minimization technique for TANT networks. *IEEE Trans. Computers* **C-20** (1971), 105–107. (Author's summary) **45** #1675 94A20

Koh, S. H. (*with* Chen, C. C.) On the embeddability of partially ordered sets into distributive lattices. *Nanta Math.* **5** (1972), *no.* 2, 1–7. (L. Beran) **48** #187 06A10

Koh, S. L. Microthermal effects in a microfluid. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Gö gen. 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, *T*196–*T*199. (Simona Popp) **54** 659 76.00

Koh, Sebastian (*with* Hirzebruch, F.; Neumann, Walter D.) ★Differentiable m olds and quadratic forms. Appendix II by W. Scharlau. Lecture Notes in Pure and lied Mathematics, Vol. 4. *Marcel Dekker, Inc., New York*, 1971. v+120 *pp.* (A. old **49** #6250 57D20 (10C05)

See also **Satake, Ichirô**, **53** #5616

Kohan, N. G. The construction of certain classes of finite rational groups. (Russian) nite *groups* (*Proc. Gomel Sem., Gomel*, 1975–1977) (*Russian*), *pp.* 22–26, 172–173. dat "*Nauka i Tehnika*", *Minsk*, 1978. (Ja. G. Berkovic) **58** #22314 20F15 (20D

See also **All-Union Symposium: Algebra**, **57** #12 *and* **All-Union Symposium: Algebra**, **57** #13

Kohanīvs'kiĭ, O. P. (l)-property of the semicontinuous logarithmic method of summ lity of series, and theorems of Tauberian type. (Russian) *Ukrain. Mat. Ž.* **26** 74 603–610, 715. (Hubert Tietz) **50** #7886 40E05

Theorems of Tauberian type for a semicontinuous logarithmic method of summability of series. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 740–748, 861. (E. R ersi **51** #3747 40E05

A condition for the equivalence of logarithmic summability methods. (Ru n *Ukrain. Mat. Ž.* **27** (1975), 229–234, 285. (J. Németh) **51** #13514 40D25

Conditions for the equivalence of the discrete and the semicontinuous logar mic summability method. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. V* 26 (1976), 53–60, ii. (E. Jürimäe) **55** #922 40D25

Kohanovskiĭ, I. N. (*with* Kravčenko, S. A.; Lukovič, V. V.) A numerical Fourier tran m method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 32 (1977), 12 1, 160. (Walter Gautschi) **57** #4553a 65T05

(*with* Kravčenko, S. A.; Lukovič, V. V.) A numerical Fourier transform. (Ru n English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 33 (1977), 143–151, 163. (er Gautschi) **57** #4553b 65T05

Kohanskaja, L. N. Boundedness of solutions of systems of relay differential equa s. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 5(120), 63–65. (M. T y) **46** #5735 34C10

Kohanskiĭ, L. È. A study of the errors in the sector method of transformation when u a screen of zero type. (Russian) *New elements of systems of automation, remote contr a computer technology, No.* 2 (*Russian*), *pp.* 59–67, 173. *Izdat.* "*Vyšèĭšaja Škola*", 1972. **54** #12343 94A05

Kohavi, Zvi ★Switching and finite automata theory. McGraw-Hill Computer S e Series. *McGraw-Hill Book Co., New York-Düsseldorf-London*, 1970. xiii+592 *pp.* (Letičevs'kiĭ) **53** #15533 94–01

(*with* Winograd, Joseph) Bounds on the length of synchronizing sequences an e order of information losslessness. *Theory of machines and computations* (*Proc. Int Sympos., Technion, Haifa*, 1971), *pp.* 197–206. *Academic Press, New York*, 1971. (Authors' summary) **55** #10164 94A30

(*with* Berger, Israel) Fault detection in fanout-free combinational networks. *I Trans. Computers* **C-22** (1973), 908–914. (Authors' summary) **56** #11543 94A2

(*with* Winograd, Joseph) Establishing certain bounds concerning finite autom *J. Comput. System Sci.* **7** (1973), 288–299. (K. Vairavan) **47** #8218 94A30

(*with* Berger, Israel) Fault diagnosis in combinational tree networks. *IEEE T Computers* **C-24** (1975), *no.* 12, 1161–1167. (Krzysztof Sapiecha) **56** #8199 94

(*with* Koren, Israel) Adaptive fault-locating tests for digital systems. (French d German summaries) *Digital Process.* **2** (1976), *no.* 3, 209–223. (G. Saucier) **54** #71 94A20

(*with* Koren, Israel) Sequential fault diagnosis in combinational networks. *I Trans. Computers* **C-26** (1977), *no.* 4, 334–342. (Krzysztof Sapiecha) **56** #181 94A20

(*with* Koren, Israel) Diagnosis of intermittent faults in combinational netwo *IEEE Trans. Computers* **C-26** (1977), *no.* 11, 1154–1158. (Krzysztof Sapiecha) **56** #18145 94A20

See also **Theory of machines and computations**, **52** #16090

Kohda, Tohru (*with* Amari, Shun-ichi) A one-dimensional nerve net of homogene structure with monotonically decreasing coupling coefficients. *Systems-Computers-Controls* **4** (1973), *no.* 3, 51–58. (H. D. Block) **50** #11875 68

(*with* Amari, Shun-ichi) A one-dimensional nerve net of homogeneous struc with fixed signal propagation velocity. *Systems-Computers-Controls* **4** (1973), *no* 59–66. (H. D. Block) **50** #11876 68A45

Kohen, A. W. Sur la transformation de Fourier p-adique. *Table Ronde d'Analyse archimédienne* (*Paris*, 1972), *pp.* 123–130. *Bull. Soc. Math. France, Mém. No.* 39-40, *Math. France, Paris*, 1974. (L. Corwin) **51** #3799 43A25 (12B40)

Kohlas, J. *See* **Compstat**, **49** #9990

Kohlas, Jürg ★Monte Carlo Simulation im Operations Research. Lecture Notes Economics and Mathematical Systems, Vol. 63. *Springer-Verlag, Berlin-New York*, 19 vi+162 *pp.* (Editors) **57** #4470 65C05 (90B99)

Sichere Grenzwertüberwachung mit Prozessrechner. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **21** (1973), *no.* 5, 138–143. (Brian Conolly) **53** #10409 93C99

(*with* Bauknecht, K.; Zehnder, C. A.) ★Simulationstechnik. Entwurf und Simulation von Systemen auf digitalen Rechenautomaten. Hochschultext. *Springer-Verlag, Berlin-New York*, 1976. v+218 *pp.* (I. Meznik) **57** #14668 68A

★Stochastische Methoden des Operations Research. Teubner Studienbücher: Mathematik. Leitfäden der angewandten Mathematik und Mechanik, Band 40. *B. Teubner, Stuttgart*, 1977. 192 *pp. ISBN* 3-519-02342-3 (Ulrich Rieder) **57** #15401 90B99

Kohlbecker, E. E. (*with* Fisher, P. S.) A generalized Fibonacci sequence. *Fibonacci Qua* **10** (1972), *no.* 4, 337–344, 354. (R. N. Jain) **46** #8951 10A35

Kohlberg, Elon The nucleolus as a solution of a minimization problem. *SIAM J. Ap Math.* **23** (1972), 34–39. (Louis J. Billera) **46** #4956 90D12

On non-atomic games: conditions for $f\circ\mu\in pNA$. *Internat. J. Game Theory* (1973), 87–98. (Author's summary) **55** #10054 90D99

Repeated games with absorbing states. *Ann. Statist.* **2** (1974), 724–738. (Louis J. lera) **51** #7643 90D15

(*with* Zamir, Shmuel) Repeated games of incomplete information: the symmetric se. *Ann. Statist.* **2** (1974), 1040–1041. (Authors' summary) **50** #6514 90D05

(*with* Hart, Sergiu; Hildenbrand, Werner) On equilibrium allocations as stributions on the commodity space. *J. Math. Econom.* **1** (1974), *no.* 2, 159–166. uthors' summary) **55** #9863 90A15

(*with* Hart, Sergiu) Equally distributed correspondences. *J. Math. Econom.* **1** 974), *no.* 2, 167–174. (Y. I. Kannai) **54** #10540 28A20 (90A15)

Optimal strategies in repeated games with incomplete information. *Internat. J. ame Theory* **4** (1975), *no.* 1-2, 7–24. (Bert Fristedt) **52** #12811 90D05

The information revealed in infinitely-repeated games of incomplete information. *ternat. J. Game Theory* **4** (1975), *issue no.* 1-2, 57–59. (Bert Fristedt) **52** #12812 D05

A model of economic growth with altruism between generations. *J. Econom. Theory* 3 (1976), *no.* 1, 1–13. (William A. Brock) **55** #2077 90A15

(*with* Bewley, Truman F.) The asymptotic theory of stochastic games. *Math. Oper. es.* **1** (1976), *no.* 3, 197–208. (Authors' summary) **58** #26420 93E05

(*with* Bewley, Truman F.) The asymptotic solution of a recursion equation ccurring in stochastic games. *Math. Oper. Res.* **1** (1976), *no.* 4, 321–336. (Zbl **364** 93032) **58** #26421 93E05 (90D15, 93E20)

(*with* Bewley, Truman F.) On stochastic games with stationary optimal strategies. *ath. Oper. Res.* **3** (1978), *no.* 2, 104–125. (Authors' summary) **58** #9326 90D15

Ke, D. Einige Bemerkungen zur Messung von Faktorenwerten im orthogonalen aktorenmodell. *Statist. Hefte* (*N.F.*) **15** (1974), *no.* 1, 81–87. **55** #13667 62H25

Einige Grundprobleme der Faktorenanalyse. *Statist. Hefte* (*N.F.*) **18** (1977), *no.* 2, 33–141. (C. Hayashi) **56** #4056 62H25

Kenberger, Helmut *See* **Pinborg, Jan, 54** #7188

Ker, Boris Convergence faible sur des espaces topologiques uniformes et suites aléatoires d'éléments aléatoires. (English summary) *Canad. J. Statist.* **5** (1977), *no.* 2, 219–225. (P. Gérard) **58** #24447 60B10

Kler, Christel Eine Lösungsmethode für lineare Optimierungsaufgaben mit Umrandungs struktur. 5. *Tagung über Probleme und Methoden der Mathematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *Heft* 3, *pp.* 600–608. *Wiss. Schr. Techn. Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt*, 1975. (J. Abrham) **55** #7374 90C05

Eine Lösungsmethode für triadische Optimierungsaufgaben. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **17** (1975), *no.* 6, 755–760. (Author's summary) **56** #2353 90C05

hler, David A. Translation of a report by J. B. Fourier on his work on linear inequalities (*Oeuvres de Fourier*, Tome II, pp. 325–328, Gauthier-Villars, Paris, 1890). *Opsearch* **10** (1973), *no.* 1, 38–42. (Louis Charbonneau) **55** #32 01A55 (90Cxx)

hler, Eckehart *See* **Developments in the methodology of social science, 58** #33168a

hler, Egmont Das Oberwolfacher Problem. *Mitt. Math. Gesellsch. Hamburg* **10**, *no.* 2, 124–129 (1973). (J. B. Kelly) **49** #4855 05C35

Eine kombinatorische Aufgabe. *Mitt. Math. Gesellsch. Hamburg* **10**, *no.* 2, 130–131 (1973). (Jean Doyen) **52** #2919 05B05

Bemerkungen über Steiner-Systeme. *Abh. Math. Sem. Univ. Hamburg* **40** (1974), 226–228. (E. F. Assmus, Jr.) **48** #8261 05B05

Eine kombinatorische Eigenschaft des n-dimensionalen Würfels. *Abh. Math. Sem. Univ. Hamburg* **41** (1974), 206–210. (R. K. Guy) **50** #1249 57C05

Reguläre Faktoren in vollständigen Graphen. *Abh. Math. Sem. Univ. Hamburg* **41** (1974), 252–254. (W. Mader) **50** #4400 05C99

Numerische Existenzkriterien in der Kombinatorik. (English summary) *Numerische Methoden bei graphentheoretischen und kombinatorischen Problemen* (*Tagung, Math. Forschungsinst. Oberwolfach, Oberwolfach*, 1974), *pp.* 99–108. *International Series of Numerical Mathematics, Vol.* 29, *Birkhäuser, Basel*, 1975. (Luc Teirlinck) **54** #5005 05B05

Zur Theorie der Steiner-systeme. *Abh. Math. Sem. Univ. Hamburg* **43** (1975), 181–185. (E. F. Assmus, Jr.) **51** #10122 05B05

Bemerkungen über Langfordsequenzen. (English summary) *Numerische Methoden bei Optimierungsaufgaben, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1976), *pp.* 137–145. *Internat. Ser. Numer. Math., Vol.* 36, *Birkhäuser, Basel*, 1977. (Rainer Burkard) **57** #3069 10A40

Über die Konstruktion optimaler Versuchspläne mit Hilfe von Skolem-Sequenzen. (English summary) *Numerische Methoden bei Optimierungsaufgaben, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1976), *pp.* 147–154. *Internat. Ser. Numer. Math., Vol.* 36, *Birkhäuser, Basel*, 1977. (M. Rössler) **57** #1785 62K05 (10A45, 05B05)

Unendliche gefaserte Steinersysteme. (English summary) *J. Geometry* **9** (1977), *no.* 1-2, 73–77. (Luc Teirlinck) **56** #5320 05B05

öhler, Egon (*with* Walker, Martin) A remark on the generalized Goldberg-Sachs theorem. *General Relativity and Gravitation* **6** (1975), *no.* 5, 507–512. (Ann Stehney) **55** #2037 83.53

öhler, Günter Der Normalisator der Modulgruppe der Stufe T und ein Trennungssatz für Eisensteinsche Reihen. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1971**, 1–23. (K. G. Ramanathan) **49** #7483 32N05 (20H10)

Der Normalisator von Hilbert-Siegelschen Stufengruppen. *Math. Z.* **126** (1972), 247–274. (K.-B. Gundlach) **50** #4496 10D20

Modulare Einbettungen Siegelscher Stufengruppen in Hermitesche Modulgruppen. *Math. Z.* **138** (1974), 71–87. (K.-B. Gundlach) **51** #362 10D20

ohler, H. Störungstheoretische Erfassung des Schwingungs- und Resonanzverhaltens nichtlinearer n-Freiheitsgrad-Systeme. (English summary) *Ing.-Arch.* **44** (1975), *no.* 6, 371–383. (G. Khmelevskaja-Plotnikova) **53** #15031 70.34

Köhler, H. S. Brueckner theory of nuclei. *Phys. Rep.* **18C** (1975), 217–261. (Francesco Calogero) **56** #2062 81.47

Köhler, Jörg (*with* Hirche, Joachim) Mehrfache Zerlegung hyperbolischer Optimierungsaufgaben. *Beiträge Anal. Heft* 7 (1975), 143–149. (W. W. Breckner) **58** #20448 90C30

(*with* Hirche, Joachim; Stiebitz, Volkmar) Ein effektives Lösungsverfahren für das hyperbolische Transportproblem. *Beiträge Anal. Heft* 7 (1975), 151–156. (Knut Richter) **56** #14722 90C30

Köhler, Jürgen Über einige Fragen bei der Lösung linearer Optimalprobleme großer Dimension. *Wiss. Z. Martin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **21** (1972), *no.* 4 57–66. (R. F. Albrecht) **49** #11805 65K05

Numerische Lösung von linearen Optimalproblemen mit dem Verfahren der zulässigen Richtungen. *Wiss. Z. Martin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **25** (1976), *no.* 3, 65–70. (Ulrich Eckhardt) **54** #6505 65K05

(*with* Strehmel, Karl) Ein neues Prediktor-Verfahren mit Exponentialanpassung für Anfangswertaufgaben gewöhnlicher Differentialgleichungssysteme 1. Ordnung. *Beiträge Numer. Math.* **6** (1977), 165–178. (J. C. Butcher) **56** #17097 65L05

Nutzung der Dualität zur Lösung eines gemischten linearen 0-1-Optimalproblems. *Wiss. Z. Martin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **26** (1977), *no.* 2, 145–149. (Knut Richter) **56** #7972 90C10

Köhler, Michael Diskrete Approximation eines zeitoptimalen Kontrollproblems. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech.* **54** (1974), T246–T247. (Russell D. Rupp) **50** #10945 49A10

Approximation optimaler Prozesse unter Verwendung stabiler und konsistenter Diskretisierungsverfahren. *Operations Research Verfahren, Band XX, pp.* 49–65. *Hain, Meisenheim am Glan*, 1975. (H. J. Stetter) **56** #9413 49D25 (93C55)

Explicit approximation of optimal control processes. *Optimization and optimal control* (*Proc. Conf., Oberwolfach*, 1974), *pp.* 188–201. *Lecture Notes in Math., Vol.* 477, *Springer, Berlin*, 1975. (Editors) **58** #18031 49A20

Eine Verallgemeinerung des Werbemodells von Nerlove-Arrow. *Operations Research Verfahren, Band XXII, pp.* 70–80. *Hain, Meisenheim am Glan*, 1976. (Ivar Ekeland) **55** #7318 90A15 (93C99)

Approximation of a parabolic boundary control problem by the line method. *Optimization and operations research* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 147–159. *Lecture Notes in Econom. Math. Systems, Vol.* 117, *Springer, Berlin*, 1976. (S. E. Aidarous) **58** #15454 93C20 (65N99)

Approximation eines parabolischen Rand-Kontrollproblems mit Hilfe der Linienmethode. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T351–T353. (Werner Krabs) **54** #4149 65N35 (93C20)

Notwendige Bedingungen für singuläre Sattelpunktstrategien bei Zwei-Personen-Nullsummen-Differentialspielen. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T333–T335. (È. G. Al'breht) **56** #4880 90D25

See also **Optimization and optimal control, 52** #15162 *and* **Oberwolfach-Tagung: Operations Research, 58** #32840

Köhler, Norbert Zerlegung total gerichteter Graphen in Kreise. (English summary) *Manuscripta Math.* **19** (1976), *no.* 2, 151–164. (Judith Q. Longyear) **53** #13021 05C20

(*with* Bigalke, Anton) Zerlegung des vollständigen Graphen der Ordnung n in gewisse Fastlinearfaktoren. *Arch. Math.* (*Basel*) **28** (1977), *no.* 2, 221–224. (H. A. Jung) **57** #5810 05C20 (05C35)

Bewertete Bäume. *Arch. Math.* (*Basel*) **30** (1978), *no.* 1, 104–109. (Gary Haggard) **58** #5308 05C05

Köhler, Peter On varieties of Brouwerian algebras. *Proceedings of the Lattice Theory Conference* (*Ulm*, 1975), *pp.* 134–137. *Univ. Ulm, Ulm*, 1975. (Leo Esakia) **55** #2696 06A35

Varieties of Brouwerian algebras. *Mitt. Math. Sem. Giessen No.* 116 (1975), iii+83 *pp.* (Alasdair Urquhart) **52** #5501 06A25

(*with* Berman, Joel D.) Cardinalities of finite distributive lattices. *Mitt. Math. Sem. Giessen Heft* 121 (1976), 103–124. (Ph. Dwinger) **58** #5434 06A35

(*with* Blok, Willem J.) The semigroup of varieties of generalized interior algebras. *Houston J. Math.* **3** (1977), *no.* 3, 315–327. (Jaroslav Ježek) **56** #15533 08A15 (06A35)

Endomorphism semigroups of Brouwerian semilattices. *Semigroup Forum* **15** (1977/78), *no.* 3, 229–234. (T. S. Blyth) **57** #6261 20M20 (06A20)

The triple method and free distributive pseudocomplemented lattices. *Algebra Universalis* **8** (1978), *no.* 2, 139–150. (T. Katriňák) **58** #420 06A35 (06A25)

The semigroup of varieties of Brouwerian semilattices. *Trans. Amer. Math. Soc.* **241** (1978), 331–342. (W. Nemitz) **58** #410 06A20 (08A15)

Kohler, Robert H. Extended view of classical contact transformations. *Found. Phys.* **6** (1976), *no.* 2, 193–208. (H. Rund) **54** #1297 58F05 (70.58)

Köhler, Uwe (*with* Silbermann, Bernd) Einige Ergebnisse über Φ_+-Operatoren in lokalkonvexen, topologischen Vektorräumen. *Math. Nachr.* **56** (1973), 145–153. (J. A. Van Casteren) **48** #12131 47B30

(*with* Silbermann, Bernd) Über algebraische Eigenschaften einer Klasse von Operatorenmatrizen und eine Anwendung auf singuläre Integraloperatoren. *Math. Nachr.* **57** (1973), 245–258. (Jürgen Leiterer) **48** #9432 47A65

Köhler, W. E. (*with* Knaap, H. F. P.; Eggermont, G. E. J.; 't Hooft, G. W.) Kinetic theory of nonequilibrium alignment phenomena in dilute polyatomic gases in external magnetic and electric fields. *Z. Naturforsch. A* **33** (1978), *no.* 7, 761–777. (Authors' summary) **58** #14824 82.47

Kohler, Walter H. (*with* Steiglitz, Kenneth) Characterization and theoretical comparison of branch-and-bound algorithms for permutation problems. *J. Assoc. Comput. Mach.* **21** (1974), 140–156. (P. Vondráček) **49** #8636 90B35

Kohler, Werner E. (*with* Papanicolaou, George C.) Power statistics for wave propagation in one dimension and comparison with radiative transport theory. *J. Mathematical Phys.* **14** (1973), 1733–1745. (Kazimierz Sobczyk) **49** #4442 78.60

(*with* Papanicolaou, George C.) Asymptotic theory of mixing stochastic ordinary differential equations. *Comm. Pure Appl. Math.* **27** (1974), 641–668. (Kiyosi Itô) **51** #4384 60H10

(*with* Papanicolaou, George C.) Power statistics for wave propagation in one dimension and comparison with radiative transport theory. II. *J. Mathematical Phys.* **15** (1974), 2186–2197. (Kazimierz Sobczyk) **58** #25415 78.60

(*with* Boyce, William E.) A numerical analysis of some first order stochastic initial value problems. *SIAM J. Appl. Math.* **27** (1974), 167–179. (D. Kannan) **50** #3578 65L05 (60H10) (*with* Papanicolaou, George C.) Asymptotic analysis of deterministic and stochastic equations with rapidly varying components. *Comm. Math. Phys.* **45** (1975), *no.* 3, 217–232. (Mark Pinsky) **54** #1382 60H10

(*with* Papanicolaou, George C.) Power reflection from a lossy one-dimensional random medium. *SIAM J. Appl. Math.* **30** (1976), *no.* 2, 263–268. (Kazimierz Sobczyk) **54** #1893 78.60

(*with* Papanicolaou, George C.) Fluctuation phenomena in underwater sound propagation. I. *Proceedings of the Conference on Stochastic Differential Equations and Applications* (*Park City, Utah*, 1976), *pp.* 45–111. *Academic Press, New York*, 1977. (J. D. Atkinson) **57** #4823a 76.60

(*with* Papanicolaou, George C.) Fluctuation phenomena in underwater sound propagation. II. *Proceedings of the Conference on Stochastic Differential Equations and Applications* (*Park City, Utah*, 1976), *pp.* 113–143. *Academic Press, New York*, 1977. (J. D. Atkinson) **57** #4823b 76.60

(*with* Papanicolaou, George C.) Wave propagation in a randomly inhomogenous ocean. *Wave propagation and underwater acoustics* (*Workshop, Mystic, Conn.*, 1974), *pp.* 153–223. *Lecture Notes in Phys., Vol.* 70, *Springer, Berlin*, 1977. (From the introduction) **58** #9105 86.60

Power reflection at the input of a randomly perturbed rectangular waveguide. *SIAM J. Appl. Math.* **32** (1977), *no.* 3, 521–533. (E. Lüneburg) **55** #7135 78.60

(*with* Besieris, Ioannis M.) Underwater sound wave propagation in the presence of a randomly perturbed sound speed profile. I. *SIAM J. Appl. Math.* **34** (1978), *no.* 3, 423–436. (Authors' summary) **58** #19783 76.60

Kohler-Jobin, Marie-Thérèse Une propriété élémentaire des fonctions dont le laplacien est constant, en particulier des fonctions harmoniques. (English summary) *Z. Angew. Math. Phys.* **23** (1972), 489–492. (Kenneth O. Leland) **47** #482 (E **48** #545) 31A05

Addendum: "Une propriété élémentaire des fonctions dont le laplacien est constant, en particulier des fonctions harmoniques" (Z. Angew. Math. Phys. **23** (1972), 489–492). *Z. Angew. Math. Phys.* **23** (1972), 1026. (Editors) **48** #545 31A05

Démonstration de l'inégalité isopérimétrique $P\lambda^2 \geqslant \pi j_0^4/2$, conjecturée par Pólya et Szegö. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 2-3, Aiii, A119–A121. (Catherine Bandle) **52** #6551 49H05

Une inégalité isopérimétrique entre la fréquence fondamentale d'une membrane inhomogène et l'énergie d'équilibre du problème de Poisson correspondant. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 2, Aii, A65–A68. (S. Drobot) **54** #9269 73.49

★Méthode de comparaison isopérimétrique de fonctionnelles de domaines de la physique mathématique. Thèse présentée à l'École Polytechnique Fédérale, Zurich, pour l'obtention du titre de Docteur ès sciences mathématiques. Avec un sommaire anglais. Thèse No. 5906. *École Polytechnique Fédérale, Zurich*, 1977. i+41 *pp.* (Editors) **58** #12651 49G10

Une propriété de monotonie isopérimétrique qui contient plusieurs théorèmes classiques. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 15, A917–A920. (Author's summary) **55** #7056 73.49

Sur la première fonction propre d'une membrane: une extension à N dimensions de l'inégalité isopérimétrique de Payne-Rayner. (English summary) *Z. Angew. Math. Phys.* **28** (1977), *no.* 6, 1137–1140. (Author's summary) **58** #30602 49A30 (35J99)

Kohlhammer, Hans-Peter ★Schlichtheitsradien von Potenzreihenabschnitten schlichter Funktionen. Gesellschaft für Mathematik und Datenverarbeitung, Bonn, Ber. No. 99. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1975. 90 *pp.* (See Zbl **312** #30009) 30A32

★Schlichtheitsradien von Potenzreihenabschnitten schlichter Funktionen. Gesellschaft für Mathematik und Datenverarbeitung, Bonn, Bericht No. 99. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1975. 90 *pp.* (Zbl **312** #30009) **57** #12839 30A36 (30A10)

Kohli, J. K. A note on open extension of maps. *Canad. J. Math.* **24** (1972), 1139–1144. (Edwin Duda) **47** #5811 54C20

Finite-to-one maps and open extensions of maps. *Proc. Amer. Math. Soc.* **48** (1975), 464–468. (G. S. Ungar) **51** #6699 54C10 (54E10)

Local topological properties of maps and open extensions of maps. *Canad. J. Math.* **29** (1977), *no.* 6, 1121–1128. (V. Kannan) **56** #16558 54C20

On Hausdorff monotone extensions of maps. *J. London Math. Soc.* (2) **15** (1977), *no.* 3, 547–550. (Edwin Duda) **56** #1254 54C20

A class of spaces containing all connected and all locally connected spaces. *Math. Nachr.* **82** (1978), 121–129. (V. Kannan) **58** #2710 54D05

A class of mappings containing all continuous and all semiconnected mappings. *Proc. Amer. Math. Soc.* **72** (1978), *no.* 1, 175–181. (Joe A. Guthrie) **58** #12896 54C05

Kohlmann, Wilmut *See* **Engelhard, Rainer; et al., 53** #5618

Kohlmayr, Gerhard F. Synthesis of the step-change single-blow transient temperature response. (German summary) *Z. Angew. Math. Phys.* **22** (1971), 724–736. (A. C. Srivastava) **46** #10312 80.35

A Banach algebra of generalized functions. *J. Math. Anal. Appl.* **41** (1973), 632–672. (D. Myers) **49** #11244 46F05 (44A40)

Kohls, Carl W. (*with* Reynolds, William H.) Embedding rings with a maximal cone and rings with an involution in quaternion algebras. *Trans. Amer. Math. Soc.* **176** (1973), 411–419. (W. E. Baxter) **47** #1857 16A28 (06A70, 46K99)

A characterization of noncommutative quaternion rings. *Proc. Amer. Math. Soc.* **46** (1974), 351–354. (Darrell R. Turnidge) **50** #2239 16A42

Kohn, Jonathan W. Estimators for parameters of a series system under an attribute life test situation. *IEEE Trans. Reliab.* **R-25** (1976), *no.* 5, 311–313. (H. L. Harter) **56** #7080 62N05

Kohn, Joseph J. Complex hypoelliptic operators. *Symposia Mathematica, Vol. VII* (*Convegno sulle Equazioni Ipoellittiche e Spazi Funzionali, INDAM, Rome*, 1970), *pp.* 459–468. *Academic Press, London*, 1971. (H. Goldschmidt) **50** #5857 58G05 (32F15, 35H05)

(*with* Folland, Gerald B.) ★The Neumann problem for the Cauchy-Riemann complex. Annals of Mathematics Studies, No. 75. *Princeton University Press, Princeton, N.J.; University of Tokyo Press, Tokyo*, 1972. viii+146 *pp.* (V. G. Maz'ja (Zbl **247** #35093)) **57** #1573 58G05 (35N15, 32F15)

★Differential complexes. Séminaire de Mathématiques Supérieures (Été 969), No. 37. *Les Presses de l'Université de Montréal, Montreal, Que.*, 1972. 88 *pp* W. J. Sweeney) **58** #7741 58G05 (35N15)

Integration of complex vector fields. *Bull. Amer. Math. Soc.* **78** (1972), 1- (H Kumano-go) **45** #7753 57D25 (32L10, 35N15)

Boundary behavior of δ on weakly pseudo-convex manifolds of dimensi two. Collection of articles dedicated to S. S. Chern and D. C. Spencer on their tieth birthdays. *J. Differential Geometry* **6** (1972), 523–542. (Waldyr M. Oliva) **48** 35N15 (32F15, 58G05)

The $\bar\partial$-Neumann problem on (weakly) pseudo-convex two-dimensional ma lds. *Proc. Nat. Acad. Sci. U.S.A.* **69** (1972), 1119–1120. (M. Schneider) **49** #3213 F15 (35N15)

Propagation of singularities for $\bar\partial$. *Colloque International CNRS sur les Éq ions aux Dérivées Partielles Linéaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp.* 244–251. *Ast que 2 et 3, Soc. Math. France, Paris*, 1973. (Monty Strauss) **52** #11358 35N15 F15)

Pseudo-differential operators and hypoellipticity. *Partial differential equation* (*Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif.*, 19 *pp.* 61–69. *Amer. Math. Soc., Providence, R.I.*, 1973. (H. Kumano-go) **49** #3356 S05 (35H05, 47G05)

Boundary regularity of solutions of the inhomogeneous Cauchy-Riemann equ ns. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et yse fonctionnelle, Exp. No.* 24, 9 *pp. Centre de Math., École Polytech., Paris*, 1973. (Ma ouf Derridj) **55** #3322 32F15 (35N15, 58G05)

(*with* Nirenberg, L.) A pseudo-convex domain not admitting a holomorphic s port function. *Math. Ann.* **201** (1973), 265–268. (H. B. Laufer) **48** #8850 32F15

Global regularity for $\bar\partial$ on weakly pseudo-convex manifolds. *Trans. Amer. th. Soc.* **181** (1973), 273–292. (W. J. Sweeney) **49** #9442 35N15 (32F15, 58G05)

Propagation of singularities for the Cauchy-Riemann equations. *Complex a lysis* (*Centro Internaz. Mat. Estivo, I Ciclo, Bressanone*, 1973) *pp.* 177–280. *Edizioni Cremonese, Rome*, 1974. (W. J. Sweeney) **54** #3005 32–02 (35N15)

Convexity and pseudo-convexity. *Géométrie différentielle* (*Colloq., Univ. Santi de Compostela, Santiago de Compostela*, 1972), *pp.* 195–202. *Lecture Notes in Math ol* 392, *Springer, Berlin*, 1974. (Ngô van Quê) **51** #5972 32F15

An example of a strange three-dimensional surface in $\mathbf{C}^2$. *Global analysis its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., T te* 1972), *Vol. II, pp.* 323–327. *Internat. Atomic Energy Agency, Vienna*, 1974. (R. M ael Range) **55** #12952 32F15

Uno sguardo agli operatori pseudo-differenziali. *Boll. Un. Mat. Ital.* (4) **10** (4), 273–297 (Ja. A. Roitberg) **51** #6502 47G05 (35S05, 58G15)

Subellipticity on pseudo-convex domains with isolated degeneracies. *Proc at Acad. Sci. U.S.A.* **71** (1974), 2912–2914. (M. Schneider) **50** #7840 35N15 (32)

Subellipticity of the $\bar\partial$-Neumann problem on weakly pseudo-convex dom s. *Rencontre sur l'analyse complexe à plusieurs variables et les systèmes surdéte es* (*Textes Conf., Univ. Montréal, Montréal, Que.*, 1974), *pp.* 105–118. *Presses Univ. Montréal, Montreal, Que.*, 1975. (Makhlouf Derridj) **55** #10729 32F15 (35N15, 35H05, 58G05)

Holomorphic extensions of orthogonal projections into holomorphic funct s. *Proc. Amer. Math. Soc.* **52** (1975), 333–336. (Klas Diederich) **53** #3364 32H1

(*with* Greiner, Peter; Stein, Elias M.) Necessary and sufficient conditions for solvability of the Lewy equation. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975), 9, 3287–3289. (Akira Asada) **52** #1043 35N15 (32A25, 32C05, 58G05)

Methods of partial differential equations in complex analysis. *Several co x variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williams n, Mass.*, 1975), *pp.* 215–237. *Amer. Math. Soc., Providence, R.I.*, 1977. (W. J. Swe) **57** #16699 32F15 (35N15)

Sufficient conditions for subellipticity on weakly pseudo-convex domains. *Nat. Acad. Sci. U.S.A.* **74** (1977), *no.* 6, 2214–2216. (Thomas Bloom) **57** #65 32F15 (35H05, 35N15)

See also **Pseudodifferential operators, 52** #15122

Kohn, M. J. Spherical convergence and integrability of multiple trigonometric serie n hypersurfaces. Collection of articles honoring the completion by Antoni Zygmund 0 years of scientific activity, IV. *Studia Math.* **44** (1972), 345–354. (J. L. Gri) **49** #9535 42A92

Generalized Laplacians and multiple trigonometric series. *Trans. Amer. Math.* **181** (1973), 419–428. (Y. M. Chen) **47** #9163 42A92

Riemann summability of multiple trigonometric series. *Indiana Univ. Math. J* (1974/75), 813–823. (R. L. Cooke) **51** #3792 42A92

On Lebesgue summability for double series. *Proc. Amer. Math. Soc.* **59** (1976), 2, 283–286. (Gokulananda Das) **54** #3288 42A92

Summability R_r for double series. *Pacific J. Math.* **69** (1977), *no.* 2, 433– (Author's summary) **58** #29818 42A92

Lebesgue summability of double trigonometric series. *Trans. Amer. Math. Soc.* (1977), 199–209. (J. Marshall Ash) **54** #13460 42A92

On formal integration of double trigonometric series. *Illinois J. Math.* **22** (1978), 1, 81–89. (R. L. Cooke) **56** #16248 42A92

Kohn, Meir G. (*with* Plessner, Yakir) An applicable model of optimal marketing poli *Operations Res.* **21** (1973), 401–412. (K. Swarup) **51** #4960 90B05

(*with* Shavell, Steven) The theory of search. *J. Econom. Theory* **9** (1974), *no* 93–123. (Norbert Schmitz) **58** #4291 90B40 (62L15)

Kohn, Peter Ideals generated by three elements. *Proc. Amer. Math. Soc.* **35** (1972), 55– (T. Albu) **45** #5125 13D99

Kohn, R. Note concerning the Akaike and Hannan estimation procedures for an autoregressive-moving average process. *Biometrika* **64** (1977), *no.* 3, 622–625. (Peter Robinson) **57** #17993 62M10

Asymptotic properties of time domain Gaussian estimators. *Adv. in Appl. Prob* **10** (1978), *no.* 2, 339–359. (Peter M. Robinson) **58** #18839 62E20 (62M10)

Kohn, Robert V. Generalization of a result of Halldén. *Notre Dame J. Formal Logic* (1975), *no.* 4, 605–606. (I. Ruzsa) **52** #5361 02C10

An example concerning approximate differentiation. *Indiana Univ. Math. J.* (1977), *no.* 2, 393–397. (Benedetto Bongiorno) **55** #590 26A54

Some Post-complete extensions of S2 and S3. *Notre Dame J. Formal Logic* **18** (1977), *no.* 3, 467–470. (Robert P. McArthur) **58** #16152 02C10 (02J05)

K n, Samuel Investigation of the stability of $d^2y/dt^2+\omega^2y=\varepsilon(\sum_{i=1}^{n}b_i\cos\ 2a_it)y$ using Shtokalo's method. *SIAM J. Appl. Math.* **30** (1976), *no.* 4, 749–767. (Michel Cotsaftis) 53 #8586 (E **58** #6747) 34D35

K n, W. Improvement of Rayleigh-Ritz eigenfunctions. *SIAM Rev.* **14** (1972), 399–419. (K. Najzar) **47** #6101 65L15

Construction of Wannier functions and applications to energy bands. *Phys. Rev. B* (3) **7** (1973), *no.* 10, 4388–4398. (Author's summary) **52** #12651 82.33

(*with* Rehr, J. J.) Wannier functions in crystals with surfaces. *Phys. Rev. B* (3) **10** (1974), 448–455. (Authors' summary) **50** #15762 82.33

(*with* Yaniv, A.) Locality principle in wave mechanics. *Proc. Nat. Acad. Sci. U.S.A.* **75** (1978), *no.* 11, 5270–5272. (Authors' summary) **58** #25552 81.44

ne, D. E. *See* **Proceedings: Berkeley Symposium on Mathematical Statistics and Probability**, **52** #9426

ne, W. Theorie der Zustandsbeobachter mit verteilten Parametern. (English summary) *Regelungstech.* **24** (1976), *no.* 8, 277–282. (Shinzo Kitamura) **58** #4501a 93B30 (93C20)

Theorie der Zustandsbeobachter mit verteilten Parametern. II. *Regelungstech.* **24** (1976), *no.* 9, 314–316. (Shinzo Kitamura) **58** #4501b 93B30 (93C20)

See also **Distributed parameter systems**, **58** #26194

nen, W. Das Anfangswertverhalten von Evolutionsgleichungen in Banachräumen. II. Anwendungen. *Tôhoku Math. J.* (2) **23** (1971), 621–639. (M. M. Day) **46** #2483 47D05

Approximationsprobleme bei der Störung von Halbgruppenoperatoren. *Constructive theory of functions* (*Proc. Internat. Conf., Varna*, 1970) (*Russian*), *pp.* 201–207. *Izdat. Bolgar. Akad. Nauk, Sofia*, 1972. (J. Blatter) **52** #1406 47D05

hnen, Walter (*with* Boddenberg, Erich; Rinkens, Hans-Dieter; Schmitz, Georg) ★Mathematik-Lexikon. Begriffswörterbuch zur Didaktik der Mathematik. *Westermann Taschenbuch, Braunschweig*, 1972. 188 *pp.* (Editors) **50** #6741 00A20

Riemann-Integrierbarkeit und Stetigkeit. *Praxis Math.* **16** (1974), 93–98. (T. A. Botts) **54** #5399 26–01

n-parametrige Halbgruppen von Operatoren in der Approximationstheorie. (English summary) *Approximation theory* (*Proc. Conf., Inst. Math., Adam Mickiewicz Univ., Poznań*, 1972), *pp.* 121–128. *Reidel, Dordrecht*, 1975. (G. Mühlbach) **56** #16220 41A35

hno, A. P. *H*-projectors in π-solvable groups. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 4, 5–10. (B. Hartley) **45** #5225 20D20

The finite groups with system normalizers of a given type. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 6, 8–12. (M. Herzog) **45** #5226 20D20

Relative system normalizers of finite groups. (Russian) *Finite groups* (*Proc. Gomel Sem.*, 1973/1974) (*Russian*), *pp.* 43–51, 228. *Izdat. "Nauka i Tehnika", Minsk*, 1975. (S. S. Levīščenko) **53** #10924 (EA **54**) 20D20

(*with* Šemetkov, L. A.; Kravčuk, M. I.; Poljakov, L. Ja.; Rusakov, S. A.) Sergeĭ Antonovič Čunihin (on the occasion of his seventieth birthday). (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 5, 129–130. (Editors) **52** #27 01A70

A test for the solvability of finite groups. (Russian) *Finite groups* (*Proc. Gomel Sem., Gomel*, 1975–1977) (*Russian*), *pp.* 26–28, 173. *"Nauka i Tehnika", Minsk*, 1978. (Ja. G. Berkovič) **58** #22279 20D10

ohno, Mitsuhiko Stokes phenomenon for general linear ordinary differential equations with two singular points. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 310–314. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (A. Averna) **53** #8535 34A25

A two point connection problem for *n*-th order single linear ordinary differential equations with an irregular singular point of rank two. *Japan J. Math.* **40** (1971), 11–62. (A. Averna) **46** #9430 34C05 (34A30)

A two point connection problem for general linear ordinary differential equations. *Hiroshima Math. J.* **4** (1974), 293–338. (A. Averna) **51** #8570 34E05

(*with* Ohtomo, Masahide) A note on generalized factorial series expansions. *Hiroshima Math. J.* **7** (1977), *no.* 2, 605–628. (James M. D'Archangelo) **57** #755 34A30 (34C05)

Kohno, T. *See* **Control in space**, **48** #13319

Kohonen, Teuvo (*with* Oja, Erkki; Ruohonen, Matti) Adaptation of a linear system to a finite set of patterns occurring in an arbitrarily varying order. *Acta Polytech. Scand. Math. and Comput. Mach. Ser. No.* 25 (1974), 15 *pp.* (W. W. Armstrong) **52** #16168 68A35 (65F10)

(*with* Oja, Erkki) Fast adaptive formation of orthogonalizing filters and associative memory in recurrent networks of neuron-like elements. *Biol. Cybernet.* **21** (1976), *no.* 2, 85–95. (Authors' summary) **58** #4413 92A05 (92A25)

★Associative memory. A system-theoretical approach. Communication and Cybernetics, Vol. 17. *Springer-Verlag, Berlin-New York*, 1977. ix + 176 *pp.* *ISBN* 3-540-08017-1 (V. Komkov) **57** #4710 68A50 (92A25)

Kohout, Ladislav J. (*with* Gaines, Brian R.) The logic of protection. *Fünfte Jahrestagung der Gesellschaft für Informatik* (*Dortmund*, 1975), *pp.* 736–751. *Lecture Notes in Comput. Sci., Vol.* 34, *Springer, Berlin*, 1975. (Andrea Maggiolo-Schettini) **52** #9725 68A99 (02C10)

Generalized topologies and their relevance to general systems. Bibliography of works of the Čech topological school. *Internat. J. Gen. Syst.* **2** (1975), *no.* 1, 25–34. (Editors) **58** #2670 54A05 (93A10, 01A60)

Application of multi-valued logics to the study of human movement control and of movement disorders. *Proceedings of the Sixth International Symposium on Multiple-Valued Logic* (*Univ. Center, Utah State Univ., Logan, Utah*, 1976), *pp.* 224–232. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Author's summary) **58** #20563 92A05 (02C05)

(*with* Gaines, Brian R.) Protection as a general systems problem. *Internat. J. Gen. Syst.* **3** (1976), *no.* 1, 3–23. (Authors' summary) **55** #10081 93A10 (68A50, 92A05)

Representation of functional hierarchies of movement in the brain. *Internat. J. Man-Mach. Stud.* **8** (1976), *no.* 6, 699–709. (Not reviewed) 92A05 (92A25)

(*with* Gaines, Brian R.) The fuzzy decade: a bibliography of fuzzy systems and closely related topics. *Fuzzy automata and decision processes, pp.* 403–490. *North-Holland, New York*, 1977. **58** #21276 01A65

(*with* Gaines, Brian R.) The fuzzy decade: a bibliography of fuzzy systems and closely related topics. *Internat. J. Man-Machine Studies* **9** (1977), *no.* 1, 1–68. (See Zbl **353** #02011) 93A99 (68A99, 94A99)

Functional hierarchies in the brain. *Applied general systems research* (*Internat. Conf., State Univ. New York, Binghamton, N.Y.*, 1977), *pp.* 531–544. *NATO Conf. Ser.: Systems Sci., Vol.* 5, *Plenum, New York*, 1978. (From the introduction) **58** #20564 92A05

Kohout, V. *See* **Dictionary: Czech-Russian**, **50** #4202

Kohov, V. A. (*with* Bašmakov, I. A.; Besfamil'nyĭ, M. S.) The classification of problems of graph theory. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 178 (1974), 119–125. (W. Imrich) **56** #5360 05C99

A certain invariant of graphs. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Dist. Vyp.* 178 (1974), 154–160. (D. Cvetković) **53** #5376 05C99

All cubic graphs of least order with a trivial automorphism group. (Russian) *Programmirovanie* **1976**, *no.* 4, 106–107, 112. (B. Zelinka) **54** #12565 05C25

(*with* Kohova, E. M.) Unilateral graphs of least order with trivial automorphism group. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 299 (1976), 61–65. (Cristina Zamfirescu) **58** #21786 05C25

(*with* Kohova, E. M.) A study of the symmetry of a family of strongly regular graphs. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 299 (1976), 66–69. (H.-J. Voss) **58** #5401 05C99

Kohova, E. M. (*with* Kohov, V. A.) Unilateral graphs of least order with trivial automorphism group. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 299 (1976), 61–65. (Cristina Zamfirescu) **58** #21786 05C25

(*with* Kohov, V. A.) A study of the symmetry of a family of strongly regular graphs. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 299 (1976), 66–69. (H.-J. Voss) **58** #5401 05C99

Koi, Yoshiharu (*with* Watanabe, Jiro) On nonlinear evolution equations with a difference term of subdifferentials. *Proc. Japan Acad.* **52** (1976), *no.* 8, 413–416. (J. Kisyński) **55** #3891 47H15

Koĭbaev, V. A. Examples of non-monomial linear groups without transvections. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **71** (1977), 153–154, 285. (J. S. Joel) **57** #9864 20G15 (10C30)

Koĭfman, A. A. Imbeddability of computational equipment. (Russian) *Vyčisl. Sistemy No.* 33 (1969), 10–24. (From the author's introduction) **46** #1124 68A05

(*with* Moskov, B. A.; Pankov, A. V.; Popkov, V. K.; Skorobogatov, V. A.) Choice of a basis for an element of a one-dimensional computing medium. (Russian) *Vyčisl. Sistemy No.* 54 (1973), 112–118, 155. (Authors' summary) **49** #4311 68A25

See also **Probabilistic automata and their application**, **48** #5745

Koĭfman, Ju. I. *See* **Mathematics and progress in science and technology**, **48** #8170

Koĭfman, L. A. Rings over which singular modules are injective. II. (Russian) *Mat. Issled.* **6** (1971), *no.* 3(21), 62–84, 199–200. (L. Bican) **47** #8616 16A52

Rings whose quotient rings are all cogenerators. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), *no.* 5, 7–11. (D.-M. Popescu) **45** #5160 16A40

Projectivity, injectivity, flatness, etc. (Russian) *Modules, I* (*Russian*), *pp.* 27–43. *Inst. Mat. Sibirsk. Otdel. Akad. Nauk SSSR, Novosibirsk*, 1973. (J. S. Joel) **56** #15700 16A50 (16A52)

Homological classification of rings. (Russian) *Modules, II* (*Russian*), *pp.* 3–41. *Inst. Mat. Sibirsk. Otdel. Akad. Nauk SSSR, Novosibirsk*, 1973. (J. S. Joel) **56** #5656 16A62

Splitting off of torsion over commutative rings. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2(188), 215–216. (Chr. U. Jensen) **54** #5216 13C10 (18E40)

See also **Skornjakov, L. A.; et al.**, **56** #395 *and* **Faith, Carl**, **58** #10983

Koike, K. Origin of quark charges and neutral current. *Lett. Nuovo Cimento* (2) **20** (1977), *no.* 12, 440–442. (From the text) **58** #19891 81.00

Koike, Masao Congruences between modular forms and functions and applications to the conjecture of Atkin. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 129–169. (A. I. Vinogradov) **55** #10391 10D10 (10D15)

On some *p*-adic properties of the Eichler-Selberg trace formula. *Nagoya Math. J.* **56** (1975), 45–52. (Yasuo Morita) **52** #3058 10D05

On certain Abelian varieties obtained from new forms of weight 2 on $\Gamma_0(3^4)$ and $\Gamma_0(3^5)$. *Nagoya Math. J.* **62** (1976), 29–39. (Loren D. Olson) **54** #2595 10D25 (14K22)

Congruences between cusp forms and linear representations of the Galois group. *Nagoya Math. J.* **64** (1976), 63–85. (Roy Fuller) **54** #7384 10D15

On *p*-adic properties of the Eichler-Selberg trace formula. II. *Nagoya Math. J.* **64** (1976), 87–96. (Yasuo Morita) **55** #2757 10D15

Congruences between cusp forms and linear representations of the Galois group. *Algebraic number theory* (*Kyoto Internat. Sympos., Res. Inst. Math. Sci., Univ. Kyoto, Kyoto*, 1976), *pp.* 109–116. *Japan Soc. Promotion Sci., Tokyo*, 1977. (Yasutaka Ihara) **57** #5907 10D15 (12A55)

Koike, Takeshi (*with* Kameda, Hiroyuki) Reliability theory of structures with strength degradation in load history. *Mem. Fac. Engrg. Kyoto Univ.* **35** (1973), 331–360. (J. Murzewski) **50** #1609 73.60

Koĭt, M. Certain properties of an elementary-utilitarian language. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised No.* 2 (1974), 263–294. (André Lentin) **51** #9583 68A30 (02E10)

A certain semantic algorithm. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised Vih.* 374 (1975), 229–237. (A. A. Mullin) **54** #1723 68A30 (00A25, 02B99)

Koiter, W. T. On the mathematical foundation of shell theory. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 3, *pp.* 123–130. *Gauthier-Villars, Paris*, 1971. (S. Drobot) **54** #14505 73.35

(*with* Simmonds, James G.) Foundations of shell theory. *Theoretical and applied mechanics* (*Proc. Thirteenth Internat. Congr., Moscow Univ., Moscow*, 1972), *pp.* 150–176. *Springer, Berlin*, 1973. (H. J. Weinitschke) **56** #4335 73.35

A basic open problem in the theory of elastic stability. *Applications of methods of* *functional analysis to problems in mechanics* (*Joint Sympos., IUTAM/IMU, Marseille,* 1975), *pp.* 366–373. *Lecture Notes in Math.,* 503. *Springer, Berlin,* 1976. (P. M. Gupta) **58** #32280 73.49

On the complementary energy theorem in non-linear elasticity theory. *Trends in applications of pure mathematics to mechanics* (*Conf., Univ. Lecce, Lecce,* 1975), *pp.* 207–232. *Monographs and Studies in Math., Vol.* 2, *Pitman, London,* 1976. (Author's summary) **58** #3885 73.49

See also **Collection: Prager, William, 48** #1566 *and* **Theoretical and applied mechanics, 55** #2454

Kõiv, M. (*with* Lôhmus, J.) Associative and alternative first-order finite deformations of two-dimensional algebras. (Loose Russian summary) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **22** (1973), 437–439. (W. S. Piper) **48** #11209 16A58 (17A05)

(*with* Loide, R.-K.) A note on superfield algebras. (Loose Russian summary) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 1, 69–71. (Pavel Winternitz) **53** #15137 81.22

Koivo, A. J. Optimal estimator for linear stochastic systems described by functional differential equations. *Information and Control* **19** (1971), 232–245. (Pan-Tai Liu) **46** #10480 93E20

Optimal control of linear stochastic systems described by functional differential equations. *J. Optimization Theory Appl.* **9** (1972), 161–175. (B. Grigelionis (RŽMat **1973** #2 V78)) **51** #2741 93E20

(*with* Repperger, D. W.) On stable, forward, filtering and fixed-lag smoothing in a class of systems with time delays. *IEEE Trans. Automatic Control* **AC-19** (1974), 266–268. (See Zbl **278** #93036) 93E10

See also **Distributed parameter systems, 58** #26194

Koivo, H. N. (*with* Lee, E. B.) Controller synthesis for linear systems with retarded state and control variables and quadratic cost. *Automatica–J. IFAC* **8** (1972), 203–208. (Authors' summary) **56** #11205 93C05

On the equivalence of maximum principle open-loop controllers and Carathéodory feedback controllers for time-delay systems. *J. Optimization Theory Appl.* **14** (1974), 163–178. (D. H. Chyung) **50** #1090 49E05

(*with* Bhat, K. P. M.) An observer theory for time-delay systems. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 2, 266–269. (B. P. Molinari) **54** #12260 93B05

(*with* Bhat, K. P. M.) Model characterizations of controllability and observability in time delay systems. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 2, 292–293. (B. P. Molinari) **54** #12261 93B05

See also **Distributed parameter systems, 58** #26194

Koizumi, Nobuo (*with* Akashi, Hajime; Nose, Kazuo) State estimation for linear discrete-time systems with state-dependent noise. *Mem. Fac. Engrg. Kyoto Univ.* **37** (1975), *no.* 2, 127–140. (H. Taylor) **52** #10168 93E10

Koizumi, Shoji The fields of moduli for polarized abelian varieties and for curves. *Nagoya Math. J.* **48** (1972), 37–55. (T. Matsusaka) **50** #4582 14D20 (10D20)

On the structure of the graded *C*-algebras of theta functions. *Proc. Japan Acad.* **51** (1975), 325–329. (H. M. Farkas) **52** #10754 14K25

Theta relations and projective normality of Abelian varieties. *Amer. J. Math.* **98** (1976), *no.* 4, 865–889. (T. Oda) **58** #702 14K25 (14K05)

The ring of algebraic correspondences on a generic curve of genus *g*. *Nagoya Math. J.* **60** (1976), 173–180. (W.-D. Geyer) **53** #446 14H40 (14K10)

The rank theorem on matrices of theta functions. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 1, 115–122. (H. M. Farkas) **58** #703 14K25

Koizumi, Sumiyuki A theorem about interpolation of operations on intermediate spaces. Collection of articles dedicated to Gen-ichirô Sunouchi on his sixtieth birthday. *Tôhoku Math. J.* (2) **24** (1972), 245–249. (R. A. Hunt) **49** #1094 46E35

Contributions to the theory of interpolation of operations. II. *Osaka J. Math.* **10** (1973), 131–145. (M. Cotlar) **49** #9617 46E35

Koizumi, Takatsugu (*with* Mine, Hisashi; Ohno, Katsuhisa) A single-server queue with service times depending on the order of services. *Operations Res.* **24** (1976), *no.* 1, 188–190. (Stig I. Rosenlund) **53** #6790 60K25

Kojalovic, B. M. *See* **Mihel'son, N. N., 57** #12128

Kojecká, Jitka (*with* Trávníček, Stanislav) Einige Bemerkungen über die Nullstellen im zweidimensionalen Raum stetiger Funktionen. (Czech summary) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **37** (1972), 45–50. (Jerry Ridenhour) **49** #10966 34C10

Lineare zweidimensionale Räume von stetigen Funktionen mit stetigen ersten Ableitungen. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **45** *Mat.* **14** (1974), 17–30. (E. Barvínek) **52** #852 34A30

(*with* Netuka, Horymír) Einige Bemerkungen über Nullpunkte im bestimmten dreidimensionalen Raume stetiger Funktionen. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **49** *Mat.* (1976), 51–57. (Authors' summary) **58** #6498 34C10

Kojima, Fumio (*with* Sunahara, Yoshifumi; Koyama, Muneshi; Aihara, Shin'ichi) On the optimal control for distributed parameter systems with Markov chain coefficients. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras,* 1976), *Vol.* 1, *pp.* 27–31. *Hemisphere, Washington, D.C.,* 1977. (Authors' summary) **58** #9729 93E20

(*with* Sunahara, Yoshifumi; Aihara, Shin'ichi) Filtering for distributed parameter systems with stochastic coefficients. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras,* 1976), *Vol.* 2, *pp.* 371–375. *Hemisphere, Washington, D.C.,* 1977. (Authors' summary) **58** #15591 93E10

Kojima, Jun (*with* Kinoshita, Moto-o) A relative cohomology in the frame of the derived category. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 1, 10–12. (R. A. Piccinini) **58** #7740 58G05 (14F20, 35N10, 55B40)

Kojima, Ken-ichi (*with* Smouse, Peter E.) Maximum likelihood analysis of population differences in allelic frequencies. *Genetics* **72** (1972), *no.* 4, 709–719. (Jon Stene) **56** #9882 62P10 (92A10)

Kojima, Masaaki (*with* Honda, Namio) Properties of context-sensitive tree automata and characterization of derivation trees of context-sensitive grammars. *Systems-Computers-Controls* 3 (1972), *no.* 5, 23–30 (1973). (David M. Clark) **49** #4323 68A30

(*with* Honda, Namio) A characterization of sets of trees acceptable by tree automata. *Systems-Computers-Controls* **4** (1973), *no.* 1, 40–47. (Guy Vidal-Na
54 #7142 94A30

Kojima, Masakazu Vector maximum problems. *Keio Engrg. Rep.* **24** (1971), 47–6
Göpfert) **45** #6437 90C30

Duality between objects and constraints in vector optimum problems. *J. Oper*
Res. Soc. Japan **15** (1972), 53–62. (R. L. Graves and S. Zionts) **48** #10514 90

Computational methods for solving the nonlinear complementarity problem.
Engrg. Rep. **27** (1974), 1–41. (V. F. Dem′janov) **51** #2286 65K05

A unification of the existence theorems of the nonlinear complementarity prob
Math. Programming **9** (1975), *no.* 3, 257–277. (K. G. Murty) **54** #4669 90C30

Vector maximum problems with convexity. *Pure Appl. Math. Sci.* **3** (1976), *no*
61–64. (Zbl **362** #90093) **58** #20433 90C25

(*with* Nishino, Hisakazu; Sekine, Tomaharu) An extension of Lemke's meth
the piecewise linear complementarity problem. *SIAM J. Appl. Math.* **31** (1976),
600–613. (Authors' summary) **58** #25966 90C05

(*with* Megiddo, Nimrod) On the existence and uniqueness of solutions in nonl
complementarity theory. *Math. Programming* **12** (1977), *no.* 1, 110–130. (Claude Carasso) **57** #11750 90C25

Studies on piecewise-linear approximations of piecewise-C^1 mappings in
points and complementarity theory. *Math. Oper. Res.* **3** (1978), *no.* 1, 17–36. (Ni
Megiddo) **58** #2869 58E15 (58C25, 65H05)

On the homotopic approach to systems of equations with separable mappi
Complementarity and fixed point problems. *Math. Programming Stud. No.* 7 (1
170–184. (C. B. Garcia) **57** #9088 90C99 (55C20, 65J05)

Kojima, Masatoshi (*with* Nasu, Toshio) A remark on *q*-conformally flat product Riemannian manifolds. *Proc. Japan Acad.* **50** (1974), 793–796. (O. Kowalski) **51** #
53C20

Kojima, Michitaka (*with* Sunouchi, Gen-ichirô) Characterization of saturation class
$L(R^n)$. *Studia Math.* **48** (1973), 71–81. (R. J. Nessel) **49** #11114 41A40

On the almost everywhere convergence of rectangular partial sums of mul
Fourier series. *Sci. Rep. Kanazawa Univ.* **22** (1977), *no.* 2, 163–177. (G. V. Well
57 #13375 42A92

Kojima, Sadayoshi A classification of some even dimensional fibered knots. *J. Fac.*
Univ. Tokyo Sect. IA Math. **24** (1977), *no.* 3, 671–683. (Editors) **58** #31099 5

Kojima, Seiji (*with* Fujigaki, Masashi) A new relativistic mechanics for two-particle system. *Progr. Theoret. Phys.* **59** (1978), *no.* 4, 1330–1345. (H. S. P. Grässer) **58** #1
83.49

Kojima, Yoshiaki (*with* Ikai, Takeo; Kosako, Hideo) Subsequences in linear recu
sequences. *Electron. Commun. Japan* **53** (1970), *no.* 12, 159–166. (G. U. Br
46 #9011 12C05 (94A10)

(*with* Kinoshita, Eisuke; Kosako, Hideo) A method of residue division. *Systems-Computers-Controls* **1** (1970), *no.* 4, 18–26 (1971). (M. S. Cheema) **46** #46
65D99

(*with* Ikai, Takeo; Kosako, Hideo) Nonperiod-length subsequences includi
cyclic subspace—subsequences in linear recurring sequences. *Systems-Computers-Controls* **2** (1971), *no.* 4, 34–41. (E. L. Cohen) **49** #2194 94

(*with* Kutsuwa, Toshiro; Morita, Kenichi; Kosako, Hideo) Generations of ran
probability-vectors. *Bull. Univ. Osaka Prefecture Ser. A* **21** (1972), *no.* 1, 75–84
Pickands, III) **48** #1428 65C10

(*with* Kinoshita, Eisuke; Kosako, Hideo) Logical implementation of arithm
operations in the symmetric residue number system. *Bull. Univ. Osaka Prefecture Se*
22 (1973), *no.* 2, 139–149. (R. N. Goss) **50** #6205 68A20

(*with* Ikai, Takeo; Kosako, Hideo) Two-dimensional cyclic codes. *Electron. Co*
Japan **57** (1974/75), *no.* 4, 27–35. (Authors' summary) **56** #15140 94A10

(*with* Kinoshita, Eisuke; Kosako, Hideo) Floating-point arithmetic algorithm
the symmetric residue number system. *IEEE Trans. Computers* **C-23** (1974), 9–20.
S. Cheema) **50** #9042 68A10

Kôjyô, Hidemaro On a *K*-space with certain conditions. *Hokkaido Math. J.* **1** (19
228–231. (M. C. Chaki) **47** #7634 53B35

On conformal Killing tensors of a Riemannian manifold of constant curvat
Hokkaido Math. J. **2** (1973), 236–242. (A. Wyler) **49** #3724 53B20

Certain properties of submanifolds in a Riemannian manifold of constant curva
admitting a conformal Killing vector. *Hokkaido Math. J.* **3** (1974), 65–94. (K. Nom
48 #4966 53C40

A remark on conformal Killing tensors of a Riemannian manifold of cons
curvature. *Hokkaido Math. J.* **3** (1974), 250–255. (H. D. Pande) **50** #14548 53

(*with* Katsurada, Yoshie; Nagai, Tamao) ★On submanifolds with constant m
curvature in a Riemannian manifold. Publications of the Study Group of Geome
Vol. 9. *Study Group of Geometry, Institute of Mathematics, Yoshida College, K*
University, Kyoto, 1975. v+137 *pp.* (David Blair) **52** #15313 53C40

de Kok, F. On the method of stationary phase for multiple integrals. *SIAM J. Math. A*
2 (1971), 76–104. (H. A. Lauwerier) **45** #9041 41A60

Kok, H. On conditions equivalent to the orderability of a connected space. *Nieuw A*
Wisk. (3) **18** (1970), 250–270. (D. R. Brown) **45** #9295 54F05 (06A45)

(*with* Telgársky, Rastislav) The space of rationals is not absolutely paracompa
Fund. Math. **73** (1971/72), *no.* 1, 75–78. (C. E. Aull) **45** #2662 54D20

★Connected orderable spaces. Mathematical Centre Tracts, No. 49. *Mathemat*
Centrum, Amsterdam, 1973. vi+91 *pp.* (*loose addenda*) (H. Herrlich) **49** #3862 54F05 (54D05)

On tree-like spaces and the intersection of connected subsets of a connec
T_1-space. *Topics in topology* (*Proc. Colloq., Keszthely,* 1972), *pp.* 451–454. *Colloq. M*
Soc. János Bolyai, Vol. 8, *North-Holland, Amsterdam,* 1974. (Donald E. Bennett) **50** #11142 54D20 (22A05, 54E15)

Kok, Kim-Lian (*with* Patterson, H. D.) Algebraic results in the theory of serial facto
design. *Biometrika* **63** (1976), *no.* 3, 559–565. (M. N. Das) **57** #17977 62K15

Kokame, Hideki (*with* Muraoka, Takatoshi; Hattori, Yoshio) An extended maximum principle for systems with unknown parameters. *Tech. Rep. Inst. Atom. Energy Ky*
Univ. No. 162 (1973), 17 *pp.* (N. U. Ahmed) **48** #12206 49B10 (93E05)

On some aspects in stochastic dynamic programming with terminal region. *J. Ma*
Anal. Appl. **65** (1978), *no.* 3, 638–659. (Author's introduction) **58** #23922 49C
(93E20)

areva, T. A. The analytic solutions of the Cauchy problem for certain integro-differential equations. (Russian) *Works of the Department of Mathematical Analysis of Kaliningrad State University* (1969) (*Russian*), *pp*. 38–63. *Kaliningrad. Gos. Univ., Kaliningrad*, 1969. (R. S. Levitin) **55** #10807 35A05 (45K05)

kawa, M. *See* **Fuzzy sets and their applications to cognitive and decision processes,** **52** #2264

kilašvili, V. M. Approximation of analytic functions of class E_p. (Russian. Georgian summary) *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **34** (1968), 82–102. (Author's introduction) **46** #366 30A82

The boundedness of singular integral operators in weighted L_p spaces. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **64** (1971), 17–20. (F. Smithies) **45** #2535 47G05 (45E99)

The coefficients of power series and trigonometric Fourier series. (Russian. Georgian summary) Collection of articles on the theory of functions, 4. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **42** (1972), 78–86. (Yung-ming Chen) **49** #10864 30A10 (42A16)

Conjugate functions. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **68** (1972), 537–540. (W. C. Connett) **50** #5341 42A40

The boundedness of singular integral operators in L_p spaces with weight. (Russian) *Proceedings of the Symposium on Continuum Mechanics and Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 1 (*Russian*), *pp*. 125–141. *Izdat. "Mecniereba", Tbilisi*, 1973. (N. K. Kaŕapetjanc) **51** #13775 47G05 (44A25, 42A40)

The boundary properties of a certain class of functions. (Russian. Georgian summary) A collection of articles on the theory of functions, 5. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **43** (1973), 72–86. (J. Musielak) **50** #2901 46E35

Multipliers and the decomposition of trigonometric Fourier series. (Russian. Georgian summary) A collection of articles on the theory of functions, 5. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **43** (1973), 87–110. (J. Musielak) **50** #2787 42A18 (46E35)

Multipliers of Fourier transforms. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 19–22. (M. Taibleson (Zbl **339** #42004)) **57** #13368 42A68

Singular integrals and maximal operators with Cauchy kernel. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no*. 3, 555–558. (A. Devinatz) **53** #1143 42A40

(*with* Paatašvili, V. A.) The boundary value problem of linear conjugation with measurable coefficients. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no*. 5, 1008–1011. (V. G. Kravčenko) **53** #5895 30A88

The boundedness of certain operators that are invariant with respect to shift in spaces with weight. (Russian. Georgian summary) Collection of articles on the theory of functions, 6. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **47** (1975), 14–33. (W. C. Connett) **54** #3513 47G05 (44A15)

The boundedness of a singular operator with a Cauchy kernel in weighted spaces. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), *no*. 3, 529–532. (V. G. Kravčenko) **53** #6362 47G05

On multipliers of Fourier transforms and imbedding theorems in certain function spaces. (Russian) Presented at the International Conference on the Theory of Appoximation of Functions (Kaluga, 1975). *Mat. Zametki* **20** (1976), *no*. 4, 605–610. (See Zbl **355** #42002) 42A18 (46E35)

Singular integrals, and multipliers of Fourier transforms. (Russian. Georgian summary) Collection of articles on the theory of functions, Vol. 7. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **53** (1976), 38–61. (W. R. Madych) **56** #6260 42A18 (42A40, 44A25)

Maximal singular integral operators with a Cauchy kernel. (Russian) Collection of articles on the theory of functions, 8: Boundary problems on the theory of functions. Problems of convergence of multiple Fourier series. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **55** (1977), 39–58. (R. C. Gilbert) **58** #1976 42A40

(*with* Paatašvili, V. A.) A boundary value problem of linear conjugation with measurable coefficients. (Russian) Collection of articles on the theory of functions, 8: Boundary problems on the theory of functions. Problems of convergence of multiple Fourier series. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **55** (1977), 59–92. (S. G. Samko) **57** #12863 30A88

Maximum inequalities and multipliers in weighted Lizorkin-Triebel spaces. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no*. 1, 42–45. (A. Kufner) **57** #10340 42A18

Kokočašvili, T. G. On the question of subjective probabilities in Carnap's scheme. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **82** (1976), *no*. 2, 329–332. (I. Kramosil) **55** #2359 94A15 (60A05)

Kokorin, A. I. ★Упорядочиваемые группы. (Russian) [Orderable groups] Publication of the Department of Algebra and Mathematical Logic of the Novosibirsk State University, No. 1. *Novosibirsk. Gosudarstv. Univ., Novosibirsk*, 1966. 128 *pp*. (L. Fuchs) **47** #8385 06A55

(*with* Kopytov, V. M.) ★Линейно упорядоченные группы. (Russian) [Linearly ordered groups] Monographs in Contemporary Algebra. *Izdat. "Nauka", Moscow*, 1972. 199 *pp*. (L. Beran) **50** #12852 06A55

(*with* Mart′janov, V. I.) Universal extended theories. (Russian) *Algebra, No. II* (*Russian*), *pp*. 107–113. *Irkutsk. Gos. Univ., Irkutsk*, 1973. (W. Taylor) **53** #5286 02G05 (02H05)

(*with* Kopytov, V. M.) ★Fully ordered groups. Translated from the Russian by D. Louvish. *Halsted Press* [*John Wiley & Sons*], *New York-Toronto, Ont.*; *Israel Program for Scientific Translations, Jerusalem-London*, 1974. x + 147 *PP*. (Editors) **51** #306 06A55

(*with* Kozlov, G. T.) Proof of a lemma on model completeness. (Russian) *Algebra i Logika* **14** (1975), *no*. 5, 533–535, 606. (S. R. Kogalovskiĭ) **56** #11729 02H15 (20K99)

(*with* Pinus, A. G.) Questions of the decidability of extended theories. (Russian) *Uspehi Mat. Nauk* **33** (1978), *no*. 2(200), 49–84, 247. (S. R. Kogalovskiĭ) **58** #5153 02G05 (02H15)

See also **Algebra, 55** #10176

Kokorin, N. A. Statically indeterminate girders of least weight under movable loading. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 113 (1969), 59–69. (K. M. Huberjan (RŽMeh **1970** #6 B771)) **52** #9752 73.34

Kokorin, V. S. (*with* Amerbaev, V. M.) Parallelization of the round-off operation in a residue class system. (Russian) *Coding theory and information modeling* (*Russian*), *pp*. 74–79, 192. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1973. (Authors' summary) **58** #13667 65G05

Kokoris, Louis A. (*with* Goldman, Jerry I.) Generalized simple noncommutative Jordan algebras of degree two. *J. Algebra* **42** (1976), *no*. 2, 472–482. (M. L. Tomber) **54** #7560 17A15

Kokošinskaja, N. S. (*with* Emel′janova, Z. M.; Iljuščenkova, A. A.; Pavlov, B. M.; Paskonov, V. M.; Petrova, L. I.; Poljanskiĭ, V. A.) A numerical investigation of the flows of a real gas around bodies of finite dimension and in their wake. (Russian) *Vyčisl. Metody i Programmirovanie No.* 23 (1974), 3–41. (From the text) **58** #25379 76.65

Kokoszkiewicz, A. On the stability of a finite-difference scheme of solving the Cauchy problem for a degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 511–515. (R. Kodnár) **46** #1104 65N10

A finite-difference scheme of solving the Cauchy problem for a degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 759–763. (J. Kopáček) **46** #4741 65M05

A difference scheme for the solution of the Cauchy problem for a degenerate second order hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 959–962. (J. Kopáček) **46** #4742 65M05

A difference scheme for solving the mixed problem for a degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), 77–79. (E. G. D′jakonov) **53** #1971 65N05

Difference schemes for solving the Cauchy problem for a one-dimensional degenerate second order hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), 81–85. (E. Schechter) **52** #16044 65M05

On the numerical solution of the mixed initial-boundary value problem for a degenerate hyperbolic second order equation. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no*. 4, *T*248–*T*249. (W. Sibagaki) **54** #1650 65N10

An explicit difference scheme for the solution of the Cauchy problem for a degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 8, 639–642. (G. C. Barozzi) **55** #1746 65M10

An unconditionally stable difference scheme for the solution of the mixed problem for a one-dimensional degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 8, 643–645. (J. Kopáček) **55** #13812 65N10

An explicit difference scheme for the solution of the mixed problem for a degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 8, 647–649. (J. Kopáček) **55** #13813 65N10

A conditionally stable difference scheme for the solution of the Cauchy problem for a degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 8, 651–653. (J. Kopáček) **55** #13814 65N10

An explicit difference scheme for the solution of the Cauchy problem for a one-dimensional degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 10, 919–921. (E. Schechter) **55** #4704 65M10

A conditionally stable difference scheme for the solution of the mixed problem for a one-dimensional degenerate hyperbolic equation. (Russian. English summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 10, 923–925. (E. Schechter) **55** #4705 65N99

Kokot, J. (*with* Matysiak, Stanisław) Singularity of stresses in micropolar half-space in the "second" plane state of deformation induced by discontinuous loads. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 803–811. (D. Ieşan) **53** #15045 73.35

Kokotov, V. M. (*with* Sadykov, I. H.) A certain problem for compiling an optimal schedule of freight shipments. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no*. 1, 170–173. (L. A. Krassin) **56** #4790 90B10

Kokotović, Petar V. (*with* Perkins, William R.; Cruz, José B., Jr.; D'Ans, G.) ε-coupling method for near-optimum design of large-scale linear systems. *Proc. Inst. Elec. Engrs.* **116** (1969), 889–892. (R. F. Albrecht) **46** #10439 93A15 (65K05)

(*with* Singh, Gurdial) Optimization of coupled non-linear systems. *Internat. J. Control* (1) **14** (1971), 51–64. (Norman P. Coleman, Jr.) **46** #8708 93C10 (34H05, 65K05)

(*with* Wilde, Robert R.) Stability of singularly perturbed systems and networks with parasitics. *IEEE Trans. Automatic Control* **AC-17** (1972), (Authors' summary) **54** #13230 34D15

(*with* Yackel, Richard A.) Singular perturbation of linear regulators: basic theorems. *IEEE Trans. Automatic Control* **AC-17** (1972), 29–37. (C. E. Langenhop) **49** #11359 49E15 (34H05)

Sensitivity functions and reduced order modeling. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp*. 10–14. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (Peter Stavroulakis) **50** #4025 93B35

(*with* Wilde, Robert R.) Optimal open- and closed-loop control of singularly perturbed linear systems. *IEEE Trans. Automatic Control* **AC-18** (1973), 616–626. (T. Kaczorek) **53** #5095 93C05

(*with* Yackel, Richard A.) A boundary layer method for the matrix Riccati equation. *IEEE Trans. Automatic Control* **AC-18** (1973), *no*. 1, 17–24. (B. P. Molinari) **58** #9548 93C05

(*with* Haddad, A. H.) Controllability and time-optimal control of systems with slow and fast modes. *Proceedings of the 1974 IEEE Conference on Decision and Control including 13th Symposium on Adaptive Processes* (*Phoenix, Ariz.*, 1974), *pp*. 179–184. *Inst. Electr. Electron. Engrs., New York*, 1974. (Authors' summary) **56** #17951 93B05 (93C45) (*with* O'Malley, R. E., Jr.; Sannuti, P.) Singular perturbations and order reduction in control theory—an overview. *Proceedings of the IFAC 6th World Congress (Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No*. 51.3, 11 *pp*. *IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33301 93C15

(*with* Haddad, A. H.) Controllability and time-optimal control of systems with slow and fast modes. *IEEE Trans. Automatic Control* **AC-20** (1975), 111–113. (V. A. Plotnikov) **56** #1182 49E15

A Riccati equation for block-diagonalization of ill-conditioned systems. *IEEE Trans. Automatic Control* **AC-20** (1975), *no*. 6, 812–814. (K. W. Chang) **54** #5539 34C20

(*with* Chow, Joe H.) A decomposition of near-optimum regulators for systems with slow and fast modes. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp*. 219–224. *Inst. Electr. Electron. Engrs., New York*, 1976. (Editors) **57** #13651 49E05

(*with* O'Malley, R. E., Jr.; Sannuti, P.) Singular perturbations and order reduction in control theory—an overview. *Automatica—J. IFAC* **12** (1976), *no*. 2, 123–132. (F. Hoppensteadt) **52** #16740 93–02 (34D15)

(*with* Chow, Joe H.) A decomposition of near-optimum regulators for systems with slow and fast modes. *IEEE Trans. Automatic Control* **AC-21** (1976), *no*. 5, 701–705. (Authors' summary) **58** #26369 93C99

Singular perturbations in optimal control. Summer Research Conference on Singular Perturbations: Theory and applications (Northern Arizona Univ., Flagstaff, Ariz., 1975). *Rocky Mountain J. Math*. **6** (1976), *no*. 4, 767–773. (Mark D. Ardema) **54** #8410 49E25 (93C15)

(*with* Haddad, A. H.) Stochastic control of linear singularly perturbed systems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no*. 5, 815–821. (Authors' summary) **56** #15087 93E20

(*with* Young, Kar Keung D.; Utkin, V. I.) A singular perturbation analysis of high-gain feedback systems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no*. 6, 931–938. (Authors' summary) **57** #15634 93C15

(*with* Javid, S. H.) A decomposition of time scales for iterative computation of time-optimal controls. *J. Optimization Theory Appl*. **21** (1977), *no*. 4, 459–468. (Authors' review (Zbl **336** #49025)) **58** #33353 93C99

(*with* Khalil, Hassan K.) Control strategies for decision makers using different models of the same system. *IEEE Trans. Automatic Control* **AC-23** (1978), *no*. 2, 289–298. (Joseph D. Cole) **58** #15488 93C99 (90D35)

(*with* Chow, Joe H.) Near-optimal feedback stabilization of a class of nonlinear singularly perturbed systems. *SIAM J. Control Optim*. **16** (1978), *no*. 5, 756–770. (S. P. Bingulac) **58** #15530 93D15 (34D15)

See also **Sundararajan, N.; et al., 47** #1487 *and* **System sensitivity analysis, 52** #12863

Kokotuškin, V. A. (*with* Mihalev, D. G.) Servicing several flows by fully accessible clusters with relative priority of servicing and restricted queueing. *Problemy Peredači Informacii* **5** (1969), *no*. 2, 53–60 (*Russian*); *translated as Problems of Information Transmission* **5** (1969), *no*. 2, 40–46. (M. L. Chaudhry) **48** #12661 60K25

(*with* Bašarin, G. P.) Conditions for a strong statistical equilibrium for complex queueing systems. (Russian) *Problemy Peredači Informacii* **7** (1971), *no*. 3, 67–75. (Z. Khalil) **51** #7041 60K25

A certain generalization of the Palm-Hinčin theorem. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **19** (1974), 622–625. (Z. Khalil) **56** #9731 60K25

See also **Conway, Richard W.; et al., 52** #10012

Kokoulin, V. I. (*with* Večeslavov, V. V.) Determination of the parameters for conformal mapping of simply connected polygonal domains. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **13** (1973), 865–872, 1090. (R. Kühnau) **54** #1566 65E05 (30A28)

Kokovihina, O. V. Limit surfaces in stationary space flows with a degenerate hodograph. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **2** (1971), *no*. 2, 9–18. (Şt. I. Gheorghiţa) **52** #9790 76.35

Koks, D. R. *See* **Cox, D. R.**

Kokšaĭskiĭ, N. V. *See* **Cybernetics—in the service of Communism, 48** #10432

Koksma, J. F. ★Diophantische Approximationen. Reprint. *Springer-Verlag, Berlin-New York*, 1974. viii + 157 *pp*. (Editors) **49** #8940 10Fxx

See also **Novák, Břetislav, 53** #10726

Koktavý, Bohumil A contribution to the theory of generation-recombination noise in semiconductors. (Czech. Russian summary) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* **B-43** (1974), 49–56. (Author's summary) **55** #1952 78.60

Kolaitis, Memas ★English-Greek dictionary of pure and applied mathematics (with Greek-English appendices). Vol. 1. *Technical Chamber of Greece, Athens*, (1976). *pp*. i–iv + 1–692. (J. S. Joel) **55** #10184a 00A20

★English-Greek dictionary of pure and applied mathematics (with Greek-English appendices). Vol. 2. *Technical Chamber of Greece, Athens*, 1976. *pp*. 693–1516. (J. S. Joel) **55** #10184b 00A20

Kołakowski, Henryk (*with* Dryja, M.) A boundary value problem for equations of elastic cylindrical shell. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **22** (1974), 895–900. (Z. C. Motteler) **53** #8687 35Q99

Non-coercive mixed problem. *Comment. Math. Prace Mat*. **18** (1974/75), *no*. 2, 189–192. (D. K. Gvazava) **53** #3507 35L20

A mixed problem in R_+^3 for the Lamé equations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **25** (1977), *no*. 1, 1–6. (Monty Strauss) **56** #7414 73.35

A mixed problem for the equations of micropolar elasticity. *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **25** (1977), *no*. 9, 765–768. (W. Kecs) **57** #14739 73.35

Kolankowski, Stanisław Reminiscences on Józef Marcinkiewicz. (Polish) *Wiadom. Mat*. (2) **16**, 75–77 (1973). (Editors) **56** #11718 01A70

Kolář, Ivan On the prolongations of geometric object fields. (Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat*. (*N.S.*) **17** (1971), 437–446. (H. Osborn) **46** #4408 53A55

Higher order torsions of spaces with Cartan connection. *Cahiers Topologie Géom. Différentielle* **12** (1971), 137–146. (B. Cenkl) **47** #4168 53B15 (53A55)

On the torsion of spaces with connection. *Czechoslovak Math. J*. **21(96)** (1971), 124–136. (N. J. Hicks) **45** #2608 53C05

Canonical forms on the prolongations of principle fibre bundles. *Rev. Roumaine Math. Pures. Appl*. **16** (1971), 1091–1106. (H. A. Eliopoulos) **46** #824 53C10

Higher order torsions of manifolds with connection. *Arch. Math*. (*Brno*) **8** (1 149–156 (1973). (S. Takizawa) **48** #9599 53C05

The contact of spaces with connection. *J. Differential Geometry* **7** (1972), 563 (Jean Pradines) **54** #3740 58A20 (53C05, 58H05)

A generalized point of view to osculating spaces. *Rend. Mat*. (6) **5** (1972), 731 (P. Molino) **48** #12360 53B25

On the absolute differentiation of geometric object fields. *Ann. Polon. Mat* (1973), 293–304. (Ngô van Quê) **48** #4936 53A55

On the infinitesimal geometric objects of submanifolds. *Arch. Math*. (*Br* (1973), *no*. 4, 203–211. (T. J. Willmore) **51** #11309 53A55 (58A20)

Some higher order operations with connections. *Comment. Math. Univ. Car* **14** (1973), 761–766. (R. H. Bowman) **49** #7946 53C05

On manifolds with connection. *Czechoslovak Math. J*. **23(98)** (1973), 34–4 Takizawa) **47** #4169 53B15

On the prolongations of differentiable distributions. *Mat. Časopis Sloven Vied* **23** (1973), 317–325. (W. S. Piper) **49** #1543 58H05

On the reducibility of connections on the prolongations of vector bundles. *C Math*. **30** (1974), 245–257. (J. Pradines) **51** #9107 58A20 (53C05)

Some higher order operations with connections. *Czechoslovak Math. J*. **2** (1974), 311–330. (J. Virsik) **50** #8585 58A20 (53C05)

Generalized *G*-structures and *G*-structures of higher order. (Italian summ Collection in memory of Enrico Bompiani. *Boll. Un. Mat. Ital*. (4) **12** (1975), *n suppl*., 245–256. (Jean Pradines) **56** #3766 53C10 (58H05)

A generalization of the torsion form. *Časopis Pěst. Mat*. **100** (1975), *no*. 3, 284– (S. Takizawa) **52** #4168 53C05 (58A20)

Affine differential operators and the Hamilton formalism. (Czech and Rus summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* **B-56** (1 17–21. (W. J. Sweeney) **53** #6625 58E99 (58A15, 49F05)

On some operations with connections. *Math. Nachr*. **69** (1975), 297–306. (Pradines) **52** #11979 58A30 (53C05)

On the Hamilton formalism in in fibered manifolds. Symposium on Relativity Gravitation (Brno, 1975). *Scripta Fac. Sci. Natur. UJEP Brunensis—Phys*. **5** (1975) 3-4, 249–253. (Mauro Francaviglia) **56** #1353 58E99 (58F05)

On the jet prolongations of smooth categories. (Russian summary) *Bull. A Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **24** (1976), *no*. 10, 883–887. (Jean Pradi **55** #9138 58A20

Fundamental vector fields on associated fiber bundles. (Czech and loose Rus summaries) *Časopis Pěst. Mat*. **102** (1977), *no*. 4, 419–425, 427. (Ngô van **58** #2928 58H05 (58A20)

On the invariant method in differential geometry of submanifolds. *Czechosl Math. J*. **27(102)** (1977), *no*. 1, 96–113. (V. Oproiu) **55** #1256 53C30 (58H05)

On the Euler-Lagrange differential in fibered manifolds. *Rep. Mathematical* **12** (1977), *no*. 3, 301–305. (Weishu Shih) **58** #18550 58E99 (58G99)

See also **Ehresmann, Charles, 58** #9948

Kolář, Josef A new possibility in bi-directional search. *Kybernetika* (*Prague*) **13** (1977), 1, 11–22. (Eberhard Lüdde) **56** #7370 68A45

Kolář, Pavel (*with* Fischer, Jan; Vrkoč, Ivo) Rigorous phase-modulus correlations forward scattering amplitude at high energies. *Phys. Rev. D* (3) **13** (1976), *no* 133–149. (Porter W. Johnson) **53** #7260 81.30

(*with* Rešod'ko, L. V.; Grim, Jiří) Cellular automata and cellular biological systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 3, 134– (Robert M. Baer) **56** #8072 92A05 (92–04, 94A30)

Kolar, Wonnefried ★Über allgemeine, monotone Differenzenverfahren zur Lösung ersten Randwertproblems bei parabolischen Differentialgleichungen. Von der Mathematisch-Naturwissenschaftlichen Fakultät der Rheinisch-Westfälischen Technischen Hochschule Aachen zur Erlangung des akademischen Grades eines Doktors der Naturwissenschaften genehmigte Dissertation. *Technische Hochschule, Aachen*, 1970. (A. D. Ljaško) **55** #13815 65N10

Über Differenzapproximationen von monotoner Art bei nichtlinearen parabolis Differentialgleichungen. *Methoden und Verfahren der mathematischen Physik, Ban pp*. 1–22. *B. I.-Hochschulskripten, No*. 724 *a-b, Bibliographisches Inst., Mannheim*, 19 (P. Laasonen) **55** #4718 65N05

Über Differenzenverfahren von monotoner Art für nichtlineare parabolische Randwertprobleme. *Numerische Lösung nichtlinearer partieller Differential- und Integrodifferentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1971), 139–157. *Lecture Notes in Math., Vol*. 267, *Springer, Berlin*, 1972. (Hong-Yun Ki **53** #14929 65N05

Kolarov, D. (*with* Baltov, A.) The functional and fundamental variational equation in theory of thermoviscoplasticity. (Bulgarian. Russian and English summaries) *Teore Prilož. Meh*. **2** (1971), *no*. 1, 25–35, 5, 7. (D. P. Rašković) **46** #1178 73.49

Kolarž, P. *See* **Kolář, Pavel**

Kolaski, Clinton, An F. and M. Riesz type theorem for the unit ball in complex *N*-spa *Proc. Amer. Math. Soc*. **61** (1976), *no*. 1, 19–25 (1977). (Paul Milnes) **56** #65 32A30 (31B10)

Kolata, Gina Bari A step forward toward the creation of a unified theory in combinator (Bulgarian) Translated from the English (Science **183** (1974), no. 4127, 839–840, 88 *Fiz.-Mat. Spis. B"lgar. Akad. Nauk*. **17(50)** (1974), *no*. 4, 303–305. (Not reviewed) 05–01

Riemann hypotheses: elusive zeros of the zeta functions. *Science* **185** (1974), 4149, 429–431. (Editors) **58** #27835a 10H05

Riemann hypotheses: elusive zeros of the zeta functions. (Bulgarian) Translat from the English (Science **185** (1974), 429–431). *Fiz.-Mat. Spis. B"lgar. Akad. Nau* **18(51)** (1975), *no*. 2, 149–152. (Editors) **58** #27835b 10H05

Mathematician Paul Erdő: total devotion to the subject. *Science* **196** (1977), 4286, 144–145. (Editors) **55** #51 01A70

Kolb, B. (*with* Auslander, Louis; Tolimieri, Richard) A non-Abelian view of Abeli varieties. *Transformation groups* (*Proc. Conf., Univ. Newcastle upon Tyne, Newcast upon Tyne*, 1976), *pp*. 259–266. *London Math. Soc. Lecture Note Series, No*. 26, *Cambridge Univ. Press, Cambridge*, 1977. (J. S. Joel) **57** #16466 22E25 (14K99)

Koll D. Numerical analysis and orthogonal polynomials. *Appl. Math. Comput.* **2** (1976), 3, 257–272. (Peter Lancaster) **55** #11579 65D99 (65G05)

Koll in, N. I. (*with* Čebotarev, A. N.) Testing the potentiality of agorithms for the nctioning of discrete devices. (Russian) *Discrete transformers* (*Russian*), *pp.* 30–39. *ad. Nauk Ukrain. SSR Inst. Kibernet., Kiev,* 1976. (G. E. Ceĭtlin) **58** #20903 A30

Kol O. *See* **Applied mechanics, 50** #11914

Kol W. (*with* Nessel, Rolf Joachim) Simultaneous saturation in connection with richlet's problem for a wedge. *Applicable Anal.* **1** (1971), *no.* 3, 231–240. (M. W. üller) **45** #796 41A40

(*with* Butzer, Paul L.; Nessel, Rolf Joachim) Approximation by functions harmonic a strip. *Arch. Rational Mech. Anal.* **44** (1971/72), 329–336. (From the authors' troduction) **54** #5689 41A30

(*with* Nessel, Rolf Joachim) Saturation theory in connection with Mellin transform ethods. *SIAM J. Math. Anal.* **3** (1972), 246–262. (J. H. Curtiss) **46** #9607 41A40

Köl, Klaus Eine inverse Aufgabe für biharmonische Potentiale. *Wiss. Z. Techn. ochsch. Karl-Marx-Stadt* **18** (1976), *no.* 4, 441–444. (M. H. Protter) **55** #691 B20

Korg, O. On the Fourier coefficients of the modular invariant $j(\tau)$. *Årbok Univ. Bergen at.-Natur. Ser.* **1969**, *no.* 3, 8 *pp.* (1970). (A. I. Vinogradov) **55** #2752 10D05

Kö, K. S. Complex zeros of two incomplete Riemann zeta functions. *Math. Comp.* **26** 972), 551–565. (Author's summary) **46** #2822 65D20

On the zeros of the incomplete gamma function. *Math. Comp.* **26** (1972), 751–755. Author's summary) **48** #5336 65D20

(*with* Schäff, F.) Errata: "Handbook of mathematical functions with formulas, raphs, and mathematical tables". *Math. Comp.* **26** (1972), 1029. (Editors) **47** #2788 6D20

Table errata: *Higher transcendental functions, Vol. I, II* (McGraw-Hill, New York, 953) by A. Erdélyi, W. Magnus, F. Oberhettinger and F. G. Tricomi. *Math. Comp.* **26** 1972), *no.* 118, 598. (Editors) **54** #3043 33–XX (65A05)

(*with* Fornberg, B.) Complex zeros of the Jonquière or polylogarithm function. *ath. Comp.* **29** (1975), 582–599. (R. S. Dahiya) **51** #5513 10H05 (33A70)

Kon, V. V. ★Stochastic programming. Theory and Decision Library, Vol. 14. *D. Reidel ublishing Co., Dordrecht-Boston, Mass.,* 1977. xii + 195 *pp.* ISBN 90-277-0750-2 (R. heodorescu) **56** #10958 90C15

See also **Progress in mathematics, 50** #4193

Kl, Ingo *See* **Collection: Schmidt, Adam, 52** #7752

Kovskii, Ju. Ja. Mean curvature of Riemannn spaces filled with matter. *Izv. Vysš. Učebn. Zaved. Fizika* **1972**, *no.* 8, 109–110 (*Russian*); *translated as Soviet Physics J.* **15** 1972), 1172–1174 (1974). (D. K. Sen) **51** #2585 83.53

Kakov, M. G. Summation of certain Fourier series with application in structural mechanics. (Bulgarian. Russian and English summaries) *Teoret. i Prilož. Meh.* **5** (1974), *o.* 4, 4, 6, 7, 79–87. **56** #13947 73.42

Khin, Ellis (*with* Soundararajan, T.) Differential polynomials and strongly normal xtensions. *Amer. J. Math.* **94** (1972), 467–472. (J. J. Kovacic) **48** #2123 12H05

★Differential algebra and algebraic groups. Pure and Applied Mathematics, Vol. 54. *Academic Press, New York-London,* 1973. xviii + 446 *pp.* (P. Blum (Zbl **264** #12102)) **58** #27929 12H05

Differential equations in a projective space and linear dependence over a projective variety. *Contributions to analysis* (*collection of papers dedicated to Lipman Bers*), *pp.* 195–214. *Academic Press, New York,* 1974. (K. Okugawa) **50** #4555 12H05 (14A99)

Constrained extensions of differential fields. *Advances in Math.* **12** (1974), 141–170. (Jerald Kovacic) **49** #4982 12H05 (02H15)

See also **Contributions to algebra, 56** #15250

Kchin, Valentin F. *See* **Kolčin, V. F.**

Kchinskii, V. A. *See* **Kol′činskiĭ, V. A.**

Kčin, G. B. ★Плоские задачи теории упругости неоднородных тел. (Russian) [Plane problems of the theory of elasticity of nonhomogeneous bodies] *Izdat. "Štiinca", Kishinev,* 1977. 119 *pp.* (Ion D. Teodorescu) **58** #25256 73.35

See also **Theory of elastisticity of nonhomogeneous bodies, 55** #1901 *and* **Elasticity of nonhomogeneous bodies, 56** #8255

Kčin, V. F. (*with* Čistjakov, V. P.) A certain combinatorial limit theorem. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 767–777. (W. Hoeffding) **48** #5152 60F05

(*with* Čistjakov, V. P.) Combinatorial problems of probability theory. (Russian) *Probability theory, Mathematical statistics, Theoretical cybernetics, Vol.* 11 (*Russian*), *pp.* 5–45, 131. (*errata insert*) *Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow,* 1974. (D. A. Darling) **50** #5893 (EA **51**) 60C05

(*with* Čistjakov, V. P.) Limit distributions of a certain statistic. (Russian. English summary) *Teor. Verojatnost. í Primenen.* **19** (1974), 367–374. (W. Hoeffding) **49** #8090 60F05 (60C05)

(*with* Čistjakov, V. P.) Limit distributions of the number of nonappearing *s*-tuples in a multinomial scheme. (Russian. English summary) *Teor Verojatnost. i Primenen.* **19** (1974), 855–864. (M. Loève) **51** #6924 60F05

(*with* Čistjakov, V. P.) On the cyclic structure of random permutations. (Russian) *Mat. Zametki* **18** (1975), *no.* 6, 929–938. (Ju. D. Burtin) **53** #6666 60C05 (60F05)

(*with* Sevast′janov, B. A.; Čistjakov, V. P.) ★Случайные размещения. (Russian) [Random assignments] Теория Вероятностей и Математическая Статистика. [Monographs in Probability and Mathematical Statistics] *Izdat. "Nauka", Moscow,* 1976. 223 *pp.* (*errata insert*) (D. A. Darling) **57** #10758a 60C05 (60F05, 62G10)

The problem of the disposition of particles in cells, and random mappings. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 1, 48–62. (J. Galambos) **53** #7853 05C30 (60C05)

A new proof of the asymptotic normality of logarithmic order of a random permutation. (Russian) *Combinatorial and asymptotic analysis, No.* 2 (*Russian*), *pp.* 82–93. *Krasnojarsk. Gos. Univ., Krasnoyarsk,* 1977. (Editors) **58** #31338 60C05 (05Axx, 60F05)

Branching processes, random trees and a generalized particle distribution scheme. (Russian) *Mat. Zametki* **21** (1977), *no.* 5, 691–705. (K. Dietz) **56** #16813 60J80

(*with* Sevast′janov, B. A.; Čistjakov, V. P.) ★Random allocations. Translated from the Russian. Translation edited by A. V. Balakrishnan. Scripta Series in Mathematics. *V. H. Winston & Sons, Washington, D.C.; distributed by Halsted Press [John Wiley & Sons], New York-Toronto, Ont.-London,* 1978. xi + 262 *pp.* *ISBN* 0-470-99394-4 (D. A. Darling) **57** #10758b 60C05 (60F05, 62G10)

See also **Selected translations in mathematical statistics and probability, 49** #4729

Kol′činskiĭ, V. A. A method of studying the stability of autonomous systems. *Prikl. Mat. Meh.* **39** (1975), *no.* 4, 661–667 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 4, 633–639 (1976). (S. Leela) **54** #10774 34D20

Kolčins′kiĭ, V. Ī. A linear nonparametric estimate of a function of two variables. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 9, 786–788, 863. (M. A. Mirzahmedov) **57** #10901 62G05

Kol′cov, A. V. (*with* Kopelevič, Ju. H.; Soboleva, E. V.) Two hundred and fifty years of the Academy of Sciences of the USSR: from the history of the Academy. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1973**, *no.* 4(45), 3–18, 103, 113. (Editors) **57** #5560 01A05

The 200th anniversary of the Academy of Sciences of the USSR. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1974**, *no.* 1(46), 11–21, 123. (Editors) **58** #27074 01A60

Kol′cov, P. P. The problem of recognition under time constraints. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1292–1308, 1366. (R. Salia) **53** #9746 68A45

Kol′cov, V. N. Decomposition of a bipartite graph into a minimal number of plane subgraphs. (Russian) *Heuristic optimization algorithms* (*Russian*), *pp.* 153–157. *Jaroslav. Gos. Univ., Yaroslavl,* 1976. (Pavol Hell) **58** #27587 05C10

Kol′cova, K. I. The Goursat problem over Gevrey spaces. (Russian) *Differencial′nye Uravnenija* **9** (1973), 1725–1727, 1743. (Author's summary) **57** #16941 35E99

The Goursat problem for certain systems in Gevrey spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 12(139), 33–42. (S. N. Kružkov) **50** #7862 35R99

Kol′cova, S. V. Admissible complexes of two-dimensional planes in general position. (Russian) *Functional analysis, No. 9: Harmonic analysis on groups* (*Russian*), *pp.* 84–92. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk,* 1977. (S. G. Gindikin) **58** #23358 43A85 (22E30, 53C65)

Kol′čužkin, A. M. (*with* Učaĭkin, V. V.) ★Введение в теорию прохождения частиц через вещество. (Russian) [Introduction to the theory of particle transport through the universe] *Atomizdat, Moscow,* 1978. 255 *pp.* (Editors) **58** #20071 82.35

Kolde, R. Nondegenerate congruences of isotropic lines with infinitely removed multiple foci in ${}^1R_4$. (Russian. English summary) Mathematics and theoretical mechanics, VI. *Tallin. Polütehn. Inst. Toimetised Seer. A No.* 312 (1971), 3–25. (Josef Vala) **54** #1106 53A35

Koldorkina, V. A. The solutions of the equation $\Delta\Delta u = f$ in a piecewise smooth domain. (Russian) *Differencial′nye Uravnenija* **8** (1972), 374–376. (F. Barański) **47** #5275 31A30

Three-dimensional problems of elasticity theory in piecewise smooth domains. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 1(128), 65–70. (A. Radu) **49** #11921 73.35

The singularities of the solutions of three-dimensional problems of elasticity theory in piecewise smooth regions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 9(136), 31–35. (J. Mazumdar) **48** #10262 73.35

Koldunov, A. V. Complements in products of two bicompacta. (Russian) *Geometry and topology, No.* 2 (*Russian*), *pp.* 122–127. *Leningrad. Gos. Ped. Inst., Leningrad,* 1974. (Michael L. Wage) **57** #1425 54D35

Linear mappings that are close to lattice mappings. (Russian) *Modern algebra, No.* 3 (*Russian*), *pp.* 70–73. *Leningrad. Gos. Ped. Inst., Leningrad,* 1975. (S. P. Bandyopadhyay) **56** #209 06A65

Strict realization of vector lattices. (Russian) *Theory of functions and functional analysis* (*Russian*), *pp.* 67–74. *Leningrad. Gos. Ped. Inst., Leningrad,* 1975. (Editors) **58** #30023 46A40

σ-completion and o-completion of $C(B)$. (Russian) *Functional analysis, No. 6: Theory of operators in linear spaces* (*Russian*), *pp.* 76–83. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk,* 1976. (Editors) **58** #30090 46E05

Countably unattainable points in the maximal ideal space of the Banach algebra L^∞. (Russian) *Application of functional analysis in approximation theory* (*Russian*), *pp.* 45–54, 154. *Kalinin. Gos. Univ., Kalinin,* 1977. (Author's summary) **58** #30122 46E30 (46J10)

Koledov, L. V. A constructive description of the domains of definition of the fractional powers of elliptic operators. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 5, 1011–1019, 1131. (H. Triebel) **52** #15109 (E **55** #11102) 47F05

Fractional powers of elliptic operators, and approximation-moment scales. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 1, 26–28. (H. Triebel) **53** #6357 47F05

Letter to the editors: "A constructive description of the domains of definition of the frac tional powers of elliptic operators" (Sibirsk. Mat. Ž. **16** (1975), no. 5, 1011–1019). (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 2, 476. (Editors) **55** #11102 47F05 (35J99)

Kolemaev, V. A. Regression analysis in the case of a scheme with two dispensions. (Russian) *Èkonom. i Mat. Metody* **7** (1971), 96–106. (G. Manija) **45** #1317 62J05

(*with* Barkovec, E. V.) An algorithm for the formation of a linear programming problem. (Russian) *Mathematical methods of solution of economic problems* (*Suppl. to Èkonom. i Mat. Metody*), *No.* 5 (*Russian*), *pp.* 3–9. *Izdat. "Nauka", Moscow,* 1974. (From the authors' introduction) **52** #10024 90C05

See also **Walter, Jaromír, 57** #5032

Kolen, A. W. J. (*with* Wilbrink, H. A.) Ramsey theory. (Dutch) Discrete mathematics. *Nieuw Tijdschr. Wisk.* **63** (1976), *no.* 4, 216–220. (J. H. van Lint) **54** #2511 05C15

(*with* Hall, J. I.; Janssen, A. J. E. M.; van Lint, Jacobus H.) Equidistant codes with distance 12. *Discrete Math.* **17** (1977), *no.* 1, 71–83. (J.-M. Góethals) **56** #11512 94A10 (05B30)

Kolenda, Janusz Approximate methods for the solution of the nonlinear equations of motion of elastically mounted piston engines. (Polish. Russian and English summaries) *Mech. Teoret. Stos.* **15** (1977), *no.* 4, 449–462. (Author's summary) **56** #13869 70.41

Kolenička, Jan An algorithmic method for the factorization of the minimal form of a Boolean function. (Russian) Structure and methodological recommendations for the creation of systems of automated design of discrete devices (Proc. Sem., Budapest, 1973). *Tanulmányok-MTA Számitástechn. Automat. Kutató Int. Budapest No.* 21 (1974), 101–109. (Jaroslav Nešetřil) **54** #9866 94A20

A comparison of the influence of the *S* and *R* tests on the complexity of the structure of a logical network. (Russian) Proceedings of a Seminar “Developing a General Theory of Automata”, Riga, 1976. *Tanulmányok—MTA Számitástechn. Automat. Kutató Int. Budapest No.* 63 (1977), 67–77. (A. D. Koršunov) **58** #33555 94A20

Kolerova, T. Ja. (*with* Maergoĭz, I. D.) A certain iteration method for solving the integral equation of the theory of surface effect. (Russian) *Methods of calculating circuits and fields on a digital computer* (*Proc. Sem., Kiev*, 1968), *No.* 2 (*Russian*), *pp.* 36–43. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (S. Maloň) **46** #2917 65R05

Kolesar, Peter J. A remark on the computation of optimum media schedules. *Operational Res. Quart.* **19** (1968), 73–75. (Author's summary) **45** #4811 90B35

(*with* Ignall, Edward) Quelques propriétés stationnaires du système *M*/*G*/1-envoi. (English summary) *INFOR—Canad. J. Operational Res. and Information Processing* **10** (1972), 292–298. (T. Kawata) **50** #8748 60K25

(*with* Bahary, Emil) Multilevel bulk service queues. *Operations Res.* **20** (1972), 406–420. (I. Kovalenko (RŽMat **1973** #1 V78)) **49** #11665 60K25

(*with* Ignall, Edward) Optimal dispatching of an infinite-capacity shuttle: control at a single terminal. *Operations Res.* **22** (1974), *no.* 5, 1008–1024. (David N. Burghes) **58** #20382 90B35

See also **Kettler, David A., 53** #10450

Kolesničenko, E. G. (*with* Baĭbuz, V. F.) Kinetic theory of gases with rotational degrees of freedom. *Dokl. Akad. Nauk SSSR* **195** (1970), 581–584 (*Russian*); *translated as Soviet Physics Dokl.* **15** (1970/71), 1034–1036. (L. Arkeryd) **46** #4901 82.47

Kolesničenko, S. G. (*with* Poletaeva, I. A.) Linear systems with minimum mean square error. *Avtomat. i Telemeh.* **1968**, *no.* 8, 16–23 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no.* 8, 1203–1210. **56** #9376 49B10

Kolesnichenko, E. G. *See* **Kolesničenko, E. G.**

Kolesnichenko, S. G. *See* **Kolesničenko, S. G.**

Kolesnik, G. A. An estimate for certain trigonometric sums. (Russian) *Acta Arith.* **25** (1973/74), 7–30. (*errata insert*) (A. I. Vinogradov) **48** #11002 10G05 (10H05, 10H15)

Kolesnik, I. A. Nonlinear oscillations of compound systems. (Russian) *Prikl. Meh.* **13** (1977), *no.* 8, 107–112, 144. (From the introduction) **58** #14147 73.35

See also **Differential equations and their applications, 48** #3659

Kolesnik, L. I. (*with* Andraško, M. I.) Approximation in the mean of analytic functions in domains with angles. (Russian) *Metric questions of the theory of functions and mappings, No.* 2 (*Russian*), *pp.* 3–20. *Izdat. “Naukova Dumka”, Kiev*, 1971. (W. H. J. Fuchs) **45** #8849 30A82

Kolesnik, T. V. (*with* Lukovič, V. V.) A method for the solution of boundary value problems for ordinary differential equations. (Russian) *Approximate methods of mathematical analysis* (*Russian*), *pp.* 36–40. *Kiev. Gos. Ped. Inst., Kiev*, 1976. (A. M. Il′in) **57** #14469 65L10

Kolesnik, V. D. (*with* Mirončikov, E. T.) Cyclic Reed-Muller codes and their decoding. *Problemy Peredači Informacii* **4** (1968), *no.* 4, 20–25 (*Russian*); *translated as Problems of Information Transmission* **4** (1968), *no.* 4, 15–19 (1971). (J.-M. Goethals) **53** #15552 94A10

Probabilistic decoding of majority codes. (Russian) *Problemy Peredači Informacii* **7** (1971), *no.* 3, 3–12. (È. Gabidulin (RŽMat **1972** #2 V480)) **50** #16087 94A10

Block codes: the algebraic theory. *Proceedings of the IEEE-USSR Joint Workshop on Information Theory* (*Moscow*, 1975), *pp.* 111–121. *Inst. Electr. Electron. Engrs., New York*, 1976. (R. J. McEliece) **57** #5405 94A10

Kolesnik, V. M. (*with* Ljance, V. È.) Operators that are related to a Sturm-Liouville operator. (Russian) *Mathematics collection* (*Russian*), *pp.* 171–174. *Izdat. “Naukova Dumka”, Kiev*, 1976. (Stefan Balint) **58** #11612 34B25 (47A10)

Kolesnik, V. V. On the problem of the optimal control of linear dynamical objects on an infinite interval. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 4, 72–75. (J. Szelezsán) **46** #772 49E99

Equivalence of control problems for stochastic and deterministic plants. *Avtomatika* **1971**, *no.* 6, 33–37 (*Ukrainian*); *translated as Soviet Automat. Control* **4** (1971), *no.* 6, 24–27 (1972). (Author's summary) **46** #1441 93E20

A certain scheme for the construction of estimates of a sequence of signals that feed into the input of a linear discrete-continuous dynamical object. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 6, 101–103. (Jana Zvárová) **47** #10128 94A05

(*with* Korobcov, A. A.) Optimal control of multidimensional discrete continuous linear objects. (Russian) *Adapt. Sistemy Avtomat. Upravlenija Vyp.* 2 (1974), 101–105, 152. (Authors' summary) **55** #7501 93C05

Kolesnikov, A. A. The construction of automatic control systems that are optimal with respect to the totality of quality control tests. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1975**, *no.* 10, 1104–1110, 1133. **58** #26259 93B20

Synthesis of optimal systems, with respect to a complicated criterion, for the control of nonlinear objects with variable parameters. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Tehn. Nauk.* **1977**, *no.* 1, 16–20, 115. (Author's summary) **58** #15392 93B15

Algorithmic synthesis of nonlinear time-optimal systems. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1977**, *no.* 2, 178–183, 236. (Author's summary) **56** #14965 93C50 (93B15, 93C10)

Kolesnikov, È. V. Inversion operators of Neumann and Dirichlet boundary conditions. (Russian) *Trudy Novočerkassk. Politehn. Inst.* **181** (1969), 52–62. (See RŽMat **1969** #10 B162) 31A25

(*with* Astahov, V. I.; Paškovskiĭ, V. I.) Vortex flows in conducting plates. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1972**, *no.* 8, 822–830, 930. (A. Nikodémusz) **49** #8504 78.35

(*with* Dolgošeev, A. T.) A computation of the coefficient of the air gap, taking into account the finite permeability of the steel. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1973**, *no.* 8, 828–833. (J. E. Rosenthal) **48** #7788 78.35

Kolesnikov, M. A. (*with* Šeĭnbergas, I. M.) Sheffer functions in four-valued logic. (Russian) *Papers on engineering cybernetics, No.* 3 (*Russian*), *pp.* 50–100. *Vyčisl. Centr Ak SSSR, Moscow*, 1971. (I. G. Rosenberg) **48** #10762 02C05 (94A20)

Kolesnikov, O. V. Ideal extensions of *n*-semigroups. (Russian. English summar *Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 1, 13–15, 92. (G. Čupona) **53** 20N15

Completely regular *n*-semigroups. (Russian) *Algebra and number theor* (*Russian*), *pp.* 93–107. *Kabardino-Balkarsk. Gos. Univ., Nalchik*, 1977. (I. Peák) **58** #6007 20M10

On the theory of *n*-semigroups. (Russian. English summary) *Dokl. Aka Ukrain. SSR Ser. A* **1977**, *no.* 4, 302–305, 385. (B. M. Schein (Šaĭn)) **56** 20N15

Kolesnikov, P. M. *See* **Asymptotic methods in systems theory, 58** #33189

Kolesnikov, V. P. *See* **Collection: Scientific works of the Department of Higher Mathematics, 58** #20932

Kolesnikova, M. R. *See* **Cybernetics and computer technology, 47** #8140

Kolesnikova, N. S. (*with* Lukaševič, N. A.) Sufficient conditions for the exis solutions with stationary critical singular points for first order equations. (*Differencial′nye Uravnenija* **8** (1972), 1753–1760, 1909. (Leo F. Boron) **47** 34A20

(*with* Lukaševič, N. A.) A certain class of third order differential equati stationary critical singular points. (Russian) *Differencial′nye Uravnenija* **8** (1972) 2082–2086, 2114–2115. (Leo F. Boron) **47** #530 34A20

A class of third order differential equations with stationary critical singula (Russian) *Differencial′nye Uravnenija* **8** (1972), 2252–2254. (Leo F. Boron) **47** # 34A20

Kolesnikova, T. L. Semigroups with a single defining relation in the class of nilpotent semigroups of degree two. (Russian) *Modern algebra, No.* 2 (*Russ* 16–23. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974. (L. Bokut′) **53** #10954

Identities in restrictive semigroups with a single defining relation. (Russian) *algebra, No.* 2 (*Russian*), *pp.* 24–34. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974 Schein (Šaĭn) (Zbl **313** #20032)) **57** #495 20M10

Generating sets for semigroups with a single defining relation. (Russian) *algebra, No.* 1 (*Russian*), *pp.* 70–90. *Leningrad. Gos. Ped. Inst., Leningrad*, 1 Bokut′) **52** #14095 20M05

Semigroups with single defining relation that possess a unique irreducible presentation. (Russian) *Modern algebra, No.* 1 (*Russian*), *pp.* 102–106. *Leningr Ped. Inst., Leningrad*, 1974. (L. Bokut′) **52** #14096 20M05

Kolesnyk, V. V. *See* **Kolesnik, V. V.**

Kolesov, A. K. Luminosity coefficients of a two-layer atmosphere under anisotropic scattering. I. (Russian. English and loose Russian summaries) *Astrofizika* **12** (1 1, 83–94. (D. ter Haar) **54** #4560 85.45

Luminosity coefficients of a two-layer atmosphere under anisotropic scatte (Russian. English summary) *Astrofizika* **12** (1976), *no.* 3, 485–494. (D. te **55** #9822 85.45

Kolesov, Ju. S. Periodic solution of *n*-th order equations with relay control. *Av Telemeh.* **1969**, *no.* 11, 178–181 (*Russian. English summary*); *translated as A Remote Control* **1969**, *no.* 11, 1872–1875. **56** #8987 34C25 (93D99)

(*with* Krasnosel′skiĭ, M. A.; Burd, V. Š.) ★Нелинейные почти периоди колебания. (Russian) [Nonlinear almost periodic oscillations] *Izdat. “Nauka”*, 1970. 351 *pp.* (J. K. Hale) **45** #7183 34C15 (47H10)

(*with* Burd, V. Š.) Construction of the Green's function of a periodic bo value problem for equations with aftereffect. (Russian) *Voronež. Gos. Univ. Naučn.-Issled. Inst. Mat. VGU Vyp.* 1 *Sb. Stateĭ po Teorii Operatornyh Uravneniĭ* 12–17. **54** #13256 34K10

(*with* Strygin, V. V.) Self-induced oscillations in three-dimensional automatic control systems. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat Vyp.* 2 *Cykl Stateĭ po Prikl. Analizu* (1970), 1–6. (From the text) **58** #6507

The mathematical theory of harmonic RC-generators with distributed param a feedback circuit. (Russian. Lithuanian and English summaries) *Differencial′nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija* (1971), 1–67, 68. (Author's summary) **54** #10764 34C99 (94A20)

Properties of characteristic polynomials of matrices with non-negative ele (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 3(159), 205–206. (G. Maxwell) **45** # 15A48

(*with* Čaplygin, V. F.) A certain example of a nonstable periodic system linear differential equations. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak.* (1971), 60–65. (R. S. Levitin) **53** #8574 34D05

(*with* Neprincev, V. I.) Selfoscillations in a generator with distributed para (Russian) *Differencial′nye Uravnenija* **8** (1972), 2087–2089, 2115. (Authors' sum **56** #11585 94A20 (35G30)

(*with* Krasnosel′skiĭ, M. A.; Burd, V. Š.) ★Nonlinear almost periodic oscilla Translated from the Russian by A. Libin. Translation edited by D. Louvish. *Press* [*A division of John Wiley & Sons*], *New York-Toronto, Ont.; Israel Progr Scientific Translations, Jerusalem-London*, 1973. x + 326 *pp.* (Editors) **49** #9334 34C15 (34C25, 34D15)

Computation of the auto-oscillations of nonlinear differential equations with aftereffect that branch off from the zero equilibrium state. (Russian) *Vestnik Ja Univ. Vyp.* 2 (1973), 42–50. (R. F. Datko) **56** #9036 34K15

Stability of nonlinear systems with distributed parameters in the critical cas pair of pure imaginary roots. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 5 (1973), 15– K. Hale) **58** #6581 34G05 (34D20, 47H99)

Necessary and sufficient conditions for exponential dichotomy of the soluti linear almost periodic equations with retardations. (Russian) *Vestnik Jaroslav. Vyp.* 5 (1973), 28–62. (J. K. Hale) **58** #17421 34K15

Exponential dichotomy of the solutions of abstract parabolic equations with a periodic coefficients. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 5 (1973), 63–67. (A. **58** #11750 34G05 (34C25)

(*with* Maĭorov, V. V.) Stability of solutions of linear differential equations with effect with almost periodic coefficients that are close to constants. (Russian) *Ve Jaroslav. Univ. Vyp.* 5 (1973), 68–85. (Franz Kappel) **57** #828 34K20 (*with* Maĭorov, V. V.) A new method of investigation of the stability of the solutions linear differential equations with nearly constant almost periodic coefficients. ussian) *Differencial'nye Uravnenija* **10** (1974), 1778–1788, 1916. (C. S. Coleman) #7692 34D05

(*with* Kaščenko, S. A.) A test for the stability of the solutions of singularly rturbed second order equations with periodic coefficients. (Russian) *Uspehi Mat. ıuk* **29** (1974), *no.* 4(178), 171–172. (D. Bobrowski) **53** #956 34D15

Harmonic auto-oscillations of *n*th order differential equations with aftereffect. ussian) *Vestnik Jaroslav. Univ. Vyp.* 7 (1974), 3–88. (R. R. Ahmerov) **58** #6610 K15

(*with* Maĭorov, V. V.) Verification of an algorithm for the study of the stability of e solutions of linear almost periodic equations with aftereffect whose coefficients are arly constant. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 10 (1974), 70–105. (G. B. ustafson) **58** #6621 34K20

(*with* Švitra, Donatas) Behavior of the solutions of nonlinear differential equations th aftereffect in the near critical case of one zero root. (Russian) *Vestnik Jaroslav. niv. Vyp.* 10 (1974), 115–122. (Russell C. Thompson) **57** #13103 34K20

(*with* Švitra, Donatas) Mathematical simulation of the combustion process in the ıamber of a liquid propellant rocket motor. (Russian. Lithuanian and English ımmaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 4, 153–167, 245. (Authors' summary) 5 #1917 76.34

On the theory of harmonic auto-oscillations in essentially nonlinear systems with istributed parameters. (Russian) *Problems of analytical mechanics, stability and control ıeories* (*Proc. Second Četaev Conf., Kazan*, 1973), *Vol.* 2 (*Russian*), *pp.* 193–199, 408. *azan. Aviacion. Inst., Kazan*, 1976. (Author's summary) **58** #8605 70.34 (34C15)

(*with* Pendjur, A. D.) The fitting method and the Fourier method for a nonlinear oundary value problem of parabolic type. (Russian) *Studies in stability and the theory f oscillations* (*Russian*), *pp.* 3–57. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the ıtroduction) **58** #22974 35B99 (35K99)

Some results and problems of the theory of the stability of the solutions of linear lmost periodic equations with aftereffect. (Russian) *Differential equations with deviating rgument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp.* 168–177, 304. *Izdat. Naukova Dumka", Kiev*, 1977. (Author's summary) **57** #13105 34K20

A survey of results on the theory of stability of solutions of differential-difference quations with almost periodic coefficients. (Russian) *Studies in stability and the theory f oscillations* (*Russian*), *pp.* 82–141. *Jaroslav. Gos. Univ., Yaroslavl*, 1977. (From the ntroduction) **58** #22939 34K20

A minimal algorithm for investigating the stability of linear systems. (Russian) *Studies in stability and the theory of oscillations* (*Russian*), *pp.* 142–155. *Jaroslav. Gos. Univ., Yaroslavl*, 1977. (Author's introduction) **58** #22854 34D20 (34A30)

(*with* Švitra, Donatas) Auto-oscillations in a transmission line with a tunnel diode. Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 18 (1977), 27–49, 77. (A. Halanay) **57** #3563 34K15 (34C15)

(*with* Maĭorov, V. V.) Asymptotically sharp estimates for bounded solutions on the entire axis of inhomogeneous differential equations with a small parameter. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 6, 1013–1017, 1148. (Snežana Hristova) 58 #17371 34E10

See also **Proceedings: International Conference on Nonlinear Oscillations**, 47 #8968; **Transactions of the Moscow Mathematical Society**, **48** #23; **Studies in stability and the theory of oscillations**, **57** #16756 *and* **Studies in stability and the theory of oscillations**, **58** #1320

lesov, N. V. (*with* Danilov, V. V.) Hardware monitoring of automata. *Avtomat. i Telemeh.* **1973**, *no.* 11, 120–126 (*Russian*); *translated as Automat. Remote Control* **34** (1973), *no.* 11, *part* 2, 1817–1822 (1974). (Authors' summary) **58** #4709 94A25

(*with* Danilov, V. V.; Sošin, M. P.) Control of linear numerical filters. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 5, 127–132 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 5, 104–110. (Ju. D. Burtin) **53** #10488 94A20

(*with* Danilov, V. V.; Podkopaev, B. P.) An algebraic model for the hardware monitoring of automata. *Avtomat. i Telemeh.* **1975**, *no.* 6, 118–125 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 6, *part* 2, 984–991. (A. Ádám) **53** #5195 94A30

Design of identification tests for combinational circuits. *Avtomat. i Telemeh.* **1977**, *no.* 12, 119–127 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 12, *part* 2, 1842–1849 (1978). (Author's summary) **58** #33556 94A20

lesov, V. V. (*with* Ovčinnikova, S. N.) The influence of the radial temperature gradient on the stability of the flow of a fluid between rotating cylinders. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1974**, *no.* 4, 37–42, 137. **54** #9324 76.35

lesov, Yu. S. *See* **Kolesov, Ju. S.**

lesova, G. I. (*with* Poletaev, I. A.) Some questions concerning the study of systems with limiting factors (*L*-systems). (Russian) *Upravljaemye Sistemy No.* 3 (1969), 71–80. (See RŽMat **1970** #11 V580) 93B99

lesova, T. I. A problem of representation theory that is connected with homogeneous Riemann spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 11(186), 122–123. (Rolf Sulanke) **58** #28291 22E45 (53C30)

lessa, A. E. Asymptotic properties of one nonlinear, sequential, multidimensional filter. *Avtomat. i Telemeh.* **1976**, *no.* 8, 39–47 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 8, *part* 1, 1170–1179 (1977). (Author's summary) **56** #15041 93E10

lev, A. (*with* Čobanov, S.) Estimation of certain characteristics of the computer system in the building of automated control systems. (Bulgarian. Russian and English summaries) *Avtomat. i Izčisl. Tehn.* **9** (1975), *no.* 1, 1–2, 4, 33–39. (Authors' summary) **54** #12194 90B35

olev, L. I. A method for determining the control with minimal fuel consumption for linear discrete systems. (Bulgarian. Russian and English summaries) *Avtomat. i Izčisl. Tehn.* **10** (1976), *no.* 3, 5–12, 2, 3. (Editors) **54** #12296 93C55

olev, L. V. Extrapolation of nonstationary random process by means of a reducible nonlinear operator. (Russian. English summary) *Avtomat. i Telemeh.* **1971**, *no.* 6, 40–46. (V. Makovskiĭ (RŽMat **1971** #12 V225)) **51** #5123 93E10 (60G25)

A method for solving a system of linear algebraic equations. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **7** (1971), *no.* 4, 133–143 (1973). (Author's summary) **56** #9928 65F05

The norm of a linear transformation from a Banach space into a Hilbert space. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 2, 165–173 (1974). (K. Veselić) **53** #6339 47A30

Iterative algorithm for the minimum fuel and minimum amplitude problems for linear discrete systems. *Internat. J. Control* **21** (1975), 779–784. (Norihiko Adachi) **51** #14991 90C30

Algorithm of finite number of iterations for the minimum fuel and minimum amplitude control problems. *Internat. J. Control* **22** (1975), *no.* 1, 97–102. (Henning Esser) **52** #7122 65K05

Minimum-fuel control of linear discrete systems. *Internat. J. Control* **23** (1976), *no.* 2, 207–216. (F. Giannessi) **54** #6961 90C50

Minimum-fuel minimum-time control of linear discrete systems. *Internat. J. Control* **27** (1978), *no.* 1, 21–29. (Author's summary) **57** #15627 93C05

Kolibiar, Milan On a construction of semigroups. *Arch. Math.* (*Brno*) **7** (1971), 99–100. (J. Kist) **46** #278 20M10

Distributive sublattices of a lattice. *Proc. Amer. Math. Soc.* **34** (1972), 359–364. (R. Balbes) **45** #3262 06A35

On the occasion of Professor Ján Jakubík's fiftieth birthday. (Slovak) *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 295–296. (Editors) **48** #3678 01A70

(*with* Jakubík, Ján) On the occasion of the sixtieth birthday of Academician Štefan Schwarz. (Slovak) *Časopis Pěst. Mat.* **99** (1974), 200–213. (Editors) **50** #31 01A70 (20–02)

(*with* Jakubík, Ján) Sixtieth anniversary of the birthday of academician Štefan Schwarz. *Czechoslovak Math. J.* **24(99)** (1974), 331–339. (Editors) **49** #7088 01A70

(*with* Jakubík, Ján) On the occasion of the sixtieth birthday of Academician Štefan Schwarz. (Slovak) *Mat. Časopis Sloven. Akad. Vied* **24** (1974), 97, 99–111. (Editors) **50** #1819 01A70

(*with* Marcisová, Tamara) On a question of J. Hashimoto. *Mat. Časopis Sloven. Akad. Vied* **24** (1974), 179–185. (Ralph Freese) **50** #4427 06A30

Extremal extensions of ordered sets to semilattices. *Lattice theory* (*Proc. Colloq., Szeged*, 1974), *pp.* 207–214. *Colloq. Math. Soc. János Bolyai, Vol.* 14, *North-Holland, Amsterdam*, 1976. (V. S. Krishnan) **55** #10336 06A20

Primitive subsets of algebras. *Contributions to universal algebra* (*Colloq., József Attila Univ., Szeged*, 1975), *pp.* 287–293. *Colloq. Math. Soc. János Bolyai, Vol.* 17, *North-Holland, Amsterdam*, 1977. (K. A. Baker) **58** #16463 08A15

Kolibiarová, Blanka On a construction of some semigroups. *Mat. Časopis Sloven. Akad. Vied* **24** (1974), 139–144. (M. Friedberg) **50** #7390 20M10

Koliha, J. J. On the iterative solution of linear operator equations with self-adjoint operators. *J. Austral. Math. Soc.* **13** (1972), 241–255. (M. Z. Nashed) **46** #8395 65F10

Ergodic theory and averaging iterations. *Canad. J. Math.* **25** (1973), 14–23. (W. V. Petryshyn) **49** #5886 47A35

Convergent and stable operators and their generalization. *J. Math. Anal. Appl.* **43** (1973), 778–794. (Bent E. Petersen) **48** #2799 47A50

Pseudo-inverses of operators. *Bull. Amer. Math. Soc.* **80** (1974), 325–328. (F. Gilfeather) **49** #1153 47A05

Power convergence and pseudoinverses of operators in Banach spaces. *J. Math. Anal. Appl.* **48** (1974), 446–469. (W. V. Petryshyn) **52** #15055 47A50

Some convergence theorems in Banach algebras. *Pacific J. Math.* **52** (1974), 467–473. (Pak-Ken Wong) **50** #8080 46H05

The solution of linear equations in normed spaces by averaging iteration. *SIAM J. Math. Anal.* **5** (1974), 178–186. (E. A. Catchpole) **49** #9653 47A50 (65J05)

The product of relatively regular operators. *Comment. Math. Univ. Carolinae* **16** (1975), *no.* 3, 531–539. (M. Z. Nashed) **52** #1373 47A60

(*with* Leung, A. P.) Ergodic families of affine operators. *Math. Ann.* **216** (1975), *no.* 3, 273–284. (Humphrey S. Fong) **52** #8970 47A35

A functional calculus for continuous affine operators. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 2, 279–288. (K. F. Klopenstein) **53** #14248 47H99 (47A60)

Convergence of an operator series. *Aequationes Math.* **16** (1977), *no.* 1-2, 31–35. (Charles Groetsch) **58** #7126 47A10

(*with* Craven, B. D.) Generalizations of Farkas' theorem. *SIAM J. Math. Anal.* **8** (1977), *no.* 6, 983–997. (Wai Leung Chan) **57** #11039 65K05 (65F99, 90C99)

Kolikov, K. (*with* Mollov, Todor Ž.) Groups of normed units of modular group rings of primary abelian groups. (Bulgarian. Russian and English summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 1, 23–29 (1977). (Authors' summary) **58** #5871 20C05

Kolin, K. K. (*with* Duhovnyĭ, I. M.) Optimization of the structure of a digital computer program as a queueing system with priorities. (Russian) *Systems for the distribution of information* (*Russian*), *pp.* 167–180, 238. *Izdat. "Nauka", Moscow*, 1972. (Authors' summary) **51** #12023 68A20

Kolīsnik, V. M. The spectral decomposition of a certain nonselfadjoint operator. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 38–42, 154. (Author's summary) **53** #13714 34B25

Finite-dimensional perturbation of a Sturm-Liouville difference operator. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 87 *Mat. ī Meh.* (1974), 42–47, 154. (Author's summary) **57** #10491 47B45 (39A10, 47A55)

(*with* Blaščak, O. V.) Integration of a system of equations of heat and mass transfer in a domain consisting of concentric annuli. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 13–16, 182. (Authors' summary) **58** #29447 35Q99

Expansion in principal elements of a nonselfadjoint difference operator. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst.* **1977**, *no.* 119 *Mat. ī Meh.*, 68–70, 189. (Author's summary) **58** #30465 47B45

Koljada, A. A. (*with* Buza, M. K.) Some investigations of rank-free residue number systems. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1970**, *no.* 2, 14–19, 74. (C. Reischer) **51** #15159 94A10

Rank-free systems in systems of remainder classes. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1971**, *no.* 2, 37–38, 89. (R. A. Rankin) **49** #196 10A10

Redundancy under addition in rank-free residue number systems. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1971**, *no.* 3, 32–34, 93. (R. N. Goss) **48** #5977 10A30

(*with* Pilipovec, F. S.) Finding the bases of residue class systems. (Russian) *Theory and application of mathematical machines* (*Russian*), *pp.* 16–28, 260. *Izdat. Beloruss. Gos. Univ., Minsk*, 1972. (Authors' summary) **58** #5490 10A30

The domain of definition of operations in rank-free residue class systems. (Russian) *Theory and application of mathematical machines* (*Russian*), *pp.* 28–36, 261. *Izdat. Beloruss. Gos. Univ., Minsk*, 1972. (Author's summary) **58** #5491 10A30

Generalized residue number systems. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 3, 20–23, 94. (R. N. Goss) **48** #5978 10A30

Determining the sign of a number in generalized residue number systems. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1976**, *no.* 1, 12–16, 93. (R. N. Goss) **53** #2811 10A30 (68A10)

Multiplication in generalized residue class systems. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1976**, *no.* 3, 3–8, 85. (Author's summary) **58** #8447 68A05

Koljada, Ju. V. The rate of summation of orthogonal series by Euler methods. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 1(116), 42–51. (F. Ustina) **45** #5657 42A24

(*with* Borovs′ka, T. T.) Concerning a certain modification of the method of tangents. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 579–582, 667. (Ulrich Kosel) **55** #1721 65H05

The imbedding of certain classes of functions of several variables. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 766–790, 910. (O. John) **48** #12034 46E35

The rate of convergence of orthogonal series. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 25–38, 140. (F. Schipp) **47** #7309 42A60

Imbedding in the classes φ(*L*). (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 2, 418–437, 472. (J. Musielak) **51** #11084 46E30

(*with* Sigorskiĭ, V. P.) Generalization of a certain method for the numerical analysis of nonlinear circuits. (Russian) *Electronic mathematical simulation and optimization of processes* (*Proc. Res. Sem., Kiev*, 1975) (*Russian*), *pp.* 7–12. *Izdat. "Naukova Dumka", Kiev*, 1976. (From the text) **58** #9848 94A20

Imbedding into the class φ(*L*). (Russian) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata*, 1973) (*Russian*), *pp.* 56–58, 187. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (J. Musielak) **58** #2229 46E35

(*with* Sigorskiĭ, V. P.; Borovs′ka, T. T.) Some numerical aspects of the theory of iterative approximations. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 3, 214–217, 286. (B. Jankó) **54** #4084 65H05

(*with* Sigorskiĭ, V. P.) Coordinate-wise modification of Matveev's method. (Russian. English summary) *Teoret. Elektrotehn. No.* 20 (1976), 97–102, 161. (D. Ilioi) **58** #31802 65H10

(*with* Sigorskiĭ, V. P.) On the question of numerical analysis of the statistic and dynamical states of nonlinear circuits. (Russian) *Mathematical simulation and the theory of electrical circuits, No.* 15 (*Russian*), *pp.* 59–65, 99. *Izdat. "Naukova Dumka", Kiev*, 1977. (J. Švejda) **56** #17127 65H10

(*with* Sigorskiĭ, V. P.) A method for the numerical analysis of nonlinear systems. (Russian) *Èlektronika i Modelirovanie Vyp.* 16 (1977), 87–89, 127. **57** #1898 65L05

Koljada, V. I. Imbedding into classes of continuous functions of several variables. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 3, 421–432, 480. (Angelo Favini) **53** #11360 46E35

Imbedding theorems and inequalities of various metrics for best approximations. (Russian) *Mat. Sb.* (*N.S.*) **102(144)** (1977), *no.* 2, 195–215, 325–326. (B. Bojanov) **56** #12743 42A08

Koljagin, S. Ju. Some properties of integrals of Temljakov and Temljakov-Bavrin types. (Russian) *Mathematical analysis and the theory of functions, No.* 6 (*Russian*), *pp.* 52–65. *Moskov. Oblast. Ped. Inst., Moscow*, 1976. (V. Litvinjuk (RŽMat **1977** #7 B269)) **58** #28610 32A25

See also **Mathematical analysis and the theory of functions, 58** #29250 *and* **Mathematical analysis and the theory of functions, 58** #29266

Koljano, Ju. M. (*with* Pīdstrigač, Ja. S.) ★Обобщенная термомеханика. (Russian) [Generalized thermomechanics] *Izdat. "Naukova Dumka", Kiev*, 1976. 310 *pp.* (L. Jentsch) **55** #1955 80.35 (73.35)

(*with* Dīdik, V. Z.) A method of integral characteristics in the thermoelasticity of plates with piecewise constant coefficients of heat transfer. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 11, 1015–1019, 1056. (Authors' summary) **57** #4750 73.34

Application of generalized functions in the thermomechanics of piecewise homogeneous bodies. (Russian) *Mat. Metody i Fiz.-Meh. Polja No.* 7 (1978), 7–11, 122. (Editors) **57** #14700 73.28

See also **Questions in applied mathematics, 48** #5448

van der Kolk, C. M. Unitarity in Yang-Mills theories. *Nuclear Phys. B* **125** (1977), *no.* 3-4, 513–529. (Franco Strocchi) **56** #10588 81.47

Kolk, E. Reflexivity and summability in Fréchet spaces. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised No.* 305 (1972), 127–130. (Ivan Singer) **51** #8780 46A35

Buck's theorem in locally convex spaces. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 374 (1975), 128–140. (G. J. O. Jameson) **53** #8855 46A45

A generalization of Buck's theorem. (Russian. Estonian and German summaries) *Tartu Riikl. Ül. Toimetised Vih.* 430 (1977), 22–28. (From the introduction) **58** #12288 46A99 (47A99)

Kolk, Johan Formule de Poisson et distribution asymptotique du spectre simultané d'opérateurs différentiels. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 17, A1045–A1048. (Author's summary) **56** #3903 58G99 (43A85, 10D20, 22E45)

Kolker, H. J. Variational formulation of the Harris expansion technique. *J. Chem. Phys.* **53** (1970), 4697–4704. (John Nuttall) **51** #14815 81.49

Kolker, Ju. I. (*with* Zuber, I. E.; Poluèktov, R. A.) Control of population size and growth composition. (Russian) *Problemy Kibernet. No.* 25 (1972), 129–138. (R. Tomović) **45** #8311 (E **50** #15975) 92A15

(*with* Zuber, I. E.; Poluèktov, R. A.) Erratum: "Control of population size and growth composition." (Problemy Kibernet. No. 25 (1972), 129–138). (Russian) *Problemy Kibernet. No.* 28 (1974), 4. (Editors) **50** #15975 92A15

Kolkunov, V. A. (*with* Mel′nikov, V. N.) Quasiclassical expansion and the exp method. *Jadernaja Fiz.* **16** (1972), 1125–1134 (*Russian*); *translated as Soviet J.* *Phys.* **16** (1973), 617–621. (Authors' summary) **50** #15665 81.34

(*with* Mel′nikov, V. N.) Investigation of the WKB approximation within the framework of the exponential method. *Jadernaja Fiz.* **17** (1973), 866–874 (*translated as Soviet J. Nuclear Phys.* **17** (1973), 452–457. (Authors' summary) **50** #15666 81.34

Koll, Franz Josef ★Die elliptischen Fixpunkte und die Spitzen der diskreten Erweiterungen der Hilbertschen Modulgruppe. Inaugural-Dissertation zur E des Doktorgrades der Hohen Mathematisch-Naturwissenschaftlichen Fakultät d Rheinischen Friedrich-Wilhelm-Universität Bonn, Bonn, 1975. Bonner Mathe Schriften, Nr. 84. *Mathematisches Institut der Universität Bonn, Bonn*, 1976. iv (H. Klingen) **57** #238 10D20 (14J25, 32N05)

Koller, A. Numerical solution of the Helmholtz equation. *Siemens Forsch.- und Entwicklungsber.* **1** (1971/72), 93–102. **46** #8451 65P05

Koller, Herbert (*with* Schechter, Martin; Weder, Ricardo A.) Schrödinger operat uniform norm. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **26** (1977), *no.* 3, 303–311. (B. Lavine) **58** #17586 35P05 (35J10)

Koller, K. On quantum field theories with homogeneous interactions. *Lett. Nuovo* (2) **5** (1972), 213–220. (Not reviewed) 81.47

The significance of conformal inversion in quantum field theory. *Comm* *Phys.* **40** (1975), 15–35. (Author's summary) **50** #12021 81.22

See also **New developments in relativistic quantum field theory, 49** #11978

Koller, S. (*with* Hildebrandt, B.; Michaelis, J.) Die Häufigkeit der Fehlklassifika der quadratischen Diskriminanzanalyse. (English summary) *Biometrische Z.* **15** *no.* 1, 3–12. (Margaret P. Gessaman) **54** #14245 62H30

Köllerström, Julian Heavy traffic theory for queues with several servers. I. *Probability* **11** (1974), 544–552. (Jos H. A. de Smit) **51** #2014 60K25

Stochastic bounds for the single-server queue. *Math. Proc. Cambridge Phi* **80** (1976), *no.* 3, 521–525. (N. U. Prabhu) **54** #14153 60K25

Kollett, F. W. Two-timing methods valid on expanding intervals. *SIAM J. Math.* (1974), 613–625. (A. C. Garibaldi) **51** #3628 34E05

el Kolli, Amar *See* **El Kolli, Amar**

Kollingvud, È. *See* **Collingwood, E. F.**

Kollins, È. D. *See* **Kiro, S. M., 45** #1715

Kollmann, Wolfgang ★Berechnung von Eigenwerten und Eigenvektoren nichthermite'scher Matrizen. Report No. 71. *Institut für Statik und Dynamik d und Raumfahrtkonstruktionen, Universität Stuttgart, Stuttgart*, 1969. i+30 *pp.* (B. Levinger) **57** #11020 65F15

Calculation of special functional integrals. *J. Mathematical Phys.* **16** (1975) 2197–2200. (C. J. Henrich) **53** #753 28A40

Functional integrals in the statistical theory of turbulence and the Burger equation. *J. Statist. Phys.* **14** (1976), *no.* 3, 291–303. (W. O. Criminale, Jr.) **54** # 76.60

Kollmer, Heinrich On hyperbolic attractors of codimension one. *Geometry and* (*Proc. III Latin Amer. School of Math., Inst. Mat. Pura Aplicada CNPq, Rio de* 1976), *pp.* 330–334. *Lecture Notes in Math., Vol.* 597, *Springer, Berlin*, 1977. Robinson) **57** #7687 58F15

Kollo, T. H.-A. A partially normal probability distribution on the group SO(3). (R *Trudy Vyčisl. Centra Tartu. Gos. Univ. No.* 27 (1973), 11–27. (A. L. Ruhin) **52** # 60B15

Distributions that are connected with a sample correlation matrix. (Russian) *Vyčisl. Centra Tartu. Gos. Univ. Vyp.* 36 (1976), 17–36. (Z. Šidák) **55** #6690

Kolm, Å. Some comments on the generalized energy-momentum eigenvectors axiomatic field theory. *Ark. Fys.* **39** (1969), 551–571. (Ju. M. Berezanskiĭ) **52** #1 81.47

Kolm, Serge-Christophe (*with* Eichhorn, Wolfgang) Technical progress, neutral inve and Cobb-Douglas. *Production theory* (*Proc. Internat. Sem., Univ. Karlsruhe, Ka* 1973), *pp.* 35–45. *Lecture Notes in Math. Systems, Vol.* 99, *Springer, Berlin*, 1 Aczél) **53** #2302 90A15

Rendement qualitatif et financement optimal des politiques d'environnement. (English summary) *Econometrica* **43** (1975), 93–113. (Author's summary) **56** # 90A15

Unequal inequalities. I. *J. Econom. Theory* **12** (1976), *no.* 3, 416–442. (G. T **55** #11993a 90A99 (15A45)

Unequal inequalities. II. *J. Econom. Theory* **13** (1976), *no.* 1, 82–111. (G. T **55** #11993b 90A99

Kolmakov, Ju. N. (*with* Chaichian, M.; Nelipa, N. F.) Asymptotic freedom ar symplectic and G_2 groups. *Phys. Lett. B* **76** (1978), *no.* 1, 67–69. (Authors' sum **58** #19922 81.22

Kolman, Arnošt On the history of the foundation of inductive logic. (Russian. E summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1972**, *no.* 3(40), 53–56, 122. (A summary) **58** #26702 01A20 (01A30, 02–03)

See also **Dictionary: Czech-Russian, 50** #4202

Kolman, Bernard (*with* Belinfante, Johan G. F.) ★A survey of Lie groups ar algebras with applications and computational methods. *Society for Industri* *Applied Mathematics, Philadelphia*, 1972. ix+164 *pp.* (Wayne J. Holman, III) **53** #10993 22E70

(*with* Beck, Robert E.) Computer approaches to the representations of Lie alge *J. Assoc. Comput. Mach.* **19** (1972), 577–589. (I. Stewart) **48** #11233 17B10

(*with* Beck, Robert E.) A computer implementation of Freudenthal's multi formula. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 350–3 Stewart) **47** #3471 17B10

(*with* Beck, Robert E.) A stopping method for Racah's formulas. *J. Computa* *Phys.* **13** (1973), 161–163. (F. J. Testa) **48** #7807 81.22

(*with* Beck, Robert E.) Computers in Lie algebras. I. Calculation of inner multiplicities. Lie algebras: applications and computational methods (Conf., Univ., Philadelphia, Pa., 1972). *SIAM J. Appl. Math.* **25** (1973), 300–312. (

Varadarajan) **49** #2858a 17–04

(*with* Beck, Robert E.) Computers in Lie algebras. II. Calculation of outer multiplicities. Lie algebras: applications and computational methods (Conf., Drexel Univ., Philadelphia, Pa., 1972). *SIAM J. Appl. Math.* **25** (1973), 313–323. (V. S. Varadarajan) **49** #2858b 17–04

(*with* Beck, Robert E.; Stewart, Ian N.) Computing the structure of a Lie algebra. *Computers in nonassociative rings and algebras* (*Special session, 82nd Annual Meeting Amer. Math. Soc., San Antonio, Tex.*, 1976), *pp.* 167–188. *Academic Press, New York*, 1977. (B. N. Allison) **58** #5800 17B05

(*with* Beck, Robert E.) Polynomial differential equations. *J. Differential Equations* **24** (1977), *no.* 3, 466–482. (C. S. Coleman) **58** #1394 34C20 (17E05)

See also **Lie algebras: applications and computational methods**, **47** #6793; **Lie algebras: applications and computational methods**, **50** #7269; **Computers in nonassociative rings and algebras**, **56** #427 *and* **Group theoretical methods in physics**, **56** #14208

K[illegible]man, È. *See* **Kolman, Arnošt**

K[illegible]nanovskiĭ, V. B. The stability of stochastic systems with lag. (Russian) *Problemy Peredači Informacii* **5** (1969), *no.* 4, 59–67. (A. Ja. Dorogovcev) **46** #8303 60H10

Problem in the control of systems with aftereffect. *Avtomat. i Telemeh.* **1970**, *no.* 10, 47–53 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 10, 1575–1582. (Author's summary) **46** #757 49B05

(*with* Nosov, V. R.) On the stability of first-order nonlinear equations of neutral type. *Prikl. Mat. Meh.* **34** (1970), 587–594 (*Russian*); *translated as J. Appl. Math. Mech.* **34** (1970), 560–567 (1971). (R. P. de Figueiredo) **50** #2652 34K20

Optimal control of systems with lag by suitable choice of the initial conditions. *Prikl. Mat. Meh.* **34** (1970), 827–835 (*Russian*); *translated as J. Appl. Math. Mech.* **34** (1970), 791–799 (1971). (C. R. Hadlock) **46** #3957 34K99 (34H05)

(*with* Černous'ko, F. L.) Optimal control problems with incomplete information. (Russian) *Proceedings of the Fourth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1971), *No.* 1 (*Russian*), *pp.* 5–120. *Moskov. Inž.-Stroitel. Inst., Moscow*, 1971. (Bojan Popović) **51** #9939 93E20

Optimization of the tracking process with information lag. *Prikl. Mat. Meh.* **35** (1971), 312–320 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 272–280. (G. D. Allen) **46** #6906 93E20

Optimal combination of control and observation. *Prikl. Mat. Meh.* **35** (1971), 609–618 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 559–568 (1972). (E. O. Roxin) **48** #12207 49B10

Certain problems of the optimal control of the intensity of random perturbations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1386–1395. (N. N. Petrov) **46** #8734 93E20

Optimal observation laws for some controlled motions. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 221–226 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1136–1141. (A. B. Schwarzkopf) **54** #2312 93E20

Optimal control by certain observation processes. *Prikl. Mat. Meh.* **36** (1972), 181–188 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 167–173. (N. U. Ahmed) **49** #2191 93E20

Some remarks on the optimization of a tracking process under random perturbations. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 6, 109–111. (K. Wickwire) **48** #8070 93E20

The representation of the solution of equations of neutral type. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 171–178. (G. S. Ladde) **46** #3958 34K99

(*with* Maĭzenberg, T. L.) Optimal control of stochastic systems with aftereffect. *Avtomat. i Telemeh.* **1973**, *no.* 1, 47–61 (*Russian. English summary*); *translated as Automat. Remote Control* **34** (1973), *no.* 1, *part* 1, 39–52. (Authors' summary) **56** #18075 93E20

Optimal control of a process of trajectory measurements under random perturbations. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1754–1764, 1923. (G. N. Mil'šteĭn) **48** #13405 93E10

Choice of observation law in the case of an arbitrary disturbance. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 4, 172–177 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 4, 679–684. (D. D. Sworder) **50** #1763 93E20

On certain impulse observation laws. *Prikl. Mat. Meh.* **37** (1973), 163–169 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 149–156. (D. V. Lindley) **49** #8721 93E10

Exact formulas in the control problem of certain systems with aftereffect. *Prikl. Mat. Meh.* **37** (1973), 228–235 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 213–220. (D. H. Chyung) **50** #4033 93C05

Optimal control of an observation process under random perturbations. (Russian. Polish and English summaries) *Nonlinear vibration problems, No.* 15 (*Proc. Sixth Internat. Conf. Nonlinear Oscillations, Poznań*, 1972, *Part II*), *pp.* 265–268. *PWN—Polish Sci. Publ., Warsaw*, 1974. (Author's summary) **57** #2719 93E20

On the filtering of certain stochastic processes with lag. *Avtomat. i Telemeh.* **1974**, *no.* 1, 42–49 (*Russian*); *translated as Automat. Remote Control* **35** (1974), *no.* 1, *part* 1, 36–42. **56** #15042 93E10

The approximation of linear control systems with time lag. *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 1, 63–76. (D. H. Chyung) **49** #7887 49D99

Optimal control of certain nonlinear systems with a small parameter. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1584–1594, 1715. (I. Muntean) **52** #6534 49D05

Optimal control of certain quasilinear stochastic systems. *Prikl. Mat. Meh.* **39** (1975), *no.* 4, 724–727 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 4, 692–696 (1976). (N. U. Ahmed) **54** #7084 93E20

Application of the perturbation method to some optimal control problems. *Prikl. Mat. Meh.* **39** (1975), *no.* 5, 788–796 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 5, 758–766 (1976). (D. F. Lawden) **54** #3552 49D30

(*with* Akulenko, L. D.) Guided motion of a rigid body in the atmosphere subject to random perturbations. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1975**, *no.* 2, 15–23 (*Russian*); *translated as Mechanics of Solids* **10** (1975), *no.* 2, 11–18. (G. N. Mil'šteĭn) **54** #4797 93E20

Certain questions of time-optimality in stochastic systems. (Russian. English summary) *Problems of Control and Information Theory / Problemy Upravlenija Teorii Informacii* **4** (1975), *no.* 4, 353–367. (T. Tobias) **55** #7550 93E20

(*with* Maĭzenberg, T. L.) Optimal control of linear stochastic differential equations with aftereffect. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravenii s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **9** (1975), 98–119. (T. Tobias) **53** #12724 93E20

Equalities that determine the second moments of solutions of stochastic equations with aftereffect. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 94–97, 143. (Petr Mandl) **51** #6986 60H10

Problem in control of gyrostat motion under random perturbations. *Avtomat. i Telemeh.* **1976**, *no.* 10, 48–55 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 11, *part* 1, 1667–1673 (1977). (R. S. Bucy) **55** #12265 93E20

On probability control of certain systems. *Prikl. Mat. Meh.* **40** (1976), *no.* 5, 782–789 (*Russian*); *translated as J. Appl. Math. Mech.* **40** (1976), *no.* 5, 730–738 (1977). (T. K. Caughey) **57** #18963 93C15 (70.60)

Optimal control of certain weakly controllable systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 2, 86–89. (Author's summary) **58** #2567 49D99

Optimal control of certain stochastic systems with retarded argument. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp.* 177–185, 304. *Izdat. "Naukova Dumka", Kiev*, 1977. (Author's summary) **57** #13627 49A99 (93E20)

(*with* Černous'ko, F. L.) Numerical and approximate methods of optimal control. (Russian) *Mathematical analysis, Vol.* 14 (*Russian*), *pp.* 101–166, i. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1977. (O. V. Vasil'ev) **58** #3435 65K05 (49Dxx)

The control of certain stochastic differential equations. (Russian) *Theory of random processes, No.* 5 (*Russian*), *pp.* 45–49, 113. *Izdat. "Naukova Dumka", Kiev*, 1977. (A. Friedman) **58** #15613 93E20

(*with* Bratus', A. S.) Approximate optimal control of motion under the action of Poisson and Gaussian random perturbations. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 9, 1558–1569, 1731. (Authors' summary) **57** #19027 93E20

Some approximation methods in the synthesis of optimal control in stochastic systems. (Russian. Bulgarian and English summaries) Mechanics (Third Congress, Varna, 1977). *Godišnik Visš. Učebn. Zaved. Tehn. Meh.* **12** (1977), *no.* 1, 35–40. (Author's summary) **58** #33460 93E20

(*with* Maĭzenberg, T. L.) Optimal estimates of the state of a system and certain problems of control by equations with time lag. *Prikl. Mat. Meh.* **41** (1977), *no.* 3, 446–456 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 3, 446–458 (1978). (I. Muntean) **58** #9714 93E20

Optimal control of certain stochastic systems. (Russian) *Prikl. Meh.* **13** (1977), *no.* 4, 85–90, 142. (Author's summary) **58** #4581 93E20

(*with* Šaĭhet, L. E.) A method for the construction of approximate synthesis of optimal control. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 8, 737–741, 769. (Authors' summary) **58** #26494 93E25

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969

Kolmogorov, A. N. On the logical foundations of information theory and probability theory. *Problemy Peredači Informacii* **5** (1969), *no.* 3, 3–7 (*Russian*); *translated as Problems of Information Transmission* **5** (1969), *no.* 3, 1–4. (E. C. Posner) **47** #3105 94A15

(*with* Varpahovskiĭ, F. I.) The solution of Hilbert's tenth problem. (Bulgarian) Translated from the Russian by Iv. Dimovski (Kvant **1** (1970), no. 7, 39–44). *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **14(47)** (1971), 82–87. (Editors) **58** #5150 02F50 (01A70, 10B99, 10N05)

(*with* Berezans'kiĭ, Ju. M.; Kreĭn, M. G.; Levin, B. Ja.; Levitan, B. M.; Marčenko, V. O.) Naum Il'ič Ahiezer (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 6(162), 257–261 (1 *plate*). (Editors) **52** #5290 01A70

A qualitative study of mathematical models of population dynamics. (Russian) *Problemy Kibernet. No.* 25 (1972), 101–106. (L. I. Rubinstein) **45** #8309 92A15

(*with* Verčenko, I. Ja.; Kozlov, V. Ja.; Men'šov, D. E.) Georgiĭ Pavlovič Tolstov (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 1(163), 255–264 (1 *plate*). (Editors) **52** #5327 01A70

(*with* Aleksandrov, P. S.; Ul'janov, P. L.) Dimitriĭ Evgen'evič Men'šov (on the occasion of his eightieth birthday). (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 2(164), 185–195. (1 *plate*) (Editors) **52** #5282 01A70

(*with* Beljaev, Ju. K.; Solov'ev, A. D.) Boris Vladimirovič Gnedenko (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 2(164), 197–202 (1 *plate*). (Editors) **52** #5289 01A70

(*with* Vulih, B. Z.; Gavurin, M. K.; Linnik, Ju. V.; Makarov, V. L.; Mitjagin, B. S.; Pinsker, A. G.; Rubinšteĭn, G. Š.; Faddeev, D. K.) Leonid Vital'evič Kantorovič (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 3(165), 221–227. (1 *plate*) (Editors) **52** #5328 01A70

(*with* Aleksandrov, P. S.; Gnedenko, B. V.; Markuševič, A. I.; Orlov, V. B.; Cvetkov, A. T.; Juškevič, A. P.) Georgiĭ Fedorovič Rybkin. Obituary. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 5(167), 223–225 (1 *plate*). (Editors) **52** #5284 01A70

★Grundbegriffe der Wahrscheinlichkeitsrechnung. Reprinting of the 1933 edition. *Springer-Verlag, Berlin-New York*, 1973. vii + 62 *pp.* (Editors) **50** #14856 60A05

★Основные понятия теории вероятностей. (Russian) [Fundamental concepts of probability theory] Second edition. Probability Theory and Mathematical Statistics Series, Vol. 16. *Izdat. "Nauka", Moscow*, 1974. 119 *pp.* (Editors) **50** #5878 60A05

(*with* Fomīn, S. V.; Tihomirov, V. M.) ★Eléments de la théorie des fonctions et de l'analyse fonctionnelle. Avec un complément sur les algèbres de Banach, par V. M. Tikhomirov. Traduit du russe par Michel Dragnev. *Éditions Mir, Moscow*, 1974. 536 *pp.* (Editors) **51** #3840 46–01 (28–01)

(*with* Fomīn, S. V.) ★Елементи теорiї функцiй i функцiонального аналiзу. (Ukrainian) [Elements of the theory of functions and functional analysis] With a supplement on Banach algebras by V. M. Tihomirov. Translated from the third Russian edition. *Vidavniče Ob'ēdnannja "Visča Škola", Kiev*, 1974. 455 *pp.* (Editors) **51** #13616 46–01 (28–01) (*with* Aleksandrov, P. S.; Oleĭnik, O. A.) In memoriam Ivan Georgievič Petrovskiĭ (January 18, 1901—January 15, 1973). (Russian) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ. *Trudy Moskov. Mat. Obšč.* **31** (1974), 5–16. (Editors) **52** #5285 01A70

Ivan Georgievič Petrovskiĭ. (Russian) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ (1901–1973), I. *Uspehi Mat. Nauk* **29** (1974), *no.* 2(176), 3–5. (1 *plate*) (Editors) **52** #10335 01A70

(*with* Fomīn, S. V.) ★Introductory real analysis. Translated from the second Russian edition and edited by Richard A. Silverman. Corrected reprinting. *Dover Publications, Inc., New York*, 1975. xii+403 *pp.* (Editors) **51** #13617 46–01 (28–01)

(*with* Fomīn, S. V.) ★Reelle Funktionen und Funktionalanalysis. Übersetzt von der dritten russischen Auflage von D. Freitag, H. Palme und B. Stöckert. Hochschulbücher für Mathematik, Band 78. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1975. 534 *pp.* (Editors) **56** #6323 46–01

(*with* Dzjadik, V. K.; Kudrjavcev, L. D.) Sergeĭ Mihaĭlovič Nikol′skiĭ (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 4 (184), 271–280. (1 *plate*) (Editors) **52** #7797 01A70

(*with* Aleksandrov, P. S.; Sobolev, S. L.) Ol′ga Arsen′evna Oleĭnik. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 4, 118–124. (Editors) **52** #2797 01A70

(*with* Fomīn, S. V.) ★Элементы теории функций и функционального анализа. (Russian) [Elements of the theory of functions and functional analysis] Fourth edition, revised. *Izdat. "Nauka", Moscow*, 1976. 543 *pp.* (Editors) **55** #8728 46–01 (28–01, 47–01)

(*with* Aleksandrov, P. S.; Gel′fand, I. M.; Gorin, E. A.; Grušin, V. V.; Oleĭnik, O. A.; Palamodov, V. P.; Fomīn, S. V.) Georgiĭ Evgen′evič Šilov. Obituary. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 1(187), 217–228. (Editors) **53** #12836 01A70 (46–03)

(*with* Aleksandrov, P. S.; Gnedenko, B. V.; Prohorov, Ju. V.) Tašmuhamed Alievič Sarymsakov (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2 (188), 241–246. (Editors) **53** #2585 01A70

(*with* Aleksandrov, P. S.; Gel′fand, I. M.; Maĭkov, E. V.; Maslov, V. P.; Oleĭnik, O. A.; Sinaĭ, Ja. G.; Smoljanov, O. G.; Tihomirov, V. M.) In memory of Sergeĭ Vasil′evič Fomin. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 4(190), 199–212. (1 *plate*) (Editors) **54** #29 01A70

(*with* Arhangel′skiĭ, A. V.; Mal′cev, A. A.; Oleĭnik, O. A.) Pavel Sergeevič Aleksandrov (on the occasion of his eightieth birthday). (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 5 (191), 3–15. (Editors) **55** #39 01A70

★Grundbegriffe der Wahrscheinlichkeitsrechnung. Reprint of the 1933 original. *Springer-Verlag, Berlin-New York*, 1977. v+62 *pp.* *ISBN* 3-540-06110-X (Editors) **58** #13242 60A05 (01A75, 60G05)

(*with* Bašmakova, I. G.; Grigor′jan, A. T.; Markuševič, A. I.; Medvedev, F. A.; Rozenfel′d, B. A.) Adol′f Pavlovič Juškevič (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 3(195), 197–202. (Editors) **55** #12430 01A70

(*with* Adamjan, V. M.; Berezans′kiĭ, Ju. M.; Bogoljubov, N. N.; Iohvidov, I. S.; Lavrent′ev, M. A.; Mītropol′s′kiĭ, Ju. O.) Mark Grigor′evič Kreĭn (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **33** (1978), *no.* 3(201), 197–203. (Editors) **58** #10148 01A70

See also **Mathematiker über die Mathematik**, **51** #2831; **Key papers in the development of information theory**, **52** #5177; **Gnedenko, B. V.**, **52** #7800; **History of mathematical education in the USSR**, **52** #13176; **Gnedenko, B. V.; et al.**, **53** #49; **Cramér, Harald**, **53** #14734; **Kendall, Maurice G.; et al.**, **56** #1515 *and* **Woyczyński, Wojbor A.**, **57** #9440

Kolmus, Peter Espaces σ-complètement réguliers. *Séminaire Choquet, 16e année* (1976/77), *Initiation à l'analyse, Comm. No.* 4, 9 *pp. Secrétariat Math., Paris*, 1978. (D. W. Bressler) **58** #18335 54C20

Kolobaev, V. V. (*with* Saak, È. M.) A class of hyperbolic systems. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 5, 1000–1003. (A. Haimovici) **56** #12620 35L40

Kolobrodova, E. S. (*with* Ždanova, G. S.; Poluškin, V. A.; Černyĭ, A. I.) ★Словарь терминов по информатике на русском и английском языках. (Russian) [A dictionary of terms on information science in the Russian and English languages] *Izdat. "Nauka", Moscow*, 1971. 359 *pp.* (*errata insert*) (Editors) **50** #4201 00A20

Kolod, Julian R. (*with* Artino, Carmen Q.) Elementary number theory in certain subsets of the integers. I. *Pi Mu Epsilon J.* **5**, 489–495 (1974). (I. Niven) **49** #2511 (E **50** #12888) 10A25

(*with* Artino, Carmen Q.) Elementary number theory in certain subsets of the integers. II. *Pi Mu Epsilon J.* **6**, 1–6 (1974). (I. Niven) **50** #12889 10A25

(*with* Artino, Carmen Q.) Correction to: "Elementary number theory in certain subsets of the integers. I" (Pi Mu Epsilon J. **5**, 489–495 (1974)). *Pi Mu Epsilon J.* **6**, 6–7 (1974). (I. Niven) **50** #12888 10A25

Kolodeznikov, G. *See* **Questions in differential equations**, **48** #10742

Kolodiĭ, A. N. Two-sided nondeterministic automata. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 40–45. (V. Ju. Meĭtus) **53** #2558 94A30 (02F10)

Kolodiĭ, Ī. M. The boundedness of generalized solutions of elliptic differential equations. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **25** (1970), *no.* 5, 44–52. (Ju. M. Berezanskiĭ) **45** #8980 35D99

The boundedness of generalized solutions of parabolic differential equations. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), *no.* 5, 25–31. (R. Výborný) **46** #5827 35K10 (35D99)

(*with* Kružkov, S. N.) A priori estimates and Harnack's inequality for generalized solutions of degenerate second order quasilinear parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 283–284. (V. Barbu) **46** #2205 35D10 (35K10)

An estimate of the maximum modulus of the generalized solutions of elliptic differential equations with degeneracy. (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. Unīv. Ser. Meh.-Mat.* **1974**, *no.* 9, 27–32, 132. (V. S. Rabinovič) **53** #13808 35D10

Local Hölder continuity of the generalized solutions of degenerate elliptic differential equations with degeneracy. (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. Unīv. Ser. Meh.-Mat.* **1974**, *no.* 9, 33–37, 132. (V. S. Rabinovič) **53** #13809 35D10

Qualitative properties of the generalized solutions of degenerate elliptic equ ons (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 3, 320–328, 429. (S. N. Kružkov) **54** 8 35D10 (35J15)

The Harnack inequality for generalized solutions of quasilinear degenerate ptic equations with a degeneracy. (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. nu Ser. Meh.-Mat. No.* 10 (1975), 11–15, 95. (See RŽMat **1976** #4 B392) 35J70

A theorem on a removable singularity for generalized solutions of elliptic equ ons (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. Unīv. Ser. Meh.-Mat.* **1976**, 11 5–11, 121. (RŽMat **1976** #9 B299) **58** #29234 35J99

The capacity of sets. (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. Un Ser Meh.-Mat.* **1976**, *no.* 11, 11–15, 121. (Author's summary) **58** #28552 31A05

(*with* Kružkov, S. N.) A priori estimates and Harnack's inequality for gene ze solutions of degenerate quasilinear parabolic equations. (Russian) *Sibirsk. Mat* 18 (1977), *no.* 3, 608–628, 718. (V.-V. Olariu) **57** #10246 35K55

Kolodjažnyĭ, B. G. Random electromagnetic fields. (Russian) *Vestnik Har′kov. Gos* nu *No.* 119 *Mat. i Meh. Vyp.* 40 (1975), 102–105, iii. (Kazimierz Sobczyk) **54** # 4 78.60

Kolodjažnyĭ, V. M. (*with* Rvačov, V. O.) The approximation in the uniform me of functions satisfying a boundary condition by functions of a special form. (Ru an *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 6, 1276–1278. (V. A. Popov) **52** # 4 41A35

(*with* Rvačov, V. O.) The approximation of functions that satisfy boundary conditions. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp.* 49–53, 119 (*errata*). *Inst. Mat., Akad. Nauk Ukrain. SSR* iev 1976. (Authors' summary) **58** #29655 41A35

(*with* Rvačov, V. O.) On the construction of solution structures for boundary lue problems. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 4, 646–653, 772. (Authors' introduction) **58** #19246 65N99 (35C99)

See also **Boundary value problems for domains of complex shape**, **57** #14525

Kolodner, Ignace I. On exp(tA) with A satisfying a polynomial. *J. Math. Anal. A* 52 (1975), *no.* 3, 514–524. (D. W. Bailey) **54** #13566 46H05 (15A60)

Kołodziej, Henryk (*with* Szczepankiewicz, Eugeniusz) A dependence of the sample the dimension of the space in the case of quasi-isotropic fields. (Polish. English sum y *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **18** *Zastos. Mat.* (1975), 87–94. (A rs summary) **56** #16966 62M99

(*with* Szczepankiewicz, Eugeniusz) Sampling in the case of certain quasi-iso pic random fields. (Polish. English summary) *Zeszyty Nauk Wyż. Szkoły Ped. w Opol at* **18** *Zastos. Mat.* (1975), 95–101. (Authors' summary) **56** #16967 62M99

(*with* Szczepankiewicz, Eugeniusz) Certain properties of sampling in the c of almost stationary random fields. (Polish. English summary) *Zeszyty Nauk. Wyż. oły Ped. w Opolu Mat.* **19** *Logika Mat.* (1976), 349–354. (Authors' summary) **56** # 62M99

Kołodziej, Reinhold (*with* Glibowski, Edward) On a certain construction of a mult ph realizing a given sequence. (Polish and Russian summaries) *Prace Nauk. Inst. Ma iz Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 3 *Teoria Grafów* (1970), 3- (F Harary) **51** #2994a 05C99

A certain subclass of the formulas of recursive arithmetic. (Polish. Englis nd Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. dia i Materiały No.* 5 *Zagadnienia teorii automatów* (1973), 41–56. (H. B. Curry) **50** 60 02D99

Reducibility of formulae of weak second order arithmetic to pseudo-can cal forms. I. *Studia Logica* **33** (1974), 131–152. (G. E. Minc) **54** #4935a 02E10 (02G05)

Reducibility of formulae of weak second order arithmetic to pseudo-can cal forms. II, III. *Studia Logica* **33** (1974), 233–258. (G. E. Minc) **54** #4935b 10 (02G05)

Algorithms for the validity of formulas of predicate calculus through hyperg ns (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Politechn. Wro w No.* 17 *Ser. Stud. i Materiały No.* 13 (1977), 9–18. (RŽMat **1978** #5 A45) **58** #21 02G05 (02B15)

Kołodziej, W. Über den Beweis eines Satzes aus der Limitierungstheorie. *Colloq. Ma* 23 (1971), 299–300. (M. S. Ramanujan) **46** #4153 46A35

See also **Kuratowski, Kazimierz**, **50** #2411 *and* **Kuratowski, Kazimierz**, **50** # 2

serafin-Kołodziejczyk, Ewa *See* **Serafin-Kołodziejczyk, Ewa**

Kolokol′ceva, I. I. (*with* Rozenfel′d, B. A.) Geometric interpretation of spinor representations of groups of motions of quasi-elliptic 5-spaces. (Russian) *Gravita Teor. Otnositel′nosti No.* 8 (1971), 116–125. (RŽMat **1972** #6 A632) **58** #28 22E05 (53A35, 83.53)

(*with* Rozenfel′d, B. A.; Rudenko, A. B.) Biquasisimple algebras. (Russian) Geometry collection, No. 13. *Trudy Tomsk. Gos. Univ.* **246** (1973), 20–31. (I. A. Koifman) **50** #13144 (EA **51**) 16A48

(*with* Kidalinskja, L. I.; Proskurina, R. G.) Spin representations of the grou of motions of the isotropic and the pseudoisotropic 3-space. (Russian) *Proceedings he Seminar of the Department of Geometry, No. VII* (*Russian*), *pp.* 48–60. *Izdat. K n. Univ., Kazan.* 1974. (K. Radziszewski) **53** #3950 53C30

(*with* Rozenfel′d, B. A.; Maljutin, V. V.) Geometric interpretations of linear fractional transformations of Jordan algebras. (Russian) *Dokl. Akad. Nauk SSS* 18 (1974), 35–38. (H. Freudenthal) **52** #524 17C20

(*with* Rozenfel′d, B. A.; Vyplavina, R. P.; Maljutin, V. V.) Fractional linear transformations of Jordan algebras. (Russian) Collection of articles dedicated to Aleksandr Petrovič Norden on the occasion of his seventieth birthday. *Izv. Vysš. U n. Zaved. Matematika* **1974**, *no.* 5(144), 169–184. (Editors) **58** #22213 17C30 (17)

(*with* Abbasov, N. T.) Biquasisimple algebras, biquasimatrices, and spin representations of biquasinoneuclidean motions. (Russian) *Izv. Vysš. Učebn. Z d. Matematika* **1975**, *no.* 11(162), 3–10. (D. B. Persic) **54** #6001 53A50 (50C25)

Kolokol′nikov, A. S. The growth of functions subharmonic in space with a special ss distribution. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 281–283. (Ü. Ku) **50** #13568 31B05

The logarithmic derivative of a meromorphic function. (Russian) *Mat. Zametk* 5 (1974), 711–718. (W. H. J. Fuchs) **50** #7529 30A70

The growth of functions that are subharmonic in a space and have a special istribution of masses. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 21 974), 42–56, 127. (Author's summary) **57** #12877a (E **57** #12877b) 31B05

The asymptotic behavior of functions that are subharmonic in a multidimensional one. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 24 (1975), 51–61, ii. Frederick T. Brawn) **53** #837 31B05

Letter to the editors: "The growth of functions that are subharmonic in a space and hat have a special distribution of masses" (Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp. 21 (1974), 42–56, 127). (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 6 (1976), 128–129. (Author's summary) **57** #12877b 31B05

Kokol′nikova, N. A. Relations between sums of certain special numbers. (Russian) *symptotic and enumeration problems of combinatorial analysis* (*Russian*), *pp.* 117–124. *rasnojarsk. Gos. Univ., Krasnoyarsk*, 1976. (Author's introduction) **58** #27736 0A40

Kokolov, A. A. (*with* Hohljuk, V. I.) Two direct algorithms of integer linear rogramming. (Russian) *Optimal. Planirovanie No.* 16 (1970), 33–46. (G. Bär) 5 #3071 90C10

Existence of stationary solutions of the nonlinear wave equation. *Prikl. Mat. Meh.* 8 (1974), 922–928 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 870–876 1975). (G. P. Bava) **53** #9885 78.49 (35L05)

(*with* Bekker, A. V.; Jagol′nicer, M. A.; Gladkih, B. A.) ★Распознавание бразов при построении экономико-статистических моделей. (Russian) [Pattern ecognition in the design of economical-statistical models] Edited by B. B. Rozin and B. G. Mirkin. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1975. 92 *pp.* (A. Aganbegjan) 57 #18274 68A45 (90A15, 62H30)

Kmeĭcev, V. I. On the question of the convergence of a sequence of linear operators. Russian) *Interuniversity Scientific Conference on the Problem "Application of Functional Analysis in Approximation Theory"* (*Proc. Conf., Kalinin*) (*Russian*), *pp.* 72–75. *Kalinin. Gos. Ped. Inst., Kalinin*, 1970. (P. C. Sikkema) **46** #5905 41A35

Kmicev, V. Ī. The decomposition of the irreducible unitary representations of the group SL(2, C) restricted to the subgroup SU(1, 1). The complementary series. (Russian. English summary) *Teoret. Mat. Fiz.* **2** (1970), *no.* 2, 210–229. (Author's summary) 57 #16475 22E45

Analytical continuation of functions defined on subgroups of the complex Lorentz group. (Russian. English summary) *Teoret. Mat. Fiz.* **13** (1972), *no* 3, 321–326. (Author's summary) **57** #8563 81.22 (22E30)

On the question of the family of nonparallel Regge trajectories. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 104–106. (Author's summary) **47** #4552 81.22

(*with* Samoĭlenko, Ju. I.) Decomposition of a representation of the group SL(2, C), of the type of the regular representation, into indecomposable representations. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 4, 464–470, 572. (A. J. Coleman) **52** #8340 22E45

(*with* Samoĭlenko, Ju. S.) Irreducible representations of inductive limits of groups. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 4, 526–531, 565. (J. Niederle) **57** #6282 22D10 (81.22)

omiēc′, V. G. (*with* Kerzjuk, V. I.) An investigation of the oscillations of nonlinear systems with slowly changing parameters and random perturbations. (Russian) *Mathematical physics, No.* 8 (*Russian*), *pp.* 91–97. *Naukova Dumka, Kiev*, 1970. (P. Sagirow) **45** #2281 34F05 (60H10)

(*with* Homa, G. P.) The averaging principle for hyperbolic systems of first order. (Russian) *Mathematical physics, No.* 8 (*Russian*), *pp.* 97–102. *Naukova Dumka, Kiev*, 1970. (L. Pintér) **45** #2323 35L40 (34C30)

(*with* Ševčuk, P. S.) Construction of asymptotic solutions of nonautonomous systems in the presence of strong dissipative forces. (Russian) *Asymptotic and qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 78–87. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (G. Niculescu) **51** #6071 34E10

(*with* Cīdilo, K. V.) Random oscillations of quasilinear systems with lag and with pulse effect. (Russian) *Differential-difference equations* (*Russian*), *pp.* 17–26. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (From the authors' introduction) **51** #10781 34F05

(*with* Kerzjuk, V. I.) An investigation of nonlinear stochastic systems with slowly varying parameters. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 28–34. *Naukova Dumka, Kiev*, 1971. (J. Carkovs) **46** #5780 34F05 (60H10)

(*with* Mītropol′s′kiĭ, Ju. O.) An application of probabilistic and asymptotic methods in the theory of oscillations of stochastic systems. (Russian) *Mathematical physics, No.* 9 (*Russian*), *pp.* 89–95. *Naukova Dumka, Kiev*, 1971. (C. E. Langenhop) **45** #677 34F05

(*with* Avramenko, V. N.) The application of the asymptotic methods of nonlinear mechanics to the problem of the propagation of a plane wave in a medium of composite structure. (Russian) *Analytic and qualitative methods of the theory of differential equations* (*Russian*), *pp.* 5–12. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (Editors) **50** #11921 73.35

(*with* Muhitdinov, T. M.) Averaging in systems of differential equations with random parameters. (Russian) *Analytic and qualitative methods of the theory of differential equations* (*Russian*), *pp.* 118–124. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (G. Niculescu) **51** #3630 34F05

(*with* Muhitdinov, T. M.) Partial averaging in nonlinear systems of differential equations with random functions. (Russian) *Analytic and qualitative methods of the theory of differential equations* (*Russian*), *pp.* 125–134. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (G. Niculescu) **51** #3631 34F05

(*with* Avramenko, V. N.) Application of the averaging method to the problem of the propagation of a plane wave in a dissipative heat conducting medium. (Russian) *Mathematical physics, No.* 11 (*Russian*), *pp.* 3–8. *Naukova Dumka, Kiev*, 1972. (Kazimierz Sobczyk) **49** #4408 76.35

Application of averaging principle in nonlinear oscillatory stochastic systems. *Stability of stochastic dynamical systems* (*Proc. Internat. Sympos., Univ. Warwick, Coventry*, 1972), *pp.* 317–323. *Lecture Notes in Math., Vol.* 294, *Springer, Berlin*, 1972. (Ĭ. M. Stojanov) **58** #3034 60H10

(*with* Korenīvs′kiĭ, D. G.) Investigation of nonlinear oscillations in a first order system with random lag. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravneniĭ s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **8** (1972), 100–108. (E. F. Car′kov) **49** #5523 34K15

Random oscillations in nonlinear stochastic systems with slowly varying parameters. (Russian. Polish and English summaries) *Nonlinear vibration problems, No.* 14 (*Proc. Sixth Internat. Conf. Nonlinear Oscillations, Poznań*, 1972, *Part I*), *pp.* 387–391. *PWN—Polish Sci. Publ., Warsaw*, 1973. (Author's summary) **56** #10262 70.60

(*with* Bondarēv, P. A.) Random nonlinear oscillations of a rectangular plate. (Russian) *The method of integral manifolds in nonlinear differential equations* (*Russian*), *pp.* 70–80. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Kazimierz Sobczyk) **51** #12094 73.60

(*with* Mītropol′s′kiĭ, Ju. O.) Application of asymptotic methods to stochastic systems. (Russian) *Approximate methods for the study of nonlinear systems* (*Russian*), *pp.* 102–147. *Izdanie Inst. Mat. Akad. Nauk SSR, Kiev*, 1976. (RŽMat **1977** #3 V228) **58** #7844 60H10

Random oscillations in nonlinear systems with two degrees of freedom. (Russian) *Approximate methods for the study of nonlinear systems* (*Russian*), *pp.* 238–243. *Izdanie Inst. Mat. Akad. Nauk SSR, Kiev*, 1976. (From the introduction) **58** #25226 70.60

Die Anwendung asymptotischer und wahrscheinlichkeitstheoretischer Methoden in der Theorie nichtlinearer Schwingungen stochastischer Systeme. *Untersuchungen zur asymptotischen Theorie nichtlinearer Differentialgleichungen*, *pp.* 11–16. *Schriftenreihe des Zentralinst. für Math. und Mech., Heft* 26, *Akademie-Verlag, Berlin*, 1978. (M. Bertolino) **58** #22784 34C15

See also **Mathematical physics**, **48** #5768; **Analytic and qualitative methods of the theory of differential equations**, **50** #4182 *and* **Approximate methods for the study of nonlinear systems**, **55** #5936

Kolomiĭceva, T. A. The asymptotic behavior of an entire function with regular zero distribution. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 15 (1972), 35–43. (W. K. Hayman) **46** #9346 30A64

Kolomoĭceva, Z. D. (*with* Grinšpan, A. Z.) Certain estimates in the class of functions that do not take on any pair of values w and $-w$. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1973), 28–34, 151. (R. J. Libera) **49** #3110 30A34

(*with* Il′ina, L. P.) The estimation of $|c_4|$ as a function of $|c_2|$ in the class S. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1 (1974), 27–30, 164. (D. A. Brannan) **49** #9185 30A34

Kolomý, Josef Some mapping and fixed point theorems. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 245–247. *Academia, Prague*, 1972. (Kok-keong Tan) **51** #1502 47H10

Continuity and differentiability properties of nonlinear operators. (Czech summary) *Časopis Pěst. Mat.* **97** (1972), 190–197, 206. (E. Zeidler) **46** #7999 47H99

Uniform boundedness and strong continuity of derivatives of convex functionals. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 41–45. (J. Daneš) **47** #3990 46G05 (47H99)

Invariance of domain theorem for weakly continuous mappings. *Math. Nachr.* **58** (1973), 137–144. (Kok-keong Tan) **49** #11331 47H10

Normal solvability and solvability of nonlinear equations. *Theory of nonlinear operators* (*Proc. Summer School, Neuendorf*, 1972), *pp.* 155–167. *Schr. Zentralinst. Math. Mech. Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin*, 1974. (S. Swaminathan) **54** #5928 47H15

Normal solvability, solvability and fixed-point theorems. *Colloq. Math.* **29** (1974), 253–266. (S. Swaminathan) **49** #1255 47H15

Some properties of monotone (potential) operators. *Beiträge Anal. Heft* 8 (1976), 77–84. (P. P. Zabreĭko) **56** #6477 47H05 (58C25)

(*with* Daneš, Josef) Fixed point, surjectivity and invariance of domain theorems for weakly continuous mappings. (Italian summary) *Boll. Un. Mat. Ital. B* (5) **13** (1976), *no.* 2, 369–394. (Authors' summary) **58** #12539 47H10

Some properties of nonlinear operators. II. *Theory of nonlinear operators* (*Proc. Fourth Internat. Summer School, Acad. Sci., Berlin*, 1975), *pp.* 165–169. *Abh. Akad. Wiss. DDR Abt. Math.-Natur.-Tech., Jahrgang* 1977, 1, *Akademie-Verlag, Berlin*, 1977. (P. P. Zabreĭko) **58** #18021 47H99 (58C15)

See also **Theory of nonlinear operators**, **49** #3610

Kolomycev, V. I. *See* **Kolomicev, V. Ī.**

Kolos, Ī. V. (*with* Ljaško, Ī. Ī.; Dīdenko, V. P.) The filtering problem in the presence of colored noise. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 8, 744–747, 767. (Authors' summary) **57** #5340 93E10 (94A05)

Kolosov, A. I. A certain type of nonlinear boundary value problems on the half-axis. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 11 (1970), 132–141. (K. R. Schneider) **45** #5460 34B99

The transformation of a singular boundary value problem in the half-axis into an integral equation with a discontinuous operator. (Russian) *Mat. Zametki* **9** (1971), 77–82. (C. V. Coffman) **45** #7164 34B99 (45G05)

A boundary value problem on the half-axis for an equation with a discontinuous right hand side. (Russian) *Differencial′nye Uravnenija* **8** (1972), 590–597. (I. Kiguradze) **46** #5719 34B15

A priori estimates of the solution of a certain nonlinear boundary value problem. (Russian) *Mathematics collection* (*Russian*), *pp.* 101–103. *Izdat. "Naukova Dumka", Kiev*, 1976. (I. Kiguradze) **57** #770 34B15

(*with* Li, Mung Su) The two-sided convergence of the method of successive approximations. (Russian) *Mathematics collection* (*Russian*), *pp.* 178–181. *Izdat. "Naukova Dumka", Kiev*, 1976. (L. Janos) **56** #17168 65R05 (45L05)

(*with* Kurčenko, T. S.) Solution of a boundary value problem on the half line by the nonstationary method. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 11, 1967–1970, 2107. (M. Tvrdý) **55** #12987 34B15

A perturbation method. (Russian) *Mat. Fiz. Vyp.* 19 (1976), 41–49, 122. (I. Kiguradze) **57** #748 34A10 (34E10)

A boundary value problem on a nonfixed interval. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 6, 1289–1294, 1437. (A. Kufner) **56** #729 34B15

Kolosov, B. V. (*with* Šifrin, E. G.) On a particular boundary value problem arising in the investigation of closed stationary separation zones in an incompressible fluid. *Prikl. Mat. Meh.* **39** (1975), *no.* 5, 835–844 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 5, 802–811 (1976). (R. K. Gupta) **54** #4295 76.35

Kolosov, G. E. Optimal control of quasiharmonic objects with incomplete information on the values of the phase coordinates. *Avtomat. i Telemeh.* **1969**, *no.* 3, 33–41 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 3, 340–346. **56** #15088 93E20

Optimal control problems under conditions of *a priori* uncertainty. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 227–235 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1142–1149. (H. J. Kushner) **52** #10177 93E10 (93B15)

Some problems of optimal control of Markov objects. *Avtomat. i Telemeh.* **1974**, *no.* 2, 16–24 (*Russian*); *translated as Automat. Remote Control* **35** (1974), *no.* 2, *part* 1, 185–192. **56** #15089 93E20

An approximate method of synthesizing statistical optimal control systems. *Avtomat. i Telemeh.* **1975**, *no.* 9, 41–51 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 9, *part* 1, 1418–1426 (1976). (Jean-Michel Bismut) **53** #10452 93E25

(*with* Grišanin, B. A.) Analytical solution of the problem of optimal quantization of random processes. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 1, 148–155 (*Russian*); *translated as Engrg. Cybernetics* **15** (1977), *no.* 1, 126–135. (Jiří Šústal) **58** #4592 93E99

Kolosov, L. V. (*with* Gelfandbeins, J.) An operator form of the equation of statistical identification. (Russian) *Cybernetics and diagnostics, No.* 5 (*Russian*), *pp.* 115–118. *Izdat. "Zinatne", Riga*, 1972. (F. M. Kirillova) **50** #15996 93B30

(*with* Gelfandbeins, J.) Correlation methods for the identification of external perturbations and internal noise in functioning dynamical systems. (Russian) *Cybernetics and diagnostics, No.* 5 (*Russian*), *pp.* 147–156. *Izdat. "Zinatne", Riga*, 1972. (From the authors' summary) **50** #6605 93E10

(*with* Gelfandbeins, J.) Identification of perturbations acting in a dynamical system from the least mean square deviation condition by the method of shaper links. (Russian) *Cybernetics and diagnostics, No.* 5 (*Russian*), *pp.* 167–173. *Izdat. "Zinatne", Riga*, 1972. (Editors) **50** #4063 93E10

(*with* Gelfandbeins, J.) Identification of perturbations acting in functioning dynamical systems by the method of shaper filters. (Russian) *Cybernetics and diagnostics, No.* 5 (*Russian*), *pp.* 175–183. *Izdat. "Zinatne", Riga*, 1972. (Editors) **50** #4064 93E10

(*with* Gelfandbeins, J.) Identification of perturbations acting in functioning dynamical systems with allowance for error in the measurements and in the processing of the initial data. (Russian) *Cybernetics and diagnostics, No.* 5 (*Russian*), *pp.* 185–194. *Izdat. "Zinatne", Riga*, 1972. (Editors) **50** #4065 93E10

(*with* Gelfandbeins, J.) Estimation of the pulse transition function of a nonstationary shaping filter that is synthesized from experimental data. (Russian) *Cybernetic methods in diagnostics* (*Russian*), *pp.* 89–92, 130. *Izdat. "Zinatne", Riga*, 1973. (Authors' summary) **48** #10596 93E10

(*with* Gelfandbeins, J.) Estimation of the error of the realization of the pulse transition function of an inverse shaping filter in identification problems. (Russian) *Cybernetic methods in diagnostics* (*Russian*), *pp.* 100–103, 131. *Izdat. "Zinatne", Riga*, 1973. (Authors' summary) **48** #10597 93E10

(*with* Gelfandbeins, J.) Estimation of the optimal pulse transition function of a shaping component that is synthesized from experimental data. (Russian), *Cybernetic methods in diagnostics* (*Russian*), *pp.* 112–116, 132. *Izdat. "Zinatne", Riga*, 1973. (Authors' summary) **48** #10598 93E10

(*with* Gelfandbeins, J.) Calculation of the initial conditions in problems of the identification of dynamical systems. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1973**, *no.* 2, 68–72, 124. (Author's summary) **55** #7492 93B30 (70.35)

Kolosova, S. V. (*with* Strel'čenko, A. Ī.; Rvačov, V. L.) A certain method for solving exterior boundary value problems. (Russian) *Mathematical physics, No.* 12 (*Russian*), *pp.* 140–144, 169. *Izdat. "Naukova Dumka", Kiev*, 1972. (E. Zeidler) **49** #11833 65N99

A method for the solution of the Dirichlet problem. (Russian) *Mat. Fiz. Vyp.* 19 (1976), 91–94, 124. (Author's summary) **58** #1581 35J25 (65Nxx)

Kolosovskiĭ, I. G. Isolation of a set of essential curves in a stochastic graph. I, II. (Russian. English summary inserts) *Kibernetika* (*Kiev*) **1969**, *no.* 1, 28–31; *ibid.* **1969**, *no.* 3, 27–33. (Author's summaries) **46** #1463 94A20

Optimization of operator schemes with respect to time. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 4, 12–16. (Author's summary) **46** #1507 94A30

Determining whether a situation in two-person meta-games is an equilibrium. (Russian) *Questions on the design and simulation of complex systems* (*Proc. Sem., Kiev*, 1975) (*Russian*), *pp.* 36–47. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1975. (Not reviewed) 90D05

Kolotov, A. T. Free subalgebras of free associative algebras. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 2, 328–335, 478. (W. G. Leavitt) **58** #22139 16A06

Kolotov, Ju. N. *See* **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics**, **47** #4666 (EA **47**)

Kolouchová, Věra Ternary rings and admissible algebras. (Czech and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* **B-56** (1975), 47–53. (J. L. Zemmer) **52** #4116 50D35

Kolovandin, B. A. (*with* Vatutin, I. A.) Statistical theory of the nonuniform turbulence of an incompressible fluid. *Inž-Fiz. Ž.* **19** (1970), 789–802 (*Russian*); *translated as J. Engrg. Phys.* **19** (1973), 1341–1350. (T. Koga) **49** #10257 76.62

Kolovskiĭ, M. Z. (*with* Babickiĭ, V. I.) Oscillations of a linear system with stops acted on by random loads. *Inž. Ž. Meh. Tverd. Tela* **1967**, *no.* 3, 147–151 (*Russian*); *translated as Mechanics of Solids* **2** (1967), *no.* 3, 97–99 (1971). (Authors' summary) **46** #4815 70.34

(*with* Troitskaja, Z. V.) On the stability of linear systems with random parameters. *Prikl. Mat. Meh.* **36** (1972), 218–224 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 201–207. (G. N. Mil'šteĭn) **48** #13416 93E15

Kolozeznyĭ, È. A. *See* **Control in space**, **48** #13319

Kolp, A. Ja. (*with* Glasko, V. B.; Zaharov, M. V.) The application of the regularization method to the solution of a certain inverse problem of the nonlinear theory of heat conduction. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 6, 1607–1611, 1628. (Jakub Siemek) **53** #7240 80.35

Kolp, Otto (*with* Koegst, Manfred) Zum Satz von Borisow-Fedosejew. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 37 (Authors' summary) **47** #6123 (EA **55/56**) 68A15

The synthesis of multivalued cellular cascades and the decomposability of functions. *IEEE Trans. Computers* **C-21** (1972), 489–492. (I. M. Havel) **50** #6 94A30

★Eine Theorie der Kaskadenrealisierung von Gruppenfunktionen. Gesellsch Mathematik und Datenverarbeitung, Bonn, Ber. No. 81. *Gesellschaft für Mathemat Datenverarbeitung mbH, Bonn*, 1973. 38 *pp.* (H. Rohleder) **49** #2203 94A20

(*with* Chakrabarti, K.) Fan-in constrained tree networks of flexible cells. *Trans. Computers* **C-23** (1974), *no.* 12, 1238–1249. (W.-K. Chen) **54** #4832 94

A theory of the cascade decomposition of group functions. *Information and C* **31** (1976), *no.* 3, 216–230. (Shuzo Yajima) **54** #9867 94A20

Kolpakov, V. I. An estimate of the number of coverings of an *n*-dimensional (Russian) *Diskret. Analiz No.* 14 (1969), 16–17. (G. Blohina (RŽMat **1970** #1 **46** #79 05B40 (52A45)

Subalgebras of monotone functions in Post algebras. (Russian) *Diskret. Anal* 24 *Issledovanija Struktury i Funkcionirovanija Upravljajuščih Sistem* (1974), 30– (V. B. Kudrjavcev) **51** #2861 02C05 (02J99)

Some methods for the approximate solution of nonlinear operator equations. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 5 (1975), *part* 2, 21–4 (Author's summary) **57** #11124 65Q05

The Newton-Kantorovič method for a functional equation. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 1, 144–148, 179. (Au summary) **58** #8218 65H05

Kolpakov, V. P. (*with* Šikin, G. N.) Axially symmetric solutions of Einstein's syst equations and of the nonlinear equation of a mass-free scalar field. (Russian) *V Moskov. Univ. Ser. III Fiz. Astronom.* **29** (1974), *no.* 1, 107–109. (R. I. Pim **52** #7450 83.53

Kolpakov, V. V. (*with* Amosov, A. A.) Scalar-matrix differentiation and its applicati constructive problems of communication theory. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 1, 3–15. (S. Kullback) **46** #6929 94A15

(*with* Amosov, A. A.) Ordering of information criteria for the discriminati probability distributions. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 4 (O. Gulyás) **57** #2741 94A15 (62F99)

Matrix semi-norms and related inequalities. (Russian) Numerical method questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Inst. Steklov.* (*LOMI*) **70** (1977), 270–285, 297–298. (Author's summary) **58** #19 65F35

Kolpakova, È. V. On the question of the numerical solution of an integral equation first kind. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 5 (1975), *p* 77–88, 145. (Author's summary) **58** #3583 65R05

Numerical solution of the problem of reconstructing the derivative. (Rus *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 1, 137–143, 179. (Au summary) **58** #8159 65D25 (65R05)

Kolpakova, N. P. (*with* Petrov, B. N.) Structural methods of synthesis of multich systems by means of graph theory. (Russian) *Theory and methods of construct multivariable control systems* (*Russian*), *pp.* 18–38, 335. *Izdat. "Nauka", Moscow*, (P. Vondráček) **56** #2290 90B10

(*with* Petrov, B. N.; Gusev, Ju. M.; Il'jasov, B. G.; Kuznecov, V. I.) A criteri estimating the stability of multiply connected automatic guidance systems in the of variable parameters. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1977**, 558–564, 611. (Authors' summary) **58** #15513 93D05

Kolpaščikov, V. L. (*with* Šnipp, A. I.) Thermodynamics and properties of relax functions of materials with memory. *Internat. J. Engrg. Sci.* **16** (1978), *no.* 8, 503 (D. Graffi) **58** #14188 73.46

Kolsky, H. (*with* Min, B. K.; Pipkin, A. C.) Viscoelastic response to small deform superposed on a large stretch. *Int. J. Solids Struc.* **13** (1977), *no.* 8, 771–781. (Au summary) **56** #10289 73.35

Kolsrud, M. Integral equations for Coulomb states. (Italian and Russian summa *Nuovo Cimento B* (11) **38** (1977), *no.* 1, 61–74. (Author's summary) **55** #9757

Koltchev, V. (*with* Dečev, G. V.; Teodorova, Sv.) Basic characteristics of the cell optimal selfregulating system. (French summary) *Rev. Bio-Math.* (*N.S.*) 7 (1969), 23–31. (E. Ar) **45** #8306 92A05

Kolton, G. A. (*with* Bogatko, V. I.) Newtonian approximation in the problem of around plane and axially symmetric bodies that move with variable velocity. (Ru English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 7, 63–66. (I. O. Bohache **45** #1480 76.65

(*with* Bogatko, V. I.; Grib, A. A.) Certain solutions of the equations o dynamics that contain arbitrary functions. (Russian) Gas dynamics and heat tra No. 4. *Leningrad. Gos. Univ. Učen. Zap. No.* 384 *Ser. Mat. Nauk Vyp.* 4 (1975), 6 191. (S. K. Aslanov) **55** #7086 76.35

(*with* Bogatko, V. I.; Grib, A. A.) Some approximate solutions of the equatio nonstationary hypersonic gas dynamics. (Russian. English summary) *Vestnik Lenin Univ.* **1976**, *no.* 13 *Mat. Meh. Astronom. vyp.* 3, 51–56, 185. (Simona Popp) **57** #8 76.35

(*with* Bogatko, V. I.) An approximate solution of a nonlinear problem of diffra of a strong shock wave near a corner. (Russian. English summary) *Vestnik Lenin Univ.* **1978**, *no.* 1 *Mat. Meh. Astronom. Vyp.* 1, 89–95, 157. (Authors' sumr **58** #14253 76.35

Koltunov, I. A. Generalized parameter estimates and their application. (Russian) *Numerical mathematics and computer technology, No. V* (*Russian*), *pp.* 102–113, *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1974. (Aut summary) **56** #13433 62F10

(*with* Levčenko, E. P.) Approximate method for constructing a *D*-optimal continuous design. (Russian) *Numerical mathematics and computer technology, N* (*Russian*), *pp.* 114–119, 167. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 1974. (Authors' summary) **56** #13467 62K05

Koltunov, M. A. *See* **Studies in the theory of plates and shells**, **48** #3343

Kolumbán, Iosif Dualität bei Optimierungsaufgaben. *Proceedings of the Conference o Constructive Theory of Functions* (*Approximation Theory*) (*Budapest*, 1969), *pp.* 261–

kadémiai Kiadó, Budapest, 1972. (Editors) **56** #13056 49B99

(*with* Hoffmann, K.-H.) Verallgemeinerte Differenzierbarkeitsbegriffe und ihre nwendung in der Optimierungstheorie. (English summary) *Computing* (*Arch. Elektron. echnen*) **12** (1974), *no.* 1, 17–41. (Authors' summary) **56** #13034 49A99 (26A54)

(*with* Lazarević, Ilija B.) On the rule of the multipliers in optimal problems. Papers resented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* (1974), 399–407. (A. Göpfert) **51** #11240 49B30 (90C30)

Über ein abstraktes Maximumprinzip. *Rev. Anal. Numér. Théorie Approximation* **3** 1974), *no.* 1, 37–46. (Ivar Ekeland) **52** #12897 93C15 (49B40)

Über die nichtlineare trigonometrische Approximation. *Numerische Methoden der pproximationstheorie, Band* 2 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1973), *pp.* 9–72. *Internat. Schriftenreihe Numer. Math., Band* 26, *Birkhäuser, Basel*, 1975. (Paul Névai) **52** #1131 42A08

Optimierungsaufgaben mit Nebenbedingungen. *Proceedings of the Conference on Differential Equations and their Applications* (*Univ. Iaşi, Iaşi*, 1973), *pp.* 85–87. *Editura Acad. R.S.R., Bucharest*, 1977. (Werner Krabs) **57** #13637 49B30

Eine Verallgemeinerung des Satzes von Ljusternik. *Anal. Numér. Théor. Approx.* **6** (1977), *no.* 2, 133–137. **58** #31205 58E99

Kpa, Michał A certain method of estimation of econometric models with regard to prior information on structural parameters. (Polish. Russian and English summaries) *Przegląd Statyst.* **18** (1971), 11 18. (P. Vondráček) **46** #4911 90A15

The method of minimum variance ratio with marginal conditions. (Polish. Russian and English summaries) *Przegląd Statyst.* **18** (1971), 43–48. (P. Vondráček) **46** #4912 90A15

The method of estimators of class K. (Polish. Russian and English summaries) *Przegląd Statyst.* **19** (1972), 267–273. (N. L. Johnson) **46** #10139 62J99

A certain method of computing the coefficient of concurrence. (Polish. Russian and English summaries) *Przegląd Statyst.* **22** (1975), *no.* 1, 31–35. (Robert Bartoszyński) **52** #15852 62H20

A way of testing hypotheses concerning the parameters of an econometric model, and the computation of the estimator of prediction variance. (Polish. Russian and English summaries) *Przeglad Statyst.* **23** (1976), *no.* 3, 301–309. (Author's summary) **55** #6761 62P20

(*with* Marcinkowska, Wanda) The method of Z. Hellwig. (Polish. Russian and English summaries) *Prezegląd Statyst.* **24** (1977), *no.* 2, 243–248. (Authors' summary) **56** #13496 62P20

Proof of a certain theorem of Z. Hellwig, and some properties of a universal matrix. (Polish. Russian and English summaries) *Przegląd Statyst.* **24** (1977), *no.* 3, 315–318. (Author's summary) **57** #7924 62P20 (15A15)

lupanova, G. A. A certain differential equation of hyperbolic type in a Banach space. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 1044–1047. (O. Vejvoda) **48** #4546 35R20 (47D05)

lušov, A. V. The problem of the correctness of the best approximation in the space of continuous functions. (Russian) *Mat. Zametki* **23** (1978), *no.* 3, 351–360. (G. Godini) **58** #12092 41A10 (41A50)

lybel'nikova, O. K. (*with* Simonenko, I. B.) The capacitance of a circular conducting disc that is situated on a dielectric layer of small thickness. (Russian) *Mathematical analysis and its applications, Vol. II* (*Russian*), *pp.* 117–131. *Izdat. Rostov. Univ., Rostov-on-Don*, 1970. (V. Komkov) **56** #10443 78.35

lyškin, A. A. (*with* Antimirovs, M.) The nonstationary convective motion of a fluid in a vertical circular channel, and the unique determination of stationary motions on the boundary of stability. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1976**, *no.* 2, 52–58, 127. (Simona Popp) **55** #4896 76.35

lzow, Dietrich A survey of abstract Wiener spaces. *Stochastic processes and related topics* (*Proc. Summer Res. Inst. Statist. Inference for Stochastic Processes, Indiana Univ., Bloomington, Ind.*, 1974, *Vol.* 1; *dedicated to Jerzy Neyman*), *pp.* 293–315. *Academic Press, New York*, 1975. (Hui Hsiung Kuo) **51** #14240 60G15 (28A40, 60J65)

See also **Measure theory**, **55** #8284 *and* **Measure theory**, **55** #8285

omal, B. S. (*with* Singh, Raj Kishor) Composition operator on l^p and its adjoint. *Proc. Amer. Math. Soc.* **70** (1978), *no.* 1, 21–25. (G. M. Leibowitz) **58** #7193 47B37

oman, G. *See also* **Coman, Gh.**

oman, G. G. Intermediate orbits of artificial moon satellites. (Russian) *Moskov. Gos. Univ. Soobšč. Gos. Astronom. Inst. Šternberg. No.* 186 (1973), 3–45. (Q. K. Ghori) **51** #7413 70.34

Determination of the elements of an intermediate orbit of artificial moon satellites from the initial data. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **29** (1974), *no.* 4, 456–462. (Q. K. Ghori) **50** #1579 70.34

Koman, Milan Extremal crossing numbers of complete k-chromatic graphs. *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 315–325. (R. K. Guy) **48** #3778 05C10

Karel Hruša has died. (Czech) *Časopis Pêst. Mat.* **97** (1972), *no.* 3, 340–342. (Editors) **55** #7696 01A70

A note on the crossing number of $K_{m,n}$ on the Klein bottle. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 327–334. *Academia, Prague*, 1975. (R. K. Guy) **53** #7835 05C10

Komar, Arthur Conservation of e/m in general relativity. *Internat. J. Theoret. Phys.* **4** (1971), 45–47. (Author's summary) **51** #14871 83.53

(*with* Bergmann, Peter G.) The coordinate group symmetries of general relativity. *Internat. J. Theoret. Phys.* **5** (1972), 15–28. (Marcos Rosenbaum) **52** #16488 83.53

Commutator algebra of general-relativistic observables. *Phys. Rev. D* (3) **9** (1974), 885–888. (Author's summary) **53** #10140 83.53

(*with* Bergmann, Peter G.) Invariant noncanonical mappings of singular theories. *Phys. Rev. D* (3) **9** (1974), 3301–3303. (Authors' summary) **53** #12460 83.53

(*with* Bergmann, Peter G.) Invariant noncanonical mappings of singular theories. II. GR7 (Papers, Seventh Internat. Conf. Gravitation and Relativity, Tel-Aviv, 1974). *General Relativity and Gravitation* **6** (1975), *no.* 1, 3–7. (Authors' summary) **53** #12461 83.53

Classical formalisms and quantization. The riddle of gravitation—on the occasion of the 60th birthday of Peter G. Bergmann (Proc. Conf., Syracuse Univ., Syracuse, N. Y., 1975). *General Relativity and Gravitation* **7** (1976), *no.* 1, 13–20. (J. Śniatycki) **54** #14651 81.58

See also **Relativity**, **49** #4510

Komara, Imrich The projective space of Lagrange-Sylvester polynomials. (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **44** (1971), 77–92. (H. Schwerdtfeger) **48** #315 15A30 (50D25)

Applications of the projective space of Lagrange-Sylvester polynomials. (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **44** (1971), 93–108. (H. Schwerdtfeger) **48** #316 15A30 (50D25)

Two remarks on algebraic equations of degree n. (Slovak) *Fourth Scientific Conference, College of Transport Engineering* (*Žilina*), *Section* 1: *Mathematics, Physics, Cybernetics* (*Slovak*), *pp.* 121–125. *Vysoká Škola Dopravnà v Žiline, Žilina*, 1973. (Jan Zítko) **52** #16006 65H05

Degree of the inverse curve in the projective space of Lagrange-Sylvester polynomials. (Slovak. Russian and loose English summaries) *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 301–305. (D. Klucký) **49** #2775 14N05

Komarenko, O. N. (*with* Barnjak, M. Ja.) A variational method for finding the eigenfrequencies of the oscillations of a fluid in a weak gravitational field. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 108–111, 186. (B. Vujanovic) **46** #2985 76.49

Komarnickaja, O. I. (*with* Starobin, K. B.) ★Применение теории вероятностей в инженерных и экономических расчетах. (Russian) [Application of probability theory in calculations of engineering and economics] *Izdat. Leningrad. Univ., Leningrad*, 1973. 73 *pp.* (Editors) **50** #11682 62N05

(*with* Starobin, K. B.) Control of batch mass-production processes. *Avtomat. i Telemeh.* **1976**, *no.* 6, 58–62 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 6, *part* 1, 861–865. (Authors' summary) **56** #7923 90B30

Komarnic'kiĭ, M. Ja. (*with* Gorbačuk, O. L.) The decomposability of torsion theories. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp.* 11–15, 118. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Authors' summary) **58** #28073 16A62 (18E40)

(*with* Gorbačuk, O. L.) Some noncommutative rings over which all S-torsions are trivial. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp.* 88–89, 121. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Editors) **58** #28074 16A62 (18E40)

(*with* Gorbačuk, O. L.) Radical filters in a principal ideal domain. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A.* **1977**, *no.* 2, 103–104, 191. (L. Bican) **56** #12044 16A04 (18E40)

Duo-rings over which all torsions are S-torsions. (Russian) Algebras and modules. *Mat. Issled. Vyp.* 48 (1978), 65–68, 169. (B. J. Gardner) **58** #5752 16A21 (16A64, 18E40)

(*with* Gorbačuk, O. L.) I-radicals and their properties. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 2, 212–217, 282. (R. Wiegandt) **58** #5751 16A21 (16A62, 18E40)

Komarnitskaya, O. I. *See* **Komarnickaja, O. I.**

Komáromi, É. A finite primal method for the assignment problem. (Russian summary) *Problems of Control and Information Theory-Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 2, 157–166. (I. M. Stancu-Minasian) **54** #12202 90C10

Komáromi, Éva Matrices with restricted elements, row sums and column sums. *Acta Math. Acad. Sci. Hungar.* **31** (1978), *no.* 3-4, 349–354. (D. London) **57** #9725 15A45 (15A48)

Komarov, A. A. *See* **Mathematical physics**, **48** #5768 *and* **Mathematical physics**, **48** #5769

Komarov, B. A. *See* **Cybernetics and computer technology**, **48** #1736 *and* **Cybernetics and computer technology**, **50** #12334

Komarov, I. Ju. Points of coincidence of two mappings. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 2, 11–14. (L. Górniewicz) **54** #1203 55C20

Komarov, I. V. (*with* Ponomarev, L. I.; Slavjanov, S. Ju.) ★Сфероидальные и кулоновские сфероидальные функции. (Russian) [Spheroidal and Coulomb spheroidal functions] *Izdat. "Nauka", Moscow*, 1975. 320 *pp.* (RŽMat **1976** #9 B26) **58** #28730 33A55

(*with* Ponomarev, L. I.; Slavjanov, S. Ju.) ★Сфероидальные и кулоновские сфероидальные функции. (Russian) [Spheroidal and Coulomb spheroidal functions] Edited and with a preface by V. S. Buldyrev. *Izdat. "Nauka", Moscow*, 1976. 319 *pp.* (Not reviewed) 33A55

(*with* Abramov, D. I.) Integral equations and relations for the Coulomb spheroidal functions. (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no.* 2, 235–243. (K. Veselić) **57** #4890 81.45

(*with* Solov'ev, E. A.) Passage of a term into the continuous spectrum in the presence of a Coulomb field. (Russian. English summary) *Teoret. Mat. Fiz.* **32** (1977), *no.* 2, 271–274. (K. Veselić) **57** #4903 81.47

Komarov, Ju. M. (*with* Lipskiĭ, V. B.) The smallest subset such that every covering of it covers the whole set. (Russian) *Mat. Sb.* (*Tomsk*) *Vyp.* 1 (1975), 116–118. (From the authors' text) **56** #11800 (EA 57) 04A05

(*with* Lipskiĭ, V. B.) Discrepancy functions and their use in diagnoses of combinational circuits. *Avtomat. i Telemeh.* **1976**, *no.* 2, 154–159 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 2, *part* 2, 261–265. (Krzysztof Sapiecha) **54** #4837 94A20

(*with* Lipskiĭ, V. B.) Design of combinational circuits with simultaneous construction of a fault-detection test. *Avtomat. i Telemeh.* **1976**, *no.* 7, 138–143 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 7, *part* 2, 1095–1100. (G. Saucier) **55** #10151 94A20

Komarov, L. B. (*with* Volodin, B. G.; Ganin, M. P.; Diner, I. Ja.; Svešnikov, A. A.; Starobin, K. B.) ★Сборник задач по теории вероятностей, математической статистике и теории случайных функций. (Russian) [A collection of problems on probability theory, mathematical statistics and the theory of random functions] Second edition, augmented. Edited by A. A. Svešnikov. *Izdat. "Nauka", Moscow*, 1970. 656 *pp.* (Editors) **50** #5871 60–01 (62–01)

(*with* Diner, I. Ja.; Ganin, M. P.; Starobin, K. B.; Svešnikov, A. A.; Volodin, B. G.) ★Rachunek prawdopodobieństwa w zadaniach i problemach. (Polish) [Probability theory in problems and exercises] Translated from the Russian by Lech T. Kubik.

Państwowe Wydawnictwo Naukowe, Warsaw, 1975. 531 *pp*. (Editors) **56** #6768 60–01

Komarov, L. I. (*with* Krylov, E. V.; Ferančuk, I. D.) A numerical solution of a nonlinear self-consistent eigenvalue problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no*. 3, 681–691, 813. (Authors' summary) **58** #19957 81.34 (65L15)

Komarov, N. A correction to the article by M. I. Al'muhamedov on "The construction of a differential equation having given curves as its limit cycles". (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no*. 4(119), 123–124. (M. Bertolino) **46** #7627 34C05

Construction of systems that have prescribed integral surfaces. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no*. 10, 1893–1894, 1911. (A. A. Reinfelds) **52** #8572 34C30

Komarov, V. G. (*with* Madatov, G. L.) The maximum principle in optimal control problems with functionals that depend on intermediate values of the coordinates. (Russian) *Complex control systems* (*Russian*), *pp*. 104–115. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (J. Jarník) **48** #12208 49B10

(*with* Gorbuncov, V. V.; Lager', V. F.; Madatov, G. L.; Oniščenko, A. T.) A study of questions of navigation and control of spacecraft. (Russian) *Space research in the Ukraine, No. 2: Space mechanics and control systems* (*Russian*), *pp*. 25–34, 94. *Izdat. "Naukova Dumka", Kiev*, 1973. (B. Vujanovic) **51** #4778 70.49

Komarov, V. V. (*with* Popova, A. M.) Theory of many-particle scattering. *Jadernaja Fiz.* **10** (1969), 1089–1103 (*Russian*); *translated as Soviet J. Nuclear Phys.* **10** (1970), 621–627. (P. Pascual) **45** #9617 81.46 (81.45)

(*with* Popova, A. M.) A method for the summation of diagrams in the theory of the scattering of three and four nonrelativistic particles. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **5** (1974), *no*. 4, 1075–1117. (Authors' summary) **57** #11462 81.45 (81.31)

(*with* Popova, A. M.; Šablov, V. L.) On the unique solution of the quantum mechanical problem of four and more particles. *Lett. Nuovo Cimento* (2) **20** (1977), *no*. 18, 649–654. (Tuan W. Chen) **58** #14580 81.35

Komarov, Yu. M. *See* **Komarov, Ju. M.**

Komarovskiĭ, L. V. (*with* Dvornikov, V. A.) Two-dimensional nonstationary scattering of gas into a vacuum from a plane or axially symmetric channel. (Russian) *Izv. Akad. Nauk SSSR Meh. Židk. Gaza* **1976**, *no*. 1, 76–83. (Authors' summary) **56** #17410 76.35

Komarow, L. B. *See* **Komarov, L. B.**

Komašenko, A. P. *See* **Nonlinear boundary value problems of mathematical physics, 50** #1797

Komatsu, Gen Global analytic-hypoellipticity of the $\bar{\partial}$-Neumann problem. *Proc. Japan Acad.* **51** (1975), *suppl*., 818–820. (Akira Asada) **53** #1049 35N15 (32F10, 35H05)

Global analytic-hypoellipticity of the $\bar{\partial}$-Neumann problem. *Tôhoku Math. J.* (2) **28** (1976), *no*. 1, 145–156. (Akira Asada) **52** #14683 35N15 (32D05, 32F10, 35H05)

Komatsu, Hikosaburo An ergodic theorem. *Proc. Japan Acad.* **44** (1968), 46–48. (From the author's introduction) **55** #8842 47A35

Cohomology of morphisms of sheafed spaces. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **18** (1971), 287–327. (S. Y. Husseini) **47** #2591 55B30

On the index of ordinary differential operators. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **18** (1971), 379–398. (R. S. Palais) **46** #2705 58G10 (34A20)

(*with* Kawai, Takahiro) Boundary values of hyperfunction solutions of linear partial differential equations. *Publ. Res. Inst. Math. Sci.* **7** (1971/72), 95–104. (P. Schapira) **46** #5817 35D99 (46F15)

Fractional powers of operators. VI. Interpolation of non-negative operators and imbedding theorems. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **19** (1972), 1–63. (A. McIntosh) **47** #7510 47B99 (46E35, 46M35)

A local version of Bochner's tube theorem. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **19** (1972), 201–214. (L. R. Hunt) **47** #5297 32D15 (32A07, 32D20)

Ultradistributions, hyperfunctions and linear differential equations. *Colloque International CNRS sur les Équations aux Dérivées Partielles Linéaires* (*Univ. Paris-Sud, Orsay*, 1972), *pp*. 252–271. *Astérisque, 2 et 3, Soc. Math. France, Paris*, 1973. (P. Schapira) **52** #11587 46F15

An introduction to the theory of hyperfunctions. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf., Katata*, 1971; *dedicated to the memory of André Martineau*), *pp*. 3–40. *Lecture Notes in Math., Vol*. 287, *Springer, Berlin*, 1973. (Dieter Lutz) **52** #14994 46F15

Ultradistributions and hyperfunctions. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf. on the Theory of Hyperfunctions and Analytic Functionals and Applications, R. I. M. S., Kyoto Univ., Kyoto*, 1971; *dedicated to the memory of André Martineau*), *pp*. 164–179. *Lecture Notes in Math., Vol*. 287, *Springer, Berlin*, 1973. (Vazgain Avanissian) **53** #11368 46F15

Hyperfunctions and linear partial differential equations. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf., Katata*, 1971; *dedicated to the memory of André Martineau*), *pp*. 180–191. *Lecture Notes in Math., Vol*. 287, *Springer, Berlin*, 1973. (Zbl **263** #35075) **58** #2261 46F15 (35E99)

Relative cohomology of sheaves of solutions of differential equations. *Hyperfunctions and pseudo-differential equations* (*Proceedings dedicated to the memory of André Martineau*), *pp*. 192–261. *Lecture Notes in Math., Vol*. 287, *Springer, Berlin*, 1973. (P. Schapira) **52** #14681 35N05 (32A10, 46F10)

The Sobolev-Besov imbedding theorem from the viewpoint of semi-groups of operators. *Séminaire Goulaouic-Schwartz 1972–1973: Équations aux dérivées partielles et analyse fonctionnelle, Exp. No*. 1, 23 *pp. Centre de Math., École Polytech., Paris*, 1973. (From the author's introduction) **55** #13233 46E35 (47D05)

Ultradistributions. I. Structure theorems and a characterization. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 25–105. (P. Schapira) **47** #9277 46F15

On the regularity of hyperfunction solutions of linear ordinary differential equations with real analytic coefficients. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **20** (1973), 107–119. (Z. Zieleźny) **48** #6926 46F15 (34A99)

Sato's hyperfunctions and differential equations. (Japanese) Collection of articles on hyperfunctions. *Sûgaku* **25** (1973), 193–212. (Editors) **58** #2907 58G05 (35A05)

Generalized Poisson integrals and regularity of functions. *Fractional calculus and its applications* (*Proc. Internat. Conf., Univ. New Haven, West Haven, Conn.*, 1974), *pp*. 232–248. *Lecture Notes in Math., Vol*. 457, *Springer, Berlin*, 1975. (Author's summary) **58** #30495 47D99

Irregularity of characteristic elements and construction of null-solutions. Distributions and linear differential equations (Proc. Fourth Sympos., Res. Inst. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No*. 248 104–169. (H. Goldschmidt) **58** #11862 35H05

Irregularity of characteristic elements and construction of null-solutions. *Sci. Univ. Tokyo Sect. IA Math.* **23** (1976), *no*. 2, 297–342. (J. Persson) **54** # 35A05 (35G05)

Irregularity of characteristic elements and hyperbolicity. Proceedings of t Seminar on Algebraic Analysis and the RIMS Symposium on Algebraic A (Kyoto Univ., Kyoto, 1976). *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *suppl* 233–245. (V.-V. Olariu) **58** #1674 35L25

Ultradistributions and hyperbolicity. *Boundary value problems for linear evo partial differential equations* (*Proc. NATO Advanced Study Inst., Liège*, 197 157–173. *NATO Advanced Study Inst. Ser., Ser. C: Math. and Phys. Sci., Vol*. 29, *Dordrecht*, 1977. (Z. Zieleźny) **58** #2262 46F15 (35L30)

Ultradistributions. II. The kernel theorem and ultradistributions with suppo submanifold. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no*. 3, 607–6 Schapira) **57** #17280 46F15

A generalization of the Cauchy-Kowalevsky theorem and boundary val solutions of elliptic equations. *Linear spaces and approximation* (*Proc. Conf., Mat Inst., Oberwolfach*, 1977), *pp*. 517–529. *Internat. Ser. Numer. Math., Vol*. 40, *Birkh Basel*, 1978. (D. L. Colton) **58** #11826 35A10

See also **Hyperfunctions and pseudodifferential equations, 52** #8919 *and* **The partial differential equations and theory of hyperfunctions, 56** #16113

Komatsu, Hiroshi (*with* Matsuo, Yositomo) On the pointwise paracompact Moore sp *TRU Math.* **12** (1976), *no*. 1, 29–39. (George M. Reed) **56** #9494 54E30 (54D

Komatsu, Keiichi The Galois group of the algebraic closure of an algebraic number *Kōdai Math. Sem. Rep.* **26** (1974/75), 44–52. (Jack Sonn) **52** #3115 12A55

A remark of a Neukirch's conjecture. *Proc. Japan Acad.* **50** (1974), 253–255. Sonn) **52** #3116 12A55

The zeta-functions and absolute Galois groups of algebraic number fields. (Japanese) *Sûgaku* **27** (1975), *no*. 4, 365–366. **58** #27908 12A70

On the adele rings of algebraic number fields. *Kōdai Math. Sem. Rep.* **28** (197 1, 78–84. (Larry J. Goldstein) **54** #12718 12A85

Komatsu, Kenzô Integral bases in algebraic number fields. *J. Reine Angew. Math.* **278** (1975), 137–144. (G. J. Rieger) **52** #13724 12A35

Discriminants of certain algebraic number fields. *J. Reine Angew. Math.* **285** (114–125. (J. V. Armitage) **55** #7991 12A35

An integral basis of the algebraic number field $Q(\sqrt[l]{a},\sqrt[l]{1})$. *J. Reine Angew.* **288** (1976), 152–153. (Charles J. Parry) **54** #10193 12A35

Komatsu, Masaharu (*with* Ouchi, Yasuhiro; Nakanishi, Hikaru; Sanada, Hidehiko; Tezuka, Yoshikazu) Optimum route assignment theorem and its application to ada routing procedure in message switching networks. *Electron. Comm. Japan* **60** (1977 12, 78–86. (From the summary) **58** #32905 90B35 (90B10)

Komatsu, Takashi Markov processes associated with certain integro-differential opera *Osaka J. Math.* **10** (1973), 271–303. (S. R. S. Varadhan) **50** #11472 60J35

Statistics of stochastic processes with jumps. *Proceedings of the Third Japan-U Symposium on Probability Theory* (*Tashkent*, 1975), *pp*. 276–289. *Lecture Notes in M Vol*. 550, *Springer, Berlin*, 1976. (R. Š. Lipcer) **55** #11376 60G35 (60J75)

On the problem of optimal control for a stochastic linear dynamic system. *Osa Math.* **14** (1977), *no*. 1, 125–137. (A. A. Pervozvanskiĭ) **56** #8146 93E20

Komatsuzaki, Toshio Some properties of optimal control systems. (Japanese. English summary) *Systems and Control* **18** (1974), 54–62. (Author's summary) **54** #59 49C05

Equivalence transformations of optimal control systems. (Japanese. English summary) *Systems and Control* **18** (1974), 490–495. (Author's summary) **50** #55 49E99

Equivalent transformation of optimal control problems. *Internat. J. Contro* (1977), *no*. 5, 707–719. (Takashi Yahagi) **57** #5278 93C15

Komatu, A. (*with* Nakaoka, Minoru; Sugawara, Masahiro) ★Isō kikagaku. I. (Japan [Algebraic topology. I] Third printing. Gendai Sūgaku Enshū Sōsho [Modern Mathematics Exercise Series], 6. *Iwanami Shoten, Tokyo*, 1971. ix + 721 *pp*. (Edit **58** #31044 55–01

Komatu, Yûsaku Probabilities concerning precedence and distribution of score abi (Japanese. English summary) *Bull. Fac. Sci. Engrg. Chuo Univ.* **19** (1976), 23–44. (Kudô) **57** #14221 62E15

On a double sequence defined by certain recurrence relation. *Bull. Fac. Sci. En Chuo Univ.* **19** (1976), 45–56. (B. Choczewski) **56** #11351 93E05 (39A15)

On lateral combination concerning a Mendelian inherited character. *Bull. Fac. Engrg. Chuo Univ.* **19** (1976), 57–62. (K. Dietz) **56** #2468 92A10

Buffer effect of repeating trials on the probability of ranking inversion. *Bull. Sci. Engrg. Chuo Univ.* **20** (1977), 31–55. (From the introduction) **58** #24659a (E #24659b) 62E15

Supplement to preceding note: "Buffer effect of repeating trials on the probabi of ranking inversion" (Bull. Fac. Sci. Engrg. Chuo Univ. **20** (1977), 31–55). *Bull. Sci. Engrg. Chuo Univ.* **20** (1977), 57–67. (From the introduction) **58** #24659 62E15

Kombakova, Ivanka (*with* Češankov, Božidar) Instantaneous translational motion of second order. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Uče-Zaved. Mat.* **4** (1967), *no*. 2, 133–145 (1970). (B. Dolapčiev) **45** #9562 70.34

Kombarov, A. P. Hereditarily disconnected spaces. (Russian. English summary) *Vest Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), *no*. 4, 21–25. (J. Mioduszewski) **45** #2644 54C10

The product of normal spaces. Uniformities on Σ-products. (Russian) *Dokl. Ak Nauk SSSR* **205** (1972), 1033–1035. (E. Halfar) **46** #4456 54B10

On closed projections. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Ma Astronom. Phys.* **21** (1973), 519–521. (E. Halfar) **48** #5007 54D40

The normality of Σ_m-products. (Russian) *Dokl. Akad. Nauk SSSR* **211** (197 524–527. (M. Hušek) **48** #7203 54D15 (*with* Malyhin, V. I.) Σ-products. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 74–776. (J. N. Younglove) **49** #3836 54D15 (54B10)

Normal σ-products. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 5, 004–1007. (R. Engelking) **55** #1274 54B10

The tightness and normality of Σ-products. (Russian) *Dokl. Akad. Nauk SSSR* **239** 1978), *no.* 4, 775–778. (Teodor Przymusinski) **58** #12889 54B10 (54D15)

Keč, A. I. Elliptic boundary value problems for pseudodifferential operators on nanifolds with conical points. (Russian) *Mat. Sb. (N.S.)* **86(128)** (1971), 268–298. (Ja. A. Roĭtberg) **45** #8982 35S15 (47G05)

Elliptic boundary value problems on manifolds with piecewise smooth boundary. Russian) *Mat. Sb. (N.S.)* **92(134)** (1973), 89–134, 166. (A. S. Dynin) **49** #9879 58G15 (35J40, 47G05, 58G05)

Elliptic differential equations with constant coefficients in a cone. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 2, 14–20. (D. K. Cohoon) **49** #7581 35E99

(*with* Geškenbeĭn, B. V.) Proof of the Deser-Gilbert-Sudarshan representation. *Jadernaja Fiz.* **22** (1975), *no.* 2, 416–427 (*Russian*); *translated as Soviet J. Nuclear Phys.* **22** (1975), *no.* 2, 213–218. (Authors' summary) **55** #1963 81.35

Equations with homogeneous kernels, and the Mellin transform of generalized functions. (Russian. English summary) *Teoret. Mat. Fiz.* **27** (1976), *no.* 2, 149–162. (William L. Perry) **58** #7073 46F10 (45H05)

nekov, B. (*with* Meredov, B.) A certain local theorem. (Russian. Turkmen summary) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1975**, *no.* 4, 17–19. (A. V. Nagaev) **54** #1344 60F05

The rate of convergence in the central limit theorem for sums of a random number of random summands. (Russian) *Limit theorems and mathematical statistics* (*Russian*), *pp.* 53–61, 187. *Izdat. "Fan" Uzbek. SSR, Tashkent*, 1976. (Dominik Szynal) **55** #9228 60F05

Some estimates for the rate of convergence in limit theorems for a sequence of randomly indexed random variables. (Russian) *Dokl. Akad. Nauk UzSSR* **1978**, *no.* 2, 3–5. (Dominik Szynal) **57** #17777 60F05

metani, K. (*with* Shimizu, H.) A study of self-organizing processes of nonlinear stochastic variables. *J. Statist. Phys.* **13** (1975), *no.* 6, 473–490. (K. Dietz) **56** #8069 92A05

mhoff, Magelone (*with* Shephard, Geoffrey C.) Approximation problems for combinatorial isomorphism classes of convex polytopes. *Geometriae Dedicata* **3** (1974), 139–153. (P. McMullen) **50** #3116 52A25

min, Ralf Power series in z and $\bar{z}$. (Polish and Russian summaries) Proceedings of the Fifth Conference on Analytic Functions (Univ. Mariae Curie-Skłodowska, Lublin, 1970). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **22-24** (1968/70), 85–89 (1972). (Editors) **49** #5389 32A05

Singularitäten komplexwertiger Funktionen. *Math. Nachr.* **47** (1970), 32–39. (A. Haimovici) **45** #7062 30A72

Potenzreihen in z und z^*. I, II. *Math. Nachr.* **49** (1971), 237–249; *ibid.* **50** (1971), 205–215. (R. O. Kujala) **47** #491 32A05

Fortsetzung von Potenzreihen in z und z^*. Tagungsbericht zur ersten Tagung der WK Analysis (1970). *Beiträge Anal. No.* 4 (1972), 181–183. (J. Kajiwara) **48** #11550 32A05 (30A72)

Komplexe Funktionen einer Variablen und ihre isolierten Singularitäten. *Beiträge zur komplexen Analysis und deren Anwendungen in der Differentialgeometrie, pp.* 3 -30. *Schriftenreihe Zentralinst. Math. Mech. Akad. Wissensch. DDR. Heft* 18, *Akademie-Verlag, Berlin*, 1974. (S. Ruscheweyh) **52** #8449 30A92

Komplexe Strukturen in pseudo-euklidischen Räumen. 7. *Steiermärkisches Mathematisches Symposium* (*Graz*, 1975), *Ber. No.* 44, *pp.* 12 *pp. Ber. Math.,-Statist. Sektion, Forschungszentrum Graz, No.* 38-45, *Math.-Statist. Sektion, Forschungszentrum Graz, Graz*, 1975. (Juergen Kern) **54** #6009 53B30

ominek, Zygfryd On the sum and difference of two sets in topological vector spaces. *Fund. Math.* **71** (1971), *no.* 2, 165–169. (D. R. Traylor) **45** #2440 46A15 (28A10, 54D99)

The Galton-Watson process with immigration. (Polish) *Functional equations in the theory of stochastic processes* (*Polish*), *pp.* 203–210. *Publ. Silesian Univ. Katowice, No.* 47. *Wydawn. Uniw. Śląsk., Katowice*, 1972. (Editors) **55** #9306 60J80

Some generalization of the theorem of S. Piccard. *Uniw. Śląski w Katowicach—Prace Mat.* **4** (1973), 31–33. (T. A. Botts) **48** #4233 26A69 (54C10)

(*with* Matkowski, Janusz) On the existence of a convex solution of the functional equation $\varphi(x)=h(x,\varphi[f(x)])$. *Ann. Polon. Math.* **30** (1974), 1–4. (F. J. Papp) **49** #5614 39A15

C^r-solutions of a system of functional equations. *Ann. Polon. Math.* **30** (1974), 191–203. (I. Stamate) **50** #815 39A30

On the uniqueness and the existence of solutions with some asymptotic properties of a system of functional equations. (Polish summary) *Uniw. Śląski w Katowicach Prace Naukowe No.* 158 *Prace Mat. No.* 7 (1977), 57–63. (J. Aczél) **55** #910 39A15

Komissarčik, È. A. (*with* Futer, A. L.) The analysis of the queen's end-game by means of an electronic computer. (Russian) *Problemy Kibernet. No.* 29 (1974), 211–220, 246. (Authors' summary) **50** #15955 90D40 (68A45)

Simple groups whose number of conjugacy classes is less than thirteen. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 6, 1269–1272. (Sergei A. Syskin) **57** #446 20D05

(*with* Aleksandrov, A. G.) A group and the graph of its cyclic subgroups. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 6(198), 239–240. (Robert G. Burns) **58** #5348 05C25 (20C99, 20D30)

(*with* Aleksandrov, A. G.) Simple groups with a small number of conjugacy classes. (Russian) Rings and linear groups. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **75** (1978), 5 15, 194. (B. K. Durakov) **58** #11099 20D05

Komissarčik, V. F. Statistical estimation of the accuracy of filtering and predicting time series by a least squares filter. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 188 (1974), 41–44. **54** #11700 62M20

Komissarčuk, A. A. (*with* Blažkevič, B. Ī.) Determining the parameters of subcircuits by the method of splitting of graphs. (Russian) *Otbor i Peredača Informacii Vyp.* 40 (1974), 26–31, 110. **54** #7115 94A20

Komissarov, V. È. (*with* Novikov, S. V.; Suprun, V. P.) The minimal realization of the function $f=x_1x_2\ldots x_r$ by schemes of elements of Sheffer type. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1975**, *no.* 2, 13–18, 99. (W. Wechler) **51** #15220 94A20

Komissaruk, A. M. ★Аффиная геометрия. (Russian) [Affine geometry] *Izdat. "Vyšèĭšaja Škola", Minsk*, 1977. 336 *pp.* (K. Burian) **58** #12659 50–01

Komiya, Kaname (*with* Kuribayashi, Akikazu) On Weierstrass points of non-hyperelliptic compact Riemann surfaces of genus three. *Hiroshima Math. J.* **7** (1977), *no.* 3, 743–768. (H. M. Farkas) **57** #12521 14H15 (14K25, 30A46)

Algebraic curves with non-classical types of gap sequences for genus three and four. *Hiroshima Math. J.* **8** (1978), *no.* 2, 371–400. (Jayant M. Shah) **58** #16680 14H20

Komiya, Katsuhiro Oriented bordism and involutions. *Osaka J. Math.* **9** (1972), 165–181. (Edgar H. Brown, Jr.) **46** #6341 55B20

Cobordism of regular torus actions. *Osaka J. Math.* **10** (1973), 235–242. (R. E. Stong) **48** #3065 57D85

Oriented bordism modules of S^1- and $(Z_2)^k$-actions. *Osaka J. Math.* **11** (1974), 451–471. (Vincent Giambalvo) **51** #4280 57D85

On stationary points set of $(Z_2)^k$-manifolds. *Proc. Japan Acad.* **51** (1975), 159–162. (Theodore Chang) **51** #9094 57E15 (57D85)

A necessary and sufficient condition for the existence of non-singular G-vector fields on G-manifolds. *Osaka J. Math.* **13** (1976), *no.* 3, 537–546. (Rainer Vogt) **55** #6444 57D25

G-manifolds and G-vector fields with isolated zeros. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 5, 124–127. (Henning Hauschild) **58** #13093 57E10 (57D25)

Komjagin, V. A. (*with* Zolotov, A. A.) Methods for determining the reliability of the functioning of certain mechanical systems. (Russian) *Nadežn. i Kontrol' Kačestva* **1974**, *no.* 3, 68-74, 79. (Authors' summary) **49** #12068 90B25

Komjak, I. I. The solution in quadratures of Fredholm's integral equation with a kernel that depends on the difference of the arguments. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 2, 37 -42, 135. (J. Kofroň) **49** #8410 65R05

A certain case of solvability in quadratures of an integral equation with a difference kernel. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1974**, *no.* 1, 70–72, 89–90. (Nicolae Luca) **51** #8768 45H05

(*with* Uss, A. T.) A singular case of the Hilbert problem. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 6, 22–29, 139–140. (N. K. Karapetjanc) **53** #5896 30A88

An inversion formula for a Volterra equation with a difference kernel. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 2, 106–109, 187. (William L. Perry) **53** #6256 45D05

Two-dimensional systems of singular integral equations. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 6, 485–488, 571. (N. K. Karapetjanc) **54** #5755 45E05

(*with* Zvīrovič, È. Ī.; Maričev, O. I.) Fedor Dmitrievič Gahov (on his 70th birthday). (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 1, 131–133. (Editors) **53** #2601 01A70

(*with* Klimenkov, V. N.) The normal solvability in the sense of Hausdorff of the Dirichlet problem for a degenerate elliptic system of second order equations. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 1, 84–89, 189. (Authors' summary) **57** #13173 35J55

Solution in closed form of a two-dimensional singular integral equation with analytic coefficients. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 7, 583–586, 665. (S. G. Samko) **57** #13412 45E05 (30A92)

The general solution of a two-dimensional singular integral equation. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 12, 1074–1077, 1148. (V. G. Krovčenko) **58** #17720 45E05

Noethericity conditions and index of a spatial analogue of the general singular operator with Cauchy kernel. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 1, 44 -49, 140. (N. K. Karapetjanc) **57** #7261 47G05 (45Exx)

Conditions for Noethericity and a formula for the index of a class of singular integral equations. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 6, 488–491, 571. (V. V. Salaev) **58** #23411 45E99 (30A88)

See also **Proceedings: Republican Conference of Belorussian Mathematicians**, **48** #3669

Komjáth, Péter (*with* Hoffmann, G.) The transversal property implies property B. *Period. Math. Hungar.* 7 (1976), *no.* 2, 179–181. (Karsten Steffens) **55** #108 04A20

Rearranging transfinite series of ordinals. *Bull. Austral. Math. Soc.* **16** (1977), *no.* 3, 321–323. (C. D. H. Cooper) **57** #12232 04A10

(*with* Byleen, Karl) The admissible trace problem for E-unitary inverse semigroups. *Semigroup Forum* **15** (1977/78), *no.* 3, 235–246. (B. M. Schein (Šaĭn)) **57** #16434 20M10

Komkov, N. I. Mathematical models of planning of scientific research and development. (Russian) *Èkonom. i Mat. Metody* **8** (1972), 904–917. (Vladimir Strnad) **47** #8103 90B99

Komkov, Vadim (*with* Hallam, Thomas G.) Application of Liapunov's functions to finite time stability. *Rev. Roumaine Math. Pures Appl.* **14** (1969), 495–501. (Authors' introduction) **54** #658 34D20

The class of admissible loads of the linear plate and beam theory. (Italian summary) *Ist. Lombardo Accad. Sci. Lett. Rend. A* **105** (1971), 329 -335. (Yi-Yuan Yu) **46** #2954 73.35

★Optimal control theory for the damping of vibrations of simple elastic systems. Lecture Notes in Mathematics, Vol. 253. *Springer-Verlag, Berlin-New York*, 1972. iv + 240 *pp.* (L. von Wolfersdorf) **48** #7069 49B25 (73.49)

Inequalities based on the action integral for non-linear differential equations. *Proceedings of a Seminar on Applications of Differential Equations to Mechanics and Physics* (*Texas Tech Univ., Lubbock, Tex.*, 1972), *pp.* 1–15. *Math. Ser., No.* 10, *Texas Tech Press, Texas Tech Univ., Lubbock, Tex.*, 1972. (G. A. Bogar) **52** #14467 34C10 (34A40)

A generalization of Leighton's variational theorem. *Applicable Anal.* **2** (1972/73), 377–383. (R. L. Anderson) **54** #3086 34C10

A technique for the detection of oscillation of second order ordinary differential equations. *Pacific J. Math.* **42** (1972), 105–115. (J. S. Bradley) **47** #2134 34C10

On the location of zeros of second-order differential equations. *Proc. Amer. Math. Soc.* **35** (1972), 217–222. (Jerry Ridenhour) **45** #7180 34C10

On boundedness and oscillation of the differential equation $x'' + A(t)g(x) = f(t)$ in R^n. *SIAM J. Appl. Math.* **22** (1972), 561–568. (G. A. Bogar) **47** #554 34C10

(*with* Waid, Carter) Asymptotic behavior of non-linear inhomogeneous equations via non-standard analysis. I. Second order equations. *Ann. Polon. Math.* **28** (1973), 67–87. (I. Fenyő) **48** #4412 34C10 (26A98)

A note on the semi-inverse approach to oscillation theory for ordinary second-order linear differential equations. *Colloq. Math.* **28** (1973), 141–144. (A. Averna) **49** #719 34C10

Review of the Kantorovič variational method. *Comment. Math. Prace Mat.* **17** (1973), 105–117. (W. E. Boyce) **48** #10149 65N30

Formulation of Pontryagin's maximality principle in a problem of structural mechanics. *Internat. J. Control* (1) **17** (1973), 455–463. (Paul Binding) **48** #2863 49B25

On lower bounds of the natural frequencies of inhomogeneous plates. *Quart. Appl. Math.* **31** (1973/74), 395–401. (L. Janos) **54** #13305 35J40

Continuability and estimates of solutions of $(a(t)\psi(x)x')' + c(t)f(x) = 0$. *Ann. Polon. Math.* **30** (1974), 125–137. (T. A. Burton) **50** #7629 34A15

Asymptotic behavior of non-linear inhomogeneous differential equations via non-standard analysis. II. Some applications to higher order equations. *Ann. Polon. Math.* **30** (1974), 205–218. (I. Fenyő) **49** #9347 34D05 (02H25)

★Теория оптимального управления демпфированием колебаний простых упругих систем. (Russian) [Optimal control theory for the damping of vibrations of simple elastic systems] Translated from the English by I. T. Selezov. Edited by È. I. Grigoljuk. *Izdat. "Mir", Moscow,* 1975. 158 *pp.* (Editors) **52** #4081 49B25 (73.45)

(*with* Coleman, N. P.) An analytic approach to some problems of optimal design of beams and plates. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no.* 4, 565–575. (Yi-Yuan Yu) **53** #7196 73.49

Certain estimates for solutions of nonlinear elliptic differential equations applicable to the theory of thin plates. *SIAM J. Appl. Math.* **28** (1975), 24–34. (C. A. Swanson) **50** #13866 35J15

(*with* Walker, Billy) Some pointwise estimates concerning solutions of some partial differential equations of elliptic type of second order with physical applications. (German and Russian summaries) *Z. Angew. Math. Mech.* **56** (1976), *no.* 6, 225–237. (H. Werner) **54** #6526 65P05

(*with* Haug, Edward J., Jr.) Sensitivity analysis in distributed-parameter mechanical system optimization. *J. Optimization Theory Appl.* **23** (1977), *no.* 3, 445–464. (Bernard Lemaire) **57** #18967 93C20 (47Bxx, 49B30, 90C25)

Control theory, variational principles, and optimal design of elastic systems. *Optimal control and differential equations* (*Proc. Conf., Univ. Oklahoma, Norman, Okla.,* 1977), *pp.* 51–85. *Academic Press, New York,* 1978. (Edward J. Haug, Jr.) **58** #12655 49H05 (73.49)

A note on a generalization of the Sturm-Picone theorem. *Colloq. Math.* **39** (1978), *no.* 1, 173–176. (Bhagat Singh) **58** #22773 34C10

See also **Proceedings: Seminar on Applications of Differential Equations to Mechanics and Physics, 50** #4190

Komlenko, Ju. V. (*with* Tonkov, E. L.) The multipliers of a linear periodic differential equation with deviating argument. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 835–844, 958. (L. J. Grimm) **50** #13813 34K15

A certain counterexample in the theory of positive solutions. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 6, 1138, 1152. (D. Bobrowski) **52** #916 34C99

(*with* Inozemceva, I. N.; Pak, S. A.) Construction of the Green's function for a differential equation with deviating argument. (Russian) *Mat. Zametki* **17** (1975), 443–448. (R. R. Ahmerov) **52** #14530 34K10

The Floquet representation for finite-dimensional manifolds with a singular monodromy matrix. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 6, 1188–1197. 1369. (A. Haimovici) **54** #7844 32C40 (34A20)

Sufficient regularity conditions for a periodic boundary value problem for the Hill equation with deviating argument. (Russian) *Mát. Fiz. Vyp.* 22 (1977), 5–12, 123. (R. R. Ahmerov) **57** #6716 34K05 (34K10)

Komlik, V. I. (*with* Emeličev, V. A.) On the multiproduct allocation problem. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1970**, *no.* 1, 21–22, 98. (E. Ja. Gabovič) **49** #6905 90B35

(*with* Kurilenkov, V. I.) The structure of a set of non-improvable decisions. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 4, 132–133, 144. (B. T. Poljak) **56** #4734 90A05 (90D35)

See also **Proceedings: Republican Conference of Belorussian Mathematicians, 48** #3669

Komlós, János (*with* Erdős, Paul) On a problem of Moser. *Combinatorial theory and its applications, I* (*Proc. Colloq., Balatonfüred,* 1969), *pp.* 365–367. *North-Holland, Amsterdam,* 1970. (D. J. Kleitman) **45** #6636 05A05

(*with* Sulyok, Miklós) On the sum of elements of ± 1 matrices. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred,* 1969), *pp.* 721–728. *North-Holland, Amsterdam,* 1970. (J. W. Moon) **45** #8548 05B20 (15A36)

(*with* Chvátal, Václav) Some combinatorial theorems on monotonicity. *Canad. Math. Bull.* **14** (1971), 151–157. (M. Kimberley) **49** #2445 05C15

(*with* Révész, Pál) Remark to a paper of Gaposhkin. *Acta Sci. Math.* (*Szeged*) **33** (1972), 237–241. (R. A. Askey) **47** #9153 42A60

(*with* Sulyok, Miklós; Szemerédi, Endre) A lemma of combinatorial number theory. (Hungarian. English summary) *Mat. Lapok* **23** (1972), 103–108 (1973). (András Sárközi) **50** #2048 10A10

(*with* Békéssy, A.; Békéssy, P.) Asymptotic enumeration of regular matrices. *Studia Sci. Math. Hungar.* 7 (1972), 343–353. (R. W. Robinson) **49** #124 05C30 (05B20)

On the series $\sum c_k \varphi_k$. *Studia Sci. Math. Hungar.* 7 (1972), 451–458. (K. Tandori) **51** #10991 42A60 (60F15)

(*with* Révész, Pál) On the rate of convergence of the Robbins-Monro method. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **25** (1972/73), 39–47. (M. B. Woodroofe) **48** #7505 62L20 (60F05)

A central limit theorem for multiplicative systems. *Canad. Math. Bull.* **16** (3), 67–73. (L. Törnqvist) **48** #3102 60F05

(*with* Erdős, Paul) On the capacity of graphs. Collection of articles dedicated he memory of Alfréd Rényi, II. *Period. Math. Hungar.* **3** (1973), 125–133. (C. B e) **49** #126 05C30

(*with* Révész, Pál) A modification of the Robbins-Monro process. *Studi ci. Math. Hungar.* **8** (1973), 329–340. (J. Wolfowitz) **50** #3495 62L20

(*with* Major, Peter; Tusnády, Gábor) An approximation of partial sums of independent RV's and the sample DF. I. *Strong laws of invariance principle: a coll on of seven papers, Paper No. VI,* i+45 *pp. Carleton Math. Ser., No.* 106, *Dept. M h., Carleton Univ., Ottawa, Ont.,* 1974. (Editors) **52** #6814 60B10 (60G50)

Every sequence converging to 0 weakly in L_2 contains an unconditional conver ce sequence. *Ark. Mat.* **12**, 41–49 (1974). (S. D. Chatterji) **49** #11137 42A60

(*with* Szemerédi, Endre) Hamilton cycles in random graphs. *Infinite and finit ts* (*Colloq., Keszthely,* 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. I, p.* 1003–1010. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam,* 5. (D. W. Walkup) **52** #13491 05C35

(*with* Major, Peter; Tusnády, Gábor) Weak convergence and embedding. it *theorems of probability theory* (*Colloq., Keszthely,* 1974), *pp.* 149–165. *Colloq. Math c. János Bolyai, Vol.* 11, *North-Holland, Amsterdam,* 1975. (J. Kiefer) **53** #6676 6 5 (60B10)

(*with* Csörgő, Miklós; Major, Peter; Révész, Pál; Tusnády, Gábor) On the empirical process when parameters are estimated. *Proceeding of the Symposiu n Statistics and Related Topics* (*Carleton Univ., Ottawa, Ont.,* 1974), *Paper No.* 1, 1 p. *Carleton Univ., Ottawa, Ont.,* 1975. (P. K. Sen) **51** #11606 60B10 (62E20)

(*with* Sulyok, Miklós; Szemerédi, Endre) Linear problems in combinatorial nu er theory. *Acta Math. Acad. Sci. Hungar.* **26** (1975), 113–121. (S. L. G. Choi) **51** #3 10A99

(*with* Tusnády, Gábor) On sequences of "pure heads". *Ann. Probability* **3** (1), *no.* 4, 608–617. (K. C. Chanda) **55** #11353 60F15

(*with* Choi, S. L. G.; Szemerédi, Endre) On sum-free subsequences. *Trans. A r. Math. Soc.* **212** (1975), 307–313. (A. L. Whiteman) **51** #12769 10L05

(*with* Major, Peter; Tusnády, Gábor) An approximation of partial sums of independent RV's and the sample DF. I. *Z. Wahrscheinlichkeitstheorie und V . Gebiete* **32** (1975), 111–131. (J. Kiefer) **51** #11605b 60B10 (60G50)

(*with* Major, Peter; Tusnády, Gábor) An approximation of partial sums of independent RV's, and the sample DF. II. *Z. Wahrscheinlichkeitstheorie und V . Gebiete* **34** (1976), *no.* 1, 33–58. (J. Kiefer) **53** #6697 60F15

Komoda, Norihisa (*with* Fujii, Katsuhiko; Morita, Tatsuya) Study on distributed e memory: generalization of hologram and associatron. *Tech. Rep. Osaka Univ* 4 (1974), 153–161. (K. D. Günther) **50** #6236 68A50

Komor, Tomaš A certain property of modified factored grammars. (Russian) *Ž. V l. Mat. i Mat. Fiz.* **12** (1972), 1612–1615, 1632. (Branislav Rovan) **47** #4490 68A

A note on left factored languages. *Comput. J.* **17** (1974), 242–244. (A. Ja. Dikow) **53** #4640 68A30

An equivalence transformation of grammars. (Russian) *Programmirovanie* **197** , 6, 13–18, 79. (Author's summary) **58** #8527 68A30

Komor, Zygmunt *See* **Boltjanskiĭ, V. G., 50** #5569

Komori, Yuichi The finite model property of the intermediate propositional logics on f e slices. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **22** (1975), *no.* 2, 117–120. (V Orevkov) 57 #5693 02C15

Free algebras over all fields and pseudo-fields. *Rep. Fac. Sci. Shizuoka Uni* (1975), 9–15. (Wilfred G. Malcolm) **54** #10103 08A10

A relation between strongly regular rings and pseudo-fields. *Rep. Fac. Sci. Shiz Univ.* **11** (1976), 23–24 (1977). (P. M. Cohn) **56** #408 16A30 (12K05)

Logics without Craig's interpolation property. *Proc. Japan Acad. Ser. A Math.* **54** (1978), *no.* 2, 46–48. (From the introduction) **58** #10328 02C15

Komorník, Jozef Correspondence between semi-measures and small systems. *Mat. Ča s Sloven. Akad. Vied* **25** (1975), *no.* 1, 59–62. (Miloslav Duchoň) **52** #3459 28A1

(*with* Komorníková, Magda) On sequential entropy of measure preserving transformation. *Dynamical systems, Vol. I—Warsaw, pp.* 141–144. *Astérisque, No.* , *Soc. Math. France, Paris,* 1977. (Douglas Lind) **58** #6162 28A65

Optimal control under discrete observation of continuous stochastic systems time delay. *Kybernetika* (*Prague*) **14** (1978), *no.* 2, 102–109. (Author's summ) **58** #26474 93E20

Komorníková, Magda (*with* Komorník, Jozef) On sequential entropy of measure preser g transformation. *Dynamical systems, Vol. I—Warsaw, pp.* 141–144. *Astérisque, No.* , *Soc. Math. France, Paris,* 1977. (Douglas Lind) **58** #6162 28A65

Komorowski, Jacek A geometrical formulation of the general free boundary problem i the calculus of variations and the theorems of E. Noether connected with them. *Mathematical Phys.* **1** (1970/71), *no.* 2, 105–133. (R. A. Graff) **45** #2550 49F2

(*with* Szczyrba, Wiktor) *F-S* manifolds in the theory of geodesic fields. *Gl analysis and its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theo Phys., Trieste,* 1972), *Vol. III, pp.* 177–183. *Internat. Atomic Energy Agency, Vien* 1974. (J. E. Marsden) **56** #1354 58E99

A continuous change of topological type of Riemannian manifolds and its connection with the evolution of harmonic forms and spin structures. *Global anal and its applications* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Ph Trieste,* 1972), *Vol. II, pp.* 329–353. *Internat. Atomic Energy Agency, Vienna,* 1 (From the text) **58** #2832 57D15 (57A10, 83.57)

On a global problem of the discrete and continuous potential theories. *Proceedi of the C. Carathéodory International Symposium* (*Athens,* 1973), *pp.* 318–327. *Gr Math. Soc., Athens,* 1974. (Józef Dodziuk) **57** #4205 58A10

On finite-dimensional approximations of the exterior differential codifferential Laplacian on a Riemannian manifold. (Russian summary) *Bull. Acad. Polon. Sci. S Sci. Math. Astronom. Phys.* **23** (1975), *no.* 9, 999–1005. (J. Dodziuk) **52** #1196 58A10

On an estimate from below for the first positive eigenvalue of Δ. (Russian summa *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 10, 999–10 rold Donnelly) **57** #1347 53C20

owski, Witold The influence of momentary failures on the output signal of a nbinational logical network. (Polish. Russian and English summaries) *Arch. Automat. elemech.* **18** (1973), 335–340. (P. Vondráček) **48** #3623 94A20

, Yasuo (*with* Futatsugi, Kokichi; Kimura, Masayuki) On Markov chains herated by Markovian controlled Markov systems. I. Ergodic properties. *Math. sci.* **32** (1976), *no.* 1-2, 81–106. (Authors' summary) **58** #31431 60J99

(*with* Kimura, Masayuki) A characterization of the class of structurally stable obabilistic automata. I. Discrete-time case. *Internat. J. Systems Sci.* **9** (1978), *no.* 4, –394. (Ludwig Arnold) **58** #9937a 94A35

(*with* Kimura, Masayuki) A characterization of the class of structurally stable obabilistic automata. II. Continuous-time case. *Internat. J. Systems Sci.* **9** (1978), *no.* 395–424. (Ludwig Arnold) **58** #9937b 94A35 (58F10)

neec, A. S. *See* **Gol′danskiĭ, V. I.; et al., 51** #12464

niec, È. P. (*with* Gerasjuta, M. F.; Krasovskiĭ, A. A.) Selection of extremal jectories for the start from orbit of an artificial earth satellite. (Russian) *Space earch in the Ukraine, No.* 2: *Space mechanics and control systems* (*Russian*), *pp.* 14–25, *Izdat. "Naukova Dumka", Kiev*, 1973. (D. P. Rašković) **53** #2096 70.49 (93C15)

l′maher, V. L. (*with* Liskovec, V. A.) Successive generation of permutations by eans of a transposition basis. (Russian. English summary insert) *Kibernetika* (*Kiev*) 75, *no.* 3, 17–21. (Editors) **58** #16420 05C99

kov, B. P. Compactification by rapprochement, and proximity in a homogeneous ace. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 1, 16–21, 94. (Author's mmary) **55** #4102 54E05

The lattice of geometric compactifications of symmetric Riemannian spaces. ussian) *Uspehi Mat. Nauk* **28** (1973), *no.* 4(172), 217–218. (O. Kowalski) **53** #3953 C35

Compactifications of simply connected Riemannian spaces of nonpositive curvature. ussian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 3, 45–52, 136. (H. cobowitz) **49** #1425 53C20

Homogeneous spaces that are generated by automorphisms, and invariant geometric ructures. (Russian. English summary) *Problems in geometry, Vol.* 7 (*Russian*), *pp.* 1–104, 301. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. . Kowalski) **58** #2636 53C10 (17B20, 17B40)

Homogeneous *f*-manifolds and principal torus bundles. (Russian) *Dokl. Akad. auk BSSR* **20** (1976), *no.* 3, 200–202, 181. (D. I. Papuc) **53** #14347 53C15

Homogeneous compact almost contact manifolds. (Russian) *Funkcional. Anal. i riložen.* **10** (1976), *no.* 1, 77–78. (J. Vanžura) **54** #3620 53C15

Invariant *f*-structures on homogeneous spaces. (Russian) *Vesci Akad. Navuk BSSR er. Fiz.-Mat. Navuk* **1976**, *no.* 3, 54–57, 141. (O. Kowalski) **54** #1123 53C15

(*with* Čekalov, I. V.) Almost complex homogeneous spaces of compact Lie groups. Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 8, 681–683, 763. (I. L. Kantor) 8 #17237 32M10 (53C30)

Principal toroidal bundles, and *f*-structures. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 2(177), 127–130. (Jacek Gancarzewicz) **58** #24110 53C15

The de Rham decomposition and reducibility of homogeneous spaces. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1(193), 167–168. (O. Kowalski) **55** #13348 53C30

K raz, L. A. (*with* Efimov, Ju. M.) A certain way to study dynamical systems on the plane by means of an electronic computer. (Russian) Qualitative methods of the theory of differential equations and their applications. *Gor′kov. Gos. Univ. Učen. Zap. Vyp.* 187 (1973), 124–134. (From the text) **58** #17345 34C35 (34–04, 58F15)

K ura, Hitoshi (*with* Yasuda, Hiroshi) On extended Lie systems as Riemannian manifolds. I. *J. Hokkaido Univ. Ed. Sect. II A* **18** (1968), *no.* 2, 61–64. (T. Okubo) 57 #13770 53B99 (22E05)

ura, Takako On semigroups of linear operators in locally convex topological vector spaces. (Japanese) *Sûgaku* **21** (1969), *no.* 2, 108–120. (Editors) **58** #23752 47D05

ura, Yukio On nonlinear semigroups (case of Hilbert space). (Japanese) *Sûgaku* **25** (1973), *no.* 2, 148–160. (Editors) **58** #30558 47H15 (47D05)

urdžišvili, O. P. (*with* Gordeziani, D. G.; Zizova, L. A.; Meladze, G. V.) Difference methods for the calculation of a certain version of the equations of the theory of thin shells. (Russian. Georgian summary) *Studies of certain equations of mathematical physics, No.* 1 (*Russian*), *pp.* 87–96. *Izdat. Tbilis. Univ., Tbilisi*, 1972. (Raičo Lazarov) **50** #15553 73.65

(*with* Gordeziani, D. G.) The difference scheme for the solution of the first boundary value problem for the equations of a prismatic shell in a curvilinear region. (Russian. Georgian summary) *Studies of certain equations of mathematical physics, No.* 1 (*Russian*), *pp.* 97–104. *Izdat. Tbilis. Univ., Tbilisi*, 1972. (Raičo Lazarov) **50** #15554 73.65

(*with* Gordeziani, D. G.) The numerical solution of a certain variant of the equations of the theory of thin shells. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **67** (1972), 533–536. (P. P. Teodorescu) **48** #10286 73.65

A difference scheme for the solution of the second boundary value problem for a certain version of the equations of the theory of shells. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 5, 1198–1208, 1372. (Author's summary) **56** #10340 73.65

(*with* Gordeziani, D. G.) ★Численное решение некоторых краевых задач для одного варианта теории тонких оболочек. (Russian) [Numerical solution of some boundary value problems for a variant of the theory of thin shells] With Georgian and English summaries. *Izdat. Tbilis. Univ., Tbilisi*, 1977. 37 *pp.* (J. Mazumdar) **58** #14228 73.65

musiewicz, Johann Zur Konvergenz des Differenzenverfahrens und zu Fragen der Fehlerabschätzung für elliptische Differentialgleichungen vierter Ordnung mit quadratisch integrierbarer Inhomogenität. *Beiträge Numer. Math.* **2** (1974), 69–88. (V. Thomée) **54** #11803 65N10

my, S. (*with* Barut, Asim O.) The conformally invariant action-at-a-distance electrodynamics. *J. Phys. A* **9** (1976), *no.* 2, 207–210. (Authors' summary) **52** #16486 83.53

n, E. L. (*with* Kiselev, V. V.) Application of the mathematical apparatus of oriented Boolean differentials to the solution of the problems of the diagnosis of discrete devices. (Russian) *Discrete systems, formal languages and algorithm complexity* (*Russian*), *pp.* 3–15. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (A. A. Mullin) **58** #33551 94A20 (68A05)

Kon, Masahiro Invariant submanifolds of normal contact metric manifolds. *Kōdai Math. Sem. Rep.* **25** (1973), 330–336. (K. Yano) **48** #2933 53C15

A note on invariant submanifolds in a *K*-contact Riemannian manifold. *Tensor* (*N.S.*) **27** (1973), 158–160. (M. Okumura) **49** #3729 53B25

Kaehler immersions with trivial normal connection. *TRU Math.* **9** (1973), 29–33. (K. Nomizu) **49** #11441 53C55

Totally real minimal submanifolds with parallel second fundamental form. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 3-4, 187–189 (1975). (N. Prakash) **53** #3933 53B35

On some complex submanifolds in Kaehler manifolds. *Canad. J. Math.* **26** (1974), 1442–1449. (Bang-yen Chen) **52** #1555 53B35

A note on minimal submanifolds in Riemannian manifolds. *Hokkaido Math. J.* **3** (1974), 154–160. (K. Nomizu) **51** #13943 53C40

A note on invariant submanifolds in a normal contact metric manifold with certain Ricci tensor. *Tensor* (*N.S.*) **28** (1974), 67–68. (M. Okumura) **51** #1682 53C40

On some invariant submanifolds of normal contact metric manifolds. *Tensor* (*N.S.*) **28** (1974), 133–138. (Shûkichi Tanno) **51** #4107 53C25

(*with* Tokuda, Satoshi) A note on minimal submanifolds with certain Ricci tensor. *Tensor* (*N.S.*) **28** (1974), 280–282. (A. Martínez Naveira) **51** #8999 53C40

On invariant submanifolds in Sasakian manifolds of constant ϕ-sectional curvature. *TRU Math.* **10** (1974), 1–9. (K. L. Duggal) **56** #16540 53C25

Complex submanifolds with constant scalar curvature in a Kaehler manifold. *J. Math. Soc. Japan* **27** (1975), 76–81. (Koichi Ogiue) **50** #8390 53C55 (53C40)

A remark on complex submanifolds with parallel second fundamental form. *Tamkang J. Math.* **6** (1975), 79–82. (Bang-yen Chen) **51** #4127 53C55

(*with* Yano, Kentaro) ★Anti-invariant submanifolds. Lecture Notes in Pure and Applied Mathematics, No. 21. *Marcel Dekker, Inc., New York-Basel*, 1976. vii+183 *pp.* (David Blair) **54** #13799 53C40

(*with* Yamaguchi, Seiichi; Ikawa, Toshihiko) *C*-totally real submanifolds. *J. Differential Geometry* **11** (1976), *no.* 1, 59–64. (Bang-yen Chen) **53** #9088 53C40

Totally real submanifolds in a Kaehler manifold. *J. Differential Geometry* **11** (1976), *no.* 2, 251–257. (Bang-yen Chen) **54** #1141 53C55

(*with* Yano, Kentaro) Anti-invariant submanifolds of Sasakian space forms. II. *J. Korean Math. Soc.* **13** (1976), *no.* 1, 1–14. (Bang-yen Chen) **55** #6333b 53C25

Kaehler immersions with vanishing Bochner curvature tensors. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 3, 329–333. (Bang-yen Chen) **53** #6473 53C55

(*with* Yano, Kentaro) Totally real submanifolds of complex space forms. II. *Kōdai Math. Sem. Rep.* **27** (1976), *no.* 3, 385–399. (N. Prakash) **54** #13818 53C55

(*with* Yano, Kentaro) Infinitesimal variations of anti-invariant submanifolds of a Kaehlerian manifold. *Kyungpook Math. J.* **16** (1976), *no.* 1, 33–47. (Raymond Couty) **54** #11245 53C40

Invariant submanifolds in Sasakian manifolds. *Math. Ann.* **219** (1976), *no.* 3, 277–290. (K. Nomizu) **54** #13794 53C40

(*with* Yamaguchi, Seiichi; Miyahara, Yasushi) A theorem on *C*-totally real minimal surface. *Proc. Amer. Math. Soc.* **54** (1976), 276–280. (C. S. Houh) **53** #6470 53C40

Remarks on anti-invariant submanifolds of a Sasakian manifold. *Tensor* (*N.S.*) **30** (1976), *no.* 3, 239–246. (R. Miron) **55** #4007 53B25

(*with* Yano, Kentaro) Totally real submanifolds of complex space forms. I. *Tôhoku Math. J.* (2) **28** (1976), *no.* 2, 215–225. (N. Prakash) **54** #13817 53C55

(*with* Ishihara, Ikuo) Contact totally umbilical submanifolds of a Sasakian space form. *Ann. Mat. Pura Appl.* (4) **114** (1977), 351–364. (R. Behari) **58** #18288 53C40 (53C25)

(*with* Ikawa, Toshihiko) Sasakian manifolds with vanishing contact Bochner curvature tensor and constant scalar curvature. *Colloq. Math.* **37** (1977), *no.* 1, 113–122. (Bang-yen Chen) **57** #4029 53B25

(*with* Yano, Kentaro) Submanifolds of an even-dimensional sphere. *Geometriae Dedicata* **6** (1977), *no.* 2, 131–139. (Y. Katsurada) **57** #1371 53C40

(*with* Yano, Kentaro) Anti-invariant submanifolds of Sasakian space forms. I. *Tôhoku Math. J.* (2) **29** (1977), *no.* 1, 9–23. (Bang-yen Chen) **55** #6333a 53C25

Kon, P. *See* **Cohn, P. M.**

Kon, S. H. On the zeros of Hilbert spaces of analytic functions. *J. Austral. Math. Soc. Ser. A* **22** (1976), *no.* 4, 442–445. (R. H. Cox) **55** #3274 30A98

Konakbaev, K. K. (*with* Pšeničnyĭ, N. N.) Constructive theorems on the representation of elements of involutions. (Russian) *Mathematics and mechanics, No.* 2, *Part* 2 (*Russian*), *pp.* 63–71, 192. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija, Kazah. SSR, Alma-Ata*, 1967 (1970). (Author's summary) **58** #30698 50A15

A constructive problem on geometric constructions of the common elements of two circles, one of which is imaginary, by constructing their radical axis. (Russian) *Mathematics and mechanics, No.* 2, *Part* 2 (*Russian*), *pp.* 72–79, 192. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija, Kazah. SSR, Alma-Ata*, 1967 (1970). (Author's summary) **58** #23975 50B20

Central cubic Cremona involutions. (Russian) *Mathematics and mechanics, No.* 3 (*Russian*), *pp.* 104–116, 192. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija Kazah. SSR, Alma-Ata*, 1968 (1971). (Author's summary) **58** #22066 14E10 (50D20)

Konakov, P. K. *See* **Obituary: Konakov, P. K., 52** #10343

Konakov, V. D. A nonparametric estimate of the density of the distribution of probabilities. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 377–379. (J. Hájek) **45** #9423 62G05

Asymptotic properties of some functions of nonparametric estimates of a density function. *J. Multivariate Anal.* **3** (1973), 454–468. (E. F. Schuster) **48** #12713 62G05

Certain inequalities of Hajek-Rényi type. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 413–415. (W. A. Woyczyński) **47** #7806 60G45

The asymptotic normality of the mode of multivariate distributions. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 836–842. (G. Manija) **49** #1647 62E20 (62G05)

On a global deviation measure for an estimate of the regression line. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 4, 879–888. (E.

Nadaraja) **58** #3178 62G05

Konakovsky, R. *See* **Sensitivity, adaptivity and optimality**, **49** #8697

Konarzewska-Gubała, Ewa XII Scientific Conference of Econometricians, Statisticians and Mathematicians from the Academies of Economics in Katowice, Kraków and Wrocław. (Polish) *Przegląd Statyst.* **23** (1976), *no.* 3, 363–371. (Editors) **54** #9901 00A10

Konašenko, S. I. (*with* Lazarjan, V. A.) The application of generalized functions in the investigation of the oscillations of rods with piecewise constant parameters. (Russian) *Prikladna. Meh.* **7** (1971), *no.* 9, 70–78. (V. Komkov) **45** #8087 73.34

(*with* Lazarjan, V. A.) ★Обобщенные функции в задачах механики. (Russian) [Generalized functions in problems of mechanics] *Izdat. "Naukova Dumka", Kiev*, 1974. 191 *pp.* (Editors) **54** #14517 73.46

Končak, V. S. (*with* Čegolin, P. M.; Poïda, V. N.; Sadyhov, R. H.) Invariants of the Walsh transform. (Russian) *Vyčisl. Tehn. v Mašinostroen.* **1974**, *no.* 1 (32), 148–155. (Authors' summary) **56** #2623 94A05

(*with* Čegolin, P. M.; Poïda, V. N.; Sadykov, R. H.) Time and spectral invariants in multiplicative bases. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 38 (1977), 29–34, 113. (Authors' summary) **58** #15640 94A05

Koncewicz, Leszek The simplest expressions of the predicate calculus that define classes of symmetric graphs without loops. I. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 3 *Teoria Grafów* (1970), 23–42. (Jerzy Kotas) **55** #2486a 02B10 (05C99)

The simplest expressions of the predicate calculus that define classes of symmetric graphs without loops. II. (Polish. English and Russian summaries.) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 4 *Grafy i Sieci* (1972), 47–59. (Jerzy Kotas) **55** #2486b 02B10 (05C99)

Definability of classes of graphs in the first order predicate calculus with identity. (Polish and Russian summaries) *Studia Logica* **32** (1973), 159–190; *errata, ibid.* **33** (1974), 119. (W. Schwabhäuser) **50** #4284 02H05 (05C99)

Kończyk, Tomasz (*with* Budkowski, Stanisław) Feedback shift register as generator of pseudo-random numbers. (Polish. English, French, German and Russian summaries) *Rozprawy Elektrotech.* **18** (1972), 101–112. (V. Dupač) **46** #8374 65C10

Kończykowska, Agnieszka (*with* Starzyk, Janusz) The determination of the structural number of a partitioned graph. I. General dependences. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **24** (1975), *no.* 2, 245–252. (Authors' summary) **53** #7630 94A20 (05C05)

(*with* Starzyk, Janusz) The determination of the structural number of a partitioned graph. II. Dichotomy. Determination of k-trees. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **24** (1975), *no.* 2, 253–262. (Authors' summary) **53** #7631 94A20 (05C05, 68A10)

Kondakov, V. F. (*with* Kogan, Ja. A.) Control in L-loop data transmission networks. *Avtomat. i Telemeh.* **1976**, *no.* 5, 165–173 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 5, *part* 2, 789–796. (Authors' summary) **56** #7910 90B15 (94A20)

Kondakov, V. P. The nonexistence of bases in certain separable linear topological spaces. (Russian) *Mat. Zametki* **12** (1972), 583–589. (W. H. Ruckle) **47** #9227 46A35

(*with* Baran, V. I.) The quasi-equivalence of absolute bases in spaces of classes (d_1) and (d_2). (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 4, 729–732. (B. S. Mitjagin) **56** #12816 46A35

Kondakova, È. M. (*with* Ivlev, E. T.) Certain geometric objects of an n-family of nondegenerate null-pairs in P_n. (Russian) Geometry collection, No. 9. *Trudy Tomsk. Gos. Univ.* **212** (1972), 87–95. (Michał Lorens) **48** #4926 53A20

(*with* Ivlev, E. T.; Pustynnikov, G. G.) A projectively invariant class of manifolds of nondegenerate null pairs in multidimensional projective space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 11 (174), 38–47. (M. Decuyper) **57** #17522 53A20

Kondakova, L. F. Application of the large sieve to the solution of additive problems of mixed type. (Russian) *Mat. Zametki* **10** (1971), 73–81. (H.-E. Richert) **45** #1872 10H30

Kondalev, A. I. *See* **Problems of information transmission and processing**, **58** #33476

Kondaurov, M. T. Local centro-conformal spaces, and their enveloping pseudogroup of transformations. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 255–260. (O. Kowalski) **45** #4310 53A55 (58H05)

Konder, Peter Paul Funktionentheoretische Charakterisierung der Topologie in Distributionenräumen. *Math. Z.* **123** (1971), 241–262. (H. Jarchow) **45** #2467 46F05

Kondev, N. M. The coefficients of a certain class of polynomials. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **4** (1967), *no.* 3, 47–53 (1972). (T. T. Tonkov) **46** #9304 30A08

Extrema of a polynomial at the arithmetic mean of two adjacent real zeros. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **6** (1970), *no.* 1, 47–51 (1972). (T. T. Tonkov) **49** #9133 26A78

A certain generalization of the geometric series. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 2, 45–48 (1973). (H. J. Godwin) **53** #7915 10A05

Kondjurin, Ju. N. The error in the Monte Carlo method for the computation of multiple integrals. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 489–493, 535. (V. Dupač) **52** #9556 65C05 (65D30)

Kondo, Bunji (*with* Eiho, Shigeru) Statistical decision method in learning control systems. *Pattern recognition and machine learning* (*Proc. Japan-U.S. Sem. Learning Process in Control Systems, Nagoya*, 1970), *pp.* 252–262. *Plenum Press, New York*, 1971. (From the authors' introduction) **56** #8120 93C40 (90D35)

(*with* Araki, Mitsuhiko) Stability and transient behavior of composite nonlinear systems. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 4, 537–541. (Authors' summary) **55** #14333 (E **55** #14334) 93D05

(*with* Araki, Mitsuhiko) A stability condition of large scale composite systems. I. (Japanese. English summary) *Systems and Control* **16** (1972), 728–736. (Authors' summary) **47** #3067 93D05

(*with* Ando, Kazuaki; Araki, Mitsuhiko) Risk of estimation by data obtained via communication channel. *Systems-Computers-Controls* **3** (1972), *no.* 5, 65–72 (1973). (J. P. M. Schalkwijk) **49** #12166 94A15

(*with* Araki, Mitsuhiko) Comments on: "Stability and transient behavior of composite nonlinear systems" (IEEE Trans. Automatic Control **AC-17** (1972), 5 *IEEE Trans. Automatic Control* **AC-18** (1973), 688–689. (Authors' summary) **55** 93D05

(*with* Araki, Mitsuhiko) A stability condition for large scale composite sys (Japanese. English summary) *Systems and Control* **18** (1974), 249–255. (Authors summary) **49** #12132 93D99

Kondo, Eiji (*with* Sunaga, Teruo; Biswas, Shyamal Kanti) An approximation using continuous models for queueing problems. (Japanese summary) *J. Operat Soc. Japan* **21** (1978), *no.* 1, 29–44. (Masafumi Sasaki) **57** #14188 60K25

Kondo, Hiroki (*with* Hattori, Chuichiro; Kobayashi, Makoto; Maskawa, Toshihid Nonlinear realizations of groups and chiral transformations in the quark mode *Theoret. Phys.* **43** (1970), 1334–1342. (Anthony Joseph) **46** #1224 81.22

Kondo, Jiro (*with* Koda, Masato) Several methods on nonlinear filtering. (Ja *Keiei-Kagaku* **17** (1973), 32–42. (Authors' summary) **47** #6381 94A05 (60C

Kondo, Kazuo An Oriental expansion of Kron's science beyond electrical eng *Gabriel Kron and systems theory* (*Schaffer Library Sympos., Union College, Sche N.Y.*, 1969), *pp.* 153–164. *Union College Press, Schenectady, N.Y.*, 1973. **52** #13208 01A70

On the osculatory character of a geometrical picture of the Voigt transf and its modification. *Res. Notes Memoranda Appl. Geom. Post-RAAG No.* 14 (*pp.* (Ann Stehney) **51** #12271 83.53

Non-Riemannian dynamical theory of energy conversion. III. Non-Rie thermodynamics. (Japanese summary) *Res. Notes Memoranda Appl. Geom. Pos No.* 19 (1974), 32 *pp.* (D. Lovelock) **51** #14693 70.53

A microscopic osculation picture of plastic continua with reference to the edifice of dislocation disclination, stress functions and stress-strain relation. (summary) *Res. Notes Memoranda Appl. Geom. Post-RAAG No.* 21 (1974), **54** #6650 73.53

A compendium of the foundation of the theory of yielding in terms of an os picture of Finsler space. (Japanese summary) *Res. Notes Memoranda Appl Post-RAAG No.* 22 (1974), 14 *pp.* **54** #6649 73.53

A contact point of plasticity and space-time formulaism. (Japanese summa *Notes Memoranda Appl. Geom. Post-RAAG No.* 25 (1974), 18 *pp.* (Author's su **56** #10323 73.53

On the charge dependent differentiation of hadrons and resonances. (J summary) *Res. Notes Memoranda Appl. Geom. Post-RAAG No.* 27 (1975), 33 *p* the author's introduction) **56** #4553 81.53

On the unitarity as fundamental postulate of physics. (Japanese summar *Notes Memoranda Appl. Geom. Post.-RAAG No.* 36 (1975), 32 *pp.* (Harry H. **52** #4846 81.00

See also **Commemoration volumes for Prof. Dr. Akitsugu Kawaguchi's s birthday**, **48** #15

Kondô, Motokiti Les problèmes fondamentaux parus dans cinq lettres sur la thé ensembles. *Proc. Fac. Sci. Tokai Univ.* **9** (1974), 21–35. (E. Mendelson) **49** 02K30 (02F50)

Peut-on prolonger décimalement tout nombre naturel? *Proc. Fac. Sci. Tok* **11** (1976), *no.* 1, 3–6. (R. A. Rankin) **54** #12496 02E15 (02A05, 10A30)

The creation of the history of Japanese mathematics and its relative merits (abstract). (Japanese) *Sûgakushi Kenkyû No.* 70 (1976), 33–52. **58** #15818

(*with* Iseki, Kiyoshi) ★Modern mathematics—history and problems. (Ja *Nihon Hyōronsha, Tokyo*, 1977. viii+361 *pp.* (S. Hitotumatu) **58** #4899 01

Kondō, Ryōji On a construction of recurrent Markov chains. II. *Teor. Veroj Primenen.* **15** (1970), 510–518. (J. G. Mauldon) **45** #4505 60J25

(*with* Ōshima, Yōichi) A characterization of potential kernels for recurrent chains with strong Feller transition function. *Proceedings of the Second Japa Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 213–238. *Lecture Notes in Vol.* 330, *Springer, Berlin*, 1973. (Authors' summary) **57** #7771 60J05

(*with* Negoro, Akira) Certain functionals of probability measures on Hilbert *Hiroshima Math. J.* **6** (1976), *no.* 3, 421–428. (N. N. Vahanija) **55** #6547 (28A40)

Kondo, Shoichi On the character rings of finite groups. *Proc. Japan Acad.* **49** 685–689. (B. Fein) **48** #8611 20C05

A remark on the character rings of finite groups. *Proc. Japan Acad.* **52** (1976 98–101. (Donald S. Passman) **53** #3082 20C05

A property of finite p-groups. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 35- Mann) **57** #433 20C15

Kondo, Syozo A theory of approximation of pattern sets based on the ε-entropy *Systems-Computers-Controls* **4** (1973), *no.* 5, 1–7. (W. Greblicki) **52** #16179

Kondo, Takeshi A characterization of the alternating groups. *Representation theory groups and related topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Wi Madison, Wis.*, 1970), *pp.* 95–96. *Amer. Math. Soc., Providence, R.I.*, 1971. (C Cooper) **48** #388 20B10

Automorphisms of a finite group and their fixed points. *Sci. Papers Colle Ed. Univ. Tokyo* **23** (1973), 5–9. (Fletcher Gross) **48** #393 20B25

Kondo, Toshimi (*with* Kobayashi, Masataka; Takagi, Takuro) Torsion of elastic c having cross-sections with curvilinear boundaries. (Russian. English summary *Rep. Nagaoka Tech. College* **14** (1978), *no.* 2, 19–32. (Editors) **58** #19521 73

Kondo, Yôichi One aspect of the history of Greek mathematics (connected with the Szabó). (Japanese) *Sûgakushi Kenkyû No.* 50 (1971), 10–15. **58** #21002 01.

Kondoh, Bunji (*with* Andoh, Kazuaki) Expansion of powers of a matrix by polyno the eigenvalues. (Japanese) *Systems and Control* **21** (1977), *no.* 2, 139–140. (J. B **58** #16717 15A18

Kondraciuk, Narcyz (*with* Bochenek, Jan) On the rational choice of coordinate funct the least-square method. *Zeszyty Nauk. Uniw. Jagielloń.* **403** *Prace Mat. No.* 17 41–46. (N. N. Janenko) **53** #9627 65J05

(*with* Nizioł, Józef) A study of the accuracy of a linear dynamical system nonstationary case. (Polish. Russian and English summaries) *Mech. Teoret. S* (1976), *no.* 3, 361–370. (Authors' summary) **56** #15053 93E10

Kondracki, W. (*with* Gawędzki, K.) Canonical formalism for the local-type functio

classical field theory. *Rep. Mathematical Phys.* **6** (1974), *no.* 3, 465–476. (H. S. P. sser) **52** #9917 81.58

eva, I. L. ★Уравнения математической физики. (Russian) [Equations of hematical physics] *Moskov. Ènerget. Inst., Moscow*, 1971. 106 *pp.* (*errata insert*) itors) **54** #3131 35–01

in, G. P. (*with* Zak, Ju. O.) Algorithms for random search among a finite number rescribed directions. *Avtomatika* **1972**, *no.* 1, 37–44 (*Ukrainian*); *translated as Soviet omat. Control* **5** (1972), *no.* 1, 31–37. (Siegfried Schaible) **52** #12785 90C25

(*with* Zak, Ju. O.; Lenin, A. P.) A study of algorithms of random search in blems of the optimization of complex systems. (Russian) *Problems of random search, Russian), pp.* 131–149, 156, 221. *Izdat.* "*Zinatne*", *Riga*, 1973. (J. A. Müller) #14970 90C15

(*with* Zak, Ju. O.) Quasigradient methods of search in a set of prescribed directions. ssian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 4, 58–62. (A. I. Şchiop) **48** #10116 5K05

škov, A. V. Certain boundary value problems for a pseudoparabolic equation. ssian) *Differencial′nye Uravnenija* **13** (1977), *no.* 1, 90–99, 189. (Author's summary) #6704 (E **58** #17533) 35K15

Letter to the editors: "Certain boundary value problems for a pseudoparabolic ation" (Differencial′nye Uravnenija **13** (1977), no. 1, 90–99). (Russian) *ferencial′nye Uravnenija* **13** (1977), *no.* 10, 1904. (Editors) **58** #17533 35K99

šov, V. I. Boundary value problems for differential and integro-differential ations in domains with a degenerate contour. (Russian) *Partial differential equations oc. Sympos. dedicated to the 60th birthday of S. L. Sobolev*) (*Russian*), *pp.* 135–145. *lat.* "*Nauka*", *Moscow*, 1970. (Editors) **55** #10823 35G15 (45K05)

(*with* Rzaev, K. U.) Certain boundary value problems for differential and egro-differential equations. (Russian. Azerbaijani and English summaries) *Akad. uk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no.* 3, 7–11. (Stefan Balint) **47** #9210 K05 (35J60)

See also **Kudrjavcev, L. D.; et al., 52** #5309

tenja, S. G. The behavior of the solution of systems of two differential equations in neighborhood of an essential singularity. (Russian) *Differencial′nye Uravnenija* **7** 971), 747–749. (J. Rausen) **45** #2231 34A20

(*with* Prolisko, E. G.; Šved, T. I.) The solutions of differential equations with gular initial conditions. (Russian) *Differencial′nye Uravnenija* **8** (1972), 1396–1403. . Nehari) **46** #7609 34A20

The solutions of a certain differential system in a complex domain. (Russian) *fferencial′nye Uravnenija* **8** (1972), 1886–1888, 1914. (Z. Rubinstein) **47** #7097 A20

(*with* Prolisko, E. G.) The form and existence of the solutions of Liénard type uations with a movable algebraic singular point. (Russian) *Differencial′nye ravnenija* **9** (1973), 260–264, 394. (Z. Nehari) **48** #6512 34A20

Systems of two differential equations having no solutions with movable essential ngular points. (Russian) *Differencial′nye Uravnenija* **9** (1973), 1214–1221, 1356. (C. E. angenhop) **47** #8942 34A20

A general class of systems of two differential equations that have no solutions with ovable essential singularities. (Russian) *Differencial′nye Uravnenija* **9** (1973), 593–1600, 1739. (M. Bertolino) **49** #715 34C05

(*with* Jablonskiĭ, A. I.) Conditions for the existence of solutions with singular initial onditions of a nonlinear system of two differential equations. (Russian) *ifferencial′nye Uravnenija* **9** (1973), 1765–1773, 1923. (Vojislav Marić) **49** #5436 4A20

On the question of the existence and uniqueness of the solution of ordinary ifferential equations. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 4, 645–652, 72. (H. I. Freedman) **53** #11128 34A10

(*with* Linevič, V. G.) An application of the analytic theory of differential equations the determination of conditions for the single-valuedness of algebraic functions. Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 2, 364–366, 383. (E. Barvínek) **8** #6431 34A25 (30A06)

rat′ev, A. I. *See* **Linguistic questions of the design and the information analysis of utomated information systems, 56** #4286

rat′ev, A. S. Finite simple groups whose Sylow 2-subgroup is an extension of an belian group by a group of rank 1. (Russian) *Algebra i Logika* **14** (1975), *no.* 3, 88–303, 369. (M. Herzog) **55** #484 20D05

Finite nonprimary groups with complemented biprimary subgroups of even order. Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no.* 3, 44–52, 134 (1975). (Author's summary) **58** #880 20D15

A study of asymptotic expressions of the average duration of reliable performance. Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 2, 140–142. (Viorel Gh. Vodă) **57** #18003 62N05

Finite simple groups whose Sylow 2-subgroups have a cyclic commutator subgroup. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 1, 85–90, 238. (V. M. Busarkin) **53** #8229 20D05

Finite simple groups with Sylow 2-subgroups of order 2^7. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 4, 752–767, 959. (B. K. Durakov) **58** #5896 20D05

drat′ev, A. T. Certain transformations of general path spaces. Motions in generalized differential-geometric spaces. *Penz. Ped. Inst. Učen. Zap.* **124** (1971), 61–66. (E. Vamanu) **50** #1148 53B10

Groups of motions in special two-dimensional path spaces. (Russian) *Ukrain. Geometr. Sb. No.* 11 (1971), 47–52. (M. C. Chaki) **46** #8090 53B05

The normal affine connection and special motions in general path spaces. (Russian) *Volž. Mat. Sb. No.* 23 (1973), 42–47. (L. Tamássy) **52** #11777 53B40

Special motions in two-dimensional general spaces of paths. (Russian) *Rjazan. Gos. Ped. Inst. Učen. Zap.* **1974** *Dviženi. Obobščen. Prostranstv.*, 48–49. (Vladislav Goldberg) **58** #7464 53B40

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

drat′ev, I. G. Scattering of electromagnetic waves by smooth perfectly reflecting objects that lie in an evenly inhomogeneous medium. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 1, 118–133. (Author's summary) **58** #14380 78.35 (35P25)

(*with* Žarov, A. A.) Linear transformation of electromagnetic waves in inhomogeneous isotropic plasma layers. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 10, 1474–1478. (V. M. Babič) **57** #2180 78.34

(*with* Zaboronkova, T. M.) The propagation and excitation of electromagnetic modes in ionospheric waveguides. (Russian. English summary) Studies of the ionosphere (All-Union Conf. "Questions of Radiowave Propagation in the Ionosphere and in Space", Gorki, 1976). *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 12, 1895–1905. (Authors' summary) **58** #14385 78.35

Kondrat′ëv, Ju. G. (*with* Samoĭlenko, Ju. S.) Integral representation of generalized positive definite kernels of an infinite number of variables. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 4, 800–803. (Authors' review (RŽMat **1976** #8 B987)) **58** #17845 46G99

Positive definite functions on certain sequence spaces. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 1, 27–35, 141. (T. Neubrunn) **53** #6665 60B15 (28A40)

(*with* Berezans′kiĭ, Ju. M.; Gali, I. M.) Stone's theorem for the additive group of a Hilbert space. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 4, 68–69. (Ju. Šmul′jan (RŽMat **1978** #5 B653)) **58** #30489 47D10 (22D12)

Kondrat′ev, K. Ja. (*with* Smirnov, V. I.; Sretenskiĭ, L. N.; Tihonov, A. N.) Juriĭ Aleksandrovič Surinov (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 6(174), 231–232. (Editors) **52** #7806 01A70

Kondrat′ev, V. A. (*with* Èĭdel′man, S. D.; Pletn′ova, T. G.) Positive solutions of partial differential equations in a neighborhood of a smooth noncharacteristic hypersurface. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 279–282. (V. Barbu) **46** #2204 35D10

(*with* Pletn′ova, T. G.; Èĭdel′man, S. D.) Positive solutions of linear quasi-elliptic evolution equations. (Russian) *Mat. Sb.* (*N.S.*) **89(131)** (1972), 16–45, 165. (V. Barbu) **46** #9524 35J99

(*with* Ivannikov, Ju. G.) An estimate of the effectiveness of mass anti-epidemic measures. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 558–561. (K. Dietz) **47** #2740 62F25

(*with* Samovol, V. S.) The linearization of an autonomous system in the neighborhood of a singular point of "knot" type. (Russian) *Mat. Zametki* **14** (1973), 833–842. (E. Leimanis) **49** #3267 34C20

(*with* Èĭdel′man, S. D.) Biharmonic functions that are nonnegative in a half-strip. (Russian) *Mat. Zametki* **15** (1974), 121–128. (V. Barbu) **49** #835 35J40 (31A30)

(*with* Èĭdel′man, S. D.) Positive solutions of linear partial differential equations. (Russian) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ. *Trudy Moskov. Mat. Obšč.* **31** (1974), 85–146. (P. C. Fife) **51** #13427 35G05 (35J30)

The Cauchy problem with characteristic points on the initial surface. (Russian. English summary) Collection of articles dedicated to the memory of Ivan Georgievic Petrovskiĭ. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 1, 84–92. (Genowefa Majcher) **49** #7571 35A30

(*with* Bagirov, L. A.) Elliptic equations in R^n. (Russian) *Differencial′nye Uravnenija* **11** (1975), 498–504, 588. (Ja. A. Roĭtberg) **51** #13443 35J40

(*with* Èĭdel′man, S. D.) The summability of the positive solutions of partial differential equations of arbitrary order in a neighborhood of the characteristic manifold. (Russian) *Mat. Sb.* (*N.S.*) **99(141)** (1976), *no.* 4, 582–593. (D. K. Cohoon) **54** #10827 35G05

(*with* Kerimov, T. M.) The spectrum of a second order elliptic operator. (Russian) *Mat. Zametki* **20** (1976), *no.* 3, 351–358. (Jan Bochenek) **55** #6031 35P15 (35J25)

Singularities of the solution of the Dirichlet problem for a second order elliptic equation in the neighborhood of an edge. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 11, 2026–2032, 2109. (È. M. Saak) **58** #6668 35J25 (35C99)

(*with* Èĭdel′man, S. D.) Nonnegative solutions of overdetermined systems of partial differential equations. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 3, 513–516. (Wolfgang Tutschke) **57** #10265 35N10 (32A30)

(*with* Èĭdel′man, S. D.) The membership of the solutions of quasielliptic equations in the space L_p. (Russian) *Mat. Zametki* **21** (1977), *no.* 4, 519–524. (Z. Schuss) **57** #10215 35J30

(*with* Vaĭnberg, B. R.; Landis, E. M.; Oleĭnik, O. A.; Sobolev, S. L.) Samariĭ Aleksandrovič Gal′pern: an obituary. (Russian) *Uspehi Mat. Nauk* **33** (1978), *no.* 1(199), 195–197. (Editors) **58** #16046 01A70

See also **Taira, Kazuaki**, **55** #8544

Kondrat′ev, V. N. (*with* Gol′danskiĭ, V. I.; Zel′dovič, Ja. B.; Kožušner, M. A.; Lifšic, I. M.; Novožilov, B. V.; Semenov, N. N.; Sokolov, N. D.; Tal′roze, V. L.; Hariton, Ju. B.) Aleksandr Solomonovich Kompaneets (obituary). *Uspehi Fiz. Nauk* **114** (1974), *no.* 3-4, 687–688 (*Russian*); *translated as Soviet Physics Uspekhi* **17** (1975), *no.* 6, 965–966. (Editors) **51** #12464 01A70

Kondrat′ev, V. P. Some extremal properties of positive trigonometric polynomials. (Russian) *Mat. Zametki* **22** (1977), *no.* 3, 371–374. (András Sárközi) **58** #5547 10H05 (42A04)

Kondrat′ev, V. V. (*with* Mlinnik, A. P.) Optimization of the discrete control of multidimensional objects with lag. (Russian. English summary) Theory of oscillations, applied mathematics and cybernetics. *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), *no.* 11, 1658–1663. (Authors' summary) **56** #18006 93C55

(*with* Mlinnik, A. P.) Synthesis of an optimal discrete control system when there is a lag in the control. (Russian. English summary) Theory of oscillations, applied mathematics and cybernetics. *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), *no.* 11, 1664–1670. (Authors' summary) **57** #9205 93C30

(*with* Mlinnik, A. P.; Balabanov, A. A.) Controllability of multidimensional discrete systems with lag. (Russian) *Optimal control of discrete systems with lag* (*Rep. Sem. Cybernetics, No.* 55) (*Russian*), *pp.* 3–30, 42. *Izdat.* "*Štiinca*", *Kishinev*, 1973. (Stanislav K. Myškov) **49** #11360 49E15

(*with* Ivanov, A. P.) Synthesis of optimal discrete regulators with varying intervals of discreteness for multiply connected objects. (Russian) *Optimal control of discrete systems with lag* (*Rep. Sem. Cybernetics, No.* 55) (*Russian*), *pp.* 31–41, 42. *Izdat.* "*Štiinca*", *Kishinev*, 1973. (Stanislav K. Myškov) **49** #11353 49C99

(*with* Mlinnik, A. P.) Optimal discrete control of stochastic objects with lag.

(Russian) *Optimal control of stochastic objects* (*Rep. Sem. Cybernetics, No.* 60) (*Russian*), *pp.* 16–43, 44. *Izdat. "Štiinca", Kishinev*, 1973. (Bojan Popović) **48** #13406 93E10

(*with* Nuriev, F. S.; Šepkin, A. V.) An analysis of equilibrium situations in an active system for the load problem. (Russian) *Active systems, No.* 2 (*Russian*), *pp.* 63–72, 126. *Inst. Problem Upravlenija, Moscow*, 1974. (A. I. Subbotin) **57** #5019 90A15 (90D40)

(*with* Burkov, V. N.) Quasioptimality of open-handed control in resource allocation. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 3, *Paper No.* 41.5, 9 *pp. IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33216 93A99 (90B99)

(*with* Burkov, V. N.) Two-level active systems. I. Basic concepts and definitions. *Avtomat. i Telemeh.* **1977**, *no.* 6, 64–72 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977) *no.* 6, *part* 1, 827–834. (From the authors' text) **57** #9161 93A15

(*with* Burkov, V. N.) Two-level active systems. II. Analysis and synthesis of operating mechanisms. *Avtomat. i Telemeh.* **1977**, *no.* 7, 62–70 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 7, *part* 1, 997–1003. (Authors' summary) **57** #9162 93A15

(*with* Burkov, V. N.) On the centralization degree for functioning mechanism of two-level systems. (Russian summary) *Systems Sci.* **3** (1977), *no.* 3, 255–272. (Authors' summary) **58** #9447 93A10 (90B99)

Kondrat′eva, G. A. (*with* Klement′ev, A. F.) The regularization of an explicit difference scheme of increased accuracy for the multidimensional heat equation. (Russian) *Differencial′nye Uravnenija* **10** (1974), 355–357, 375. (T. Styś) **49** #6637 65N05

Kondratiev, V. V. *See* **Kondrat′ev, V. V.**

Kondratjuk, A. A. Entire functions with a finite maximal density of zeros. I, II. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 10 (1970), 57–70; *ibid. No.* 11 (1970), 35–40. (I. N. Baker) **45** #7052 30A66

(*with* Frīdman, O. N.) The lower indicator of an entire function of zero genus with positive zeros. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 106–109. (Peter Russev) **46** #3790 (EA **46**) 30A66

(*with* Frīdman, O. N.) The limit value of the lower indicator and estimates from below for entire functions with positive zeros. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 488–494, 573. (I. N. Baker) **46** #9347 (EA **46**) 30A64

Kondratyev, V. V. *See* **Kondrat′ev, V. V.**

Kondurar′, V. T. Periodic solutions of equations of the forward rotating motion of two spheroids with noncoinciding symmetry planes. (Russian) *Ivanov. Gos. Ped. Inst. Učen. Zap.* **31** (1963), *no. mat.*, 103–121. (K. Magnus) **47** #1344 70.34 (34C25, 85.34)

Differential equations of the problem of the motion of two mutually attracting solids in the gravitation field of a material point. (Russian) *Ivanov. Gos. Ped. Inst. Učen. Zap.* **44** (1969), *no. mat.*, 101–114. (K. Magnus) **47** #1345 70.34 (85.34)

(*with* Šinkarik, T. K.) Libration points in the restricted generalized three-body problem. (Russian. English summary) *Bjull. Inst. Teoret. Astronom.* **13**, *no.* 2(145), 102–110 (1972). (B. Garfinkel) **46** #10263 70.34

On Lagrange solutions in the problem of three rigid bodies. *Celestial Mech.* **10** (1974), 327–344. (E. Leimanis) **50** #11895 70.34

(*with* Osipov, G. F.) The equations of a general and a limit problem for three rigid bodies. (Russian) *Questions of mathematical physics and theory of oscillations, No.* 3 (*Russian*), *pp.* 125–131. *Ivanov. Ènerget. Inst., Ivanovo*, 1975. (Editors) **58** #19969 81.35

(*with* Troickaja, L. S.) The attraction of two rigid bodies. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 89–98, 139. (From the authors' text) **56** #17287 70.34

Konecny, Gottfried Die Bedeutung der Ausgleichsrechnung für Aufgaben der Photogrammetrie. Festschrift zur 200. Wiederkehr des Geburtstages von Carl Friedrich Gauss. *Abh. Braunschweig. Wiss. Gesellsch.* **27** (1977), 155–192. (Editors) **58** #15955 01A55 (01A60)

Konečný, Milan Remarks on periodic solvability of nonlinear ordinary differential equations. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 3, 547–562. (J. A. Marlin) **57** #10098 34C25 (34B15)

Konečný, Václav A recursive formula for the number of partitions of an integer N into m unequal integral parts. *Math. Mag.* **45** (1972), 91–94. (H. J. Kanold) **45** #5075 10A45

Koneru, Rao S. (*with* Lalli, B. S.) On convergence of iterations for fixed points of repulsive type. *Canad. Math. Bull.* **14** (1971), 353–357. (J. Hurt) **47** #4472 65Q05 (39A12)

Konetschny, W. Some consistency questions in the derivation of nucleon formfactors from pole dominance and Veneziano. *Acta Phys. Austriaca* **34** (1971), *no.* 1-2, 102–109. (εorge Leibbrandt) **54** #6723 81.30

Mass shell behaviour of quantum chromodynamics in the axial gauge. (Italian summary) *Nuovo Cimento A* (11) **44** (1978), *no.* 4, 465–480. (Author's summary) **58** #14508 81.22

Konev, V. V. (*with* Hazen, È. M.) Construction of Bayes estimates of the parameters of linear Markovian processes. *Avtomat. i Telemeh.* **1970**, *no.* 10, 35–46 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 10, 1564–1574. (Authors' summary) **46** #1008 62F15

Adaptive control of a linear stochastic system with independent parameters. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 1, 201–209 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 1, 181–188. (E. Parzen) **48** #13422 93E20

Optimal inclusion of standby elements. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 4, 77–83, 221 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 4, 56–62. (Ralph L. Disney) **53** #2336 90B25 (60K10)

Optimal program switch to standby elements. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 3, 109–117 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 3, 76–84. (Laurence L. George) **54** #9643 90B25 (60K10)

(*with* Dmitriev, Ju. G.) The error in the statistical estimation of multiple integrals using the ω^2-test. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1363–1373, 1625. (F. M. Pascal) **57** #7933 65C05

Kong, Antony K. (*with* Skeel, Robert D.) Blended linear multistep methods. *ACM Trans. Math. Software* **3** (1977), *no.* 4, 326–345. (R. Leonard Brown) **57** #1904 65L05

Kong, Jin Au Theorems of bianisotropic media. *Proc. IEEE* **60** (1972), 1036–1046. (I. M. Longman) **50** #9174 (E **50** #9175) 78.35

See also **Arnaud, J. A.; et al., 50** #9175

Kong, Luan *See* **Dictionary: Chinese-English, 56** #25 *and* **Dictionary: English-C**
56 #26

Kong, Maynard Euler classes of inner product modules. *J. Algebra* **49** (197
276–303. (J. Stasheff) **56** #15645 14F05 (57D20, 14F15, 13D15)

Kong, T. J. (*with* Feldman, William A.) Algebraically defined topologies for
spaces. *J. London Math. Soc.* (2) **13** (1976), *no.* 3, 557–563. (M. Schroder) **54**
54C40 (46E10)

do Kong Han′ *See* **Do Kong Han′**

buĭ Kong Kyong *See* **Buĭ Kong Kyong**

Konguetsof, Leonidas Sur les hypermonoïdes. *Bull. Soc. Math. Belg.* **25** (1973),
(V. A. Artamonov) **49** #451 20N99

Konheim, Alan G. (*with* Burge, William H.) An accessing model. *J. Assoc. Comp*
18 (1971), 400–404. (Z. Šidák) **45** #1426 68A50 (60J10)

(*with* Meister, Bernd) Service in a loop system. *J. Assoc. Comput. Mach.* 1
92–108. (A. Bensoussan) **47** #3091 94A05 (60K25)

(*with* Meister, Bernd) Waiting lines in multiple loop systems. *J. Math. A*
39 (1972), 527–540. (M. L. Chaudhry) **46** #8326 60K25

A note on merging. *SIAM J. Comput.* **1** (1972), *no.* 2, 161–166. (Author's s
46 #2932 68A50

(*with* Newman, Donald J.) A note on growing binary trees. *Discrete*
(1973), 57–63. (Authors' summary) **47** #1650 05C05 (68A10)

(*with* Meister, Bernd) Distributions of queue lengths and waiting times i
with two-way traffic. *J. Comput. System Sci.* **7** (1973), 506–521. (S. Ekberg) **4**
60K30 (68A55)

(*with* Katz, Steven) Priority disciplines in a loop system. *J. Assoc. Compu*
21 (1974), 340–349. (F. Weinberg) **49** #9985 60K30

(*with* Meister, Bernd) Waiting lines and times in a system with polling.
Comput. Mach. **21** (1974), 470–490. (George Marsaglia) **56** #13399 60K30

An elementary solution of the queuing system $G/G/1$. *SIAM J. Comput.*
no. 4, 540–545. (U. Narayan Bhat) **52** #9408 60K25

(*with* Reiser, Martin) A queueing model with finite waiting room and bloc
Assoc. Comput. Mach. **23** (1976), *no.* 2, 328–341. (M. A. Faĭnberg) **53** #6787

(*with* Kobayashi, Hisashi) Queueing models for computer communication
analysis. Special issue on computer communications. *IEEE Trans. Comm.*
(1977), *no.* 1, 2–29. (Stuart Schwartz) **56** #3969 60K25 (94A05)

(*with* Gavish, Bezalel) Computer communication via satellites—a queueing
Special issue on computer communications. *IEEE Trans. Comm.* **COM-25** (197
140–147. (Stuart Schwartz) **56** #3968 60K25 (94A05, 90B15)

(*with* Blake, Ian F.) Big buckets are (are not) better! *J. Assoc. Comput.*
(1977), *no.* 4, 591–606. (Clement T. Yu) **57** #2003 68A50

(*with* Schweitzer, Paul J.) Buffer overflow calculations using an infinite-
model. *Stochastic Processes Appl.* **6** (1977/78), *no.* 3, 267–276. (Burton Simon)
58 #24617 60K30 (60K25)

(*with* Reiser, Martin) Finite capacity queuing systems with applications in c
modeling. *SIAM J. Comput.* **7** (1978), *no.* 2, 210–229. (Adam Wolisz) **58**
60K25 (68A99)

Konieczny, S. (*with* Woźniak, Czesław) Lattice-type structures as the problem of
elasticity. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971),
(M. Mişicu) **48** #5475 73.53

König, Dieter (*with* Jansen, Uwe) Eine Invarianzeigenschaft zufälliger Bedienungs
mit positiven Geschwindigkeiten. Collection of articles dedicated to the me
Wolfgang Richter. *Math. Nachr.* **70** (1975), 321–364. (Brian Conolly) **55** #
60K25

(*with* Schmidt, V.) Zufällige Punktprozesse in der Geophysik. (English su
Numerische Methoden in der Geophysik (*Zweites Sympos., Tharandt*, 1975), *pp.*
Geofyzikální Ústav Česk. Akad. Věd, Prague, 1976. (G. Paria) **56** #7481 76.

(*with* Jansen, Uwe) Invariante stationäre Zustandswahrscheinlichkeiten
Klasse stochastischer Modelle mit funktionellen Abhängigkeiten. (English and
summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 4, 497–522. (Brian
55 #4426b 60K25

(*with* Jansen, Uwe; Kotzurek, Matthias; Rabe, H.) Ergebnisse von
Invarianzuntersuchungen für ausgewählte Bedienungs- und Zuverlässigkeitss
Math. Operationsforsch. Statist. **7** (1976), *no.* 4, 523–556. (Jos H. A. de Smit) **55**
60K25

(*with* Schmidt, V.; Stoyan, Dietrich) On some relations between stationary
distributions of queue lengths and imbedded queue lengths in $G/G/s$ queueing s
(German and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976).
577–586. (Stig I. Rosenlund) **54** #11560 60K25

(*with* Schmidt, V.) Bedienungsmodelle mit stochastischen Abhängigkeiten. (
and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 4, 607–63
Franken) **55** #6610 60K25

Random point processes and examples of their applications. (Russian)
International Summer School on Probability Theory and Mathematical Statistics
Acad. Sci., Varna, 1976), *pp.* 87–112. *Izdat. B″lgar. Akad. Nauk., Sofia*, 1977.
Ambarcumjan) **58** #13340 60G55 (60K25)

(*with* Jansen, Uwe) Stochastic processes and properties of invariance for q
systems with speeds and temporary interruptions. *Transactions of the Seventh*
Conference on Information Theory, Statistical Decision Functions, Random Proces
of the Eighth European Meeting of Statisticians (*Tech. Univ. Prague, Prague*, 197
A, *pp.* 335–343. *Reidel, Dordrecht*, 1977. (Richard F. Serfozo) **58** #7913 60K

See also **Gnedenko, B. V.; et al., 55** #4424

König, E. (*with* Kremer, S.) Symmetric form of coupling coefficients for single and
point groups and the application of time-reversal symmetry. *Z. Naturforsch.* **29a**
1179–1187. (Carl Wulfman) **54** #12010 81.22

See also **Proceedings: International Colloquium on Group Theoretical Met**
Physics, 48 #10342

König, Gert *See* **Wissenschaftstheorie**, (Not reviewed) *and* **Wissenschaftstheorie, 53** #2579

König, Heinz Sublineare Funktionale. *Papers from the "Open House for Functional Analysts"* (*Aarhus Univ., Aarhus*, 1972), *Paper No.* 10, 10 *pp. Various Publication*

. 23, *Mat. Inst., Aarhus Univ., Aarhus*, 1972. (N. Adasch) **57** #17209 46A99 B99)

Sublineare Funktionale. *Arch. Math.* (*Basel*) **23** (1972), 500–508. (N. Adasch) #3511 46B99

(*with* Barbey, Klaus) Ein Grenzwertsatz für annullierende Maße. *Arch. Math.* ısel) **23** (1972), 509–512. (R. B. Burckel) **47** #2373 46J15 (30A98)

★Arbeiten zur abstrakten Theorie der analytischen Funktionen. *Universität des* ırlandes, *Saarbrücken*, 1975. 164 *pp*. (*not consecutively paged*) (Editors) **53** #8906 J15 (30A78)

Eine Grobformel für Studienplatzkapazitäten. *Siebente Oberwolfach-Tagung über erations Research* (1974), *pp*. 155–176. *Operations Research Verfahren, Band XXI,* ıin, *Meisenheim am Glan*, 1975. (Knut Richter) **55** #2117 90B99

Ein funktionalanalytischer Beweis des Approximationssatzes von Walsh. Collection articles dedicated to Helmut Hasse on his seventy-fifth birthday, III. *J. Reine Angew.* ıth. **274/275** (1975), 158–163. (Tord H. Ganelius) **51** #10643 30A82

(*with* Barbey, Klaus) ★Abstract analytic function theory and Hardy algebras. cture Notes in Mathematics, Vol. 593. *Springer-Verlag, Berlin-New York*, 1977. +260 *pp*. (T. W. Gamelin) **56** #1071 46J15 (30A98)

Abstract Hardy algebra theory. *Functional analysis: surveys and recent results* (*Proc.* nf., *Paderborn*, 1976), *pp*. 227–246. *North-Holland Math. Studies, Vol.* 27; *Notas de* at., *No.* 63, *North-Holland, Amsterdam*, 1977. (T. W. Gamelin) **58** #2305 46J15

A functional calculus for Hermitian elements of complex Banach algebras. *Arch.* ath. (*Basel*) **28** (1977), *no*. 4, 422–430. (A. M. Sinclair) **57** #3856 46H05

See also **Summer School: Topological Algebra Theory**, **49** #11188

Hermann Grenzordnungen von Operatorenidealen. I, II. *Math. Ann.* **212** 974/75), 51–64; *ibid.* **212** (1974/75), 65–77. (A. Pietsch) **50** #10850 46L20 6E35, 47B10)

Zur Spektraltheorie in lokalkonvexen Algebren. *Math. Nachr.* **59** (1974), 279–291. . Arens) **49** #3542 46H05

Diagonal and convolution operators as elements of operator ideals. *Math. Ann.* **218** 975), *no*. 2, 97–106. (D. J. H. Garling) **52** #8987 47B10 (46L20)

Operator properties of Sobolev imbeddings over unbounded domains. *J. Functional* nalysis **24** (1977), *no*. 1, 32–51. (H. Triebel) **56** #12869 46E35

Approximation numbers of Sobolev imbeddings over unbounded domains. *J.* unct. *Anal.* **29** (1978), *no*. 1, 74–87. (D. Pascali) **58** #17817 46E35

Interpolation of operator ideals with an application to eigenvalue distribution roblems. *Math. Ann.* **233** (1978), *no*. 1, 35–48. (A. Pietsch) **58** #2342 46L20 6M35, 47A70)

J. A. *See* **Topics in applied continuum mechanics**, **49** #8465 *and* **Sewell, M. J.,** 7 #11242

Karl *See* **Anwendung der Mathematik bei ökonomischen Untersuchungen,** 8 #10434

Manfred Bemerkung zum Maximumprinzip für den Gradienten einer elliptischen)ifferentialgleichung mit nichtkonstanten Koeffizienten. *Arch. Rational Mech. Anal.* **63** 1976), *no*. 1, 87–88. (E. Schechter) **55** #3520 35J15

Zur Abschätzung der Lösung des Dirichletschen Aussenraumproblems für die chwingungsgleichung. *Math. Z.* **158** (1978), *no*. 2, 171–178. (Rolf Leis) **57** #13182 5J65

r-König, Werner *See* **Meyer-König, Werner**

gsberger, Konrad Ein Satz über die q-Vollständigkeit lokal trivialer Faserungen. *ayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1969**, *part II*, 31–37 (1970). (W. Barth) 6 #9391 32E10

Über die Darstellbarkeit gewisser Überlagerungen eines Faserbündels als aserbündel. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1970**, *part II*, 59–65 (1971). (C. . Allendoerfer) **46** #2676 55F10

Komplexe Faserräume mit 1-dimensionalen Fasern. *Math. Ann.* **197** (1972), 19–321. (S. Hitotumatu) **46** #5670 32E10 (32L05)

Automorphiesummanden und Cousin-I-Probleme auf Faserräumen. (English ummary) *Manuscripta Math.* **8** (1973), 93–109. (F. Hirzebruch) **50** #10334 32N05

gshofer, F. Das modifizierte Ergänzungsverfahren zur Invertierung von Matrizen. English summary) *Computing* (*Arch. Elektron. Rechnen*) **8** (1971), 221–240. (W. Niethammer) **45** #4618 65F05

jn, H. S. On modified schemes of systematic sampling with several random starts. *omm. Statist.* **1** (1973), 133–148. (P. W. Mielke, Jr.) **48** #3148 62D05

Confidence intervals for ratio estimators. *Progress in statistics* (*European Meeting Statisticians, Budapest*, 1972), *pp*. 407–412. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, 1974. (Editors) **51** #2065 62D05

See also **Proceedings: Prague Symposium on Asymptotic Statistics**, **51** #2036; **Kish, Leslie; et al.**, **51** #2064 *and* **Newbold, Paul; et al.**, **56** #9865

ijnendijk, H. H. U. (*with* van Leeuwen, J. M. J.) Kinetic equation for hard-sphere correlation functions. *Physica* **64** (1973), 342–362. (M. Drăganu) **51** #14831 82.45

★Short time behaviour of density correlation functions. With a Dutch summary. Doctoral dissertation, Delft Technical University. *Technische Hogeschool Delft, Delft*, 1977. 167 *pp*. (Author's summary) **56** #10703 82.62

ikowska, B. Continuous machines, τ-computations and τ-computable sets. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 525–530. (P. C. Gilmore) **46** #1133a 68A25

On some properties of continuous machines. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 531–538. (P. C. Gilmore) **46** #1133b 68A25

Absolutely computable sets. (Russian summary) *Bull. Acad. Polon: Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 1053–1059. (Hale F. Trotter) **50** #10166 26A09

Approximation properties of continuous machines. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 879–886. (P. C. Gilmore) **47** #2863 68A25

Formalization of the notion of an analog computer described by a linear differential equation with constant coefficients. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 1015–1020. (P. C. Gilmore) **47** #2864 68A25

Formalization of the notion of an analog computer described by a linear differential equation with continuous coefficients. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 79–85. (P. C. Gilmore) **47** #9917 68A55

Continuous machines. *Information and Control* **22** (1973), 353–372. (P. C. Gilmore) **49** #1824 68A10

de Koninck, Jean-Marie *See* **De Koninck, Jean-Marie**

van Koningsveld, P. S. (*with* Busard, H. L. L.) Der *Liber de arcubus similibus* des Ahmed ibn Jusuf. (English summary) *Ann. of Sci.* **30** (1973), 381–406. (B. Rozenfel'd) **58** #15836 01A30

Konishi, Hiroo (*with* Nishimura, Masataro; Kitamura, Shinzo) On zero cancellations of decoupling systems. (Japanese. English summary) *Systems and Control* **16** (1972), 576--580. (Authors' summary) **47** #1494 93B15

Konishi, K. (*with* Ukawa, Akira; Veneziano, G.) A simple algorithm for QCD jets. *Phys. Lett. B* **78** (1978), *no*. 2-3, 243–248. (Authors' summary) **58** #25446 81.00

Konishi, Mariko (*with* Yano, Kentaro) Notes on almost isometries. *Kōdai Math. Sem. Rep.* **23** (1971), 238–247. (S. Takizawa) **45** #1092 53C45

(*with* Ishihara, Shigeru) Fibred Riemannian spaces with Sasakian 3-structure. *Differential geometry* (*in honor of Kentaro Yano*), *pp*. 179–194. *Kinokuniya, Tokyo*, 1972. (A. Verona) **48** #4964 53C25

(*with* Ishihara, Shigeru) On f-three-structures. *Hokkaido Math. J.* **1** (1972), 127–135. (C.-C. Hsiung) **48** #7155 53C10

On a piece of surface in a fibred space. *Kōdai Math. Sem. Rep.* **24** (1972), 176–194. (Y. Katsurada) **46** #4441 53C40

(*with* Ishihara, Shigeru) ★Differential geometry of fibred spaces. Publications of the Study Group of Geometry, Vol. 8. *Kyoto University, Kyoto*, 1973. v+200 *pp*. (Raymond Couty) **53** #9069 53C05

(*with* Ishihara, Shigeru) Fibred Riemannian space with triple of Killing vectors. *Kōdai Math. Sem. Rep.* **25** (1973), 175–189. (J. R. Vanstone) **47** #5783 53C25

Note on regular K-contact 3-structures. *Natur. Sci. Rep. Ochanomizu Univ.* **24** (1973), 1–5. (C. S. Houh) **52** #4171 53C15

(*with* Yano, Kentaro; Ishihara, Shigeru) Normality of almost contact 3-structure. Collection of articles dedicated to Shigeo Sasaki on his sixtieth birthday. *Tôhoku Math. J.* (2) **25** (1973), 167–175. (G. D. Ludden) **49** #1417 53C15

On manifolds with Sasakian 3-structure over quaternion Kaehler manifolds. *Kōdai Math. Sem. Rep.* **26** (1974/75), 194–200. (Y. Mutô) **51** #13951 53C55

On Jacobi fields in quaternion Kaehler manifolds with constant Q-sectional curvature. *Hokkaido Math. J.* **4** (1975), *no*. 2, 169–178. (Y. Mutô) **51** #13952 53C55

(*with* Funabashi, Shōichi) On Riemannian manifolds with Sasakian 3-structure of constant horizontal sectional curvature. *Kōdai Math. Sem. Rep.* **27** (1976), *no*. 3, 362--366. (Bill Watson) **53** #9075 53C15

Konishi, Reiko (*with* Tabata, Akihisa) Some convergences on the Mikusinski operator field. *Comment. Math. Univ. St. Paul.* **23** (1974/75), *no*. 2, 135–137. (D. Myers) **51** #6304 44A40 (54A20)

Konishi, Sadanori Asymptotic expansion for the distribution of a function of latent roots of the covariance matrix. *Ann. Inst. Statist. Math.* **29** (1977), *no*. 3, 389–396. (A. W. Davis) **57** #7868 62H10 (62E20)

Konishi, Yoshio Cosine functins of operators in locally convex spaces. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **18** (1971/72), 443–463. (R. Showalter) **48** #2831 47D05 (34G05)

Some examples of nonlinear semi-groups in Banach lattices. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **18** (1971/72), 537–543. (G. F. Webb) **48** #965 47H05 (34G05)

Nonlinear semi-groups in Banach lattices. *Proc. Japan Acad.* **47** (1971), 24–28. (T. T. Long) **45** #963 47H99 (47D05)

A remark on perturbation of m-accretive operators in Banach space. *Proc. Japan Acad.* **47** (1971), 452–455. (Bruce D. Calvert) **47** #7540 47H99 (47A55)

A remark on semi-groups of local Lipschitzians in Banach space. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 970–973. (G. Da Prato) **47** #7516 47D05 (47H99)

Une méthode de résolution d'une équation d'évolution non linéaire dégénérée. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **19** (1972), 243–255. (C. Bardos) **47** #7228 35K55

Sur un système dégénéré des équations paraboliques semi-linéaires avec les conditions aux limites non linéaires. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **19** (1972), 353–361. (G. C. Barozzi) **48** #2574 35K55

On the uniform convergence of a finite difference scheme for a nonlinear heat equation. *Proc. Japan Acad.* **48** (1972), 62–66. (T. I. Seidman) **47** #1304 65N10

Une remarque sur la perturbation d'opérateurs m-accrétifs dans un espace de Banach. *Proc. Japan Acad.* **48** (1972), 157–160. (H. Amann) **47** #883 47D05

Sur la compacité des semi-groupes non linéaires dans les espaces de Hilbert. *Proc. Japan Acad.* **48** (1972), 278--280. (P. M. Fitzpatrick) **47** #2443 47H05 (47D05)

On $u_t = u_{xx} - F(u_x)$ and the differentiability of the nonlinear semi-group associated with it. *Proc. Japan Acad.* **48** (1972), 281–286. (G. F. Webb) **48** #695 35G30 (35R20, 46F05)

On the nonlinear semi-groups associated with $u_t = \Delta\beta(u)$ and $\varphi(u_t) = \Delta u$. *J. Math. Soc. Japan* **25** (1973), 622–628. (J. W. Neuberger) **48** #4861 47H15

A remark on fluid flows through porous media. *Proc. Japan Acad.* **49** (1973), 20–24. (J. Vaillant) **48** #11787 35K15 (47H99)

Semi-linear Poisson's equations. *Proc. Japan Acad.* **49** (1973), 100–105. (P. R. Chernoff) **48** #9468 47H05

Compacité des résolvantes des opérateurs maximaux cycliquement monotones. *Proc. Japan Acad.* **49** (1973), 303–305. (V. Barbu) **49** #11325 47H05

Note on potential operators on L^p. *Proc. Japan Acad.* **49** (1973), 486--491. (A. Pazy) **49** #9680 47D05 (60J45)

Une remarque sur les classes d'interpolation de D. Brézis. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aii, A1361–A1363. (Angelo Favini) **51** #11204 47H05

(*with* Attouch, Hédy) Convergence d'opérateurs maximaux monotones et inéquations variationnelles. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no*. 9, Ai, A467–A469. (Authors' summary) **55** #3882 47H05

Une remarque sur des problèmes de perturbations singulières et d'évolution. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no*. 15, Ai, A775–A777.

(Jean Genet) **54** #3138 35B25 (47H15)

Convergence des solutions d'équations elliptiques semi-linéaires dans L^1. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 7, Aiii, A489–A490. (Tapas Mazumdar) **55** #854 35J60

Konisi, Gaku (*with* Saito, Takesi) Eigenchannels and unitary separation of background parts in Regge-pole theory. *Progr. Theoret. Phys.* **44** (1970), 230–242. (P. Achuthan) **46** #1232 81.30

(*with* Saito, Takesi) Operator formalism of the dual resonance model with different trajectories. *Progr. Theoret. Phys.* **46** (1971), 1501–1515. (George Zipfel, Jr.) **46** #8589 81.47

(*with* Saito, Takesi) Physical states satisfying supergauge conditions in dual resonance models. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 184–186. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (From the introduction) **58** #32587 81.47

(*with* Miyata, Hidenori; Saito, Takesi; Shigemoto, Kazuyasu) Collective excitations in local-gauge invariant superconductivity models. *Progr. Theoret. Phys.* **57** (1977), *no.* 6, 2116–2126. (J. E. Lowther) **58** #8946 81.49

Konitz, Herbert A geometric aspect of Hubble's phenomenon. *Found. Phys.* **5** (1975), *no.* 1, 185–191. (Author's summary) **58** #4174 83.53

Koniver, Deena A. (*with* Slagle, James R.) Finding resolution proofs and using duplicate goals in AND/OR trees. *Information Sci.* **3** (1971), 315–342. (G. E. Minc) **46** #2928 68A40

Konjaev, Ju. A. The regularization method as applied to nonlinear singularly perturbed problems. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 260 (1975), 106–113. (V. A. Plotnikov) **58** #11726 34E15

Konjaev, K. V. ★Спектральный анализ случайных процессов и полей. (Russian) [Spectral analysis of random processes and fields] *Izdat. "Nauka", Moscow*, 1973. 168 *pp.* (*errata insert*) (Not reviewed) 62M15

Konjaev, S. I. (*with* Smirnov, Ju. N.) Stability of a solution of Whittaker's equation. *Dokl. Akad. Nauk SSSR* **200** (1971), 1048–1050 (*Russian*); *translated as Soviet Physics Dokl.* **16** (1971/72), 846–848. **55** #900 35Q99

9-th order quadrature formulas that are invariant with respect to the icosahedral group. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 5, 784–787. (Gheorghe Coman) **56** #7125 65D30

Konjaeva, M. *See* **Kalandija, A. I., 53** #4676

Konjagin, S. V. Lattice points on strictly convex closed curves. (Russian) *Mat. Zametki* **21** (1977), *no.* 6, 799–805. (Ekkehard Krätzel) **57** #239 10E05

Approximation properties of arbitrary sets in Banach spaces. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 2, 261–264. (P. S. Kenderov) **58** #12149 41A65 (46B99)

Konjuh, V. S. The maximal solvable subgroups of real orthogonal and unitary groups. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 5, 5–12. (O. H. Kegel) **46** #5476 20H20

Imprimitive linear groups. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 5, 5–9, 135. (J. L. Brenner) **53** #13427 20G15

On the theory of solvable linear groups. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 1, 5–13, 136. (O. H. Kegel) **51** #10472 20E15 (20G15)

Solvable linear groups. I. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 5, 17–24, 137. (E. M. Levič) **57** #12710 20G15

On the theory of solvable linear groups. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 5, 102–103, 141. (Ju. V. Sosnovskiī) **58** #11164 20H20

(*with* Zalesskiī, A. E.; Platonov, V. P.) Dmitriī Alekseevič Suprunenko (on the occasion of his sixtieth birthday). (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 5, 131–132. (Editors) **52** #30 01A70

(*with* Zalesskiī, A. E.) Sylow π-subgroups of the classical groups. (Russian) *Mat. Sb.* (*N.S.*) **101(143)** (1976), *no.* 2, 231–251. (V. A. Čurkin) **54** #12893 20D20

Solvable linear groups. II. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 5, 5–13, 139. (RŽMat **1977** #2 A265) **58** #22323 20G15

Metabelian subgroups of the general linear group over an arbitrary field. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 5, 389–392, 475. (J. L. Brenner) **58** #11156 20G15

Konjuhova, N. B. The determination of stable manifolds for certain nonlinear systems of ordinary differential equations with a singularity. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 609–626, 811. (G. S. Ladde) **48** #6570 34D05

The iterative solution of nonlinear boundary value problems that separate small solutions of certain systems of ordinary differential equations with a singularity. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1221–1231, 1365. (G. S. Ladde) **51** #6020 34B15 (65L10)

(*with* Birger, E. S.; Vaĭnšteĭn, L. A.) Diffraction of a wave bundle by a plasma cylinder. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 6, 1526–1538, 1628. (D. K. Cohoon) **58** #32412 78.65

(*with* Abramov, A. A.; Birger, E. S.; Ul′janova, V. I.) Numerical segregation of the bounded solutions for systems of ordinary differential equations. *Differential equations* (*Colloq., Keszthely*, 1974), *pp.* 17–26. *Colloq. Math. Soc. János Bolyai, Vol.* 15, *North-Holland, Amsterdam*, 1977. (J. R. Cannon) **57** #14455 65L05

Konjuhovskiĭ, V. S. (*with* Geĭsberg, S. P.) The primary ideals in a ring of functions integrable with weight. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No.* 253 (1970), 134–144. (V. Istrăţescu) **45** #9146 46J10

(*with* Geĭsberg, S. P.) Description of certain systems of primary ideals in rings of functions that are integrable with weight. (Russian) Questions of modern mathematics and methods of teaching it at institutions of higher learning. *Leningrad. Gos. Ped. Inst. Učen. Zap.* **404** (1971), 349–361. (Editors) **55** #11050 46J10 (43A15)

The completeness of translations of functions of two variables in certain weight spaces. (Russian) Questions of modern mathematics and methods ofteaching it at institutions of higher learning. *Leningrad. Gos. Ped. Inst. Učen. Zap.* **404** (1971), 397–405. (From the author's introduction) **55** #11051 46J10 (46E30)

Distribution of the roots of quasianalytic functions. (Russian) *Mat. Zametki* **16** (1974), 3–14. (L. I. Ronkin) **51** #836 26A93

Konjuhovskiĭ, V. V. ★Критерии согласия, однородности и независимости. (Russian) [Tests for goodness-of-fit, homogeneity and independence] **Вычислительный Центр** Московского Государственного Университета. Серия: Статистика и Стохастические Системы, Вып. 11. [Computing Center of Moscow State University. Statis Stochastic Systems Series, No. 11] *Izdat. Moskov. Univ., Moscow*, 1970. 141 *pp.* **55** #1606 62G10

Asymptotic behavior of the moments of the number of renewals. (Russia *Voprosy Upravlen. Proizvodstvom Vyp.* 2 (1970), 184–198. (RŽMat **1971** **58** #18762 60K05

Certain metric properties of Engel's representation. (Russian) *Mat. Sb* **89(131)** (1972), 248–263, 350. (J. Galambos) **48** #6047 10K10 (10K15)

A test of irrationality for a certain class of arithmetical representation numbers. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat.* (1973), *no.* 1, 33–38. (S. V. Kotov) **51** #374 10F35

An analogue of Kuz′min's theorem for the Lüroth representation. (Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 3, 41 Schweiger) **49** #8953 10K10

Konjus, A. A. *See* **Dictionary: Cybernetics, 51** #7767 *and* **Birthday: Konjus, A. A. 54** #12459

Konjušihina, T. N. Decomposition of the Kronecker product of two representatio fundamental series of the special group of second order matrices over the qu field. (Russian) *Dokl. Akad. Nauk SSSR* **201** (1971), 266–269. (Robert S. **45** #3636 20G05

Tensor product of two principal series representations of a group of ma order two over the division ring quaternions. (Russian) *Trudy Sem. Vektor. Anal.* **16** (1972), 350–373. (H. Moscovici) **49** #468 22E45

The supplementary series of representations of the group of second order over the field of quaternions. (Russian) *Functional analysis, No.* 9: *Harmonic an groups* (*Russian*), *pp.* 93–101. *Ul′janovsk. Gos. Ped. Inst., U′lyanovsk*, 1977. **58** #28292 22E45

Konjuškov, V. M. Solution of the Cauchy problem for hyperbolic equations and sy hyperbolic equations by the simplified Čaplygin method. (Russian) *Works scientists: mathematics and mechanics, No.* 2 (*Russian*), *pp.* 47–52. *Izdat. Sarato Saratov*, 1969. (I. Šelihova (RŽMat **1972** #6 B884)) **50** #11794 65M25

Konkol, Krystian Generation of complete trees. (Polish. Russian and English sum *Arch. Elektrotech.* (*Warsaw*) **22** (1973), 843–860. (B. Zelinka) **48** #10685 9

Kon′kova, T. Ja. (*with* Kublanovskaja, V. N.; Savinova, L. T.) On the soluti nonlinear spectral problem for a matrix. (Russian) Numerical methods and a programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LC* (1976), 54–66, 160. (A. S. Householder) **57** #7973 65F15

(*with* Kublanovskaja, V. N.) Two-sided approximations in the *LR* algorithm (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **5** 67–71, 160. (From the authors' text) **58** #3361 65F15 (65–04)

(*with* Kublanovskaja, V. N.) Solution of the eigenvalue problem for a regul $\lambda A_0 - A_i$ with singular matrices. (Russian) Numerical methods and quest organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst.* (*LOMI*) **70** (1977), 103–123, 291. (Authors' summary) **58** #24884 65F15

See also **Numerical methods and automatic programming, 48** #7522 *and* T **languages and methods of construction of programming systems, 48** #7682

Konno, Hiroshi Three recent topics in mathematical programming—large scale linear complementarity problem and nonconvex quadratic programming probler (Japanese) *Keiei-Kagaku* **16** (1972), 187–203. (Author's summary) **47** #6301

A cutting plane algorithm for solving bilinear programs. *Math. Program* (1976), *no.* 1, 14–27. (V. F. Dem′janov) **55** #14191 90C05

Maximization of a convex quadratic function under linear constraints. *Programming* **11** (1976), *no.* 2, 117–127. (Jacques Dubois) **56** #7985 90C20

Konno, Kimiaki (*with* Sanuki, Heiji) Bäcklund transformation for equation of m nonlinear lattice under weak dislocation potential. *J. Phys. Soc. Japan* **39** (197 22–24. (Authors' summary) **54** #6806 82.35

(*with* Wadati, Miki; Sanuki, Heiji) Relationships among inverse method, B transformation and an infinite number of conservation laws. *Progr. Theoret.* (1975), 419–436. (J. Smoller) **51** #7516 81.35

(*with* Wadati, Miki) Simple derivation of Bäcklund transformation from form of inverse method. *Progr. Theoret. Phys.* **53** (1975), *no.* 6, 1652–1656. (summary) **51** #12179 81.35

(*with* Ichikawa, Yoshi-Hiko; Mitsuhashi, Teruo) Contribution of higher ord terms in the reductive perturbation theory. I. A case of weakly dispersive wave. *Soc. Japan* **41** (1976), *no.* 4, 1382–1386. (Alan Jeffrey) **54** #9328 76.41 (76.

(*with* Wadati, Miki; Sanuki, Heiji; Ichikawa, Yoshi-Hiko) Circular polarize nonlinear Alfvén waves—a new type of nonlinear evolution equation in plasma p Conference on the Theory and Application of Solitons (Tucson, Ariz., 1976) *Mountain J. Math.* **8** (1978), *no.* 1-2, 323–331. (T. Kahan) **58** #14796 82.35

Konno, Reiji Non-existence of positive eigenvalues of Schrödinger operators in domains. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **19** (1972), 393–402. (T **49** #822 35J10 (35D99, 47F05)

Konno, Yasuko On vanishing theorems of square-integrable $\bar{\partial}$-cohomology sp homogeneous Kähler manifolds. *Osaka J. Math.* **9** (1972), 183–216. (A. Aeppli) **46** #2614 53C55 (22E45, 32L10)

Konnully, Augustine O. Simplexes self-polar for a simplex. *J. Austral. Math.* (1971), 309–314. (S. R. Mandan) **46** #2541 50D20

Quadrics associated with a simplex in n-space. *J. Austral. Math. Soc.* **12** 461–465. (E. Morgantini) **45** #5853 50B10

A theorem on perspective simplexes. *Rend. Mat.* (6) **4** (1971), 769–771 (K.-A. Schmitt) **47** #9414 50D20

Polar reciprocal simplexes. (Italian summary) *Atti Accad. Naz. Lincei Rend. Fis. Mat. Natur.* (8) **52** (1972), 162–165. (J. F. Rigby) **48** #12263 50D25

Perspective simplexes and Tucker quadrics. *J. Austral. Math. Soc.* **14** 508–510. (H. W. Guggenheimer) **47** #946 50B10

An incidence relationship of hyperspheres in E_n. (Italian summary) *Atti Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), *no.* 4, 504–511. (S. R. M **53** #6405 50B20 (14N99)

Kono, Akira (*with* Mimura, Mamoru) On the cohomology of the classifying sp PSU($4n+2$) and PO($4n+2$). *Publ. Res. Inst. Math. Sci.* **10** (1974/75), *no.* 3, 6

. F. Adams) **51** #9103 57F35 (55F40)

(*with* Mimura, Mamoru; Shimada, Nobuo) Cohomology of classifying spaces of ertain associative H-spaces. *J. Math. Kyoto Univ.* **15** (1975), *no.* 3, 607–617. (R. K. ashof) **52** #9262 57F15 (53C30)

On cohomology mod 2 of the classifying spaces of non-simply connected classical ie groups. *J. Math. Soc. Japan* **27** (1975), 281–288. (H. Scheerer) **54** #6142 55F40 57F10)

(*with* Mimura, Mamoru) Cohomology mod 2 of the classifying space of th compact onnected Lie group of type E_6. *J. Pure Appl. Algebra* **6** (1975), 61–81. (J. F. Adams) 1 #4244 55F40 (57F10, 57F35)

(*with* Mimura, Mamoru) Cohomology mod 2 of the classifying space of Sp($4n+2$). *Publ. Res. Inst. Math. Sci.* **11** (1975/76), *no.* 2, 535–550. (J. F. Adams) 6 #6658 55F40 (55H20)

(*with* Mimura, Mamoru; Shimada, Nobuo) On the cohomology mod 2 of the lassifying space of the 1 connected exceptional Lie group E_7. *J. Pure Appl. Algebra* **8** 1976), *no.* 3, 267–283. (S. Gitler) **54** #3732 57F10 (55H20)

(*with* Ishitoya, Kiminao; Toda, Hirosi) Hopf algebra structure of mod 2 ohomology of simple Lie groups. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 1, 141–167. (J. F. Adams) **54** #3731 57F10

On the 2-rank of compact connected Lie groups. *J. Math. Kyoto Univ.* **17** (1977), *no.* 1, 1–18. (M. Mimura) **58** #2843 57F10

A secondary operation of exceptional Lie groups. *J. Math. Kyoto Univ.* **17** (1977), *no.* 1, 23–26. (M. Mimura) **56** #9530 55G20 (57F25)

Hopf algebra structure of simple Lie groups. *J. Math. Kyoto Univ.* **17** (1977), *no.* 2, 259–298. (Peter J. Eccles) **57** #14001 57F10

(*with* Mimura, Mamoru) Cohomology operations and the Hopf algebra structures of the compact, exceptional Lie groups E_7 and E_8. *Proc. London Math. Soc.* (3) **35** (1977), *no.* 2, 345–358. (Hans Scheerer) **56** #13243 57F10 (55D99)

o, Michio (*with* Sugiura, Ichiro) Generalization of decoupling control. *IEEE Trans. Automatic Control* **AC-19** (1974), 281–282. (Masao Ikeda) **54** #9750 93B25

(*with* Sugiura, Ichiro) A note on zero assignment in single-output linear systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 614–615. (S. P. Bhattacharyya) **55** #2233 93B99 (93C05)

(*with* Suzuki, Masayuki; Niwa, Shohei; Hosoe, S.) On the controllability and the stabilizability of linear systems. *IEEE Trans. Automatic Control* **AC-20** (1975), *no.* 5, 707. (Masao Ikeda) **53** #5083 93B05 (93D15)

o, Mitsuo Other asymptotic methods for deriving a far field approximation. *Progr. Theoret. Phys. Suppl. No.* 55 (1974), 80–96. (Author's summary) **57** #8417 76.41

(*with* Yajima, Nobuo) Modulational instability of ion acoustic wave in a turbulent phonon field. *J. Phys. Soc. Japan* **43** (1977), *no.* 5, 1745–1754. (Authors' summary) **57** #2191 78.35

Nonlinear wave modulation in strongly dispersive systems with a random field. *J. Phys. Soc. Japan* **44** (1978), *no.* 2, 676–682. (Ian Lerche) **57** #8437 76.60

no, Norio (*with* Kawada, Takayuki) A remark on nowhere differentiability of sample functions of Gaussian processes. *Proc. Japan Acad.* **47** (1971), *suppl. II*, 932–934. (Simeon M. Berman) **47** #1118 60G17 (60G15)

Correction to "On the modulus of continuity of sample functions of Gaussian processes". *J. Math. Kyoto Univ.* **12** (1972), 571–572. (P. M. Lee) **46** #10060 60G17

(*with* Kawada, Takayuki) On the variation of Gaussian processes. *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 176–192. *Lecture Notes in Math., Vol.* 330, *Springer, Berlin*, 1973. (S. J. Taylor) **55** #11365 60G15

Une extension de la loi du logarithme itéré pour la somme de variables aléatoires indépendantes et gaussiennes centrées. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 345–346. (H. Bergström) **50** #14904 60F15

Mouvement brownien à valeurs dans R^d: classes de modules de continuité uniformes sur une partie localement compacte de $[0,1]\times[0,1]$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), Aiii, A1233–A1236. (Martin Jacobsen) **51** #11676 60J65 (60G15)

Asymptotic behavior of sample functions of Gaussian random fields. *J. Math. Kyoto Univ.* **15** (1975), *no.* 3, 671–707. (Michael Marcus) **56** #16760 60G15

Sur la minoration asymptotique et le caractère transitoire des trajectoires des fonctions aléatories gaussiennes à valeurs dans R^d. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **33** (1975/76), *no.* 2, 95–112. (N. C. Jain) **53** #1711 60G15

Evolution asymptotique des temps d'arrêt et des temps de séjour liés aux trajectoires de certaines fonctions aléatoires gaussiennes. *Proceedings of the Third Japan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 290–296. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (René Carmona) **55** #11366 (EA **55/56**) 60G15

Sur la minoration asymptotique et le caractère transitoire des trajectoires d'une classe de fonctions aléatoires gaussiennes à valeurs dans R^d. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 4, *A*iii, *A*231–*A*233. (Simeon M. Berman) **53** #1710 60G15

(*with* Carmona, René) Convergence en loi et lois du logarithme itéré pour les vecteurs gaussiens. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **36** (1976), *no.* 3, 241–267. (Authors' summary) **58** #13248 60B10 (60F15)

Tail probabilities for positive random variables satisfying some moment conditions. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 2, 64–67. (Lennart Bondesson) **57** #17765 60E05

Hölder conditions for the local times of certain Gaussian processes with stationary increments. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 3, 84–87. (P. Laurie Davies) **58** #13314 60G15 (60G17)

The exact Hausdorff measure of irregularity points for a Brownian path. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **40** (1977), *no.* 4, 257–282. (S. J. Taylor) **56** #16764 60G17 (60J65, 60G15)

Kono, Shigeo Stability, attraction properties and asymptotic equivalence of dynamical systems. *Proc. Japan Acad.* **47** (1971), 353–358. (F. Odeh) **45** #7211 34C35 (54H20)

Asymptotic equivalence in a dynamical system. *Proc. Japan Acad.* **51** (1975), *no.* 7, 540–544. (M. Eisenberg) **53** #1552 54H20

Kôno, Susumu (*with* Hokama, Kenji) On the fixed point set of S^1-actions on the complex flag manifolds. *Math. J. Okayama Univ.* **20** (1978), *no.* 1, 1–16. (Csaba Hatvany) **58** #18507 57E25 (32M10)

Konončuk, L. P. Certain problems of the spectral analysis of a stationary process with missed observations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 883–885, 956. (A. I. Ponomarenko) **45** #7897 62M15

(*with* Rahimov, G. M.) The estimation of the spectral density of a stationary process in the presence of missing observations. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp.* 170–182. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (From the authors' introduction) **55** #1678 62M15

Estimation of the spectrum of a homogeneous random field with missing observations. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 8 (1973), 86–98, 176. (I. G. Žurbenko) **55** #4570 62M15

Kononenko, A. F. (*with* Kukuškin, N. S.) Mixed strategies in games with a fixed sequence of moves. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1274–1277. (E. G. Gol′šteĭn) **48** #3507 90D05

(*with* Germeĭer, Ju. B.) Games with auxiliary efficiency criteria. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 1, 3–10 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 1, 1–7. (T. E. S. Raghavan) **53** #15391 90D05

(*with* Ereško, F. I.) Solution of the game with the right to precedence in case of incomplete information on the partner's intention. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 217–221, 271. (M. Vlach) **47** #3016 90D05

The rôle of information on the opponent's objective function in two-person games with a fixed sequence of moves. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 311–317, 530. (Constantin Vîrsan) **48** #3508 90D05

(*with* Vatel′, I. A.; Ereško, F. I.) Games with a fixed sequence of moves, and hierarchical control systems in economics. (Russian) *Optimization methods and their applications* (*All-Union Summer Sem., Khakusy, Lake Baikal*, 1972) (*Russian*), *pp.* 85–99, 181. *Sibirsk. Ènerget. Inst. Sibirsk. Otdel. Akad. Nauk SSSR, Irkutsk*, 1974. (Irinel Dragan) **56** #7793 90A05 (90D45)

Game-theoretic analysis of a two-level hierarchic control system. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1161–1170, 1364. (M. Maňas) **50** #15938 90D10 (93C30)

(*with* Mamedov, M. B.) Linear-quadratic differential games with a fixed sequence of moves. *Questions in applied mathematics* (*Russian*), *pp.* 36–43. *Sibirsk. Ènerget. Inst. Akad. Nauk SSSR Sibirsk. Otdel., Irkutsk*, 1975. (J. M. Skowroński) **58** #9336 90D25

(*with* Halezov, A. D.) A two-person game with a fixed sequence of moves and with inexact information on the set of the partner's choices. (Russian) *Questions in applied mathematics* (*Russian*), *pp.* 44–55. *Sibirsk. Ènerget. Inst. Akad. Nauk SSSR Sibirsk. Otdel., Irkutsk*, 1975. (J. M. Skowroński) **58** #9337 90D25

Equilibrium positional strategies in nonantagonistic differential games. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 2, 285–288. (È. G. Al′breht) **55** #5223 90D25

(*with* Vedernikov, R. A.) Decision making in a two-level hierarchical control system in the case of incomplete information regarding the lower level. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1976**, *no.* 2, 13–22 (*Russian*); *translated as Engrg. Cybernetics* **14** (1976), *no.* 2, 10–19 (1977). (Authors' summary) **58** #15502 93C99 (93A15)

(*with* Vedernikov, R. A.) Rational procedures for the exchange of information when planning under conditions of uncertainty. (Russian) *Models and methods for the analysis of economic target-oriented systems* (*Russian*), *pp.* 98–112. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1977. (O. N. Bondareva) **58** #26116 90D40

Multistage conflicts with information exchange. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 4, 922–931, 1093. (Author's summary) **58** #15248 90D25

Kononenko, A. I. (*with* Mil′ man, V. D.) Partial stability in the large. (Russian) *Vyčisl. Mat. i Vyčisl. Tehn.* (*Kharkov*) **1971**, *no.* 2, 13–19, 157. (See RŽMat **1972** #2 B220) 34D05

Kononenko, A. M. (*with* Emeličev, V. A.) A certain combinatorial enumeration problem. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1970**, *no.* 2, 120–122. (H. W. Gould) **45** #6642 05A10 (90B99)

Transportation polytopes of order $2\times n$. (Russian) *Proceedings of the Fourth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1971), *No.* 2 (*Russian*), *pp.* 66–70. *Moskov. Inž.-Stroitel. Inst., Moscow*, 1971. (Józef Grabowski) **56** #17798 90C05

(*with* Emeličev, V. A.) A certain class of transport polytopes. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 3, 21–25. (E. Ja. Gabovič) **47** #1453 90C05

(*with* Emeličev, V. A.; Lihačev, V. M.) The polyhedra of the multivalued transport problem. (Russian) *Dokl. Akad. Nauk BSSR* **16** (1972), 418–420, 479. (K. Zimmermann) **50** #1712 90C05

(*with* Emeličev, V. A.) A degeneracy condition for a multi-index transport polygon. (Russian) *Dokl. Akad. Nauk BSSR* **16** (1972), 506–509. (H. Weber) **49** #6906 90B35

A certain class of hypergraphs. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 790–792, 871. (W. Dörfler) **49** #4848 05C30

(*with* Emeličev, V. A.) The number of plans for a multi-index selection problem. (Russian) *Dokl. Akad. Nauk BSSR* **18** (1974), 677–680, 763. (József Pelikán) **51** #198 05B15 (90C15)

(*with* Emeličeva, V. S.) The minimal number of vertices and edges of the polytope of a planar transportation problem. (Russian) *Dokl. Akad. Nauk BSSR* **18** (1974), 781–784, 858–859. (K. Zimmermann) **50** #15904 90C05

(*with* Emeličeva, V. S.) The minimal number of integer vertices of the polytope of a multi-index transportation problem. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 3, 124–126, 143. (E. Ja. Gabovič) **50** #15903 90C05

(*with* Emeličev, V. A.; Čečett, G. V.) $(n^2+n+1,n+1,1)$-difference sets. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 7, 607–609, 668. (S. Stein) **54** #5107 10A99 (05B10)

(*with* Mikul′skiĭ, V. E.; Truhanovskiĭ, N. N.) Solvability conditions for three-index planar transport problems. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 6, 24–28, 140. (E. Ja. Gabovič) **58** #9220 90C05 (90C10) (*with* Fedenja, O. A.) The permanent function of multi-dimensional matrices. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 4, 5–8, 134. (D. Ž. Djoković) **58** #22102 15A15

Kononenko, E. D. (*with* Kamenskiĭ, G. A.) The application of the collocation method to a boundary value problem for a linear equation with a deviating argument of neutral type. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 3, 306–312, 427. (R. R. Ahmerov) **58** #13740 65L10

Kononenko, G. N. (*with* Voznjuk, L. F.) ★Приближенные методы исследования тепло- и массопереноса в системах извлечения тепла земли. (Russian) [Approximate methods for the study of heat and mass transfer in geothermal extraction systems] *Izdat. "Naukova Dumka", Kiev*, 1975. 139 *pp.* (L. I. Rubinstein) **54** #14579 80.65

The solution of a Cauchy problem that arises in the study of heat transfer and salt contamination. (Russian) *Modelling of nonstationary processes* (*Russian*), *pp.* 35–43. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (Editors) **58** #20275 86.65

(*with* Voznjuk, L. F.; Kuncevskiĭ, P. G.) Hydrodynamical studies of systems for extracting heat from the crust of the earth. (Russian) *Modelling of nonstationary processes* (*Russian*), *pp.* 103–109. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (Vadim Komkov) **58** #20270 86.35

See also **Questions in applied mathematics, 48** #5448

Kononenko, I. A. (*with* Gogina, M. A.; Kovalin, Ja. V.; Kuzjakin, Ju. I.) Certain algorithms of logical operations over Boolean sets. (Russian) *Vyčisl. Sistemy No.* 31 (1968), 72–81. **46** #5055 94A20

Kononenko, V. I. An *n*th order ordinary differential equation in a linear topological space. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1727–1729, 1736. (G. Ladas) **50** #10478 34G05

(*with* Grabovskaja, R. Ja.; Osipov, V. B.) A certain family of generalized shift operators. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 1, 27–30. (S. G. Gindikin) **52** #8996 47B37 (35A30)

(*with* Grabovskaja, R. Ja.; Osipov, V. B.) A family of generalized shift operators. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 4, 912–936, 960. (S. G. Gindikin) **58** #7189 47B37 (22E45)

Kononenko, V. O. (*with* Koval'čuk, P. S.) The effect of parametric stimulation on a self-oscillating system. (Russian) *Prikladna. Meh.* **7** (1971), *no.* 6, 3–10. (Gh. Silaş) **46** #6670 70.34

(*with* Koval'čuk, P. S.) The effect of an external harmonic force on an auto-oscillating system with a changing parameter. (Russian) *Prikladna. Meh.* **7** (1971), *no.* 10, 3–12. (Gh. Silaş) **46** #6671 70.34

Kononjuk, V. O. Transient time in a second-order aperiodic linear system. *Avtomatika* **1976**, *no.* 6, 78–80 (*Ukrainian*); *translated as Soviet Automat. Control* **9** (1976), *no.* 6, 70–72. (Author's summary) **56** #14941 93C15 (93C05)

Kononov, B. P. A mathematical model of the theory of essential features. (Russian. English and German summaries) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2. *Informacionnye Processy i Sistemy* **1975**, *no.* 9, 16–21, 45, 46. (Author's summary) **55** #10221 02A05 (68A55)

Numerical relations in comparison theory. (Russian. English and German summaries) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2 *Informacionnye Processy i Sistemy* **1977**, *no.* 1, 11–18, 38–39. (A. A. Mullin) **56** #17242 68A45 (93A15)

The distinction relation: duality semantics. (Russian. English and German summaries) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2. *Informacionnye Processy i Sistemy* **1977**, *no.* 9, 8–12, 31, 32. (A. A. Mullin) **57** #12214 02H10 (02J10)

Kononov, S. G. *G*-structures generated by endomorphisms. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 2, 41–44, 138. (O. Kowalski) **49** #7947 53C10

Kononov, V. A. (*with* Birjukova, T. L.) An optimal method for the solution of extremal problems on a class of nonunimodal functions. (Russian) Optimization of computations (approximation and minimization of functions). *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 18 (1977), *pp.* 29–36. (B. T. Poljak) **58** #31829 65K05

Kononova, A. A. The Cauchy problem for the inverse heat equation in an infinite strip. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8**, *no.* 4, 58–63, 134 (1974). (R. S. Levitin) **51** #3693 35K05

On the problem of control for the heat equation in the uniform metric. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no.* 2 *Issled. Sovremen. Mat. Anal.*, 74–82, 216 (1977). (Ju. V. Kostarčuk) **58** #12587 49A50 (35K05)

Kononova, N. F. The computation of elementary functions by means of polynomial approximations by the method of V. K. Dzjadik. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 29 (1976), 27–39, 151. (Author's summary) **57** #18026 65D15

(*with* Dzjadik, V. K.; Zaric'ka, Z. V.; Karpenko, S. F.) ★Об эффективном приближении многочленами элементарных функций. (Russian) [Efficient approximation by polynomials of elementary functions] Preprint IM-77-21. *Akad. Nauk Ukrain. SSR Inst. Mat., Kiev*, 1977. 42 *pp.* (B. D. Donevski) **57** #11075 65L99

Kononova, O. A. On the question of isochronism. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 2, 23–24, 96. (M. Tvrdý) **48** #8951 34C05

Kononova, T. P. Asymptotic behavior of the solutions of second order linear differential equations. (Russian) *Kirov. Gos. Ped. Inst. Učen. Zap. No.* 39 *Matematika* (1970), 62–64. (T. Čanturija) **50** #13774 34E05

Kononyuk, V. A. *See* **Kononjuk, V. O.**

Konopel'čenko, B. G. (*with* Rumer, Ju. B.) Field theory of gravitational field sources. *Ž. Èksper. Teoret. Fiz.* **64** (1973), 1119–1127 (*Russian. English summary*); *translated as Soviet Physics JETP* **37** (1973), 568–571. (Authors' summary) **50** #15846 83.53

(*with* Pal'čik, M. Ja.) Field theory and the conformal group. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 1052–1054. (L. Méder) **49** #6805 81.22

On symmetry of the homogeneous Schwinger-Dyson equations. *Lett. Nuovo Cimento* (2) **11** (1974), 271–274. (Not reviewed) 81.35

(*with* Pal'čik, M. Ja.) Conformal invariance and anomalous dimensions. *Jadernaja Fiz.* **19** (1974), 203–213 (*Russian*); *translated as Soviet J. Nuclear Phys.* **19** (1974), 106–111. (J.-P. Antoine) **53** #7252 81.22

(*with* Rumer, Ju. B.) The noncompact algebra SO(2, 1), and a classification of the potentials in the Schrödinger equation. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 58–60. (K. Kumar) **52** #2430 81.22

On extensions of the Poincaré group by spinor generators. *Jadernaja Fiz.* **23** *no.* 4, 911–916 (*Russian*); *translated as Soviet J. Nuclear Phys.* **23** (1976), *no.* 4, 47 (U. Cattaneo) **55** #7158 81.22

Symmetry groups in quantum field theory. (Russian. English summary) *Fiz. Èlementar. Častic i Atom. Jadra* **8** (1977), *no.* 1, 135–174. (From the author's sun **56** #17554 81.22

Symmetry groups of completely integrable equations. *Jadernaja Fiz.* **26** (19 3, 658–669 (*Russian*); *translated as Soviet J. Nuclear Phys.* **26** (1977), *no.* 3, 34 (Mineo Ikeda) **58** #31319 58H05 (35A30, 35Q99)

Konopinski, E. J. What the electromagnetic vector potential describes. *Amer. J. P* (1978), *no.* 5, 499–502. (Kishin Mariwalla) **58** #19817 78.31

Konopka, Czesław On torse-forming vector field in locally product Riemannian (Polish and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. W No.* 1 *Ser. Studia i Materiały No.* 1 *Riemannian geometry* (1970), 13–23. (H. S **51** #4085 53B30

A note on some infinitesimal conformal transformations in locally product Riemannian spaces. (Polish and Russian summaries) *Prace Nauk. Inst. Ma Teoret. Politechn. Wrocław. No.* 1 *Ser. Studia i Materiały No.* 1 *Riemannian ge* (1970), 25–32. (H. S. Park) **51** #4086 53B30

On some transformations in separately Einstein spaces. (Polish and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. S Materiały No.* 8 *Zagadnienia Geometrii Rózniczkowej* (1973), 25–32. (Y. Tashiro) **50** #11063 53B20

Curvature collineations in separately Einstein spaces. (Polish and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser S Materiały No.* 8 *Zagadnienia Geometrii Rózniczkowej* (1973), 33–40. (K. Yano) **50** #5661 53B20

Konoplev, V. P. The method of standard equations. (Russian) *Ordinary differential equations and Fourier series, No.* 2 (*Russian*), *pp.* 3–15. *Izdat. Saratov. Univ., S* 1971. (G. Niculescu) **50** #5117 34E05

The expansion of summable functions in Fourier series of orthogonal polyn (Russian) *Differential equations and numerical analysis, No.* 1 (*Russian*), *pp.* 3–8. *Saratov. Univ., Saratov*, 1972. (Editors) **52** #1153 42A60

Konoplickiĭ, V. A. (*with* Arhangel'skiĭ, Ju. S.; Pikulev, A. N.) Optimal prices and interbranch balance. (Russian) *Èkonom. i Mat. Metody* **5** (1969), 926–930. **46** # 90A15

Konopljanik, I. A. *See* **Konopljannik, I. A.**

Konopljankin, A. A. Certain formulas that are connected with the multiplication of *n*-relations. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **496** (1972), *no.* 1, 23– Ševjakov (RŽMat **1972** #7 A41)) **51** #10101 04A05

Konopljannik, I. A. Third order systems without critical movable singular points. (Ru *Differencial'nye Uravnenija* **9** (1973), 2251–2254, 2301. (Franz Kappel) **53** #1 34A20

A certain class of third order systems without movable critical points. (Ru *Differencial'nye Uravnenija* **11** (1975), *no.* 8, 1508–1511, 1533. (M. Bertolino) **52** 34C05

A certain class of third order systems with a single-valued solution. (Ru *Differencial'nye Uravnenija* **11** (1975), *no.* 11, 2094–2096, 2112. (C. E. Lange **53** #3389 34A20

Konorski, Andrzej Thermodynamics of rapid non-equilibrium expansion of two media. (Polish and Russian summaries) *Prace Inst. Maszyn Przepływowych* **70-72** 387–418. (Ph. Mathieu) **54** #9312 76.35

Konosevič, B. Ī. Stability of the steady motions of an asynchronous gyroscope in a C suspension. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A no.* 6, 521–524, 575. (Djordje Djukic) **54** #1752 70.34

(*with* Harlamov, P. V.; Gorr, G. V.; Dokševič, A. Ì.; Koval'ov, O. M.; Savi O. Ja.) Some questions on the nonlinear theory of the observation of dyn systems. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **19** 3, 244–247, 286. (Szyman Dolecki) **56** #13078 49E05 (34C35)

Stability of the stationary motions of an asynchronous gyroscope in a C suspension. (Russian) *Meh. Tverd. Tela Vyp.* 9 (1977), 61–73, 126. (Author's sum **58** #8606 70.34

Konov, V. I. The singular points of functions that are representable by Taylor-Di series. (Russian. Lithuanian and French summaries) *Litovsk. Mat. Sb.* **12** (1972), 139–144, 235. (C. Tanaka) **47** #3651 30A16

Konoval'cev, I. V. (*with* Lipatov, E. P.) Certain properties of plane rooted trees. (Ru English summary insert) *Kibernetika* (*Kiev*) **1970**, *no.* 5, 106–111. (A. D. Korš **45** #1676 94A20

See also **Ortega, James M.; et al., 52** #9594

Konovalenko, V. V. (*with* Vasil'ev, V. Ī.; Zaharov, Ju. E.; Kanatov, Ī. Ī.; Kleščov, Analysis and classification of situations generated by random processes using the method of data handling. *Avtomatika* **1975**, *no.* 1, 57–65 (*Ukrainian. Russian English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 1, 4 (Authors' summary) **54** #8983 62H30

Konovalov, A. N. A certain system of partial differential equations that arises i solution of filtration problems in potentials. (Russian) *Čisl. Metody Meh. Splošnoĭ* **1** (1970), *no.* 5, 52–68. (S. V. Temko) **48** #3355 76.35

(*with* Smirnova, È. V.) A mixed Cauchy problem with boundary conditions c third kind for a system of equations that are not of Cauchy-Kovalevskaja (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **1** (1970), *no.* 6, 70–76. (A. D. Solo **51** #3730 35Q99

On the question of the numerical solution of multidimensional problems on filtration of a two-phase incompressible fluid. (Russian) *Izv. Sibirsk. Otdel. Akad. SSSR* **1970**, *no.* 8, 46–54. (K.-H. Hauer) **46** #505 35F30 (76.65)

(*with* Šemjakin, E. I.; Kuznecov, B. G.; Šokin, Ju. I.) Nikolaĭ Nikolaevič Jane (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR* **1971**, *no.* 13, 123. (Editors) **45** # 01A70

The fictitious domain method in problems of filtration of a two-phase incompressible fluid with allowance for the capillary forces. (Russian) *Čisl. Me Meh. Splošnoĭ Sredy* **3** (1972), *no.* 5, 52–67. (Şt. I. Gheorghiţă) **51** #4833 76.35

Some questions that arise in the numerical solution of filtration problems for a -phase incompressible fluid. (Russian) Difference methods for the solution of blems of mathematical physics, Part II. *Trudy Mat. Inst. Steklov.* **122** (1973), 3–23, (Author's summary) **50** #11989 76.65

Nonstationary form of the equations of a planar static problem of the theory of sticity. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **5** (1974), *no.* 5, 63–77. **58** #32236 3.35

A variant of the method of imaginary domains. (Russian) *Some problems of nerical and applied mathematics* (*Russian*), *pp.* 191–199, 310. *Nauka Sibirsk. Otdel., vosibirsk*, 1975. (Author's summary) **58** #31930 65N35

Iteration difference schemes for numerical solution of a planar statistical problem of theory of elasticity and stresses. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), 2, 52–69. (RŽMat **1976** #3 B1030) **58** #32298 73.65 (65N05)

(*with* Monahov, V. N.) Some models of the filtration of multiphase fluids. (Russian) *namika Splošn. Sredy Vyp. 27 Dinamika Neodnorodn. Židkosti* (1976), 51–65, 160. uthors' summary) **56** #14061 76.35

See also **Proceedings: Conference on Basic Problems of Numerical Mathematics,** #4621; **Difference methods of solving problems of mathematical physics, 51** #9655; **oceedings: All-Union Conference on Numerical Methods of Solution of Problems in asticity and Plasticity Theory, 56** #17312a *and* **Proceedings: All-Union Conference on merical Methods of Solution of Problems in Elasticity and Plasticity Theory,** #17312b

alov, A. S. (*with* Orurk, I. A.) Synthesis of nonlinear systems with given dynamical aracteristics. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1977**, *no.* 4, 8–424, 485. (Authors' summary) **58** #26282 93B99

alov, G. T. The multidimensional Šafarevič-Serre theorem. (Russian) *Mat. Zametki* (1973), 573–576. (V. L. Popov) **47** #8491 12B20 (14L05)

Triviality of the universal norms of formal groups over a local field. (Russian) *Mat. metki* **18** (1975), *no.* 5, 711–717. (Michiel Hazewinkel) **53** #2964 14L05 (12B25)

The universal norms of formal groups. (Russian) *Ukrain. Mat. Ž.* **27** (1975), –100, 143. (Michiel Hazewinkel) **51** #8127 14L05 (14G20)

The universal *G*-norms of formal groups over a local field. (Russian) *Ukrain. Mat.* **28** (1976), *no.* 3, 399–401, 431. (Michiel Hazewinkel) **55** #12735a 14L05 (12B25)

Norm subgroups of formal groups over a local field. (Russian) *Ukrain. Mat. Ž.* **28** 976), *no.* 4, 528–532, 575. (Michiel Hazewinkel) **55** #12735b 14L05 (12B25)

valov, I. A. The limit cycles of a differential equation with singular points on the axis. Russian) *Volž. Mat. Sb. No.* 9 (1971), 113–119. (L. Reiziņš) **46** #5729 34C05

The limit cycles of a certain dynamical system. (Russian) *Differencial'nye Uravnenija* **10** (1974), 547–549, 574. (A. A. Reinfelds) **49** #5462 34C05

On conditions for the monocyclicity of a certain system of differential equations. Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 4, 754–757, 775. (I. Kiguradze) 3 #13740 34C25

See also **Proceedings: Interuniversity Scientific Conference of the Mathematical Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

valov, M. G. Time characteristics of learning automata of type *G*. (Russian) *Studies n the theory of adaptive systems* (*Russian*), *pp.* 47–66, 222. *Vyčisl. Centr, Akad. Nauk SSSR, Moscow*, 1976. (Author's summary) **58** #32077 68A25 (94A35)

Adaptive control of certain classes of Markov chains. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 5, 780–783. (Editors) **58** #26475 93E20

valov, N. V. (*with* Germogenova, T. A.) Asymptotic characteristics of the solution of the transport equation in the problem of an inhomogeneous layer. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 928–946, 1076. (Hans Kaper) **50** #6401 82.45

(*with* Germogenova, T. A.) The spectrum of the characteristic equation of transport theory with account taken of polarization. (Russian) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 62 (1978), 53 *pp.* (Authors' summary) **58** #20098 82.47 (80.47)

ovalov, S. M. *See* **Optimization, Operations research, Bionics, 48** #1846

ovalov, S. N. (*with* Gabelev, F. Ja.; Lysov, V. I.; Neĭmark, Ju. I.) Two methods for solving the problem of the optimal control of a certain queueing system. (Russian) *Gor'kov. Gos. Univ. Učen. Zap. No. 166 Teorija Kolebaniĭ, Prikl. Mat. i Kibernet.* (1973), 133–140. (G. N. Mil'šteĭn) **50** #12411 93E20 (60K25)

ovalov, V. M. A constructive characterization of the classes W^rH^α of functions of several real variables. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 882–884, 957. (M. Skalsky) **47** #806 46E35 (41A30)

(*with* Fabrikant, O. M.) The possibilities of an imitation model in the study of a quantized queueing process in a system of collective use. (Russian) *Methods and models of control, No. 5* (*Russian*), *pp.* 118–122, 144. *Redakcionno-Izdat. Otdel. Rižsk. Politehn. Inst., Riga*, 1973. (Editors) **51** #14942 90B99

(*with* Dzjadik, V. K.) A method of partition of unity in domains with piecewise smooth boundary into a sum of algebraic polynomials of two variables that have certain kernel properties. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 179–192, 285. (Author's summary) **55** #3605 41A10

Approximation characterizations of Weierstrass theorem type for functions of several variables. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 12, 1074–1076, 1149. (J. Musielak) **56** #940 41A63 (46E35)

On the relation between the differential-difference properties of functions and their approximation by entire functions of exponential type. (Russian) *Questions in the theory of approximation of functions and its applications* (*Russian*), *pp.* 116–123. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Editors) **58** #29644 41A30

A method for approximating a continuous function on an interval by means of splines. (Russian) *Questions in the theory of approximation of functions and its applications* (*Russian*), *pp.* 124–130. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (From the introduction) **58** #29616 41A15

★Достаточные условия существования ограниченных производных от функций многих переменных. (Russian) [Sufficient conditions for the existence of bounded derivatives of functions of several variables] Preprint IM-77-8. *Akad. Nauk Ukrain. SSR Inst. Mat., Kiev*, 1977. 23 *pp.* (B. Crstici) **57** #6329 26A54

Approximation by local splines, and the equivalence of spaces of differentiable functions of several variables. (Russian) *Vyčisl. Sistemy No.* 72 (1977), 44–48, 137. (Author's summary) **58** #29617 41A15

Sharp inequalities for the norms of functions and their third partial and second mixed or directional derivatives. (Russian) *Mat. Zametki* **23** (1978), *no.* 1, 67–78. (Z. Čanturija) **58** #1061 26A84

See also **Methods and models of control, 48** #10741

Konovalova, G. M. (*with* Volkov, L. N.) The synthesis of optimal systems with a limited transfer process time. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1968**, *no.* 4, 123–129 (*Russian*); *translated as Engrg. Cybernetics* **1968**, *no.* 4, 110–116 (1969). (Authors' summary) **55** #14317 93C05

Konowalow, Daniel D. (*with* Muhlhausen, Carl) Table errata: *Tables of integrals, series, and products* (English translation of the fourth Russian edition, Academic Press, New York, 1965) by I. S. Gradshteyn and I. M. Ryzhik. *Math. Comp.* **25** (1971), *no.* 113, 200. (Editors) **54** #4046 65A05

Konrad, A. Vector variational formulation of electromagnetic fields in anisotropic media. *IEEE Trans. Microwave Theory Tech.* **MTT-24** (1976), *no.* 9, 553–559. (Gérard A. Maugin) **56** #14163 78.49

Konrad, D. *See* **Control in space, 48** #13319

Konrad, E. Über die Ermittlung von Systemgrössen aus Abtastwerten mit Hilfe von Differenzengleichungen. *Z. Elek. Informations- und Energietech.* **3** (1973), 209–216. (Author's summary) **50** #16071 94A05

Konrady, John Almost positive perturbations of positive selfadjoint operators. *Comm. Math. Phys.* **22** (1971), 295–300. (K. Veselić) **49** #9659 47A55

Konšina, E. V. (*with* Vorob'ev, V. N.; Efimov, A. B.; Starostina, L. F.) The Green's function of a three-dimensional Riemann space with two parallel branch curves. (Russian) *Dokl. Akad. Nauk SSR* **229** (1976), *no.* 4, 787–789. (G. Albinus) **54** #2997 31B99

Konson, E. D. (*with* Katkovnik, V. Ja.) An iterative optimization method with sequential design of an experiment. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 6, 116–125. (N. L. Johnson) **48** #12751 62L05 (65K05)

(*with* Katkovnik, V. Ja.) Algorithms for successive optimization that use procedures for the sequential design of extremal experiments. (Russian) *Cybernetics and computer technology, No. 23: Complex control systems* (*Russian*), *pp.* 58–64, 156. "*Naukova Dumka*", *Kiev*, 1974. (Valery Fedorov) **52** #12243 62K05 (93E10)

See also **Cybernetics and computer technology, 48** #1733

Konstantinavičius, K. A way of calculating molecules from their fragments. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **17** (1977), *no.* 2, 171–178, 257. (Author's summary) **56** #14211 81.15

Konstantinesku, Ilie *See* **Constantinescu, Ilie** N.

Konstantinov, G. N. (*with* Gurman, V. I.; Rasina, I. V.) Approximate synthesis of optimal control for discrete systems. (Russian) *Optimization methods and operations research, applied mathematics* (*Russian*), *pp.* 29–35, 187. *Akad. Nauk SSSR Sibirsk. Otdel. Sibirsk. Ènerget. Inst., Irkutsk*, 1976. (Editors) **58** #7331 49D99

(*with* Aščepkov, L. T.) The effect of "truncating" functions in nonlinear programming problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 4, 1047–1051, 1087. (B. T. Poljak) **55** #5210 90C30 (65K05)

See also **Questions in applied mathematics, 56** #2193

Konstantinov, M. Ju. (*with* Gercenšteĭn, M. È.) The extension of the solutions of the equations of general relativity theory through singularities. (Russian) *Problemy Teor. Gravitacii i Èlement. Častic Vyp.* 6 (1975), 23–31. (RŽFiz **1975** #11 B167) **57** #8888 83.53

(*with* Gercenšteĭn, M. È.) The direct variational method for investigating the continuability of solutions through a [physical] singularity in general relativity theory. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1977**, *no.* 10, 7–13. (Editors) **58** #32746 83.49

Konstantinov, M. S. Some necessary conditions for the existence of a full collection of directing functions for equations on the plane. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 7 (1976), 106–116. (C. E. Langenhop) **57** #3527 34C99

The periodic solutions of a system of differential equations. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 7 (1976), 117–123. (C. E. Langenhop) **56** #12423 34C25

The existence of periodic solutions of nonlinear systems of differential equations. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 7 (1976), 124–132. (V. G. Zadorožniĭ) **58** #6512 34C25

Existence of periodic solutions of a certain differential equation. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 9 (1977), 48–56. (Mark A. Aĭzerman) **58** #6513 34C25

Some sufficient conditions for the existence of periodic solutions of third order nonlinear differential equations. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 9 (1977), 57–61. (C. E. Langenhop) **57** #795 34C25

On the question of the existence of periodic solutions of second order nonlinear differential equations. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 9 (1977), 62–67. (C. E. Langenhop) **57** #796 34C25

Konstantinov, Mihail M. (*with* Baĭnov, Drumi D.) The solution of a certain boundary value problem with nonlinear inclusion of a parameter. (Russian. Bulgarian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* 7 (1971), *no.* 1, 119–124 (1973). (C. Avramescu) **49** #9313 34B15

(*with* Baĭnov, Drumi D.) Existence and uniqueness of the solution of certain extremal-differential systems of superneutral type. (Russian) *Arch. Math.* (*Brno*) **8** (1972), 207–212. (C. Corduneanu) **48** #9032 34K05

(*with* Velev, V. A.) On the method of least squares for the solution of a certain generalized boundary value problem. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **18(22)** (1972), *no.* 3-4, *part I*, 81–85. (Murli M. Gupta) **48** #10131 65L10

(*with* Baĭnov, Drumi D.) A second order boundary value problem for systems of differential equations of superneutral type. (Russian. Bulgarian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 4, 7–18 (1973). (L. J. Grimm) **54** #5579 34K10

(*with* Baĭnov, Drumi D.) Certain rotationally oscillatory systems with lag. (Russian. Bulgarian and English summaries) *Godišnik. Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 4, 19–26 (1973). (L. J. Grimm) **54** #5584 34K15 (*with* Baĭnov, Drumi D.) Prediction and identification in linear systems of neutral type. (Russian) *Mat. Vesnik* **9(24)** (1972), 379–382. (S. P. Bingulac) **48** #5684 93B30

(*with* Baĭnov, Drumi D.) Theorems on the existence and uniqueness of solutions of certain differential equations of superneutral type. (Russian) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **14(28)** (1972), 75–82. (N. G. Kazakova) **52** #8607 34K05

Bounded solutions of a system of differential equations with deviating argument. (Russian. English summary) *Rev. Roumaine Math. Pures Appl.* **17** (1972), 885–894. (G. B. Gustafson) **47** #5400 34K15

(*with* Baĭnov, Drumi D.) The stability of periodic solutions of quasilinear systems of neutral type. (Russian. Bulgarian and English summaries) *Teoret. i Prilož. Meh.* **3** (1972), *no.* 2, 45–55, 3, 5. (J. K. Hale) **46** #7673 34K20

(*with* Baĭnov, Drumi D.) ★Методът на усредняването и неговото приложение в техниката. (Bulgarian) [The method of averaging and its application in engineering] *Nauka i Izkustvo, Sofia*, 1973. 156 *pp.* (*loose errata*) (G. Bojadžiev) **48** #8904 34–01 (34C30)

(*with* Baĭnov, Drumi D.) The existence of resonance solutions of multifrequency systems with lag. (Russian. Polish and English summaries) *Nonlinear vibration problems*, *No.* 14 (*Proc. Sixth Internat. Conf. Nonlinear Oscillations*, *Poznań*, 1972, *Part I*), *pp.* 267–272. *PWN–Polish Sci. Publ.*, *Warsaw*, 1973. (Editors) **56** #9031 34K05

(*with* Patarinski, Simeon P.) Errors in the identification of objects by means of an orthogonal model. (Bulgarian. Russian and English summaries) *Avtomat. i Izčisl. Tehn.* **7** (1973), *no.* 4, 20–26, 2, 4. (S. P. Bingulac) **49** #6966 93B30

Existence and uniqueness of the solutions of boundary value problems for differential equations of superneutral type. (Russian) Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 213–219. (Tadeusz Dłotko) **51** #10797 34K05

(*with* Baĭnov, Drumi D.) Existence and uniqueness of periodic solutions of a certain class of functional differential equations of superneutral type. (Russian) Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* 3 (1973), 220–228. (Tadeusz Dłotko) **51** #10798 34K05

(*with* Nikolova, Todorka St.; Baĭnov, Drumi D.) Theorems on the existence and uniqueness of the solutions of integro-differential equations of superneutral type with iterated lag. (Russian) Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 388–396. (Tadeusz Dłotko) **51** #10800 35K05 (45J05)

(*with* Baĭnov, Drumi D.) The existence of periodic solutions of certain quasilinear systems with lag. (Bulgarian. Russian and English summaries) *Teoret. i Prilož. Meh.* **4** (1973), *no.* 3, 57–63, 6, 8. (G. Bojadžiev) **49** #7561 34K15

(*with* Baĭnov, Drumi D.) Periodic solutions of a certain class of nonlinear differential equations that are not solved with respect to the highest derivative. (Bulgarian. Russian and English summaries) *Mathematics and mathematical education* (*Proc. Second Spring Conf. Bulgarian Math. Soc.*, *Vidin*, 1973) (*Bulgarian*), *pp.* 135–141. *Izdat. B″lgar. Akad. Nauk.*, *Sofia*, 1974. (D. Bobrowski) **50** #2616 34C25

On the problem of the prediction and identification of nonlinear systems. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **20(24)** (1974), *no.* 1-2, *part I*, 91–95. (Bojan Popović) **50** #1757 93B30

Existence and uniqueness of the solutions of a certain class of functional-difference equations. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **20(24)** (1974), *no.* 3-4, *secţ. I*, 53–56. (A. Halanay) **52** #6227 39A10

(*with* Baĭnov, Drumi D.) Application of the averaging method to certain multipoint boundary value problems. (Russian) *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **18(66)** (1974), *no.* 3-4, 307–310 (1976). (F. H. Szafraniec) **54** #3071 34B15 (34C30)

(*with* Baĭnov, Drumi D.) The existence of the solutions of a system of functional equations of superneutral type with iterated lag. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1988–1992, 2083. (G. B. Gustafson) **53** #972 34K10

(*with* Baĭnov, Drumi D.) The existence of solutions of systems of differential-functional equations of superneutral type with iterated lag. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 519–521. (J. K. Hale) **51** #1062 34K05

(*with* Baĭnov, Drumi D.) The method of averaging in nonlinear mechanics. (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **17(50)** (1974), 112–125. (Not reviewed) 34C99

(*with* Baĭnov, Drumi D.) The method of the small parameter. (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **17(50)** (1974), *no.* 4, 273–280. (V. Komkov) **56** #16080 34E05

(*with* Baĭnov, Drumi D.) Sufficient conditions for the absence of singular points in systems of integrodifferential equations. (Russian) Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 343–347. (Nicolae Luca) **52** #14884 45J05

A two-point boundary value problem for an ordinary differential equation of superneutral type. (Russian) *Mathematica* (*Cluj*) **16(39)** (1974), *no.* 2, 281–285 (1977). (From the introduction) **58** #22918 34K10

(*with* Baĭnov, Drumi D.) Existence and uniqueness of the solution of systems of differential equations of superneutral type. (Russian) *Rev. Roumaine Math. Pures Appl.* **19** (1974), 1221–1230. (Russell C. Thompson) **50** #13797 34K05

(*with* Baĭnov, Drumi D.) A certain second order boundary value problem for systems of differential equations of super neutral type. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **74** (1974), 285–288. (A. Elbert) **51** #1066 34K10

Averaging in differential equations with asymptotically large lag. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 816–818, 863. (G. B. Gustafson) **50** #10490 34K15

(*with* Nikolova, Todorka St.; Baĭnov, Drumi D.) Some remarks on pred equations of neutral type. (Russian) *Univ. Beograd. Publ. Elektrotehn. Fak.* *Fiz. No.* 461-497 (1974), 143–146. (C. E. Langenhop) **52** #4068 49A30

Existence and uniqueness of the solutions of a certain class of difference-f equations. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **21(2** *no.* 3-4, *secţ. I*, 59–62. (Henryk Adamczyk) **54** #5655 39A10

(*with* Baĭnov, Drumi D.) A certain boundary value problem with a ge boundary condition for systems of differential equations of superneutral type. (*C. R. Acad. Bulgare Sci.* **28** (1975), *no.* 7, 889–892. (G. B. Gustafson) **52** 34K10

(*with* Baĭnov, Drumi D.) A multipoint boundary value problem for differential equations with deviating argument that are not solved for the d (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 7, 1201–1205, 1348. (L. J. **51** #10806 34K10

Globally bounded solutions of a system of differential equations of sup type. (Russian. Bulgarian and English summaries) Conference on Differential Equations and Applications (Ruse, 1975). *Godišnik Visš. Učebn. Zaved. Priložn* (1975), *no.* 3, 37–46 (1977). (Author's summary) **57** #13090 34K15

(*with* Nikolova, Todorka St.; Baĭnov, Drumi D.) Existence and uniquene solution of some integro-differential equations of superneutral type. (Bulgarian. and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (197 87–93 (1977). (Authors' summary) **58** #17747 45J05 (34K05)

The application of the averaging method to some two-point boundary value problems. (Russian) *Mathematica* (*Cluj*) **17(40)** (1975), *no.* 1, 77–80. (C. E. Lan **57** #6589 34B15 (34C30)

(*with* Peeva, M. P.) A boundary value problem for a system of differential equations with deviating argument. (Bulgarian) *Naučn. Trud. Visš. Inst. Maši* *Meh. Elektrifikac. Selsk. Stopanstv.—Ruse. Ser.* 8 *Obščoteoret. Prilož. Nauki* (*M* *Mašinoznan. Teor. Eksperiment.*) **17** (1975), 37–39. (See RŽMat **1977** #7 34K10

(*with* Baĭnov, Drumi D.) A boundary value problem for a differential equat a retarded argument and a parameter. (Russian) *Serdica* **1** (1975), *no.* 3, (Erwin Kozakiewicz) **53** #11191 34K10

(*with* Baĭnov, Drumi D.) A certain boundary value problem for a dif equation with deviating argument and with a parameter. (Russian) *Ukrain. Ma* (1975), *no.* 6, 798–803, 862. (Á. Elbert) **56** #12496 34K10

(*with* Baĭnov, Drumi D.) The application of the averaging method to multipoint boundary value problems. (Russian) *Ann. Univ. Sci. Budapest. Eöt* *Math.* **19** (1976), 37–40 (1977). (Editors) **58** #28871 34C30

(*with* Petkov, Petko Hr.; Patarinski, Simeon P.; Hristov, Nikolaĭ D.) Spectr reducibility of linear control systems with lag. (Russian. Polish and English sum *Arch. Automat. i Telemech.* **21** (1976), *no.* 4, 425–435. (Authors' summary) **56** # 93B25 (93B05)

An integral inequality. (Russian) *Arch. Math.* (*Brno*) **12** (1976), *no.* 2, 81–85 Bergh) **56** #12372 34A40

(*with* Baĭnov, Drumi D.) A boundary value problem with a generalized b condition for systems of differential equations of superneutral type. (Russian *Acad. Serbe Sci. Arts Cl. Sci. Math. Natur.* **55** (1976), *no.* 9, 39–47. (G. B. Gu **55** #3469 34K10

(*with* Baĭnov, Drumi D.) Existence and uniqueness theorems for the solu systems of differential equations of superneutral type with iterated lag. (Russiar *Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 1-2, 151–158 (Erwin Kozakiewicz) **57** #16903 34K05

(*with* Baĭnov, Drumi D.) Some functional equations in a Banach spa deviating vector-valued argument. (Russian) *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 1-2, 159–160 (1977). (P. Javor) **57** #17066 39A40 (47H15)

(*with* Baĭnov, Drumi D.) A boundary value problem with parameters for a for functional-differential equations. (Russian) *Bull. Math. Soc. Sci. Math.* *Roumanie* (*N.S.*) **20(68)** (1976), *no.* 3-4, 261–264 (1977). (From the introd **58** #6602 34K10

(*with* Velev, V. A.) A boundary value problem for an infinite-dimensional sy differential equations with deviating argument. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **12** (1976), *no.* 4, 1 (1977). (Authors' summary) **58** #29000 34K10

The application of a norm with weight in existence and uniqueness theorems solutions of functional equations in a Banach space with an unknown functio depends on several arguments. (Russian) *Mat. Vesnik* **13(28)** (1976), *no.* 4, 399–4 Lajkó) **56** #1153 47H15 (45N05)

(*with* Baĭnov, Drumi D.) Existence and uniqueness of the solutions of some i and integro-differential equations. (Russian) *Mathematica* (*Cluj*) **18(41)** (1976), 7–13. (From the introduction) **58** #17744 45J05

(*with* Baĭnov, Drumi D.) The existence and uniqueness of the solutions of i and integrodifferential equations of Volterra type in the theory of viscoela (Russian. Bulgarian and English summaries) *Teoret. i Prilož. Meh.* **7** (1976), 59–62, 4, 7. (M. O. Bašeleĭšvili) **54** #13494 45D05 (45J05)

(*with* Baĭnov, Drumi D.) On a boundary value problem with a generalized boundary condition for systems of super neutral differential equations. *Diffe* *equations* (*Colloq.*, *Keszthely*, 1974), *pp.* 51–61. *Colloq. Math. Soc. János Bolyai*, *V* *North-Holland*, *Amsterdam*, 1977. (J. Kato) **58** #11782 34K10

(*with* Baĭnov, Drumi D.) Researches in the fundamental theory and stability of differential equations with deviating argument in Bulgaria. (Russian) *Diffe* *equations with deviating argument* (*Proc. Fourth All-Union Conf.*, *Kiev*, 1975) (*Ru* *pp.* 34–42, 301. *Izdat. "Naukova Dumka"*, *Kiev*, 1977. (Editors) **57** #13065 (01A65)

Estimation and stability of the solutions of differential equations with lag Banach space. (Russian) *Arch. Math.* (*Brno*) **13** (1977), *no.* 4, 187–190. (I. Kigu **57** #6749 34K20 (34G05)

(*with* Patarinski, Simeon P.; Petkov, Petko Hr.; Hristov, Nikolaĭ D.) Synthe ear systems with a quadratic criterion for structural limitations. *Avtomat. i Telemeh.* 77, *no.* 5, 21–30 (*Russian. English summary*); *translated as Automat. Remote Control* **38** 977), *no.* 5, *part* 1, 628–636. (Jiři Sústal) **56** #17986 93C05

(*with* Patarinski, Simeon P.; Petkov, Petko Hr.; Hristov, Nikolaĭ D.) Algorithms d programs for the analysis and synthesis of linearly controlled systems. I. Analysis. ulgarian. Russian and English summaries) *Avtomat. Izčisl. Tehn.* **11** (1977), *no.* 4, 3,5, –37. (From the text) **58** #33283a 93C05

(*with* Patarinski, Simeon P.; Petkov, Petko Hr.; Hristov, Nikolaĭ D.) Algorithms d programs for the analysis and synthesis of linearly controlled systems. II. Synthesis. ulgarian. Russian and English summaries) *Avtomat. Izčisl. Tehn.* **11** (1977), *no.* 5, 2, 3, –25. (From the text) **58** #33283b 93C05

(*with* Patarinski, Simeon P.; Petkov, Petko Hr.; Hristov, Nikolaĭ D.) Synthesis of boptimal linear systems with output regulators. (Polish and Russian summaries) *ontrol Cybernet.* **6** (1977), *no.* 3-4, 75–85. (A. K. Mahalanabis) **57** #9212 93C45

(*with* Patarinski, Simeon P.; Petkov, Petko Hr.; Hristov, Nikolaĭ D.) On the eneral theory of linear control systems. (Bulgarian. Russian and English summaries) lechanics (Third Congress, Varna, 1977). *Godišnik Visš. Učebn. Zaved. Tehn. Meh.* **12** 977), *no.* 1, 85–92. (Authors' summary) **58** #33284 93C05

(*with* Baĭnov, Drumi D.) Boundary value problems with two conditions for first rder functional-differential equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* 977, *no.* 12(187), 39–43. (Authors' introduction) **58** #22916 34K10

(*with* Patarinski, Simeon P.; Petkov, Petko Hr.; Hristov, Nikolaĭ D.) Structural roperties of linear regulators in stationary control systems. (Russian) *Kybernetika Prague*) **13** (1977), *no.* 3, 200–210. (G. Zatiašvili) **57** #15616 93B99 (93C05)

(*with* Baĭnov, Drumi D.) A boundary value problem with a generalized boundary ondition for systems of differential equations of superneutral type. (Russian) *Rev. oumaine Math. Pures Appl.* **22** (1977), *no.* 9, 1241–1248. (Erwin Kozakiewicz) 8 #22917 34K10

(*with* Baĭnov, Drumi D.) A boundary value problem with parameters for a system f differential-functional equations. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 6, 12–817, 854. (K. Smítalová) **58** #6603 34K10

(*with* Baĭnov, Drumi D.) Nonlinear oscillations of a viscoelastic body under the action of periodic forces. (Russian) *Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* **23** (1978), *no.* 2, 193–198. (Authors' summary) **58** #19617 73.45

A functional inequality. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 2, 226–228, 283. (Author's summary) **58** #17629 39A15

stantinov, R. M. (*with* Koroleva, Z. E.; Kudrjavcev, V. B.) A combinatory logic approach to problems of predicting ore yields. (Russian) Third All-Union Conference on Problems of Theoretical Cybernetics (Novosibirsk, 1974). *Problemy Kibernet. No.* 31 (1976), 5–33, 237. (A. A. Mullin) **55** #4809 68A45

stantinov, V. I. (*with* Mirenkov, N. N.) The operation of a homogeneous computing system in the presence of a priority flow of large problems. (Russian) *Vyčisl. Sistemy Vyp.* 42 (1970), 47–58. (RŽMat **1971** #10 V794) **58** #19456 68A99

(*with* Nuriev, R. M.) A metalanguage for the translation of context-free languages. (Russian) *Vyčisl. Sistemy No.* 57 (1973), 74–83, 162. (E. Stockiĭ) **50** #3653 68A30

Classes of TR-grammars. (Russian) *Vyčisl. Sistemy No.* 57 (1973), 84–90, 162. (E. Stockiĭ) **50** #3654 68A30

Construction of TR-grammars from grammars in Backus-Naur form. (Russian) *Vyčisl. Sistemy No.* 57 (1973), 91–97, 162. (E. Stockiĭ) **50** #3655 68A30

The metalanguage of TR-grammars. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 6, 84–89. (E. Stockiĭ) **57** #11191 68A30

nstantinov, V. M. The stability of stochastic difference systems. (Russian) *Problemy Peredači Informacii* **6** (1970), *no.* 1, 81–86. (E. F. Car′kov) **46** #8306 60H99

(*with* Bondaros, Ju. G.; Medvedev, V. S.) Synthesis of control circuits for objects disturbed by random noises. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 4, 180–185 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 4, 723–728. (E. Parzen) **48** #13418 93E20

(*with* Evlanov, L. G.) ★Системы со случайными параметрами. (Russian) [Systems with random parameters] *Izdat. "Nauka", Moscow*, 1976. 568 *pp.* (V. Kolmanovskiĭ) **57** #5326 93Exx

(*with* Bondaros, Ju. G.) Estimating the state of linear systems with additive and multiplicative noise. *Avtomat. i Telemeh.* **1976**, *no.* 5, 34–43 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 5, *part* 1, 668–676. (S. G. Tzafestas) **56** #2579 93E10

onstantinova, Ja. V. (*with* Liskovec, O. A.) Error estimates in the iteration method for equations of the first kind. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1973**, *no.* 1, 9–15, 103. (H. Zegeling) **48** #3245 65J05 (47A50)

(*with* Liskovec, O. A.) A gradient method with a variable step for equations of the first kind. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 2, 45–49, 138. (H. Schwetlick) **51** #4660 65J05 (47A50)

onstantinova, L. Ī. Inverse semiheaps. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 398–400, 476. (B. M. Schein (Šaĭn)) **48** #460 20N10

Translations of inverse semiheaps. (Russian) *Studies in algebra, No.* 4 (*Russian*), *pp.* 51–55, 124. *Izdat. Saratov. Univ., Saratov*, 1974. (Kazimierz Głazek) **55** #5781 20N10

Konsynski, Benn, Jr. (*with* Nunamaker, J. F., Jr.; Nylin, William C., Jr.) Processing systems optimization through automatic design and reorganization of program modules. *Information systems* (*Fourth Internat. Sympos. Comput. and Information Sci., Miami Beach, Fla.*, 1972), *pp.* 311–336. *Plenum Press, New York*, 1974. (Authors' summary) **56** #13754 68A05

Konti, R. *See* **Conti, R.**

Kontorova, T. A. *See* **Ioffe, A. F., 54** #2403

Kontorovič, M. I. On the foundation of the method of slowly changing amplitudes. (Russian) *Leningrad. Politehn. Inst. Trudy No.* 290 (1968), 91–102. (N. Urabe) **45** #659 34C15

Kontorovič, N. P. (*with* Nagrebeckiĭ, V. T.) Finite minimal not *p*-supersolvable groups. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no.* 3, 53–59, 134–135 (1975). (From the authors' introduction) **57** #6188 20D15

Kontorovič, V. Ja. Detection algorithms of signals in Markov noise with unknown statistical characteristics. *Radiotehn. i Èlektron.* **16** (1971), 1066–1068 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 1043–1045. (K. S. Miller) **48** #10621 94A05

An approximate method of synthesizing Markov models of continuous random processes. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 6, 143–152, 222 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 6, 110–118. (K. S. Miller) **53** #5147 94A05

Kontorovič, V. M. (*with* Sapogova, N. A.) The application of group theory to the investigation of the removal of degeneracy in a spherical resonator. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 1869–1877. (J. R. Schulenberger) **46** #8544 78.35

(*with* Kac, A. V.) Symmetry group of the kinetic equation and stationary distributions in a weakly turbulent plasma. *Phys. A* **86** (1977), *no.* 2, 471–474. (Authors' summary) **54** #14655 82.22

See also **Collection: Oscillations and waves in nonlinear media, 49** #4705

Kontorovich, V. Ya. *See* **Kontorovič, V. Ja.**

Kontovt, V. I. *See* **Sokolnikoff, I. S.; et al., 54** #3597

Konurbaeva, B. M. Positional games in which the set of positions is partially ordered. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1971**, *no.* 3, 44–46. (Author's summary) **45** #6456 90D99

Reduction of strategies in games on graphs. (Russian) *Izv. Akad. Nauk Kazah. SSR. Ser. Fiz.-Mat.* **1971**, *no.* 3, 65–67. (Author's summary) **45** #6457 90D99

Quasistrategies in positional games on graphs. (Russian) *Optimizacija No.* 2(19) (1971), 74–89. (E. Janovskaja (RŽMat **1972** #4 V430)) **50** #1760 93E05

Games on graphs. (Russian) *Operations research and statistical modeling, No.* 1 (*Russian*), *pp.* 78–106. *Izdat. Leningrad. Univ., Leningrad*, 1972. (M. Maňas) **49** #8673 90D10

Ruled strategies in Isbell games. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Cof., Vilnius*, 1971) (*Russian*), *pp.* 177–180. *Izdat. "Mintis", Vilnius*, 1973. (J. R. Isbell) **50** #12287 90D12

(*with* Kargažanov, Z. K.) Determination of the costs and economy of complex-forming industries. (Russian) *Coding theory and information modeling, No.* 2 (*Russian*), *pp.* 76–81, 245. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1975. (Bojan Popović) **58** #20535 90D40 (90A15)

A dual cooperative game. (Russian) *Optimization and simulation of complex systems* (*Russian*), *pp.* 38–40, 165. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (O. N. Bondareva) **57** #2595 90D12

Konusbekov, K. K. (*with* Popov, G. A.) Tauberian theorem on semigroups. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 7, 10–11. (W. Narkiewicz) **58** #10793 10H25 (10H40)

Konvalina, John On the converse of Singer's theorem. *J. Combinatorial Theory Ser. A* **23** (1977), *no.* 1, 68–77. (E. C. Johnsen) **58** #21686 05B10 (50D30)

(*with* Kosloski, Rodney H.) Cyclic quasi-Hadamard matrices. *Utilitas Math.* **12** (1977), 273–287. (From the introduction) **58** #21693 05B20

Konveĭ, R. V. *See* **Conway, Richard W.**

Konvisser, Marc W. 2-groups of normal rank 2 for which the Frattini subgroup has rank 3. *Trans. Amer. Math. Soc.* **165** (1972), 451–469. (R. W. Carter) **45** #2020 20D15

2-groups which contain exactly three involutions. *Finite groups '72* (*Proc. Gainesville Conf., Univ. Florida, Gainesville, Fla.*, 1972), *pp.* 101–107. *North-Holland Math. Studies, Vol.* 7, *North-Holland, Amsterdam*, 1973. (J. A. Gallian) **50** #7330 20D15

2-groups which contain exactly three involutions. *Math. Z.* **130** (1973), 19–30. (J. F. Humphreys) **50** #13259 20D15

(*with* Jonah, David) Some non-abelian *p*-groups with abelian automorphism groups. *Arch. Math.* (*Basel*) **26** (1975), 131–133. (H. Heineken) **51** #3301 20D45

(*with* Jonah, David) Counting abelian subgroups of *p*-groups. A projective approach. *J. Algebra* **34** (1975), 309–330. (Donald E. Taylor) **51** #8243 20D15

(*with* Jonah, David) Abelian subgroups of *p*-groups, an algebraic approach. *J. Algebra* **34** (1975), 386–402. (F. Pickel) **51** #5753 20D15

Konyaev, S. I. *See* **Konjaev, S. I.**

Konyndyk, Roger D. Residually central wreath products. *Pacific J. Math.* **68** (1977), *no.* 1, 99–103. (D. J. S. Robinson) **56** #3132 20F25

Konyškova, E. M. The solution of a characteristic singular integral equation with infinite index. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **65** (1972), 535–538. (A. Corduneanu) **45** #4079 45E05

The characteristic singular integral equation with infinite index. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 8(135), 43–53. (Şt. I. Gheorghiţă) **48** #6843 45E05

Konyuh, V. S. *See* **Konjuh, V. S.**

Konyukhova, N. B. *See* **Konjuhova, N. B.**

Koo, Delia ★Elements of optimization. With applications in economics and business. Heidelberg Science Library. *Springer-Verlag, New York-Heidelberg*, 1977. ix+220 *pp.* *ISBN* 0-387-90263-5 (A. A. Piontkovskiĭ) **58** #23845 49–01 (90–01, 93C99)

Koo, Robert L. (*with* Sobral, M., Jr.) Pole sensitivity in coupling networks. *J. Franklin Inst.* **300** (1975), *no.* 3, 203–207. (Authors' summary) **56** #11586 94A20

Koo, Shu Chung (*with* Gait, Jason) Averages of functions and ergodic measures in *F*-spaces. *Math. Systems Theory* **6** (1972), 23–25. (Karl Petersen) **46** #4509 54H20

Recursive properties of transformation groups in hyperspaces. *Math. Systems Theory* **9** (1975), *no.* 1, 75–82. (L. King) **52** #9201 54H20

Koohara, Akira Similarity principle of the generalized Cauchy-Riemann equations for several complex variables. *J. Math. Soc. Japan* **23** (1971), 213–249. (E. Kreyszig) **51** #10668 32A30 (35F05)

Representation of pseudo-holomorphic functions of several complex variables. *J. Math. Soc. Japan* **28** (1976), *no.* 2, 257–277. (Wolfgang Tutschke) **55** #704 32A30 (35N10)

Kooistra, R. C. F. Gauss and the fundamental theorem of algebra. (Dutch) *Nieuw Tijdschr. Wisk.* **64** (1976/77), *no.* 4, 173–175. (J. S. Joel) **57** #15895 01A55

kia-Koojoori, T. *See* **Kia-Koojoori, T.**

Kool, A. I. M. (*with* Boehm, Carl; Engelfriet, Joost; Helbig, M.; Leepin, Peter; Neuburger, Edgar; Wilkie, A. D.) Thoughts on the harmonization of some proposals for a new international actuarial notation. *Bl. Dtsch. Ges. Versicherungsmath.* **12** (1975/76), *no.* 2, 99–129. (Jacques Janssen) **54** #9026a 62P05

(*with* Boehm, Carl; Engelfriet, Joost; Helbig, M.; Leepin, Peter; Neuburger, Edgar; Wilkie, A. D.) Translation of some sections of C. W. Jordan, Society of Actuaries textbook on life contingencies, 1967, into the publication language proposed in the paper "Some thoughts on a harmonization of some proposals for a new international actuarial notation" (Bl. Dtsch. Ges. Versicherungsmath. 12 (1975/76), no. 2, 99–129). *Bl. Dtsch. Ges. Versicherungsmath.* **12** (1975/76), *no.* 3, 275–282. (Jacques Janssen) **54** #9026b 62P05

Koonin, S. E. (*with* Kerman, A. K.) Hamiltonian formulation of time-dependent variational principles for the many-body system. *Ann. Physics* **100** (1976), *no.* 1-2, 332–358. (H. S. P. Grässer) **54** #14646 81.49

(*with* Randrup, J.) Classical theory for one-body nuclear dynamics. *Nuclear Phys. A* **289** (1977), *no.* 2, 475–510. (Authors' summary) **58** #32639 81.65

Koontz, Warren L. G. (*with* Fukunaga, Keinosuke) A nonparametric valley-seeking technique for cluster analysis. *IEEE Trans. Computers* **C-21** (1972), 171–178. (Jana Zvárová) **50** #3672 68A45

(*with* Narendra, Patrenahalli M.; Fukunaga, Keinosuke) A branch and bound clustering algorithm. *IEEE Trans. Computers* **C-24** (1975), *no.* 9, 908–915. (Authors' summary) **53** #12581 (E **57** #11794) 90C10 (68A45)

(*with* Narendra, Patrenahalli M.; Fukunaga, Keinosuke) A graph-theoretic approach to nonparametric cluster analysis. *IEEE Trans. Computers* **C-25** (1976), *no.* 9, 936–944. (Authors' summary) **58** #8566 68A45 (62H30)

See also **Wetjen, Andreas**, **57** #11794

Koontz, Wendy Convex sets of some doubly stochastic matrices. *J. Combinatorial Theory Ser. A* **24** (1978), *no.* 1, 111–112. (James R. Wall) **57** #3171 15A51

Koop, John C. Bias of the estimate of correlation for a finite universe. *Symmetric functions in statistics* (*Proc. Sympos. in Honor of Paul S. Dwyer, Univ. Windsor, Windsor, Ont.*, 1971), *pp.* 121–129. *Univ. Windsor, Windsor, Ont.*, 1972. (M. L. Tiku) **49** #10022 62F10

Notes for a unified theory of estimation for sample surveys taking into account response errors. *Metrika* **21** (1974), 19–39. (J. Sedransk) **51** #14337 62D05

Bias reduction and efficiency of reconstructed ratio estimators for a finite universe. *Ann. Inst. Statist. Math.* **28** (1976), *no.* 3, 461–467. (Victor K. T. Tang) **55** #4459 62D05

See also **Mahalanobis, Prasanta Chandra**, **51** #2066; **Sukhatme, B. V.; et al.**, **51** #9292; **Rao, C. Radhakrishna**, **52** #4482; **Hartigan, John A.**, **52** #9430; **Royall, Richard M.**, **54** #6344 *and* **Basu, D.**, **54** #11600

Koopman, Bernard Osgood *See* **Operational Research**, **49** #12059

Koopmans, L. H. (*with* Qualls, Clifford) An exponential probability bound for the energy of a type of Gaussian process. *Ann. Math. Statist.* **43** (1972), 1953–1960. (B. Brainerd) **50** #14908 60G15

(*with* Davis, Herbert T.) Adaptive prediction of stationary time series. *Sankhyā Ser. A* **35** (1973), 5–22. (P. J. Huber) **50** #15228 62M20

★The spectral analysis of time series. Probability and Mathematical Statistics, Vol. 22. *Academic Press [A subsidiary of Harcourt Brace Jovanovich, Publishers], New York-London*, 1974. xiv+366 *pp.* (E. J. Hannan) **50** #1447 62M15

(*with* Martin, N.; Pathak, Pramod K.; Qualls, Clifford) On the divergence of a certain random series. *Ann. Probability* **2** (1974), 546–550. (V. K. Rohatgi) **50** #8689 60G50

Koopmans, Tjalling C. A model of a continuing state with scarce capital. *Contributions to the von Neumann growth model* (*Proc. Conf., Inst. Advanced Studies, Vienna*, 1970), *pp.* 11–22. *Zeitschrift für Nationalökonomie, Supplementum* 1, *Springer, New York*, 1971. (Michael D. Intriligator) **51** #12299 90A15

(*with* Hansen, Terje) Definition and computation of a capital stock invariant under optimization (an abstract). *Mathematical topics in economic theory and computation* (*Sympos. Math. Econom., SIAM Fall Meeting, Univ. Wisconsin, Madison, Wis.*, 1971), *pp.* 113–121. *Soc. Indust. Appl. Math., Philadelphia, Pa.*, 1972. (Authors' summary) **55** #7302 90A10

(*with* Hansen, Terje) On the definition and computation of a capital stock invariant under optimization. *J. Econom. Theory* **5** (1972), *no.* 3, 487–523. **56** #14589a (E **56** #14589b) 90A15

(*with* Hansen, Terje) Erratum: "On the definition and computation of a capital stock invariant under optimization" (J. Econom. Theory 5 (1972), no. 3, 487–523). *J. Econom. Theory* **6** (1973), *no.* 5, 525. **56** #14589b 90A15

See also **Nobel laureates**, **53** #5234 *and* **Nobel laureates**, **56** #5180

Koornwinder, Tom H. (*with* Dijksma, Aalt) Spherical harmonics and the product of two Jacobi polynomials. *Nederl. Akad. Wetensch. Proc. Ser. A* **74** = *Indag. Math.* **33** (1971), 191–196. (B. R. Bhonsle) **45** #610 33A65

The addition formula for Jacobi polynomials. I. Summary of results. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 188–191. (R. A. Askey) **46** #7590 33A65

Explicit formulas for special functions related to symmetric spaces. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, Mass.*, 1972), *pp.* 351–354. *Amer. Math. Soc., Providence, R.I.*, 1973. (R. A. Askey) **49** #10937 33A65 (43A85)

(*with* Flensted-Jensen, Mogens) The convolution structure for Jacobi function expansions. *Ark. Mat.* **11**, 245–262 (1973). (G. Gasper) **49** #5688 42A56 (33A65)

The addition formula for Jacobi polynomials and spherical harmonics. Lie algebras: applications and computational methods (Conf., Drexel Univ., Philadelphia, Pa., 1972). *SIAM J. Appl. Math.* **25** (1973), 236–246. (R. A. Askey) **49** #10938 (EA **50**) 33A65 (43A85)

Orthogonal polynomials in two variables which are eigenfunctions of two algebraically independent partial differential operators. I. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 48–58. (J. V. Baxley) **49** #5425a 33A65

Orthogonal polynomials in two variables which are eigenfunctions of two algebraically independent partial differential operators. II. *Nederl. Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 59–66. (J. V. Baxley) **49** #5425b 33A65

Orthogonal polynomials in two variables which are eigenfunctions of two algebraically independent partial differential operators. III. *Nederl. Akad. Wetensch. Proc. Ser. A.* **77** = *Indag. Math.* **36** (1974), 357–369. (J. V. Baxley) **50** #1 a 33A65 (42A56, 43A85)

Orthogonal polynomials in two variables which are eigenfunctions of two algebraically independent partial differential operators. IV. *Nederl. Akad. W sch Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 370–381. (J. V. Baxley) **50** #10 b 33A65 (42A56, 43A85)

Jacobi polynomials. II. An analytic proof of the product formula. *SIAM J. ath. Anal.* **5** (1974), 125–137. (R. P. Soni) **52** #6063 33A65

Two-variable analogues of the classical orthogonal polynomials. *Theory and application of special functions* (*Proc. Advanced Sem., Math. Res. Center, Univ. Wi sin. Madison, Wis.*, 1975), *pp.* 435–495. *Math. Res. Center, Univ. Wisconsin, Publ.* 35 *Academic Press, New York*, 1975. (R. A. Askey) **53** #5967 33A75

A new proof of a Paley-Wiener type theorem for the Jacobi transform. *Ar at* **13** (1975), 145–159. (G. Gasper) **51** #11028 44A15 (42A56)

Jacobi polynomials. III. An analytic proof of the addition formula. *SIAM. J. th. Anal.* **6** (1975), 533–543. (G. Gasper) **56** #5969 33A65

A note on the absolute bound for systems of lines. *Nederl. Akad. Wetensch oc Ser. A* **79** = *Indag. Math.* **38** (1976), *no.* 2, 152–153. (J. J. Seidel) **53** #7977 325 (50D40)

Harmonics and spherical functions on Grassmann manifolds of rank tw nd two-variable analogues of Jacobi polynomials. *Constructive theory of functions of ral variables* (*Proc. Conf., Math. Res. Inst., Oberwolfach*, 1976), *pp.* 141–154. *Lecture tes in Math., Vol.* 571, *Springer, Berlin*, 1977. (W. A. Al-Salam) **58** #6402 65 (43A85)

Yet another proof of the addition formula for Jacobi polynomials. *J. Math. al Appl.* **61** (1977), *no.* 1, 136–141. (T. S. Chihara) **56** #16020 33A65

The addition formula for Laguerre polynomials. *SIAM J. Math. Anal.* **8** (197 no. 3, 535–540. (M. Mikolás) **56** #12357 33A65

Positivity proofs for linearization and connection coefficients of orthogonal polynomials satisfying an addition formula. *J. London Math. Soc.* (2) **18** (1978), 1, 101–114. (R. A. Askey) **58** #12175 42A56 (33A65, 33A75)

(*with* Sprinkhuizen-Kuyper, Ida) Hypergeometric functions of 2×2 matrix argument are expressible in terms of Appel's functions F_4. *Proc. Amer. Math. S* 70 (1978), *no.* 1, 39–42. (P. N. Rathie) **57** #12926 33A30

(*with* Sprinkhuizen-Kuyper, Ida) Generalized power series expansions for a cl of orthogonal polynomials in two variables. *SIAM J. Math. Anal.* **9** (1978), *no.* 3, 457 (G. Gasper) **58** #12170 42A52 (33A70)

See also **Lie algebras: applications and computational methods**, **50** #7269 *and* **Nonlinear analysis**, **58** #12531a

Koort, A. ★Tôenäosusteooria ja statistilised meetodid. I. (Estonian) [Probability t ry and statistical methods. I] Loengukonspekt. [Lecture notes] *Automaatika Ka r. Tallinna Polätehniline Instituut, Tallinn*, 1974. 136 *pp.* (Editors) **52** #15573 (62–01)

Koosis, Paul Moyennes quadratiques de transformées de Hilbert et fonctions de e exponentiel. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A1201–A1204. (P. G. Ro y) **48** #9241 42A40 (44A15)

Sur la convolution des fonctions à support compact. *C. R. Acad. Sci. Paris r. A-B* **276** (1973), A1293–A1295. (Y. Katznelson) **49** #9537 42A96

Fonctions de type exponentiel, presque bornées et de croissance irrégulière sur e réel. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 5, *A*345– 5. (Author's summary) **56** #3290 30A64

Koozekanani, Said H. (*with* McGhee, Robert B.) Occupancy problems with pair e exclusion constraints—an aspect of gait enumeration. *J. Cybernet.* **2** (1972), *n* 14–26. (W. G. Brown) **50** #129 05A15 (92A05)

Kopáček, J. *See* **Dictionary: Czech-Russian**, **50** #4202

Kopáček, Jiřī Correction to: "On pairs of matrices with property *L*" (Comment. M Univ. Carolinae **8** (1967) 453–457). *Comment. Math. Univ. Carolinae* **13** (1972), (Editors) **50** #4624 15A27

On L_p-estimates for hyperbolic systems. *Czechoslovak Math. J.* **23(98)** (19 419–436. (W. F. Ames) **47** #5452 35L40

Kopacek, P. Identifikation von Regelsystemen mit veränderlichen Parametern. (Eng summary) *Regelungstech.* **24** (1976), *no.* 11, 361–370. (Jiří Šústal) **57** #11865 93 (93E10)

Kopačevs'kiī, N. D. (*with* Myškis, A. D.; Tjupcov, A. D.) Oscillations of a fluid ur conditions of complete or partial weightlessness. (Russian) *Mat. Fiz. i Funkcional. A Vyp.* 1 (1969), 5–23, 256. (RŽMat **1970** #8 B393) **58** #32338 76.35

The oscillations of immiscible fluids. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* (1973), 1249–1263, 1365. (M. Yanowitch) **49** #1907 76.35

Oscillations of a capillary viscous rotating fluid. (Russian) *Dokl. Akad. Nauk SS* **219** (1974), 1065–1068. (Piero Bassanini) **51** #14734 76.35

The Cauchy problem for small motions of an ideal capillary rotating fluid. (Russi *Dokl. Akad. Nauk SSSR* **219** (1974), 1310–1313. (Piero Bassanini) **51** #14735 7

Oscillations of a capillary viscous fluid (a model problem). (Russian) *Proceeding the Sixth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1973), *Functional analysis and its applications* (*Russian*), *pp.* 197–214. *Ak Nauk SSSR Central. Èkonom.-Mat. Inst., Moscow*, 1975. (Editors) **57** #8427 76

(*with* Babskiī, V. G.; Myškis, A. D.; Slobožanin, L. A.; Tjupcov, A. D.) Approximate methods in the hydromechanics of weightlessness. (Russian) *Questions mathematical physics and functional analysis* (*Proc. Res. Sem. Inst. Low Temp. Ph Engrg., Kharkov*) (*Russian*), *pp.* 83–92, 173. "*Naukova Dumka*", *Kiev*, 1976. (Authc summary) **58** #14247 76.35

(*with* Radjakin, N. K.) Two problems on the normal oscillations of a system low-viscosity capillary fluids. (Russian. English summary) *Questions on mathemati physics and functional analysis* (*Proc. Res. Sem. Inst. Low Temp. Phys. Engrg., Kharkc* (*Russian*), *pp.* 93–110, 173. "*Naukova Dumka*", *Kiev*, 1976. (Authors' summary) **58** #14281 76.35

(*with* Radjakin, N. K.) Small oscillations of an ideal capillary fluid rotating in axially symmetric container. (Russian) *Questions on numerical mathematics and computer science* (*Proc. Res. Sem., Inst. Low Temp. Phys. Engrg., Kharkov*, 197 (*Russian*), *pp.* 3–25. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (Jakub Siemek) **55** #7092 76.35

Normal oscillations of a system of heavy viscous rotating fluids. (Russian. English mmary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 7, 586–590, 668. (Author's mmary) **58** #19717 76.35

The existence of surface waves in the problem of normal oscillations of an ideal iid that rotates in a partially filled container. (Russian) *Funkcional. Anal. i Priložen.* (1978), *no.* 2, 84–85. (From the introduction) **58** #19677 76.34

ková, Marie On periodic solutions of some equations of mathematical physics. *Apl. at.* **18** (1973), 33–42. (Joseph J. Roseman) **47** #606 35B10 (35G30)

(*with* Vejvoda, Otto) Periodic vibrations of an extensible beam. (Czech and loose ussian summaries) *Časopis Pěst. Mat.* **102** (1977), *no.* 4, 356–363, 426. (John M. Ball) #11832 35B10 (73.35)

, Zdeněk On secular stability of rapidly rotating stars of arbitrary structure. *strophys. and Space Sci.* **24** (1973), *no.* 1, 145–174. (William B. Heard) **48** #13182 5.35

nev, S. A. (*with* Aleksandrov, I. A.; Zavozin, G. G.) Optimal controls in coefficient roblems for univalent functions. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 4, 99–611, 771. (T. Giec) **54** #536 30A34

s, Melichar Automorphisms of a certain class of configurations. (Russian. Loose nglish summary) *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 257–266. (J. Cofman) 8 #10862 05B30

senko, V. V. Investigation of the algebraic system of infinite order occurring in solving he problem for a semi-strip. *Prikl. Mat. Meh.* **37** (1973), 715–723 (*Russian*); *translated s J. Appl. Math. Mech.* **37** (1973), 674–682. (I. M. Longman) **49** #6724 73.35

(*with* Lebedev, V. K.) The mixed problem of elasticity theory for the quarter space. Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1977**, *no.* , 30–31, 116. (Authors' summary) **58** #14231 73.65 (65N30)

enov, V. D. Application of imbedding theorems to the solution of variational problems with a small parameter. (Russian) *Imbedding theorems and their applications* (*Proc. Sympos., Baku,* 1966) (*Russian*), *pp.* 119–127, 245. *Izdat. "Nauka", Moscow,* 1970. (J. Kačur) **47** #5581 46E35 (35J15)

A method of fictitious domains for the second and third boundary value problems. (Russian) Studies in the theory of differentiable functions of several variables and its applications, V. *Trudy Mat. Inst. Steklov.* **131** (1974), 119–127, 246. (V. V. Kovrižkin) **51** #3683 35J25

See also **Theory and applications of differentiable functions of several variables,** **52** #14951

čenova, N. V. On the nonlinear theory of the bending of circular plates. (Russian) *Prikl. Meh.* **8** (1972), *no.* 9, 41–48, 141. (Author's summary) **50** #3730 73.65

(*with* Maron, I. A.) ★Computational mathematics. Worked examples and problems with elements of theory. Translated from the Russian by V. Shiffer. Revised from the 1972 Russian edition. *Mir Publishers, Moscow,* 1975. 395 *pp.* (Editors) **52** #4567 65–01

pczyński, W. A non-singular universe with torsion. *Phys. Lett.* **39A** (1972), 219–220. (R. L. Ingraham) **48** #5594 83.53

(*with* Arkuszewski, W.; Ponomarev, V. N.) On the linearized Einstein-Cartan theory. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **21** (1974), 89–95. (J. Charles-Renaudie) **50** #12118 83.53

The Palatini principle with constraints. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 4, 467–473. (A. Crumeyrolle) **51** #14872 83.53

(*with* Arkuszewski, W.; Ponomarev, V. N.) Matching conditions in the Einstein-Cartan theory of gravitation. *Comm. Math. Phys.* **45** (1975), *no.* 2, 183–190. (Barry Aronson) **52** #12686 83.53

The Einstein-Cartan theory of gravitation. Symposium on Relativity and Gravitation (Brno, 1975). *Scripta. Fac. Sci. Natur. UJEP Brunensis-Phys.* **5** (1975), *no.* 3-4, 255–263. (M. N. Mahanta) **55** #14054 83.53

opeč, J. (*with* Jurksztowicz, Z.) On orders of growth of the entire functions represented by the Dirichlet series. *Comment. Math. Prace Mat.* **17** (1973), 97–103. (Editors) **54** #2933 30A16

opeč, M. M. Solution of a certain optimal control problem in Hilbert space by the conditional gradient method. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 509–512, 573. (A. B. Kuržanskiĭ) **47** #933 49D99 (34G05)

A certain control problem in Hilbert space. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 696–698, 764. (A. B. Kuržanskiĭ) **47** #934 49D99 (34G05)

Application of the conditional gradient method to the solution of a certain optimal control problem in Hilbert space. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 781–785, 859. (A. B. Kuržanskiĭ) **47** #935 49D99 (34G05)

The optimal control of a system with free initial and final states in Hilbert space. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1728–1729, 1743. (G. N. Mil'šteĭn) **49** #7884 49B30

Certain optimal control problems in Hilbert space. (Russian. English summary) (H. O. Fattorini) **48** #7059 *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 20 (1973), 155–161, 167. 49A25

Certain game problems in Hilbert space. (Russian. English summary) *Vyčisl. Prikl.* **48** #2516 34G05 (90D25) *Mat.* (*Kiev*) *No.* 21 (1973), 122–128, 161. (A. Szép)

(*with* Beĭko, I. V.) The zero controllability of linear stationary systems in a Banach (J. Kúčera) **53** #3836 space. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 1, 70–72, 142. 49E15 (93B05, 93C25)

The controllability of a linear system in a Banach space. (Russian) *Differencial'nye* (Author's summary) **56** #9390 49B30 *Uravnenija* **13** (1977), *no.* 3, 561–563, 575.

Kopeček, Ivan (*with* Veselý, Vítězslav) Monomorphisms in the categories of connected algebraic systems with strong homomorphisms. *Arch. Math.* (*Brno*) **12** (1976), *no.* 3, 153–168. (Wilfred G. Malcolm) **56** #2882 06A10 (18A20)

Kopeček, Oldřich Das Produkt von Hüllenstrukturen. *Arch. Math.* (*Brno*) **7** (1971), 87–98. (H. Herrlich) **46** #116 08A05

Die arithmetischen Operationen für Kategorien. (Russian summary) *Scripta Fac.* (H. Gonshor) **49** #5116 *Sci. Natur. UJEP Brunensis—Math.* **3** (1973), 23–36. 18A99

(*with* Novotný, Miroslav) On some invariants of unary algebras. *Czechoslovak Math. J.* **24(99)** (1974), 219–246. (Terence P. Speed) **50** #205 08A05

Construction of all machine homomorphisms. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 8, 655–658. (Heinrich Seidel) **55** #4787 68A25 (08A05)

Homomorphisms of partial unary algebras. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 1, 108–127. (M. Novotný) **52** #13572 08A05

The category of connected partial unary algebras. (Loose Russian summary) *Czechoslovak Math. J.* **27(102)** (1977), *no.* 3, 415–423. (M. Novotný) **56** #11874 08A25 (18C99)

Existence of monomorphisms of partial unary algebras. *Czechoslovak Math. J.* **28(103)** (1978), *no.* 3, 462–473. (Maurizio Fattorosi-Barnaba) **58** #5463 08A25

Kopeĭka, P. I. Remarks on the investigation of the stability of discontinuous solutions of the equations of gas dynamics. (Russian) *Prikl. Mat. i Programmirovanie No.* 8 (1972), 161–164. (Author's summary) **50** #9150 76.35

Kopeĭkin, A. B. (*with* Dubov, Ju. A.; Ikoeva, N. V.; Imel'baev, Š. S.; Kabakov, A. B.; Koval'čuk, S. G.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul'jan, B. L.) Mathematical simulation of the development of urban systems. *Avtomat. i Telemeh.* **1975**, *no.* 11, 93–127 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 2, 1831–1862 (1976). (Kenneth F. Wieand) **55** #7306 90A15 (92A15, 93C10)

(*with* Dubov, Ju. A.; Ikoeva, N. V.; Imel'baev, Š. S.; Koval'čuk, S. G.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul'jan, B. L.) Optimal planning and control problems in the development of conurbations (survey and research problems). *Avtomat. i Telemeh.* **1976**, *no.* 6, 78–116 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 6, *part* 2, 879–912. (Andrew P. Sage) **55** #14069 90–02 (93–02)

Kopeĭkin, Ju. D. (*with* Šiškin, V. P.) Direct solution of boundary value problems of elasticity theory for solids of revolution on the basis of Somigliana's integral formula. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 3, 36–41, 141. (R. Kodnár) **57** #2051 73.35

Kopeĭkina, T. B. (*with* Gabasov, R. F.; Ževnjak, R. M.; Kirillova, F. M.) Relative observability of linear systems. I. Standard systems. *Avtomat. i Telemeh.* **1972**, *no.* 8, 5–15, (*Russian*); *translated as Automat. Remote Control* **33** (1972), *no.* 8, *part* 1, 1251–1261 (1973). (I. H. Mufti) **52** #7603 93B05

The identifiability of linear nonstationary systems. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1507–1510. (M. I. Imanaliev) **46** #9483 34H05

(*with* Gabasov, R. F.; Ževnjak, R. M.; Kirillova, F. M.) Conditional observability of linear systems. (Russian. English summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **1** (1972), *no.* 3-4, 217–238. (V. N. Igolkin) **51** #7659 93E05

(*with* Muljarčik, V. V.) The parametric observability of systems with lag. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 3, 53–56, 136. (I. Muntean) **52** #11717 49E15

(*with* Muljarčik, V. V.) The observability and identifiability of systems with lag. (Russian) *Differencial'nye Uravnenija* **10** (1974), 933–935, 958. (M. M. Konstantinov) **49** #8700 93B05 (49E99)

Observability of nonlinear systems in critical cases with lag in the measuring device. (Russian) *Differential and integral equations, No.* 3 (*Russian*), *pp.* 257–264, 305. *Irkutsk. Gos. Univ., Irkutsk,* 1975. (Author's summary) **58** #33250 93B05

(*with* Astrovskiĭ, A. I.) On the theory of the observability of nonstationary systems with lag. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 3, 10–15, 92. (Editors) **58** #15378 93B05 (34K05)

See also **Mathematical methods and their application,** 57 #15808

Kopeĭko, V. I. (*with* Suslin, A. A.) Quadratic modules and the orthogonal group over polynomial rings. (Russian) Modules and representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **71** (1977), 216–250, 287. (Chr. U. Jensen) **57** #9694 13F20 (10C05, 13B99, 18F25)

Quadratic spaces and quaternion algebras. (Russian) Rings and linear groups. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **75** (1978), 110–120, 197. (Chr. U. Jensen) **58** #16642 13F20 (10C05)

Kopelevič, B. M. Prevention of duplicated systems. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 5, 49–55. (V. Kaštanov (RŽMat **1970** #4 V233)) **45** #9666 90B25

Kopelevič, Ju. H. Francis Bacon and the emergence of academies of science. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1972**, *no.* 1(38), 19–25, 125, 134. (Editors) **58** #26902 01A45 (70.01)

(*with* Kol'cov, A. V.; Soboleva, E. V.) Two hundred and fifty years of the Academy of Sciences of the USSR: from the history of the Academy. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1973**, *no.* 4(45), 3–18, 103, 113. (Editors) **57** #5560 01A05

★Возникновение научных академий: середина XVII—середина XVIII в. (Russian) [Rise of the scientific academies: mid-seventeenth to mid-eighteenth centuries] *Izdat. "Nauka" Leningrad. Otdel., Leningrad,* 1974. 267 *pp.* (Editors) **52** #13143 01A45 (01A50)

Kopelevič, N. M. Homological determinacy of *p*-adic representations of nonsemisimple rings with a basis of powers. (Russian) *Mat. Zametki* **14** (1973), 407–417. (E. Enochs) **48** #11072 12G99

On the *p*-adic representation of rings with a power base. (Russian) *Mat. Zametki* **17** (1975), 265–276. (I. Reiner) **52** #10862 20C10 (13C05)

Kopell, Nancy (*with* Howard, Louis N.) Plane wave solutions to reaction-diffusion equations. *Studies in Appl. Mat.* **52** (1973), 291–328. (J. Adler) **50** #12003 80.34

(*with* Howard, Louis N.) Wave trains, shock fronts, and transition layers in reaction-diffusion equations. *Mathematical aspects of chemical and biochemical problems and quantum chemistry* (*Proc. SIAM-AMS Sympos. Appl. Math., New York,* 1974), *pp.* 1–12. *SIAM-AMS Proceedings, Vol. VIII, Amer. Math. Soc., Providence, R. I.,* 1974. (J. Smoller) **55** #6017 35K55 (80.35)

(*with* Howard, Louis N.) Pattern formation in the Belousov reaction. *Some mathematical questions in biology, VI* (*Proc. Eighth Sympos., Mathematical Biology, San Francisco, Calif.,* 1974), *pp.* 201–216. *Lectures on Math. in the Life Sciences, Vol.* 7, *Amer. Math. Soc., Providence, R.I.,* 1974. (J. Smoller) **56** #9077 35K55 (80.35)

(*with* Howard, Louis N.) Bifurcations under nongeneric conditions. *Advances in*

Math. **13** (1974), 274–283. (K. E. Swick) **49** #10979 34D15

(*with* Howard, Louis N.) Bifurcations and trajectories joining critical points. *Advances in Math.* **18** (1975), *no.* 3, 306–358. (A. A. Reinfelds) **53** #938 34C05 (58F99)

(*with* Stolzenberg, Gabriel) Commentary on E. Bishop's talk (Historia Math. **2** (1975), 507–517). Proceedings of the American Academy Workshop on the Evolution of Modern Mathematics (Boston, Mass., 1974). *Historia Math.* **2** (1975), *no.* 4, 519–521. (Timothy G. McCarthy) **58** #16192b 02Exx (02A05)

(*with* Howard, Louis N.) Slowly varying waves and shock structures in reaction-diffusion equations. *Studies in Appl. Math.* **56** (1976/77), *no.* 2, 95–145. (H. Beckert) **58** #29268 35K55 (76.35, 92A05)

Waves, shocks and target patterns in an oscillating chemical reagent. *Nonlinear diffusion (NSF-CBMS Regional Conf. Nonlinear Diffusion Equations, Univ. Houston, Houston, Tex.,* 1976), *pp.* 129–154. *Res. Notes Math., No.* 14, *Pitman, London,* 1977. (Author's summary) **57** #18507 80.35 (35K99)

See also **Marsden, Jerrold Eldon; et al., 58** #13209

Kopelman, Raoul Interchange symmetry. I. Molecules, crystals, and excitons. *J. Chem. Phys.* **47** (1967), 2631–2648. (J. E. Lowther) **51** #2549 82.06

Koper, Chester A., Jr. (*with* Kelman, Robert B.) Least squares approximations for dual trigonometric series. *Glasgow Math. J.* **14** (1973), 111–119. (From the authors' introduction) **48** #7540 65D15 (45F10)

See also **Influence of computing on mathematical research and education, 49** #7058

Kopetzky, Hans Günther Über die Grössenordnung der Teilerfunktion in Restklassen. (English summary) *Monatsh. Math.* **82** (1976), *no.* 4, 287–295. (D. H. Lehmer) **55** #2810 10H35

(*with* Schnitzer, F. J.) Bemerkungen zu einem Approximationssatz für regelmässige Kettenbrüche. *J. Reine Angew. Math.* **293/294** (1977), 437–440. (Roland Fischer) **56** #266 10F20

Ein asymptotischer Ausdruck für eine zahlentheoretische Funktion. (English summary) *Monatsh. Math.* **84** (1977), *no.* 3, 213–217. (Ernst Heppner) **57** #12427 10H25

Kopf, Christoph Ausdehnung von Markoff-Prozessen auf erweiterte Parametermengen. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **22** (1972), 101–111. (S. J. Taylor) **46** #6477 60J25

Zum Einbettungsproblem für Markoff-Prozesse. (English summary) *Monatsh. Math.* **81** (1976), *no.* 2, 119–129. (F. B. Knight) **53** #4242 60J35

Remarks on a lemma in ergodic theory. *Math. Z.* **157** (1977), *no.* 1, 97–99. (U. Krengel) **58** #6163 28A65

Köpf, Ursula Über eigentliche Familien algebraischer Varietäten über affinoiden Räumen. *Schr. Math. Inst. Univ. Münster* (2) *Heft* 7 (1974), iv + 72 *pp.* (C. Bănică) **54** #10657 32C35 (14D05, 14F15, 32K10)

Kopfermann, Klaus Ultraprodukte endlicher Körper. *J. Reine Angew. Math.* **253** (1972), 138–140. (M. Stojaković) **45** #6792 12C30

Ultraprodukte endlicher Körper. *J. Reine Angew. Math.* **259** (1973), 211–218. (P. Samuel) **47** #193 12F20

Kopiecki, Ryszard (*with* Saralski, Bogdan; Waligóra, Gerald) The research of Jaśkowski on decidability theory of first order sentences. I. Stanisław Jaśkowski's achievements in mathematical logic (Proc. 20th Conf. History of Logic, Cracow, 1974). *Studia Logica* **34** (1975), *no.* 2, 201–214. (Egon Börger) **54** #86 02G05 (02B10, 02D99)

See also **Šabat, B. V., 58** #28443b

Kopielski, Thomas (*with* Damm, Heinz) Eine Verallgemeinerung eines Satzes von A. A. Feldbaum. (English and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optim.* **9** (1978), *no.* 1, 89–94. (Authors' summary) **58** #26294 93C05

Kopilevič, Ju. I. (*with* Ladyženskaja, O. A.) The initial-boundary value problem for the Navier-Stokes equations in domains that contract to a point as $t \to +0$. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **21** (1971), 52–64. (R. Finn) **46** #7731 76.35

The traces of elements of the space V_2. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **22** (1971), 183–189. (Simona Popp) **45** #6266 46E35

See also **Boundary value problems of mathematical physics and related aspects of function theory, 49** #4700 *and* **Investigations in linear operators and function theory, 49** #5761

Kopiński, Ireneusz A remark on Fermat's last theorem. (Polish. English summary) *Wyż. Szkoł. Ped. w Katowicach—Zeszyty Nauk. Sekc. Mat. No.* 6 (1968), 43–44. (K. Szymiczek) **47** #1738 10B15

Kopistira, M. P. *See* **Kopystyra, M. P.**

Koplatadze, R. G. The oscillatoriness of solutions of second order differential equations with retarded argument. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **60** (1970), 269–272. (C. V. Coffman) **46** #3950 34K15

A note on the oscillation of solutions of second order differential equations with retarded argument. (Russian. English and loose English summaries) *Mat. Časopis Sloven. Akad. Vied* **22** (1972), 253–261. (Á. Elbert) **47** #3792 34K15

The existence of oscillatory solutions of second order nonlinear differential equations with retarded argument. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 260–262. (M. M. Konstantinov) **47** #9019 34K15

On oscillatory solutions of second order delay differential inequalities. *J. Math. Anal. Appl.* **42** (1973), 148–157. (H. E. Gollwitzer) **48** #675 34K15

The oscillating solutions of nonlinear first order differential equations with retarded argument. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **70** (1973), 17–20. (L. J. Grimm) **50** #13814 34K15

A note on the conjugacy of the solutions of higher order differential inequalities and equations with retarded argument. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1400–1405, 1538. (G. Ladas) **50** #10491 34K15

The oscillatory nature of the solutions of differential inequalities and second order differential equations with retarded argument. (Russian) *Math. Balkanica* **5** (1975), 163–172. (Author's summary) **58** #22925 34K15

Some properties of the solutions of nonlinear differential inequalities and equations with retarded argument. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 11, 1971–1984, 2108. (M. I. Kamenskiĭ) **57** #6717 34K05 (34A40)

The oscillation of the solutions of a certain *n*th order differential inequali retarded argument. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 2, 233–237, 286. (T Dłotko) **54** #685 34K15

(*with* Čanturija, T. A.) ★Об осцилляционных свойствах дифференциальны уравнений с отклоняющимся аргументом. (Russian) [Oscillation properties of differential equations with deviating argument] With Georgian and English sum *Izdat. Tbilis. Univ., Tbilisi,* 1977. 115 *pp.* (A. Staruszkiewicz) **58** #11797 34K

Oscillatory solutions of differential inequalities and higher order equation retarded argument. (Russian. Georgian and English summaries) *Sakharth. SSR Akad. Moambe* **89** (1978), *no.* 1, 37–39. (Editors) **58** #22926 34K15

Koplienko, L. S. On the theory of the spectral shift function. (Russian) *Probl mathematical physics, No.* 5: *Spectral theory* (*Russian*), *pp.* 62–72. *Izdat. Leningrad. Leningrad,* 1971. (H. Langer) **46** #9775 47A40

The local variant of the theory of the spectral shift function. (Russian) *Dokl. Nauk SSSR* **205** (1972), 26–29. (H. Langer) **46** #9776 47A40

(*with* Birman, M. Š.; Solomjak, M. Z.) Estimates of the spectrum of a differe fractional powers of selfadjoint operators. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 3(154), 3–10. (Edward Azoff) **52** #6458 47A10 (47B05

See also **Spectral theory, 49** #4733

Koplik, J. (*with* Neveu, André; Nussinov, S.) Some aspects of the planar pertur series. *Nuclear Phys. B* **123** (1977), *no.* 1, 109–131. (Authors' summary) **56** #1 81.05

(*with* Halpern, M. B.) Faddeev-Popov procedure and Gribov copies. *Nuclear B* **132** (1978), *no.* 3-4, 239–248. (Authors' summary) **58** #14659 81.47

Koplowitz, Jack (*with* Roberts, Richard A.) Sequential estimation with a finite sta *IEEE Trans. Information Theory* **IT-19** (1973), 631–635. **55** #12310 94A15 (6

(*with* Krishnan, K. R.) Network synchronization with variable discrete c corrections. *Proceedings of the Eighteenth Midwest Symposium on Circuits and Sy (Concordia Univ., Montreal, Que.,* 1975), *pp.* 428–432. *Western Periodicals, North Hollywood, Calif.,* 1975. (Jerzy Seidler) **56** #11588 94A20 (93C55)

Necessary and sufficient memory size for *m*-hypothesis testing. *IEEE Information Theory* **IT-21** (1975), 44–46. (O. Gulyás) **51** #5220 94A35 (62F05, 68A45)

(*with* Krishnan, K. R.) Network synchronization with variable discrete c corrections. *Internat. J. Control* **23** (1976), *no.* 5, 729–740. (Erol Gelenbe) **54** #4 93C55 (94A20)

Kopnin, Ju. I. Design of a conditional procedure for detecting faults in discrete de with memory. *Avtomat. i Telemeh.* **1976**, *no.* 2, 160–166 (*Russian. English summ translated as Automat. Remote Control* **37** (1976), *no.* 2, *part* 2, 266–271. (Ju. D. B **54** #9868 94A20

Kopnin, P. V. *See* **Logic, methodology and philosophy of science, 55** #7657

Kopnin, Yu. I. *See* **Kopnin, Ju. I.**

Kopocińska, Ilona *GI/M/*1 queueing systems with service rates depending on the leng queue. (Polish and Russian summaries) *Zastos. Mat.* **11** (1969/70), 265–27 Ekberg) **45** #2823 60K25

(*with* Kopociński, Bolesław) Queueing systems with feedback. (Russian summ *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 397–401. (Vijend Singh) **48** #1341 60K25

Repairman problem with an arbitrary distribution of repairment and Erlar distribution of working time. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Astronom. Phys.* **19** (1971), 649–658. (G. Arsenišvili) **48** #1349 60K30

(*with* Kopociński, Bolesław) Queueing systems with feedback. (Polish summ *Zastos. Mat.* **12** (1971/72), 373–384. (František Zítek) **49** #11660 60K25

The repairman problem. *Dissertationes Math.* (*Rozprawy Mat.*) **101** (1973), 4 (N. U. Prabhu) **47** #8090 90B25

(*with* Kopociński, Bolesław) Queueing systems with mixed input stream and feedback. (Polish summary) *Zastos. Mat.* **14** (1974), 177–183. (B. Dimitrov) **51** # 60K25

(*with* Kopociński, Bolesław) Imbedded Markov chains for certain extended queueing processes. (Polish) *Mat. Stos.* (3) **5** (1975), 103–127. (From the authors' **57** #7804 60K25

Repairman problem with arbitrary distributions of repairment and working ti (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (19 *no.* 10, 1023–1028. (Peter Franken) **57** #10843 60K10 (90B25)

Generalized piecewise Markov processes. (Polish) *Mat. Stos.* (3) **9** (1977), 117– (A. D. Wentzell (Ventcel')) **58** #13392 60K15

Piecewise Markov processes in discrete time and their certain extensions. (Po summary) *Zastos. Mat.* **16** (1977), *no.* 1, 23–38. (Richard F. Serfozo) **56** #1682 60K15 (60K25)

(*with* Kopociński, Bolesław) Steady-state distributions of queue length in the *GI/G/s* queue. (Polish summary) *Zastos. Mat.* **16** (1977), *no.* 1, 39–46. (Jacque Loris-Teghem) **56** #16832 60K25

Kopociński, Bolesław (*with* Kopocińska, Ilona) Queueing systems with feedback. (Russ summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 397– (Vijendra P. Singh) **48** #1341 60K25

(*with* Łukaszewicz, J.) Stefan Zubrzycki (26. III. 1927–18. XII. 1968). *Colloq. M* **24** (1971/72), 275–283. (Editors) **46** #1538 01A70

(*with* Łukaszewicz, J.) Stefan Zubrzycki (March 26, 1927–Dec. 18, 1968). (Polis *Wiadom. Mat.* (2) **13**, 57–65 (1971). (Editors) **53** #7691 01A70

(*with* Kopocińska, Ilona) Queueing systems with feedback. (Polish summary) *Zastos. Mat.* **12** (1971/72), 373–384. (František Zítek) **49** #11660 60K25

On the number of local extrema in a sequence of independent random variabl (Polish summary) *Zastos. Mat.* **13** (1972/73), 35–41. (J. D. Mason) **47** #968 60E05

A transportation system viewed as a queueing system. (Polish summary) *Zast Mat.* **13** (1972/73), 429–437. (C. Mohan) **48** #10459 90B20 (60K25)

★Zarys teorii odnowy i niezawodności. (Polish) [Outline of renewal and reliabil theory] Biblioteką Naukowa Inżyniera. [Science Library for the Engineer] *Warsa* 1973. 381 *pp.* (*errata insert*) (T. Rolski) **54** #11543 60K05 (60K10, 62N05)

(*with* Dziubdziela, W.; Kowal, Z.) Ultimate bearing capacity of structural syste minimal critical sets having joint elements in pairs. (Polish and Russian summaries) *h. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 719–731. (J. Murzewski) **50** #1610 73.62

A certain transport system as a queueing system. (Polish. Russian and English maries) *Przegląd Statyst.* **20** (1973), 191–200. (T. Rolski) **48** #1680 90B25

Some estimations of two-terminal series-parallel system reliability. (Polish summary) *stos. Mat.* **14** (1974), 9–16. (R. Subramanian) **49** #8624 90B25

(*with* Kopocińska, Ilona) Queueing systems with mixed input stream and feedback. olish summary) *Zastos. Mat.* **14** (1974), 177–183. (B. Dimitrov) **51** #4459 60K25

(*with* Kopocińska, Ilona) Imbedded Markov chains for certain extended queueing ocesses. (Polish) *Mat. Stos.* (3) **5** (1975), 103–127. (From the authors' text) **57** #7804 0K25

On the virtual waiting time in the $GI/G/s$ queue. (Russian summary) *Bull. Acad. lon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 9, 779–782. (Stig I. Rosenlund) #11561 60K25

(*with* Dziubdziela, W.) Limit properties of the distance random variables. (Polish. ussian and English summaries) *Przegląd Statyst.* **23** (1976), *no.* 4, 471–477. (Authors' mmary) **57** #1606 60F05 (62G30)

(*with* Jankiewicz, Maria) Steady-state distributions of piecewise Markov processes. olish summary) *Zastos. Mat.* **15** (1976), *no.* 1, 25–32. (E. Arjas) **54** #11520 60J25 0K25)

(*with* Dziubdziela, W.) Limiting properties of the k-th record values. (Polish mmary) *Zastos. Mat.* **15** (1976), *no.* 2, 187–190. (Sidney I. Resnick) **54** #8800 0F05

(*with* Rolski, Tomasz) A note on the virtual waiting time in the $GI/G/s$ queue. ussian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *o.* 12, 1279–1280. (Ralph L. Disney) **57** #7803 60K25

(*with* Kopocińska, Ilona) Steady-state distributions of queue length in the $GI/G/s$ ueue. (Polish summary) *Zastos. Mat.* **16** (1977), *no.* 1, 39–46. (Jacqueline oris-Teghem) **56** #16832 60K25

, B. Über ein Verfahren zur Gruppenbildung durch Dichtefunktionen. (English ummary) *Biometrische Z.* **18** (1976), *no.* 4, 291–296. (Margaret P. Gessaman) 6 #9822 62H30

Ein neues Verfahren zur Cluster-Analyse. (English summary) *Biometrische Z.* **18** 1976), *no.* 6, 473–476. (Arnold Levine) **56** #13455 62H30

, Herbert Eine Theorie der Semantik von Programmiersprachen. *Dritte Jahrestagung ier Gesellschaft für Informatik* (*Hamburg*, 1973), *pp.* 124–133. *Lecture Notes in Comput. Sci., Vol.* 1, *Springer, Berlin*, 1973. (Armin Cremers) **50** #11836 68A05

★Beiträge zur Theorie der Programmiersprachen. Gesellschaft für Mathematik und Datenverarbeitung, Bonn, No. 97. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1975. 115 *pp.* (Horst Reichel) **52** #4690 68A05

Über den mittleren Zeitbedarf bei der $LR(k)$-Analyse kontextfreier Sprachen. *Automata theory and formal languages* (*Second GI Conf., Kaiserslautern*, 1975), *pp.* 57–63. *Lecture Notes in Comput. Sci., Vol.* 33, *Springer, Berlin*, 1975. (Martti Penttonen) **53** #2038 68A30

p, P. Ekkehard A ratio limit theorem for contraction projections and applications. *Glasgow Math. J.* **14** (1973), 80–85. (H. Fong) **47** #5228 28A65 (60G45)

Almost everywhere convergence for Abel means of Dunford-Schwartz operators. *J. London Math. Soc.* (2) **6** (1973), 368–372. (A. Leonte) **46** #9795 47D05 (28A65)

(*with* Strauss, Dona Papert; Yeadon, F. J.) Positive Reynolds operators on Lebesgue spaces. *J. Math. Anal. Appl.* **44** (1973), 350–365. (C. R. Putnam) **48** #4813 47B37 (60G35)

A pointwise ergodic theorem for pseudo-resolvents. *J. London Math. Soc.* (2) **8** (1974), 526–528. (E. M. Klimko) **50** #573 28A65

Abelian ergodic theorems for vector-valued functions. *Glasgow Math. J.* **16** (1975), *no.* 1, 57–60. (R. J. Nagel) **52** #1359 (E **53** #14171) 47A35

Corrigendum: "Abelian ergodic theorems for vector-valued functions" (Glasgow Math. J. **16** (1975), 57–60). *Glasgow Math. J.* **17** (1976), *no.* 2, 154. (R. J. Nagel) **53** #14171 47A35

(*with* Akcoglu, Mustafa A.) Construction of dilations of positive L_p-contractions. *Math. Z.* **155** (1977), *no.* 2, 119–127. (Michael Lin) **56** #6435 47A35 (47B37, 28A65)

opp, Richard E. *See* **Techniques of optimization, 48** #5757

opp, V. G. Subgroups of groups of rotation of Lorentz spaces. (Russian) *Gravitacija i Teor. Otnositel'nosti No.* 6 (1969), 52–59. (RŽFiz **1970** #7 V163) **58** #30865 53B30 (22E05)

(*with* Višnevskiĭ, V. V.; Laptev, B. L.; Širokov, A. P.; Šulikovskiĭ, V. I.) Aleksandr Petrovič Norden (on the occasion of his seventieth birthday). (Russian) *Proceedings of the Seminar of the Department of Geometry, No. VII* (*Russian*), *pp.* 7–19. *Izdat. Kazan. Univ., Kazan*, 1974. (Editors) **53** #64 01A70

The isomorphisms that exist between certain subgroups of the groups of infinitesimal motions of Lorentz space and Euclidean and Galilean spaces. (Russian) *Proceedings of the Seminar of the Department of Geometry, No. VII* (*Russian*), *pp.* 61–67. *Izdat. Kazan. Univ., Kazan*, 1974. (R. I. Pimenov) **52** #15323 53C50

Groups of infinitesimal revolutions of six-dimensional space of zero signature. (Russian) *Trudy Geom. Sem. Kazan. Univ. Vyp.* 9 (1976), 43–53. (K. Radziszewski) **58** #18203 53A35 (22E05)

Koppa, Ju. V. (*with* Ĭvahnenko, O. G.) Selection of feature ensemble and synthesis of multilayer perceptron using self-organization. *Avtomatika* **1974**, *no.* 2, 41–53 (*Ukrainian*); *translated as Soviet Automat. Control* **7** (1974), *no.* 2, 33–43. (Allen Klinger) **50** #15467 68A45

Koppe, Hans Über Untergruppen, die mit ihren Konjugierten vertauschbar sind. *Math. Z.* **152** (1977), *no.* 1, 99. (Peter M. Neumann) **54** #12903 20E15

Koppe, R. Automatische Abbildung eines planaren Graphen in einen ebenen Streckengraphen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **10** (1972), 317–333. (W. T. Tutte) **48** #1999 05C99

Automatische Abbildung eines planaren Graphen in die Ebene mit beliebig vorgebbaren Örtern der Knotenbilder. (English summary) *Computing* **20** (1978), *no.* 1, 61–73. (Wolfgang Böhm) **57** #8137 68A10 (05C10, 94A20)

Koppel, A. A. The nonrelativistic limit of stationary two-variable solutions of Einstein's equations. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **23** (1974), 370–378. (R. I. Pimenov) **53** #12480 83.53

Newtonian and non-Newtonian limits of the stationary gravitational fields. (Estonian and Russian summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **24** (1975), *no.* 3, 297–304. (N. V. Mickevič) **55** #2038 83.53

Newtonian and non-Newtonian limits of gravitational fields of Kerr-NUT type. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1975**, *no.* 9, 29–34. (Not reviewed) 83.35

The equations of a stationary gravitational field in the post-unrelativistic approximation. (Russian) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 2, 205–209. (N. V. Mickevič) **54** #4511 83.35

Koppel, L. B. (*with* Eldor, H.) A generalized approach to the method of steepest ascent. *Operations Res.* **19** (1971), 1613–1618. (Authors' summary) **45** #9455 65K05

Koppelberg, Bernd J. Einige Ergebnisse über stark kompakte und verwandte grosse Kardinalzahlen. *Bonn. Math. Schr.* **54** (1972), vii+74 *pp.* (F. R. Drake) **46** #3308 02K35

(*with* Koppelberg, Sabine) A Boolean ultrapower which is not an ultrapower. *J. Symbolic Logic* **41** (1976), *no.* 1, 245–249. (Richard Mansfield) **53** #7768 02H13

Koppelberg, Sabine Injective hulls of chains. *Arch. Math.* (*Basel*) **24** (1973), 225–229. (D. Monk) **48** #194 06A40

Some classes of projective Boolean algebras. *Math. Ann.* **201** (1973), 238–300. (Ph. Dwinger) **48** #10933 06A40

(*with* Tits, Jacques) Une propriété des produits directs infinis de groupes finis isomorphes. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 583–585. (F. Levin) **51** #13058 20F25 (20H05)

Homomorphic images of σ-complete Boolean algebras. *Proc. Amer. Math. Soc.* **51** (1975), 171–175. (D. Monk) **51** #12650 06A40 (02H05)

(*with* Koppelberg, Bernd J.) A Boolean ultrapower which is not an ultrapower. *J. Symbolic Logic* **41** (1976), *no.* 1, 245–249. (Richard Mansfield) **53** #7768 02H13

Boolean algebras as unions of chains of subalgebras. *Algebra Universalis* **7** (1977), *no.* 2, 195–203. (R. Beazer) **55** #7878 06A40

Groups cannot be Souslin ordered. *Arch. Math.* (*Basel*) **29** (1977), *no.* 3, 315–317. (U. Felgner) **57** #5741 02H15 (06A55)

A complete Boolean algebra without homogeneous or rigid factors. *Math. Ann.* **232** (1978), *no.* 2, 109–114. (Keith Devlin) **57** #2918 04A20 (06A40)

Koppelman, Elaine Progress in mathematics. Proceedings of the American Academy Workshop on the Evolution of Modern Mathematics (Boston, Mass., 1974). *Historia Math.* **2** (1975), *no.* 4, 457–463. (Willard Parker) **58** #20 01–01

Kopperman, Ralph ★Model theory and its applications. Allyn and Bacon Series in Advanced Mathematics. *Allyn and Bacon, Inc., Boston, Mass.*, 1972. x+333 *pp.* (G. Cherlin) **51** #128 02Hxx

Koppinen, M. (*with* Neuvonen, Timo) An imprimitivity theorem for Hopf algebras. *Math. Scand.* **41** (1977), *no.* 2, 193–198. (E. J. Taft) **58** #5758 16A24 (22D30)

Köpping, Eberhard (*with* Becker, Eberhard) Reduzierte quadratische Formen und Semiordnungen reeller Körper. *Abh. Math. Sem. Univ. Hamburg* **46** (1977), 143–177. (Manfred Knebusch) **58** #21934 10C05 (15A63)

Koprinski, S. C. (*with* Katev, T. P.) Further remarks on the differential equation $y''+\varphi(y)y'^2+f(x)y'+g(x)\psi(y)y'^n=0$. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 1, 69–76 (1973). (Author's summary) **57** #6577 34A45

(*with* Abadžiev, H. B.) A direct method of finding the inverse Laplace transform of the operator functions $e^{-\sqrt{(\alpha(p+\beta))}}/p^2$, $e^{-\sqrt{(\alpha(p+\beta))}}/p^3$, etc. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 1, 159–178 (1973). (From the authors' summary) **56** #6290 44A10

An algebraic method of finding the inverse Laplace transforms of the operator functions $e^{-\sqrt{(\alpha(p+\beta))}}/p^{j+1}$. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 1, 179–194 (1973). (Author's summary) **56** #6291 44A10

An algebraic method of finding the inverse Laplace transforms of the operator functions $e^{-k\sqrt{p}}/p^{j+1}$ and $e^{-k\sqrt{p}}/(p^{j+1}\sqrt{p})$. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 1, 195–206 (1973). (See Zbl **311** #44003) 44A10

Solution of the general heat equation with a polynomial boundary value condition of the second or third kind on a semi-infinite interval by means of Laplace transforms. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 97–112 (1974). (See Zbl **317** #35046) 35C15 (35K99)

Application of Laplace transforms to the solution of the general heat equation with a piecewise polynomial boundary condition of the first, second or third kind. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 1, 113–125 (1974). (See Zbl **317** #35047) 35K05

Koprinski, Stefan A certain second order nonlinear differential equation. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **4** (1967), *no.* 1, 129–136 (1971). (B. S. Popov) **45** #3813 34A05

Endomorphisms in the free associative algebra. (Bulgarian. Russian and English summaries) *B"lgar. Akad. Nauk. Izv. Mat. Inst.* **14** (1973), 131–136. (G. M. Bergman) **50** #4451 08A25

Kopřiva, Jiří Decomposition translations and pushdown assembler. (Czech and Russian summaries) *Sb. Vysoké. Učeni Tech. v Brně* **1971**, 159–170. (S. A. Greibach) **50** #6217 68A30

Two-tape pushdown automaton in top-down syntax analysis and algebraic aspect of the process. (Czech and Russian summaries) *Stroje na Zpracování Informací* **15** (1971), 193–216. (A. Cremers) **47** #7963 68A30

Die gute und Zerlegungsübersetzung der formalen Sprachen und die endliche Semantik. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **17** (1975), *no.* 2, 207–215. (H. Jürgensen) **53** #9733 68A30

Eine Hierarchie der Übersetzungen mit Kellermaschinen. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **18** (1976), *no.* 4, 483–488. (Horst Reichel) **57** #8185 68A30

Koprivica, Katarina *See* **Surla, Katarina**

Koprivica-Surla, Katarina On Peano's theorem on the existence of a solution for ordinary differential equations in a locally convex space. (Serbo-Croatian) *Mat. Vesnik* **12(27)** (1975), *no.* 4, 411–416. (Leo F. Boron) **53** #962 34G05

Kopský, Vojtěch On independent sets of basis functions for irreducible representations of finite groups. *J. Mathematical Phys.* **19** (1978), *no.* 3, 574–576. (Werner Nowacki) **57** #3227 20C15

Koptev, G. S. (*with* Tatevskiĭ, V. M.) ★Элементарная теория линейных неравенств и их приложения. (Russian) [Elementary theory of linear inequalities and their applications] Edited by N. P. Židkov. *Izdat. Moskov. Univ., Moscow*, 1973. 159 *pp.* (*errata insert*) (George P. Barker) **50** #1489 65F99 (15A39)

Kopvillem, U. H. *See* **Gravitation: problems, prospects**, **48** #7881

Kopylenko, V. M. (*with* Gavrilov, M. A.) Algebraic synthesis method of multioutput relay structures on arbitrary components. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **16(64)** (1972), *no.* 1, 15–30 (1973). (Wai-Kai Chen (Zbl **275** #94017)) **51** #2793 94A20

Kopylev, E. S. Minimization of the scalar product of multidimensional matrices on a symmetric group. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 3, 5–11, 139. (R. C. Thompson) **53** #13273 15A39 (20B99)

Kopylov, A. P.dekete 8492 The approximation of spatial quasiconformal mappings that are close to conformal ones by smooth quasiconformal mappings. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 94–106. (P. Caraman) **45** #5349 30A60

The behavior on hyperplanes of quasiconformal mappings of space that are close to conformal ones. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1278–1280. (P. Caraman) **47** #8848 30A60

The problem of L. Ahlfors on the continuation of quasiconformal mappings, and the quasiconformal equivalence of the domains to the ball. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 5, 1025–1028. (F. W. Gehring) **56** #606 30A60

Integral means and quasiconformal mappings. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 2, 289–291. (F. W. Gehring) **56** #607 30A60

(*with* Aleksandrov, A. D.; Kuz′minyh, A. V.; Šaĭdenko, A. V.) Mappings of families of cones. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 4, 932–935. (W. J. Firey) **54** #13714 50D05 (53C45)

The removability of a ball for higher dimensional mappings that are close to conformal. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 3, 525–527. (Olli Martio) **56** #8843 30A60

Kopylov, G. I. *See* **Feynman, Richard P.; et al.**, **55** #9633a *and* **Feynman, Richard P.; et al.**, **55** #9633b

Kopylov, G. N. (*with* Černyševa, G. D.) A certain problem of operations planning. (Russian) *Proceedings of the Sixth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1973) (*Russian*), *pp.* 85–89. *Central. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow*, 1975. (Editors) **56** #14654 90B99 (90C99)

(*with* Kazarin, L. S.; Timofeev, E. A.) The chromatic number of a special class of graphs. (Russian) *Vestnik Jaroslav Univ. Vyp.* 9 (1975), 37–46. (Author's review) **58** #21758 05C15

Maximal paths and cycles in a graph. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 1, 19–21. (P. Ungar) **57** #2994 05C35

(*with* Timofeev, E. A.) Centers and radii of graphs. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 6(198), 226. (W. Dörfler) **57** #9608 05C99 (05C30)

Kopylova, A. N. The automorphism groups of graphs. (Russian) *Kombinatornyĭ Anal. No.* 1 (1971), 91–104. (W. Dörfler) **45** #120 05C25

(*with* Petrenjuk, A. Ja.) Combinatorial mathematics at Moscow State University. (Russian) *Kombinatornyĭ Anal. Vyp.* 2 (1972), 106–109. (Editors) **57** #125 05–03

Kopylova, T. I. Irreducible representations of a Miller-Moreno group. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 6, 5–9, 139. (G. Karpilovsky) **53** #5724 20C20

Finite irreducible solvable groups of matrices of prime order. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 5, 14–22, 139. (J. L. Brenner) **55** #10573 20G20

Kopystyra, M. P. (*with* Kapšiviĭ, O. O.) The problem of the complex x-analytic potential of a system of coaxial circular discs. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 110–113, 187. (P. T. Mocanu) **53** #2102 73.31

Kopystyra, N. P. The axially symmetric potential of two annular coaxial disks. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 9 (1969), 96–102. (Author's summary) **45** #8111 73.45

A certain boundary value problem for p-analytic functions with the characteristic $p=x$. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 11 (1970), 108–113. (Author's summary) **45** #2187 30A94

Solution of problems of the complex x-analytic potential of two circular coaxial discs. (Russian) *Mathematical physics, No.* 12 (*Russian*), *pp.* 63–67, 167. *Izdat. "Naukova Dumka", Kiev*, 1972. (Author's summary) **48** #6452 31B15

(*with* Kapšiviĭ, O. O.) Axially symmetric problems for an elastic space with a system of coaxial circular cuts. (Russian) *Prikl. Meh.* **10** (1974), *no.* 10, 113–119, 144. (Authors' summary) **54** #9236 73.30

(*with* Kapšiviĭ, O. O.) The first fundamental axially symmetric problem for an elastic space with two circular coaxial cuts. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 33 (1977), 3–10, 158. (Authors' summary) **57** #8281 73.30

Kopytin, Ju. D. (*with* Zuev, V. E.) Nonlinear propagation of intense light in a gaseous medium with solid microfilling. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1977**, *no.* 11, 79–105. (Editors) **58** #14387 78.35

Kopytina, T. N. Nets with a fixed harmonic plane in three-dimensional projective space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 7(146), 34–41. (Josef Vala) **50** #8323 53A20

On the projective geometry of nets with a fixed harmonic plane. (Russian) *Kaliningrad. Gos. Univ. Differencial′naja Geom. Mnogoobraz. Figur No.* 6 (1975), 49–62. (Author's introduction) **58** #30800 53A20

Kopytov, V. M. Solvability of the occurrence problem in finitely generated solvable matrix groups over a numbered field. (Russian) *Algebra i Logika* **10** (1971), 169–182. (K. A. Hirsch) **45** #355 20F05 (02F47)

(*with* Kokorin, A. I.) ★Линейно упорядоченные группы. (Russian) [Linearly ordered groups] Monographs in Contemporary Algebra. *Izdat. "Nauka", Moscow*, 1972. 199 *pp.* (L. Beran) **50** #12852 06A55

Ordering of Lie algebras. (Russian) *Algebra i Logika* **11** (1972), 295–325, 362. (S. Moran) **47** #5066 17B05 (06A70)

Totally ordered solvable groups. (Russian) *Algebra i Logika* **12** (1973), 6 735. (L. Beran) **53** #5409 06A55

(*with* Kokorin, A. I.) ★Fully ordered groups. Translated from the Russian D. Louvish. *Halsted Press* [*John Wiley & Sons*], *New York-Toronto, Ont.; Israel Prog for Scientific Translations, Jerusalem-London*, 1974. x + 147 *PP.* (Editors) **51** #306 06A55

Lattice-ordered locally nilpotent groups. (Russian) *Algebra i Logika* **14** (19 no 4, 407–413. (R. Madell) **53** #5410 06A55

(*with* Medvedev, N. Ja.) Totally ordered groups whose system of convex sub ups is central. (Russian) *Mat. Zametki* **19** (1976), *no.* 1, 85–90. (J. Jakubik) **53** #1 06A55

(*with* Medvedev, N. Ja.) Varieties of lattice-ordered groups. (Russian) *Al Logika* **16** (1977), *no.* 4, 417–423, 493. (F. Šik) **58** #27686 06A55

Lattice-ordered Lie algebras. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 3, 59 718. (V. Novák) **56** #8464 06A70 (17B35)

Kora, Mitsuru On projective diffeomorphisms not necessarily preserving complex str *Math. J. Okayama Univ.* **19** (1976/77), *no.* 2, 183–191. (K. Yano) **57** #10665

Korablev, A. I. (*with* Zabotin, Ja. I.; Habibullin, R. F.) The minimization of quasic functionals. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 10(125), (Z. Poracká-Diviš) **50** #10963 49B30

(*with* Zabotin, Ja. I.; Habibullin, R. F.) Sufficient conditions for a global mir in a nonlinear programming problem. (Russian) *Issled. Prikl. Mat. Vyp.* 1 (103–108. (RŽMat **1974** #10 V570) **57** #11775 90C30

(*with* Zabotin, Ja. I.; Habibullin, R. F.) Conditions for the extremum of a functional in the presence of constraints. (Russian. English summary insert) *Kiber ka* (*Kiev*) **1973**, *no.* 6, 65–70. (E. G. Gol'šteĭn) **50** #1723 90C25

Some classes of pseudoconvex functionals. (Russian) *Issled. Prikl. Mat.* (1974), 63–70. (RŽMat **1975** #1 B1089) **57** #11041 65K05

(*with* Zabotin, Ja. I.) Pseudoconvex functionals, and their extremal prop (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 4(143), 27–31. (Kirillova) **50** #10962 49B15 (49A50)

Directional derivatives of quasiconvex functionals. (Russian) *Issled. Prikl. Vyp.* 3 (1975), 92–96. (RŽMat **1976** #2 B801) **58** #17836 46G05 (58C20)

Korablev, G. V. (*with* Andreĭčuk, E. P.) A generalization of the assignment pro (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 4, 84–87. (Au summary) **58** #15143 90C10 (90C30)

Korablev, Nikolaĭ (*with* Salyga, Valeriĭ; Čebotarev, Aleksandr) A stable algorithm f solution of a parameter identification problem. (Russian. Lithuanian and E summaries) *Statist. Problemy Upravlenija—Trudy Sem. Processy Optimal. Upravle Sekcija No.* 23 (1977), 115–120, 129. (Authors' summary) **58** #24891 65F30

Korablev, S. S. *See* **Questions of mathematical physics and theory of oscillations**, **58** #14025 *and* **Questions of mathematical physics and theory of oscillations**, **58** #25195

Korablin, Ju. P. (*with* Kutepov, V. P.; Fal′k, V. N.) A calculus of functional sch (Russian) *Digital computer technology and programming, No.* 8 (*Russian*), *pp.* 8–15, *Sovetskoe Radio, Moscow*, 1974. (R. N. Goss) **51** #9566 68A10

Korado, V. A. (*with* Zaharov, S. I.; Vinogradov, A. B.) Detection of a stochastic sig the presence of a non-Gaussian interference. *Radiotehn. i Èlektron.* **21** (1976), 394–397 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **21** (1976), *no.* 2, 144- (From the authors' text) **56** #5036 94A05

Minimax training for signal discrimination. (Russian) *Problemy Peredači Infor* **13** (1977), *no.* 1, 40–57. (Author's summary) **58** #15649 94A05

Koranne, V. D. Certain integral equations & self-reciprocal functions. *Ranchi Univ. J.* 7 (1976), 69–78. (R. K. Saxena) **58** #29931 45H05

On the property of Laplace transform of two variables. *J. of M.A.C.T.* **10** (1 71–75. (Brij Mohan) **57** #13389 44A10

(*with* Saxena, Rajendra K.) A theorem on the operational calculus. (Hindi. En summary) *Vijnana Parishad Anusandhan Patrika* **20** (1977), *no.* 3, 201–206. (Aut summary) **57** #1041 45H05

Korányi, Adam (*with* Vági, Stephen) Singular integrals on homogeneous spaces and s problems of classical analysis. *Ann. Scuola Norm. Sup. Pisa* (3) **25** (1971), 575- (1972). (Manfred Stoll) **57** #3462 32M15

Harmonic functions on symmetric spaces. *Symmetric spaces* (*Short Courses, Washington Univ., St. Louis, Mo.*, 1969–1970), *pp.* 379–412. *Pure and Appl. Math.*, 8, *Dekker, New York*, 1972. (Manfred Stoll) **53** #11314 43A85 (32M15, 31B25)

(*with* Vági, Stephen) Cauchy-Szegö integrals for systems of harmonic functio *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 181–196. (Klas Diederich) **52** #1108 31B05 (32A10)

(*with* Stein, Elias M.) H^2 spaces of generalized half-planes. Collection of arti honoring the completion by Antoni Zygmund of 50 years of scientific activity, *Studia Math.* **44** (1972), 379–388. (Manfred Stoll) **55** #8421 (E **55** #10733) 32M

H^p-spaces on compact nilmanifolds. *Acta Sci. Math.* (*Szeged*) **34** (1973), 175– (P. C. Trombi) **47** #7342 43A85 (32H99)

(*with* Stein, F. Max) Correction to the paper "H^2 spaces of generalized half-plan (Studia Math. **44** (1972), 379–388). *Studia Math.* **48** (1973), 309. (Manfred St **55** #10733 32M10

Inequalities for Poisson kernels on symmetric spaces. *Proc. Amer. Math. Soc.* (1974), 465–469. (Stephen Vági) **48** #6822 43A85

(*with* Malliavin, Paul) Poisson formula and compound diffusion associated to overdetermined elliptic system on the Siegel halfplane of rank two. *Acta Math.* 1 (1975), *no.* 3-4, 185–209. (J. A. Wolf) **53** #14028 43A85 (32M15, 31B25, 60J60)

(*with* Vági, Stephen) Isometries of H^p spaces of bounded symmetric domain *Canad. J. Math.* **28** (1976), *no.* 2, 334–340. (J. Mitchell) **54** #10693 32M15

Poisson integrals and boundary components of symmetric spaces. *Invent. Math.* (1976), *no.* 1, 19–35. (Manfred Stoll) **54** #13154 32M15 (43A85, 32A10)

(*with* Putz, Robert Byrne) Local Fatou theorem and area theorem for symmet spaces of rank one. *Trans. Amer. Math. Soc.* **224** (1976), *no.* 1, 157–168. (Norman Weiss) **58** #11223 22E30 (32M15, 43A85)

Boundary behaviour of holomorphic functions on bounded symmetric domain *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Williams Coll.*, illiamstown, Mass., 1975), *Part* 2, *pp*. 291–295. *Amer. Math. Soc., Providence, R.I.*, 977. (J. Mitchell) **56** #16003 32M15

t, A. A. (*with* Finkel′šteĭn, Ju. Ju.) ★Diskrete Optimierung. Mit einem Vorwort von). Judin. Deutsche Übersetzung aus dem Russischen von Horst Weinert. In deutscher prache herausgegeben von Horst Hollatz. Elektronisches Rechnen und Regeln, onderband 14. *Akademie-Verlag, Berlin*, 1971. xiii+286 *pp*. (Editors) **49** #12083 0C10

Extremal vector spaces and their properties. (Russian. German and English ummaries) *Elektron. Informationsverarbeit. Kybernetik* **8** (1972), 525–535. (R. Cristescu) **8** #835 46A40

(*with* Čerdyncev, V. A.) The optimal reception of signals with random parameters n the form of continuous and discrete Markov processes. (Russian) *Dokl. Akad. Nauk SSR* **18** (1974), 124–127, 187. (Ĭ. M. Stojanov) **49** #4086 60G35 (93E10)

(*with* Vilkuas, Èduardas) ★Современные направления теории игр. (Russian) Current trends in game theory] A collection of papers edited by È. Vilkas and A. Korbut. *Izdat. "Mokslas", Vilnius*, 1976. 143 *pp*. (Editors) **55** #5182 90–06

(*with* Sigal, I. H.; Finkel′šteĭn, Ju. Ju.) The branch and bound method. A survey of theory, algorithms, programs and applications. (Russian. German and English summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no*. 2, 253–280. (Authors' summary) **56** #14682 90C10

See also **Owen, Guillermo**, **50** #6507; **Game theory**, **56** #2417 *and* **Aumann, Robert J.; et al.**, **58** #15223

čagina, V. I. (*with* Babaev, G.) The distribution of prime ideal numbers. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **15** (1972), *no*. 6, 8–9. (B. Volkmann) **50** #4511 10H20 (10H35)

celli, Piotr (*with* Kulikowski, Roman) On modelling and planning of optimum long-range regional development. (Polish and Russian summaries) *Control Cybernet.* **5** (1976), *no*. 4, 5–28. (Authors' summary) **56** #7844 90A15

čemkin, M. B. Decomposition of network problems by the method of separating and grouping simple circuits. (Russian) *Models and methods for the analysis of economic target-oriented systems* (*Russian*), *pp*. 47–51. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1977. (From the introduction) **58** #15144 90C10

rchmáros, Gabriele Ovali nei piani di Hall di ordine dispari. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), *no*. 3, 315–317. (E. J. F. Primrose) **51** #11275 50D35

Osservazioni sui risultati di B. Segre relativi ai k-archi contenenti $k-1$ punti di un ovale. *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), *no*. 4, 541–549. (L. A. Rosati) **55** #2613 05B25 (50D30)

Poligoni affin-regolari dei piani di Galois d'ordine dispari. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), *no*. 5, 690–697. (L. A. Rosati) **55** #2614 05B25 (50D30)

Una limitazione per il volume di un simplesso n-dimensionale avente spigoli di date lunghezze. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), *no*. 6, 876–879. (A. Florian) **52** #9083 52A40

Su una classificazione delle ovali dotate di automorfismi. (English summary) *Rend. Accad. Naz. XL* (5) **1/2** (1975/76), 77–86 (1977). (Francis Buekenhout) **56** #15467 05B25 (50D30)

Poligoni regolari. (German summary) *Riv. Mat. Univ. Parma* (4) **1** (1975), 45–50. (O. Bottema) **55** #13332 50B10

Ovali nei piani di Moulton d'ordine dispari. (English summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Rome*, 1973), *Tomo II*, *pp*. 395–398. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (L. A. Rosati) **58** #12705 50D35 (05B25)

Estensioni del concetto di "poligono affin regolare" ad un qualunque piano affine. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **60** (1976), *no*. 2, 119–125. (A. Florian) **58** #18091 50B30

(*with* Segre, Beniamino) Una proprietà degli insiemi di punti di un piano di Galois caratterizzante quelli formati dai punti delle singole rette esterne ad una conica. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **62** (1977), *no*. 5, 613–619. (Joseph A. Thas) **58** #23992 50D30

Korchounov, Y. *See* **Koršunov, Ju. M.**

Korczak, Eugeniusz Transformation of linear forms by means of an autocollineation of a quadric in P_3. (Polish. English and Russian summaries) *Rozprawy Politech. Poznań. No.* 54 (1973), 36 *pp*. (J. Čižmár) **51** #12848 14E05

(*with* Günther, Helmut) Über einige Eigenschaften einer speziellen algebraischen Fläche sechster Ordnung. *Wiss. Z. Techn. Univ. Dresden* **23** (1974), 153–157. (B. Orbán) **50** #7182 14N05 (14J25)

Korczak, Jadwiga On some estimates of the integral moduli of continuity for functions of two variables in the space L_2. (Polish summary) *Fasc. Math. No.* 7 (1973), 87–103 (1974). (J. Siddiqi) **52** #8783 42A92 (26A15)

Korczyński, Jan (*with* Pietrzyk, B.; Sypka, L.; Wierzbicka, I.) Sufficient conditions for absolute summability of orthogonal series by the matrix method with the property (K). *Demonstratio Math.* **8** (1975), *no*. 2, 133–144. (L. Leindler) **56** #3548 42A60

On a system of integro-functional equations appearing in a problem connected with a solid of revolution. *Demonstratio Math.* **10** (1977), *no*. 2, 349–360. (Stefan Balint) **57** #3801 45M99

Kordecki, Wojciech Probability of the connectedness of random graphs. (Russian. Polish and English summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 9 *Grafy i hipergrafy* (1973), 55–65. (D. Cvetković) **50** #8635 60C05 (05C99)

Elements of the theory of random graphs. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Politech. Wrocław. No.* 15 *Ser. Monograf. No.* 3 (1976), 70 *pp*. (F. Harary) **56** #5364 05C99

Kordemski, B. A. *See* **Berman, G. N.**, **57** #5526

Kordon, L. M. (*with* Zlotnik, S. G.; Gamburd, P. R.; Spiridonova, G. V.) ★Алгоритмы оптимального распределения активных мощностей в тепловой энергосистеме. (Russian) [Algorithms for the optimal active power distribution in a thermal energy system] Reports of a Seminar on Cybernetics, No. 58. *Izdat. "Štiinca", Kishinev*, 1973. 39 *pp*. (P. Vondráček) **48** #10117 65K05

Kordonskiĭ, H. B. (*with* Rozenblit, P. Ja.) The unbiased estimation of polynomials in moments. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no*. 1, 203–209. (L. B. Klebanov) **53** #14770 62F10

(*with* Rozenblit, P. Ja.) Structure and properties of goodness-of-fit tests in reliability and preventive maintenance problems. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no*. 2, 15–22, 91. (Authors' summary) **58** #9193 90B25

Kordos, M. Elliptic geometry as a theory of one binary relation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 609–614. (L. Gyarmathi) **48** #12246 50C05

Kordos, Mavek (*with* Moszyńska, Maria; Szczerba, Lesław W.) Wanda Szmielew 1918–1976. *Studia Logica* **36** (1977/78), *no*. 4, 241–244. (Editors) **58** #16031 01A70

Korduba, B. M. A certain modification of the method of straight lines. (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. Univ. Ser. Meh.-Mat.* **1971**, *no*. 5, 25–29, 88. (I. V. Beiko) **47** #1301 65N05

(*with* Martinovič, T. L.) The Dirichlet problem for a plane with gaps. (Ukrainian. Russian summary) *Vīsnik L′vīv. Derž. Univ. Ser. Meh.-Mat.* **1971**, *no*. 6, 18–27, 134. (A. Borzymowski) **46** #9367 31A25

Kordulla, W. (*with* Krause, E.; Hirschel, E. H.) Fourth order "Mehrstellen"-integration for three-dimensional turbulent boundary layers. *Comput. & Fluids* **4** (1976), *no*. 2, 77–92. (Editors) **56** #4419 76.65

Kordylewski, Jerzy On continuous solutions of systems of functional equations. *Ann. Polon. Math.* **25** (1971), 53–83. (M. Kuczma) **45** #3991 39A15

Kordylewski, K. Nicolaus Copernicus. (Esperanto) *Sci. Rev.* **25** (1974), 3–10. (Editors) **55** #7677 01A40 (01A70)

Kordzadze, A. A. The uniqueness of the solution of a certain problem of ocean dynamics. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 856–859. (L. A. Mysak) **51** #7580 86.35

On the uniqueness of the solution of the quasilinear equations of oceanic dynamics. (Russian) *Some problems of numerical and applied mathematics* (*Russian*), *pp*. 77–89, 308. *Nauka Sibirsk. Otdel., Novosibirsk*, 1975. (Author's summary) **58** #29455 35Q99 (86.35)

(*with* Marčuk, G. I.; Skiba, Ju. N.) Calculation of the basic hydrological fields in the Black Sea. *Izv. Akad. Nauk SSSR Ser. Fiz. Atmosfer. i Okeana* **11** (1975), *no*. 4, 379–393 (*Russian*); *translated as Izv. Acad. Sci. USSR Atmospher. Ocean Phys.* **11** (1975), *no*. 4, 229–237. (Editors) **56** #4420 76.65

The solvability of a certain stationary problem on the dynamics of a baroclinic ocean. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 2, 308–311. (Jiří Nedoma) **55** #11915 86.35

The solvability of problems of ocean dynamics with account taken of wind currents. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no*. 1, 52–55. (From the author's text) **57** #8969 86.35 (35Q99)

Kordzadze, M. A. Integration of an inhomogeneous system of equations of the plane moment elasticity theory. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **89** (1978), *no*. 1, 45–48. (Author's summary) **58** #19522 73.30

Kordzadze, R. A. Infinite systems of Abelian integral equations of the second kind. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no*. 6, 1289–1292. (L. G. Mihaĭlov) **56** #3593 45F05

Infinite systems of Fredholm integral equations. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no*. 2, 283–286. (Š. Schwabik) **56** #995 45F05 (47G05)

Kordzaja, È. V. (*with* Karumidze, G. V.) Solution of a class of mathematical programming problems using the decomposition principle. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **88** (1977), *no*. 1, 49–52. (I. V. Romanovskiĭ) **58** #4361 90C99

Korec, Ivan A complexity valuation of the partial recursive functions following the expectation of the length of their computations on Minsky machines. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* 23 (1969), 53–112 (1970). (John T. Gill) **47** #9882 68A20

A class of Lebesgue non-measurable subfields of the field of real numbers. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* 26 (1972), 29–32. (D. Preiss) **47** #3630 28A05 (26A21)

The mathematical expectation of the time for computations of partial recursive functions on Minsky machines. (Russian. German, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **21** (1972), 541–543. (Pavel Strnad) **48** #10196 68A20 (02E15)

Computational complexity based on expectation of the time of computation on Minsky machines. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School, Štrbské Pleso*, 1973), *pp*. 247–250. *Math. Inst., Slovak Acad. Sci., Bratislava*, 1973. (Pavel Strnad) **55** #11708 68A20

(*with* Peretjat′kin, M. G.; Rautenberg, Wolfgang) Definability in structures of finite valency. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, II. *Fund. Math.* **81** (1973/74), *no*. 2, 173–181. (A. B. Slomson) **49** #2360 02H15 (08A05)

A representation of Σ_1-functions as compositions of Σ_0-functions in Gödel-Bernays set theory with the axiom of constructibility. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 755–756. (Author's summary) **52** #2883 02K15

On a generalization of Mycielski's and Znám's conjectures about coset decomposition of Abelian groups. *Fund. Math.* **85** (1974), *no*. 1, 41–48. (Charles S. Holmes) **50** #10025 20A05

(*with* Benešová, Mária) Non-linear speed-up theorem for two register Minsky machines. *Mathematical foundations of computer science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp*. 179–185. *Lecture Notes in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (R. E. Stearns) **53** #4611 68A20

(*with* Rautenberg, Wolfgang) Model-interpretability into trees and applications. *Arch. Math. Logik Grundlagenforsch.* **17** (1975/76), *no*. 3-4, 97–104. (A. B. Slomson) **54** #2443 02G05 (02G15, 02H05, 05C05)

Decidability [undecidability] of equivalence of Minsky machines with components consisting of at most seven (eight) instructions. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnika*, 1977), *pp*. 324–332. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (S. Ginsburg) **56** #18183 94A30 (*with* Procházka, Juraj) Real-time computability of $\lfloor|\alpha|x\rfloor$ and $\lfloor x^{\alpha}\rfloor$. (German and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **13** (1977), *no.* 1-2, 13–26. (M. I. Dehtjar′) **56** #17203 68A20 (94A30)

(*with* Znám, Štefan) On disjoint covering of groups by their cosets. (Russian summary) *Math. Slovaca* **27** (1977), *no.* 1, 3–7. (A. P. Street) **58** #5260 05A17 (10L05)

A ternary function for distributivity and permutability of an equivalence lattice. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 1, 8–10. (Alden Pixley) **57** #12344 08A25 (06A35)

Korelov, I. V. On a class of grids of elements of continuous and discrete action. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 1, 109–114 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 1, 94–100. (Costică Cazacu) **53** #10498 94A20 (68A99)

Korel′skaja, T. D. (*with* Padučeva, E. V.) The formal apparatus of syntactic transformations. (Russian) *Investigations in mathematical linguistics, mathematical logic and information languages* (*Russian*), *pp.* 27–58, "*Nauka*", *Moscow*, 1972. (See RŽMat **1972** #8 V704) 68A30

Koren, Israel (*with* Kohavi, Zvi) Adaptive fault-locating tests for digital systems. (French and German summaries) *Digital Process.* **2** (1976), *no.* 3, 209–223. (G. Saucier) **54** #7125 94A20

(*with* Kohavi, Zvi) Sequential fault diagnosis in combinational networks. *IEEE Trans. Computers* **C-26** (1977), *no.* 4, 334–342. (Krzysztof Sapiecha) **56** #18144 94A20

(*with* Kohavi, Zvi) Diagnosis of intermittent faults in combinational networks. *IEEE Trans. Computers* **C-26** (1977), *no.* 11, 1154–1158. (Krzysztof Sapiecha) **56** #18145 94A20

Koren, Michael Realization of a sum of sequences by a sum graph. *Israel J. Math.* **15** (1973), 396–403. (H. Levinson) **55** #193 05C99

Extreme degree sequences of simple graphs. *J. Combinatorial Theory Ser. B* **15** (1973), 213–224. (Moshe Rosenfeld) **48** #8306 05C99

Graphs with degrees from prescribed intervals. *Discrete Math.* **15** (1976), *no.* 3, 253–261. (D. P. Geller) **54** #169 05C99

Pairs of sequences with a unique realization by bipartite graphs. *J. Combinatorial Theory Ser. B* **21** (1976), *no.* 3, 224–234. (S. L. Hakimi) **56** #2876a 05C99

Sequences with a unique realization by simple graphs. *J. Combinatorial Theory Ser. B* **21** (1976), *no.* 3, 235–244. (S. L. Hakimi) **56** #2876b 05C99

Edge disjoint realizations of two forest-realizable sequences. *SIAM J. Appl. Math.* **30** (1976), *no.* 4, 625–629. (D. J. Kleitman) **53** #10628 05C05

(*with* Kleitman, Daniel J.; Li, Shuo-Yen Robert) On the existence of simultaneous edge disjoint realizations of degree sequences with "few" edges. *SIAM J. Appl. Math.* **32** (1977), *no.* 3, 619–626. (Sukhamay Kundu) **57** #5799 05C05

Korenberg, Michael J. Stability of time-varying differential systems. *Proceedings of the Eighteenth Midwest Symposium on Circuits and Systems* (*Concordia Univ., Montreal, Que.*, 1975), *pp.* 135–143. *Western Periodicals, North Hollywood, Calif.*, 1975. (Masao Ikeda) **55** #5271 93C45 (93C05, 93D99)

Korenblum, Boris Invariant subspaces of the shift operator in certain weighted Hilbert spaces of sequences. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 1258–1260. (D. Sarason) **45** #4189 47A15

Closed ideals of the ring A^n. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 3, 38–52. (V. P. Havin) **48** #2776 46J15

Invariant subspaces of the shift operator in a weighted Hilbert space. (Russian) *Mat. Sb.* (*N.S.*) **89(131)** (1972), 110–137, 166. (N. K. Nikol′skiĭ) **47** #5621 47A15

(*with* Faĭvyševskiĭ, V. M.) A certain class of compression operators that are connected with the divisibility of analytic functions. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 692–695, 717. (L. I. Hedberg) **47** #9335 47B35 (30A78, 46E20)

An extension of the Nevanlinna theory. *Acta Math.* **135** (1975), *no.* 3-4, 187–219. (W. K. Hayman) **54** #13081 30A70

A Beurling-type theorem. *Acta Math.* **138** (1976), *no.* 3-4, 265–293. (S. V. Hruščev) **56** #5894 30A78

(*with* Hayman, W. K.) An extension of the Riesz-Herglotz formula. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **2** (1976), 175–201. (W. H. J. Fuchs) **57** #6446 30A86

Korencova, M. M. A kinematic-geometric model of analysis in C. Maclaurin's *Treatise of fluxions*. (Russian) *Istor.-Mat. Issled. Vyp.* 22 (1977), 9–33, 302. (Esther R. Phillips) **58** #21176 01A50 (26-03, 70.01)

Korenev, B. G. ★Введение в теорию бесселевых функций. (Russian) [Introduction to the theory of Bessel functions] Физико-математическая Библиотека Инженера. [Engineer's Library in Physics and Mathematics] *Izdat.* "*Nauka*", *Moscow*, 1971. 287 *pp.* (Editors) **50** #7613 33A40

Korenev, N. K. A certain representation of the solution of a linearized stationary problem for the Navier-Stokes equation in the case of two space variables. (Russian) Boundary value problems of mathematical physics, 7. *Trudy Mat. Inst. Steklov.* **116** (1971), 95–100, 235. (P. C. Fife) **51** #1162 35Q10

Certain problems of convection in a viscous incompressible fluid. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 7, 29–39. (I. O. Bohachevsky) **45** #2978 76.35

The strong convergence of the solutions of difference equations to generalized solutions of second order linear equations of the three classical types. (Russian) Boundary value problems of mathematical physics, 8. *Trudy Mat. Inst. Steklov.* **125** (1973), 106–126, 233. (A. Borzymowski) **49** #11013 35A35

A proof of the theorem on the existence of Hopf's solution by the method of finite differences. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1 (1974), 31–39, 164–165. (R. Kodnár) **49** #7625 35Q10

The stable difference scheme for a certain problem of magnetohydrodynamics. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1974), 33–41, 170. (R. Kodnár) **51** #11989 65N10

The number of solutions of a certain difference scheme. (Russian) Boundary value problems of mathematical physics, 9. *Trudy Mat. Inst. Steklov.* **127** (1975), 20–26, 155. (G. I. Sulhanišvili) **55** #6882 65N10 (35Q10)

A certain condition for the convergence of "overdetermined" approximations. (Russian) Boundary value problems of mathematical physics, 9. *Trudy Mat. Inst. Steklov.* **127** (1975), 27–31, 155. (V. Thomée) **53** #14876 65D99

See also **Boundary value problems of mathematical physics, 50** #2656 *and* **Boundary value problems of mathematical physics, 51** #6096

Koreneva, L. V. (*with* Ščerbakov, B. A.) The preservation of the nature of the recurren the solutions of differential equations under perturbations. (Russian) *Differencial Uravnenija* **10** (1974), 470–475, 572. (D. Newton) **49** #7524 34C25

Korenevskiĭ, D. G. *See* **Korenīvs′kiĭ, D. G.**

Korenevskiĭ, M. Z. Criteria for the rationality and pseudorationality of functions. (Russ *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 18 (1973), 91–102, iii. (J. Sic **48** #11560 32A99

Korenīvs′kiĭ, D. G. (*with* Feščenko, S. F.) Stability of nonlinear dynamical systems distributed parameters. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 141– *Naukova Dumka, Kiev*, 1971. (L. I. Gal′čuk) **46** #3963 35B35 (93D99)

(*with* Kolomīec′, V. G.) Investigation of nonlinear oscillations in a first o system with random lag. (Russian. English summary) *Trudy Sem. Teor. Differen Uravneniĭ s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **8** (19 100–108. (E. F. Car′kov) **49** #5523 34K15

On the abstract Cauchy problem for differential equations with deviating argum I. Solvability of the problem. (Russian) *Nonlinear oscillations and stability of ma* (*Russian*), *pp.* 132–146. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1 (Editors) **57** #16904 34K05 (34G05)

Local existence and uniqueness theorems for classical solutions of the Cauchy-Goursat problem for nonlinear hyperbolic equations of neutral type. (Russi *Functional and differential-difference equations* (*Russian*), *pp.* 70–90. *Izdanie Inst. Akad. Nauk Ukrain. SSR, Kiev*, 1974. (J. Muszyński) **55** #3575 35R10

On the abstract Cauchy problem for differential equations with deviating argument. II. The averaging principle. (Russian) *Analytic methods for the st of the solutions of nonlinear differential equations* (*Russian*), *pp.* 55–58. *Izdanie Inst. M Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Russell C. Thompson) **54** #5585 34K (34G05)

(*with* Feščenko, T. S.) On the abstract Cauchy problem for differential equati with deviating argument. Stability of the solutions. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 10, 1895–1898, 1911. (Russell C. Thompson) **52** #1123 34G05 (34K20)

(*with* Karpačev, Ju. A.) ★Некоторые задачи инерциального управления. (Russian) [Some problems in inertial control] *Izdat.* "*Naukova Dumka*", *Kiev*, 1977. *pp.* (V. Komkov) **56** #10256 70.49

(*with* Karpačev, Ju. A.) Treatment of the distance controlling functional in oblique coordinate system. (Russian) *Cosmic research in the Ukraine, No.* 10 (*Russia pp.* 59–67, 107. *Izdat.* "*Naukova Dumka*", *Kiev*, 1977. (Editors) **58** #19496b 70 (85.00)

See also **Dynamics and stability of controllable systems, 58** #28741

Korenkov, M. Ē. The distribution of the values of the Weierstrass sigma function. (Russi *Mathematics collection* (*Russian*), *pp.* 240–242. *Izdat.* "*Naukova Dumka*", *Kiev*, 19 (W. K. Hayman) **56** #12264 30A70

Asymptotic behavior of the derivatives of the logarithmic derivative of an ent function. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 4, 455–463, 563. (W. H. J. Fuc **57** #6424 30A64 (30A68)

(*with* Gol′dberg, A. A.) The asymptotic behavior of the logarithmic derivative of entire function of completely regular growth. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 25–32, 140. (G. P. Čistjakov) **58** #6237 30A66

(*with* Gol′dberg, A. A.) Asymptotic behavior of the logarithmic derivative of entire function of order zero. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 3, 291–298, 42 (Olga Bereśniewicz-Rajca) **58** #17086 30A64

Korennoĭ, A. A. *See* **Mathematical and informational models of science control, 49** #121

Korepin, V. E. (*with* Faddeev, L. D.) Quantization of solitons. (Russian. English summar *Teoret. Mat. Fiz.* **25** (1975), *no.* 2, 147–163. (Authors' summary) **58** #14581 81.3

(*with* Faddeev, L. D.) Quantum theory of solitons. *Phys. Rep.* **42** (1978), *no.* 1–87. (Editors) **58** #14655 81.47

Korevaar, Jacob Approximation on curves by linear combinations of exponentials. *Approximation theory* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1973), *p* 387–393. *Academic Press, New York*, 1973. (T. Kövari) **49** #3153 30A82 (30A66)

Approximation on curves by linear combinations of exponentials. *Proceedings of th Symposium on Complex Analysis* (*Univ. Kent, Canterbury*, 1973), *pp.* 97–99. *Lond Math. Soc. Lecture Note Ser., No.* 12, *Cambridge Univ. Press, London*, 1974. (Editor **52** #8447 30A82 (30A66)

(*with* Pfluger, Pia) Spanning sets of powers on wild Jordan curves. *Nederl. Aka Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 293–305. (V. P. Havin) **52** #715 30A18 (30A82)

Equilibrium distributions of electrons on roundish plane conductors. I. *Neder Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 423–437. (V. Ganapathy Iye **50** #13477a 30A30

Equilibrium distributions of electrons on roundish plane conductors. II. *Neder Akad. Wetensch. Proc. Ser. A* **77** = *Indag. Math.* **36** (1974), 438–456. (V. Ganapathy Iye **50** #13477b 30A30

(*with* Alexander, Herbert) Approximation on wild Jordan curves. *J. London Math Soc.* (2) **13** (1976), *no.* 2, 317–322. (Tord H. Ganelius) **53** #11064 30A82

(*with* Dixon, Michael) Approximation by lacunary polynomials. *Nederl. Aka Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no.* 3, 176–194. (T. Kövar **56** #15940 30A82

(*with* Dixon, Michael) Lacunary polynomial approximation. *Linear spaces an approximation* (*Proc. Conf., Math. Res. Inst., Oberwolfach*, 1977), *pp.* 479–489. *Internat Ser. Numer. Math., Vol.* 40, *Birkhäuser, Basel*, 1978. (D. M. Campbell) **58** #17108 30A82

(*with* Dixon, Michael) Interpolation, strongly nonspanning powers and Macintyre exponents. *Nederl. Akad. Wetensch. Indag. Math.* **40** (1978), *no.* 2, 243–258. (C. Dagnino) **58** #11429 30A82

Körezlioğlu, Hauri Random linear mappings. *Math. Balkanica* **2** (1972), 314–321. (A. D. de Acosta) **49** #514 28A40

(*with* Itoh, Shigeru; Takahashi, Wataru) Ergodic theorems and averaging operators on measurable functions. *Sci. Rep. Yokohama Nat. Univ. Sect. I No.* 20 (1973), 5–10.

rançois Aribaud) **51** #13191 28A65 (47A35)

lioğlu, Hayri Ergodic averaging operators. *Papers from the "Open House for robabilists"* (*Mat. Inst., Aarhus Univ., Aarhus*, 1971), *pp.* 161–166. *Various Publ. Ser., o.* 21, *Mat. Inst., Aarhus Univ., Aarhus*, 1972. (Jun Tomiyama) **52** #6442 46L05 7B37)

On some locally convex topologies on tensor products of locally convex spaces. *roceedings of the Symposium on Functional Analysis* (*Istanbul*, 1973), *pp.* 101–109. *Publ. lath. Res. Inst.-Istanbul, No.* 1, *Math. Res. Inst., Istanbul*, 1974. (J. Horváth) **54** #8318 46M05 (46A05)

age, Robert R. ★Discrete computational structures. Computer Science and Applied Mathematics. *Academic Press* [*A subsidiary of Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1974. xii + 381 *pp.* (D. Simovici) **51** #173 05–01 (68–01)

(*with* Bhat, U. Narayan; Nance, Richard E.) Information networks: a probabilistic model for hierarchical message transfer. *Information Sci.* **9** (1975), *no.* 2, 169–184. W.-K. Chen) **52** #7722 94A20

σ-polynomials and graph coloring. *J. Combinatorial Theory Ser. B* **24** (1978), *no.* 2, 137–153. (Ruth Bari) **58** #10564 05C15

ganov, I. Z. (*with* Ostrovskiĭ, G. M.; Volin, Ju. M.) An approach to the study of "singular" controls in optimal control problems. (Russian) *Upravljaemye Sistemy No.* 10 (1972), 96–102. (Not reviewed) 93C15

in, A. S. Identification and prognosis connected with systems with distributed lag. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 54 (1977), 42 *pp.* (Author's summary) **58** #33262 93B30

A method for the identification of economic systems. (Russian) *Èkonom. i Mat. Metody* **13** (1977), *no.* 4, 738–750. (Not reviewed) 90A15 (62P20)

An algorithm for nonlinear regression analysis with a priori constraints on regression coefficients. (Russian) *Èkonom. i Mat. Metody* **14** (1978), *no.* 2, 345–356. (Lubomír Kubáček) **58** #24765 62J99

i, Tosiaki Sheaf cohomology theory on harmonic spaces. *J. Math. Kyoto Univ.* **14** (1974), 555–595. (R. M. Hervé) **57** #16644 31D05

Neumann problem on a symmetric Brelot's harmonic space. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 314–326. *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (H. L. Jackson) **58** #11475 31D05 (31A25, 31C25)

Sur une classe des solutions du problème de Dirichlet extérieur dans un espace harmonique de Brelot. *Séminaire de Théorie du Potentiel de Paris, No.* 2 (*Univ. Paris, Paris*, 1975–1976), *pp.* 142–160. *Lecture Notes in Math., Vol.* 563, *Springer, Berlin*, 1976. (From the introduction) **58** #28569 31C25

Problème de Neumann sur les espaces harmoniques. *Math. Ann.* **224** (1976), *no.* 1, 53–76. (R. M. Hervé) **55** #8388 31D05

La théorie des espaces fonctionnels à nullité 1 et le problème de Neumann sur les espaces harmoniques. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **27** (1977), *no.* 4, ix, 45–119. (Denis Feyel) **58** #22623 31C05 (46E35)

rikov, A. M. An analysis of a gradient extremal system with an inertial object by means of difference equations. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 4, 43–49. (Author's summary) **45** #1624 93A10 (93C55)

Application of difference equations in the investigation of the stationary regime of the performance of a gradient extremal system with an inertial plant. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 388–398. (Ja. Fodor) **45** #6487 93C30

Korin, B. P. (*with* Stevens, E. H.) Some approximations for the distribution of a multivariate likelihood ratio criterion. *J. Roy. Statist. Soc. Ser. B* **35** (1973), 24–27. (Authors' summary) **48** #9973 62H10

Korinek, S. (*with* Mayer, Daniel) Verallgemeinernde Betrachtung über Methoden der Analyse linearer elektrischer Netzwerke. *WZE Wiss. Z. Elektrotech.* **13** (1969), 125–140. (A. A. Mullin) **45** #1678 94A20

Kořínek, Vladimír Prof. Aleksandr Gennadievič Kuroš has died. (Czech) *Časopis Pěst. Mat.* **97** (1972), 107–111. (Editors) **46** #3257 01A70

Koriyama, Akira On canonical stratifications. *Kōdai Math. Sem. Rep.* **24** (1972), 146–167. (Robert Wells) **46** #6241 53C30 (57E25)

On Lie algebras of vector fields with invariant submanifolds. *Nagoya Math. J.* **55** (1974), 91–110. (David Blair) **51** #6874 58D05 (57D25)

(*with* Maeda, Yoshiaki; Omori, Hideki) On Lie algebras of vector fields. *Trans. Amer. Math. Soc.* **226** (1977), 89–117. (D. B. Fuks) **55** #4198 57D25 (58H05)

Korjabov, P. P. *See* **Problems in applied mathematics and mechanics**, **58** #8593

Korjačko, V. P. (*with* Mamatov, Ju. A.) A method of estimating the structural parameters of control automata. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, *no.* 6, 77–81. (D. Obradović) **47** #6133 68A25

Korjagin, D. A. *See* **Wilkes, M. V.**, **50** #9053

Korjakin, Ju. A. Global asymptotic stability of an equation of frequency self-alignment. (Russian) *Metody i Modeli Upravlenija Vyp.* 8 (1974), 111–116, 132. (Editors) **58** #6532 34D05

(*with* Leonov, G. A.) The Bakaev-Guž procedure for systems with several angular coordinates. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1976**, *no.* 3, 41–46, 90. (Authors' summary) **57** #15669 93D10

(*with* Abramovič, S. M.; Leonov, G. A.; Reitmann, Volker) Frequenzbedingungen für Schwingungen in diskreten Systemen. I. Schwingungen im Sinne von Yakubovich in diskreten Systemen. *Wiss. Z. Techn. Univ. Dresden* **25** (1976), *no.* 5/6, 1153–1162. (Authors' summary) **55** #10105 93C10

(*with* Abramovič, S. M.; Leonov, G. A.; Reitmann, Volker) Frequenzbedingungen für Schwingungen in diskreten Systemen. II. Schwingungen in diskreten Phasensystemen. *Wiss. Z. Techn. Univ. Dresden* **26** (1977), *no.* 1, 115–122. (Authors' summary) **56** #1860 70.49

Korjakov, I. O. (*with* Gurevich, Yuri) A remark on R. Berger's work on the domino problem. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 459–463. (Robert M. Baer) **45** #4971 02F25

Korjavov, P. P. *See* **Numerical methods in fluid mechanics**, **48** #5510

Kork, John O. Examination of the Chayes-Kruskal procedure for testing correlations between proportions. *J. Internat. Assoc. Mathematical Geol.* **9** (1977), *no.* 6, 543–562. (Author's summary) **56** #14542 86.62

Korkina, E. I. Simplicity of the spectrum of some representations. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 3, 60–62. (Yasuhiro Asoo) **57** #7040 43A65 (22E30)

Korkina, L. F. Uniform regularization in problems of computing the values of unbounded operators. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1972), *no.* 2, 60–71, 173. (P. Saworotnow) **48** #2808 47A99 (65J05)

Estimation of error in the solution of ill-posed problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 584–597, 811. (Hans-Jürgen Albrand) **50** #2956 47A50 (65J05)

Korkina, M. P. Conditions for fitting a Friedmann universe to empty space. *Astronom. Ž.* **52** (1975), *no.* 2, 299–305; *translated as Soviet Astronom. AJ* **19** (1975), *no.* 2, 185–188. (C. Gilbert) **54** #2078 83.35

(*with* Martinenko, V. G.) A homogeneous axially symmetric model with an ultimately rigid state equation. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 7, 1191–1196. (Authors' summary) **58** #25749 83.35

Körle, Hans-Heinrich "On absolute summability by Riesz and generalized Cesàro means. II": Addendum. *Canad. J. Math.* **23** (1971), 844. (Editors) **45** #2368 40G05 (40F05)

Korljukov, A. V. On Burnside's $p^{\alpha}q^{\beta}$-theorem. (Russian) *Mat. Zametki* **17** (1975), 277–283. (È. M. Pal′čik) **52** #14035 20D20

Korman, S. (*with* Christofides, Nicos) A computational survey of methods for the set covering problem. *Management Sci.* **21** (1974/75), *no.* 5, 591–599. (G. Berman) **54** #6948 90C10 (05A17)

Korn, David (*with* Garabedian, Paul R.) Analysis of transonic airfoils. *Comm. Pure Appl. Math.* **24** (1971), 841–851. (N. Geffen) **45** #6267 76.65

(*with* Garabedian, Paul R.) A systematic method for computer design of supercritical airfoils in cascade. *Comm. Pure Appl. Math.* **29** (1976), *no.* 4, 369–382. (Silvio Nocilla) **55** #7111 76.65

See also **Constructive and computational methods for differential and integral equations**, **50** #8907

Korn, Granino A. (*with* Korn, Theresa M.) ★Справочник по математике для научных работников и инженеров. Определения, теоремы, формулы. (Russian) [Handbook of mathematics for scientists and engineers. Definitions, theorems, formulas] Translated from the second revised American edition by I. G. Aramanovič, A. M. Berezman, I. A. Vaĭnšteĭn, L. Z. Rumšickiĭ and L. Ja. Claf. Edited by I. G. Aramanovič. Fourth edition. *Izdat. "Nauka", Moscow*, 1977. 831 *pp.* (Editors) **56** #15242 00A05

Korn, Henry (*with* Rotando, Louis M.) The indeterminate form 0^0. *Math. Mag.* **50** (1977), *no.* 1, 41–42. (F. Brooks) **54** #10516 26A03

Korn, Israel Probability of a random point process with restricted rewards. *Israel J. Tech.* **11** (1973), *no.* 3, 103–108. (Author's summary) **54** #9796 93E10

Bounds to probability of error in binary communication systems with intersymbol interference and dependent or independent symbols. *IEEE Trans. Comm.* **COM-22** (1974), 251–254. (S. Guiaşu) **53** #10461 94A05

Probability of error in digital communication systems with intersymbol interference and dependent symbols. *IEEE Trans. Information Theory* **IT-20** (1974), 663–668. (N. Zierler) **50** #16072 94A05

A stochastic process generated by a network with a randomly alternating switch. *J. Franklin Inst.* **297** (1974), 153–167. (K. Jacobs) **49** #7027 94A20

A model of power demand based on an alternating renewal process. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no.* 11, 799–803. (Author's summary) **57** #1712 60K99

Korn, Theresa M. (*with* Korn, Granino A.) ★Справочник по математике для научных работников и инженеров. Определения, теоремы, формулы. (Russian) [Handbook of mathematics for scientists and engineers. Definitions, theorems, formulas] Translated from the second revised American edition by I. G. Aramanovič, A. M. Berezman, I. A. Vaĭnšteĭn, L. Z. Rumšickiĭ and L. Ja. Claf. Edited by I. G. Aramanovič. Fourth edition. *Izdat. "Nauka", Moscow*, 1977. 831 *pp.* (Editors) **56** #15242 00A05

Kornacker, Karl Discrete finite nilpotent Lie analogs: new models for unified gauge field theory. *J. Math. Phys.* **19** (1978), *no.* 7, 1584–1586. (From the introduction) **58** #14473 81.20

See also **Progress in theoretical biology**, **52** #12836

Kornai, János ★Anti-equilibrium. On economic systems theory and the tasks of research. *North-Holland Publishing Co., Amsterdam-London*, 1971. xx + 402 *pp.* (Trout Rader) **54** #12176 90A15

(*with* Simonovits, András) Problems of regulation in von Neumann economics. (Hungarian. Russian and English summaries) *Szigma–Mat.-Közgazdasági Folyóirat* **8** (1975), *no.* 2-3, 81–99. (Authors' summary) **55** #9869 90A15

(*with* Simonovits, András) Regulation based on orders in a certain von Neumann economy. (Hungarian. English and Russian summaries) *Szigma–Mat. Közgazdasági Folyóirat* **8** (1975), *no.* 4, 281–289. (Authors' summary) **55** #9870 90A15

(*with* Simonovits, András) Control problems in von Neumann economic systems. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 6, 1125–1140. (D. Obradović) **58** #20306 90A15

(*with* Simonovits, András) Decentralized control problems in Neumann-economies. *J. Econom. Theory* **14** (1977), *no.* 1, 44–67. (Trout Rader) **55** #11968 90A15

See also **Anwendung der Mathematik bei ökonomischen Untersuchungen**, **48** #10434

Kornbljum, B. I. *See* **Korenblum, Boris**

Kornbluth, J. S. H. (*with* Salkin, G. R.) A note on the economic interpretation of the dual variables in linear fractional programming. *Z. Angew. Math. Mech.* **52** (1972), 175–178. (M. Rössler) **46** #1350 90C30

Duality, indifference and sensitivity analysis in multiple objective linear programming. *Operational Res. Quart.* **25** (1974), 599–614. (Kailash C. Kapur) **51** #14956 (E **52** #10032) 90C05

(*with* Salkin, G. R.) The optimal dual solution in linear fractional decomposition problems. *Operations Res.* **22** (1974), *no.* 1, 183–189. (R. N. Kaul) **53** #12571 90C05

(*with* Salkin, G. R.) A note on returns to scale in linear fractional programming. *Z. Angew. Math. Mech.* **55** (1975), *no.* 12, 757–758. (Bruce D. Craven) **53** #2375 90C30

See also **White, D. J.**, **52** #10032

Korneev, G. A. The mean recurrence time and the mean sojourn time of an irreducible finite Markov chain in a given subset of states. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 5, 14–17. (F. L. Spitzer) **46** #955 60J10

Korneev, P. K. Rational appoximation of functions. (Russian) *Numerical analysis and mathematical physics, No.* 2 (*Russian*), *pp.* 222–231. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (See RŽMat **1976** #11 B1258; MR **56** #1654) 41A20

Rational approximation of functions of several variables. (Russian) *Numerical analysis and mathematical physics, No.* 2 (*Russian*), *pp.* 232–241. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (B. D. Donevski) **58** #1913 41A63 (41A20)

Approximation of functions of several variables by continued fractions. (Russian) *Continued fractions* (*Russian*), *pp.* 122–126. *Stavropol. Gos. Ped. Inst., Stavropol*, 1977. (From the text) **58** #29630 41A20

See also **Continued fractions**, **58** #23269

Korneev, V. A. (*with* Melikjan, A. A.) Differential game with impulsive control of one of the players. *Prikl. Mat. Meh.* **41** (1977), *no.* 2, 354–357 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 2, 345–349. (J. M. Skowronski) **57** #11804 90D25

Korneev, V. G. An application of the method of mechanical quadratures to the construction of a difference scheme for a fourth order elliptic equation. (Russian) *Metody Vyčisl. No.* 7 (1971), 55–76. (Josef Miklíček) **46** #4745 65N05

The connection between finite differences and quadratures of the Green's function for an ordinary second order differential operator. (Russian. English summary) *Vestnik Leningrad. Univ.* **1972**, *no.* 7, 36–44. (J. B. Butler, Jr.) **46** #437 34B05 (65L10)

The connection of the difference schemes for second order elliptic equations with the quadrature method schemes for the integral equations of the partitioning method. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 1 *Mat. Meh. Astronom. Vyp.* 1 (1973), 17–27, 153. (H. J. Stetter) **51** #7312 65N05

A difference scheme of order of accuracy $h^{3/2}$ in the network norm $\|\cdot\|_{h, W_2^1}$ for a second order elliptic equation in an arbitrary domain. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 7 *Mat. Meh. Astronom. Vyp.* 2 (1973), 25–33, 160. (J. Miklíček) **49** #8391 65N10

Some questions of the construction and investigation of finite element schemes. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **5** (1974), *no.* 1, 59–87. (Ju. K. Dem′janovic) **56** #17139 65N30

(*with* Ponomarev, S. E.) Application of curvilinear finite elements in schemes for solution of 2*n*-order linear elliptic equations. I. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **5** (1974), *no.* 5, 78–97. (D. Topoljanskiĭ (RŽMat **1975** #9 B1026)) **58** #31916 65N30

A theorem on the positive definiteness of the differential operator of the theory of thin non-shallow shells. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 1291–1293. (V. Komkov) **50** #11927 73.35

(*with* Terent′eva, V. N.) The connection between difference approximations of derivatives of order 2*k* and quadratures. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. Vyp.* 4 (1974), 42–50, 171. (R. Kodnár) **51** #11976 65L10

(*with* Ponomarev, S. E.) Application of curvilinear finite elements in schemes for solution of 2*n*-order linear elliptic equations. II. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), *no.* 1, 47–64. (Editors) **58** #31917 65N05

Differential operator for the equilibrium equations of the theory of thin shells. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1975**, *no.* 2, 89–97 (*Russian*); *translated as Mechanics of Solids* **10** (1975), *no.* 2, 76–82. (J. Ignaczak) **54** #1791 73.35

(*with* Terent′eva, V. N.) The construction of splitting difference schemes for higher order elliptic equations. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **7** (1976), *no.* 5, 83–106. (C. Kalik) **57** #8058 65N05

(*with* Ponomarev, S. E.) Solution of the problem of the theory of plastic flow by the finite element method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 2, 437–452, 548. (Authors' summary) **56** #10341 73.65

Iterative methods for the solution of the systems of equations of the finite element method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 5, 1213–1233, 1334. (Author's summary) **56** #13716 65N30

Korneev, V. V. The macro-structure of homogeneous computing systems. (Russian) *Vyčisl. Sistemy No.* 60 *Voprosy Teor. i Postroenija Vyčisl. Sistem* (1974), 17–34, 170. (See RŽMat **1975** #7 V737) 68A99

Korneeva, A. O. Isotropic surfaces in Lorentz space. (Russian) *Proceecings of the Seminar of the Department of Geometry, No. VII* (*Russian*), *pp.* 68–77. *Izdat. Kazan. Univ., Kazan*, 1974. (B. Rozenfel′d) **53** #3932 53B30

(*with* Norden, A. P.) The isotropic normal congruences that are connected with curves of *n*-dimensional Lorentz space $L_n(n > 4)$. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 11(150), 51–54. (B. Rozenfel′d) **50** #14528 53A40

Korneeva, A. S. *See* **Mathematical physics**, **48** #5768

Kornĕĭčuk, N. P. *See* **Korniĭčuk, M. P.**

Korneičuk, V. I. A functionally complete set of multivalent potential logical elements. (Russian) *Avtomat. i Vyčisl. Tehn.* **1968**, *no.* 4, 88–90. (Not reviewed) 94A20

Canonical forms of the representation of multivalued switching functions in a system of set theoretic operations. (Russian) *Questions of the theory of electronic digital mathematical machines* (*Proc. Sem., Kiev*, 1967/1969), *No.* 1 (*Russian*), *pp.* 43–53. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (G. Blohina (RŽMat **1970** #6 V414)) **45** #9808 94A20

Correcting properties of a multivalued reconstructing device. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 4, 92–93. (Author's summary) **45** #9844 94A20

(*with* Romankevič, A. M.) Certain singularities of the synthesis of *m*-valued schemes in the case of frequency, time and space separation of information signals. (Russian) *Izv. Vysš. Učebn. Zaved. Radiofizika* **12** (1969), 1100–1101. (J. Černý) **46** #5058 94A20

A method for the representation of multivalued symmetric switching functions. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 1, 7–11. (D. Simovici) **45** #3122 94A20

(*with* Tarasenko, V. P.; Teslenko, A. K.) Synthesis of combination schemes in a certain class of multivalued algebras. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, *no.* 5, 9–13. (I. M. Havel) **47** #8202 94A20

(*with* Šlem, B. M.) Analysis of algorithms for accelerated multiplication in electronic digital computers. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 3, 63–65. (M. Tetruašvili) **52** #12392 68A10 (94A20)

(*with* Tarasenko, V. P.; Žabin, V. I.) A method for the fast multiplicatio numbers that are represented by a sequential code. (Russian) *Avtomat. i Vyčisl.* (*Riga*) **1975**, *no.* 5, 82–86. (Authors' summary) **58** #8471 68A10

(*with* Žabin, V. I.; Tarasenko, V. P.) A method for the division of numbers redundant representation. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 3, 8 95. (Costică Cazacu) **57** #18231 68A20

(*with* Tarasenko, V. P.; Teslenko, A. K.) A study of the complexity of the realization of functions on a one-dimensional cascade of modules. (Russian) *Avtom Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 5, 5–11, 92. (Authors' summary) **58** #9850 94A

(*with* Tarasenko, V. P.; Teslenko, A. K.) A method for the construction of combinational circuits on modules of the same type. (Russian. English summary in *Kibernetika* (*Kiev*) **1977**, *no.* 2, 30–34. (Authors' summary) **58** #9849 94A20

Körner, János A property of conditional entropy. *Studia Sci. Math. Hungar.* **6** (1 355–359. (L. L. Campbell) **45** #3117 94A15

Coding of an information source having ambiguous alphabet and the entrop graphs. *Transactions of the Sixth Prague Conference on Information Theory, Statis Decision Functions, Random Processes* (*Tech Univ., Prague*, 1971; *dedicated to memory of Antonín Špaček*), *pp.* 411–425. *Academia, Prague*, 1973. (F. Jelinek) **50** # 94A15

(*with* Longo, Giuseppe) Two-step encoding for finite sources. *IEEE Trans. Information Theory* **IT-19** (1973), 778–782. (R. C. Mullin) **50** #16088 94A10

(*with* Gács, Peter) Common information is far less than mutual information. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlen Teorii Informacii* **2** (1973), *no.* 2, 149–162. (Toby Berger) **50** #9414 94A15

An extension of the class of perfect graphs. *Studia Sci. Math. Hungar.* **8** (19 405–409. (Author's summary) **58** #5402 05C99

(*with* Ahlswede, Rudolf F.) Source coding with side information and a converse degraded broadcast channels. *IEEE Trans. Information Theory* **IT-21** (1975), *no* 629–637. (Authors' summary) **53** #12743 94A10

(*with* Csiszár, I.) Source networks with unauthorized users. *J. Combinatorics Information Syst. Sci.* **1** (1976), *no.* 1, 25–409 (Suguru Arimoto) **55** #12303 94

(*with* Ahlswede, Rudolf F.; Gács, Peter) Bounds on conditional probabilities applications in multi-user communication. *Z. Wahrscheinlichkeitstheorie und V Gebiete* **34** (1976), *no.* 2, 157–177. (Robert M. Gray) **57** #11927 94A15

(*with* Ahlswede, Rudolf F.) On the connection between the entropies of input output distributions of discrete memoryless channels. *Proceedings of the Fifth Conference on Probability Theory* (*Braşov*, 1974), *pp.* 13–22. *Editura Acad. R.S Bucharest*, 1977. (J. Wolfowitz (Zbl **368** #94009)) **58** #33510 94A15

(*with* Marton, Katalin) Comparison of two noisy channels. *Topics in informa theory* (*Second Colloq., Keszthely*, 1975), *pp.* 411–423. *Colloq. Math. Soc. János Bol Vol.* 16, *North-Holland, Amsterdam*, 1977. (From the introduction) **58** #33489 94A05

(*with* Marton, Katalin) General broadcast channels with degraded message se *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 1, 60–64. (Authors' summa **57** #11914 94A05

(*with* Marton, Katalin) Images of a set via two channels and their role in multi-u communication. *IEEE Trans. Information Theory* **IT-23** (1977), *no.* 6, 751–761. Dueck) **57** #5421 94A15

(*with* Ahlswede, Rudolf F.; Gács, Peter) Correction to: "Bounds on conditio probabilities with applications in multi-user communication" (Z. Wahrscheinlichkeitstheorie und Verw. Gebiete **34** (1976), 157–177). *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **39** (1977), *no.* 4, 353–354. (Editors) **58** #26502 94A05

Körner, Otto Die Masse der Geschlechter quadratischer Formen vom Range <3 quadratischen Zahlkörpern. *Math. Ann.* **193** (1971), 297–314. (Horst Pfeuffer) **45** #1832 10C05

Integral representations over local fields and the number of genera of quadra forms. Collection of articles dedicated to Carl Ludwig Siegel on the occasion of seventy-fifth birthday, III. *Acta Arith.* **24** (1973), 301–311. (Carl Riehm) **48** #2068 10B35 (10C05, 12B25)

Formeln für die $\mathfrak{p}$-adischen Maße der quadratischen Einheitsformen in algebraischen Zahlkörpern. *Math. Ann.* **200** (1973), 267–279. (L. A. Kogan) **52** #276 10C15

Bestimmung einklassiger Geschlechter ternärer quadratischer Formen in reell-quadratischen Zahlkörpern. *Math. Ann.* **201** (1973), 91–95. (Horst Pfeuffer) **48** #8385 10C05

Quadratsummen und Kongruenzlösungsdichten in $\mathfrak{p}$-adischen Zahlkörpern. *Mat Nachr.* **57** (1973), 15–38. (Horst Pfeuffer) **49** #221a 10C20

Quadratsummen und Kongruenzlösungsdichten in $\mathfrak{p}$-adischen Zahlkörpern. II. *Math. Nachr.* **59** (1974), 63–73. (Horst Pfeuffer) **49** #221b 10C20

(*with* Fiedler, Heinz; Jurkat, W. B.) Asymptotic expansions of finite theta series *Acta Arith.* **32** (1977), *no.* 2, 129–146. (From the introduction) **58** #27832 10G05

(*with* Fiedler, Heinz; Jurkat, W. B.) On Salem's problem for Fourier and Dirichl series. *Period. Math. Hungar.* **8** (1977), *no.* 3-4, 229–242. (E. Grosswald) **56** #16238 42A16 (10K35, 42A32)

Körner, Stephan On vagueness in the language of science: a reply to A. Rosenber (Dialogue **14** (1975), no. 2, 281–305). *Dialogue* **14** (1975), *no.* 2, 306–308. (Editor **58** #27259b 02A05 (00A25)

(*with* Young, A. D.; Kochen, S.; Roquette, Peter) Abraham Robinson. *Bull. London Math. Soc.* **8** (1976), *no.* 3, 307–323. (Editors) **53** #12846 01A70

See also **Grundlagen der modernen Mathematik**, **50** #6716; **Philosophy of logic** **53** #7720 *and* **Rosenberg, Alexander**, **58** #27259c

Körner, Thomas W. Bernard's theorem. *Thin sets in harmonic analysis* (*Sem. Inst. Mittag-Leffler, Univ. Stockholm, Stockholm*, 1969–1970), *pp.* 20–28, 177–180. *Lectur Notes in Pure and Appl. Math., Vol.* 2, *Dekker, New York*, 1971. (C. McGehee **55** #13162 43A45 (46J10)

Relations between Dirichlet, Kronecker and Helson sets. *Thin sets in harmonic analysis* (*Sem. Inst. Mittag-Leffler, Univ. Stockholm, Stockholm*, 1969–1970), *pp.* 148–160, 177–180. *Lecture Notes in Pure and Appl. Math., Vol.* 2, *Dekker, New York*.

971. (C. McGehee) **55** #13170 43A46

Sur les ensembles AA^+ et les ensembles pics. *C. R. Acad. Sci. Paris Sér. A-B* **274** 972), A1718–A1721. (Y. Domar) **46** #615 43A45 (43A20)

A pseudofunction on a Helson set. I. *Pseudofunctions and Helson sets, pp.* 3–224. *stérisque*, 5. *Soc. Math. France, Paris*, 1973. (Colin C. Graham) **53** #8772a 42A48 3A45)

A pseudofunction on a Helson set. II. *Pseudofunctions and Helson sets, pp.* 231–239. *stérisque*, 5. *Soc. Math. France, Paris*, 1973. (Colin C. Graham) **53** #8772c 42A48 3A45)

The union of sets of interpolation for general algebras. *Proc. Cambridge Philos. Soc.* 3 (1973), 67. (D. R. Arterburn) **47** #833 46J10

(*with* Katznelson, Yitzhak) An algebra dense in its tilde algebra. *Israel J. Math.* **17** 974), 248–260. (C. McGehee) **50** #895 43A45

Some results on Kronecker, Dirichlet and Helson sets. II. *J. Analyse Math.* **27** 974), 260–388. (C. McGehee) **58** #6937 43A46 (42A44)

Integration and pointwise convergence. *Comment. Math. Prace Mat.* **19** (1976/77), *o.* 2, 253–258. (Mauro Boni) **56** #12211 28A30 (46E10)

On the theorem of Ivasev-Musatov. I. (French summary) *Ann. Inst. Fourier Grenoble)* **27** (1977), *no.* 3, vi97–115. (J. S. Byrnes) **57** #3721 42A16

er, W. (*with* Ose, G.; Schiemann, G.; Baumann, H.; Stopp, Friedmar; Lochmann, .) ★Lehr- und Übungsbuch: Mathematik, Band IV. Mathematische Modelle, atrizenrechnung, Linearoptimierung, Wahrscheinlichkeitsrechnung und athematische Statistik, Spieltheorie-Bedienungstheorie-Monte-Carlo-Methoden, raktisches Rechnen, Nomografie. *Verlag Harri Deutsch, Zurich-Frankfurt am Main*, 973. 696 *pp.* *ISBN* 3-87144-277-1 (Editors) **57** #5528 00A05

ev, Ju. N. The principle of raising the degree of indeterminacy of Boolean functions, nd an algorithm for determining shortest disjunctive normal forms. *Kibernetika* (*Kiev*) **967**, *no.* 4, 9–16 (*Russian*); *translated as Cybernetics* **3** (1967), *no.* 4, 7–13 (1971). Author's introduction) **45** #8416 94A20

Classification of Boolean functions. (Russian) *Questions of the theory of electronic igital mathematical machines* (*Proc. Sem., Kiev*, 1967/1969), *No.* 1 (*Russian*), *pp.* 76–90. *kad. Nauk Ukrain. SSR, Kiev*, 1969. (G. Blohina (RŽMat **1970** #6 V416)) **45** #9809 94A20 (06A40)

(*with* Piskunov, S. V.; Sergeev, S. N.) Questions of the construction of algorithms or generalized substitutions with an isolated context. (Russian) *Vyčisl. Sistemy No.* 47 1971), 117–130. (A. Salomaa) **47** #9898 68A30

(*with* Piskunov, S. V.; Sergeev, S. N.) A microprogram homogeneous processor that s oriented toward linear algebra problems. (Russian) *Optimizacija No.* 6(23) (1972), 4–64, 135. (Authors' summary) **48** #7656 68A10

ev, M. D. (*with* Linskiĭ, V. S.) Scheduling two-stage processes without a buffer. *Izv. kad. Nauk SSSR Tehn. Kibernet.* **1970**, *no.* 1, 50–55 (*Russian*); *translated as Engrg. ybernetics* **1970**, *no.* 1, 43–48. (B. Gluss) **45** #4812 90B35

(*with* Linskiĭ, V. S.) Construction of optimum schedules for parallel processors. *Izv. kad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 3, 160–167 (*Russian*); *translated as Engrg. ybernetics* **10** (1972), *no.* 3, 506–514. (A. K. Dewdney) **49** #6675 68A10 (05C35)

(*with* Kazancev, P. N.) Estimation of the throughput of a multiprocessor computer with commonly accessible memory. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 3, 7–105 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 3, 436–444. (D. Woodhouse) **52** #4979 (EA **53**) 90B35

ev, V. M. (*with* Bendič, N. N.) On the density of eigenvalues in problems of stability of thin elastic shells. *Prikl. Mat. Meh.* **35** (1971), 364–368 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 323–328. (H. J. Weinitschke) **46** #4835 73.35 (73.47)

(*with* Vahromeev, Ju. M.) The dynamic boundary effect in rods. Formulation of the hortened problem. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1972**, 95–103 (*Russian*); *translated as Mechanics of Solids* 7 (1972), *no.* 4, 83–90 (1973). (R. J. Knops) **49** #4372 73.34

Corrections: "On the formulation of boundary conditions of the simplified equations of shells of revolution" (Prikl. Mat. Meh. **34** (1970), 84–94 (Russian);translated as J. Appl. Math. Mech. **34** (1970), 76–85). *Prikl. Mat. Meh.* **37** (1973), 384 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 367. (R. W. Dickey) **49** #8475 73.35

(*with* Grigoljuk, È. I.) Asymptotic analysis of the equations of sandwich plate and shell theory. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1976**, *no.* 4, 148–154 (*Russian*); *translated as Mechanics of Solids* **11** (1976), *no.* 4, 125–130. (From the summary) **58** #25275 73.41

(*with* Vahromeev, Ju. M.) Boundary value problems with a small parameter for ordinary linear differential equations. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 7, 1163–1170, 1345. (V. A. Plotnikov) **58** #11729 34E15 (34B10)

nev, Yu. N. *See* **Kornev, Ju. N.**

nfel'd, I. P. Invariant measures of minimal dynamical systems. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 280–283. (László Zsidó) **46** #5576 28A65 (54H20)

Quasi-invariant measures for topological dynamical systems. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **38** (1974), 1305–1323. (Michael Keane) **55** #621 28A65

The additive homological equation. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 2, 73–74. (James R. Brown) **55** #4119 54H20

nienko, I. A. Solution of the compromise problem by means of the minimax criterion. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 135 (1971), 50–56. (P. Brunovský) **47** #2462 49A40

niĕnko, Ju. V. The optimal filter for the reconstruction of images. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 1, 51–54, 95. (Jana Zvárová) **57** #9267 94A05 (62H30, 68A45)

nienko, N. M. (*with* Matveev, G. V.; Metel'skiĭ, N. N.; Tyškevič, R. I.) Partitions of polygons. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 2, 25–29, 139. (Z. Nádeník) **58** #12677 50B30 (52A40)

nienko, V. S. Flat polygons over distributive lattices. (Russian) *Ordered sets and lattices, No.* 4 (*Russian*), *pp.* 69–85, 134. *Izdat. Saratov. Univ., Saratov*, 1977. (T. S. Fofanova) **58** #5435 06A35 (16A78)

niĭčuk, M. P. (*with* Velikin, V. L.) Exact estimates of the approximation by spline functions on classes of differentiable functions. (Russian) *Mat. Zametki* **9** (1971), 483–494. (V. A. Popov) **46** #2313 41A15

The diameters of classes of continuous functions in the space L_p. (Russian) *Mat. Zametki* **10** (1971), 493–500. (G. Albinus) **45** #5636 41A50

Inequalities for differentiable periodic functions and the best approximation of a certain class of functions by another. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 423–434. (P. C. Sikkema) **47** #7284 41A50

A remark on Jackson's theorem for differentiable functions. (Russian) *Mat. Zametki* **12** (1972), 517–522. (A. Lupaş) **50** #869 42A08

(*with* Polovina, A. I.) The approximation of continuous functions by algebraic polynomials. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 328–340. (B. Bojanov) **46** #582 41A10

The uniform approximation of periodic functions by subspaces of finite dimension. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 525–528. (J. Németh) **48** #9216 42A08

Relations between the moduli of continuity of functions and of their rearrangement. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 794–796, 860. (B. Crstici) **49** #9126 26A15

Methods for investigating extremal problems in the theory of best approximation. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 3(177), 9–42. (B. Bojanov) **53** #6181 41A50

Some extremal problems of approximation theory. (Russian) *Proceedings of the International Congress of Mathematicians* (*Vancouver, B.C.*, 1974), *Vol.* 2, *pp.* 67–74. *Canad. Math. Congress, Montreal, Que.*, 1975. (Bl. Sendov) **54** #13413 41A50

On extremal subspaces and approximation of periodic functions by splines of minimal defect. (Russian summary) *Anal. Math.* **1** (1975), *no.* 2, 91–101. (V. A. Popov) **52** #11429 41A45

Certain relations between the approximative characteristics of classes of periodic functions. (Russian) Theory of functions and its applications (collection of articles dedicated to Sergeĭ Mihaĭlovič Nikol'skiĭ on the occasion of his seventieth birthday). *Trudy Mat. Inst. Steklov.* **134** (1975), 115–123, 408–409. (Paul Nevai) **53** #6202 42A08

★Экстремальные задачи теории приближения. (Russian) [Extremal problems of approximation theory] *Izdat. "Nauka", Moscow*, 1976. 320 *pp.* (G. G. Lorentz) **56** #6244 42A08 (41A10)

Best approximation by splines on classes of periodic functions in the L metric. (Russian) *Mat. Zametki* **20** (1976), *no.* 5, 655–664. (P. C. Sikkema) **56** #3510 41A15

Exact error bound of approximation by interpolating splines in L-metric on the classes W_p^r $(1 \leq p < \infty)$ of periodic functions. (Russian summary) *Anal. Math.* **3** (1977), *no.* 2, 109–117. (Author's summary) **58** #29749 42A08 (41A15)

See also **Nikol'skiĭ, S. M.**, (See RŽMat **1975** #4 B130) *and* **Studies in contemporary problems of summability and approximation of functions and their applications**, **58** #26658

Kornīĭčuk, M. T. (*with* Ēžov, Ī. Ī.; Oliĭnyk, I. D.) The distribution of the number of occupied channels of a repair system with variable intensity of flow. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 1, 140–142. (See RŽMat **1976** #8 V70) 90B25

(*with* Oliĭnyk, I. D.) The distribution of the queue length of a repair device with a changing input flow. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 2, 129–131. **56** #13390 60K25

(*with* Markova, L. N.) ★Исследование одного класса систем массового обслуживания с дискретным временем. (Russian) [A study of a class of discrete-time queueing systems] Preprint IM-77-9. *Akad. Nauk Ukrain. SSR, Inst. Mat., Kiev*, 1977. 50 *pp.* (R. H. Rodine) **56** #6923 60K25

(*with* Ēžov, Ī. Ī.) Some Markov models of a queueing system with unreliable servers. (Russian. English summary) *Issled. Operaciĭ i ASU Vyp.* 9 (1977), 66–74, 122. (Authors' summary) **57** #1697 60K25

An estimate of the life-span conditions of an unreliable system in the case of an unrestricted queue. (Russian. English summary) *Issled. Operaciĭ i ASU Vyp.* 10 (1977), 81–90, 142. (I. V. Romanovskiĭ) **58** #25923 90B25 (60K25)

Kornīlov, Ī. Ē. (*with* Demčuk, S. P.) Two circles that lie in the flow field from an isolated vortex of unit intensity. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 1, 34–38, 94. (From the authors' summary) **57** #4793 76.30

Kornilov, V. E. Bounds of the roots of certain polynomials. (Russian) *Izv. Tomsk. Politehn. Inst.* **245** (1975), 49–51. (From the introduction) **58** #11280 26A78

An application of continued fractions to the calculation of incomplete Gauss and Kummer functions. (Russian) *Izv. Tomsk. Politehn. Inst.* **245** (1975), 52–53. (Author's introduction) **58** #11540 33A30

Calculation of certain functions of two variables by means of continued fractions. (Russian) *Izv. Tomsk. Politehn. Inst.* **245** (1975), 54–55. (Author's introduction) **58** #11541 33A30

An application of continued fractions to the calculation of the Riemann zeta-function. (Russian) *Izv. Tomsk. Politehn. Inst.* **245** (1975), 56–57. (Ekkehard Krätzel) **56** #11925 10H05

Calculation of the gamma function by means of continued fractions. (Russian) *Izv. Tomsk. Politehn. Inst.* **245** (1975), 59–61. (Author's introduction) **58** #11535 33A15

Kornilova, L. E. A complex network model. I. The scheduling and diagram of the work of plant subdivisions. (Russian) *Application of mathematical methods in economic research and planning* (*Proc. Sem., Kiev*, 1969), *No.* 3 (*Russian*), *pp.* 110–121. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (V. Tanaev (RŽMat **1970** #7 V474)) **45** #8244 90B35

A complex network model. II. The optimal distribution of resources. (Russian) *Application of mathematical methods in economic research and planning* (*Proc. Sem., Kiev*, 1969), *No.* 3 (*Russian*), *pp.* 122–131. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (V. Tanaev (RŽMat **1970** #7 V475)) **45** #8245 90B05

The method of minimal flow for the exact solution of the problem of minimazation of the maximal level of resource utilization in network planning. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 75–85. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (O. Fajans (RŽMat **1970** #7 V478)) **52** #10014 90B35

(*with* Nguèn Van Vi) Transportation problem with respect to the time criterion. (Russian. English summary) *Issled. Operaciĭ i ASU Vyp.* 9 (1977), 50–60, 121. (Authors' summary) **57** #2541 90C05 (*with* Nguèn Van Vi) Transportation problem with respect to the time criterion with an additional constraint. (Russian. English summary) *Issled. Operaciĭ i ASU Vyp*. 9 (1977), 60–66, 121. (Authors' summary) **57** #2542 90C05

(*with* Nguèn Van Vi) Two nonstationary network problems. (Russian. English summary) *Issled. Operaciĭ i ASU Vyp*. 10 (1977), 102–108, 142. (I. Gh. Ciobanu) **58** #32890 90B10

Kornišin, M. S. *See* **Continuum mechanics and related problems of analysis, 50** #6714

Kornoušenko, E. K. Partitioning the states of a finite automaton into classes. *Avtomat. i Telemeh*. **1969**, *no*. 6, 115–122 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no*. 6, 937–942. **56** #11650 94A30

Solution of the setting problem for an automaton with partition on the set of states. *Avtomat. i Telemeh*. **1971**, *no*. 1, 168–174 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no*. 1, *part* 2, 150–155. (P. Turakainen) **47** #1558 94A30

Construction of a class of automata realizing a given automaton, using partitions of the set of states of this automaton. *Avtomat. i Telemeh*. **1971**, *no*. 5, 92–100 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no*. 5, *part* 1, 770–776. (Author's summary) **56** #11651 94A30

On the minimization of incompletely-defined deterministic automata with conservation of prescribed properties. *Avtomat. i Telemeh*. **1973**, *no*. 8, 75–81 (*Russian. English summary*); *translated as Automat. Remote Control* **1973**, *no*. 8, *part* 1, 1266–1271 (1974). (Howard Swann) **53** #2557 94A30

Some properties of homomorphisms of incompletely specified deterministic automata. *Avtomat. i Telemeh*. **1974**, *no*. 2, 91–101 (*Russian*); *translated as Automat. Remote Control* **34** (1974), *no*. 2, *part* 1, 250–259. (Author's summary) **58** #4733 94A30

Connection of the coverability relation with homomorphisms in the case of deterministic automata. *Avtomat. i Telemeh*. **1974**, *no*. 3, 109–114 (*Russian*); *translated as Automat. Remote Control* **35** (1974), *no*. 3, *part* 2, 442–446. (Editors) **56** #11652 94A30

Conditions for obtaining functional diagnoses of discrete devices with a specified set of malfunctions. *Avtomat. i Telemeh*. **1975**, *no*. 2, 111–119 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no*. 2, *part* 2, 284–291. (Author's summary) **56** #8232 94A30

Finite-automaton approximation to the behavior of continuous plants. *Avtomat. i Telemeh*. **1975**, *no*. 12, 150–157 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no*. 12, *part* 2, 2068–2074. (I. Mezník) **55** #10165 94A30 (93C60)

Finite automaton approximation of the behavior of linear-stationary continuous plants of the first order. *Avtomat. i Telemeh*. **1976**, *no*. 7, 123–131 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no*. 7, *part* 2, 1081–1088. (Kimio Kanai) **55** #2411 94A30

The operation of closure on the set of states of an incompletely specified deterministic automaton. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no*. 1, 9–15. (*loose errata*) (Author's summary) **58** #4734 94A30

Finite-automaton approximation of behavior of linear stationary continuous plants. *Avtomat. i Telemeh*. **1977**, *no*. 7, 180–191 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no*. 7, *part* 2, 1092–1102. (I. Mezník) **56** #17993 93C10 (94A30)

The generalized problem of testing the correctness of functioning of a finite automaton. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1977**, *no*. 2, 109–115, 221 (*Russian*); *translated as Engrg. Cybernet*. **15** (1977), *no*. 2, 87–94 (1978). (V. N. Valuĭskiĭ) **58** #9910 94A30

Kornstaedt, Hans-Joachim Eine Verallgemeinerung des Templeschen Einschliessungssatzes auf normale Operatoren. *Z. Angew. Math. Mech*. **51** (1971), 566–568. (S. Goldberg) **46** #4255 47B15

Ein allgemeiner Konvergenzsatz für verschärfte Newton-Verfahren. *Finite Elemente und Differenzenverfahren* (*Spezialtagung, Univ. Clausthal, Clausthal-Zellerfeld*, 1974), *pp*. 53–69. *International Series of Numerical Mathematics, Vol*. 28, *Birkhäuser, Basel*, 1975. (See Zbl **325** #65026; MR **53** #12037) 65H05

Funktionalungleichungen und Iterationsverfahren. (English summary) *Aequationes Math*. **13** (1975), *no*. 1/2, 21–45. (B. Jankó) **52** #9597 65J05 (47H15)

Zur Konvergenz des Newton-Verfahrens zur Lösung nichtlinearer Ungleichungssysteme. *Z. Angew. Math. Mech*. **57** (1977), *no*. 1, 54–56. (Ulrich Eckhardt) **57** #4510 65H10 (65K05)

Kornya, Peter *See* **Proceedings: Conference on Finite Groups, 52** #14012

Környei, I. (*with* Kátai, Imre) On the distribution of lattice points on circles. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math*. **19** (1976), 87–91 (1977). (Ekkehard Krätzel) **58** #21985 10J05 (10E05)

Kornyšev, Ju. N. A single-line system with repeated orders and preliminary servicing. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1977**, *no*. 2, 83–88, 220 (*Russian*); *translated as Engrg. Cybernet*. **15** (1977), *no*. 2, 63–68 (1978). (Author's summary) **57** #17879 60K25

Korobcov, A. A. (*with* Kolesnik, V. V.) Optimal control of multidimensional discrete continuous linear objects. (Russian) *Adapt. Sistemy Avtomat. Upravlenija Vyp*. 2 (1974), 101–105, 152. (Authors' summary) **55** #7501 93C05

Korobčuk, Ī. B. (*with* Bobīk, O. Ī.) The uniqueness of the solution of the first boundary value problem for a second order equation of elliptic type. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 967–970, 1051. (H. Marcinkowska) **46** #3981 35J25

Korobčuk, I. V. A certain geometric criterion for the solvability of certain boundary value problems for linear equations of elliptic type and for strongly elliptic systems of order two. (Russian) *Mathematical physics, No*. 12 (*Russian*), *pp*. 67–71, 168. *Izdat. "Naukova Dumka", Kiev*, 1972. (A. Haimovici) **48** #9085 35J25

A geometric test of the uniqueness of the solution of the Dirichlet problem for higher order elliptic equations. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp*. 97–98, 122 (*errata*). *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Author's summary) **58** #29174 35J40

Korobeĭnik, Juriĭ F. A remark on the article "The solution of an equation of hyperbolic type by the Fourier method" (Rostov.-na-Donu Gos. Univ. Učen. Zap. **66** (1959), Trudy Fiz.-Mat. Fak. no. 7, 77–116). (Russian) *Mathematical analysis and its applications, Vol. II* (*Russian*), *pp*. 163–166. *Izdat. Rostov. Univ., Rostov-on-Don*, 1970. (Editors) **57** #6856 35L25

The analytic solutions of an integral equation with a kernel that depends the difference of the arguments. (Russian) *Mathematical analysis and its application III* (*Russian*), *pp*. 3–19. *Isdat. Rostov. Univ., Rostov-on-Don*, 1971. (T. G. G **50** #1056 47G05

(*with* Demčenko, T. I.) On the question of the solvability of linear diffe equations in spaces of analytic functions. (Russian) *Differencial'nye Uravne* 7 (1971), 1639–1648. (P. Szeptycki) **45** #5816 47F05 (35Q99)

Normally solvable operators and differential equations of infinite order. (R Lithuanian and English summaries) *Litovsk. Mat. Sb*. **11** (1971), 569–596. (H. Baumgärtel) **45** #4210 (E **50** #1050) 47E05 (34A35)

Criteria for the applicability of differential operators of infinite order to classes of exponential functions. (Russian. Bulgarian and English summaries) *G Visš. Tehn. Učebn. Zaved. Mat*. **8** (1972), *no*. 3, 9–18 (1973). (K. Seitz) **54** # 34A20 (30A66, 47E05)

Normal solvability of linear differential equations in the complex plane. (Ru *Izv. Akad. Nauk SSSR Ser. Mat*. **36** (1972), 450–471. (P. Talpalaru) **46** #724 48 #6513) 47E05 (34A20)

(*with* Bratiščev, A. V.) The general form of linear operators that commute w the operation of differentiation. (Russian) *Mat. Zametki* **12** (1972), 187–195. (P. Talp **47** #5569 46E10 (47E05)

The general form of linear operators that commute with the differentiation op in spaces of analytic functions. (Russian) *Funkcional. Anal. i Priložen*. 7 (1973). 74–76. (N. K. Nikol'skiĭ) **47** #3965 46E10 (47B99)

A certain class of linear operators. (Russian. Bulgarian and English summ *Godišnik Visš. Tehn. Učebn. Zaved. Mat*. **9** (1973), *no*. 3, 23–33 (1974). (V. A. Tka **53** #11418 47B37

Linear operators that commute with differentiation and are defined in a sp functions analytic in infinite domains. (Russian. Bulgarian and English summ *Godišnik Visš. Tehn. Učebn. Zaved. Mat*. **9** (1973), *no*. 3, 35–44 (1974). (V. A. Tka **53** #11419 47B37

(*with* Epifanov, O. V.) Estimates of derivatives in weighted spaces of entire functions. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan- Ser. Mat*. **8** (1973), *no*. 2, 144–156, 177. (V. P. Havin) **49** #5800 46E15 (34A20)

A remark on my paper "Normal solvability of linear differential equations the complex plane" (Izv. Akad. Nauk. SSSR Ser. Mat. **36** (1972), 450–471). (Russian *Akad. Nauk SSSR Ser. Mat*. **37** (1973), 247. (P. Talpalaru) **48** #6513 34A20

(*with* Kubrak, V. K.) The existence of particular solutions of a differential eq of infinite order with prescribed growth. (Russian) *Izv. Vysš. Učebn. Zaved. Mate* **1973**, *no*. 9(136), 36–45. (C. Tanaka) **48** #6417 30A66 (34A20)

A comment on the article "Normally solvable operators and differential equ of infinite order" (Litovsk. Mat. Sb. **11** (1971), 569–596). (Russian) *Litovsk. Mat*. 13 (1973), *no*. 4, 215. (H. Baumgärtel.) **50** #1050 47E05 (34A35)

(*with* Moržakov, V. V.) A general form of the isomorphisms that commute differentiation operator in spaces of entire functions of slow growth. (Russian) *M. Sb* (*N.S.*) **91(133)** (1973), 475–487, 629. (D. Sarason) **49** #5801 46E15 (32A15)

The existence of solutions of an equation of infinite order with a given g character. (Russian) *Mat. Zametki* **13** (1973), 677–686. (B. Choczewski) **48** # 34A35 (30A20)

(*with* Demčenko, T. I.) Correction to: "The solvability of a class of differ equations of infinite order" (Sibirsk. Mat. Ž **8** (1967), 1321–1338). (Russian) *S Mat. Ž*. **14** (1973), 691. (R. F. Datko) **48** #6518 34A35

The applicability of differential operators of infinite order to certain clas analytic functions. (Russian) *Sibirsk. Mat. Ž*. **14** (1973), 883–888, 912. (L. Zal **48** #4385 34A35

The representation of linear operators that act continuously on spaces of a functions and commute with the differentiation operator. (Russian. Bulgaria English summaries) *B"lgar. Akad. Nauk. Izv. Mat. Inst*. **15** (1974), 359–388. (Nikol'skiĭ) **53** #14203 47B37 (46E10)

(*with* Dragilev, M. M.; Zaharjuta, V. P.) A dual connection between certain questions of basis theory and interpolation theory. (Russian) *Dokl. Akad. Nauk* **215** (1974), 522–525. (Boris Pavlov) **49** #7727 46A35

On the question of the representation of linear continuous operators that co with the operation of differentiation and act on spaces of analytic functions. (Ru *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk*. **1974**, *no*. 4, 11 139. (M. Ī. Nagnibīda) **55** #682 30A98

On the question of the representation of an arbitrary linear operator in the for differential operator of infinite order. (Russian) *Mat. Zametki* **16** (1974), 277–28 Biriuk) **53** #3771 47B37 (47E05)

(*with* Saakjan, B. A.) On the question of the representation of $\langle\rho_j\rangle$-abso monotone functions. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR D* 61 (1975), *no*. 5, 257–261. (R. P. Boas, Jr.) **54** #2897 26A33

The basis property of a certain system of functions. (Russian. English sum *Anal. Math*. **1** (1975), *no*. 2, 103–113. (M. I. Nagnibīda) **52** #8388 30A18 (3

A certain dual problem. I. General results. Applications to Fréchet spaces. (Ru *Mat. Sb*. (*N.S.*) **97(139)** (1975), *no*. 2(6), 193–229, 317. (M. Ī. Nagnibīda) **53** #1 46A20 (30A80, 46B15)

A certain dual problem. II. Applications to *LN**-spaces, and other ques (Russian) *Mat. Sb*. (*N.S.*) **98(140)** (1975), *no*. 1(9), 3–26, 157. (M. Ī. Nagn **53** #1212 46A20 (30A80, 46B15)

The property of being a basis of certain systems of functions on the ha (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no*. 6, 1280–1283. (P. L. D **56** #3626 46E20

(*with* Bratiščev, A. V.) A multiple interpolation problem in the space of functions of a given proximate order. (Russian) *Izv. Akad. Nauk SSSR Ser. M* (1976), *no*. 5, 1102–1127, 1199. (M. Ī. Nagnibīda) **57** #16605 30A80 (30A66, 3

Generalized differentiation operators in sequence spaces. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk*. **1976**, *no*. 3, 3–8

tr Antosik) **56** #12968 47B37 (46A45)
Unconditional bases in a Hilbert space. (Russian) *Mat. Zametki* **19** (1976), *no.* 2,
–266. (T. Precupanu) **53** #14094 46C05 (46E20)
Operator equations of infinite order with constant coefficients. (Russian) *Sibirsk.*
t. Ž. **17** (1976), *no.* 3, 571–585, 716. (V. A. Tkačenko) **54** #1005 47B37 (34A20)
(*with* Bogačev, V. A.) The solvability of linear differential equations in weighted
ces of entire functions. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 12,
8–2167, 2301. (Authors' summary) **58** #6582 34G05 (47E05)
A class of spaces that have the property (Y_0). (Russian) *Izv. Severo-Kavkaz. Naučn.*
ntra Vysš. Školy Ser. Estestv. Nauk. **1977**, *no.* 4, 64, 118. (S. Kutateladze) **58** #12279
46A45
Composite operator equations in generalized derivatives, and their applications to
pell sequences. (Russian) *Mat. Sb.* (*N.S.*) **102(144)** (1977), *no.* 4, 475–498, 631. (M. Ī.
gnibīda) **57** #7242 47B37 (34A99)
(*with* Bratiščev, A. V.) Some characteristics of the growth of subharmonic functions.
ussian) *Mat. Sb.* (*N.S.*) **106(148)** (1978), *no.* 1, 44–65, 143–144. (M. Riedel)
#11458 31A05

inikov, M. Ju. Linearization of an autonomous system that contains a small
rameter. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27**
72), *no.* 2, 85–90. (S. R. Bernfeld) **45** #3873 34E15
Equivalence of the bifurcations of the center. (Russian. English summary) *Vestnik*
oskov. Univ. Ser. I Mat. Meh. **27** (1972), *no.* 3, 80–86. (K. R. Schneider) **46** #442
C05
Diffeomorphisms of autonomous systems that contain a small parameter. (Russian)
ifferencial'nye Uravnenija **10** (1974), 1595–1606, 1731. (L. Reiziņš) **50** #7675
C20

einikov, S. N. A modification of Neale's variational principle in the theory of finite
astoplastic deformations. *Dinamika Splošn. Sredy Vyp.* 22 *Mat. Voprosy Mehaniki*
975), 206–215, 251. (D. P. Rašković) **56** #13967 73.49

einikov, V. P. ★Задачи теории точечного взрыва в газах. (Russian) [Problems in
e theory of point explosions in gases] Trudy Mat. Inst. Steklov. **119** (1973). *Izdat.*
Nauka", Moscow, 1973. 278 *pp.* (Editors) **53** #4721 76.35
(*with* Šidlovskaja, L. V.) Numerical solution of problems of an explosion in a
oving gas. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), *no.* 4, 56–68. (From
e introduction) **58** #32395 76.65 (65N30)
★Problems in the theory of point explosion in gases. Translated by J.
chulenberger from the Russian (Trudy Mat. Inst. Steklov. **119** (1973)). Proceedings of
e Steklov Institute of Mathematics, No. 119 (1973). *American Mathematical Society,*
rovidence, R. I., 1976. iv+311 *pp.* (Editors) **53** #4722 76.35

einikov, V. V. (*with* Glazkova, A. V.) A modification of Milne's method for the
tegration of ordinary differential equations. (Russian) *Differential equations* (*Russian*),
p. 52–57, 111. *Udmurt. Gos. Univ., Izhevsk*, 1976. (Authors' summary) **58** #8268
5L05 (34A50, 65D30)
(*with* Glazkova, A. V.) A multistep method for the integration of a system of
rdinary differential equations. (Russian) *Differential equations* (*Russian*), *pp.* 58–62,
12. *Udmurt. Gos. Univ., Izhevsk*, 1976. (Authors' summary) **58** #8267 65L05
65D30)
See also **Proceedings: Interuniversity Scientific Conference of the Mathematical**
aculties of Pedagogical Institutes of the Ural Region, **46** #1532

benok, E. V. (*with* Oreščenko, A. F.) Classification of the two-dimensional manifolds
f an indefinite metric in the pseudo-euclidean space $^1E_4$. (Russian) *Vescī Akad. Navuk*
BSSR Ser. Fīz.-Mat. Navuk **1971**, *no.* 5, 64–71. (C. Simionescu) **46** #8076 53A35
(*with* Oreščenko, A. F.) A classification of the two-dimensional pseudo-Riemannian
submanifolds of the space 1_{E_5}. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat.*
Navuk **1974**, *no.* 1, 102–104, 141. (L. Tamássy) **49** #6071 53B30
(*with* Lapkovskiĭ, V. K.) On the dyad approach to general relativity theory.
(Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 2, 122–124, 144.
(Kishore Marathe) **54** #4537 83.53
(*with* Oreščenko, A. F.) A classification of the two-dimensional pseudo-Riemannian
submanifolds of the space ^lE_n. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat.*
Navuk **1977**, *no.* 1, 62–67, 141. (W. Waliszewski) **58** #7433 53A25
See also **Proceedings: Republican Conference of Belorussian Mathematicians**,
48 #3669

bicina, G. Ja. *See* **Proceedings: Interuniversity Scientific Conference of the**
Mathematical Faculties of Pedagogical Institutes of the Ural Region, **46** #1532

bicyn, V. A. (*with* Libin, È. E.) The exact solution of certain difference problems.
(Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 4, 764–767. (R. Kodnár) **56** #13734
65P05

bicyna, Ž. L. (*with* Bojarincev, Ju. E.) Construction of a converging multistage
iteration process. (Russian) *Numerical methods of linear algebra* (*Proc. First All-Union*
Conf., Novosibirsk, 1969), (*Russian*), *pp.* 11–15. *Vyčisl. Centr Akad. Nauk SSSR Sibirsk.*
Otdel., Novosibirsk, 1969. (J. Segethova) **56** #9930 65F10

bkov, S. A. A set of sections of a geodetic net and the generalized method of nodes.
Izv. Vysš. Učebn. Zaved. Geod. i Aèrofot. **1972**, *no.* 1, 3–8 (*Russian*); *translated as Geodes.*
and Aerophot. **1972**, *nos.* 1-3, 4–8 (1974). (W.-K. Chen) **49** #7028 94A20
★Применение теории графов в геодезии. (Russian) [Application of graph theory
in geodesy] *Izdat. "Nedra", Moscow*, 1976. 151 *pp.* (Z. Nádeník) **58** #328 05C10
(86.05)

robkov, S. N. Streamlining the procedure for analytic design of controls for nonlinear
plants. *Avtomat. i Telemeh.* **1975**, *no.* 2, 13–22 (*Russian. English summary*); *translated as*
Automat. Remote Control **36** (1975), *no.* 2, *part* 1, 197–205. (Author's summary)
56 #14917 93B99

robkov, S. S. (*with* Freĭdman, P. A.) Projections of torsion-free nil-rings. (Russian)
Ural. Gos. Univ. Mat. Zap. **10** (1977), *no.* 3 *Issled. po Sovremen. Algebre*, 106–126,
217–218. (L. Bokut') **58** #782 16A50 (06A20)

robkov, V. K. (*with* Vasil'ev, Ju. L.; Glagolev, V. V.) Metric investigations in discrete
analysis. (Russian) A collection consisting mainly of papers presented at the Second
All-Union Conference on Problems of Theoretical Cybernetics (Novosibirsk, 1971).
Problemy Kibernet. No. 27 (1973), 63–73, 293. (G. Wechsung) **49** #12192 94A20
(02F10)
See also **Obituary: Korobkov, V. K.**, **50** #41

Korobkova, Ī. K. (*with* Zmorovič, V. A.) A certain class of univalent mappings of an annulus. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 612–615, 670. (J. G. Krzyż) **46** #9321 30A32

A certain problem on a bound extremum. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 796–800, 861. (J. G. Krzyż) **49** #552 30A32

A certain property of analytic majorants, and convolutions of univalent functions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 1076–1079, 1150. (Z. Lewandowski) **49** #553 30A32

(*with* Zmorovič, V. A.) A certain generalization of Bernardi's integral transform. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 595–597, 669. (J. G. Krzyż) **50** #10230 30A32

(*with* Zmorovič, V. A.) On the theory of analytic functions, with positive real part, in the disc. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 545–549, 575. (W. C. Royster) **50** #13535 30A76

(*with* Zmorovič, V. A.) On the order of starlikeness of convex functions of order α. (Russian. English summary) *Dokl. Akad. Nauk. Ukrain. SSR Ser. A* **1977**, *no.* 7, 584–587, 669. (P. T. Mocanu) **58** #6209 30A32

Korobkova, M. B. Obtaining Cartesian systems that are equivalent to the D^*-base of a Čebyšev system. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **541** (1972), 98–104. (B. Bojanov) **46** #9611 41A50

The existence of the base of a Čebyšev system. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **541** (1972), 105–110. (B. Bojanov) **46** #9612 41A50

A theorem on the existence of a spline-polynomial with a given sequence of extrema. (Russian) *Mat. Zametki* **11** (1972), 251–258. (V. A. Popov) **45** #9036 41A15

Uniform approximation on compact subsets of the real line. (Russian) *Mat. Zametki* **16** (1974), 325–336. (T. Bojanov) **51** #10966 41A50

Korobočkin, B. I. Generalized Lagrange functions, and some of their properties. (Russian) *Optimizacija No.* 10(27) (1973), 120–127, 173. (O. Gürel) **49** #7886 49D45

Korobov, A. A. Cohomology of distributive lattices. (Russian) *Mat. Zametki* **12** (1972), 205–211. (I. Pop) **47** #5861 55B05 (06A35, 18H40)

Cohomology of topological spaces, and their lattices of open subsets. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 5(167), 243–244. (S. A. Bogatyĭ) **52** #15435 55B35

Korobov, N. M. Complete systems of congruences. (Russian) *Acta Arith.* **21** (1972), 357–366. (R. A. Rankin) **47** #3292 10A10

The distribution of digits in periodic fractions. (Russian) *Mat. Sb.* (*N.S.*) **89(131)** (1972), 654–670, 672. (F. Schweiger) **54** #12619 10A30 (10G05, 10H25)

(*with* Mit'kin, D. A.) Lower bounds of complete trigonometric sums. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 5, 54–57. (M. I. Israilov) **58** #21966 10G05

See also **Gel'fond, A. O.**, **50** #6771

Korobov, V. I. Controllability, stability of certain nonlinear systems. (Russian) *Differencial'nye Uravnenija* **9** (1973), 614–619, 781. (J. Jarník) **47** #7172 34H05 (49E15)

A connection between controllability and stability in control problems. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 8, 1512–1515, 1534. (Ljubomir Lilov) **52** #1491 49E20

(*with* Marinič, A. P.; Podol'skiĭ, E. N.) Controllability of linear autonomous systems in the presence of constraints on the control. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 11, 1967–1979, 2107. (J. Jarník) **53** #3837 49E15

Reduction of a controllability problem to a boundary value problem. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 7, 1310–1312, 1343–1344. (G. N. Mil'šteĭn) **56** #1165 49A10 (34B99)

(*with* Lucenko, A. V.; Podol'skiĭ, E. N.) Stabilization of a linear autonomous system relative to a subspace. I. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 134 *Mat. i Meh. Vyp.* 41 (1976), 114–123, 3. (O. V. Vasil'ev) **58** #26382 93D05

(*with* Lucenko, A. V.) Controllability of a linear stationary system on a subspace for an unspecified duration. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 4, 531–534, 565. (L. Mikołajczyk) **58** #2570 49E15

(*with* Marinič, A. P.) Ideally observable systems with minimal output. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 134 *Mat. i Meh. Vyp.* 41 (1977), 31–41, 2. (S. P. Bingulac) **57** #18918 93B05

(*with* Lucenko, A. V.; Podol'skiĭ, E. N.) Stabilization of a linear autonomous system with respect to a subspace. II. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 148 *Mat. i Meh. Vyp.* 42 (1977), 3–11, 110. (O. V. Vasil'ev) **58** #20696 93C15 (49E99)

(*with* Čuprina, V. E.) Sufficient conditions for the controllability of a linear autonomous system on an arbitrary set. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 148 *Mat. i Meh. Vyp.* 42 (1977), 83–89, 111–112. (Ljubomir Lilov) **57** #2657 93B05

Korol', I. Ju. A way of solving boundary value problems for the one- and two-dimensional wave equation under discrete perturbations. (Russian) *Approximate methods for the study of nonlinear systems* (*Russian*), *pp.* 67–75. *Izdanie Inst. Mat. Akad. Nauk SSR, Kiev*, 1976. (From the introduction) **57** #16932 35C99 (35L99, 70.35)

Korol', N. A. The integral curves of a certain differential equation. (Russian) *Mathematics* (*Russian*), 47–51. *Minsk. Gos. Ped. Inst., Minsk*, 1973. (A. A. Reinfelds) **50** #13713 34C05

Korolev, A. G. (*with* Kureĭčik, V. M.) A method of recognizing an isomorphism of graphs. (Russian. English summary) *Kibernetika* (*Kiev*) **1977**, *no.* 2, 82–87. (Authors' summary) **58** #10616 05C99 (68A10)

Korolev, A. N. (*with* Beketov, S. V.; Potapov, A. V.) Maximum likelihood estimate of direction of arrival of narrow-band signal in the case of spatially-correlated noise. *Radiotehn. i Èlektron.* **15** (1970), 2267–2272 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **1970**, 1985–1990. (M. Zakai) **49** #6996 94A05

Korolev, G. M. *See* **Qualitative theory of differential equations**, **52** #11191

Korolev, I. V. Harnack's inequality for one-dimensional parabolic equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 899–904, 957. (I. Łojczyk-Królikiewicz) **50** #5188 35K15

Korolev, Ju. V. *See* **Mathematical simulation and the theory of electrical circuits**, **48** #3287

Korolev, M. F. (*with* Rjabov, Ju. A.) The construction of periodic solutions of certain linear and quasilinear equations. (Russian) *Differencial'nye Uravnenija* **11** (1975), 280–286, 395–396. (J. K. Hale) **51** #8558 (E **52** #3670) 34C25

(*with* Rjabov, Ju. A.) Letter to the editors: "The construction of periodic solutions of certain linear and quasilinear equations" (Differencial'nye Uravnenija **11** (1975), 280–286). (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1713. (J. K. Hale) **52** #3670 34C25

The existence and estimation of the periodic solution of a linear difference system with variable lag that reduces to zero. (Russian) *Current problems in the exact sciences (Russian), pp.* 25–28. *Univ. Družby Narodov, Moscow,* 1977. (From the text) **58** #29514 39A10 (34K99)

(*with* Rožkov, V. I.) Periodic solutions of linear difference systems with a small difference. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 1, 35–38. (Wolfgang Hahn) **57** #6923 39A12 (34K15)

Korolev, N. I. *See* **Mathematical physics, 46** #1531

Korolev, O. I. Functions of an implicit difference scheme for a hyperbolic equation. (Russian) *Collection of scientific works of the Department of Higher Mathematics, No.* 3 *(Russian), pp.* 47–56. *Tul'sk. Politehn. Inst., Tula,* 1975. (Editors) **58** #31876 65M99

Korolev, O. V. (*with* Četverikov, V. M.) A parametric quantum oscillator in a variable homogeneous electromagnetic field. (Russian) *Moskov. Inst. Èlektron. Mašinostroenija —Trudy MIÈM Vyp.* 38 *Asimpt. Metody v Teorii Uravn. s Častn. Proizvodnymi* (1974), 128–140. (J. S. Joel) **57** #8621 81.35

Korolev, V. D. A certain method for the approximate solution of systems of linear differential equations, with asymptotically constant coefficients. (Russian) Differential equations. *Trudy Rjazan. Radiotehn. Inst. No.* 20 (1969), 178–180. (See RŽMat **1971** #1 B878; MR **52** #13071) 34A45

(*with* Čiženkov, V. M.) On the question of determining the location of a moving object from measured components of its angular velocities. (Russian) *Trudy Rjazan. Radiotehn. Inst. No.* 28 (*Differencial'nye Uravnenija*) (1971), 155–157. **51** #12056 70.34

The approximate integration of partial differential equations with asymptotically constant coeficients. (Russian) *Trudy Rjazan. Radiotehn. Inst. No.* 28 (*Differencial'nye Uravnenija*) (1971), 174–177. (Author's introduction) **51** #13423 35C10

The asymptotics of the mixed boundary value problem for a class of linear differential equations. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 53 *Differencial'nye Uravnenija* (1974), 178–183, 193. (Author's summary) **58** #29256 35K35

Parametric perturbation of a cantilever arm by the translational forces of inertia. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 62 *Differencial'nye Uravnenija* (1975), 137–140, 185. (Author's summary) **57** #11263 73.35

See also **Differential equations, 52** #13071

Korolev, V. K. An application of the methods of quadratic programming to the optimization of the parameters of dynamical systems. (Russian) *Vyčisl. Sistemy No.* 40 (1970), 51–73. (S.-F. Sburlan) **45** #4609 65K05 (90C20)

A comparison of certain methods of numerical integration of ordinary differential equations. (Russian) *Vyčisl. Sistemy Vyp.* 64 (1975), 108–127, 182. (Murli M. Gupta) **56** #10018 65L05

Quadratic-fractional approximation in numerical differentiation and integration. (Russian) *Vyčisl. Sistemy Vyp.* 65 *Metody Splaĭn-Funkciĭ* (1975), 130–142, 164. (M. I. Levin) **56** #17094 65L05

Korolev, V. S. Determination of the elements of an orbit for known values of the velocity vector at three different moments of time. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1972), 144–145, 154. (D. ter Haar) **48** #10242 70.34

Koroleva, G. A. Basic trends in the organization of data storage (a survey). (Russian) *Voprosy Informacion. Teorii i Praktiki No.* 33-34 (1978), 3–15. (Editors) **58** #25180 68A50

Koroleva, N. S. (*with* Dovnar-Zapol'skaja, N. M.; Kulaeva, L. I.; Lupandina, D. S.; Nemilova, T. K.) ★Немецко-русский механико-математический словарь. (Russian) [German-Russian dictionary of mechanics and mathematics] Edited by Ju. A. Ostrovskiĭ. *Izdat. Moskov. Univ., Moscow,* 1960. 238 *pp.* (Editors) **50** #6738 00A20

Koroleva, Z. E. A proof of the minimality of contact schemes of a certain type. (Russian) *Diskret. Analiz No.* 14 (1969), 18–27. (G. Blohina (RŽMat **1970** #1 V336)) **45** #9810 94A20

(*with* Konstantinov, R. M.; Kudrjavcev, V. B.) A combinatory logic approach to problems of predicting ore yields. (Russian) Third All-Union Conference on Problems of Theoretical Cybernetics (Novosibirsk, 1974). *Problemy Kibernet. No.* 31 (1976), 5–33, 237. (A. A. Mullin) **55** #4809 68A45

Korolevič, V. A. (*with* Belyĭ, G. V.) Serre's Lie algebras of generalized Jacobians. (Russian) *Mat. Zametki* **19** (1976), *no.* 4, 571–576. (J. W. S. Cassels) **53** #5599 14G25 (14K15)

Korolevič, V. S. Certain Banach algebras of infinitely differentiable functions. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **9** (1974), *no.* 2, 143–148, 168. (B. Korenblum) **50** #5479 46J15 (30A98)

(*with* Pogorelyĭ, E. A.) The zeros of analytic functions that belong to Gevrey classes. (Russian) *Mat. Zametki* **15** (1974), 857–863. (A. C. Offord) **50** #7532 30A72

Koroljuk, L. G. Some methods for the solution of differential-functional equations with partial derivatives and partial differences in the eighteenth and in the first half of the nineteenth centuries. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. Vyp.* 14 (1971), 33–36, 102. (Editors) **58** #15956 01A55 (34-03, 39-03)

(*with* Kušnir, Ē. A.) On the history of the application of difference and differential-difference equations in mechanics. (Ukrainian. Russian summary) *Narisi Īstor. Prirodoznav. ī Tehn. No.* 24 (1978), 11–15, 118. (Editors) **58** #15957 01A55 (34-03)

Koroljuk, T. I. On one technique for the numerical analytical continuation of potential fields. *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1967**, 93-98 (*Russian*); *translated as Izv. Acad. Sci. USSR Phys. Solid Earth* **1967**, 386–389. **58** #31761 65E05

The Cauchy problem for the Laplace equation. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 3(130), 53–55. (E. Ungureanu-David) **48** #4490 35J05

Uniform error estimation in a certain analytic continuation problem. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9** *no.* 2, 60–64, 143 (1975). (J. Kofroň) **53** #11982 65E05

Koroljuk, V. S. (*with* Andrēēv, M. V.) A certain control scheme for a Poisson process with drift. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 1, 72–74. (Authors' summary) **46** #1436 93E20

(*with* Polisčuk, L. I.; Tomusjak, A. A.) A certain limit theorem for semi-M ov processes. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 4, 144 45. (B. Sevast'janov (RŽMat **1970** #2 V59)) **46** #971 60K15

(*with* Tomusjak, A. A.) Certain stationary characteristics of semi-Markov proc es. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 5, 65–68. (A. L e) **46** #2754 60K15

(*with* Valah, V. Ja.) Stochastic automata with random reaction time and eir functioning in random media. (Russian) *Proceedings of the Fourth All-Union Conf ce on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 3: *Automata, nd and control machines* (*Russian*), *pp.* 38–45, 261. *Izdat. "Nauka", Moscow,* 1972. (E rs) **48** #8151 94A35

(*with* Penev, I. P.; Turbin, A. F.) The asymptotic behavior of the distribution he absorption time of a Markov chain. (Russian. English summary insert) *Kiber ka* (*Kiev*) **1972**, *no.* 2, 20–22. (B. Kronfeld) **46** #4611 60J10

(*with* Turbin, A. F.) A certain method of proving limit theorems for c un functionals of semi-Markov processes. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 23 40. (E. M. Klimko) **46** #972 60K15

The sojourn time of a generalized Poisson process in a strip with a delaying s n. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR A* **1973**, 200–202, 284. (A. D. Wentzell) **47** #5964 60J30

(*with* Penev, I. P.; Turbin, A. F.) Asymptotic expansion for the distribution he absorption time of a Markov chain. (Russian. English summary insert) *Kiber ka* (*Kiev*) **1973**, *no.* 4, 133–135. (Z. Šidák) **48** #7383 60J10

(*with* Brodi, S. M.; Turbin, A. F.) Semi-Markov processes and their applic n. (Russian) *Probability theory. Mathematical statistics. Theoretical cybernetics. V* 11 (*Russian*), 47–97, 131. (*errata insert*) *Vsesojuz. Inst. Naučn. i Tehn. Informacii, M w,* 1974. (Z. Khalil) **55** #6601 60K15 (60K25)

Boundary problems for a compound Poisson process. (Russian. English summ y) *Teor. Verojatnost. i Primenen.* **19** (1974), 3–14. (I. Cuculescu) **49** #1597 30 (60K25)

★Граничные задачи для сложных пуассоновских процессов. (Russian) [Boundary problems for compound Poisson processes] *Izdat. "Naukova Dumka",* ev. 1975. 138 *pp.* (J. G. Wendel) **53** #6753 60J30

(*with* Turbin, A. F.) The method of perturbation on the spectrum of linear operators in asymptotic problems of probability theory. *Limit theorems of prob ty theory* (*Colloq., Keszthely,* 1974), *pp.* 167–182. *Colloq. Math. Soc. János Bolyai, V* 11. *North-Holland, Amsterdam,* 1975. (E. Arjas) **53** #6758 60J35 (60K15)

(*with* Turbin, A. F.) Perturbation of operators on the spectrum and asym tic expansion of Markov chains. (Ukrainian. English and Russian summaries) *Do di Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 5, 402–405, 474. (Petr Mandl) **52** #9 60J10

Ruin problems for a compound Poisson process. (Russian. English summary) or. *Verojatnost. i Primenen.* **20** (1975), *no.* 2, 382–384. (I. Cuculescu) **53** #6754 6

(*with* Velikiĭ, A. P.) The asymptotic solution of a certain optimal control pr m. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 3, 364–368, 430. (L. Mikołajczyk) **53** # 80 49D30

(*with* Turbin, A. F.) ★Полумарковские процессы и их приложения. (R in. [Semi-Markov processes and their applications] *Izdat. "Naukova Dumka", Kiev,* 76. 184 *pp.* (O. K. Zakusilo) **54** #8913 60K15 (60K25, 60K20)

(*with* Turbin, A. F.) Asymptotic enlarging of semi-Markov processes wi an arbitrary state space. *Proceedings of the Third Japan-USSR Symposium on Prob ity Theory* (*Tashkent,* 1975), *pp.* 297–315. *Lecture Notes in Math., Vol.* 550, *Springer,* n, 1976. (R. L. Tweedie) **56** #16821 60K15

(*with* Bratiĭčuk, N. S.) A representation of the resolvent of a compound P on process on a half-line. (Russian) *Studies in the theory of random processes* (*Russia* op. 31–38. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev,* 1976. (M. Iosifescu) **55** #13580 60J30

(*with* Šurenkov, V. M.) The method of potential in boundary problems for ra om walks on a Markov chain. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), 5. 1056–1058. (J. G. Wendel) **55** #4415 60K15

(*with* Suprun, V. M.; Šurenkov, V. M.) A potential-theoretic method in bou ry problems for processes with independent increments and jumps of the same n. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 2, 253–2 (J. G. Wendel) **53** #14687 60J30

(*with* Turbin, A. F.) A method for inverting linear operators perturbed c he spectrum and some of its applications. (Russian) *Problems of the asymptotic the of nonlinear oscillations* (*Russian*), *pp.* 107–114, 277. *Naukova Dumka, Kiev,* 1977. (Au rs' summary) **58** #30394 47A55

Semi-Markov models of complex random systems. (Russian) *Second Interna al Summer School on Probability Theory and Mathematical Statistics* (*Bulgar. Acad* n., *Varna,* 1976), *pp.* 113–185. *Izdat. B″lgar. Akad. Nauk., Sofia,* 1977. (Z. Khalil) **58** #24593 60K15 (60K20, 62N05, 90B25)

(*with* Erugin, N. P.; Likova, O. B.) Juriĭ Alekseevič Mitropol'skiĭ (on the oc on of his 60th birthday). (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 1, 17 34. (Editors) **55** #46 01A70

(*with* Tadžiev, A.) An asymptotic expansion for the distribution of the abso on time of a semi-Markov process. (Russian. English summary) *Dokl. Akad. Nauk U* in. *SSR Ser. A* **1977**, *no.* 12, 1065–1068, 1149. (K. Dietz) **57** #10845 60K15

(*with* Bogoljubov, N. N.) Ju. O. Mitropol's'kiĭ's studies in the field of non ar oscillation theory. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 1, 3–14, 141. (E rs) **55** #7709 01A70 (34C15)

(*with* Velikiĭ, A. P.) An asymptotic approach to the transfer of boundary cond ns for linear ordinary differential equations. (Russian) *Ukrain. Mat. Ž.* **29** (1977), 1. 23–31, 141. (K. Moszyński) **56** #724 34B05 (34E05)

(*with* Šurenkov, V. M.) The method of potential in boundary problems for ra m walks on a Markov chain. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 4, 464–471, 5 (J. G. Wendel) **57** #1658 60J15 (60K15)

(*with* Mītropol's'kiĭ, Ju. O.; Ševelo, V. M.) The Institute of Mathematics he Academy of Sciences of the Ukrainian SSR on the sixtieth anniversary of the Oc er Revolution. (Russian) *Ukrain. Mat. Z.* **29** (1977), *no.* 6, 715–732, 851. (E. M. B us)

8 #27096 00A15

(*with* Bogoljubov, N. N.; Samoĭlenko, A. M.) Juriĭ Alekseevič Mitropol′s′kiĭ (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1 (193), 217–228. (Editors) **55** #5349 01A70

See also **Selected translations in mathematical statistics and probability**, **49** #4728; **Cybernetics encyclopedia**, **54** #9919; **Cybernetics encyclopedia**, **54** #9920 *and* **Problems of the asymptotic theory of nonlinear oscillations**, **58** #22709

lyuk, T. I. *See* **Koroljuk, T. I.**

lyuk, V. S. *See* **Koroljuk, V. S.**

mislīčenko, V. D. An exact solution of certain extremal problems. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1970**, 983–988, 1052. (M. M. Cvetanov) **45** #2379 41A50

Analogues of the polynomials of Čebyšev approximation. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 586–589, 667. (M. Tomić) **45** #7359 41A50

Nonlinear Čebyšev approximations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 982–985, 1053. (Ju. A. Šaškin) **47** #7285 41A50

Uniform approximation of functions and certain properties of fractional polynomials. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 823–825, 862. (Hans-Jürgen Albrand) **47** #7280 41A30

Generalized Čebyšev and extremal approximations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 687–692, 763. (M. Tomić) **48** #9200 41A50

A supplement to convergence and to the Weierstrass and Stone theorems. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 800–805, 861. (Z. Semadeni) **49** #3379 41A10

onacki, Jacek (*with* Gutenbaum, Jakub) A method of synthesizing multi-variable controllers based on the determination of the state variables. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **15** (1970), 179–203. (From the authors' summary) **45** #8352 93C05

Random-seeking methods for the stochastic unconstrained optimization. *Internat. J. Control* **21** (1975), 517–527. (A. B. Schwarzkopf) **51** #14965 93C15

The convergence of random search algorithms. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no.* 4, 43–49, 92. (Author's summary) **58** #4324 90C15 (65K05)

A theorem on the convergence of algorithms of static stochastic optimization. (Polish) *Mat. Stos.* (3) **7** (1976), 81–99. (W. Greblicki) **56** #15043 93E10

Stochastic approximation. I. Optimization methods without constraints. (Polish) *Mat. Stos.* (3) **11** (1977), 21–36. (V. Dupač) **58** #8079a 62L20 (90C99)

Stochastic approximation. II. Optimization methods with constraints. (Polish) *Mat. Stos.* (3) **11** (1977), 37–49. (V. Dupač) **58** #8079b 62L20 (90C99)

onel, Jack D. Continuity and *k*th order differentiability in Orlicz-Sobolev spaces: W^kL_A. *Israel J. Math.* **24** (1976), *no.* 2, 119–138. (A. Kufner) **55** #1060 46E35

onkevič, A. I. (*with* Kac, G. I.) The Frobenius theorem for functions of commuting and anticommuting arguments. (Russian) *Funkcional. Anal. i Priložen.* **5** (1971), *no.* 1, 78–80. (J. S. Joel) **57** #4208 58A15 (34A30, 58F05)

Spectral decomposition of periodic and almost periodic random functions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 114–117, 188. (M. Skalsky) **49** #1566 60G05

Logical analysis of a directed graph and the ordering of its vertices. (Russian) *Mathematical modeling of complex systems* (*Russian*), *pp.* 9–21. *Akad. Nauk Ukrain. SSR Inst. Kibernet.*, *Kiev*, 1977. (András Frank) **58** #16376 05C20

ostelev, A. P. The probability distribution of the solution of the problem with an oblique derivative. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 172–176. (L. I. Gal′čuk) **47** #1128 60H15 (35J99)

(*with* Moroz, P. A.) The necessary conditions in a certain method for the technical realization of a process with a discontinuous diffusion coefficient. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 2, 61–66. (Editors) **50** #3346 60H99

The method of nets for the Poincaré boundary value problem. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 789–792. (T. Styś) **52** #7155 65N10

(*with* Moroz, P. A.) Use of an analog-digital computer to simulate diffusion processes with normal reflection. *Avtomat. i Telemeh.* **1975**, *no.* 2, 126–135 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 2, *part* 2, 298–306. (Authors' summary) **56** #9903 65C05

(*with* Moroz, P. A.) Finding the conditional extremum by the random search method. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1975**, *no.* 2, 36–39. (Authors' summary) **58** #15631 93E25

The convergence of processes that are obtained from Markov chains to diffusion processes with certain boundary conditions. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 1(181), 239–240. (D. A. Darling) **53** #14698 60J60

(*with* Moroz, P. A.) The principle of construction for stochastic optimization procedures under constrained conditions. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no.* 3, 37–42. (Authors' summary) **57** #15442 90C15

(*with* Moroz, P. A.) Minimal conditions that ensure the convergence of a certain class of stochastic optimization procedures. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1976**, *no.* 5, 44–47, 92. (Authors' summary) **58** #4582 93E20

The probabilistic representation of a discontinouus solution of a parabolic equation. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 2, 423–429. (Constantin Tudor) **56** #9712 60J60 (35K99)

A criterion for the convergence of continuous stochastic approximation procedures. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 3, 595–602. (P. Révész) **57** #10949 62L20 (60H10)

ostelëva, N. G. The application of polynomials that are orthogonal on the circle to quadrature formulas in a complex domain. (Russian) *Application of functional analysis in approximation theory*, *No.* 4 (*Russian*), *pp.* 62–68. *Kalinin. Gos. Univ.*, *Kalinin*, 1974. (Editors) **58** #29701 41A55 (30A82)

Conditions for the algebraic accuracy of quadrature formulas with constant weights in the complex domain. (Russian) *Application of functional analysis in approximation theory*, *No.* 5 (*Russian*), *pp.* 55–63. *Kalinin. Gos. Univ.*, *Kalinin*, 1975. (Editors) **58** #29702 41A55

Some error estimates for quadrature formulas of interpolational-orthogonal type in the complex domain. (Russian) *Application of functional analysis in approximation theory* (*Russian*), *pp.* 55–60, 155. *Kalinin. Gos. Univ.*, *Kalinin*, 1977. (Author's summary) **58** #28523 30A82

Korostyševskiĭ, M. A. (*with* Štabnoĭ, M. R.; Ratner, V. A.) On some principles of evolution viewed as a stochastic process. *J. Theoret. Biol.* **48** (1974), *no.* 1, 85–103. (A. C. Trajstman) **55** #2196 92A15

Korotaeva, I. P. (*with* Sidorov, I. M.) Investigation of nonlinear automatic control systems in the case of biharmonic processes. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1969**, *no.* 5, 148–158 (*Russian*); *translated as Engrg. Cybernetics* **1969**, *no.* 5, 139–147 (1970). **45** #8329 93C10

(*with* Geraščenko, E. I.; Erman, V. L.; Il′in, I. P.; Kozlov, Ju. M.; Makar′ev, B. M.; Pal′tov, I. P.; Popov, E. P.; Samoĭlov, V. E.; Sidorov, I. M.; Favorskiĭ-Pavlovskiĭ, S. S.; Fedorov, S. M.; Hlypalo, E. I.; Ščerbakov, V. A.) ★Методы синтеза нелинейных систем автоматического управления. (Russian) [Methods for the synthesis of nonlinear authomatic control systems.] Edited by S. M. Fedorov. Nonlinear Automatic Control Systems, Vol. 3. *Izdat. "Mašinostroenie"*, *Moscow*, 1970. 416 *pp.* (Stanislav K. Myškov) **52** #7629 93C10

Korotčenko, A. G. An algorithm for the search for the maximum value of one-dimensional functions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 3, 563–573, 810. (Author's summary) **58** #19131 65K05

Korotenko, M. L. (*with* Lazarjan, V. A.; Dlugač, L. A.; Zil′berman, I. A.) Lowering the order of systems of nonlinear differential equations of motion by excluding rapidly damping solutions. (Russian) *Prikl. Meh.* **11** (1975), *no.* 8, 81–88, 142. (M. Ráb) **55** #8445 34A25

Korotenkov, Ju. G. Homotopy of universal algebras. (Russian) *Mat. Issled.* **10** (1975), *no.* 1(35), 165–184, 299. (P. M. Cohn) **52** #240 08A25

Extensions of *n*-groups. (Russian) *Modern algebra*, *No.* 5 (*Russian*), *pp.* 62–70. *Leningrad. Gos. Ped. Inst. im. Gercena*, *Leningrad*, 1976. (K. Klukovits) **58** #22371 20N15 (08A25)

Korotjaev, E. L. (*with* Deĭč, V. G.; Jafaev, D. R.) Potential scattering with allowance for spatial anisotropy. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 4, 749–752. (Boris Pavlov) **58** #29423 35P25 (47A40, 81.35)

(*with* Jafaev, D. R.) Traces on surfaces in function classes with dominating mixed derivatives. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 10. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **69** (1977), 106–123, 275. (A. Kufner) **58** #2230 46E35

Korotkih, Ju. G. A base experiment for a model of thermoviscoplasticity. (Russian) *Prikl. Problemy Proč. i Plast. No.* 6 (1977), 3–20, 127 (*loose errata*). (Editors) **58** #25304 73.65

Korotkin, A. A. A scheme for decentralized optimization. (Russian) *Qualitative and approximate methods for the investigation of operator equations*, *No.* 1 (*Russian*), *pp.* 94–99. *Jaroslav. Gos. Univ.*, *Yaroslavl*, 1976. (From the introduction) **58** #31836 65K05 (90C05, 93A15)

Korotkov, K. G. *See* **Dictionary: Czech-Russian**, **50** #4202

Korotkov, M. V. Description of rings with single-valued division with remainder. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 1(187), 253–254. (P. M. Cohn) **55** #10496 16A04

Korotkov, N. E. Distribution of largest and smallest values in an ensemble of random quantities. *Radiotehn. i Elektron.* **18** (1973), 1724–1728 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **18** (1973), 1257–1262. (K. S. Miller) **52** #7006 62G30 (94A05)

Korotkov, V. B. Embedding theorems for spaces of abstract functions, and complete continuity of the embedding operator. (Russian) *Sibirsk. Mat. Ž.* **10** (1969), 872–902. (Editors) **54** #3390 46E35

Classification and characteristic properties of Carleman operators. (Russian) *Dokl. Akad. Nauk SSSR* **190** (1970), 1274–1277. (J. Weidmann (Zbl **208**, 169)) **56** #16434 47B37 (47G05)

Integral operators. (Russian) *Dokl. Akad. Nauk SSSR* **195** (1970), 1267–1269. (J. Batt (Zbl **219** #47047)) **56** #16435 47B37 (47G05)

Operators that increase smoothness. (Russian) *Sibirsk. Mat. Ž.* **11** (1970), 938–941. (G. Barozzi (Zbl **229** #47037)) **57** #17368 47B37 (47G05)

(*with* Globenko, I. G.) Certain properties of Carleman operators. (Russian) *Sibirsk. Mat. Ž.* **11** (1970), 988–998. (W. C. Connett) **45** #9167 47B99 (47G05)

Carleman operators in spaces of abstract functions. I, II. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 727–736; *ibid.* **12** (1971), 737–747. (S. Solomon (Zbl **229** #47035; Zbl **229** #47036)) **57** #1184 47B37

Integral operators with kernels that satisfy the Carleman and Ahiezer conditions. I, II. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 1041–1055; *ibid.* **12** (1971), 1301–1310. (R. Kodnár (Zbl **245** #47049; Zbl **245** #47050)) **56** #16436 47B37 (47G05)

Certain properties of partially integral operators. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 752–754. (P. P. Zabreĭko) **50** #14376 47G05

Strong integral operators. (Russian) *Mat. Zametki* **16** (1974), 907–912. (Alan Shuchat) **51** #11163 47B10

Integral representations of linear operators. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 529–545, 701. (Alan Shuchat) **51** #6482 47B37

The Carleman nature of functions of selfadjoint operators. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 845–854, 958. (R. C. Gilbert) **50** #10882 47B25

The unitary equivalence of linear operators to integral operators. (Russian) *Mat. Zametki* **19** (1976), *no.* 4, 601–610. (S. G. Samko) **53** #8972 47G05 (47B37)

★Интегральные операторы. (Russian) [Integral operators] *Novosibirsk. Gos. Univ.*, *Novosibirsk*, 1977. 67 *pp.* (Pawel Szeptycki) **58** #12428 47–02 (45N05, 47G05)

A lower bound of the error for cubature formulas. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 5, 1188–1191, 1208. (Ulrich Eckhardt) **56** #13543 65D30

A criterion for unbounded operators to be unitarily equivalent to integral operators. (Russian) *Mat. Zametki* **23** (1978), *no.* 2, 271–280. (P. R. Halmos) **57** #17386 47G05

Integral and partially integral operators. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 1, 70–90, 237. (B. S. Rubin) **58** #2464 47G05 (47B37)

Korotkova, M. A. (*with* Ždanov, V. N.; Krysanov, A. I.; Popov, S. V.) ★Методы автоматического поиска доказательств. (Russian) [Methods for automatic theorem proving] With an English summary. Preprint No. 30 (1977). *Inst. Prikl. Mat. Akad. Nauk SSSR, Moscow*, 1977. 46 *pp*. (I. Kramosil) **57** #14641 68A40

(*with* Popov, S. V.; Čeredničenko, N. D.) ★Программа поиска вывода. (Russian) [A program for finding proofs] With an English summary. Preprint No. 54 (1977). *Inst. Prikl. Mat. Akad. Nauk SSSR, Moscow*, 1977. 36 *pp*. (N. G. Zagoruĭko) **58** #32127 68A40 (02–04, 02B10)

Korous, Josef The convergence of series of orthogonal polynomials. (Czech) *Fourth Scientific Conference, College of Transport Engineering, Žilina, Section* 1: *Mathematics, Physics, Cybernetics* (*Slovak*), *pp*. 25–35. *Vysoká Škola Dopravná v Žiline, Žilina*, 1973. (K. Karták) **53** #6221 42A60

See also **Púchovský, František**, **54** #9948 *and* **Púchovský, František**, **55** #10207

Korovin, S. K. (*with* Broslavskiĭ, A. D.; Kostyleva, N. E.; Utkin, V. I.; Šubladze, A. M.) Sliding modes in the problems of static optimization, programming and identification. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and non-linear systems, Identification, differential games, discrete and stochastic systems, Paper No*. 32.4, 6 *pp*. *Internat. Fed. Automat. Control, Düsseldorf*, 1971 (1972). (R. M. DeSantis) **52** #7619 93B99

(*with* Utkin, V. I.) Using sliding modes in static optimization and nonlinear programming. (French, German and Russian summaries) *Automatica—J. IFAC* **10** (1974), 525–532. (Editors) **56** #7186 65K05

(*with* Utkin, V. I.) Method of piecewise smooth penalty functions. *Avtomat. i Telemeh*. **1976**, *no*. 1, 94–105 (*Russian. English summary*); *translated as Automat. Remote Control* 37 (1976), *no*. 1, *part* 2, 39–48. (Authors' summary) **56** #17843 90C99 (49D30)

Korovin, V. I. Point and plane stratification in projective space. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy No*. 438 *Nekotorye Probl. Sovremen. Mat. i ee Proložen. v Železnodorož. Transporte* (1973), 13–24, 126–127. (Froim Marcus) **50** #14518 53A20

Cyclical stratification of three manifolds of different dimension in a projective space. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp*. 510 *Prikl. Mat. i Zadači Železnodorož. Transporta* (1976), 116–121, 136. (Adrian C. Albu) **58** #2611 53A20

Korovina, N. P. The construction of closed systems of triples of groups of pairs of order 12. (Russian) *Kombinatornyĭ Anal. Vyp*. 2 (1972), 42–45. (T. C. Brown) **58** #21680 05B05

Some classes of systems of groups of pairs. (Russian) *Kombinatornyĭ Anal. No*. 3 (1974), 43–48. (See RŽMat **1974** #12 V321) 05A17

(*with* Neporožnev, I. P.) Constructive enumeration of systems of three groups of pairs of order 12. (Russian) *Kombinatornyĭ Anal. Vyp*. 4 (1976), 27–32. (T. C. Brown) **58** #21681 05B05

Korovina, V. E. *See* **Qualitative theory of differential equations**, **52** #11191

Korovkin, P. P. On the theory of the integral. (Russian) *Kalinin. Gos. Ped. Inst. Učen. Zap*. **56** *Trudy Mat. Kafedr* (1969), 100–138. (Jaroslav Smital) **54** #10522 26A42 (28A25)

A generalization of N. N. Luzin's theorem. (Russian) *Kalinin. Gos. Ped. Inst. Učen. Zap*. **56** *Trudy Mat. Kafedr* (1969), 139–143. (Jaroslav Smital) **54** #10523 26A42 (28A20, 26A15)

The set of periods of a function of one variable. (Russian) *Kalinin. Gos. Ped. Inst. Učen. Zap*. **69** (1969), 70–76. (J. Veselý) **46** #3707 26A24

Discontinuities and discontinuous functions of one variable. (Russian) *Kalinin. Gos. Ped. Inst. Učen. Zap*. **69** (1969), 77–87. (J. Veselý) **45** #6987 26A15

Attempt at an axiomatic construction in certain problems in the theory of approximation of functions of one variable. (Russian) *Kalinin. Gos. Ped. Inst. Učen. Zap*. **69** (1969), 91–109. (B. Boyanov) **46** #2315 41A35

A criterion for the convergence of a Fourier series at a Lebesgue point of the function. (Russian) *Applied questions in mathematical analysis* (*Russian*), *pp*. 69–72. *Tul'sk. Gos. Ped. Inst., Tula*, 1972. (F. Móricz) **51** #13569 42A20

A certain asymptotic property of a sequence of functionals. (Russian) *Applied questions in mathematical analysis* (*Russian*), *pp*. 73–77. *Tul'sk. Gos. Ped. Inst., Tula*, 1972. (M. Tomić) **51** #5863 26A42 (41A35)

An attempt at an axiomatic construction of certain questions of approximation theory. (Russian) *Constructive theory of functions* (*Proc. Internat. Conf., Varna*, 1970) (*Russian*), *pp*. 55–63. *Izdat. Bolgar. Akad. Nauk, Sofia*, 1972. (B. Bojanov) **51** #8694 41A35

(*with* Beljaev, V. A.) The inverse problem of overconvergence of polynomial series. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no*. 5(120), 11–14. (G. Piranian) **46** #7489 30A12

The integrability of composite functions. (Russian) *Application of functional analysis in approximation theory, No*. 1 (*Russian*), *pp*. 73–74. *Kalinin. Gos. Univ., Kalinin*, 1973. (J. Mařík) **49** #5253 26A42 (26A72)

The Stieltjes integral, and change of variable. (Russian) *Application of functional analysis in approximation theory, No*. 1 (*Russian*), *pp*. 75–77. *Kalinin. Gos. Univ., Kalinin*, 1973. (J. Mařík) **49** #5254 26A42

★Неравенства. (Russian) [Inequalities] Fourth, revised edition. Popular Lectures on Mathematics, No. 5. *Izdat. "Nauka", Moscow*, 1974. 71 *pp*. (Editors) **50** #2409 26–01

The Gibbs phenomenon and the order of approximation of functions by linear means. (Russian) *Application of functional analysis in approximation theory, No*. 4 (*Russian*), *pp*. 60–61. *Kalinin. Gos. Univ., Kalinin*, 1974. (Editors) **58** #29645 41A30

★Inequalities. Translated from the fourth Russian edition by Sergei Vrubel. Little Mathematics Library, No. 5. *Mir Publishers, Moscow*, 1975. 72 *pp*. (Editors) **52** #8344 26–01

★Desigualdades. (Spanish) [Inequalities] Translated from the Russian by Carlos Vega. Lecciones Populares de Matemáticas, No. 5. [Popular Lectures in Mathematics, No. 5] *Editorial Mir, Moscow*, 1976. 71 *pp*. (Editors) **55** #5805 26–01

An asymptotic property of positive methods for the summability of Fourier series. (Russian) *Sibirsk. Mat. Ž*. **19** (1978), *no*. 1, 227–229, 240. (S. Aljančić) **58** #1967 42A24

See also **Baskakov, Viktor A.; et al.**, **48** #8179

Korovkina, V. I. Convergence of sequences of integral functionals at points of disconti of the function. (Russian) *Kalinin. Gos. Ped. Inst. Učen. Zap*. **56** *Trudy Mat. K* (1969), 3–35. (Paul Nevai) **53** #13942 41A35

Convergence of a sequence of singular integrals, satisfying the conditions of D Faddeev's theorem, at points of discontinuity of a function $f(x)$. (Russian) *Kalinin.* *Ped. Inst. Učen. Zap*. **69** (1969), 26–31. (P. C. Sikkema) **46** #5900 41A35

An asymptotic property of a certain sequence of integrals, and the orde approximation of functions by certain functionals. (Russian) *Applied question mathematical analysis* (*Russian*), *pp*. 78–84. *Tul'sk. Gos. Ped. Inst., Tula*, 1972. Tomić) **51** #5864 26A42 (41A35)

Koroza, V. I. *See* **Proceedings: International Conference on Nonlinear Oscillations**, **47** #10124

Korpaev, K. (*with* Baskakov, A. G.; Perov, A. I.) A certain generalization of Harasa theorem. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen.* *Ser. Fiz.-Tehn. Him*. **1974**, *no*. 2, 20–25. (M. Švec) **51** #1047 34G05

(*with* Ragimov, M. B.) Existence of a unique almost periodic solution of an abs differential equation. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat.* **1976**, *no*. 4, 74–78. **58** #1453 34G05

Bounded and almost periodic solutions of certain functional equations. (Rus Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn.* *Geol. Nauk* **1976**, *no*. 2, 3–9. (Bolis Basit) **54** #5873 47A50 (39A40)

Korpelevič, G. M. An extragradient method for finding saddle points and for problems. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no*. 4, 747–756. (G. D. Maĭstrovskiĭ) **56** #9408 49D10 (65K05)

Kors, Gérard Sur une présentation du groupe trivial. (English summary) *C. R. Acad.* *Paris Sér. A-B* **286** (1978), *no*. 8, A371–A372. (Author's summary) **57** #12704 20F05

Korsak, Andrew J. An algorithm for globally-optimal nonlinear-cost multidimensi flows in networks and some special applications. Mathematical programming an applications. *Operations Res*. **21** (1973), 225–239. (I. T. Frisch) **51** #5026 90 (90B10)

(*with* Wong, Peter J.) Reachable sets for tracking. *Operations Res*. **22** (1974), *n* 497–509. (Ethelbert N. Chukwu) **57** #13653 49E15

rimskiĭ-Korsakov, A. V. *See* **Rimskiĭ-Korsakov, A. V.**

Korsakov, G. F. The number of roots of a polynomial that are outside a disc. (Russi *Mat. Zametki* 13 (1973), 3–12. (T. T. Tonkov) **48** #2355 30A08

On the Schur-Cohn problem. (Russian) *Mat. Zametki* **18** (1975), *no*. 1, 27–30. (Tonkov) **53** #13176 12D10

A generalization of a theorem of Liénard and Chipart. (Russian) *Mat. Zametk* (1977), *no*. 1, 13–21. (B. Crstici) **57** #15677 93D99 (12D05)

See also **Abstracts: Conference of the Faculties on Advances in Research**, **48** #

Korsakova, L. G. Stratifiable pairs of congruences of conics that are tangent to the lir intersection of their planes. (Russian) *Trudy Kaliningrad. Gos. Univ. Differencial'* *Geometr. Mnogoobraz. Figur Vyp*. 4 (1974), 44–63. (M. C. Chaki) **54** #11186 53

A pair of congruences of conics in P_3 that are tangent to the line of intersectio their planes at a point. (Russian) *Kaliningrad. Gos. Univ. Differencial'naja G* *Mnogoobraz. Figur No*. 6 (1975), 63–72. (Author's introduction) **58** #30801 53

Stratifiable pairs of congruences of conics in P_3. (Russian) *Kaliningrad. Gos.* *Differencial'naja Geom. Mnogoobraz. Figur Vyp*. 7 (1976), 46–53, 151. (R. M. Geĭdel'man) **58** #24055 53A20

Korsakova, L. V. An example of the nonexistence of the solution of Lions' optimal co problem. (Russian) *Problems in mathematical analysis, No*. 6: *Spectral theory, boun* *value problems* (*Russian*), *pp*. 60–67, 202. *Izdat. Leningrad. Univ., Leningrad*, 1 (Author's summary) **58** #23862 49A20 (35J99)

Korsakova, O. S. Order convergence in the space of bounded selfadjoint opera (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap*. **541** (1972), 111–117. (T. A **46** #7950 47B15 (46A40)

(*with* Vulih, B. Z.) Spaces in which convergence in norm coincides with o convergence. (Russian) *Mat. Zametki* **13** (1973), 259–268. (N. Popa) **47** #55 46A40

Korsan, Robert J. (*with* Seidman, Thomas I.) Endpoint formulas for interpolatory c splines. *Math. Comp*. **26** (1972), 897–900. (Authors' summary) **47** #2780 65D0

Korseko, V. A. *See* **Computer science in mechanical engineering**, **50** #6713

Korsh, James F. Exponential bounds for error and equivocation based on Markov c observations. *Information and Control* **22** (1973), 107–122. (Robert Gray) **52** #70 62M05

(*with* Flueck, John A.) A branch search algorithm for maximum likelihood pa comparison ranking. *Biometrika* **61** (1974), 621–626. (Authors' summary) **58** #3299 90C99

(*with* Ingargiola, Giorgio P.) Finding optimal demand paging algorithms. *J. As* *Comput. Mach*. **21** (1974), 40–53. (Authors' summary) **49** #8415 68A05

(*with* Flueck, John A.) A generalized approach to maximum likelihood pa comparison ranking. *Ann. Statist*. 3 (1975), *no*. 4, 846–861. (K. M. Lal Sax **53** #4337 62F07

(*with* Ingargiola, Giorgio P.) An algorithm for the solution of 0 − 1 loading problems. *Operations Res*. **23** (1975), *no*. 6, 1110–1119. (Csaba Fabian) **56** #23 90C10

(*with* Chang, Lena) Canonical coin changing and greedy solutions. *J. As* *Comput. Mach*. **23** (1976), *no*. 3, 418–422. (E. Ja. Gabovič) **53** #12576 90C10

(*with* Ingargiola, Giorgio P.) A general algorithm for one-dimensional knaps problems. *Operations Res*. **25** (1977), *no*. 5, 752–759. (Authors' summary) **58** #1514 90C10

Korshunov, A. D. *See* **Koršunov, A. D.**

Korshunov, A. I. *See* **Koršunov, A. I.**

Korshunov, Yu. M. *See* **Koršunov, Ju. M.**

Koršija, T. K. (*with* Goloviznin, V. M.; Samarskiĭ, A. A.; Favorskiĭ, A. P.) ★О вариационно-разностных схемах двумерной магнитной гидродинамики. (Russ [Variational-difference schemes of two-dimensional magnetohydrodynamics] With English summary. Preprint No. 57 (1977). *Inst. Prikl Mat. Akad. Nauk SSSR, Mosc* 1977. 67 *pp*. (Authors' summary) **58** #25380 76.65

(*with* Goloviznin, V. M.; Tiškin, V. F.; Favorskiĭ, A. P.) Some properties of riational-difference equations of magnetohydrodynamics and artificial dissipative ocesses of "pseudoviscocity" type. (Russian. English summary) *Akad. Nauk SSSR st. Prikl. Mat. Preprint No.* 25 (1978), 69 *pp.* (From the summary) **58** #25381 .65 (65P05)

N. N. (*with* Aleksandrov, I. V.) Transitions under the influence of local interaction stochastic motion. *Ž. Èksper. Teoret. Fiz.* **62** (1972), 2243–2251 (*Russian. English mmary*); *translated as Soviet Physics JETP* **35** (1972), 1174–1177. (Authors' summary) #14819 81.60

kov, V. M. (*with* Bojarincev, Ju. E.) An application of difference methods to the lution of regular systems of ordinary differential equations. (Russian) *Questions in plied mathematics* (*Russian*), *pp.* 140–152. *Sibirsk. Ènerget. Inst. Akad. Nauk SSSR ibirsk. Otdel., Irkutsk*, 1975. (Authors' introduction) **58** #3458 65L05

An application of iteration methods to the computation of semi-inverses of matrices. Russian) *Optimization methods and operations research, applied mathematics* (*Russian*), . 171–173, 191. *Akad. Nauk SSSR Sibirsk. Otdel. Sibirsk. Ènerget. Inst., Irkutsk*, 1976. Author's summary) **58** #3442 65K05

nov, A. D. Comparison of the complexity of the longest and shortest disjunctive ormal forms and a lower estimate of the number of irredundant disjunctive normal rms for almost all Boolean functions. (Russian. English summary insert) *Kibernetika Kiev)* **1969**, *no.* 4, 1–11. (G. Blohina (RŽMat **1970** #3 V355)) **46** #3215 94A20

An upper estimate of the complexity of the shortest disjunctive normal forms of lmost all Boolean functions. (Russian. English summary insert) *Kibernetika* (*Kiev*) **969**, *no.* 6, 1–8. (G. Blohina (RŽMat **1970** #11 V323)) **46** #3216 94A20

The length of minimal tests for rectangular tables. I, II. (Russian. English summary sert) *Kibernetika* (*Kiev*) **1970**, *no.* 6, 17–25; *ibid.* **1971**, *no.* 1, 1–11. (E. Seiden) 7 #1269 65F99

A survey of certain trends in automata theory. (Russian) *Diskret. Analiz No.* 25 *intez Shem i Avtomaty* (1974), 19–55, 62. (Armin Cremers) **51** #5209 94A30 02F10, 68A25)

The intrinsic stability number of graphs. (Russian. English summary insert) *ibernetika* (*Kiev*) **1974**, *no.* 1, 17–28. (W. Mader) **50** #4379 05C35

(*with* Kozyrev, V. P.) The size of a cut set in a random graph. (Russian) *Problemy ibernet. No.* 29 (1974), 27–62, 245. (H. Sachs) **51** #2983 (E **52** #2953) 05C35

The number of pairs of Hamiltonian cycles in a complete graph containing a given umber of general edges. (Russian) *Upravljaemye Sistemy No.* 13 (1974), 40–57, 73. (See ŽMat **1975** #6 V527) 05C35

The number of automata and of boundedly deterministic functions. Hereditary roperties of automata. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 6, 264–1267. (M. Tetruašvili) **52** #7742 94A30

A certain algorithm for finding pair combinations in finite graphs. (Russian. English ummary insert) *Kibernetika* (*Kiev*) **1975**, *no.* 1, 1–8. (Author's introduction) **58** #5403 05C99

(*with* Kozyrev, V. P.) Erratum: "The size of a cut set in a random graph" (Problemy Kibernet. No. 29 (1974), 27–62, 245). (Russian) *Problemy Kibernet. No.* 30 (1975), 342. (H. Sachs) **52** #2953 05C35

Solution of a problem of P. Erdős and A. Rényi on Hamiltonian cycles in undirected graphs. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 3, 529–532. (D. Cvetković) **55** #7842 05C35

(*with* Ninčák, Ján) The coloring of hypergraphs. (Russian) *Kybernetika* (*Prague*) **12** (1976), *no.* 1, 20–30. (D. Cvetković) **54** #10064 05C15

The number of automata, boundedly determined functions and hereditary properties of automata. *Kybernetika* (*Prague*) **12** (1976), *no.* 1, 31–37. (Shuzo Yajima) **53** #5197 94A30

Solution of a problem of P. Erdős and A. Rényi on Hamiltonian cycles in nonoriented graphs. (Russian) *Diskret. Analiz No.* 31 *Metody Diskret. Anal. v Teorii Upravljajuščih Sistem* (1977), 17–56, 90. (Author's summary) **58** #27626 05C35

Solution of Dedekind's problem on the number of monotone Boolean functions. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 4, 543–546. (From the text) **58** #33598 94A30 (02B05, 05A20)

šunov, A. I. Stability of induced motions in pulse-width systems with modulation of the second kind. *Avtomat. i Telemeh.* **1977**, *no.* 6, 31–37 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 6, *part* 1, 800–804. (Author's summary) **57** #18999 93D10

šunov, Ju. M. (*with* Grigor′ev, M. N.) Interpolation of functions in the case of errors in the initial data. (Russian) *Control machines and systems* (*Proc. Sem., Kiev*, 1969), *No.* 3 (*Russian*), *pp.* 39–46. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (I. Šelihova (RŽMat **1970** #5 B781)) **45** #9450 65D05

(*with* Stepanenko, V. N.) Nonlinear discrete filtering of polynomial signals in the presence of unsuccessful observations. *Avtomat. i Telemeh.* **1971**, *no.* 7, 72–77 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 7, *part* 1, 1074–1079. (Toby Berger) **46** #5026 94A05 (93E20)

★Математические основы кибернетики. (Russian) [Mathematical foundations of cybernetics] *Izdat. "Ènergija", Moscow*, 1972. 376 *pp.* (Editors) **51** #12447 00A05

(*with* Stepanenko, V. A.) Filtration of random sequences with gaps using optimal discrete filters with constant memory. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 3, 167–173 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 3, 502–508. (Mark A. Aĭzerman) **53** #1885 62M10 (93E10)

★Fundamentos matemáticos de la cibernetica. (Spanish) [Mathematical foundations of cybernetics] Translated from the Russian by Roberto Lanier Alvarez. *Editorial Mir, Moscow*, 1975. 326 *pp.* (Editors) **51** #12448 00A05

★Fondements mathématiques de la cybernétique. Traduit du russe par Vladimir Kotliar. *Éditions Mir, Moscow*, 1975. 331 *pp.* (Editors) **53** #7661 00A05

rsunov, M. Ī. Principles for the construction of hybrid functional transformers. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 4, 332–334, 381. (Author's summary) **53** #15598 94A99 (68A99, 90B25)

ršunov, M. K. The multiplication of hyperfunctions. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no.* 2 *Issled. Sovremen. Mat. Anal.*, 83–92, 216 (1977). (J. S. Joel) **58** #2263 46F15 (32B99)

Koršunov, V. A. (*with* Ivanov, V. K.; Rešetova, T. N.; Tanana, V. P.) The possibility of determining the energy spectrum of a Bose system from thermodynamic functions. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 1, 19–22. (M. Martinis) **53** #10095 82.65

(*with* Tanana, V. P.) Determination of the phonon density of the states from thermodynamic functions of the crystal. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 4, 845–848. (Vladimir Šips) **54** #14666 82.45

(*with* Tanana, V. P.) The principle of minimal residuals. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 4, 800–803. (A. V. Džiškariani) **58** #8248 65J05 (47A50)

Korsunskaja, Z. I. Improved convergence of the fractional step method for parabolic equations. (Russian) *Proceedings of the Fourth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1971), *No.* 2 (*Russian*), *pp.* 45–65. *Moskov. Inž.-Stroitel. Inst., Moscow*, 1971. (S.-F. Sburlan) **58** #13687 65J05 (65P05)

Korsuns′kiĭ, L. M. (*with* Malyšev, I. G.) A certain integral representation of the solutions of the Cauchy problem for a parabolic equation with a variable coefficient. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 143–148. *Naukova Dumka, Kiev*, 1971. (R. N. Goss) **47** #614 35C15 (35K15, 35R99)

Integral representation of invariant positive definite kernels. I. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 6 (1972), 92–97. (W. A. Woyczyński) **46** #9647 43A35 (43A65, 46N05, 47A70)

Integral representation of invariant positive definite kernels. II. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 7 (1972), 81–84, 164. (W. A. Woyczyński) **49** #5727 43A35

Expansions in generalized eigenvectors, and integral representation of invariant positive finite kernels. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 341–351. (Editors) **51** #1287 43A35 (47A70)

Kernels that are invariant with respect to a semidirect product. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 733–739, 861. (Josef Wichmann) **51** #1288 43A35 (22D10)

Infinite tensor products or locally convex spaces. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 13–23, 141. (B. R. Gelbaum) **51** #6447 46M05 (46A05)

Tensor products in a certain class of locally convex spaces. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 5, 664–667, 717. (B. R. Gelbaum) **52** #8957 46M05 (46A05)

Integral representations of invariant positive definite kernels. (Russian) *Spectral theory of operators and infinite-dimensional analysis pp.* 26–87. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (J. L. B. Cooper) **57** #1024 43A35

(*with* Mališev, Ī, G.) Continuous tensor products of locally convex spaces. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 18 (1976), 25–29, 141. (Authors' summary) **58** #7114 46M05 (46A05)

Kort, Barry W. Rate of convergence of the method of multipliers with inexact minimization. *Nonlinear programming*, 2 (*Proc. Sympos. Special Interest Group on Math. Programming, Univ. Wisconsin, Madison, Wis.*, 1974), *pp.* 193–214. *Academic Press, New York*, 1974. (Robert A. Abrams) **53** #4988 90C30

(*with* Bertsekas, Dimitri P.) Combined primal-dual and penalty methods for convex programming. *SIAM J. Control Optimization* **14** (1976), *no.* 2, 268–294. (I. Maruşciac) **53** #4977 90C25

Kortanek, K. O. (*with* Maxwell, William L.) On a new class of combinatoric optimizers for multi-product single machine scheduling. *Management Sci.* **15** (1968/69), 239–248. (M. Rössler) **50** #3914 90B35

(*with* Charnes, Abraham) On classes of convex and preemptive nuclei for *n*-person games. *Proceedings of the Princeton Symposium on Mathematical Programming* (*Princeton Univ.*, 1967), *pp.* 377–390. *Princeton Univ. Press, Princeton, N.J.*, 1970. (Louis J. Billera) **49** #2113 90D10

(*with* Jeroslow, Robert) On semi-infinite systems of linear inequalities. *Israel J. Math.* **10** (1971), 252–258. (A. Ben-Israel) **46** #3531 15A39 (90C05)

(*with* Charnes, Abraham; Cooper, William W.) Semi-infinite programming, differentiability and geometric programming. I. With examples and applications in economics and management science. *J. Math. Sci.* **6** (1971), 19–40 (1974). (Authors' summary) **57** #11786 90C99

(*with* Rom, W. O.) Classification schemes for the strong duality of linear programming over cones. *Operations Res.* **19** (1971), 1571–1585. (I. Maruşciac) **46** #3065 90C05

(*with* Ben-Israel, Adi; Charnes, Abraham) Asymptotic duality in semi-infinite programming and the convex core topology. *Rend. Mat.* (6) **4** (1971), 751–767 (1972). (A. Majthay) **47** #1452 90C05

(*with* Jeroslow, Robert) On an algorithm of Gomory. *SIAM J. Appl. Math.* **21** (1971), 55–60. (R. W. Cottle) **52** #5009 90C10

On compound duality classification schemes over cones. *Mathematica* (*Cluj*) **14**(37) (1972), 87–94. (A. Ben-Israel) **51** #4988 90C05

(*with* Soyster, A. L.) On refinements of some duality theorems in linear programming over cones. *Operations Res.* **20** (1972), 137–142. (A. Majthay) **47** #1455 90C05

On a compound duality classification scheme with homogeneous derivants. *Rend. Mat.* (6) **5** (1972), 349–356. (A. Ben-Israel) **51** #4987 90C05

(*with* Soden, J. V.; Sodaro, D.) Profit analyses and sequential bid pricing models. *Management Sci.* **20** (1973/74), 396–417. (Michael H. Rothkopf) **49** #6911 90B99

(*with* Gustafson, Sven-Åke) Numerical treatment of a class of semi-infinite programming problems. *Naval Res. Logist. Quart.* **20** (1973), 477–504. (S. K. Srinivasan) **48** #7599 65K05

(*with* Rom, W. O.; Soyster, A. L.) Solution sets of convex programs related to chemical equilibrium problems. Mathematical programming and its applications. *Operations Res.* **21** (1973), 240–246. (B. Bereanu) **51** #5011 90C25

Classifying convex extremum problems over linear topologies having separation properties. *J. Math. Anal. Appl.* **46** (1974), 725–755. (H. Beckert) **50** #3052 49A25 (46N05)

Constructing a perfect duality in infinite programming. *Appl. Math. Optim.* **3** (1976/77), *no.* 4, 357–372. (Wai Leung Chan) **57** #11789 90C99

(*with* Gochet, Willy F.; Smeers, Yves) On a classification scheme for geometric programming and complementarity theorems. *Applicable Anal.* **6** (1976/77), *no.* 1, 47–59. (A. C. Williams) **55** #7398 90C25

Perfect duality in semi-infinite and generalized convex programming. *First Symposium on Operations Research* (*Univ. Heidelberg, Heidelberg*, 1976), *Teil* 1, *pp.* 79–87. *Operations Research Verfahren, XXV. Hain, Meisenheim*, 1977. (Author's summary) **58** #32955 90C25

(*with* Gribik, P. R.) Equivalence theorems and cutting plane algorithms for a class of experimental design problems. *SIAM J. Appl. Math.* **32** (1977), *no.* 1, 232–259. (Valery Fedorov) **55** #6721 62K05

See also **Proceedings: International Meeting of the Institute of Management Sciences**, **54** #2161

Korte, Bernhard Ganzzahlige Programmierung—ein Überblick. *Unternehmensforschung heute* (*Übersichtsvorträge, Züricher Tagung von SVOR und DGU, Zurich*, 1970), *pp.* 61–127. *Lecture Notes in Operations Research and Mathematical Systems, Vol.* 50, *Springer, Berlin*, 1971. (Editors) **56** #14683 90C10

Über eine Klasse kombinatorischer Extremalprobleme. (English summary) *Festband anläßlich des 65. Geburtstages von Ernst Peschl, pp.* 123–134. *Gesellsch. Math. Datenverarbeitung Bonn, Ber. No.* 57, *Gesellsch. Math. Datenverarbeitung, Bonn*, 1972. (G. Bär) **51** #9800 90C10

(*with* Hausmann, D.) Worst-case behaviour of polynomial bounded algorithms for independence systems. *Z. Angew. Math. Mech.* **58** (1978), *no.* 7, T477–T479. (From the introduction) **58** #25978 90C10 (90–04)

See also **Studies in integer programming**, **56** #2376 *and* **Optimization and operations research**, **58** #20280

Kortenska, V. A certain method of dividing the lines of the plane into two classes. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **4** (1967), *no.* 3, 139–147 (1972). (A. Nádeník) **46** #8021 50B05

Dual translation of a certain metric property in the plane. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **6** (1970), *no.* 1, 125–134 (1972). (V. Topenčarov) **49** #1311 50B10

Determination of domains in two-dimensional and three-dimensional space. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 3, 153–162 (1973). (D. B. Persic) **53** #11478 (EA **54**) 50B05

See also **Papers: Balkan Mathematical Congress**, **51** #2824

Körth, Heinz (*with* Baumann, Horst; Burosch, Gustav; Dück, Werner; Eilhauer, Rolf; Elster, Karl-Heinz; Freier, Manfred; Gärtner, Karl-Heinz; Lang, Rainer; Otto, Carl; Patzer, Heiko; Runge, Walter; Sachs, Horst; Schoch, Manfred; Strohe, Hans-Gerhard; Weiß, Manfred) ★Mathematik für ökonomische und ingenieurökonomische Fachrichtungen. Teil I: Mathematische Grundlagen. Herausgegeben von Heinz Körth, Carl Otto, Walter Runge and Manfred Schoch. *Verlag Die Wirtschaft, Berlin*, 1971. 997 *pp.* (Editors) **50** #6240 69.00

See also **Lehrbuch der Mathematik für Wirtschaftswissenschaften**, **56** #4289

Korthals Altes, C. P. (*with* de Rafael, Eduardo) Infrared structure of non-Abelian gauge theories. *Nuclear Phys. B* **125** (1977), *no.* 2, 275–284. (G. Costa) **56** #17544 81.22

Kortram, Ronald On an extended class of bounded univalent functions. *Ann. Acad. Sci. Fenn. Ser. A I No.* 578 (1974), 16 *pp.* (See Zbl **288** #30012) 30A32

(*with* Tammi, Olli) On the first coefficient regions of bounded univalent functions. *Ann. Acad. Sci. Fenn. Ser. A I Math. No.* 592 (1974), 27 *pp.* (1975). (V. Linis) **51** #5914 30A34

(*with* Tammi, Olli) On the range of validity of certain inequalities for the fourth coefficient of a bounded univalent function. (Polish summary) *Bull. Soc. Sci. Lettres Łódź* **24** (1974), *no.* 1, 6 *pp.* (1975). (E. Netanyahu) **55** #10657 30A34

(*with* Tammi, Olli) On the second coefficient region for bounded univalent functions. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **1** (1975), *no.* 1, 155–175. (V. Linis) **52** #8409 30A34 (30A38)

Kortum, W. *See* **Control in space**, **48** #13320

Korvas, Zdeněk (*with* Kučera, Adolf) Some methods for a fault-safe digital network design. (Czech and Russian summaries) *Information Processing Machines* **17** (1974), 123–149. (W.-K. Chen) **50** #16131 94A20

de Korvin, André (*with* Alò, Richard A.) Functions of bounded variation on idempotent semigroups. *Math. Ann.* **194** (1971), 1–11. (L. N. Argabright) **45** #2454 46E99 (22A20, 28A60)

Complete sets of expectations on von Neumann algebras. *Quart. J. Math. Oxford Ser.* (2) **22** (1971), 135–142. (T. R. Chow) **45** #913 46L10

(*with* Alò, Richard A.) A one-sided Fubini theorem for Gowurin measures. *J. Math. Anal. Appl.* **38** (1972), 387–398. (J. Diestel) **47** #2026 28A35

(*with* Alò, Richard A.; Cheney, Charles A.) The Vitali-Hahn-Saks theorem for operator-valued linear mappings. *Riv. Mat. Univ. Parma* (3) **1** (1972), 195–202. (S. Sakai) **51** #13701 46L10

(*with* Alò, Richard A.; Easton, Richard J.) Vector valued absolutely continuous functions on idempotent semigroups. *Trans. Amer. Math. Soc.* **172** (1972), 491–500. (S. Foglio) **46** #9283 28A45 (43A15, 46G10)

(*with* Alò, Richard A.; Cheney, Charles A.) An abstract Radon-Nikodym theorem. *J. Math. Anal. Appl.* **42** (1973), 110–118. (M. Nakamura) **47** #5606 46K05 (60B99)

(*with* Kunes, Laurence E.) Some non-weak integrals defined by linear functionals. *Quart. J. Math. Oxford Ser.* (2) **24** (1973), 289–299. (Neil E. Gretsky) **50** #13435 28A45 (46G10)

(*with* Alò, Richard A.; Kunes, Laurence E.) Topological aspects of q-regular measures. *Studia Math.* **48** (1973), 49–60. (L. Ja. Savel'ev) **49** #515 28A45 (46E40)

(*with* Alò, Richard A.) The topological dual, the algebraic dual and Radon-Nikodým derivatives. *Functional analysis and its applications* (*Internat. Conf., Eleventh Anniversary of Matscience, Madras*, 1973; *dedicated to Alladi Ramakrishnan*), *pp.* 22–32. *Lecture Notes in Math., Vol.* 399, *Springer, Berlin*, 1974. (Paul Lewis) **53** #8892 46G10 (28A45)

(*with* Alò, Richard A.) Topologies associated with operators on normed function spaces. *Symposia Mathematica, Vol. XVI* (*Convegno sulla Topologia Insiemistica e Generale, INDAM, Rome*, 1973), *pp.* 209–243. *Academic Press, London*, 1974. (A. C. Zaanen) **58** #17931 47B05 (46E30, 47B37)

(*with* Alò, Richard A.; Kunes, Laurence E.) Topologies generated by some vector measures. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 41–52. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (L. Ja. Savl'ev) **50** #13431 28A45

(*with* Alò, Richard A.) Topologies induced by Banach function spaces. *TO* 72 *—general topology and its applications* (*Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa.*, 1972; *dedicated to the memory of Johannes H. de Groot*), *pp.* 40. *Lecture Notes in Math., Vol.* 378, *Springer, Berlin*, 1974. (Paul Lewis) **51** #1 46E40

(*with* Alò, Richard A.) Approximate integration. *J. Math. Anal. Appl.* **48** (4), 127–138. (N. Dinculeanu) **50** #4878 28A45 (46E40)

(*with* Alò, Richard A.) Representation of Hammerstein operators by Nen kii measures. *J. Math. Anal. Appl.* **52** (1975), *no.* 3, 490–513. (Jürgen Batt) **55** #11 (E **55** #1174b) 47H99 (46E40)

(*with* Alò, Richard A.; Cheney, Charles A.) Martingales in Banach *-algebr *J. Reine Angew. Math.* **273** (1975), 49–56. (Arthur Lieberman) **51** #13697 46L0

(*with* Easton, Richard J.) A representation theorem for AC $(R^n)^*$. *Portugal.* *th.* **34** (1975), *no.* 3-4, 163–171. (Stanley G. Wayment) **54** #3380 46E15 (28A25)

(*with* Alò, Richard A.) Exaves for $C(X),L_p(X,\Sigma,\mu)$ and injectivity. *Symposia Mathematica, Vol. XVII* (*Convegno sugli Anelli di Funzioni Continue, INDAM,* *ne.* 1973), *pp.* 125–168. *Academic Press, London*, 1976. (W. A. J. Luxemburg) **53** #11 47B37 (46E99)

(*with* Alò, Richard A.; Cheney, Charles A.) Non-linear operators on sets of measures. *Ann. Mat. Pura Appl.* (4) **109** (1976), 1–22. (J. Batt (Zbl **347** #4 2)) **58** #7260 47H99

(*with* Alò, Richard A.) Erratum: "Representation of Hammerstein operatc by Nemytskii measures" (J. Math. Anal. Appl. **52** (1975), 490–513). *J. Math. Anal. A* 54 (1976), *no.* 2, 616. (Jürgen Batt) **55** #1174b 47H99 (46E40)

(*with* Cheney, Charles A.) The representation of linear operators on spac of finitely additive set functions. *Proc. Edinburgh Math. Soc.* (2) **20** (1976/77), 3, 233–242. (R. G. Bartle) **57** #12814 28A45 (46G10, 47B37)

(*with* Alò, Richard A.; Roberts, Charles E., Jr.) Averaging operators on n ed Köthe spaces. *Ann. Mat. Pura Appl.* (4) **112** (1977), 33–48. (A. C. Zaanen) **55** #8 47B37

(*with* Alò, Richard A.; Vo Van Tho) Integration theory for Hammerstein operators. *J. Math. Anal. Appl.* **61** (1977), *no.* 1, 72–96. (Ivan Dobrakov) **58** #22 28A45 (46G10, 47H99)

(*with* Alò, Richard A.; Bertolini, F.) A Riesz representation theorem for meas s. *Riv. Mat. Univ. Parma* (4) **3** (1977), 301–308 (1978). (J. Diestel) **58** #17810 27 (28A45)

(*with* Alò, Richard A.; Vo Van Tho) A Hellinger-Hahn decomposition thec n. *Riv. Mat. Univ. Parma* (4) **3** (1977), 309–315 (1978). (Richard D. Mauldin) **57** #9 28A32 (47B99)

Korwar, Ramesh M. (*with* Hollander, Myles) Contributions to the theory of Dir let processes. *Ann. Probability* **1** (1973), 705–711. (J. S. Rao) **50** #3442 62G05 (6 9)

On characterizing some discrete distributions by linear regression. *Comm. Sta* 4 (1975), *no.* 12, 1133–1147. (E. H. Lehman) **52** #9440 62E10

(*with* Hollander, Myles) Empirical Bayes estimation of a distribution func n. *Ann. Statist.* **4** (1976), *no.* 3, 581–588. (Johannes S. Maritz) **54** #1502 62L12 (62C10)

(*with* Hollander, Myles) Nonparametric empirical Bayes estimation of the probability that $X < Y$. Special issue on nonparametric statistics. *Comm. Statist.–T y Methods* **A5** (1976), *no.* 14, 1369–1383. (Lionel Weiss) **55** #9390 62G05 (62C1

(*with* Hollander, Myles) Nonparametric estimation of distribution functions. *he theory and applications of reliability, with emphasis on Bayesian and nonpara ic methods, Vol. I* (*Conf., Univ. South Florida, Tampa, Fla.*, 1975), *pp.* 85–107. *Aca ic Press, New York*, 1977. (J. V. Deshpande) **56** #16902 62G05

On characterizing Lagrangian Poisson and quasi-binomial distributions. *C n. Statist.—Theory Methods* **A6** (1977), *no.* 14, 1409–1415. (Ramesh C. Gupta) **58** # 56 62E10

(*with* Dahiya, Ram C.) On characterizing some bivariate discrete distributio by linear regression. *Sankhyā Ser. A* **39** (1977), *no.* 2, 124–129. (D. N. Shanbhag) **57** #17911 62E10 (62H05)

See also **Reliability and biometry: statistical analysis of lifelength**, **49** #1630

Korwar, V. M. (*with* Patil, D. C.) Iteration and Langer's methods for computing ve functions. *Acta Phys. Acad. Sci. Hungar.* **43** (1977), *no.* 3-4, 203–208 (1978). (Au s' summary) **58** #25648 81.65 (65N05)

Koryakin, Yurii *See* **Korjakin, Ju. A.**

Korytowski, A. (*with* Adamski, A.; Mitkowski, W.) A conception of optimality for algorithms and its application to the optimal search for a minimum. (Polish summ) *Zastos. Mat.* **15** (1976/77), *no.* 4, 499–510. (P. Neumann) **57** #4511 65K05 (9)

(*with* Adamski, A.; Mitkowski, W.) Optimal algorithms for seeking the minir n. (Polish) *Mat. Stos.* (3) **11** (1977), 5–20. (Editors) **58** #13702 65K05

Korytowski, Adam Time-optimal control of a certain linear object with lag. (Polish. Ru n and English summaries) *Arch. Automat. i Telemech.* **18** (1973), 269–278. (V. Kor v) **48** #998 49B35

Functional controllability of a system with lag. (Polish. Russian and Er h summaries) *Arch. Automat. i Telemech.* **20** (1975), 19–28. (M. M. Konstant v) **51** #9870 93B05

Optimal control for quadratic problem with neutral system equation. (Polish d Russian summaries) *Control Cybernet.* **5** (1976), *no.* 3, 53–66. (Author's sumn) **58** #26314 93C15

Koržavina, M. V. The T problem for a generalized Tricomi equation in the case c n infinite half strip. (Russian) *Volž. Mat. Sb. No.* 8 (1971), 114–119. (J. Kop) **46** #542 35M05

Solution of the singular NE problem for the equation S_1 in the case of the qu r plane. (Russian) *Volž. Mat. Sb. No.* 9 (1971), 68–73. (*loose errata*) (H. Flaišer (RŽ t **1972** #4 B513)) **51** #13470 35M05

Singular problem G for the equation S in an unbounded domain. (Russ *Differencial'nye Uravnenija* (*Ryazan*) *No.* 6 (1975), 95–103. (RŽMat **1977** #11 B) **58** #29373 35M05

Solution of the singular G problem for the equation (S) for the case of a half-s (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *No.* 10 (1977), 79–87. (Editors) **58** #11977 35M05

nevskiĭ, A. L. (*with* Bogoljubov, N. M.; Vasil′ev, A. M.; Radžabov, R. A.) lumerical values and symmetry coefficients of Mayer star graphs up to the eighth rder, inclusive, for various lattices. (Russian. English summary) *Vestnik Leningrad. nio. No. 4 Fiz. Him. Vyp.* 1 (1976), 7–9, 150. (Authors' summary) **56** #14209 81.05

niowski, A. (*with* Opawski, A.) Bounds for reliability in the NBU, NWU and NBUE, WUE classes. (Polish summary) *Zastos. Mat.* **15** (1976), *no.* 1, 1–5. (Masafumi Sasaki) **4** #14290 62N05

k, V. I. An extended Hilbert transform and its application to signal theory. (Russian) *roblemy Peredači Informacii* **5** (1969), *no.* 4, 3–18. (W. C. Connett) **47** #3909 3A22 (42A40, 44A15, 94A05)

Optimal decoding in semicontinuous channels with variable parameter. (Russian) *Problemy Peredači Informacii* **7** (1971), *no.* 4, 22–29. (A. A. Mullin) **49** #8735 4A10

(*with* Janyšev, Š. T.) Estimations of error probability in analog decoding in aussian channels. (Russian) *Voprosy Kibernet.* (*Tashkent*) *Vyp.* 45 (1971), 156–180. 5 #2344 94A10

(*with* Osmolovskiĭ, S. A.; Fink, L. M.) Universal stochastic coding in systems with ecision feedback. (Russian) *Problemy Peredači Informacii* **10** (1974), *vyp.* 4, 25–29. Authors' summary) **58** #9769 94A10

(*with* Smirnov, L. N.) Error probability in a channel with fading and with noise that esembles the signal. (Russian) *Problemy Peredači Informacii* **13** (1977), *no.* 1, 19–25. Authors' summary) **58** #15650 94A05

(*with* Fink, L. M.) Multistep universal coding for discrete feedback channels. Russian) *Problemy Peredači Informacii* **14** (1978), *no.* 2, 40–45. (Authors' summary) **8** #26533 94A15

juk, V. I. Problems of joining an equation of elliptic type with equations of parabolic r semi-hyperbolic type. I. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **971**, *no.* 3, 39–49. (R. Beals) **45** #3950 35M05

Problems of joining an equation of elliptic type to equations of parabolic and emi-hyperbolic type. II. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1971**, *no.* 2, 6–32, 89. (J. Kačur) **47** #2198 35M05

(*with* Jurčuk, N. I.) The problem of joining certain linear equations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 4, 35–41, 139–140. (A. Szép) **7** #3787 34G05 (35R20, 47D05)

Problems of joining an equation of elliptic type with equations of parabolic or semi-hyperbolic type. III. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1972**, *no.* 2, 10–17, 95. (J. Kačur) **56** #6136 35M05

(*with* Pysko, I. A.) Mixed problems for equations of parabolic and semihyperbolic type in the case of a noncylindrical domain. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 2, 50–57, 139. (A. M. Nahušev) **49** #9432 35L35 (35K35)

(*with* Čan Dyk Van) A priori estimates for the solution of the conjugacy problem for equations of elliptic type. I. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 3, 39–47, 141. (V. A. Kondrat′ev) **54** #710 35J30

(*with* Čan Dyk Van) A priori estimates for the solution of the conjugacy problem for equations of elliptic type. II. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 4, 53–60, 141. (V. A. Kondrat′ev) **55** #10833 35J30

zun, I. I. Estimation of the approximation by interpolation polynomials. (Russian) *Dokl. Akad. Nauk BSSR* **16** (1972), 296–298. (B. Bojanov) **46** #580 41A05

ačeva, A. N. A minimal polynomial base of affine invariants of two 4×4-matrices. (Russian) *Mat. Issled.* **8** (1973), *no.* 1 (27), 71–83, 236. (R. Kochendörffer) **47** #3432 15A72

aka, Hiroyuki Analytic properties of business cycles. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **26** (1974), 97–107. (Author's summary) **58** #9141 90A15

aka, Michitaka (*with* Katayama, Tohru) Smoothing algorithms for two-dimensional image processing. *IEEE Trans. Systems Man Cybernet.* **SMC-8** (1978), *no.* 1, 62–66. (Seihaku Higuchi) **57** #5339 93E10 (94A10)

(*with* Katayama, Tohru) Addendum to: "Smoothing algorithms for two-dimensional image processing" (IEEE Trans. Systems Man Cybernet. **8** (1978), no. 1, 62–66). *IEEE Trans. Systems Man Cybernet.* **8** (1978), *no.* 7, 582. (Authors' summary) **58** #20729 93E10 (94A05)

aki, Kotarô On Schmid-Witt's normal form from the Hopf algebra theoretic view-point. *Osaka J. Math.* **8** (1971), 281–290. (R. G. Larson) **46** #3552 16A24

Über primäre Erweiterungen und Derivationen von hoher Ordnungen. *Rep. Fac. Sci. Shizuoka Univ.* **9** (1974), 13–15. (Author's summary) **58** #22080 14H05

On Amitsur cohomology of Witt rings of non-singular symmetric bilinear forms. *Rep. Fac. Sci. Shizuoka Univ.* **11** (1976), 9–16 (1977). (Joel Cunningham) **55** #10449 13K05 (18H20)

ako, Hideo (*with* Ikai, Takeo; Kojima, Yoshiaki) Subsequences in linear recurring sequences. *Electron. Commun. Japan* **53** (1970), *no.* 12, 159–166. (G. U. Brauer) **46** #9011 12C05 (94A10)

(*with* Kinoshita, Eisuke; Kojima, Yoshiaki) A method of residue division. *Systems-Computers-Controls* **1** (1970), *no.* 4, 18–26 (1971). (M. S. Cheema) **46** #4691 65D99

(*with* Ikai, Takeo; Kojima, Yoshiaki) Nonperiod-length subsequences including a cyclic subspace—subsequences in linear recurring sequences. *Systems-Computers-Controls* **2** (1971), *no.* 4, 34–41. (E. L. Cohen) **49** #2194 94A10

(*with* Kutsuwa, Toshiro; Morita, Kenichi; Kojima, Yoshiaki) Generations of random probability-vectors. *Bull. Univ. Osaka Prefecture Ser. A* **21** (1972), *no.* 1, 75–84. (J. Pickands, III) **48** #1428 65C10

(*with* Kinoshita, Eisuke; Kojima, Yoshiaki) Logical implementation of arithmetic operations in the symmetric residue number system. *Bull. Univ. Osaka Prefecture Ser. A* **22** (1973), *no.* 2, 139–149. (R. N. Goss) **50** #6205 68A20

(*with* Ikai, Takeo; Kojima, Yoshiaki) Two-dimensional cyclic codes. *Electron. Comm. Japan* **57** (1974/75), *no.* 4, 27–35. (Authors' summary) **56** #15140 94A10

(*with* Kinoshita, Eisuke; Kojima, Yoshiaki) Floating-point arithmetic algorithms in the symmetric residue number system. *IEEE Trans. Computers* **C-23** (1974), 9–20. (M. S. Cheema) **50** #9042 68A10

Kosaraju, S. *See* **Rao Kosaraju, S.**

saraju, S. Rao (*with* Joshi, Aravind K.; Yamada, Hisao M.) String adjunct grammars. I. Local and distributed adjunction. *Information and Control* **21** (1972), 93–116. (I. M. Havel) **49** #4319 68A30

(*with* Joshi, Aravind K.; Yamada, Hisao M.) String adjunct grammars. II. Equational representation, null symbols, and linguistic relevance. *Information and Control* **21** (1972), 235–260. (I. M. Havel) **49** #4320 68A30

Analysis of structured programs. *Fifth Annual ACM Symposium on Theory of Computing* (*Austin, Tex.*, 1973), *pp.* 240–252. *Assoc. Comput. Mach., New York*, 1973. (Editors) **53** #14966 68A05

Regularity preserving functions. *ACM SIGACT News* **6** (1974), *no.* 2, 16–17. (John T. Gill) **53** #12083 (E **56** #10150) 68A25 (02F25)

Correction to: "Regularity preserving functions" (ACM SIGACT News **6** (1974), no. 2, 16–17). *ACM SIGACT News* **6** (1974), *no.* 3, 22. (Editors) **56** #10150 68A25 (02F20)

On some open problems in the theory of cellular automata. *IEEE Trans. Computers* **C-23** (1974), *no.* 6, 561–565. (E. Ikaunieks) **55** #7631 94A30 (68A25, 68A20)

A note on probabilistic input-output relations. *Information and Control* **26** (1974), 194–197. (Robert M. Baer) **50** #6686 94A35

1-way stack automaton with jumps. *J. Comput. System Sci.* **9** (1974), 164–176. (S. A. Greibach) **50** #9443 94A30

Analysis of structured programs. Fifth Annual ACM Symposium on the Theory of Computing (Austin, Tex., 1973). *J. Comput. System Sci.* **9** (1974), 232–255. (W. D. Maurer) **53** #4598 68A05

Context-free preserving functions. *Math. Systems Theory* **9** (1975), *no.* 3, 193–197. (Etsuro Moriya) **52** #4724 68A30

Speed of recognition of context-free languages by array automata. *SIAM J. Comput.* **4** (1975), *no.* 3, 331–340. (V. N. Agafonov) **51** #14645 68A20 (68A25, 68A30)

On structuring flowcharts (preliminary version). *Eighth Annual ACM Symposium on Theory of Computing* (*Hershey, Pa.*, 1976), *pp.* 101–111. *Assoc. Comput. Mach., New York*, 1976. (Guy Chaty) **55** #11676 68A05 (94A20)

(*with* Flynn, Michael J.) Processes and their interactions. *Kybernetes* **5** (1976), *no.* 3, 159–163. (Authors' summary) **57** #11170 68A20

On independent circuits of a digraph. *J. Graph Theory* **1** (1977), *no.* 4, 379–382. (Author's summary) **58** #346 05C20

Insertions and deletions in one-sided height-balanced trees. *Comm. ACM* **21** (1978), *no.* 3, 226–227. (Fabrizio Luccio) **57** #18210 68A10

Kosarev, Ju. G. *See* **Spline-function methods**, **58** #31704

Kosarev, N. G. The Cauchy problem for systems of linear differential equations of Sobolev-Gal′pern type. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 10(149), 37–45. (V. Barbu) **51** #1089 35E15

Kosarev, V. I. (*with* Magomedov, K. M.) A divergence difference scheme for the computation of supersonic steady-state flows of complex structure. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 923–937, 1091. (Nima Geffen) **51** #12131 76.65

Koščeev, A. S. Estimation of the states of controllable systems under conditions of indeterminacy. (Russian) *Differencial′nye Uravnenija* **13** (1977), *no.* 12, 2168–2179, 2301. (Author's summary) **58** #33424 93E10

Koščeev, V. A. Connectedness and certain approximative properties of sets in normed linear spaces. (Russian) *Mat. Zametki* **17** (1975), 193–204. (T. Bojanov) **53** #3569 41A65

Some properties of the δ-projection in normed linear spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 5(168), 36–42. (T. Figiel) **58** #7038 46B05 (41A65)

Connectedness and solar properties of sets in normed linear spaces. (Russian) *Mat. Zametki* **19** (1976), *no.* 2, 267–278. (P. S. Kenderov) **53** #13958 41A65

Koschitzki, S. (*with* Stoyan, Dietrich) Intersections of a random process of linear segments with a given straight line. *Serdica* **3** (1977), *no.* 4, 344–346. (Rodney Coleman) **58** #31387 60G99 (60D05)

Koschmieder, E. L. Instabilities in fluid dynamics. *Synergetics* (*Proc. Internat. Workshop, Garmisch-Partenkirchen*, 1977), *pp.* 70–78. *Springer, Berlin*, 1977. (J. S. Joel) **58** #19669 76.00

Koschorke, Ulrich Pseudo-compact subsets of infinite-dimensional manifolds. *J. Differential Geometry* **5** (1971), 127–134. (D. Burghelea) **46** #2679 57A20 (58B05, 58D15)

Singularities and bordism of q-plane fields and of foliations. *Bull. Amer. Math. Soc.* **80** (1974), 760–765. (R. E. Stong) **50** #11263 57D25

Concordance and bordism of line fields. *Invent. Math.* **24** (1974), 241–268. (R. E. Stong) **49** #3966 57D25

Line fields transversal to foliations. *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Part* 1, *Stanford Univ., Stanford, Calif.*, 1973), *pp.* 295–301. *Amer. Math. Soc., Providence, R.I.*, 1975. (Enrique Vidal) **52** #4310 57D25 (57D90)

Framefields and nondegenerate singularities. *Bull. Amer. Math. Soc.* **81** (1975), 157–160. (R. E. Stong) **50** #5814 57--XX

(*with* Sanderson, Brian J.) Geometric interpretations of the generalized Hopf invariant. *Math. Scand.* **41** (1977), *no.* 2, 199–217. (David Handel) **57** #13936 55E25

See also **Problems: Differential geometry**, **51** #13876

Kościelski, A. An axiomatic characterization of Boolean-valued models for set theory. *Colloq. Math.* **27** (1973), 165–170. (James D. Halpern) **51** #144 02K05 (02H20, 02K15)

Kościuczyk, Zbigniew Vectorial reliability functions of certain classes of cybernetic systems. (Polish. English summary) *Zeszyty Nauk. Uniw. Łódz. Nauki Mat. Przyrod. Ser. II No.* 50 *Cybernet.* (1973), 111–138. (J. Morávek) **52** #5101 93A10

Kosel, U. Über die Anzahl der Verzweigungslösungen der Nullösung Hammersteinscher Integralgleichungen in der Nähe eines zweifachen Eigenwertes. *Beiträge Anal. No.* 3 (1972), 135–145. (H. Amann) **48** #9314 45G99

(*with* Wiener, Klaus) Zur Verzweigung der Lösungen von nichtlinearen Integralgleichungen mit Hadamard-Integralen bei einfachen Eigenwerten. *Math. Nachr.* **58** (1973), 9–30. (B. A. Fleishman) **49** #11164 45C05 (45G05)

(*with* Wiener, Klaus) Über Verzweigungen der Lösungen nichtlinearer Integrodifferentialgleichungen mit Hadamard-Integralen und Ableitungen von nichtganzzahliger Ordnung. *Beiträge Anal. Heft* 6 (1974), 55–72. (From the authors' introduction) **56** #9209 45J05

(*with* Wiener, Klaus) Zu Verzweigungen von Lösungen nichtlinearer Integrodifferentialgleichungen mit Hadamard-Integralen. *Math. Nachr.* **62** (1974), 241–249. (H. Amann) **50** #913 45G05 (45J05)

Über Verzweigungen der Lösungen nichtlinearer Integrodifferentialgleichungen mit Hadamard-Integralen. 5. *Tagung über Probleme und Methoden der Mathematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *Heft* 2, *pp.* 328–335. *Wiss. Schr. Techn: Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt*, 1975. (G. J. Butler) **55** #13189 45G05

(*with* Wiener, Klaus) Zu Verzweigungen der Nullösung von nichtlinearen Integralgleichungen mit Hadamard-Integralen bei singulären Bestandteilen. *Beiträge Anal. No.* 7 (1975), 101–111. (Authors' review (Zbl **305** #45007)) **58** #29929 45G99

A study of the solutions and the bifurcations of the solutions of nonlinear equations with a Hadamard integral. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 17 *Teor. Operator. Uravneniĭ* (1975), 89–91. (J. Kolomý) **57** #10525 47H15 (45G99)

Košelev, A. A. (*with* Alekseeva, G. V.; Birjukova, N. Ja.) Development and application of finite difference algorithms in the solution of the Stefan problem. (Russian) *Asymptotic methods in systems theory, No.* 7 (*Russian*), *pp.* 146–155. *Irkutsk. Gos. Univ., Irkutsk*, 1974. (Not reviewed) 65N30

Košelev, A. D. The kernel function of a Hilbert space of functions that are polyanalytic in the disc. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 2, 277–279. (I. P. Ramadanov) **55** #679 30A94 (46E20)

An application of polyharmonic functions in elasticity theory. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 3, 329–331. (Not reviewed) 73.31

Correction: "An application of polyharmonic functions in elasticity theory" (Dokl. Akad. Nauk SSSR **233** (1977), no. 3, 329–331). (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 6, 1248. (Not reviewed) 73.31

Košelev, A. I. (*with* Zabreĭko, P. P.; Krasnosel'skiĭ, M. A.; Mihlin, S. G.; Rakovščik, L. S.; Stecenko, V. Ja.) ★Интегральные уравнения. (Russian) [Integral equations] Справочная Математическая Библиотека. [Mathematical Reference Library] *Izdat. "Nauka", Moscow*, 1968. 448 *pp.* (See RŽMat **1968** #10 B382) 45–01

A certain inequality for second order elliptic operators with bounded coefficients. (Russian) *Dokl. Akad. Nauk SSSR* **199** (1971), 17–19. (Editors) **55** #8538 35J15

A certain inequality for second order elliptic operators with bounded coefficients. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 12(115), 75–80. (A. Borzymowski) **46** #2202 35B45 (47F05)

The strong convergence in the large of a certain interation process for ordinary differential equations. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 999–1000. (V. Šeda) **46** #1095 65L10

The convergence in strong norms of a certain iteration process for ordinary differential equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 4(119), 78–83. (H. J. Stetter) **46** #10212 65L10 (34A45)

The continuity of the solutions of systems of second order quasilinear elliptic equations with bounded nonlinearities. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 777–779. (V.-V. Olariu) **49** #845 35J65

The continuity of the solutions of a system of second order quasilinear elliptic equations with bounded non-linearities. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 1(140), 59–70. (A. Haimovici) **50** #5181 35J65

The best estimates of the convergence of a certain iteration process. (Russian) Collection of articles dedicated to Aleksandr Petrovič Norden on the occasion of his seventieth birthday. *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 5(144), 138–143. (Russell C. Thompson) **50** #11804 65N15

(*with* Zabreĭko, P. P.; Krasnosel'skiĭ, M. A.; Mihlin, S. G.; Rakovščik, L. S.; Stecenko, V. Ja.) ★Integral equations—a reference text. Translated and edited by T. O. Shaposhnikova, R. S. Anderssen and S. G. Mikhlin. *Noordhoff International Publishing, Leyden*, 1975. xix + 443 *pp.* (See Zbl **293** #45001) 45–01

The smoothness of the solutions of second order quasilinear elliptic systems. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 4, 787–789. (Ju. V. Kostarčuk) **54** #725 35J65

The smoothness of the solutions of second order quasilinear elliptic systems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 6 (169), 45–61. (S. N. Kružkov) **57** #3596 35D10 (35J60)

The continuity of the solutions of second order quasilinear elliptic systems. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 7, 1256–1263, 1348. (Todor G. Genčev) **57** #6815 35J25

The continuity of the solutions of quasilinear second order elliptic systems. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 4, 766–769. (Ju. V. Kostarčuk) **58** #29192 35J60 (35D10)

(*with* Bondarev, A. S.; Merkulov, A. I.; Rynkevič, N. P.; Smurova, N. A.) The numerical realization of an iteration process for quasilinear elliptic equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 9(184), 6–10. (J. Miklíček) **58** #8382 65P05

Košelev, Ju. G. Wreath products and equations in semigroups. (Russian. English summary) *Semigroup Forum* **11** (1975), *no.* 1, 1–13. (B. Pondělíček) **52** #8301 20M10

Regularity and idempotency of a wreath product of semigroups. (Russian) *Modern algebra, No.* 4 (*Russian*), *pp.* 97–106. *Leningrad. Gos. Ped. Inst., Leningrad*, 1976. (M. K. Sen) **56** #15801 20M10

An associative operation on the set of all varieties of monoids. (Russian) *Modern algebra, No.* 4 (*Russian*), *pp.* 107–117. *Leningrad. Gos. Ped. Inst. Leningrad*, 1976. (V. N. Saliĭ) **57** #504 20M99 (08A15)

Varieties preserved under wreath products. *Semigroup Forum* **12** (1976), *no.* 2, 95–107. (Jaroslav Ježek) **53** #3175 20M99

Košelev, V. N. Necessary conditions for the extremum of spatial variational problems on a collection of discontinuous functions. (Russian) *Gor'kov. Gos. Univ. Učen. Zap. No.* 105 (1969), 72–74. (M. M. Cvetanov) **45** #9229 49B05

Lower bounds for the reliability of block codes in binary channels with noisy feedback. (Russian) Symposium on Information Theory (Dubna, 1969). *Problemy Peredači Informacii* **6** (1970), *no.* 2, 93–99. (I. Vajda) **48** #10646 94A10

(*with* Morozov, S. F.) The existence of discontinuous solutions for a certain quasiregular variational problems in nonparametric form. (Russian) *Izv. Vysš. Zaved. Matematika* **1972**, *no.* 2(117), 54–62. (L. C. Young) **46** #4306 49A05

(*with* Morozov, S. F.) Discontinuous solutions of variational problems with derivatives. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 10(161), (M. M. Cvetanov) **53** #14259 49A50

Some results on source encoding with faithful decoding. *Proceedings of the IEEE-USSR Joint Workshop on Information Theory* (*Moscow*, 1975), *pp.* 122–12 *Electr. Electron. Engrs., New York*, 1976. (John C. Kieffer) **57** #5422 94A15 (94A10)

Linear and enumerative approaches to the noiseless coding of discrete so *Topics in information theory* (*Second Colloq., Keszthely*, 1975), *pp.* 393–409. *Colloq. Soc. János Bolyai, Vol.* 16, *North-Holland, Amsterdam*, 1977. (J. J. Stiffler) **57** # 94A15 (94A10)

(*with* Morozov, S. F.) Theorems on the existence of discontinuous soluti higher-dimensional variational problems. II. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 2 (177), 49–59. (T. Giec) **57** #13617 49A15

A theorem of existence for variational problems on a set of discontinuous fun (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 4 (179), 53–59. (L. Mikołajczyk) **57** #17449 49A35

The problem of the separate coding of two dependent sources. (Russian) *Pr Peredači Informacii* **13** (1977), *no.* 1, 26–32. (Author's summary) **58** #15697

A strict block ε-approximation of equiprobable messages. (Russian) *Pr Peredači Informacii* **14** (1978), *no.* 2, 35–39. (Author's summary) **58** #26537

Košeleva, O. N. (*with* Valēēv, Kim G.) Construction of the solution of nonlinear diff equations in a neighborhood of a fixed point. (Russian) *Ž. Vyčisl. Mat. i Mat.* (1976), *no.* 1, 72–82, 276. (Mieczyslaw Altman) **54** #11823 65Q05 (39A10)

Kosenko, B. F. Methods for accelerated computations of the fundamental paramet queueing systems with unlimited waiting in the queue. (Russian. English sum insert) *Kibernetika* (*Kiev*) **1976**, *no.* 4, 89–91. (Author's summary) **56** #9732

Kosenko, G. G. (*with* Vagapov, A. M.) A method of estimation of lower error boun entropy of recognition of two objects. *Radiotehn. i Èlektron.* **16** (1971), 1959- (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 1749–1751. (I. Kra **49** #8449 68A45 (62B10)

(*with* Vagapov, A. M.) The concave properties of Kullback's measure. *Radio Èlektron.* **16** (1971), 2309–2310 (*Russian*); *translated as Radio Engrg. Electron. Ph* (1971), 2117–2118. (A. Fuchs) **49** #12169 94A15

(*with* Vagapov, A. M.) The problem of general definition and properties scattering matrix. *Radiotehn. i Èlektron.* **17** (1972), 1526–1528 (*Russian*); *transla Radio Engrg. Electron. Phys.* **17** (1972), 1202–1203. (A. Ramm) **50** #3783 78.

Kosenko, Z. I. (*with* Mysovskiĭ, Ju. V.; Žitnaja, V. G.; Šaldyrvan, V. A.) ★Неко задачи математического анализа. (Russian) [Some problems of mathematical ana *Doneck. Gos. Univ., Donetsk*, 1974. 87 *pp.* (E. L. Albasiny) **58** #8130 65–01

Kosenkova, S. T. (*with* Vološin, G. Ja.) A pattern recognition method that is based approximation of samples by a mixture of normal laws. (Russian) *Vyčisl. Sistem* 61 *Èmpiričesk. Predskazan. i Raspoznavan. Obrazov* (1975), 60–68, 120. (Authors' summary) **58** #19432 68A45

Koševnik, Ju. A. (*with* Levit, B. Ja.) On a nonparametric analogue of the infor matrix. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), 759–774. (Z. Šidák) **55** #1599 62G05

Koševnikova, I. G. (*with* Antonovskiĭ, M. Ja.) Generalized normed spaces. (Russian. summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **13** (1969), *no.* 6, 7–1 Janos) **45** #856 46B05

(*with* Antonovskiĭ, M. Ja.) On the question of the semi-metrization of semi-un structures. (Russian) *Taškent. Politehn. Inst. Naučn. Trudy* (*N.S.*) *No.* 56 (1970), (See RŽMat **1971** #3 A391) 54E35

(*with* Kucenko, È. N.) On the definition of Hilbert spaces over semifields. (Ru *Taškent. Politehn. Inst. Naučn. Trudy* (*N.S.*) *No.* 56 (1970), 40–44. (See RŽMat **197** B634) 46C05

(*with* Antonovskiĭ, M. Ja.) Convergence spaces of Fréchet-Uryson type, and generalized metrization. (Russian) *Mat. Vesnik* **9(24)** (1972), 373–378. (Roman **51** #1700 54A20

(*with* Kucenko, È. N.) The pseudo-quasimetrization of topogeneous struc (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), 363–367 (Á. Császár) **52** #6632 54A15

(*with* Kucenko, È. N.) A certain connection between quasiuniform and quasiproximity structures. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Vo Mat.* (1972), 368–374, 392. (Á. Császár) **52** #6633 54A15 (54E05)

(*with* Antonovskiĭ, M. Ja.) Convergence spaces of Fréchet-Uryson type. (Rus Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1973**, *no.* 3, 3–5. (Editors) **52** #4 54A20

A proximity relation on convergence spaces. (Russian) *Taškent. Gos. Univ. N Trudy Vyp.* 460 *Voprosy Mat.* (1974), 67–70, 174. (Roman Frič) **54** #8577 (54A20)

(*with* Kucenko, È. N.) Some properties of the proximity relation on conver spaces. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 460 *Voprosy Mat.* (71–73, 175. (Roman Frič) **54** #8578 54E05 (54A20)

Koshelev, A. I. *See* **Košelev, A. I.**

Koshelev, Valery N. *See* **Košelev, V. N.**

Koshi, Shozo A convergence theorem in measurable function spaces of concave *Proc. Japan Acad.* **46** (1970), 417–419. (A. Pełczyński) **50** #10797 46E30

(*with* Amemiya, Ichiro) Monotone completeness and convergence theorem. *J. Okayama Univ.* **15** (1971/72), 199–207. (R. H. Cox) **47** #9262 46E30

(*with* Takahashi, Yasuji) A note on approximate dimension. *Proc. Japan Aca* (1971), 235–238. (Bor-Luh Lin) **45** #4097 46A05

Vitali's theorem in vector lattices. *J. Fac. Sci. Hokkaido Univ. Ser. I* **22** (132–136. (D. A. Kappos) **46** #4159 46A40 (28A20)

(*with* Takahashi, Yasuji) A remark on quasi-invariant measure. *Proc. Japan* **50** (1974), 428–429. (J. Schmets) **51** #847 28A40

(*with* Katsumata, Osamu; Otaki, Hiroshi) On the norm properties on fun spaces. *Proc. Japan Acad.* **52** (1976), *no.* 1, 10–13. (Editors) **56** #16357 46E30 (60G25)

(*with* Otaki, Hiroshi; Katsumata, Osamu) On Szegő's theorem. (Japanese) Approximation theory in functional analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 265 (1976), 38–47. (Kiyoku Nishizawa) **58** #7098 46J10

On the basis problem. (Japanese) Approximation theory in functional analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 265 (1976), 115–121. **58** #17790 46B15

shiba, Yôichi A number-theoretic property of algebraic function fields. (Japanese) *Sci. Rep. Kagoshima Univ. No.* 23 (1974), 1–5. (K. Shiratani) **51** #10302 (EA **53**) 12A90

Elementary notes on *p*-adic analysis. *Sci. Rep. Kagoshima Univ. No.* 24 (1975), 9. (J. S. Joel) **54** #10686 32J10 (12B40)

An arithmetic property of algebraic function fields. *Sci. Rep. Kagoshima Univ. No.* 25 (1976), 27–29. (W. Narkiewicz) **55** #2852 12A90

See also **Riemann, Bernhard**, **52** #13286

shiba, Zen'ichirô A theorem equivalent to the Brouwer fixed point theorem. *Proc. Japan Acad.* **47** (1971), 470–471. (V. Ganapathy Iyer) **51** #8350 26A57 (54H25)

(*with* Kumano-go, Hitoshi) A family of pseudo-differential operators and a stability theorem for the Friedrichs scheme. *Proc. Japan Acad.* **52** (1976), *no.* 5, 211–214. (Rémi Vaillancourt) **54** #1025 47G05 (35S05)

shigoe, Hideyuki On the canonical restriction. (Japanese summary) *J. Fac. Engrg. Chiba Univ.* **28** (1976/77), *no.* 53, 143–145. (T. Kato) **57** #7289 47H99

Convergence of semigroups of nonlinear operators in Banach spaces. (Japanese. English summary) *J. Fac. Engrg. Chiba Univ.* **28** (1976/77), *no.* 54, 287–290. (T. Kato) **57** #7290 47H99

shikawa, Hiroaki A remark on the Steenrod representation of $B(Z_p \times Z_p)$. *J. Fac. Sci. Hokkaido Univ. Ser. I* **22** (1972), 67–73. (R. J. Milgram) **51** #1855 57D95

On the bordism groups of semi-free S^a-actions. *Tôhoku Math. J.* (2) **25** (1973), 535–539. (R. E. Stong) **48** #7304 57D85

shitani, Shigeo Group rings of metacyclic *p*-groups. *Proc. Japan Acad.* **52** (1976), *no.* 6, 269–272. (Edward Formanek) **53** #10899 20C05

On the nilpotency indices of the radicals of group algebras of *p*-solvable groups. *Proc. Japan Acad. Ser. A Math. Sci.* **53** (1977), *no.* 1, 13–16. (Donald S. Passman) **57** #437 20C20

On the nilpotency indices of the radicals of group algebras of *P*-groups which have cyclic subgroups of index *P*. *Tsukuba J. Math.* **1** (1977), 137–148. (D. A. R. Wallace) **58** #773 16A26

Nilpotency indices of the radicals of modular group rings. *Proceedings of the 10th Symposium on Ring Theory* (*Shinshu Univ., Matsumoto*, 1977), *pp.* 106–115. *Dept. Math., Okayama Univ., Okayama*, 1978. (G. Michler) **57** #12580 16A26

oshlyakov, V. N. *See* **Košljakov, V. M.**

oshmanenko, V. D. *See* **Košmanenko, V. D.**

oshy, Thomas Quasi-cyclic product codes. *Bull. Calcutta Math. Soc.* **64** (1972), 83–90. (C. Reischer) **47** #4709 94A10

osickiĭ, M. E. Galerkin approximations for nonlinear equations with unbounded and monotone operators. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **269**, 189–199 (1969). (S. Fučík) **45** #9215 47H15

osik, P. (*with* Fényes, Tomás) A note on operator transformations. *Studia Sci. Math. Hungar.* **6** (1971), 301–306. (E. Gesztelyi) **45** #7405 44A40

(*with* Fényes, Tomás) The algebraic derivative and integral in the discrete operational calculus. *Studia Sci. Math. Hungar.* **7** (1972), 117–130. (R. G. Buschman) **47** #3920 44A40 (39A12)

osikov, V. S. (*with* Pavlov, B. V.) Analysis and synthesis of searchless self-adaptive systems using a standard model. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 2, 188–199 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 2, 151–161. (K. Kanai) **52** #10152 93C40

(*with* Krutova, I. N.; Pavlov, B. V.) Construction of linear models of nonsearching self-adaptive systems. I. Linearized equations of the systems. *Avtomat. i Telemeh.* **1976**, *no.* 1, 106–116 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 1, *part* 2, 49–57 (1976). (Authors' summary) **58** #15464a 93C40

(*with* Krutova, I. N.; Pavlov, B. V.) Construction of linear models of nonsearching self-adaptive systems. II. Linear models of NSAS. *Avtomat. i Telemeh.* **1976**, *no.* 2, 116–130 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 2, *part* 2, 225–237. (Authors' summary) **58** #15464b 93C40

Kosina, M. (*with* Pták, Pavel) Intrinsic characterization of distal spaces. *Seminar Uniform Spaces* (*Prague*, 1973–1974), *pp.* 217–231. *Mat. Ústav Ceskoslovenské Akad. Věd, Prague*, 1975. (Olav Njåstad) **52** #11842 54E15

Kosiński, A. *See* **Zelins'kiĭ, Ju. B.**, **52** #11929

Kosiński, P. (*with* Rembieliński, J.; Maślanka, P.) The O'Raifeartaigh theorem for the generalized Lie algebras. (German summary) *Ann. Physik* (7) **33** (1976), *no.* 2, 93–98. (Johan G. Belinfante) **54** #6717 81.22

(*with* Rembieliński, J.; Tybor, W.) Representations of supersymmetry algebras with Dirac bispinor generators. *J. Phys. A* **9** (1976), *no.* 3, 423–433. (Jacques P. Leveille) **53** #12320 81.46

(*with* Rembieliński, J.; Tybor, W.) On gauge groups. *J. Phys. A* **9** (1976), *no.* 7, 1187–1190. (Mayer Humi) **57** #3322 22E70

Kosiński, Withold (*with* Perzyna, P.) Analysis of acceleration waves in material with internal parameters. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **24** (1972), 629–643. (Peter J. Chen) **51** #2410 73.35

On a thermodynamic theory of materials with memory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 167–174. (Brian Straughan) **49** #11924 73.46

(*with* Perzyna, P.) Analysis of acceleration waves in rheological material. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 273–280. (W. F. Ames) **49** #1866 73.35

(*with* Perzyna, P.) Acceleration waves in material with internal parameters. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 281–287. (W. F. Ames) **49** #1867 73.35

Thermomechanical coupling in materials with memory. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 441–455. (M. Fabrizio) **51** #4814 73.54

(*with* Wojno, Włodzimierz) Remarks on internal variable and history descriptions of material. *Arch. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 709–713. (M. Fabrizio) **51** #4786 73.35

On the thermodynamics of materials with fading memory and internal variables. I. General theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 271–277. (L. Jentsch) **48** #13016 80.35

On the thermodynamics of materials with fading memory and internal variables. II. Equilibrium state. *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 279–285. (L. Jentsch) **48** #13017 80.35

(*with* Mazilu, Petrişor) On material with parametrical memory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 561–567. (A. Corduneanu) **48** #5471 73.46

On the thermodynamics of materials with fading memory and internal variables. III. Linear theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 683–688. (L. Jentsch) **49** #8517 80.46

On the thermodynamics of materials with fading memory and internal variables. IV. Linearized constitutive relations. *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 689–694. (L. Jentsch) **49** #8518 80.46

(*with* Perzyna, P.) A mathematical theory of materials. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 1017–1024. (M. Mişicu) **49** #10235 73.53

(*with* Perzyna, P.) The unique material structures. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **21** (1973), 1025–1032. (M. Mişicu) **49** #10236 73.53

Acceleration waves in a material with internal variables. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 423–431. (J. Bejda) **52** #2330 73.35

Behaviour of the acceleration and shock waves in materials with internal state variables. (German and Russian summaries) *Internat. J. Non-Linear Mech.* **9** (1974), 481–499. (P. Germain) **51** #9615 73.35

On shock wave propagation in a material with internal variables. (Polish and Russian summaries) *Proc. Vibration Problems* **15** (1974), 205–215. (D. R. Bland) **50** #9114 73.35

(*with* Mazilu, Petrişor) Parametrical memory of simple materials. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 1231–1242. (V. P. Madan) **50** #11959 73.53

On the global behaviour of one-dimensional acceleration waves in a material with internal variables. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no.* 2, 231–243. (Peter J. Chen) **52** #9763 73.35

One-dimensional shock waves in solids with internal state variables. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no.* 3, 445–458. (D. R. Bland) **52** #2331 73.35

Thermal waves in inelastic bodies. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no.* 5-6, 733–748. (Peter J. Chen) **54** #6702 80.34 (73.34)

(*with* Szmit, Katarzyna) Stress wave propagation in an elastic/viscoplastic body at high strain rates. (Polish and Russian summaries) *J. Tech. Phys.* **16** (1975), *no.* 1, 45–56. (S. C. Das) **55** #4855 73.35

One-dimensional waves in inelastic media. (Polish) *Prace IPPT/IFTR Rep.* **1975**, *no.* 61, 82 *pp.* **58** #25257 73.35

Analysis of one-dimensional shock and acceleration waves in an inelastic medium. (Polish. Russian and English summaries) *Mech. Teoret. Stos.* **14** (1976), *no.* 1, 95–126. (Author's summary) **56** #13922 73.35

(*with* Szmit, Katarzyna) On waves in elastic materials at low temperatures. I. Hyperbolicity in thermoelasticity. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 1, 23–30. (Tatsuo Tokuoka) **58** #14427 80.35 (73.35)

Gradient catastrophe in the solution of nonconservative hyperbolic systems. *J. Math. Anal. Appl.* **61** (1977), *no.* 3, 672–688. (Paul L. Davis) **57** #903 35L60

Kosjak, Ju. F. *See* **Mathematics and progress in science and technology**, **48** #8170

Kosjakin, A. A. (*with* Filaretov, G. F.; Sinegub, G. G.) Experimental investigation of the accuracy of numerical methods in computing correlation functions. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 68 (1969), 93–102. **45** #1310 62F05

(*with* Sandler, E. A.) Stochasticity of a certain class of discrete systems. *Avtomat. i Telemeh.* **1972**, *no.* 9, 87–94 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 9, *part* 2, 1479–1485 (1973). (Authors' summary) **56** #11464 93E99

(*with* Sandler, E. A.) Ergodic properties of a certain class of piecewise smooth transformations of a segment. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 3(118), 32–40. (W. F. Pfeffer) **45** #8802 28A65

(*with* Sandler, E. A.) Iterative random signal generators. *Avtomat. i Telemeh.* **1974**, *no.* 1, 141–150 (*Russian*); *translated as Automat. Remote Control* **1974**, *no.* 1, *part* 2, 127–134. **56** #15122 94A05 (65C10, 94A15)

Kosjuk, S. D. (*with* Domorjad, A. P.) Quadrature formulas with symmetrically placed nodes. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 316 *Voprosy Meh. i Mat.* (1968), 15–27. (I. Šelihova (RŽMat **1969** #6 B814)) **54** #6462 65D30

(*with* Nguen Suan Nguet) On the question of the best quadrature formulas for certain classes of functions. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 320 (1968), 58–72. (I. Šelihova (RŽMat **1969** #6 B812)) **46** #1054 65D30

(*with* Farhadov, T.) The quadrature formulas that contain the values of the derivatives of the function under the integral. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), 181–186, 382–383. (Walter Gautschi) **49** #6567 65D30

Koskas, Maurice Images d'équations différentielles stochastiques. *Séminaire de Probabilités, XI* (*Univ. Strasbourg, Strasbourg*, 1975/1976), *pp.* 411–414. *Lecture Notes in Math., Vol.* 581, *Springer, Berlin*, 1977. (Toshio Yamada) **56** #13359 60H10 (60G45)

Koškin, G. M. (*with* Dmitriev, Ju. G.; Simahin, V. A.; Tarasenko, F. L.; Šulenin, V. P.) ★Непараметрическое оценивание функционалов по стационарным выборкам. (Russian) [Nonparametric estimation of functions from stationary samples] *Izdat. Tomsk. Gos. Univ., Tomsk*, 1974. 91 *pp.* (*errata insert*) (Š. A. Hašimov) **58** #8005 62G05 (*with* Buldakov, V. M.) Recurrent estimates of the probability density and the regression curve. (Russian) *Problemy Peredači Informacii* **13** (1977), *no.* 1, 58–66. (B. Ja. Levit) **57** #14247 62G05 (62L12)

Koškina, V. G. (*with* Čahlenkova, T. G.) The method of Monge in isotropic space. (Russian) *Kirov. Gos. Ped. Inst. Učen. Zap. No.* 39 *Matematika* (1970), 24–29. (B. Orbán) **50** #14459 50C25

Descriptive geometry of pseudoisotropic space. (Russian) *Kirov. Gos. Ped. Inst. Učen. Zap. No.* 39 *Matematika* (1970), 30–36. (V. Medek) **50** #8276 50D15

(*with* Čahlenkova, T. G.) Descriptive geometry in Galilean space. (Russian) *Kirov. Gos. Ped. Inst. Učen. Zap. No.* 39 *Matematika* (1970), 37–42. (V. Medek) **50** #8277 50D15

Solution of metric problems in pseudo-Galilean space. (Russian) *Kirov. Gos. Ped. Inst. Učen. Zap. No.* 39 *Matematika* (1970), 43–47. (V. Medek) **50** #8278 50D15

Košlev, A. I. The existence of continuous solutions of quasilinear elliptic systems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 11(150), 55–60. (S. N. Kružkov) **51** #1111 35J65

Koslik, G. A. *See* **Kozlik, G. A.**

Kośliński, Antoni Decompositions of *n*-gons into two-component sums. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 9 *Grafy i hipergrafy* (1973), 77–89. (E. Jucovič) **50** #9705 05C99

Decompositions of *n*-angles onto the 2-component sums. Collection of papers on the theory of ordered sets and general algebra. *Acta Fac. Rerum Natur. Univ. Comenian. Math., Special No.* (1975), 23–24. (J. Sedláček) **50** #4401 05C99

A representation of a graph. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Politechn. Wrocław. No.* 17 *Ser. Stud. i Materiały No.* 13 (1977), 25–26. (G. O. H. Katona) **58** #382 05C99

Košljakov, V. M. One class of exact solutions to the equations of motion for a corrected gyrohorizon compass. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1969**, 3–9 (*Russian*); *translated as Mechanics of Solids* **4** (1969), *no.* 6, 1–6. (Author's summary) **48** #7707 70.34

The equations of motion of a heavy rigid body near a fixed point. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 677–681, 717. (Gh. Silaş) **49** #6712 70.34

(*with* Mītropol's'kiĭ, Ju. O.; Boĭčuk, O. P.; Kalinovič, V. M.; Storoženko, V. O.; Temčenko, M. Ē.) Works on the theory of gyroscopes at the Institute of Mathematics of the Academy of Sciences of the Ukrainian SSR. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 747–760, 860. (I. N. Veselovskiĭ) **49** #7071 01A60 (70.01)

The application of Rodrigues-Hamilton and Cayley-Klein parameters to the problem of the motion of a heavy rigid body around a fixed point. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 179–187, 283. (E. Leimanis) **50** #1580 70.34

The equations of a gyrostat in Rodrigues-Hamilton parameters. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 657–663, 717. (Author's summary) **50** #3690 70.34

On the theory of gyropendulous systems. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1976**, *no.* 4, 19–25 (*Russian*); *translated as Mechanics of Solids* **11** (1976), *no.* 4, 13–19. (Kishin Mariwalla) **58** #19492 70.35

Kosloski, Rodney H. (*with* Konvalina, John) Cyclic quasi-Hadamard matrices. *Utilitas Math.* **12** (1977), 273–287. (From the introduction) **58** #21693 05B20

Kosmačev, P. P. (*with* Afanas'eva, S. S.; Skobel'cin, Ju. A.) Lateral discharge of a fluid from a flow through a nozzle. (Russian) *Methods of the theory of analytic functions* (*Russian*), *pp.* 3–8, *Severo-Oset. Gos. Univ., Ordzhonikidze*, 1974. (Not reviewed) 76.30

Košmanenko, V. D. The axiomatic fields that are equivalent to a generalized free field. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1970**, 337–339, 382. (Z. Derzko) **45** #1511 81.46

A weakened axiom of local commutativity. (Russian) *Ukrain. Mat. Ž.* **22** (1970), 236–242. (W. Faris) **45** #4770 81.46

Operator-valued Jacobi matrices in axiomatic field theory. (Russian. English summary) *Methods of functional analysis in problems of mathematical physics* (*Russian*), *pp.* 75–136. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Editors) **58** #32588 81.47 (47B99)

(*with* Berezans'kiĭ, Ju. M.) Axiomatic field theory in terms of operator Jacobi matrices. (Russian. English summary) *Teoret. Mat. Fiz.* **8** (1971), *no.* 2, 175–191. (Authors' summary) **47** #11465 81.46

An example of a locally commutative operator field. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 379–382, 430. (W. Faris) **50** #6371 81.47

Wave operators in the Haag-Ruelle scattering theory. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 753–756. (J. R. Schulenberger) **52** #4892 81.47

Space-like symmetrization operator and local commutativity axiom. *Rep. Mathematical Phys.* **6** (1974), *no.* 2, 213–224. (S. Kurepa) **53** #9978 81.46

The unitarity of the *S*-operator in the Haag-Ruelle scattering theory. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 552–557, 576. (K. Kumar) **50** #2951 47A40 (81.47)

Scattering theory in terms of bilinear functionals. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 2, 277–280. (H. Baumgärtel) **53** #1306 47A40

(*with* Samoĭlenko, Ju. I.) The isomorphism between Fok space and a space of functions of infinitely many variables. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 5, 669–674, 718. (Richard Kerner) **52** #7377 81.46 (46G99)

★Абстрактная теория рассеяния в терминах билинейных функционалов. (Russian) [Abstract scattering theory in terms of bilinear functionals] With an English summary. Preprint IM-76-27. *Akad. Nauk Ukrain. SSR Inst. Mat., Kiev*, 1976. 39 *pp.* (J. R. Schulenberger) **56** #12935 47A40 (81.47)

The inverse problem of scattering theory in terms of bilinear functionals. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 1, 30–32. (Tetz Yoshimura) **53** #10006 81.47 (47A40)

Kosmann-Schwarzbach, Yvette Dérivées de Lie des spineurs. (English summary) *Ann. Mat. Pura Appl.* (4) **91** (1972), 317–395. (J. D. Zund) **47** #971 53A50

Groupes de transformations et covariance des opérateurs différentiels. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1235–A1237. (W. Kaup) **47** #1087 58G99

(*with* Sternberg, Shlomo) Conjugaison des sous-algèbres d'isotropie. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 777–779. (N. N. Shapovalov) **50** #7271 17B40 (22E60)

Sur les degrés conformes des opérateurs différentiels. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 4, Aiii, A229–A232. (A. Crumey **52** #12009 58G15

Degrés conformes des laplaciens et des opérateurs de Dirac. (English summar *R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 5, Aii, A283–A285. (A. Crumey **52** #12008 58G15

On Lie transformation groups and the covariance of differential operators. *Differential geometry and relativity*, *pp.* 75–89. *Mathematical Phys. and Appl. Math.*, 3, *Reidel, Dordrecht*, 1976. (A. Crumeyrolle) **55** #11318 58G99

Kosmodamians'kiĭ, O. S. (*with* Kloĭzner, S. M.) The quasiregularity of infinite systen algebraic equations that arise in the solution of doubly periodic problems of nonl elasticity theory. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 35–42. *Nau Dumka, Kiev*, 1971. (J. L. Nowinski) **47** #2882 73.30

(*with* Ložkīn, V. M.) An approximate method of determining the stressed state plate with circular holes, in the three-dimensional formulation. (Russian) *Mathema physics, No.* 10 (*Russian*), *pp.* 56–62. *Naukova Dumka, Kiev*, 1971. (C. I. Borş) **46** # 73.35 (73.65)

(*with* Šaldyrvan, G. G.) A periodic problem of the bending of a thick piece homogeneous plate. (Russian) *Meh. Tverd. Tela Vyp.* 7 (1974), 171–176. (Aut summary) **58** #8655 73.35

(*with* Ložkīn, V. M.) A dynamical problem for a piezoelectric layer. (Ukrai English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *n* 311–314, 380. (Authors' summary) **53** #15102 78.35

(*with* Ložkīn, V. M.) Generalized plane stressed state of thin piezoelectric pl (Russian) *Prikl. Meh.* **13** (1977), *no.* 10, 75–79, 142. (A. Ženíšek) **57** #8303 73

Kosmodem'janskiĭ, A. A. The early works of K. È. Ciolkovskiĭ and I. V. Meščerskiĭ on dynamics of rockets. (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp.* 2(43) (1 35–40. (Editors) **58** #21177 01A50

(*with* Grigor'jan, A. T.; Kedrov, B. M.; Kuznecov, B. G.) A. Ju. Išlinskiĭ (on occasion of his sixtieth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vy* (45) (1973), 85–86. (Editors) **56** #5174 01A70

Vladimir Vasil'evič Golubev (1884–1954). (Russian) *Vestnik Moskov. Univ. Se Mat. Meh.* **29** (1974), *no.* 6, 125–131. (Editors) **52** #2794 01A70

See also **History and methodology of the natural sciences**, **50** #1807 *and* **F Robert**, **58** #3951

Kosmodem'janskiĭ, A. A., Jr. Functions whose graph has generalized nonpositive curvat (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **25** (1970), *n* 23–32. (Piotr Antosik) **45** #5527 35B99 (26A57, 53A99)

The behavior of the solutions of quasilinear equations of elliptic type with a w nonlinearity at infinity and in the neighborhood of a boundary point. (Russian) *Sb.* (*N.S.*) **87(129)** (1972), 37–43. (H. Marcinkowska) **45** #3936 35J15

A theorem on the existence of a solution of the Dirichlet problem for a certain of quasilinear elliptic equations in unbounded domains. (Russian) *Uspehi Mat. Nau* (1974), *no.* 1, (175), 171–172. (H. Marcinkowska (Zbl **293** #35032)) **55** #108 35J40

Estimation of the Hölder exponent of the solutions of elliptic equations in neighborhood of a boundary point. (Russian. English summary) *Vestnik Moskov. Ser. I Mat. Meh.* **29** (1974), *no.* 4, 116–119. (Ja. A. Roĭtberg) **50** #5168 35J15

Existence of the unloading wave. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), 1, 45–47. (J. Bejda) **55** #1910 73.35

Kosmol, Peter Über Approximation stetiger Funktionen in Orliczräumen. Collectio articles dedicated to Isaac Jacob Schoenberg on his 70th birthday, I. *J. Approxima Theory* **8** (1973), 69–83. (E. W. Cheney) **53** #6192 41A65

Flache Konvexität und schwache Differenzierbarkeit. (English summary) *Manuscripta Math.* **8** (1973), 267–270. (Arne Brøndsted) **48** #4729 46G05

Algorithmen zur konvexen Optimierung. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I*, *pp.* 176–186. *Operations Research Verfahren, B XVIII, Hain, Meisenheim am Glan*, 1974. (Jochem Zowe) **56** #7991 90C25

Flache Konvexität von Orliczräumen. *Colloq. Math.* **31** (1974), 249–252. (J. Albrycht) **51** #1369 46E30

(*with* Wriedt, Michael) Proximinalität und Algorithmen bei konvexer Approximation. *Arch. Math.* (*Basel*) **26** (1975), 193–200. (Mogens Esrom Lars **51** #8712 41A65

Regularisation of optimization problems and operator equations. *Optimization operations research* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 161–170. *Lecture Notes Econom. Math. Systems, Vol.* 117, *Springer, Berlin*, 1976. (Siegfried Schaible) **56** #7 65K05

Optimierung konvexer Funktionen mit Stabilitätsbetrachtungen. *Dissertationes Math.* (*Rozprawy Mat.*) **140** (1976), 38 *pp.* (W. W. Breckner) **56** #7992 90 (49D99, 65K05)

Kosmulska-Bochenek, Elżbieta The problem of generating diagnostic tests for sequen logical networks. (Polish. Russian and English summaries) *Arch. Automat. i Teleme* **20** (1975), 69–78. (P. Vondráček) **51** #12430 94A20

Kosniowski, Czes (*with* Carrell, James B.; Howard, Alan) Holomorphic vector fields complex surfaces. *Math. Ann.* **204** (1973), 73–81. (D. Lieberman) **51** #8478 32 (57D25)

Localizing the Burnside ring. *Math. Ann.* **204** (1973), 93–96. (A. Dress) **51** #67 20C05

What the fixed points say about a **Z**/*p* manifold. *J. London Math. Soc.* (2) **8** (197 179–186. (T. tom Dieck) **49** #9858 57D85 (57E30)

Holomorphic vector fields with simple isolated zeros. *Math. Ann.* **208** (197 171–173. (K. H. Mayer) **49** #6252 57D25 (32C10)

Equivariant cohomology and stable cohomotopy. *Math. Ann.* **210** (1974), 83–1 (C. N. Lee) **54** #1202 55B25

Z/*p* manifolds with isolated fixed points. *Math. Z.* **136** (1974), 179–191. (T. t Dieck) **49** #9859 57D85 (57E30)

The equivariant bordism ring of **Z**/*p* manifolds with isolated fixed points. *Topolo and its applications* (*Proc. Conf., Memorial Univ. Newfoundland, St. John's, Nfld.*, 197 *pp.* 157–165. *Lecture Notes in Pure and Appl. Math., Vol.* 12, *Dekker, New York*, 19 (Editors) **50** #11285 57D85 (57E30)

A note on RO(*G*) graded *G* bordism theory. *Quart. J. Math. Oxford Ser.* (2)

75), *no.* 104, 411–419. (R. E. Stong) **52** #9254 57D85

Generators of the unitary Z/p bordism ring. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 344–346. (R. Paul Beem) **53** #1611 57D85

Characteristic numbers of $\mathbf{Z}/p$ manifolds. *J. London Math. Soc.* (2) **14** (1976), *no.* 2, 3–295. (T. tom Dieck) **54** #13943 57D85

Generators of the Z/p bordism ring. Serendipity. *Math. Z.* **149** (1976), *no.* 2, 1–130. (R. E. Stong) **53** #11633 57D85

Equivariant stable homotopy and framed bordism. *Trans. Amer. Math. Soc.* **219** 976), 225–234. (Henning Hauschild) **53** #6596 57D85

$\mathbf{Z}/p$ manifolds with low dimensional fixed point set. *Transformation groups* (*Proc. onf., Univ. Newcastle upon Tyne, Newcastle upon Tyne*, 1976), *pp.* 92–120. *London Math. oc. Lecture Note Series, No.* 26, *Cambridge Univ. Press, Cambridge*, 1977. (Henning auschild) **57** #13988 57E10 (57D85)

See also **Transformation groups**, **57** #7603

rev, V. K. (*with* Kuftarkov, Ju. M.; Fel′zenbaum, A. I.) Quasi-homogeneous layers the theory of oceanic circulation. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 560–563. (E. Zeidler) **57** #8970 86.35 (76.35)

ud, R. F. (*with* O'Neill, W. D.) Stochastic implications of orbital asymptotic stability f a nonlinear trade cycle model. *Econometrica* **40** (1972), 69–86. (Jati K. Sengupta) 9 #10327 90A15

gljad, È. I. The motion of a solid body under the action of forces on the Lobačevskiĭ lane. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no.* 9(100), 59–68. (N. Iihăileanu) **45** #4305 53A35 (70.53)

Two theorems on the fourth integral of the equations of motion of a solid body on e Lobačevskiĭ plane. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no.* 1(102), 49–58. (B. Dolapčiev) **45** #5902 53A35 (70.53)

Certain conditions for the existence of single-valued solutions of the equations of the otion of a solid body in the pseudoeuclidean space ${}^1R_3$. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1970), *no.* 6, 87–98. (N. Mihăileanu) **46** #2576 53A35

On the stability of the motion of a symmetric rigid body on the Lobačevskiĭ plane. Russian) *Proceedings of the Seminar of the Department of Geometry, No. VI* (*Russian*), p. 47–56. *Izdat. Kazan. Univ., Kazan*, 1971. (D. I. Papuc) **52** #4769 70.53

Equations of motion for a point and a body of variable mass in Lobačevskiĭ space. Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 7(170), 44–49. (V. G. Kopp) **8** #7457 53B30 (70.53)

lapov, Ju. F. On the history of methods for solving the wave equation. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. No.* 13 (1971), 63–71, 125. (N. Flaišer (RŽMat **1971** #11 A19)) **58** #27018 01A55

Mixed problems for the wave equation in the first half of the nineteenth century. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. Vyp.* 14 (1971), 14–23, 102. (Editors) **8** #64 01A55

(*with* Demčišin, A. Ī.) The early period of the theory of boundary value problems for ordinary differential equations. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. Vyp.* 21 (1975), 20–29, 110. (Editors) **58** #21198 01A55 (34–03)

On the history of the theory of the wave equation in the second half of the nineteenth century. (Ukrainian. Russian summary) *Narisi Īstor. Prirodoznav. ī Tehn. No.* 23 (1977), 13–21, 117. (Editors) **58** #21215 01A55 (35–03)

olapov, V. I. (*with* Martinjuk, A. A.) The stability of motion under steadily acting perturbations and the higher derivatives of Ljapunov's functions. (Russian) *Mat. Fiz. Vyp.* 21 (1977), 37–43, 118. (Authors' summary) **58** #6540 34D10

olapova, N. N. (*with* Bahtin, I. A.; Orehova, Z. P.) On Judin's problem. (Russian) *Functional analysis, No.* 1 (*Russian*), *pp.* 148–152. *Ul′janovsk. Gos. Ped. Inst., Ul′yanovsk*, 1973. (Editors) **58** #7020 46A40 (52A05)

ovskiĭ, N. K. The Diophantine representations of a sequence of solutions of the Pell equation. (Russian. English summary) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **20** (1971), 49–59, 283. (J. B. Roberts) **45** #226 10N15

The algorithmic sequences from the initial class of the Grzegorczyk hierarchy. (Russian. English summary) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **20** (1971), 60–65, 284. (Stephen L. Bloom) **45** #6623 (E **48** #5808) 02F35

Certain properties of the solutions of equations in a free semigroup. (Russian. English summary) Investigations in constructive mathematics and mathematical logic, V. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **32** (1972), 21–28, 154. (M. Tetruašvili) **49** #8844 02F47 (02F25)

The recognition of invariant properties of algorithms. (Russian. English summary) Investigations in constructive mathematics and mathematical logic, V. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **32** (1972), 29–34, 154. (M. Tetruašvili) **49** #8831 02F20

Some problems in the constructive probability theory. *Logic, language, and probability* (*Selected Papers, Fourth Internat. Congress Logic, Methodology, and Philos. Sci., Bucharest*, 1971), *pp.* 83–99. *Synthese Library, Vol.* 51, *Reidel, Dordrecht*, 1973. (From the author's introduction) **57** #2890 02E15 (60A05)

Constructive variants of the laws of large numbers. (Russian) Problems in the constructive trend in mathematics, 6. *Trudy Mat. Inst. Steklov.* **129** (1973), 3–23, 267. (E. Mendelson) **55** #2523 02E05 (60F15)

The solution of systems that consist simultaneously of word equations and word length inequalities. (Russian. English summary) Investigations in constructive mathematics and mathematical logic, VI (dedicated to A. A. Markov on the occasion of his 70th birthday). *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **40** (1974), 24–29, 156. (R. A. Di Paola) **51** #10063 02F47

(*with* Vinogradov, A. K.) Hierarchy of Diophantine representations of primitive recursive predicates. (Russian) *Vyčisl. Tehn. i Voprosy Kibernet. Vyp.* 12 (1975), 99–107, 162. (Authors' summary) **58** #182 02F20 (68A20)

Possibilities for the operations of one-place summation and one-place restricted multiplication. (Russian. English summary) Theoretical applications of the methods of mathematical logic, I. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **49** (1975), 3–6, 176. (Pavel Strnad) **51** #12490 02F10

Constructive distribution functions. (Russian. English summary) Studies in constructive mathematics and mathematical logic, VII. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **60** (1976), 59–64, 222. (Author's summary) **58** #27380 02E15 (60E05)

Classes of functions that are defined by means of the summation operation. (Russian) *Vyčisl. Tehn. i Voprosy Kibernet. Vyp.* 14 (1977), 54–60, 207. (E. Z. Dyment) **58** #27393 02F20

See also **Studies in constructive mathematics and mathematical logic**, **46** #8817; **Studies in constructive mathematics and mathematical logic**, **46** #8818; **Corrections to the collection "Investigations in constructive mathematics and mathematical logic"**, **48** #5805; **Corrections to the collection "Investigations in constructive mathematics and mathematical logic"**, **48** #5806; **Corrections to the collection "Investigations in constructive mathematics and mathematical logic"**, **48** #5807; **Problems in the constructive trend in mathematics**, **49** #4761 *and* **Problems in the constructive trend in mathematics**, **55** #5379

Kosovskiĭ, S. *See* **Kosowski, S.**

Kosovych, Ostap S. (*with* Pickholtz, Raymond L.) Automatic equalization using a successive overrelaxation iterative technique. *IEEE Trans. Information Theory* **IT-21** (1975), 51–58. (Authors' summary) **53** #12738 94A05

Kosowski, S. Transport coefficients of a relativistic gas. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 13, 106–117. (M. Drăganu) **49** #8560 82.45

Kospanov, È. Š. The product of the shortest disjunctive normal forms. (Russian) *Diskret. Analiz No.* 18 (1971), 35–40. (I. G. Rosenberg) **45** #4895 94A20

The depth of a Kronecker product of (0, 1)-matrices. (Russian) *Diskret. Analiz No.* 22 (1973), 34–38, 80. (József Pelikán) **50** #13081 15A36

The coding of (0, 1)-matrices by conjunctions. (Russian) Combinatorial aspects of optimization problems. *Diskret. Analiz. Vyp.* 27 (1975), 17–22, 73. (From the introduction) **58** #15698 94A15

Košparënok, V. N. (*with* Šestopalov, V. P.) Diffraction of a plane electromagnetic wave by a circular cylinder with longitudinal slit. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 719–737. (S. Kaliski) **46** #4861 78.35

Koss, V. A. (*with* Grinberg, G. A.) On certain exact solutions of the Fourier equation for regions varying with time. *Prikl. Mat. Meh.* **35** (1971), 759–760 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 711–713 (1972). (From the authors' introduction) **49** #848 (E **49** #9416) 35K10

(*with* Grinberg, G. A.) Addendum to the paper: "On certain exact solutions of the Fourier equation for regions varying with time" (Prikl. Mat. Meh. **35** (1971), 759–760 (Russian); translated as J. Appl. Math. Mech. **35** (1971), 711–713 (1972)). *Prikl. Mat. Meh.* **37** (1973), 1145–1146 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 1088–1090 (1974). (Authors' summary) **49** #9416 35K10

Kossak, O. M. Estimation of attraction regions for a class of nonlinear sytems. *Avtomatika* **1975**, *no.* 4, 55–59 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 4, 45–49. (P. C. Parks) **54** #10754 34C15

(*with* Martyniv, M. S.) Determining the domains of attraction of nonlinear periodic systems. (Russian. English summary) *Teoret. Èlektrotehn. Vyp.* 22 (1977), 149–153, 161. (Authors' summary) **58** #6533 34D05

Kossakowski, Andrzej On the quantum informational thermodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **17** (1969), *no.* 4, xii, 263–267. (Editors) **52** #16408 81.60

(*with* Ingarden, Roman S.) The Poisson probability distribution and information thermodynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 83–85. (M. Behara) **46** #3203 94A15

On necessary and sufficient conditions for a generator of a quantum dynamical semi-group. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 1021–1025. (G. W. Johnson) **50** #15716 81.47

On quantum statistical mechanics of non-Hamiltonian systems. *Rep. Mathematical Phys.* **3** (1972), *no.* 4, 247–274. (Horst Behncke) **48** #5552 81.47

On the general form of the generator of a dynamical semi-group for the spin 1/2 system. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 649–653. (E. C. G. Sudarshan) **48** #13093 81.60 (81.22)

(*with* Ingarden, Roman S.) On the connection of nonequilibrium information theormodynamics with non-Hamiltonian quantum mechanics of open systems. *Ann. Physics* **89** (1975), 451–485. (I. K. Marek) **56** #4527 81.47 (82.60)

(*with* Gorini, Vittorio; Sudarshan, E. C. G.) Completely positive dynamical semigroups of N-level systems. *J. Mathematical Phys.* **17** (1976), *no.* 5, 821–825. (Panayotis Tsilimigras) **53** #9998 81.47

(*with* Gorini, Vittorio) N-level system in contact with a singular reservoir. *J. Mathematical Phys.* **17** (1976), *no.* 7, 1298–1305. (Panayotis Tsilimigras) **53** #15212 81.60

(*with* Frigerio, Alberto; Gorini, Vittorio; Verri, Maurizio) Quantum detailed balance and KMS condition. *Comm. Math. Phys.* **57** (1977), *no.* 2, 97–110. (Panayotis Tsilimigras) **57** #8790 82.47 (46L99)

(*with* Frigerio, Alberto; Gorini, Vittorio; Verri, Maurizio) Erratum: "Quantum detailed balance and KMS condition" (Comm. Math. Phys. **57** (1977), no. 2, 97–110). *Comm. Math. Phys.* **60** (1978), *no.* 1, 96. (Editors) **58** #20011 81.47

Kossecka, E. Surface distributions of double forces. (Polish and Russian summaries) *Arch. Mech. Stos.* **23** (1971), 313–328. (P. Villaggio) **46** #1172 73.35

Mathematical theory of defects. I. Statics. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **26** (1974), 995–1010. (M. Mişicu) **51** #7445 73.53

(*with* deWit, R.) Disclination kinematics. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **29** (1977), *no.* 5, 633–651. (Authors' summary) **57** #18342 70.45 (70.49)

(*with* deWit, R.) Disclination dynamics. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **29** (1977), *no.* 6, 749–767. (M. Mişicu) **57** #4782 73.53

Kossmann, Rainer *See* **Proceedings: Manitoba Conference on Numerical Mathematics**, **48** #10034

Kossovsky, N. K. *See* **Kosovskiĭ, N. K.**

Kossowski, Piotr On the axiomatic treatment of the theory of models. IV. Independence of some axiom system of model theory. (Polish summary) *Zeszyty Nauk. Uniw. Jagiello. Prace z Logiki No.* 5 (1970), 15–24. (D. Monk) **45** #1748 02H10

Kost, Frank α-point compactifications. *Portugal. Math.* **32** (1973), 132–137. (J. M. Aarts) **48** #1169 54D35

Kostabel′, P. *See also* **Costabel, Pierre**

Kostant, Bertram Quantization and unitary representations. I. Prequantization. *Lectures in* *modern analysis and applications, III, pp.* 87–208. *Lecture Notes in Math., Vol.* 170, *Springer, Berlin,* 1970. (S. Sankaran) **45** #3638 22E70

Orbits and quantization theory. *Actes du Congrès International des Mathématiciens (Nice,* 1970), *Tome* 2, *pp.* 395–400. *Gauthier-Villars, Paris,* 1971. (N. N. Šapovalov) **54** #12982 22E45 (58F05)

(*with* Rallis, Stephen J.) Orbits and representations associated with symmetric spaces. *Amer. J. Math.* **93** (1971), 753–809. (W. T. van Est) **47** #399 22E45 (53C35)

(*with* Auslander, Louis) Polarization and unitary representations of solvable Lie groups. *Invent. Math.* **14** (1971), 255–354. (A. J. Coleman) **45** #2092 22E45 (22E25)

On convexity, the Weyl group and the Iwasawa decomposition. *Ann. Sci. École Norm. Sup.* (4) **6** (1973), 413–455 (1974). (Kenneth Johnson) **51** #806 22E45

Quantization and unitary representations. (Russian) Translated from the English (Lectures in Modern Analysis and Applications, III, pp. 87–208, Lecture Notes in Math., Vol. 170, Springer, Berlin, 1970) by A. A. Kirillov. *Uspehi Mat. Nauk* **28** (1973), *no.* 1(169), 163–225. (Editors) **52** #5892 22E70

Symplectic spinors. *Symposia Mathematica, Vol. XIV (Convegno di Geometria Simplettica e Fisica Matematica, INDAM, Rome,* 1973), *pp.* 139–152. *Academic Press, London,* 1974. (J. L. Koszul) **53** #4139 58F15 (58G99)

On the definition of quantization. (French summary) With questions by E. Onofri, K. Gawędzki, R. Raczka and A. Voros and replies by the author. *Géométrie symplectique et physique mathématique (Colloq. Internat. CNRS, No.* 237, *Aix-en-Provence,* 1974), *pp.* 187–210. *Éditions Centre Nat. Recherche Sci., Paris,* 1975. (V. Obădeanu) **58** #7704 58F05 (81.46)

On the existence and irreducibility of certain series of representations. *Lie groups and their representations (Proc. Summer School, Bolyai János Math. Soc., Budapest,* 1971), *pp.* 231–329. *Halsted, New York,* 1975. (N. N. Šapovalov) **53** #3206 22E45

Verma modules and the existence of quasi-invariant differential operators. *Non-commutative harmonic analysis (Actes Colloq., Marseille-Luminy,* 1974), *pp.* 101–128. *Lecture Notes in Math., Vol.* 466, *Springer, Berlin,* 1975. (S. I. Gel'fand) **53** #713 22E45

(*with* Sullivan, Dennis) The Euler characteristic of an affine space form is zero. *Bull. Amer. Math. Soc.* **81** (1975), *no.* 5, 937–938. (W. S. Piper) **51** #11536 57D20

On the tensor product of a finite and an infinite dimensional representation. *J. Functional Analysis* **20** (1975), *no.* 4, 257–285. (A. J. Coleman) **54** #2888 22E45

On Macdonald's η-function formula, the Laplacian and generalized exponents. *Advances in Math.* **20** (1976), *no.* 2, 179–212. (S. I. Gel'fand) **58** #5484 10A20 (22E45)

(*with* Tirao, Juan A.) On the structure of certain subalgebras of a universal enveloping algebra. *Trans. Amer. Math. Soc.* **218** (1976), 133–154. (Bernard Kolman) **53** #8169 17B35

Graded manifolds, graded Lie theory, and prequantization. *Differential geometrical methods in mathematical physics (Proc. Sympos., Univ. Bonn, Bonn,* 1975), *pp.* 177–306. *Lecture Notes in Math., Vol.* 570, *Springer, Berlin,* 1977. (Virgil Obădeanu) **58** #28326 22E99 (58F05)

(*with* Kazhdan, David; Sternberg, Shlomo) Hamiltonian group actions and dynamical systems of Calogero type. *Comm. Pure Appl. Math.* **31** (1978), *no.* 4, 481–507. (Mark Adler) **57** #17711 58F05 (22E45, 35Q99)

See also **Proceedings: International Colloquium on Group Theoretical Methods in Physics**, **48** #10342; **Fischer, Arthur Elliot; et al.**, **56** #6710 *and* **Onofri, Enrico**, **57** #3314

Kostarčuk, Ju. V. (*with* Roĭtberg, Ja. A.) Isomorphism theorems for elliptic boundary value problems with boundary conditions that are not normal. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 277–283, 287. (P. C. Fife) **48** #6672 35J40

Local increase of the smoothness of generalized solutions to elliptic boundary value problems with boundary conditions that are not normal. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 536–540, 575. (P. Szeptycki) **49** #7579 35D10 (35J40)

General elliptic boundary value problems with power singularities in the right-hand sides. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 798–803, 862. (P. C. Fife) **48** #6671 35J40

Green's formula and isomorphism theorems for general elliptic boundary value problems with discontinuous coefficients without assuming normality of the boundary and conjugacy conditions. (Russian) *Ukrain. Mat. Z.* **28** (1976), *no.* 2, 194–202, 285. (T. Styś) **54** #3152 35J40

Isomorphism theorems for elliptic boundary value problems with discontinuous coefficients and with boundary conditions and conjugacy conditions that are not normal, and their applications. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 4, 532–537, 575. (V. A. Kondrat'ev) **55** #3527 (EA **55**/**56**) 35J40

Kostarčuk, V. M. (*with* Zavalo, S. T.; Hacet, B. Ī.) ★Алгебра и теория чисел. Частина перша. (Ukrainian) [Algebra and number theory. Part one] With a Russian summary. *Vidavn. Ob'ĕdn. "Višča Škola", Kiev,* 1974. 462 *pp.* (Editors) **52** #10298 00A05

Kostarev, A. V. (*with* Prokopov, V. K.) Extended orthogonality relationships for some problems of elasticity theory. *Prikl. Mat. Meh.* **34** (1970), 945–951 (*Russian*); *translated as J. Appl. Math. Mech.* **34** (1970), 902–909 (1971). (H. R. Aggarwal) **46** #2955 73.41

Kosteljanskiĭ, V. M. *See* **Organization of storage devices in complex systems**, **48** #12932

Kosten, L. ★Stochastic theory of service systems. International Series of Monographs in Pure and Applied Mathematics, Vol. 103. *Pergamon Press, Oxford-New York-Toronto, Ont.,* 1973. xii + 168 *pp.* (Brian Conolly) **56** #9733 60K25

Stochastic theory of a multi-entry buffer. I. *Delft Progress Rep.* **1** (1974/75), *no.* 1, 10–18. (Jerzy Seidler) **58** #3798a 68A99 (60K30)

Stochastic theory of a multi-entry buffer. II. *Delft Progress Rep.* **1** (1974/75), *no.* 2, 44–50. (Jerzy Seidler) **58** #3798b 68A99 (60K30)

(*with* Vrieze, O.) Stochastic theory of a multi-entry buffer. III. *Delft Progress Rep.* **1** (1974/75), *no.* 3, 103–115. (Jerzy Seidler) **58** #3798c 68A99 (60K30)

Kostenko, E. I. On the coefficients of trigonometric interpolation polynomials of differentiable functions. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications (Russian), pp.* 34–36. *Dnepropetrovsk. Univ., Dnepropetrovsk,* 1972. (Paul Nevai) **53** #13972 42A12

Kostenko, E. S. Group properties of ordinary second order linear differential eq ons (Russian) *Differencial'nye Uravnenija* **8** (1972), 727–730. (O. Borůvka) **48** # 34A05

Integration in closed form and asymptotic behavior of the solutions of thi rder linear ordinary differential equations. (Russian) *Differencial'nye Uravnenija* **10** 1900–1904, 1920. (M. Ráb) **51** #968 34A05

On the asymptotic behavior of the solutions of fourth order linear ordinary differential equations. (Russian) *Theoretical and applied questions of algebra and differential equations (Russian), pp.* 53–57, 119. *Inst. Mat., Akad. Nauk Ukrai SR Kiev,* 1976. (Author's summary) **58** #28925 34E05

Asymptotic behavior of the solutions of fourth order linear ordinary diff equations. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 1, 105–111, 143. (F. **56** #767 34D05

Kostenko, I. P. Criteria for the perfectness of Köthe sequence spaces. (Russian) *Iz Učebn. Zaved. Matematika* **1973**, *no.* 5(132), 28–39. (Rosalind Reichard) **48** # 46A45

Kostenko, Ju. V. (*with* Boĭčuk, L. M.) Solution of a linear programming problem re as a functional control problem. *Avtomatika* **1970**, *no.* 5, 21–28 (*Ukrainian*); *tra as Soviet Automat. Control* **3** (1970), *no.* 5, 14–21 (1971). **45** #7946 90C05

See also **Cybernetics and computer technology**, **48** #1736

Kostenko, K. S. A system of partial differential equations that is invariant with resp nonEuclidean group of motions. (Ukrainian. Russian summary) *Vīsnik L'vīv. Unīv. Ser. Fīz., Hīm. ī Meh.-Mat.* **1968**, 198–201. (R. S. Levitin) **49** #819 35

Conditions for the integration by quadratures of certain second order o differential equations. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Uni Meh.-Mat.* **1972**, *no.* 7, 61–69, 134. (D. Bobrowski) **51** #967 34A05

Group properties of ordinary third order linear differential equations, a representation of their solutions in closed form. (Ukrainian. Russian summary) *L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1973**, *no.* 8, 13–20, 145. (Nicolae Luca) **53** # 34A25

Linear fourth order ordinary differential equations that are integrable in form. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat no.* 9, 44–52, 133. (Juri Bogdanov) **53** #11126 34A05

Asymptotic behavior of the solutions of fourth order ordinary linear diffe equations. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-M* 10 (1975), 31–37, 96. (Author's summary) **58** #6499 34C10

Asymptotic behavior of solutions of fourth order ordinary differential equ (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1976**, 45–46, 124. (RŽMat **1976** #10 B226) **58** #28926 34E05

Kostenko, N. M. A certain class of matrix-valued functions. (Ukrainian. Englis Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 28–31, 92. Azizov) **49** #7822 15A21

A transformation operator. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika no.* 9(184), 43–47. (Hans-Jürgen Glaeske) **58** #17274 34A30

Kostenko, V. G. (*with* Rogačenko, V. F.; Kovan'ko, O. S.; Kostovs'kiĭ, O. M.; Fle N. P.; Grilic'kiĭ, D. V.; Martinovič, T. L.) Scientific work in the Faculty of Mec and Mathematics during the years of Soviet rule. (Ukrainian. Russian summary) *L'vīv. Derž. Unīv. Ser. Fīz., Hīm. ī Meh.-Mat.* **1968**, 122–132. (Editors) **49** # 01A60

(*with* Šariĭ, T. A.) The investigation of boundary value problems for a quasilinear equation. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Uni Meh.-Mat.* **1972**, *no.* 7, 22–28, 132. (Ja. A. Roitberg) **50** #13845 35B20 (35Q

(*with* Veselovs'ka, O. O.) The general second order linear partial differential equation in the plane that is invariant under a certain given transformation (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1972**, 86–90, 135. (R. S. Levitin) **52** #3703 35A30

(*with* Stasenko, R. V.) Classification of four-parameter groups of transform (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1973**, 57–61, 148. (Nicolae Luca) **53** #8537 34A25 (22E05)

(*with* Litvin, Ī. Ī.) Group properties of the plasticity equation. (Ukrainian. R summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1973**, *no.* 8, 62–66, 14 Cristescu) **53** #15046 73.35

(*with* Veselovs'ka, O. O.) Integration of certain linear second order partial differential equations on the plane with variable coefficients. (Ukrainian. R summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1974**, *no.* 9, 52–55, 134. Bogdanov) **53** #11204 35C10

(*with* Pīdstrigač, Ja. S.; Parasjuk, Ē. M.) Jaroslav Borisovič Lopatinskiĭ (o occasion of his seventieth birthday). (Russian) *Ukrain. Mat. Ž.* **29** (1977), 364–365. (Editors) **55** #10206 01A70

Kostenko, Yu. V. *See* **Kostenko, Ju. V.**

Kostense, P. J. On the behaviour of minimal positive harmonic functions at the bou of their domain. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977 1, 23–28. (D. H. Armitage) **55** #3281 31B25

Koster, C. H. A. *See* **Compiler construction**, **56** #1763 *and* **Methods of algorithmic language implementation**, **56** #7282

Koster, D. E. Stability of a finite difference scheme with "wrong" boundary condit *SIAM J. Numer. Anal.* **10** (1973), 1039–1046. (Philip Brenner) **49** #8392 65N

Kosterin, A. V. A certain case of filtration under a dam in an inhomegeneous (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 4(143), 39–44. (Şt. I. Gheorghiţă) **50** #9151 76.35

(*with* Šešukov, E. G.) The application of the Ritz method to the solutic boundary value problems of nonlinear filtration. (Russian) *Izv. Vysš. Učebn. Z Matematika* **1975**, *no.* 6(157), 51–55. (Jakub Siemek) **52** #12538 76.65

Kosterlitz, J. M. (*with* Jones, Raymund C.; Thouless, D. J.) The eigenvalue spectrum large symmetric random matrix with a finite mean. *J. Phys. A* **11** (1978), L45–L48. (Ludwig Arnold) **58** #14747 81.60

Kösters, Heinz-Walter (*with* Delvos, Franz-Jüergen) Zur Konstruktion von *M*-Splines höheren Grades. (English summary) *Computing* **14** (1975), *no.* 1-2, 173–182. (Bohl) **54** #1540 65D05

(*with* Schlosser, Karl-Heinz) Berechnung von *L*-Splines zu Operatoren zweiter rdnung mit konstanten Koeffizienten. (English summary) *Computing* **15** (1975), *no.* 3, 05–216. (R. S. Varga) **54** #1628 65L10

(*with* Delvos, Franz-Jüergen) On the variational characterization of bivariate nterpolation methods. *Math. Z.* **145** (1975), *no.* 2, 129–137. (Werner Haussmann) 3 #1123 41A65

(*with* Delvos, Franz-Jüergen) On (1, 3) lacunary interpolation. *Mathematica* (*Cluj*) 17(**40**) (1975), *no.* 2, 181–186. (A. Sharma) **58** #1827 41A05

Zur Charakterisierung und Berechnung von *L*-Spline-Funktionen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, T249–T251. (Syvert P. Nørsett) **53** #8729 41A15 (65D05)

Computation of periodic *M*-splines with equi-spaced nodes. *Spline functions* (*Proc. Internat. Sympos., Karlsruhe*, 1975), *pp.* 132–143. *Lecture Notes in Math., Vol.* 501, *Springer, Berlin*, 1976. (Author's summary) **58** #3317 65D15 (41A15)

(*with* Delvos, Franz-Jüergen) On periodic *M*-splines. (German summary) *Computing* **16** (1976), *no.* 3, 221–229. (Charles K. Chui) **57** #17082 41A15

(*with* Delvos, Franz-Jüergen) Interpolation mit von Neumann-Bedingungen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T282–T283. (R. E. Barnhill) **53** #11263 41A10

(*with* Schempp, Walter) *L*-Splines als schwache Lösungen von verallgemeinerten Randwertproblemen. *J. Approximation Theory* **22** (1978), *no.* 3, 206–222. (Franz-Jürgen Delvos) **58** #23260 41A15 (41A05, 65D05)

tić, Dragutin J. On a logarithmic inequality. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 498–541 (1975), 222–224. (E. F. Beckenbach) **54** #5411 26A86

ticyn, V. N. The system of the *k*-secants that have multipoint contacts with a normcurve. (Russian) *Dal'nevostočn. Mat. Sb.* **1** (1970), 49–53. (K. Burian) **52** #5692 14N05

The *k*-secants of a normcurve. (Russian) *Geometry of homogeneous spaces* (*Russian*), *pp.* 58–63. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1973. (K. Burian) **52** #5693 14N05

stin, A. E. The distribution of Euclidean distance between pairs of nearest random points in a unit square. (Russian) *Applied mathematics, No.* 1 (*Russian*), *pp.* 9–15, 120. *Tul'sk. Politehn. Inst., Tula*, 1974. (Editors) **58** #31340 60D05 (53C65)

stin, A. G. Investigation by an asymptotic method of the small time space of a motion of a thin profile in a bounded flow in the presence of transient aperiodic motions. (Russian) *Asymptotic methods in systems theory, No.* 1 (*Russian*), *pp.* 141–150, *Irkutsk. Gos. Univ., Irkutsk*, 1970. (See RŽMeh **1971** #9 B239) 76.34

See also **Asymptotic methods in systems theory**, (Not reviewed)

stin, A. V. *See* **Kostin, O. V.**

stin, I. K. (*with* Romanovskiĭ, Ju. M.) Examples of the asymptotic solution of the problem of determining the mean time of first passage over the boundary by a multidimensional Markov process. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **16** (1973), *no.* 1 36–44. (Authors' summary) **57** #8268 70.60

stin, M. D. On the probability density of quantum mechanics. *J. Chem. Phys.* **60** (1974), 3999–4000. (Author's summary) **53** #12397 81.60

(*with* Meyer, Jean-Pierre) Diffusion through a membrane: approach to equilibrium. *Bull. Math. Biology* **38** (1976), *no.* 5, 527–534. (J. P. Kernevez) **58** #3992 80.35 (35K05, 92A05)

(*with* Carbonell, R. G.) Quantum tunnelling and the activated complex theory. *Phys. Lett. A* **64** (1977), *no.* 1, 1–4. (Authors' summary) **57** #4878 81.35

ostin, O. V. The asymptotic behavior of the extendable solutions of equations of Emden-Fowler type. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 28–31. (I. Kiguradze) **45** #5497 35D05

(*with* Evtuhov, V. M.) Asymptotic behavior of the solutions of a certain nonlinear differential equation. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 5, 1059–1062. (C. S. Coleman) **55** #13013 34D05

ostin, V. A. Certain sharp inequalities in the spaces $L_{p,\phi}$. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 1 *Sb. stateĭ po teorii operatornyh uravnenii* (1970), 100–110. **54** #10529 26A84

Spaces that are dual to the spaces $L_{p,\phi}$. *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 5 *Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 64–69. (A. Naziev (RŽMat **1973** #2 B663)) **56** #6364 46E30

(*with* Žuravlev, V. N.) Spaces conjugate to Stepanov spaces. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 11 *Sb. Stateĭ Funkcional. Anal. i Priložen.* (1973), 52–57. (L. Sofman (RŽMat **1974** #8 B616)) **57** #17246 46E30

A certain evolution equation with degeneracy. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1607–1615, 1731. (Š. Schwabik) **50** #10397 34A10 (34G05)

The smoothness of the solutions of certain equations of parabolic type. I. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 8, 1495–1506, 1527. (V.-V. Olariu) **56** #856 35K15

The smoothness of the solutions of certain equations of parabolic type. II. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 9, 1619–1624, 1725. (V.-V. Olariu) **56** #857 35K15

The smoothness of the solutions of certain equations of parabolic type. III. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 11, 2097–2100, 2112. (V.-V. Olariu) **56** #858 35K15

(*with* Galimov, K. Z.; Artjuhin, Ju. P.; Karasev, S. N.; Sačenkov, A. V.; Daragan, V. I.; Jakušev, N. Z.) ★Теория оболочек с учетом поперечного сдвига. (Russian) [The theory of shells with account taken of transverse shift] *Izdat. Kazan. Univ., Kazan*, 1977. 211 *pp.* (Editors) **58** #25229 73.00

Kostin, V. M. Certain invariant solutions of equations of the Korteweg-de Vries type. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1969**, *no.* 4, 69–73. (H. A. Lauwerier) **45** #3975 35Q99 (22E99, 33A75)

Kostīn, V. V. A normal form of nonautonomous systems. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 693–696, 763. (D. Bobrowski) **48** #4380 34A25

(*with* Le Dinh Thuy) Some tests for the convergence of a normalizing transformation. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 11, 982–985, 1051. (Juri Bogdanov) **53** #11132 34A25

Kostina, M. A. Organizing iteration procedures in Féjer type and penalty function methods. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR No.* 14 *Nestacionar. Processy Mat. Programmirovanija* (1974), 65–73, 129. (See RŽMat **1975** #7 V613) 90C30 (65K05)

(*with* Eremin, I. I.) Point-set Fejér mappings, and some applications. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR Vyp.* 18 *Metody Feĭer. Tipa v Vypukl. Programmirovanii* (1975), 40–47, 98. (From the summary) **58** #3439 65K05

Kostinsky, Alan Projective lattices and bounded homomorphisms. *Pacific J. Math.* **40** (1972), 111–119. (R. J. Bumcrot) **46** #1663 06A20

Kostitzin, V. A. *See* **Scudo, Francesco M.; et al.**, **56** #17889

Kostiukovskii, Iu. M.-L. *See* **Kostjukovskiĭ, Ju. M.-L.**

Kostjakov, V. M. (*with* Anufriev, F. V.; Malašonok, A. I.) Algorithm and machine trial in searches for proofs of theorems in propositional calculus. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 5, 68–73. (Authors' summary) **47** #6148 68A40 (02H99)

Kostjanko, N. F. (*with* Bobrov, A. E.; Ugarov, B. N.) The T-complexity of systems of functions of many-valued logic. (Russian) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 147–149. (János Demetrovics) **53** #5251 02C05 (94A20)

Kostjučenko, A. G. (*with* Aleksandrjan, R. A.; Berezans'kiĭ, Ju. M.; Il'in, V. A.) Certain questions of the spectral theory for partial differential equations. (Russian) *Partial differential equations* (*Proc. Sympos. dedicated to the* 60*th birthday of S. L. Sobolev*) (*Russian*), *pp.* 3–35. *Izdat. "Nauka", Moscow*, 1970. (R. C. Gilbert) **47** #3852 35P05

(*with* Gel'fand, I. M.; Levitan, B. M.; Lopatins'kiĭ, Ja. B.; Sobolev, S. L.; Šilov, G. E.) Zaid Ismaĭlovič Halilov (on his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 3(159), 221–224. (1 *plate*) (Editors) **45** #18 01A70

(*with* Birman, M. Š.; Vilenkin, N. Ja.; Gorin, E. A.; Zabreĭko, P. P.; Iohvidov, I. S.; Kadec', M. Ĭ.; Krasnosel'skiĭ, M. A.; Kreĭn, S. G.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Semenov, E. M.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, È. S.) ★Функциональный анализ. (Russian) [Functional analysis] Edited by S. G. Kreĭn. Second edition, revised and augmented. Mathematical Reference Library. *Izdat. "Nauka", Moscow*, 1972. 544 *pp.* (Editors) **50** #5406 46–02 (47–02)

(*with* Vilenkin, N. Ja.; Gorin, E. A.; Krasnosel'skiĭ, S. G.; Kreĭn, S. G.; Maslov, V. P.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, È. S.) ★Functional analysis. Translated from the Russian by Richard E. Flaherty. English edition edited by George F. Votruba with the collaboration of Leo F. Boron. *Wolters-Noordhoff Publishing, Groningen*, 1972. xv+380 *pp.* (Editors) **52** #11516 46–02 (47–02)

(*with* Mitjagin, B. S.) The uniform convergence of spectral expansions. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 2, 32–42. (R. C. Gilbert) **47** #9085 35P10 (47F05)

(*with* Belogrud', V. P.) The density of the spectrum of a Sturm-Liouville operator. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 2(170), 227–228. (M. Fedorjuk (Zbl **276** #34017)) **55** #10767 34B25

(*with* Radzīēvs'kiĭ, G. V.) The summability by Abel's method of *n*-tuple expansions. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 855–870, 958. (B. V. Loginov) **50** #14316 47A70

(*with* Orazov, M. B.) Çertain properties of the roots of a selfadjoint quadratic pencil. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 4, 28–40. (T. Ja. Azizov) **54** #3463 47A65

(*with* Boĭmatov, K. H.) Distribution of the eigenvalues of elliptic operators in the entire space. (Russian) *Trudy Sem. Petrovsk. Vyp.* 2 (1976), 113–143. (Jan Bochenek) **56** #6146 35P20

(*with* Orazov, M. B.) The completeness of the root vectors of certain selfadjoint quadratic pencils. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 4, 85–87. (Boris Pavlov) **58** #6738 35P10

Kostjuk, È. N. Approximate computation of surface integrals of a special form. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 28 (1977), 14 *pp.* (M. I. Levin) **58** #3335 65D30

Formulas for the approximate calculation of multiple integrals. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 35 (1977), 67–72, 123. (From the introduction) **58** #13640 65D30

See also **Cybernetics and computer technology**, **48** #7523

Kostjuk, G. A. (*with* Galuškin, A. I.; Degtjarev, Ju. I.; Kalinin, B. N.; Markov, V. N.; Pupkov, K. A.; Sačkov, V. N.; Šimko, N. A.) ★Основы кибернетики. (Russian) [Foundations of cybernetics] Математические основы кибернетики. [Mathematical foundations of cybernetics] Edited by K. A. Pupkov. "*Vysšaja Škola*", *Moscow*, 1974. 416 *pp.* (Editors) **50** #9089 69.00

Kostjuk, V. I. (*with* Zaĭcev, G. F.; Činaēv, P. Ī.) ★Основы автоматического управления и регулирования. (Russian) [Fundamentals of automatic control and guidance] Second edition. БИ—Библиотека Инженера. [Library of the Engineer] *Izdat. "Tehnīka", Kiev*, 1977. 471 *pp.* (Vadim Komkov) **58** #9439 93–01

(*with* Kraskevič, V. E.; Zelenskiĭ, K. H.) Frequency domain identification of complex systems. (Russian summary) *Systems Sci.* **3** (1977), *no.* 1, 5–12. (Authors' summary) **57** #9185 93B30

(*with* Ignatenko, V. N.; Stenin, A. A.) Fuel-optimal control of system with delay. (Russian summary) *Systems Sci.* **3** (1977), *no.* 2, 159–169. (Authors' summary) **58** #20707 93C45

Kostjuk, V. N. The theory of inductive reasoning and its formalization. (Russian) *Philosophy and logic* (*Russian*), *pp.* 279–302. *Nauka, Moscow*, 1974. (Editors) **58** #27360 02C99 (02A05, 02C10)

The theory of inductive reasoning. (Russian) *Tomsk. Gos. Univ. Učen. Zap. No.* 90 *Problemy Metodolog. i Logiki Nauki Vyp.* 8 (1975), 11–23. (Editors) **57** #12162 02A05

Kostjukov, V. M. (*with* Petrov, V. V.; Ageev, V. M.; Gordeev, A. A.; Zaporožec, A. V.) Self-oscillations and problems of information theory. (Russian) *Engineering cybernetics, Vol.* 6, *Book* 2 (*Russian*), *pp.* 50–76, 267. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (Authors' summary) **58** #26507b 94A05

(*with* Petrov, B. N.; Petrov, V. V.; Ageev, V. M.; Zaporožec, A. V.; Medvedev, S. B.; Poljakov, I. N.) Theory of systems with incomplete information. (Russian)

Engineering cybernetics, Vol. 9 (*Russian*), *pp.* 100–168, 356. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1977. (From the introduction) **58** #15619 93E20

(*with* Petrov, B. N.; Petrov, V. V.; Ageev, V. M.; Vdovin, V. V.; Zaporožec, A. V.; Medvedev, S. B.; Poljakov, I. N.) Questions on informational theory of limit systems. (Russian) *Engineering cybernetics, Vol. 8, Parts* 1-2 (*Russian*), *pp.* 247–291, 362. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1977. (Authors' summary) **58** #15583 93E10

Kostjukova, O. I. A direct proof of the spectral controllability test. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 1, 77–78, 95. (Author's summary) **56** #13085 49E15

Kostjukovič, A. I. Recognition of the equivalence of Boolean functions with respect to inversion of the variables. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 1, 106–109, 143. (S. Rudeanu) **58** #4672 94A20

Kostjukovič, E. H. The continuability of the solutions of the Emden-Fowler equation. (Russian) *Collection of scientific articles in the physical and mathematical sciences* (*Publ. Grodno State Ped. Inst.*) (*Russian*), *pp.* 9–16, i. *Izdat. "Vyšèĭšaja Škola", Minsk*, 174. (Author's summary) **57** #12956 34A10

The method of lines for the solution of a boundary value problem for the heat equation in a three-dimensional domain that is different from a rectangular parallelepiped. (Russian) *Collection of scientific articles in the physical and mathematical sciences* (*Publ. Grodno State Ped. Inst.*) (*Russian*), *pp.* 4–8, i. *Izdat. "Vyšèĭšaja Škola", Minsk*, 1974. (Author's summary) **58** #3530 65N20 (65M20)

See also **Collection: Physical and mathematical sciences**, **57** #5538

Kostjukovič, M. N. (*with* Rabinovič, V. S.) Discrete analogues of boundary value problems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 11(126), 32–38. (F. Smithies) **48** #6997 47B35

Kostjukovič, N. N. A generalized coordinate system and the physical content of Kerr's metric. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 3, 116–120, 143. (R. F. Biljalov) **58** #25788 83.53

Kostjukovskiĭ, Ju. M.-L. Observability of nonlinear controlled systems. *Avtomat. i Telemeh.* **1968**, *no.* 9, 29–42 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no.* 9, 1384–1396. (Ronald Hirschorn) **53** #2444 93B05 (93C15, 49B10)

Simple conditions of observability of nonlinear controlled systems. *Avtomat. i Telemeh.* **1968**, *no.* 10, 32–41 (*Russian. English summary*); *translated as Automat. Remote Control* **1968**, *no.* 10, 1575–1584. (Author's summary) **55** #7480 93B05

The informational estimate of the necessary composition of measurements. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 982–995. (P. C. Das) **46** #6907 93E10 (94A15)

On stable motions. *Prikl. Mat. Meh.* **38** (1974), 366–369 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 337–340. (K. Kreith) **50** #2633 34D20

(*with* Brandin, V. N.; Razorenov, G. N.) Global observability conditions for nonlinear dynamic systems. *Avtomat. i Telemeh.* **1975**, *no.* 10, 18–25 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 10, *part* 1, 1585–1591 (1976). (Ronald Hirschorn) **54** #12262 93B05

(*with* Nefelov, A. I.) On quantitative estimates of the indeterminacy of motion. *Prikl. Mat. Meh.* **39** (1975), *no.* 1, 30–35 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 1, 25–30. (È. G. Al'breht) **52** #10144 93C15

The planning of an experiment, unstable systems, fuzzy algorithms, and entropy instability. (Russian) *Problems of analytical mechanics, stability and control theories* (*Proc. Second Četaev Conf., Kazan*, 1973), *Vol.* 2 (*Russian*), *pp.* 199–211, 408. *Kazan. Aviacion. Inst., Kazan*, 1976. (Author's summary) **58** #9650 93D99

Kostka, David G. Deviations in the Skorohod-Strassen approximation scheme. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 139–153. (T. M. Liggett) **47** #9693 60F15

On Khintchine's estimate for large deviations. *Ann. Probability* **1** (1973), 509–512. (A. V. Nagaev) **50** #8660 60F10

Lower class sequences for the Skorohod-Strassen approximation scheme. *Ann. Probability* **2** (1974), 1172–1178. (Stanley Sawyer) **50** #11387 60F05

Convergence rate for a large deviation probability. *Proc. Amer. Math. Soc.* **43** (1974), 393–396. (Š. K. Formanov) **49** #9913 60F10

Kostočka, A. V. (*with* Mel'nikov, L. S.) Note to the paper of Grünbaum on acyclic colorings. *Discrete Math.* **14** (1976), *no.* 4, 403–406. (Jean-Claude Fournier) **53** #7843 05C15

Acyclic 6-coloring of planar graphs. (Russian) *Diskret. Analiz Vyp.* 28 *Metody Diskretnogo Analiza v Teorii Grafov i Logičeskih Funkcii* (1976), 40–54, 79. (Author's summary) **58** #16365 05C15

The total coloring of a multigraph with maximal degree 4. *Discrete Math.* **17** (1977), *no.* 2, 161–163. (R. J. Wilson) **56** #11838 05C15

An analogue of Shannon's estimate for complete colorings. (Russian) *Diskret. Analiz No.* 30 *Metody Diskret. Anal. v Rešenii Kombinatornyh Zadač* (1977), 13–22, 76. (Author's summary) **58** #27603 05C15

(*with* Masurova, N. P.) An estimate in the theory of graph coloring. (Russian) *Diskret. Analiz No.* 30 *Metody Diskret. Anal. v Rešenii Kombinatornyh Zadač* (1977), 23–29, 76. (Authors' summary) **58** #27604 05C15

Upper bounds for the chromatic number of a graph in terms of its degree, density and girth. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 3, 516–518. (Author's review (RŽMat **1977** #11 V597)) **58** #21759 05C15

(*with* Borodin, O. V.) On an upper bound of a graph's chromatic number, depending on the graph's degree and density. *J. Combinatorial Theory Ser. B* **23** (1977), *no.* 2-3, 247–250. (Derek Smith) **57** #9584 05C15

Kostočka, E. A. Piercing the edges of the *n*-dimensional unit cube. (Russian) *Diskret. Analiz Vyp.* 28 *Metody Diskretnogo Analiza v Teorii Grafov i Logičeskih Funkciĭ* (1976), 55–64, 79. (Z. Nádenik) **57** #7390 52A25

Kostometov, G. P. Asymptotic behavior of the spectrum of integral operators with a singularity on the diagonal. (Russian) *Mat. Sb.* (*N.S.*) **94(136)** (1974), 444–451, 496. (Ja. A. Roĭtberg) **50** #14377 47G05

The asymptotic behavior of the spectrum of integral operators with polar kernels. (Russian. English summary) *Vestnik Leningrad. Univ.* **1977**, *no.* 13 *Mat. Meh. Astronom. vyp.* 3, 166–167, 173. (Jürgen Leiterer) **57** #17387 47G05 (45N05)

Kostometova, E. M. *See* **Proceedings: International Colloquium on Group Theoretical Methods in Physics**, **48** #10342 *and* **Numerical methods and functional analysis**, **49** #6540

Kostov, K. L. (*with* Osinskiĭ, L. M.) Synthesis of finite automata schemes by use certain shift register of inverse connection. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 2, 35–42. (G. M. Tenengol'c) **46** #1508 94A30

(*with* Vavīlov, Ē. M.) Behavior of automata in random environments in the c input words of limited length. *Avtomatika* **1971**, *no.* 6, 50–54 (*Ukrainian*); *transla Soviet Automat. Control* **4** (1971), *no.* 6, 37–40 (1972). (Authors' summary) **46** #1 94A30

Kostova, M. On functions of class *E*. II. (Bulgarian. Russian and German summa *Plovdiv. Univ. Naučn. Trud.* **11** (1973), *no.* 3, 33–36. (Author's summary) **56** #5 30A08

Kostova, V. A. (*with* Bokov, Aleksandr G.; V"lkov, L̈. G.) A method for sum representation with increased accuracy for a hyperbolic type equation. (Bulga *Naučn. Trud. Visš. Inst. Mašinostroen. Meh. Elektrifikac. Selsk. Stopanstv.—Ruse. Obščoteoret. Prilož. Nauki* (*Mat. Meh. Mašinoznan. Teor. Eksperiment.*) **17** (1975), 4 (See RŽMat **1977** #7 B1152) 65M15

Kostovs'kiĭ, O. M. (*with* Rogačenko, V. F.; Kovan'ko, O. S.; Kostenko, V. G.; Flei N. P.; Grilic'kiĭ, D. V.; Martinovič, T. L.) Scientific work in the Faculty of Mech and Mathematics during the years of Soviet rule. (Ukrainian. Russian summary) *L'vīv. Derž. Unīv. Ser. Fīz., Hīm. ī Meh.-Mat.* **1968**, 122–132. (Editors) **49** #7 01A60

(*with* Cegelik, G. G.) Localization of solutions of a system of two nonl equations with two unknowns by means of parameters. (Russian. English summ *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 7 (1969), 162–166. (Authors' summary) **45** #79 65H10

(*with* Cegelik, G. G.) Construction of majorants and Newton diagrams of Diri series. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Univ. Ser. Meh.-Mat.* 1 *no.* 6, 36–39, 134. (R. P. Boas, Jr.) **46** #7491 30A16

(*with* Kardaš, A. Ī.; Čulik, Ī. Ī.) Determination of the domain of convergence o power series of a function of two complex variables. (Russian. English summary) *V Prikl. Mat.* (*Kiev*) *No.* 18 (1972), 163–168. (A. Peyerimhoff) **49** #9249 32A05

(*with* Līsevič, L. M.; Pritula, Ja. G.) Aleksandr Sergeevič Kovan'ko. Obitu (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2(188), 203–207. (Editors) **53** #25 01A70

Kostovskiĭ, V. A. (*with* Dubrov, Ja. O.) Representation of superlanguages by a clas one-sided automata. (Russian) *Mathematical modeling of complex systems* (*Russian*), 3–8. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (R. G. Buharaev) **58** #37 68A30

Properties of sequentially incoming information that is recognizable by determin pushdown automata in real time. (Russian) *Otbor i Peredača Informacii No.* 52 (1 18–22, 101. (V. N. Agafonov) **58** #32078 68A25 (68A30)

Kostreva, Michael M. Block pivot methods for solving the complementarity probl *Linear Algebra Appl.* **21** (1978), *no.* 3, 207–215. (W. C. Rheinboldt) **58** #204 90C99 (65H10)

(*with* Habetler, George J.) On a direct algorithm for nonlinear complementa problems. *SIAM J. Control Optimization* **16** (1978), *no.* 3, 504–511. (C. B. Gar **58** #4360 90C99

Kostrikin, A. I. Irreducible graded Lie algebras with the component $L_0 = W_1$. (Russi *Ural. Gos. Univ. Mat. Zap.* **7** (1969/70), *no.* 3, 92–103. (Juri A. Bahturin) **45** #349 17B05

Variations modulaires sur un thème de Cartan. *Actes du Congrès International Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp.* 285–292. *Gauthier-Villars, Paris*, 1971. (Rot Lee Wilson) **55** #8127 17B20

Certain aspects of the theory of Lie algebras. (Russian) *Selected questions of alge and logic* (*a collection dedicated to the memory of A. I. Mal'cev*) (*Russian*), *pp.* 142–1 *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1973. (J. S. Joel) **57** #16366 17Bxx

Some related questions in the theory of groups and Lie algebras. *Proceedings of Second International Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), *pp.* 409–416. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin*, 19 (B. Chang) **51** #5689 17B20 (20F50)

(*with* Golovin, O. N.; Skornjakov, L. A.; Šmel'kin, A. L.) Research Seminar General Algebra. Sessions of the Fall semester of the 1974/75 academic year. (Russi *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 4, 114–117. (Editors) **52** #22 08–XX

(*with* Golovin, O. N.; Skornjakov, L. A.; Šmel'kin, A. L.) Research Seminar General Algebra. Sessions of the Spring semester of the 1974–75 academic ye (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 6, 117–121. (Edito **53** #2795 08–XX

(*with* Aleksandrov, P. S.; Kalužnin, L. A.; Šmel'kin, A. L.) Oleg Nikolaevič Golovin (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* (1976), *no.* 4 (190), 283–287. (1 *plate*) (Editors) **54** #30 01A70

★Введение в алгебру. (Russian) [Introduction to algebra] *Izdat. "Nauka", Moscow*, 1977. 405 *pp.* (J. L. Brenner) **57** #6 00A05 (15-01, 20-01)

See also **Bourbaki, Nicolas**, **50** #7404 *and* **Bourbaki, Nicolas**, **58** #28083b

Kostrikin, I. A. Regular classes of conjugate elements of certain groups of flows. (Russiar *Mat. Zametki* **18** (1975), *no.* 4, 597–600. (D. Newton) **53** #6639 58F99 (54H2 58D99)

Kostromin, G. Ja. The upper bound on the number of coordinates of a minimal implicati vector for a stochastic matrix. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1975**, *no.* 6–8. (RŽMat **1976** #1 V726) **58** #16730 15A51

Efficiencies of a random search with return. (Russian) *Avtomat. i Vyčisl. Teh* (*Riga*) **1976**, *no.* 5, 38–43, 92. (Editors) **57** #18797 90B40

Kostrov, A. V. On the problem of calculating the saturation of a control element i optimizing gyroscopic servomechanisms in conditions with random disturbances. (Russian) *Perm. Politehn. Inst. Sb. Naučn. Trudov* **74** (1969), 50–56. **45** #8369 93E20

Kostrov, B. V. (*with* Dmowska, R.) A shearing crack in a semi-space under plane strai onditions. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 21–440. (H. K. Verma) **54** #14515 73.45

Seismic moment, energy of an earthquake and seismic flow of rock formations. Russian) *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1974**, *no.* 1, 23–40. (Author's ummary) **51** #7581 86.53

(*with* Osaulenko, V. I.) Crack propagation at arbitrary variable rate under the ction of static loads. *Izv. Akad. Nauk SSSR Meh. Tverd. Tela* **1976**, *no.* 1, 88–99 *Russian*); *translated as Mech. Solids* **11** (1976), *no.* 1, 79–92. (P. M. Gupta) **58** #3857 3.35

čev, G. I. Flight control with an uninterrupted flow of information. (Russian) *Izv. ysš. Učebn. Zaved. Aviacion. Tehn.* **1971**, *no.* 3, 26–30. (M. Vlach) **46** #3160 3C99

On the determination of equilibrium points. (Russian) *Trudy Kazan. Aviacion. Inst. o.* 135 (1971), 18–25. (L. I. Gal′čuk) **46** #5812 35B35 (93C20)

Flight control in the case of incomplete information. (Russian) *Izv. Vysš. Učebn. aved. Aviacion. Tehn.* **1972**, *no.* 3, 12–15, 138. (K. Magnus) **47** #10117 93E20

Systems of minimizing objects, and their planning. (Russian) *Trudy Kazan. viacion. Inst. No.* 144 (1972), 8–19, 100–101. (I. V. Beiko) **51** #2660 90D10

yleva, N. E. (*with* Emel′janov, S. V.; Bermant, M. A.; Taran, V. A.; Utkin, V. I.) esign principles in variable structure systems for control of non-stationary plants. *utomatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. ontrol* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 76, *Paper* 40C, 7 *pp. Inst. Mech. Engrs., ondon*, 1967. (Authors' summary) **51** #9899 93C50

(*with* Emel′janov, S. V.; Utkin, V. I.; Taran, V. A.; Šubladze, A. M.; Ezerov, V. B.; Dubrovskiĭ, E. N.) ★Теория систем с переменной структурой. (Russian) [Theory f systems with variable structure] Edited by S. V. Emel′janov. *Izdat.* "*Nauka*", *Moscow*, 1970. 592 *pp.* (J. Erschler) **45** #3106 93C05

(*with* Broslavskiĭ, A. D.; Korovin, S. K.; Utkin, V. I.; Šubladze, A. M.) Sliding modes in the problems of static optimization, programming and identification. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and non-linear systems, Identification, differential games, discrete and stochastic systems, Paper No.* 32.4, 6 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 (1972). (R. M. DeSantis) **52** #7619 93B99

(*with* Emel′janov, S. V.; Utkin, V. I.) Systems with variable structure in problems on the identification and control of multidimensional objects. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 80–88, 476. *Izdat.* "*Nauka*", *Moscow*, 1972. (Editors) **48** #10559 93B30

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360c

tyleva, V. D. Existence of a solution of Stefan's optimal problem. (Russian) *Mathematics collection* (*Russian*), *pp.* 86–90. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (V. Komkov) **56** #13019 49A20

Optimality conditions for the problem of the control of a heat exchange process. (Russian) *Mathematics collection* (*Russian*), *pp.* 111–115. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (V. Komkov) **56** #13043 49B25

tyrin, Ju. M. (*with* Ševelev, Ju. P.; Rjabyškin, B. S.; Briganec, A. V.) ★Булева алгебра и логика поиска семантической информации. (Russian) [Boolean algebra and the logic of semantic information retrieval] A textbook. *Izdat. Tomsk. Univ., Tomsk*, 1975. 182 *pp.* (I. E. Strazdiņš) **55** #11760 68A50 (94A20)

tyrko, Ja.-V. I. (*with* Zaveruha, O. V.; Ožogan, V. A.) Increasing the accuracy of the determination of the average duration of reliable performance of low-power electrical machines. (Russian) *Izv. Vysš. Učebn. Zaved. Élektromehanika* **1975**, *no.* 12, 1262–1267, 1358. (Authors' summary) **56** #10894 90B25

tyrko, Pavel Indicatrix of Banach and a space of continuous functions. *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 336–339. (S. A. Naimpally) **46** #3705 26A21 (54C99)

On convergence of transfinite sequences. *Mat. Časopis Sloven. Akad. Vied* **21** (1971), 233–239. (M. G. Murdeshwar) **46** #842 54A20

A remark on Pythagorean rationals. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* **26** (1972), 117–119. (E. M. Horadam) **46** #8992 10J05

Sequences of natural numbers with a limited number of prime divisors. (Slovak) *Časopis Pěst. Mat.* **97** (1972), *no.* 3, 332–333. (From the text) **58** #10693 10A25

On the symmetric derivative. *Colloq. Math.* **25** (1972), 265–267. (Editors) **48** #2321 26A24

(*with* Neubrunn, Tibor; Šalát, Tibor) Density of one graph along another and some classes of closure spaces of functions. *Rev. Roumaine Math. Pures Appl.* **17** (1972), 721–730. (S. Marcus) **47** #4200 54C05 (26A21)

On some classes of sets of natural numbers. *Acta Fac. Rerum Natur. Univ. Comenian. Math. Publ.* **29** (1974), 85–89. (L. Carlitz) **51** #12663 10A05

(*with* Haverlík, Ivan) Note to a problem of H. Steinhaus. (Slovak and Russian summaries) *Acta Fac. Rerum Natur. Univ. Comenian. Math.* **30** (1975), 63–70. (M. S. Cheema) **52** #5550 10A30

(*with* Smítal, Jaroslav) The fiftieth birthday of Professor Tibor Šalát. (Slovak) *Pokroky Mat. Fyz. Astronom.* **21** (1976), *no.* 4, 226–227. (Editors) **58** #10185 01A70

styrko, V. F. Undecidability of the elementary ∃-theory of groupoids. (Russian) *Theoretical cybernetics* (*Proc. Sem. Automata Theory, Kiev*, 1970/1971) (*Russian*), *pp.* 41–47. *Inst. Kibernet. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (From the introduction) **58** #21560 02G05 (20F10)

The reduction class $\forall x\forall y\exists zF(x,y,z)\wedge\forall^m A(F)$. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 5, 1–3. (J. Waszkiewicz) **46** #1550 02B10 (02G99)

(*with* Kapītonova, Ju. V.; Ljaleckiĭ, A. V.; Malašonok, A. I.; Asel′derov, Z. M.; Degtjarev, A. I.; Anufriev, F. V.) A brief survey and a bibliography of works on the automatization of the search for proofs of theorems in formal theories. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 5, 7–18. (Authors' summary) **47** #6150 68A40

(*with* Asel′derov, Z. M.; Gonina, E. E.; Suvorova, M. D.) A machine algorithm for the solution of equations with one unknown in a free group. (Russian) *Theory of problems and of methods for their solution* (*Russian*), *pp.* 48–57. *Akad. Nauk Ukrain. SSR Inst., Kiev*, 1973. (Editors) **56** #15777 20F10

styrko, V. S. (*with* Letičevs′kiĭ, O. A.) Use of the machine MIR-2 for program analysis. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 6, 31–39. (Ju. G. Karpov) **54** #9137 68A05

On a proof of the correctness of cycle operators of the type for. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 5, 55–59. (Karel Čulík) **58** #13858 68A05

A procedure for proving the correctness of programs. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1978**, *no.* 1, 50–58. (Author's summary) **57** #14578 68A05

Kostyuchenko, A. G. *See* **Kostjučenko, A. G.**

Kostyuk, V. I. *See* **Kostjuk, V. I.**

Kostyukovskii, Yu. M.-L. *See* **Kostjukovskiĭ, Ju. M.-L.**

Kosugi, Y. (*with* Naito, Y.) An associative memory as a model for the cerebellar cortex. *IEEE Trans. Systems Man Cybernet.* **SMC-7** (1977), *no.* 2, 94–98. (Authors' summary) **58** #33091 92A05 (94A99)

Kosvincev, L. F. Finite groups with a given number of classes of conjugate elements. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 218 (1969), 5–10. (*errata insert*) (K. Strambach) **45** #5215 20D99

Finite groups with maximal centralizers of their elements. (Russian) *Mat. Zametki* **13** (1973), 577–580. (L. Dornhoff) **47** #5105 20D20

(*with* Doktorov, I. P.) Finite SP-factorizable groups. (Russian) Group theory and some questions of algebra. *Perm. Gos. Univ. Učen. Zap. No.* 343 (1975), 46–47, 103. (*loose erratum*) (V. M. Busarkin) **58** #28173 20D15

Kosyakin, A. A. *See* **Kosjakin, A. A.**

Kosyk, Andrzej Some properties of diffusion processes in the wide sense. *Demonstratio Math.* **7** (1974), 495–505. (K. B. Athreya) **51** #14289 60J60

Koszela, Bogdan On some class of topology in a set of real numbers. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódz. No.* 186 *Mat. Vyp.* 5 (1974), 5–11. (V. Kannan) **51** #4149 54C30

On some distribution of space into disjoint sets. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Łódz. No.* 245 *Mat. No.* 8 (1976), 1–9. (A. H. Stone) **55** #4089 54A25

On the equality of classes of continuous functions with different topologies in the set of real numbers. *Demonstratio Math.* **10** (1977), *no.* 3-4, 617–627. (Henryk Fast) **57** #16485 26A21

Koszul, Jean-Louis Sous-groupes d'isotropie des groupes de transformations affines réductifs. *Symposia Mathematica, Vol. X* (*Convegno di Geometria Differenziale, INDAM, Rome*, 1971), *pp.* 39–45. *Academic Press, London*, 1972. (V. L. Popov) **51** #4110 53C30

Homologie des complexes de formes différentielles d'ordre supérieur. Collection of articles dedicated to Henri Cartan on the occasion of his 70th birthday, I. *Ann. Sci. École Norm. Sup.* (4) **7** (1974), 139–153. (J. Eells) **50** #8583 58A10 (57D25)

L'oeuvre d'Élie Cartan en géométrie différentielle. *Élie Cartan*, 1869–1951 (*hommage de l'Acad. République Socialiste de Roumanie à l'occasion du centenaire de sa naissance*), *pp.* 39–45. *Editura Acad. R.S.R., Bucharest*, 1975. (Editors) **52** #13209 01A70 (53–03)

Travaux de S. S. Chern et J. Simons sur les classes caractéristiques. *Séminaire Bourbaki, Vol.* 1973/1974, 26ème *année, Exp. No.* 440, *pp.* 69–88. *Lecture Notes in Math., Vol.* 431, *Springer, Berlin*, 1975. (Harold Donnelly) **54** #13928 57D20

Cohomologie des actions locales de groupes de Lie. *Symposia Mathematica, Vol. XVI* (*Convegno sui Gruppi Topologici e Gruppi di Lie, INDAM, Rome*, 1974), *pp.* 399–407. *Academic Press, London*, 1975. (Ph. Tondeur) **53** #6580 57D25 (58H05)

Rigidité forte des espaces riemanniens localement symétriques (d'après G. D. Mostow). *Séminaire Bourbaki* (1974/1975), *Exp. No.* 468, *pp.* 223–237. *Lecture Notes in Math., Vol.* 514, *Springer, Berlin*, 1976. (J. S. Joel) **57** #12781 22E40

Kot, Stanisław Maciej Forecasting the development of a scientific discipline (on the example of physics). (Polish. Russian and English summaries) Papers presented at the Conference on Econometric Forecasting (Jeleniów, 1973). *Przegląd Statyst.* **21** (1974), 489–510. (Author's summary) **51** #4760 69.00 (62M20)

Kota, V. K. B. Plethysm problem of $U((n+1)(n+2)/2)\supset SU(3)$. *J. Phys. A* **10** (1977), *no.* 3, L39–L42. (Author's summary) **57** #9913 22E70

Kotake, Takeshi The fixed point theorem of Atiyah-Bott via parabolic operators. *Comm. Pure Appl. Math.* **22** (1969), 789–806. (J. S. Joel) **54** #14008 58G10

See also **Séminaire: Équations aux Dérivées Partielles, 52** #11272

Kotake, Yoshiro On Nagata spaces and *wN*-spaces. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **12**, 46–48 (1973). (R. Hodel) **49** #3848 54E20

Kotani, Shigenori (*with* Manabe, Ryutaro) On the minimal spanning arborescence of a directed graph. (Japanese) *Keiei-Kagaku* **17** (1973), 269–278. (Authors' summary) **55** #11690 68A10

Kotani, Shinichi (*with* Okabe, Yasunori) On a Markovian property of stationary Gaussian processes with a multi-dimensional parameter. *Hyperfunctions and pseudo-differential equations* (*Proc. Conf. Theory of Hyperfunctions and Analytic Functionals and Applications, R.I.M.S., Kyoto Univ., Kyoto*, 1971; *dedicated to the memory of André Martineau*), *pp.* 153–163. *Lecture Notes in Math., Vol.* 287, *Springer, Berlin*, 1973. (G. M. Molčan) **52** #15634 60G15

On a Markov property for stationary Gaussian processes with a multidimensional parameter. *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 239–250. *Lecture Notes in Math., Vol.* 330, *Springer, Berlin*, 1973. (V. S. Mandrekar) **56** #1428 60G15

(*with* Okabe, Yasunori) On the Markov nature and the local nature of normal processes. (Japanese) Collection of articles on hyperfunctions. *Sûgaku* **25** (1973), 266–272. (Editors) **57** #17799 60G15

On a generalized Sturm-Liouville operator with a singular boundary. *J. Math. Kyoto Univ.* **15** (1975), *no.* 2, 423–454. (H. Langer) **55** #13296 47E05 (34B25, 60G25, 46E20)

On the inverse problem of M. G. Kreĭn. (Japanese) *Sûgaku* **27** (1975), *no.* 4, 347–357. (Editors) **58** #28810 34B25

A remark to the ordering theorem of L. de Branges. *J. Math. Kyoto Univ.* **16** (1976), *no.* 3, 665–674. (Author's introduction) **55** #3769 46E20 (30A98)

On asymptotic behaviour of the spectra of a one-dimensional Hamiltonian with a certain random coefficient. *Publ. Res. Inst. Math. Sci.* **12** (1976/77), *no.* 2, 447–492. (M.

Fukushima) **55** #6583 60J30 (60K35)

Kotański, A. (*with* Białas, A.; Czyż, W.) A model of diffractive production in hadron-hadron collisions. *Ann. Physics* **73** (1972), 439–460. (K. Veselić) **48** #13071 81.47

Kotarbiński, T. The role of the past in the history of science. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1974**, *no.* 2-3(47-48), 18–21, 220. (Editors) **58** #15786 00A25

Kotas, Jerzy The modular logic as a calculus of logical schemata. (Polish and Russian summaries) *Studia Logica* **27** (1971), 73–79. (B. Brainerd) **45** #8501 02C99

On the algebra of classes of formulae of Jaśkowski's discussive system. (Polish and Russian summaries) *Studia Logica* **27** (1971), 81–91. (I. Petrescu) **46** #52 02J05

Logical systems with implications. (Polish and Russian summaries) *Studia Logica* **28** (1971), 101–117. (P. Štěpánek) **46** #43 02G99

Logical systems with implication and theories of quasi-implicative algebras. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **1** (1972), *no.* 1, 13–22. (Editors) **50** #12715 02J99

About the equivalent theories of algebras with relations. (Polish and Russian summaries) *Studia Logica* **30** (1972), 79–96. (M. Yasuhara) **47** #4783 02G99

The axiomatization of S. Jaśkowski's discussive system. *Polish Acad. Sci. Inst. Philos. Sociology Bull. Sect. Logic* **2** (1973), *no.* 1, 12–17. (Editors) **52** #7853 02C10

On logical systems with implications and theories of algebras. (Polish and Russian summaries) *Studia Logica* **31** (1973), 49–72. (P. Štěpánek) **48** #1912 02H05

The axiomatization of S. Jaśkowski's discussive system. *Studia Logica* **33** (1974), 195–200. (David Makinson) **51** #64 02C10 (02G15)

On quantity of logical values in the discussive D_2 system and in modular logic. *Studia Logica* **33** (1974), 273–275. (N. C. A. da Costa) **50** #9547 02C99

Discussive sentential calculus of Jaśkowski. Stanisław Jaśkowski's achievements in mathematical logic (Proc. 20th Conf. History of Logic, Kraków, 1974). *Studia Logica* **34** (1975), *no.* 2, 149–168. (N. C. A. da Costa) **52** #5362 02C10 (02K10)

(*with* da Costa, Newton C. A.) On some modal logical systems defined in connexion with Jaśkowski's problem. *Non-classical logics, model theory and computability* (*Proc. Third Latin-Amer. Sympos. Math. Logic, Campinas*, 1976), *pp.* 57–73. *Stud. Logic Found. Math., Vol.* 89, *North-Holland, Amsterdam*, 1977. (Editors) **58** #5055 02C10

See also **Stanisław Jaśkowski's achievements in mathematical logic**, **51** #7800

Kotčenko, F. F. (*with* Karasin, I. A.) Non-oscillating and quasi-oscillating optimal systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 2, 167–174 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 2, 353–359. (E. Ar) **45** #6492 93C15

Kotecký, R. (*with* Niederle, J.) Conformally covariant field equations. I. First-order equations with non-vanishing mass. *Czechoslovak J. Phys.* **25B** (1975), 123–149. (Authors' summary) **53** #12321 81.46

On Wightman superfields and the realization of Grassmann generators θ_α. *Lett. Nuovo Cimento* (2) **13** (1975), *no.* 7, 269–272. (J. Denmead Smith) **54** #9430 81.46

(*with* Niederle, J.) On the integrability of discrete representations of the Lie algebra so(p,q). *Rep. Mathematical Phys.* **7** (1975), *no.* 1, 95–101. (F. W. Lemire) **52** #3437 22E70

An algebraic framework for the supersymmetry theory. *Rep. Mathematical Phys.* **7** (1975), *no.* 3, 457–469. (Hans Tilgner) **53** #15138 81.22

(*with* Preiss, David) Renormalization of nonperturbative functional integral for independent value models. *Lett. Math. Phys.* **2** (1977/78), *no.* 1, 21–25. (G. Costa) **57** #15046 81.46

Kotejar, Vladimir *See* **Zel′dovič, Ja. B.; et al.**, **52** #16202

Kotek, Zdeněk (*with* Kubík, Stanislav; Hrušák, Josef; Wachtl, Jaroslav; Chalupa, Václav) ★Optimální systémy automatického řízení. (Czech) [Optimal automatic control systems] Teoretická Knižnice Inženýra. [Theoretical Library for the Engineer] *SNTL-Nakladatelství Technické Literatury, Prague*, 1972. 499 *pp.* (Publisher's description) **55** #2203 93–02

Koteljuk, L. A. (*with* Meteškin, A. A.) An estimate of the interdependence of the reliability and time characteristics of multiprocessor electronic computers. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1974**, *no.* 3, 40–45. (Authors' summary) **50** #3645 68A25

Kotelly, John Christopher Context logic. I. Fundamental concepts, notations, and derived notions. *Notre Dame J. Formal Logic* **11** (1970), 431–446. (H. Gonshor) **46** #3411 08A20 (92A25)

Kotel′nikov, I. V. On the question of the classification of Boolean functions of *n* variables. (Russian. English summary) Theory of oscillations, applied mathematics and cybernetics. *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), *no.* 11, 1760–1770. (Author's summary) **57** #9325 94A20

Kotel′nikov, Ju. V. The heat equation for a moving medium. (Russian. English summary) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1969**, *no.* 6, 104–105. (M. I. Imanaliev) **46** #519 35K05

Kotel′nikov, V. A. *See* **Nicolaus Copernicus. On the 500th anniversary of his birth**, **50** #12560

Kotenko, N. V. (*with* Lenjuk, M. P.) On dynamic effects in an elastic half-space under "thermal impact". *Prikl. Mat. Meh.* **38** (1974), *no.* 6, 1105–1113 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), *no.* 6, 1046–1055 (1975). (H. Parkus) **52** #2421 80.35

(*with* Lenjuk, M. P.) The dynamic thermoelastic field in an unbounded plate. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 114–118, 187. (L. Jentsch) **51** #4788 73.35

(*with* Lenjuk, M. P.) Dynamical thermoelastic fields in an unbounded plate. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 2, 110–114, 190. (J. Murzewski) **54** #1793 73.35

Kotera, Tadashi Vibrations of string with time-varying length. *Bull. JSME* **21** (1978), *no.* 160, 1469–1474. (Author's summary) **58** #19572 73.35

Kotera, Takeyasu (*with* Sawada, Katuro) A method for finding N-soliton solutions of the K.d.V. equation and K.d.V.-like equation. *Progr. Theoret. Phys.* **51** (1974), 1355–1367. (G. L. Lamb, Jr.) **55** #10878 35Q99

(*with* Sawada, Katuro) Inverse problem and classes of non-linear partial differential equations. *J. Phys. Soc. Japan* **39** (1975), *no.* 2, 501–508. (Kishin Mariwalla) **53** #12295 81.35

(*with* Sawada, Katuro) Integrability and a solution for the one-dimensional N-particle system with inversely quadratic pair potentials. *J. Phys. Soc. Japan* **39** (5), *no.* 6, 1614–1618. (Mark J. Ablowitz) **52** #16211 70.35

(*with* Sawada, Katuro) A recurrence formula and the KdV system. *J. Phys oc Japan* **41** (1976), *no.* 3, 1062–1066. (Authors' summary) **57** #15029 81.35

(*with* Yamazaki, Susumu) Toda lattice and Kac-Moerbeke's equation; the g ral solutions for the scattering problems. *J. Phys. Soc. Japan* **43** (1977), *no.* 5, 1797 04 (Mark Adler) **57** #17713 58F05 (34B30, 35Q99)

(*with* Sawada, Katuro) Another derivation of the solution of the finite Toda l e. *J. Phys. Soc. Japan* **44** (1978), *no.* 2, 659–662. (Mark Adler) **58** #22835 35 (70.47)

Kotera, Yoshikazu (*with* Kuwahara, Michigoshi; Tsukamoto, Junichiro) Sensitivity analysis of discontinuous control systems. (Japanese. English summary) *Systen nd Control* **17** (1973), 324–328. (Authors' summary) **47** #4677 93B35

Kothari, D. S. *See* **Sen, S. N.**, **58** #26761

Kothari, S. C. The local Hilbert function of a pair of plane curves. *Proc. Amer. Mat oc* **72** (1978), *no.* 3, 439–442. (D. Kirby) **58** #22081 14H20 (13H10)

Köthe, Gottfried Nuclearity and sequence spaces. *Troisième Colloque sur l'Analyse Fonctionnelle* (*Liege*, 1970), *pp.* 13–18. *Vander, Louvain*, 1971. (W. H. Ruckle) **52** #14915 46A45

Nukleare (*F*)- und (*DF*)-Folgenräume. *Theory of sets and topology* (*in hon of Felix Hausdorff*, 1868–1942), *pp.* 327–332. *VEB Deutsch. Verlag Wissensch., Berlin,* 2. (M. S. Ramanujan) **49** #11209 46A45

J. Sebastião e Silva et l'analyse fonctionnelle. *An. Fac. Ci. Univ. Porto* **56** (197 *no.* 4, 339–349. (Editors) **53** #2594 01A70 (46–03)

On the closed-graph theorem. *Proceedings of the Symposium on Functional A sis* (*Istanbul*, 1973), *pp.* 1–8. *Publ. Math. Res. Inst.-Istanbul, No.* 1, *Math. Res.* *Istanbul*, 1974. (S. O. Iyahen) **55** #8738 46A30

Das wissenschaftliche Werk von Konrad Jörgens. *Jber. Deutsch. Math.-Vere* 77 (1975), *no.* 2, 78–88. (Editors) **58** #10186 01A70

See also **Sebastião e Silva, José**, (See Zbl **359** #46028); **Fundamentals of mathematics**, **49** #8788; **Ahiezer, N. I.; et al.**, **57** #1152 *and* **Ahiezer, N. I.;** al. **58** #30343

Kothman, Peter (*with* Wetterling, Wolfgang) Randmaximumsätze bei Gebietszerlegu n. (English summary) *Finite Elemente und Differenzenverfahren* (*Spezialtagung, Univ. Clausthal, Clausthal-Zellerfeld*, 1974), *pp.* 153–157. *International Series of Num al Mathematics, Vol.* 28, *Birkhäuser, Basel*, 1975. (Todd Dupont) **56** #17123 6 05 (65K05)

Kotiah, T. C. T. (*with* Slater, Noel Bryan) The steady state of multi-server mixed q e. *Advances in Appl. Probability* **5** (1973), 614–631. (P. R. Milch) **50** #8753 60K

(*with* Slater, Noel Bryan) On two-server Poisson queues with two types of customers. *Operations Res.* **21** (1973), 597–603. (D. J. Daley) **52** #4463 (E **53** #1) 60K30

Errata: "On two-server Poisson queues with two type of customers" (Oper ns Res. **21** (1973), 597–603) by Kotiah and N. B. Slater. *Operations Res.* **23** (1975), 5. 1043. (D. J. Daley) **53** #11810 60K30

On a linear programming technique for the steady-state behavior of some qu g systems. *Operations Res.* **25** (1977), *no.* 2, 289–303. (Frank A. Haight) **55** #9 60K25

Approximate transient analysis of some queuing systems. *Operations Res.* **26** ( ), *no.* 2, 333–346. (K. Balagopal) **58** #7914 60K25

Kotiĭ, O. A. Hypersystems of curves of degree two in the projective space P_4. (Rus) *Jaroslav. Gos. Ped. Inst. Učen. Zap. No.* 61 *Geometrija* (1967), 60–64. (K. Bu) **51** #3171 14C20 (14H45)

Classification of projective correspondences between two sheaves of lines or p es in P^n. (Russian) *Geometry and topology, No.* 1 (*Russian*), *pp.* 75–78. *Leningrad. s. Ped. Inst. im. Gercena, Leningrad*, 1974. (Konrad Drechsler) **57** #3128 14E10

(*with* Žarov, V. A.; Maĭorov, V. M.) Zalman Alterovič Skopec (on the occasi of his sixtieth birthday). (Russian) *Mat. v Škole* **1976**, *no.* 6, 83–84. (Editors) **54** #1 8 01A70

Kotin, L. V. (*with* Červonyĭ, A. A.; Luk′jaščenko, V. I.) ★**Надежность сложных си** (Russian) [Reliability of complex systems] *Izdat. "Mašinostroenie", Moscow*, 1972 4 *pp.* (Editors) **49** #8254 62N05 (90B25)

Kotin, Leon Fixed points and periodic differential equations. *Transactions of the Seventeenth Conference of Army Mathematicians* (*U.S. Army Missile Command, Red e Arsenal, Ala.*, 1971), *pp.* 227–236. *U.S. Army Research Office* (*Durham, N.C.*), *R t No.* 72-1, *U.S. Army Res. Office-Durham, Durham, N.C.*, 1972. (N. Chafee) **50** #6 34C25

(*with* Birkhoff, Garrett) A generalization of Liapunov's inequality. *Transactio f the Eighteenth Conference of Army Mathematicians* (*Feltman Res. Lab. Picatinny Ars l. Dover, N.J.*, 1972), *pp.* 203–211. *U.S. Army Res. Office* (*Durham, N.C.*), *Report* 73-1, *U.S. Army Res. Office-Durham, Durham, N.C.*, 1973. (Pan-Tai Liu) **52** #36 34B10

A nonlinear Liapunov inequality. *Transactions of the Nineteenth Conference of y Mathematicians* (*U.S. Army Training Device Agency, Naval Training Equipment Ce Orlando, Fla.*, 1973), *pp.* 135–142. *U.S. Army Research Office* (*Durham*), *Report* 73-3, *U.S. Army Research Office* (*Durham*), *Durham, N.C.*, 1973. (T. A. Bu) **50** #13749 34D05

A Liapunov inequality for nonlinear systems. *International Conference on Differential Equations* (*Univ. Southern California, Los Angeles, Calif.*, 1974), *pp.* 449– *Academic Press, New York*, 1975. (J. O. C. Ezeilo) **56** #745 34C10 (34D20)

(*with* Birkhoff, Garrett) Autonomous families of differential systems. *J. M Anal. Appl.* **55** (1976), *no.* 2, 466–475. (E. O. Roxin) **58** #17313 34C10 (93C15)

(*with* Birkhoff, Garrett) The orbit structure of uniformly positive cyclic systems *Math. Anal. Appl.* **55** (1976), *no.* 2, 476–489. (Milan Medved′) **58** #9469 93 (34C25, 58F15)

Kotjuk, A. F. (*with* Cvetkov, È. I.) ★**Спектральный и корреляционный анализ нестационарных случайных процессов.** (Russian) [Spectral and correlation analys nonstationary random processes] *Izdat. Komiteta Standartov, Mer i Izmeritel. Pribc Moscow*, 1970. 102 *pp.* (Publisher's description) **55** #6556 60G35 (62M99, 94A0

Kotjukov, V. I. Pattern recognition in a Boolean space. (Russian) *Vyčisl. Sistemy No*

(1971), 23–34. (A. D. Koršunov) **47** #9913 68A45

Taxonomy in a Boolean space. (Russian) *Vyčisl. Sistemy No.* 44 (1971), 35–36. (W. Wechler) **48** #1544 68A45

Formation of distinguishing tests. (Russian) *Vyčisl. Sistemy No.* 44 (1971), 37–48. (A. D. Koršunov) **48** #1545 68A45

Certain problems of the taxonomy (grouping) of objects. (Russian) *Vyčisl. Sistemy No.* 50 (1972), 126–135. (I. Kramosil) **47** #9777 62H30

Optimization of the Fisher-Wilks criterion and reduction of the initial system of description in pattern recognition problems. (Russian) *Vyčisl. Sistemy No.* 50 (1972), 136–142. (I. Kramosil) **47** #9778 62H30 (68A45)

užanskiĭ, G. A. (*with* Nisnevič, L. B.) Mean service duration in the class of θ-priorities. *Avtomat. i Telemeh.* **1969**, *no.* 10, 94–102 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 10, 1631–1638. **56** #10906 90B35

ko, L. A. The behavior of the eigenfunctions and eigenvalues of elliptic boundary value problems under variation of the domain. (Russian) *Differencial'nye Uravnenija* **9** (1973), 307–319, 395. (I. Aganović) **48** #2583 35P05 (47A55)

Certain classes of boundary value problems. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp. 9 Sb. Rabot Uravn. Častn. Proizvodn. i Vyčisl. Mat.* (1973), 63–69. (RŽMat **1974** #7 B334) **57** #10216 35J40

Certain evolution boundary value problems in variable domains. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 730–732. (Zbl **297** #35024) **57** #13257 35R20 (47D05)

(*with* Kreĭn, S. G.) The completeness of a system of eigen- and associated functions of boundary value problems with a parameter in the boundary conditions. (Russian) *Collection of articles on applications of functional analysis* (*Russian*), *pp.* 71–89. *Voronež. Tehnolog. Inst., Voronezh*, 1975. (Ja. A. Roĭtberg) **58** #1730 35P10

(*with* Kreĭn, S. G.) The completeness of the system of eigen- and associated functions of boundary value problems with a parameter in the boundary conditions. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 2, 288–290. (H. Triebel) **53** #6117 35P10

(*with* Ivanov, L. A.; Kreĭn, S. G.) Boundary value problems in variable domains. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 19 (1977), 161 *pp.* (Ja. A. Roĭtberg) **58** #17507 35J65 (35G30, 46E35, 58G99)

kowski, Bogdan (*with* Orlicz, Władysław) A note on modular spaces. XII, XIII. (Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 817–822; *ibid.* **19** (1971), 823–829. (H. Gordon) **46** #5987 46A40

(*with* Stypiński, Zenon) A method of introduction of Lebesgue integral. *Funct. Approximatio Comment. Math.* 3 (1976), 125–134. (Piotr Antosik) **56** #12209 28A25 (60A10)

(*with* Magdziarz, Janusz; Waszak, Aleksander) Some properties of regular methods of summability. *Funct. Approximatio Comment. Math.* 3 (1976), 135–142. (M. Stieglitz) **57** #10307 40H05

(*with* Magdziarz, Janusz; Waszak, Aleksander) A some properties of strong (A, φ)-summability. *Funct. Approximatio Comment. Math.* 3 (1976), 143–148. (Hiroshi Hirokawa) **56** #3492 40F05

(*with* Magdziarz, Janusz; Waszak, Aleksander) Some remarks on continuous methods of summability. *Funct. Approximatio Comment. Math.* **4** (1976), 53–60. (J. Diestel) **56** #6182 40D99

(*with* Magdziarz, Janusz; Waszak, Aleksander) Algebraic properties of linear varieties. *Funct. Approximatio Comment. Math.* **5** (1977), 91–94. (A. P. Robertson) **57** #17210a 46A99 (15A03)

(*with* Magdziarz, Janusz; Waszak, Aleksander) A geometric proof of the Hahn-Banach theorem. *Funct. Approximatio Comment. Math.* **5** (1977), 95–98. (A. P. Robertson) **57** #17210b 46A99 (15A03)

(*with* Magdziarz, Janusz; Waszak, Aleksander) A linear space of hyperplanes. *Funct. Approximatio Comment. Math.* **5** (1977), 99–103. (A. P. Robertson) **57** #17210c 46A99 (15A03)

otlářová, Alena *See* **Heyting, A., 58** #10327

otlarski, H. Some simple results on automorphisms of models. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 503–507. (John T. Baldwin) **49** #8851 02H05 (02K15)

On the existence of well-ordered models. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 459–462. (Nigel J. Cutland) **50** #6825 02H05 (02K15)

Some remarks on well-ordered models. *Fund. Math.* **99** (1978), *no.* 2, 123–132. (W. Marek) **57** #12201 02H05 (02K35)

otlarski, Ignacy I. Correction to the paper: "A theorem on joint probability distributions in stochastic locally convex linear topological spaces". *Colloq. Math.* **23** (1971), 173. (Editors) **46** #927 60B05

On a characterization of probability distributions by the joint distribution of some of their linear forms. *Sankhyā Ser. A* **33** (1971), 73–80. (M. M. Siddiqui) **46** #6413 60E05

On a characterization of some probability distributions by conditional expectations. *Sankhyā Ser. A* **34** (1972), 461–466. (M. A. Hamdan) **49** #6437 62E10

(*with* Bieńkowska-Lipińska, Krystyna; Browkin, Jerzy; Dymowski, Stanisław; Grochowski, Bogusław; Gutowski, Roman; Jeśmanowicz, Leon; Krasnodębski, Ryszard; Kudrewicz, Jacek; Leitner, Roman; Muszyński, Jerzy; Osiowski, Jerzy; Pawłowicz, Ireneusz; Piskorek, Adam; Sobczyk, Kazimierz; Traczyk, Tadeusz; Trajdos, Tadeusz; Waligórski, Stanisław; Wojdat, Marian; Zuber, Roman; Żakowski, Wojciech) ★Mathematik Handbuch für Technik und Naturwissenschaft. Herausgegeben von Jerzy Dreszer. Redaktion der deutschsprächigen Ausgabe von Günther Eisenreich und Wolfgang Naumann. Aus dem Polnischen übersetzt von A. Dworak, L. Kulik, L. Kutyła und W. Pilarczyk. *Verlag Harri Deutsch, Zurich-Frankfurt am Main*, 1975. xii+1346 *pp.* (Editors) **52** #7771 00A20

The deficiencies of using moment generating functions. *Amer. Statist.* **29** (1975), *no.* 3, 127–128. (L. E. Clarke) **56** #9746a 62–01

(*with* Hinds, William E.) Characterization theorems using conditional expectations. *J. Appl. Probability* **12** (1975), 400–406. (D. N. Shanbhag) **51** #9294 62E10

(*with* Cook, Lyle) Characterization of normal vectors from samples of random size. *Sankhyā Ser. B* **39** (1977), *no.* 2, 196–200. (Peter Flusser) **58** #24719 62H05

On some characterizations in probability by using minima and maxima of random variables. *Aequationes Math.* **17** (1978), *no.* 1, 77–82. (Peter Flusser) **58** #2967 60E05 (62E10)

See also **Nicolich, Mark J., 56** #9746b

Kotliar, L. M. *See* **Kotljar, L. M.**

Kotliar, Vladimir *See* **Koršunov, Ju. M., 53** #7661; **Tihonov, A. N.; et al., 56** #13605b *and* **Nikiforov, A. F.; et al., 57** #731

Kotljar, A. B. (*with* Kinber, B. E.) Use of symmetry in solving diffraction problems. *Radiotehn. i Èlektron.* **16** (1971), 473–482 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 581–587. (Y. Hayashi) **50** #3776 78.35

Kotljar, B. D. (*with* Bljumin, S. L.) Hilbert-Schmidt operators and the absolute convergence of Fourier series. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **34** (1970), 209–217. (S. Mandelbrojt) **46** #6100 47G05 (42A28)

(*with* Bljumin, S. L.) The s-numbers of integral operators and the Fourier coefficients of summable functions. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 12 (1970), 3–12. (H. Triebel) **45** #4220 47G05 (42A16)

(*with* Bljumin, S. L.) An inequality of S. N. Bernšteĭn. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 181–183. (B. Crstici) **45** #799 42A04 (41A25)

(*with* Nosenko, V. I.) The spectrum of Fredholm operators. (Russian) *Differential equations and their applications* (*Russian*), *pp.* 90–96, 214. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Authors' summary) **58** #30509 47G05 (45B05, 45C05)

Integer points in a measurable set. (Russian) *Studies in the theory of functions of several real variables* (*Russian*), *pp.* 51–54. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the text) **58** #30745 52A20 (52A55)

Packings of rectangular parallelotopes. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 32 *Razmeščenie Geom. Ob'ekt. i Voprosy Optimal. Proektir.* (1977), 3–6. (E. Jucovič) **58** #21735 05B40 (52A45)

Kotljar, L. M. (*with* Lazarev, V. A.) The flow of a swirling fluid from under a board. (Russian) *Kuban. Gos. Univ. Naučn. Trudy No.* 148 *Mat. Anal.* (1971), 26–34. **48** #5493 76.35

(*with* Skvorcov, È. V.) The filtration of a viscoplastic fluid toward the drain in a curvilinear layer. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1049–1052. (Şt. I. Gheorghiţă) **47** #9939 76.30

(*with* Kiselev, O. M.) On the problem of flow of a heavy fluid with two free surfaces. *Prikl. Mat. Meh.* **37** (1973), 849–856 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 804–811 (1974). (T. W. Kao) **50** #11967 76.30

(*with* Skvorcov, È. V.) Jet flows with two sections of a curvilinear rigid boundary. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 12 (1975), 111–122. (L. Dragoş) **58** #3907 76.30

A certain case of a jet stream of ideal fluid. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 2(165), 101–104. (Şt. I. Gheorghiţă) **57** #11289 76.30 (30A88)

Kotljar, S. B. (*with* Stefanjuk, V. L.) A certain simplified model of the interaction in a collective automata. (Russian. English summary) *Problems of Control and Information Theory / Problemy Upravlenija Teorii Informacii* **1** (1972), *no.* 3-4, 297–305. (A. Rapoport) **48** #13522 94A30

Kotljar, V. D. The singular numbers of integral operators. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 4, 794–796. (F. Smithies) **54** #11002 45C05 (42A16)

Kotljarov, V. P. (*with* Hruslov, Ē. Ja.) The limit boundary condition of a certain Neumann problem. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 10 (1970), 83–96. (J. Kačur) **45** #7298 35J05

(*with* Hruslov, Ē. Ja.) The second boundary value problem of linear elasticity theory in domains with a fine-grained boundary. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 415–418, 477. (V. Komkov) **46** #2956 73.35

(*with* Hruslov, Ē. Ja.) The equations of an elastic medium with a large number of small absolutely rigid insertions. (Russian. English summary) *Mat. Fiz. i Funkcional. Anal. Vyp.* 3 (1972), 39–51, 108. (Authors' summary) **58** #3858 73.35

The first boundary value problem for the equation of elasticity theory in a domain with a composite boundary. I. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 15 (1972), 121–141. (Ll. G. Chambers (Zbl **243** #35009)) **51** #6190 35Q99

The first boundary value problem for the equation of elasticity theory in a domain with a composite boundary. II. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 15 (1972), 189–203. (Ll. G. Chambers (Zbl **243** #35010)) **51** #6191 35Q99

(*with* Hruslov, Ē. Ja.) The equations of an elastic medium with a large number of small perfectly solid insertions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 500–503, 572. (J. Murzewski) **48** #7731 73.35

The first boundary value problem of the plane theory of elasticity in a domain with a fine-grained boundary. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 17 (1973), 114–130, 244. (T. Styś) **49** #7629 35Q99 (73.35)

A periodic problem for a nonlinear Schrödinger equation. (Russian. English summary) *Questions on mathematical physics and functional analysis* (*Proc. Res. Sem. Inst. Low Temp. Phys. Engrg., Kharkov*) (*Russian*), *pp.* 121–131, 174. "*Naukova Dumka*", *Kiev*, 1976. (From the introduction) **58** #11871 35J10 (35B10)

(*with* Kozel, V. O.) Almost periodic solutions of the equation $u_{tt}-u_{xx}+\sin u=0$. (Russian. English and Ukrainian summaries) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 10, 878–881, 959. (O. Vejvoda) **56** #6069 35B15

(*with* Īts, A. R.) Explicit formulas for solutions of a nonlinear Schrödinger equation. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 11, 965–968, 1051. (Authors' summary) **57** #16960 35J10 (35C05)

Kotljarov, V. T. (*with* Ofengenden, R. G.) The problem of optimal servicing in a cyclic system with queueing. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 5, 58–64 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 5, 51–57. (Takehisa Fujisawa) **52** #9413 60K30

(*with* Ofengenden, R. G.; Pilipčak, S. I.) A comparative estimate of batch queueing disciplines in a system with a restricted queue. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1978**, *no.* 2, 129–131. (Authors' summary) **58** #18779 60K25

Kotljarskiĭ, M. E. Two remarks on Plücker rings. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no*. 2(182), 213. (J. Mašek) **53** #2931 13F05

Kotlov, V. M. A variety close to the variety of n-abelian groups. (Russian) *Mat. Zametki* **9** (1971), 41–51. (F. Haimo) **45** #352 20E10

(*with* Zak, Ju. O.) The minimal number of separating hyperplanes in the classification problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no*. 2, 141–142. (S. Kutateladze) **48** #12931 68A45 (05A15)

Kotlow, Daniel B. (*with* Hill, C. Denson) Classical solutions in the large of a two-phase free boundary problem. I. *Arch. Rational Mech. Anal*. **45** (1972), 63–78. (A. D. Solomon) **51** #6149 35K05

(*with* Hill, C. Denson) Classical solutions in the large of a two-phase free boundary problem. II. *Arch. Rational Mech. Anal*. **47** (1972), 369–379. (D. L. Colton) **48** #11771 35K05

A free boundary problem connected with the optimal stopping problem for diffusion processes. *Trans. Amer. Math. Soc*. **184** (1973), 457–478 (1974). (H. P. McKean, Jr.) **51** #1981 60J60 (35K20)

(*with* Cannon, John R.; Henry, Daniel B.) Continuous differentiability of the free boundary for weak solutions of the Stefan problem. *Bull. Amer. Math. Soc*. **80** (1974), 45–48. (M. H. Protter) **48** #11768 35K05

(*with* Cannon, John R.; Henry, Daniel B.) Classical solutions of the one-dimensional, two-phase Stefan problem. *Ann. Mat. Pura Appl*. (4) **107** (1975), 311–341 (1976). (K. Hawlitschek) **53** #11231 35K20

Kotlyar, A. B. *See* **Kotljar, A. B.**

Kotlyarov, V. T. *See* **Kotljarov, V. T.**

Kotó, Satoshi On decompositions of an almost analytic vector in certain almost Kähler spaces. *Differential geometry* (*in honor of Kentaro Yano*), *pp*. 233–242. *Kinokuniya, Tokyo*, 1972. (I. Vaisman) **48** #2956 53C55

Kotob, S. (*with* Kaufman, Howard) Analysis and application of minimum variance discrete linear system identification. *IEEE Trans. Automatic Control* **AC-22** (1977), *no*. 5, 807–815. (Authors' summary) **56** #15044 93E10

Kotočigov, A. M. Interpolation by analytic functions that are smooth up to the boundary. (Russian) Investigations on linear operators and the theory of functions, III. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov*. (*LOMI*) **30** (1972), 167–169. (V. P. Havin) **49** #3149 30A80

Interpolation by analytic functions that are smooth up to the boundary. II. (Russian. English summary) Investigations on linear operators and the theory of functions, V. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov*. (*LOMI*) **47** (1974), 170–171, 189, 194. (V. P. Havin) **51** #13239 30A80

Free interpolation in certain Banach spaces of analytic functions. (Russian. English summary) Investigations on linear operators and theory of functions, VI. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov*. (*LOMI*) **56** (1976), 186–187, 200. (Author's summary) **57** #16609 30A80 (46E15)

See also **Investigations on linear operators and the theory of functions**, **52** #14241 (EA 53)

Kotoh, Kaoru (*with* Hiramatsu, Keiji) Representation of pattern classes using fuzzy sets. *Systems-Computers-Controls* **4** (1973), *no*. 3, 1–8. (Rani Siromoney) **49** #8446 68A45

Kotomin, E. A. (*with* Fabrikant, I. I.) Theory of diffusion controlled recombination of donor-acceptor pairs. I. Quasistationary solution. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap*. **208** *Èlektron. i Ion. Processy v Ion. Kristallah no*. 2 (1974), 78–92. (L. I. Rubinstein) **58** #8837a 80.35 (92A10)

Theory of diffusion controlled recombination of donor-acceptor pairs. II. Application to V_k-centers in alkali-halide crystals. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap*. **208** *Èlektron. i Ion. Processy v Ion. Kristallah no*. 2 (1974), 93–107. (L. I. Rubinstein) **58** #8837b 80.35 (92A10)

(*with* Fabrikant, I. I.) Theory of diffusion controlled recombination of donor-acceptor pairs. III. Account of Coulomb interaction. (Russian) *Latviĭsk. Gos. Univ. Učen. Zap*. **208** *Èlektron. i Ion. Processy v Ion. Kristallah no*. 2 (1974), 108–122. (L. I. Rubinstein) **58** #8837c 80.35 (92A10)

Kotorynski, W. P. (*with* Shinbrot, Marvin) The initial value problem for a viscous heat-conducting fluid. *J. Math. Anal. Appl*. **45** (1974), 1–22. (W. F. Ames) **50** #13919 35Q10 (76.35)

Kotousov, A. S. Distinguishing deterministic signals in a quasideterministic pulse flow. (Russian) *Problemy Peredači Informacii* **12** (1976), *no*. 1, 41–47. (I. Vajda) **56** #2626 94A05

Kotov, E. O. *See* **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics**, **47** #4666 (EA **47**)

Kotov, I. I. (*with* Nikitin, Ju. A.) Equations for the domains of n-dimensional figures. (Russian) *Moskov. Aviacion. Inst. Ordžonikidze Trudy No*. 229 *Grafika i Prikl. Geometrija Poverhnosteĭ VII* (1971), 5–9. (A. I. Şchiop) **52** #6585 53A15

Kotov, Ju. I. (*with* Simonjan, S. A.; Zolotarev, V. P.) An approach to the study of continuous mappings. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh*. **1978**, *no*. 1, 10–15. (M. Hušek) **57** #13828 54C05

Kotov, N. V. (*with* Zaharov, V. N.) Optimization of an estimational function in decision making. *Izv. Akad. Nauk SSSR Tech. Kibernet*. **1977**, *no*. 1, 24–31 (*Russian*); *translated as Engrg. Cybernetics* **15** (1977), *no*. 1, 20–27. (P. Vondráček) **57** #5148 90D35 (90A05)

Kotov, O. A. Cyclic groups of automorphisms of graphs. (Russian). *Kombinatornyĭ Anal. Vyp*. 2 (1972), 50–59. (RŽMat **1973** #7 V382) **58** #353 05C25

Kotov, S. V. Irrationality of the values of certain transcendental functions. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no*. 5, 32–38. (A. L. Schmidt) **47** #147 10F35

The norm of ideal divisors of a binary form with algebraic coefficients. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no*. 3, 14–22. (L. A. Kogan) **46** #5248 10C15

(*with* Sprindžuk, V. G.) An effective analysis of the Thue-Mahler equation in relative fields. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 393–395, 477. (Grigoriĭ V. Čudnovskiĭ) **50** #2088 10F30 (10B45)

The law of the iterated logarithm for binary forms with algebraic coefficients. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 591–594, 675. **50** #2091 10F35

The greatest prime factor of a polynomial. (Russian) *Mat. Zametki* **13** (1973), 515–522. (S. E. Schuur) **48** #6012 10F05

The Thue-Mahler equation in relative fields. (Russian) Collection of artic memory of Juriĭ Vladimirovič Linnik. *Acta Arith*. **27** (1975), 293–315. (Grigo V. Čudnovskiĭ) **51** #12722 10F30 (10B45)

(*with* Sprindžuk, V. G.) Rational approximations to algebraic numbers. (Rus *Theoretical and applied questions of algebra and differential equations* (*Russian* 99–100, 122. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Editors) **58** #27 10F25 (10B45)

Über die maximale Norm der Idealteiler des Polynoms $ax^m+\beta y^n$ mit den algebraischen Koeffizienten. *Acta Arith*. **31** (1976), *no*. 3, 219–230. (P. Bunds **55** #261 10B45 (10F35)

(*with* Sprindžuk, V. G.) The approximation of algebraic numbers by alge numbers of a given field. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no*. 7, 581 667. (Grigoriĭ V. Čudnovskiĭ) **54** #5125 10F30

The effectivization of Mahler's theorem on the rational points of a curve of one. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no*. 2, 101–104, 187. (Au summary) **58** #16676 14G25 (10F35)

(*with* Sprindžuk, V. G.) The Thue-Mahler equation in a relative field, an approximation of algebraic numbers by algebraic numbers. (Russian) *Izv. Akad. SSSR Ser. Mat*. **41** (1977), *no*. 4, 723–751, 959. (John H. Loxton) **58** #5539 1 (10B15)

Kotov, V. E. Towards automatical construction of parallel programs. *International Symposium on Theoretical Programming* (*Novosibirsk*, 1972), *pp*. 309–331. *Lecture in Comput. Sci., Vol*. 5, *Springer, Berlin*, 1974. (V. A. Val'kovskiĭ) **55** #4764 6

Theory of parallel programming. Applied aspects. I, II. (Russian. English sum insert) *Kibernetika* (*Kiev*) **1974**, *no*. 1, 1–16; *ibid*. **1974**, *no*. 2, 1–18. (E. Ikaun **52** #2271 68A05

Theory of parallel programming. I. Survey of practical aspects. *Advances in information systems science, Vol*. 6, *pp*. 1–55. *Plenum Press, New York*, 1976. Vairavan) **58** #3625a 68A05

See also **System and theoretical programming**, **50** #11833

Kotov, V. N. (*with* Bodnarčuk, V. G.; Kalužnin, L. A.; Romov, B. A.) Galois theor Post algebras. I, II. (Russian. English summary inserts) *Kibernetika* (*Kiev*) **1969**, *n* 1–10; *ibid*. **1969**, *no*. 5, 1–9. (Authors' summary) **46** #55 02J10

The fundamental equation of medical diagnostics. (Russian) *Cybernetics and computer technology. No*. 21: *Biological and medical cybernetics* (*Russian*), *pp*. 76–82, "*Naukova Dumka*", *Kiev*, 1973. (B. Crstici) **49** #12104 92A05

Kotova, A. B. (*with* Antomonov, Ju. G.; Pustovoĭt, O. G.) Mechanisms of informa conversion in a nerve cell. (Russian. English summary) *Kibernetika* (*Kiev*) **1977**, *n* 146–149, 152. (Authors' summary) **58** #26121 92A05 (94A30)

Kotovič, L. L. *See* **Computer science and boundary value problems**, **58** #19170

Kotra, Sławomir Probabilitsic estimation of the quality and cost of a controlled technological operation. I. (Polish. Russian and English summaries) *Arch. Autom Telemech*. **18** (1973), 321–333. (Author's summary) **48** #1689 90B99

Kotsakis, D. The life and work of St. Plakidis. (Greek) *In honor of Stavros M. Pla* (*special vol. dedicated to his* 80*th birthday*), *pp*. 7–16. *Zisuli, Athens*, 1974. (Edi **49** #7103 01A70

See also **In honor of Stavros M. Plakidis**, **49** #4706

Kotsis, D. The approximation of the characteristic multipliers of periodic differe equations. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **2** (1976), *no*. 269–276 (1977). (Author's summary) **58** #6528 34C99 (65L99)

Kott, Jean Remarques sur la structure des schémas de programmes. *Automata, langu and programming* (*Proc. Sympos., Rocquencourt*, 1972), *pp*. 265–271. *North Holl Amsterdam*, 1973. (D. Vaida) **52** #4691 68A05

Kott, Laurent Systèmes schématiques généralisés. (English summary) *Theoretical comp science* (*Third GI Conf., Darmstadt*, 1977), *pp*. 184–189. *Lecture Notes in Comput. Vol*. 48, *Springer, Berlin*, 1977. (W. B. Jones) **58** #19387 68A30

Sémantique algébrique d'un langage de programmation type ALGOL. (Eng summary) *RAIRO Informat. Théor*. **11** (1977), *no*. 3, 237–263, iv. (V. Căzăne **57** #14579 68A05

Kotta, Ülle An asymptotic criterion for testing a hypothesis on the rank of certain matri (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat*. **24** (1975), *no*. 1, 10–14. (R. A. Wijsman) **55** #6695 62H15

An identification procedure for linear discrete stationary systems based on input-output data. (Russian. Estonian and English summaries) *Eesti NSV Tead. Ak Toimetised Füüs.-Mat*. **26** (1977), *no*. 2, 135–141. (Author's summary) **58** #1557 93E10

Kottek, Samuel S. Microcosm and macrocosm according to some Jewish medieval wo up to the 12th century. *Janus* **64** (1977), 205–215. (Editors) **58** #21068 01A35

Kötting, Horst ★Iteration und Approximation mit Taschenrechnern. Numerische Mathematik für das Rechnen mit programmierbaren Taschenrechnern. Kamprath-Re kurz und bündig: Universal. *Vogel-Verlag, Würzberg*, 1978. 136 *pp*. *ISBN* 3-8023-011 (Editors) **57** #14312 65–01

Kottis, Philémon (*with* Aslangul, Claude) Transformation de l'équation de Liouville en équation du type de Schrödinger. *C. R. Acad. Sci. Paris Sér. B* **278** (1974), 33–36. Wakita) **48** #13104 82.47

Kottman, Clifford A. A characterization of the Euclidean topology among the aff topologies. *Israel J. Math*. **10** (1971), 212–217. (S. Swaminathan) **45** #4098 46A (54A10)

Examples concerning the 'core' and 'lin' operations. Collection of articles celebration of the sixtieth birthday of Ky Fan. *Bull. Inst. Math. Acad. Sinica* **2** (197 335–342. (G. Marinescu) **51** #6361 46A99

(*with* Lin, Bor Luh) Nearest points and support points in Banach spaces. *J. Ma Anal. Appl*. **48** (1974), 794–800. (M. Z. Nashed) **50** #14175 46B10 (52A05)

(*with* Gagliardo, Emilio) Fixed points for orientation preserving homeomorphis of the plane which interchange two points. *Pacific J. Math*. **59** (1975), *no*. 1, 27–32. (Sieklucki) **52** #11883 54H25

Subsets of the unit ball that are separated by more than one. *Studia Math*. (1975), *no*. 1, 15–27. (Roy M. Rakestraw) **51** #13649 46B05

(*with* Casazza, Peter G.; Lin, Bor Luh) On primary Banach spaces. *Bull. Am *ath. Soc.* **82** (1976), *no.* 1, 71–73. (G. J. O. Jameson) **53** #1221 46B05

(*with* Casazza, Peter G.; Lin, Bor Luh) On some classes of primary Banach spaces. *anad. J. Math.* **29** (1977), *no.* 4, 856–873. (C. Bessaga) **56** #3622 46B99

(*with* Casazza, Peter G.; Lin, Bor Luh) Remarks on Figiel's reflexive Banach spaces ot isomorphic to their square. *J. Math. Anal. Appl.* **63** (1978), *no.* 3, 750–752. (Warren age) **58** #2172 46B10

zhanskii, G. A. *See* **Kotjužanskiĭ, G. A.**

Samuel ★Dictionary and reader in the cybernetical sciences. With a selected ibliography of Soviet publications in the cybernetical sciences. *Academic Press, New ork-London*, 1966. xxi + 214 *pp.* (Editors) **50** #6737 00A20

★Russian-English/English-Russian glossary of statistical terms. Based on *A ictionary of statistical terms* by M. G. Kendall and W. R. Buckland. *Oliver & Boyd, dinburgh*, 1971. vii + 87 *pp.* (Editors) **50** #11541 62–XX (00A20)

(*with* Johnson, Norman L.) ★Distributions in statistics: continuous multivariate istributions. Wiley Series in Probability and Mathematical Statistics. *John Wiley & ons, Inc., New York-London-Sydney*, 1972. xiv + 333 *pp.* (B. K. Ghosh) **54** #6378 2H10 (62E15, 60E05)

(*with* Johnson, Norman L.) Extended and multivariate Tukey lambda distributions. *iometrika* **60** (1973), 655–661. (E. S. Keeping) **49** #1678 62H05

Normality vs. lognormality with applications. *Comm. Statist.* **1** (1973), 113–132. (A. oldman) **47** #6025 62G10

(*with* Goodman, Irwin R.) Multivariate θ-generalized normal distributions. *J. ultivariate Anal.* **3** (1973), 204–219. (N. L. Johnson) **48** #7338 60E05 (62F10)

(*with* Johnson, Norman L.) A characterization of exponential distributions by a aiting time property. *Comm. Statist.* **3** (1974), 257–258. (D. S. Tracy) **49** #10001 2E10

Characterizations of statistical distributions: a supplement to recent surveys. French summary) *Internat. Statist. Rev.* **42** (1974), 39–65. **50** #6015 62E10

(*with* Johnson, Norman L.) On some generalized Farlie-Gumbel-Morgenstern istributions. *Comm. Statist.* **4** (1975), 415–427. (I. Olkin) **51** #9357 62H05

(*with* Johnson, Norman L.) A vector multivariate hazard rate. *J. Multivariate Anal.* (1975), 53–66. (Henry W. Block) **51** #2153 (E **53** #9509) 62H05

(*with* Johnson, Norman L.) Erratum: "A vector multivariate hazard rate" (J. Multivariate Anal. **5** (1975), 53–66). *J. Multivariate Anal.* **5** (1975), *no.* 4, 498. (Henry V. Block) **53** #9509 62H05

(*with* Johnson, Norman L.) Two variants of Pólya's urn models (towards a approchement between combinatorics and probability theory). *Amer. Statist.* **30** (1976), *o.* 4, 186–188. (S. G. Mohanty) **56** #9623 60C05

(*with* Hawkins, Douglas M.) A clocking property of the exponential distribution. *ustral. J. Statist.* **18** (1976), *no.* 3, 170–172. (D. N. Shanbhag) **57** #1730 62E10

(*with* Johnson, Norman L.) On a multivariate generalized occupancy model. *J. ppl. Probability* **13** (1976), *no.* 2, 392–399. (Authors' summary) **55** #11331 60C05 (62H05)

(*with* Johnson, Norman L.) ★Urn models and their application. An approach to modern discrete probability theory. Wiley Series in Probability and Mathematical Statistics. *John Wiley & Sons, New York-London-Sydney*, 1977. xiii + 402 *pp.* (C. J. Park) **58** #7773 60C05 (60E05, 62E15)

(*with* Johnson, Norman L.) Propriétés de dépendance des distributions itérées, généralisées à deux variables Farlie-Gumbel-Morgenstern. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 4, A277–A280. (Authors' summary) **57** #1767 62H20

(*with* Johnson, Norman L.) On some generalized Farlie-Gumbel-Morgenstern distributions. II. Regression, correlation and further generalizations. *Comm. Statist.—Theory Methods* **A6** (1977), *no.* 6, 485–496. (I. Olkin) **55** #11500 62H10

See also **Studies in mathematical statistics**, **48** #1352; **Proceedings: Session of the International Statistical Institute**, **49** #8144; **Gihman, Ĭ. Ī.; et al.**, **49** #11603; **Gihman, Ĭ. Ī.; et al.**, **51** #11656; **Maĭstrov, L. E.**, **51** #14177; **Vorob'ev, Nikolaĭ Nikolaevič**, **56** #10752 *and* **Gihman, Ĭ. Ī.; et al.**, **58** #31323b

zauer, Adolf *See* **Beiträge: Digitalgraphik**, **52** #10270

zig, Anton Sur les tournois avec des 3-cycles régulièrement placés. (Loose English summary) *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 126–134. (Author's summary) **46** #1634 05C20

Erratum to: "Sur le nombre des 4-cycles dans un tournoi". *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 247. (J. W. Moon) **46** #7078 05C20

(*with* Zelinka, Bohdan) Regular graphs, each edge of which belongs to exactly one *s*-gon. *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 181–184. (A. Rosa) **46** #8909 05C99

(*with* Glivjak, Ferdinand; Plesník, Ján) On bases of linear factors of graphs. *Bull. Math. Soc. Sci. Math. R. S. Roumanie (N.S.)* **15(63)** (1971), *no.* 4, 413–419 (1973). (M. Aigner) **48** #1995 05C99

Decompositions of complete graphs into regular bichromatic factors. *Discrete Math.* **2** (1972), *no.* 4, 383–387. (Author's summary) **46** #1631 05C15

Decompositions of complete graphs into regular bichromatic factors. *Discrete Math.* **4** (1973), 65–69. (Pavol Hell) **47** #3255 05C99

On certain vertex-valuations of finite graphs. *Utilitas Math.* **4** (1973), 261–290. (E. A. Nordhaus) **52** #5490 05C99

(*with* Rosa, Alexander) Nearly Kirkman systems. *Proceedings of the Fifth Southeastern Conference on Combinatorics, Graph Theory and Computing (Florida Atlantic Univ., Boca Raton, Fla.*, 1974), *pp.* 607–614. *Congressus Numerantium, No. X, Utilitas Math., Winnipeg, Man.*, 1974. (Jane W. Di Paola) **51** #190 05B05

(*with* Hell, Pavol; Rosa, Alexander) Some results on the Oberwolfach problem (decomposition of complete graphs into isomorphic quadratic factors). *Aequationes Math.* **12** (1975), 1–5. (D. K. Ray-Chaudhuri) **52** #197 05C99

(*with* Rosa, Alexander) Decomposition of complete graphs into isomorphic factors with a given diameter. *Bull. London Math. Soc.* **7** (1975), 51–57. (S. Znám) **51** #5410 05C99

Degrees of vertices in a friendship graph. *Canad. Math. Bull.* **18** (1975), *no.* 5, 691–693. (Judith Q. Longyear) **54** #7318 05C99

Transformations of edge-colourings of cubic graphs. *Discrete Math.* **11** (1975), 391–399. (D. R. Lick) **52** #2942 05C15

On the maximal order of cyclicity of antisymmetric directed graphs. *Discrete Math.* **12** (1975), 17–25. (G. Chartrand) **52** #10483 05C20

β-valuations of quadratic graphs with isomorphic components. *Utilitas Math.* **7** (1975), 263–279. (H. A. Jung) **52** #2964 05C99

(*with* Lindner, Charles C.; Rosa, Alexander) Latin squares with no subsquares of order two and disjoint Steiner triple systems. *Utilitas Math.* **7** (1975), 287–294. (Jean-Claude Bermond) **53** #5331 05B15

(*with* Chvátal, Václav; Rosenberg, Ivo G.; Davies, Roy O.) There are $2^{\aleph_\alpha}$ friendship graphs of cardinal $\aleph_\alpha$. *Canad. Math. Bull.* **19** (1976), *no.* 4, 431–433. (G. Hahn) **58** #5389 05C99 (05C15)

(*with* Turgeon, Jean M.) On certain constructions for Latin squares with no Latin subsquares of order two. *Discrete Math.* **16** (1976), *no.* 3, 263–270. (Giuseppe Pellegrino) **55** #137 05B15

(*with* Turgeon, Jean M.) Regular perfect systems of difference sets. *Discrete Math.* **20** (1977/78), *no.* 3, 249–254. (W. H. Mills) **57** #2939 05B10 (10L05)

Change graphs of edge-colorings of planar cubic graphs. *J. Combinatorial Theory Ser. B* **22** (1977), *no.* 1, 26–30. (R. L. Hemminger) **55** #7828 05C15

(*with* Berman, Abraham) The length of a (0, 1) matrix. *Linear Algebra and Appl.* **20** (1978), *no.* 3, 197–203. (R. A. Brualdi) **58** #10964 15A36

Kotzmann, Ernst Le théorème généralisé de Wiener pour les groupes du type de Heisenberg. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 1, Aii, A23–A25. (Gordon Woodward) **52** #1173 43A45

(*with* Rindler, Harald) Central approximate units in a certain ideal of $L^1(G)$. *Proc. Amer. Math. Soc.* **57** (1976), *no.* 1, 155–158. (P. R. Mueller-Roemer) **53** #8784 43A20 (22D15)

(*with* Rindler, Harald) Segal algebras on non-abelian groups. *Trans. Amer. Math. Soc.* **237** (1978), 271–281. (Pierre Eymard) **58** #6925 43A15

Kotzurek, Matthias (*with* König, Dieter; Jansen, Uwe; Rabe, H.) Ergebnisse von Invarianzuntersuchungen für ausgewählte Bedienungs- und Zuverlässigkeitssysteme. *Math. Operationsforsch. Statist.* **7** (1976), *no.* 4, 523–556. (Jos H. A. de Smit) **55** #4427 60K25

(*with* Stoyan, Dietrich) A quantitative continuity theorem for the mean stationary waiting time in $GI/GI/1$. (German and Russian summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 4, 595–599. (William Henderson) **54** #14154 60K25

(*with* Stoyan, Dietrich) A remark on the stability of the stationary distributions of Markov chains. *Math. Nachr.* **78** (1977), 7–12. (Richard Isaac) **57** #1652 60J05 (60K25)

Kou, Lawrence T. (*with* Gill, Arthur) Multiple-entry finite automata. *J. Comput. System Sci.* **9** (1974), 1–19. (Michel Fliess) **50** #4154 94A30

(*with* Wong, C. K.) A note on the set basis problem related to the compaction of character sets. *Comm. ACM* **18** (1975), *no.* 11, 656–657. (Dorothy Bollman) **52** #7196 68A10

(*with* Markowsky, George) Multidimensional bin packing algorithms. *IBM J. Res. Develop.* **21** (1977), *no.* 5, 443–448. (Frank K. Hwang) **56** #13764 68A10

On live-dead analysis for global data flow problems. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 3, 473–483. (A. V. Anīsīmov) **56** #4220 68A05 (90B10)

Polynomial complete consecutive information retrieval problems. *SIAM J. Comput.* **6** (1977), *no.* 1, 67–75. (Clement T. Yu) **55** #7006 68A50

(*with* Stockmeyer, Larry J.; Wong, C. K.) Covering edges by cliques with regard to keyword conflicts and intersection graphs. *Comm. ACM* **21** (1978), *no.* 2, 135–139. (A. T. Amin) **57** #4620 68A20 (05C35)

Kou, Shauying, R. (*with* Elliott, David L.; Tarn, Tzyh Jong) Observability of nonlinear systems. *Information and Control* **22** (1973), 89–99. (S. F. Moon) **48** #3541 93B05

(*with* Elliott, David L.; Tarn, Tzyh Jong) Exponential observers for nonlinear dynamic systems. *Information and Control* **29** (1975), *no.* 3, 204–216. (S. P. Bingulac) **52** #5104 93B05

Kouada, I. A. (*with* Ecker, Joseph G.) Finding efficient points for linear multiple objective programs. *Math. Programming* **8** (1975), 375–377. (J. S. Kowalik) **51** #7609 90C05

(*with* Ecker, Joseph G.) Finding all efficient extreme points for multiple objective linear programs. *Math. Programming* **14** (1978), *no.* 2, 249–261. (W. F. Tyndall) **57** #9050 90C05

Koubek, Ladislav *See* **Blažek, Jaroslav; et al.**, **50** #28

Koubek, Václav (*with* Adámek, Jiří; Kůrková-Pohlová, Věra) The colimits in the generalized algebraic categories. *Acta Univ. Carolinae—Math. et Phys.* **13** (1972), *no.* 2, 29–40. (V. Topenčarov) **52** #10837 18A30

(*with* Adámek, Jiří) Coequalizers in the generalized algebraic categories. *Comment. Math. Univ. Carolinae* **13** (1972), 311–324. (J. R. Isbell) **46** #1874 18C05

Set functor. II. Contravariant case. *Comment. Math. Univ. Carolinae* **14** (1973), 47–59. (R. Fritsch) **47** #6804 18B05

(*with* Šedivá-Trnková, Věra) The Cantor-Bernstein theorem for functors. *Comment. Math. Univ. Carolinae* **14** (1973), 197–204. (Joseph Chacron) **48** #8596 (EA **51**) 18B99

(*with* Reiterman, Jan) Set functors. III. Monomorphisms, epimorphisms, isomorphisms. *Comment. Math. Univ. Carolinae* **14** (1973), 441–455. (R. Fritsch) **49** #5117 18B05

(*with* Nešetřil, Jaroslav; Rödl, Vojtěch) Representing of groups and semigroups by products in categories of relations. *Algebra Universalis* **4** (1974), 336–341. (Uno Kaljulaid) **50** #10137 20M30 (18B10)

(*with* Kůrková-Pohlová, Věra) When a generalized algebraic category is monadic. *Comment. Math. Univ. Carolinae* **15** (1974), 577–587. (H. Gonshor) **50** #13190 18C15

Each concrete category has a representation by T_2 paracompact topological spaces. *Comment. Math. Univ. Carolinae* **15** (1974), 655–664. (H. Herrlich) **50** #7283 18B15 (54H10)

(*with* Reiterman, Jan) Factor categories of the category of sets: description and concreteness. *J. Pure Appl. Algebra* **4** (1974), 71–77. (J. Sonner) **49** #5118 18B05

(*with* Adámek, Jiří; Reiterman, Jan) On the existence of special homogeneous monoids. *Semigroup Forum* **9** (1974/75), *no.* 2, 95–101. (Hugo S. Sun) **51** #8309 20M20

(*with* Reiterman, Jan) Automata and categories—input processes. *Mathematical* *foundations of computer science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp.* 280–286. *Lecture Notes in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (E. G. Manes) **52** #13987 18B20 (94A05, 94A30)

(*with* Adámek, Jiří) Products of graphs as a representation of semigroups. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 13–16. *Academia, Prague*, 1975. (Hugo S. Sun) **53** #2748 05C99

(*with* Münzová-Demlová, Marie) Selection of mappings by graphs. *Recent advances in graph theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 387–392. *Academia, Prague*, 1975. (A. Pultr) **53** #5423 08A05 (18B15)

(*with* Šedivá-Trnková, Věra; Adámek, Jiří; Reiterman, Jan) Free algebras, input processes and free monads. *Comment. Math. Univ. Carolinae* **16** (1975), 339–351. (E. G. Manes) **51** #8203 18B20

(*with* Adámek, Jiří; Šedivá-Trnková, Věra) Sums of Boolean spaces represent every group. *Pacific J. Math.* **61** (1975), *no.* 1, 1–6. (R. S. Pierce) **53** #2790 06A40 (20K99, 08A10)

On categories into which each concrete category can be embedded. *Cahiers Topologie Géom. Différentielle* **17** (1976), *no.* 1, 33–57. (J. R. Isbell) **54** #5313 18B15

(*with* Reiterman, Jan) A set functor which commutes with all homfunctors is a homfunctor. (Loose Russian summary) *Czechoslovak Math. J.* **26(101)** (1976), *no.* 2, 183–191. (Lawrence Neff Stout) **53** #5690 18A15 (04A20, 54A99)

(*with* Adámek, Jiří) Remarks on fixed points of functors. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 199–205. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (Cristian Calude) **58** #5828 18B20 (18C99)

(*with* Pták, Pavel) Limits in generalized algebraic categories—contravariant case. (Russian and Czech summaries) *Acta Univ. Carolinae—Math. et Phys.* **18** (1977), *no.* 2, 43–53. (Authors' summary) **58** #11061 18C10

On categories into which each concrete category can be embedded. II. *Cahiers Topologie Géom. Différentielle* **18** (1977), *no.* 3, 249–269. (J. R. Isbell) **56** #12090 18B15

(*with* Adámek, Jiří) On a representation of semigroups by products of algebras and relations. *Colloq. Math.* **38** (1977), *no.* 1, 7–25. (G. Grätzer) **58** #966 20M30 (08A25)

Graphs with given subgraphs represent all categories. *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 1, 115–127. (Pavol Hell) **56** #15484 05C25 (18B15)

(*with* Adámek, Jiří) What to embed into a Cartesian closed topological category (preliminary communication). *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 4, 817–821. (J. R. Isbell) **57** #407 18D15

(*with* Adámek, Jiří) Functorial algebras and automata. *Kybernetika* (*Prague*) **13** (1977), *no.* 4, 245–260. (Aleksander Albicki) **57** #2780 94A30

(*with* Šedivá-Trnková, Věra) Isomorphisms of sums of Boolean algebras. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 231–236. (Stephen Comer) **57** #200 06A40

Graphs with given subgraphs represent all categories. II. *Comment. Math. Univ. Carolin.* **19** (1978), *no.* 2, 249–264. (Pavol Hell) **58** #16384 05C25 (18B15)

Kouchnirenko, A. G. *See* **Kušnirenko, A. G.**

Koufogiorgos, Themis (*with* Hasanis, Thomas) A characteristic property of the sphere. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 2, 303–305. (T. J. Willmore) **58** #7511 53C45

Kouider, Mekkia Groupes formels isogènes à un groupe donné. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 4, Aiii, A201–A202. (Robert A. Morris) **56** #374 14L05 (14L20)

Koukal, Stanislav Piecewise polynomial interpolations in the finite element method. (Czech summary) *Apl. Mat.* **18** (1973), 146–160. (Stephen Hilbert) **47** #9851 65N15

Koul, C. L. Certain properties of Fourier kernels. II. *Math. Education* **5** (1971), A103–A112. (P. G. Rooney) **46** #621 44A15 (33A35)

On fractional integration operators of functions of two variables. *Proc. Nat. Acad. Sci. India Sect. A* **41** (1971), 233–240. (W. A. Al-Salam) **48** #2688 44A30

Generalized hypergeometric function and heat production in a semi-infinite cylinder. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 3, 504–512. (S. L. Kalla) **47** #8011 80.33

Fractional integration and dual integral equations of two variables. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 5, 821–829. (C. Fox) **48** #6848 45F10

A theorem relating generalized Hankel transform and a Whittaker transform. *Math. Student* **40A** (1972), 13–17. (B. R. Bhonsle) **49** #1021 44A15

Fourier series of a generalised function of two variables. *Proc. Indian Acad. Sci. Sect. A* **75** (1972), 29–38. (B. R. Bhonsle) **46** #2095 33A30

Integrals involving a generalized function of two variables. *Indian J. Pure Appl. Math.* **4** (1973), *no.* 4, 364–373. (Harold Exton) **48** #11603 33A35

On certain integral relations and their applications. *Proc. Indian Acad. Sci. Sect. A* **79** (1974), 56–66. (R. G. Buschman) **48** #11604 33A35

(*with* Gupta, K. C.) On the series representation of Fox's H-function. *Math. Education* **10** (1976), *no.* 1, A6–A8. (P. Anandani) **53** #8521 33A35

(*with* Raina, R. K.) Some inequalities involving the Fox's H-function. *Proc. Indian Acad. Sci. Sect. A* **83** (1976), *no.* 1, 33–40. (R. G. Buschman) **53** #13674 33A35

(*with* Raina, R. K.) On certain double integrals. *Proc. Indian Acad. Sci. Sect. A* **84** (1976), *no.* 6, 235–243. (R. G. Buschman) **55** #5917 33A35

(*with* Buschman, Robert G.; Gupta, K. C.) Convolution integral equations involving the H-function of two variables. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **12(32)** (1977), *no.* 1, 61–66. (S. L. Kalla) **56** #16295 45H05 (33A35)

Koul, Dž. *See* **Cole, Julian D.**

Koul, Hira Lal (*with* Staudte, Robert G., Jr.) Weak convergence of weighted empirical cumulatives based on ranks. *Ann. Math. Statist.* **43** (1972), 832–841. (Z. Šidák) **47** #6009 62E20 (62G30)

Some asymptotic results on random rank statistics. *Ann. Math. Statist.* **43** (1972), 842–859. (Z. Govindarajulu) **47** #6010 62E20

(*with* Staudte, Robert G., Jr.) Asymptotic normality of signed rank statistics. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **22** (1972), 293–300. (Z. Šidák) **46** #6538 62G30

(*with* Quine, M. P.) The Bahadur efficiency of the Reimann-Vincze statistics. *Studia Sci. Math. Hungar.* **9** (1974), *no.* 3-4, 399–403 (1975). (Authors' summary) **58** #18884 62G20

Asymptotic normality of H-L estimators based on dependent data. *Anr nst. Statist. Math.* **27** (1975), *no.* 3, 429–441. (A. N. Philippou) **53** #9458 62E20 (

(*with* Erickson, R. V.) L_1 rates of convergence for linear rank statistics. *nn Statist.* **4** (1976), *no.* 4, 771–774. (Richard A. Johnson) **54** #1470 62G10 (62

(*with* Staudte, Robert G., Jr.) Power bounds for a Smirnov statistic in testi the hypothesis of symmetry. *Ann. Statist.* **4** (1976), *no.* 5, 924–935. (Yves Lepage) **57** #10908 62G10

Behavior of robust estimators in the regression model with dependent errors *nn Statist.* **5** (1977), *no.* 4, 681–699. (Jana Jurečková) **56** #1583 62G35 (62G20)

A test for new better than used. *Comm. Statist.—Theory Methods* **A6** (1977) 563–573. (I. R. Savage) **55** #11493 62G10 (62N05)

Kounadis, Antoine Inversion de matrices tridiagonales symétriques. (Loose English summary) *Rev. Francaise Automat. Informat. Recherche Opérationnelle* **7** (197 R-1, 91–100. (G. Maess) **50** #8932 65F05

Inverses et déterminants de "matrices-bandes" symétriques. *Rev. Roumai Sci Tech. Sér. Méc. Appl.* **22** (1977), *no.* 4, 631–638. (J. Segethová) **58** #13651 65

Kounias, Eustratios G. (*with* Gulati, Bodh Raj) On two level symmetrical factorial de ns. *Ann. Inst. Statist. Math.* **24** (1972), 383–403. (K. Sarkadi) **49** #10090 (EA 62K15

(*with* Gulati, Bodh Raj) Maximal sets of points in finite projective spa t-linearly dependent. *J. Combinatorial Theory Ser. A* **15** (1973), 54–65. (Stan Payne) **47** #4824 05B25

(*with* Gulati, Bodh Raj) On three level symmetrical factorial designs and t group codes. *Sankhyā Ser. A* **35** (1973), *no.* 3, 377–392. (Authors' summary) **58** # 05B30 (62K15, 94A10)

(*with* Anastasopoulos, A.) Optimal saving under uncertainty about price interest rates. *Mathematical models in economics* (*Proc. Sympos. and Conf. Neumann Models, Warsaw*, 1972), *pp.* 153–170. *North-Holland, Amsterdam*, 1974. Nagar) **52** #7482 90A15

(*with* Marin, Jacqueline) Best linear Bonferroni bounds. *Proceedings of the Symposium on Asymptotic Statistics* (*Charles Univ., Prague*, 1973), *Vol. II*, *pp.* 17 *Charles Univ., Prague*, 1974. (J. Galambos) **53** #9316 60A10

(*with* Anastasopoulos, A.) Optimal consumption over time when prices and i rates follow a Markovian process. *Econometrica* **43** (1975), 261–281. (Authors' summary) **55** #14104 90A15

(*with* Petros, C. I.) Orthogonal arrays of strength three and four with index *Sankhyā Ser. B* **37** (1975), *no.* 2, 228–240. (Authors' summary) **58** #27559 05

(*with* Marin, Jacqueline) Best linear Bonferroni bounds. *SIAM J. Appl. M* (1976), *no.* 2, 307–323. (J. Galambos) **52** #12039 60C05

(*with* Damianou, Ch.) On an inequality of P. Erdős, J. Neveu, A. Rényi, Zubrzycki. *Applications and research in information systems and sciences* (*Proc Internat. Conf., Univ. Patras, Patras*, 1976), *Vol.* 3, *pp.* 812–814. *Hemisphere, Wash. D.C.*, 1977. (Authors' summary) **58** #13256 60C05

Optimal 2^k designs of odd and even resolution. *Recent developments in st* (*Proc. European Meeting Statisticians, Grenoble*, 1976), *pp.* 501–506. *North-H Amsterdam*, 1977. (D. V. Chopra) **57** #1784 62K05 (62K15)

See also **Survey of statistical design and linear models, 51** #2039

Kouri, Donald J. (*with* Sams, W. Neal) Noniterative solutions of integral equatio scattering. I. Single channels. *J. Chem. Phys.* **51** (1969), 4809–4814. (Editors) **58** 45L10 (81.45)

(*with* Levin, F. S.) On standing wave solutions to the Schrödinger equation. *Physics* **83** (1974), 316–325. (S. Datta Majumdar) **52** #2447 81.35

(*with* Levin, F. S.) On standing wave solutions to the inhomogeneous equati identical particle scattering. *Ann. Physics* **83** (1974), 326–339. (S. Datta Maju **52** #7368 81.35

(*with* Levin, F. S.; Craigie, Michael; Secrest, Don) On a general relationship between solutions of alternative sets of equations for rearrangement channel T operators. *J. Chem. Phys.* **61** (1974), 17–20. (Authors' summary) **53** #12360 4

(*with* Levin, F. S.) Eigenstate expansions in a soluble model of identical p scattering. *Nuclear Phys.* **A225** (1974), 521–532. **50** #12070 81.47

(*with* Levin, F. S.) A new method for determining K-matrix elements. *Phys.* **48B** (1974), 203–205. (Authors' summary) **53** #10007 81.47

(*with* Levin, F. S.) Coupled channel T-operator equations with connected kern Three-body problem with pairwise interactions. *Nuclear Phys. A* **250** (1975), 127–140. (Lawrence E. Thomas) **54** #4406 81.45

(*with* Levin, F. S.) Coupled channel T-operator equations with connected ke II. N coupled two-body channels. *Nuclear Phys. A* **253** (1975), *no.* 2, 395–428. (Lawrence E. Thomas) **54** #4407 81.45

(*with* Levin, F. S.; Sandhas, W.) K operators and unitary approximations fo three-body problem. *Phys. Rev. C* (3) **13** (1976), *no.* 5, 1825–1834. (Lindsay **54** #9454 81.47

Kouris, Christos B. (*with* Ifantis, Evangelos K.) Study of differential equations of ph in the Hardy-Lebesgue space. *J. Mathematical Phys.* **13** (1972), 1193–1195. (Baxley) **46** #9791 47B99 (34A10)

(*with* Ifantis, Evangelos K.) A Hilbert space approach to the localization pro of the roots of analytic functions. *Indiana Univ. Math. J.* **23** (1973/74), 11–22. Ullman) **47** #3644 30A08

(*with* Ifantis, Evangelos K.) Lower bounds for the zeros for analytic funct *Numer. Math.* **27** (1976/77), *no.* 2, 239–247. (H. E. Fettis) **57** #11010 65E05 (6

Kourkoumelis, C. (*with* Nettel, S.) Operator functionals and path integrals. *Amer. J.* **45** (1977), *no.* 1, 26–30. (E. S. Fradkin) **56** #2063 81.47

Kourogenis, C. N. The eigenvalue problem and Jacobean-like methods for its solut *Bull. Soc. Math. Grèce* (*N.S.*) **11** (1970), *no.* 1, 97–131. (David Çarlson) **48** #111 15A18

A method for the eigenreduction of real symmetric martices. *Bull. Soc. Math. (N.S.)* **13** (1972), *no.* 1-2, 182–204. (A. Lee) **50** #15308 65F15

Kousgaard, Nils Models for paired comparisons with ties. *Scand. J. Statist.* **3** (1976), 1–14. (Maxwell W. Layard) **53** #11901 62J15

Koutas, P. J. (*with* Hu, T. C.) Shortest string containing all permutations. *Discrete* **11** (1975), 125–132. (G. F. Clements) **50** #12740 05A05

nik, Václav On some convergence closures generated by functions. *General topology nd its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological ympos.*, 1971), *pp.* 249–252. *Academia, Prague*, 1972. (D. C. Kent) **50** #8406 4A20 (54C35)

(*with* Hušek, Miroslav) On the occasion of the 70th birthday of Academician Josef Novák. (Czech) *Pokroky Mat. Fyz. Astronom.* **20** (1975), *no.* 2, 61–65. (Editors) **8** #4942 01A70

(*with* Frič, Roman) Sequentially complete spaces. *General topology and its relations o modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague,* 976), *Part B*, *pp.* 127–131. *Soc. Czech. Mathematicians and Physicists, Prague*, 1977. (D. . Kent) **56** #13137 54A05

(*with* Filáček, Adolf; Vondráček, Jiří) Cluster analysis. (Czech. English and loose Russian summaries) *Časopis Pěst. Mat.* **102** (1977), *no.* 4, 389–411. (Authors' summary) 57 #1770 62H30

roufiotis, Dimitri On Blaschke's rolling theorems. *Arch. Math.* (*Basel*) **23** (1972), 565–660. (H. W. Guggenheimer) **47** #2503 53A05 (53C75)

Gaussian curvature and conformal mapping. *J. Differential Geometry* **7** (1972), 479–488. (C. B. Allendoerfer) **48** #7177 53C45

Elementary geometric applications of a maximum principle for nonlinear elliptic operators. *Arch. Math.* (*Basel*) **24** (1973), 97–99. (J. Daneš) **47** #4184 53C45

On a conjectured characterization of the sphere. *Math. Ann.* **205** (1973), 211–217. (J. H. White) **50** #1181 53C45

Mappings by parallel normals preserving principal directions. *Pacific J. Math.* **54** (1974), 191–200. (R. Miron) **50** #14511 53A05

Two characteristic properties of the sphere. *Proc. Amer. Math. Soc.* **44** (1974), 176–178. (H. W. Guggenheimer) **49** #3788 53C45

A characterization of parallel ovaloids. *Proc. Amer. Math. Soc.* **46** (1974), 86–93. (T. J. Willmore) **50** #5700 53C40

A problem in the conformal geometry of convex surfaces. *Michigan Math. J.* **22** (1975), 5–13. (R. Miron) **51** #11375 53C45

Monotypy of convex caps. *Arch. Math.* (*Basel*) **27** (1976), *no.* 6, 657–662. (K. Strubecker) **54** #13802 53C45

(*with* Wegner, Bernd) The curvatures of certain surfaces of translation. *Colloq. Math.* **37** (1977), *no.* 2, 227–231. (Shûkichi Tanno) **56** #16545 53C40

troulos, C. G. (*with* Cornwell, J. F.; Sudbery, A.) Two-component relativistic wave equations for spin-1/2 particles. *Phys. Scripta* **12** (1975), *no.* 4, 183–188. (Derek Capper) **52** #16351 81.35

tský, Karel Čech's endeavors on behalf of mathematics in secondary schools. (Czech. English summary) *Acta Hist. Rerum Natur. Nec Non Tech.* **11** (1967), 217–230. (Author's summary) **57** #12086 01A60

tský, Zdeněk Application of controlled Markov processes in queueing theory. (Czech. Russian, English and German summaries) *Second National Conference on Mathematical Methods in Economics* (*Harmónia*, 1972) (*Czech*), *pp.* 113–131. *Ekonom.-Mat. Lab. Ekonom. Ústavu Československ. Akad. Věd. Prague*, 1973. (Author's summary) **50** #14984 60K25 (93Exx)

Probability of Markov system's ruin. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 427–432. *Academia, Prague*, 1973. (C. Mohan) **50** #9397 93E05 (60K99)

See also **Kramosil, Ivan; et al., 54** #9940

uvaritakis, B. (*with* MacFarlane, A. G. J.) Geometric approach to analysis and synthesis of system zeros. I. Square systems. *Internat. J. Control* **23** (1976), *no.* 2, 149–166. (Kimio Kanai) **54** #2271 93B99

(*with* MacFarlane, A. G. J.) Geometric approach to analysis and synthesis of system zeros. II. Non-square systems. *Internat. J. Control* **23** (1976), *no.* 2, 167–181. (Kimio Kanai) **54** #2272 93B99

(*with* Shaked, Uri) Asymptotic behaviour of root-loci of linear multivariable systems. *Internat. J. Control* **23** (1976), *no.* 3, 297–340. (S. P. Bhattacharyya) **54** #9762 93C05

A geometric approach to the inversion of multivariable systems. *Internat. J. Control* **24** (1976), *no.* 5, 609–626. (Peter A. Cook) **55** #2223 93B25

(*with* Shaked, Uri) The zeros of linear optimal control systems and their role in high feedback gain stability design. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 4, 597–599. (Authors' summary) **56** #14902 93B25 (93D10, 93C45)

(*with* MacFarlane, A. G. J.) A design technique for linear multivariable feedback systems. *Internat. J. Control* **25** (1977), *no.* 6, 837–874. (Kunihiko Ichikawa) **56** #14929 93C05

The optimal root loci of linear multivariable systems. *Internat. J. Control* **28** (1978), *no.* 1, 33–62. (K. B. Datta) **58** #9530 93B99

(*with* Karcanias, N.) The use of frequency transmission concepts in linear multivariable system analysis. *Internat. J. Control* **28** (1978), *no.* 2, 197–240. (Peter J. Moylan) **58** #26263 93B25

ouvatsos, Demetre D. Decomposition criteria for the design of complex systems. *Internat. J. Systems Sci.* **7** (1976), *no.* 10, 1081–1088. (Arild Thowsen) **54** #7014 93A10

Decomposition criteria for complex systems with reference to computer design. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras*, 1976), *Vol.* 2, *pp.* 575–579. *Hemisphere, Washington, D.C.*, 1977. (Author's summary) **58** #15346 93A15 (68A99)

ouyaté, S. Deux remarques sur les échantillons ordonnés. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **19** (1976), 99–106 (1977). (Lionel Weiss) **58** #24714 62G30 (60F05)

ouznetsov, Boris *See* **Kuznecov, B. G.**

ouzov, D. P. (*with* Belinskiĭ, B. P.) Diffraction of a cylindrical elastic wave on a semi-infinite shield. (Russian) *Trudy Mat. Inst. Steklov.* **115** (1971), 14–27. (*errata insert*) (J. Bejda) **45** #8090 73.35

(*with* Luk′janov, V. D.) On the energy flux vector for bending vibrations of a plate. *Prikl. Mat. Meh.* **40** (1976), *no.* 6, 1131–1135 (*Russian*); *translated as J. Appl. Math. Mech.* **40** (1976), *no.* 6, 1073–1077 (1977). (H. J. Weinitschke) **58** #3859 73.35

See also **Mathematical problems in the theory of wave propagation, 46** #9559 *and* **Mathematical questions in the theory of wave diffraction, 48** #11732

$u_{xx}+u_{yy}=0$. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (1975), *no.* 4, 133–144 (1977). (Author's summary) **57** #3618 35J25

A boundary value problem for the Lavrent′ev-Bicadze equation in an unbounded domain. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **12** (1976), *no.* 4, 43–54 (1977). (Author's summary) **58** #29375 35M05

A modified Frankl′ problem in a half-plane. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **12** (1976), *no.* 4, 55–62 (1977). (Author's summary) **58** #29376 35M05

Kovačević, Vera V. A step size procedure. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 357–364. (H. Schwetlick) **51** #11965 65K05 (90C30)

Some extensions of linearly constrained nonlinear programming. *Optimization and operations research* (*Proc. Conf. Oberwolfach*, 1975), *pp.* 171–182. *Lecture Notes in Econom. Math. Systems, Vol.* 117, *Springer, Berlin*, 1976. (J. Parida) **56** #14724 90C30

(*with* Ašić, Miroslav D.) A note on M. Prešić's method. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **20(34)** (1976), 37–39. (M. Z. Nashed) **55** #9513 65H05

Kovachich, Yu. V. *See* **Kovačič, Ju. V.**

Kovacic, Jerald An Eisenstein criterion for noncommutative polynomials. *Proc. Amer. Math. Soc.* **34** (1972), 25–29. (C. H. Franke) **45** #1885 12D05 (47E05)

Pro-algebraic groups and the Galois theory of differential fields. *Amer. J. Math.* **95** (1973), 507–536. (Andrzej Białynicki-Birula) **49** #4983 12H05 (14L25)

On the inverse problem of Galois theory. *Trans. Amer. Math. Soc.* **207** (1975), 375–390. (H. F. Kreimer) **52** #357 12F10

Constrained cohomology. *Contributions to algebra* (*collection of papers dedicated to Ellis Kolchin*), *pp.* 251–266. *Academic Press, New York*, 1977. (H. F. Kreimer) **57** #12474 12H05 (12G05)

See also **Contributions to algebra, 56** #15250

Kovačič, Ju. V. Information processing in systems of direct digital control. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 1, 122–132, 222 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 1, 95–104. (D. Obradović) **53** #7167 68A99 (90B99, 94A20)

See also **Optimization, Operations research, Bionics, 48** #1846

Kovács, A. On the product of relations. *Mathematica* (*Cluj*) **13** **(36)** (1971), 205–212. (Gilbert Crombez) **48** #8346 08A05

An algorithm for generating pseudo-random numbers. (Romanian. German summary) *Stud. Cerc. Mat.* **23** (1971), 1105–1110. (J. S. Joel) **48** #8357 10–04 (65C10)

A generalization of the composition product of relations. (Romanian. German summary) *Stud. Cerc. Mat.* **23** (1971), 1111–1117. (Author's summary) **48** #2025 08A05

Kovacs, Amos Homomorphisms of matrix rings into matrix rings. *Pacific J. Math.* **49** (1973), 161–170. (Author's summary) **56** #5645 16A42

The *n*-center of a ring. *J. Algebra* **40** (1976), *no.* 1, 107–124. (Claudio Procesi) **53** #10861 16A38

Trace preserving linear transformations on matrix algebras. *Linear and Multilinear Algebra* **4** (1976/77), *no.* 4, 243–250. (J. L. Brenner) **55** #2959 15A30

On the nonexistence of hypercommuting polynomials. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 241–246. (Author's summary) **56** #12056 16A38 (13F20)

Generic splitting fields. *Comm. Algebra* **6** (1978), *no.* 10, 1017–1035. (Manfred Knebusch) **58** #10825 12A80 (16A40)

Kovács, Béla Über die Lösbarkeit diophantischer Gleichungen von additivem Typ I. *Publ. Math. Debrecen* **19** (1972), 259–273 (1973). (H.-J. Kanold) **49** #2530 10B15

Kovács, I. Power-bounded operators and finite type von Neumann algebras. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf., Tihany*, 1970), *pp.* 351–352. *Colloq. Math. Soc. János Bolyai, Vol.* 5. *North-Holland, Amsterdam*, 1972. (William Paschke) **50** #10895 47C10 (46L10)

(*with* Mocanu, Gh.) Unitary dilations and C^*-algebras. *Acta Sci. Math.* (*Szeged*) **38** (1976), *no.* 1-2, 79–82. (Horst Behncke) **53** #11395 47A20

(*with* Mocanu, Gh.) Some remarks on square roots in a Banach algebra. *Ann. Fac. Sci. Univ. Nat. Zaïre* (*Kinshasa*) *Sect. Math.-Phys.* **2** (1976), *no.* 2, 227–232. (F. F. Bonsall) **55** #8795 46H05

Kovács, L. B. A computer program system for the solution of pure linear discrete problems. *Progress in operations research, Vols. I, II* (*Proc. Sixth Hungarian Conf., Eger*, 1974), *pp.* 573–592. *Colloq. Math. Soc. János Bolyai, Vol.* 12, *North-Holland, Amsterdam*, 1976. (G. Bär) **55** #9825 90–04 (90C05)

Kovács, L. G. (*with* Bryant, Roger M.) A note on generalized characters. *Bull. Austral. Math. Soc.* **5** (1971), 265–269. (Editors) **55** #3052 20C15

(*with* Vaughan-Lee, M. R.) A problem of Hanna Neumann on closed sets of group words. *Bull. Austral. Math. Soc.* **5** (1971), 341–342. (D. E. Cohen) **45** #3533 20F10

(*with* Newman, M. F.) On non-cross varieties of groups. *J. Austral. Math. Soc.* **12** (1971), 129–144. (S. Oates Macdonald) **45** #1996 20E10

(*with* Neubüser, Joachim; Neumann, B. H.) On finite groups with "hidden" primes. *J. Austral. Math. Soc.* **12** (1971), 287–300. (F. Levin) **45** #366 20D99

(*with* Bryant, Roger M.) The skeleton of a variety of groups. *Bull. Austral. Math. Soc.* **6** (1972), 357–378. (D. E. Cohen) **46** #5450 20E10

(*with* Bryant, Roger M.) Tensor products of representations of finite groups. *Bull. London Math. Soc.* **4** (1972), 133–135. (P. Fong) **47** #3498 20C05

(*with* Newman, M. F.) Hanna Neumann's problems on varieties of groups. *Proceedings of the Second International Conference on the Theory of Groups* (*Australian Nat. Univ., Canberra*, 1973), *pp.* 417–431. *Lecture Notes in Math., Vol.* 372, *Springer, Berlin*, 1974. (S. Oates Macdonald) **50** #4750 20E10

(*with* Cossey, John; Gruenberg, Karl W.) The presentation rank of a direct product of finite groups. *J. Algebra* **28** (1974), 597–603. (D. L. Johnson) **54** #12927 20J05

Inaccessible varieties of groups. Collection of articles dedicated to the memory of Hanna Neumann, VIII. *J. Austral. Math. Soc.* **17** (1974), 506–510. (M. J. Dunwoody) **50** #4749 (EA **51**) 20E10

(*with* Bryant, Roger M.) Lie representations and groups of prime power order. *J.*

Kovač, Ju. I. Estimation of the solution of a nonlinear system with lag, that contains an m_ith order operator of parabolic or hyperbolic form. (Russian) *Numerical analysis* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 20–38. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (S. Norkin (RŽMat **1970** #9 B307)) **45** #9506 65N10

The approximate solution of a nonlinear system of higher order differential equations with retarded argument. (Russian. German summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 11 (1970), 26–35. (Josef Mikliček) **45** #6191 65L99

(*with* Savčenko, L. Ī.) A boundary value problem for a nonlinear system of differential equations with retarded argument. (Russian. German summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 11 (1970), 114–124. (K. Smítalová) **45** #7214 34K10 (65L10)

(*with* Marinec′, V. V.) Certain methods for the construction of two-sided approximations to the solution of differential equations with lag. (Russian) *Approximate and qualitative methods of the theory of differential and integral equations* (*Russian*), *pp.* 202–221. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Genowefa Majcher) **51** #9542 65Q05

Upper and lower estimates in the approximate integration of partial differential equations with retarded argument. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 42–56. *Naukova Dumka, Kiev*, 1971. (L. E. Bobisud) **46** #2273 35R10 (65M99)

A certain iteration method for solution of a nonlinear system of partial differential equations with lag. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 15 (1971), 58–72. (G. Vainikko) **46** #6630 65P05

A boundary value problem for an equation, given in implicit form, with lag. (Russian) *Mathematical physics, No.* 12 (*Russian*), *pp.* 49–63, 167. *Izdat.* "*Naukova Dumka*", *Kiev*, 1972. (Á. Elbert) **51** #10807 34K10

The construction of upper and lower functions in the approximate integration of a nonlinear system that contains a biharmonic operator. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 16 (1972), 14–27. (T. Styś) **46** #8446 65N99 (35J55)

On the question of an iterative method of solving a nonlinear system of partial differential equations in implicit form with lag. (Russian) *Mathematical physics, No.* 14 (*Russian*), *pp.* 62–75, 174. "*Naukova Dumka*", *Kiev*, 1973. (Genowefa Majcher) **49** #7631 35R10 (65M99)

Upper and lower bounds in an iteration method for solving a certain boundary value problem for an equation given in implicit form with lag. I, II. (Russian. English summaries) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 19 (1973), 44–56, 157; *ibid. No.* 20 (1973), 84–91, 165. (K. Smítalová) **49** #3285 34K05

Approximate solution of a certain boundary value problem for a system of ordinary differential equations in implicit form with deviating argument. (Russian) *Mathematical physics, No.* 15 (*Russian*), *pp.* 65–74, 179. *Izdat.* "*Naukova Dumka*", *Kiev*, 1974. (Russell C. Thompson) **49** #5517 34K10

The de la Vallée-Poussin problem for a system of differential equations given in implicit form with deviating argument. (Ukrainian. Russian summary) *Projective-iterative methods for the solution of differential and integral equations* (*Ukrainian*), *pp.* 62–71, 200. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1974. (Author's summary) **57** #3559 34K05

(*with* Moca, A. Ī.) Modifications of a two-sided method of solving a certain boundary value problem for a linear system of differential equations with deviating argument. (Ukrainian. Russian summary) *Projective-iterative methods for the solution of differential and integral equations* (*Ukrainian*), *pp.* 72–82, 200–201. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1974. (Authors' summary) **57** #3560 34K05 (65L99)

(*with* Hegedűs, J.) A certain two-sided iteration method of solving a boundary value problem with lag. (Russian) *Acta Sci. Math.* (*Szeged*) **36** (1974), 69–89. (K. Smítalová) **51** #6087 34K10

(*with* Hegedűs, J.) A certain two-sided iteration method for the solution of a boundary value problem for a differential equation with retarded argument that is given in implicit form. (Russian) *Acta Sci. Math.* (*Szeged*) **36** (1974), 357–368. (Tadeusz Dłotko) **51** #10808 34K10

Modifications of the accelerated convergence to the solution of a linear partial differential equation with deviating argument. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 591–602, 715. (L. E. Bobisud) **50** #3599 65M99 (35R10)

On the question of upper and lower bounds of the approximate solution of a certain boundary value problem for a system of equations given in implicit form with deviating argument. (Russian. German summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 23 (1974), 156–159, 176–177. (M. Švec) **52** #956 34K10

(*with* Gomonaĭ, V. V.) On the question of the accelerated convergence of the iteration method for the telegrapher's equation with deviating argument. (Russian) *Mat. Fiz. Vyp.* 18 (1975), 103–116, 167. (T. Styś) **56** #7237 65M20

(*with* Brīč, Ī. V.) Accelerated convergence of the iteration method for the telegrapher's equation with deviating argument. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 26 (1975), 28–41, 177. (Authors' summary) **58** #3518 65M99 (35R10)

Accelerated convergence to the solution of a linear partial differential equation with retarded argument. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 30 (1976), 11–20, 154. (E. L. Albasiny) **58** #6766a 35R10 (35A35)

On the question of accelerated convergence to the solution of a linear partial differential equation with retarded argument. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 32 (1977), 64–73, 158. (E. L. Albasiny) **58** #6766b 35R10 (35A35)

A method for the study of the convergence of an iteration process for nonlinear partial differential equations. (Russian) *Ukrain. Mat. Ž.* **30** (1978), *no.* 2, 165–175, 281. (G. W. Hedstrom) **58** #3556 65N99

Kovač, Margit *See* **Kovács, Margit**

Kovačev, D. V. (*with* Mihaĭlov, Krum) A generalization of the Neumann-Tricomi problem for a certain equation of mixed type. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 1, 117–127 (1973). (Editors) **57** #6876 35M05

Some boundary value problems for an equation of mixed type in an unbounded domain. (Bulgarian. Russian and English summaries) Conference on Differential Equations and Applications (Ruse, 1975). *Godišnik Visš. Učebn. Zaved. Priložna Mat.* **11** (1975), *no.* 2, 91–101 (1977). (Author's summary) **58** #29374 35M05

The Neumann-Gellerstedt problem for a particular case of the equation $K(y)\cdot$

London Math. Soc. (2) **17** (1978), *no.* 415–421. (D. Ž. Djoković) **58** #22263 05 (20G05)

Kovács, László Béla A new solution for the general set covering problem. *Fifth Con nce on Optimization Techniques* (*Rome*, 1973), *Part I*, *pp.* 471–483. *Lecture Notes in C ut Sci., Vol.* 3, *Springer, Berlin*, 1973. (From the author's introduction) **56** #1 90B99

Solution of linear integer programming problems by dynamic programming. (German and French summaries) *Math. Operationsforsch. Statist.* **5** (1974), 3, 163–176. (G. Berman) **49** #12084 90C10

(*with* Rupp, Márta) Graph partitioning for matrix inversion by integer programming. *Progress in operations research, Vols. I, II* (*Proc. Sixth Hungarian nf., Eger*, 1974), *pp.* 593–604. *Colloq. Math. Soc. János Bolyai, Vol.* 12, *North-He nd, Amsterdam*, 1976. (Authors' summary) **56** #7134 65F05

(*with* Dienes, I.) Maximum transitive paths and their application to a geol cal problem: setting up stratigraphic units. (Hungarian. English summary) *Alkalmaz. at. Lapok* **2** (1976), *no.* 3–4, 157–170 (1977). (Authors' summary) **57** #18750 86.0

Kovács, Margit ★О некоторых методах минимизации функций. (Russian) [Some methods for the minimization of functions] ESZK, No. 9. *Computing Cente for Universities, Budapest*, 1975. 36 *pp. ISBN* 963-451-003-5 (Author's summary) **58** # 29 93E25 (65K05)

(*with* Barra, Karoly) ★Вычислительные аспекты решения одного типа идентификации системы. (Russian) [Computational aspects of the solution of a ty of problems in system identification] With Hungarian and English summaries. R rt ESZK, 18. *Computing Center for Universities, Budapest*, 1977. 48 *pp.* (Editors) **56** #17972 93B30

See also **Structure and methodological recommendations for the creation of sy ns of automated design of discrete devices**, **50** #16067

Kovács, Sándor J., Jr. (*with* Thorne, Kip S.) The generation of gravitational wav I. Weak-field sources. *Astrophys. J.* **200** (1975), *no.* 2, *part* 1, 245–262. (W. Is l) **52** #2507 83.35

(*with* Thorne, Kip S.) The generation of gravitational waves. III. Derivatio of bremsstrahlung formulae. *Astrophys. J.* **217** (1977), *no.* 1, *part* 1, 252–280. (W. Is) **57** #4951b 83.35

(*with* De Logi, Walter K.) Gravitational scattering of zero-rest-mass plane wa *Phys. Rev. D* (3) **16** (1977), *no.* 2, 237–244. (Authors' summary) **57** #4963 3 (81.53)

Kovács, T. (*with* Csáki, Frigyes; Keviczky, L.) Optimum synthesis of linear control systems by digital computers. I, II. (German and Russian summaries) *Acta Tech. l. Sci. Hungar.* **71** (1971), 1–12; *ibid.* **71** (1971), 13–22. (Bojan Popović) **50** #117 65K05 (93C05)

Kovacsics, K. *See* **Progress in statistics**, **50** #5999

Koval′, B. E. *See* **Kovals, B.**

Koval′, B. O. (*with* Car′kov, E. F.) Necessary and sufficient conditions of the abs e asymptotic stability of linear systems of differential equations with constant lag. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk. Ukraïn. RSR A* **1972**, 506–509, 573. (L. J. Grimm) **47** #3795 34K20

Koval′, L. N. High energy scattering and the inherent nature of its diffraction. (Rus Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Fiz.* **11** (19 *no.* 1, 17–22. (Author's summary) **54** #9416 81.35

(*with* Matinjan, S. G.) Corrections to geometrical optics: the quasiclassical li *Jadernaja Fiz.* **24** (1976), *no.* 4, 801–809 (*Russian*); *translated as Soviet J. Nuclear P* **24** (1976), *no.* 4, 417–421. (Authors' summary) **56** #7625 81.47

The classical theory of relativistic surfaces. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Fiz.* **12** (1977), *no.* 6, 432–442, (Author's summary) **58** #14937 83.53

Koval′, V. I. (*with* Gorr, G. V.) One case of semiregular precession, relative to an incli axis, of a heavy solid with a fixed point. (Russian) *Meh. Tverd. Tela Vyp.* 8 (19 32–36, 137. (From the authors' text) **56** #17283 70.34

Koval′, V. K. (*with* Šlezinger, M. Ī.) Two-dimensional programming in image-anal problems. *Avtomat. i Telemeh.* **1976**, *no.* 8, 149–168 (*Russian. English summa translated as Automat. Remote Control* **37** (1976), *no.* 8, *part* 2, 1269–1285. (Auth summary) **56** #13824 68A45 (68A30)

Koval'chuk, P. I. *See* **Koval'cuk, P. I.**

Koval′chuk, S. G. *See* **Koval′čuk, S. G.**

Koval′čik, F. B. (*with* Varbanec, P. D.) Distribution of norms of integral divisors arithmetic progression. (Russian) *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* (1972), 45–51 (1973). (W. Narkiewicz) **48** #2095 10H20 (12A25, 12A70)

Density theorems and the distribution of primes in sectors and progressio (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 31–34. (J. W. Porter) **51** #1025 10H15 (12A25)

A generalization of the Halász-Montgomery method. (Russian. Lithuanian a English summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 3, 139–150, 231. (Matti Jut **54** #5190 12A70 (10H10)

Density theorems for sectors and progressions. (Russian. Lithuanian and Engl summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 4, 133–151, 245. (Matti Jutila) **53** #10 12A70 (10H10)

Koval′čik, Ī. M. A multiple continual integral and a characteristic problem for a cert system of differential equations. (Ukrainian. English and Russian summaries) *Dopov Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 303–306, 380. (G. N. Sytaja) **45** #2325 35L99 (28A40, 60H05)

Linear systems and equations with periodic coefficients in a function space. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser.* **1972**, 319–321, 381. (M. Ráb) **46** #2176 34G05

A multiple continual integral in the space of continuous functions of two variable (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser.* **1972**, 604–608, 669. (Ju. M. Berezanskiĭ) **48** #6360 28A40 (35L55)

Conditions for the solvability of linear equations in a function space. (Russian *Dokl. Akad. Nauk SSSR* **213** (1973), 1051–1054. (B. Szafirski) **49** #5828 46G (35R15)

A continual integral, over the space C_2, of expressions that contain a quadrat unctional. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 110–113, 188. (G. N. Sytaja) **50** #10194 28A40 (60J65)

A certain class of linear equations with functional derivatives. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 3, 373–378, 431. (Author's summary) **57** #6910 35R15 46G05)

A remark on the integral in a space of sequences with Gaussian measure. (Russian) *Mathematics collection* (*Russian*), *pp.* 231–234. *Izdat. "Naukova Dumka", Kiev*, 1976. (N. N. Vahanija (Vakhania)) **56** #16761 60G15 (60B05, 28A40)

(*with* Danilovič, V. P.) On approximate calculation of continual integrals. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 14 (1976), 25–34, 154. (T. Tobias) **54** #7737 28A40

(*with* Danilovič, V. P.) The approximate computation of continual integrals. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 6, 102–105, 144. (Authors' review (RŽMat **1977** #5 B729)) **58** #19043 65D30

(*with* Danilovič, V. P.) The Cauchy formula for linear equations with functional derivatives. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 8, 1509–1511, 1542. (Ju. L. Daleckiĭ) **58** #6772 35R15 (46G05)

Linear equations with functional derivatives. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 1, 99–105, 143. (J. Daneš) **56** #904 35R15 (46G05)

al'čuk, B. V. (*with* Gubanov, G. P.) Estimation of the remainder in the approximation of periodic functions of a Lipschitz class by polynomials constructed on the basis of polynomials that are best on a given system of points. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1972**, *no.* 7, 95–97, 136. (Authors' summary) **51** #6246 41A50

(*with* Līsevič, L. M.) S^p-almost periodic matrices, and a linear system of differential equations with S^p-almost periodic right-hand side. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1973**, *no.* 8, 30–36, 146. (Bolis Basit) **53** #1157 42A84

(*with* Gubanov, G. P.) Approximation of periodic functions by truncated means of polynomials that are best on a given system of equidistant points. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1973**, *no.* 8, 55–57, 148. (J. Szabados) **53** #1130 42A08

(*with* Gubanov, G. P.) Linear methods of approximation of the functions of a Lipschitz class by trigonometric polynomials that are best at a given system of points. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1974**, *no.* 9, 12–17, 131. (M. F. Tīman) **53** #6201 42A08

(*with* Līsevič, L. M.) The mean value and the concept of a Fourier series for S^p-almost periodic matrices. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat. No.* 10 (1975), 6–11, 95. (See RŽMat **1976** #4 B95) 42A84

(*with* Gubanov, G. P.) Approximation of continous periodic functions by the linear means of polynomials that are best in a given system of points. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat. No.* 10 (1975), 39–42, 96. (See RŽMat **1976** #4 B102) 42A08

(*with* Līsevič, L. M.) Uniqueness and approximation theorems for S^p-almost periodic matrices. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1976**, *no.* 11, 40–44, 124. (Authors' summary) **58** #29814 42A84

(*with* Gubanov, G. P.) Error estimation in the approximation of periodic functions of two variables, by truncated means of polynomials that are best on a given system of points. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1976**, *no.* 11, 47–49, 125. (RŽMat **1976** #10 B95) **58** #29744 42A08

oval'čuk, E. P. *See* **Koval'čuk, O. P.**

oval'čuk, L. V. *See* **History of mathematical education in the USSR**, **52** #13176

oval'čuk, M. A. (*with* Pavlov, N. B.; Bronnikov, K. A.) Radiation-free spherical collapse in the presence of a scalar field. I. (Russian) *Problemy Teor. Gravitacii i Èlement. Častic Vyp.* 6 (1975), 146–159. (V. Komkov) **57** #8919a 83.53

(*with* Bronnikov, K. A.; Pavlov, N. V.) Radiation-free spherical collapse in the presence of a scalar field. II. (Russian) *Problemy Teor. Gravitacii i Èlement. Častic Vyp.* 7 (1976), 119–131. (V. Komkov) **57** #8919b 83.53

oval'čuk, O. P. The limiting behavior of the argument of a solution of a two-dimensional system of linear stochastic diffusion equations. (Russian) *Studies in the theory of random processes* (*Russian*), *pp.* 85–88. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (A. Friedman) **55** #13586 60J60 (60H10)

(*with* Kulīnīč, G. L.) The asymptotic behavior of the distributions of functionals of the argument of the solution of a two-dimensional system of linear stochastic diffusion equations. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 8, 689–693, 764. (H. Salehi) **58** #3072 60J60

The behavior of the argument of linear diffusion on the plane. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 18 (1978), 79–87, 181. (Constantin Tudor) **58** #24579 60J60

Koval'cuk, P. I. (*with* Īvahnenko, O. G.) Unique construction of regression curve using a small number of points. *Avtomatika* **1972**, *no.* 5, 34–41, 93 (*Ukrainian*); *translated as Soviet Automat. Control* 5 (1972), *no.* 5, 26–32. (Authors' summary) **56** #14857 93A10

Koval'čuk, P. S. (*with* Kononenko, V. O.) The effect of parametric stimulation on a self-oscillating system. (Russian) *Prikladna. Meh.* 7 (1971), *no.* 6, 3–10. (Gh. Silaş) **46** #6670 70.34

(*with* Kononenko, V. O.) The effect of an external harmonic force on an auto-oscillating system with a changing parameter. (Russian) *Prikladna. Meh.* 7 (1971), *no.* 10, 3–12. (Gh. Silaş) **46** #6671 70.34

The interaction of auto-oscillations that are close to harmonic ones, with parametrically excitable oscillations. (Russian) *Prikladna. Meh.* 7 (1971), *no.* 11, 123–126. (Gh. Silaş) **46** #6672 70.34

Nonlinear resonances in mechanical self-oscillating systems. (Russian) *Prikl. Meh.* **12** (1976), *no.* 10, 73–80, 142. **56** #13861 70.34

Koval'čuk, R. M. (*with* Gorbaĭčuk, V. I.) Certain differential-difference properties of conformal mappings of simply connected domains. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 17 (1973), 105–114, 244. (P. M. Tamrazov) **49** #3101 30A30

Koval'čuk, S. G. (*with* Dubov, Ju. A.; Ikoeva, N. V.; Imel'baev, Š. S.; Kabakov, A. B.; Kopeĭkin, A. B.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul'jan, B. L.) Mathematical simulation of the development of urban systems. *Avtomat. i Telemeh.* **1975**, *no.* 11, 93–127 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 2, 1831–1862 (1976). (Kenneth F. Wieand) **55** #7306 90A15 (92A15, 93C10)

(*with* Dubov, Ju. A.; Ikoeva, N. V.; Imel'baev, Š. S.; Kopeĭkin, A. B.; Popkov, Ju. S.; Rjazancev, A. N.; Šmul'jan, B. L.) Optimal planning and control problems in the development of conurbations (survey and research problems). *Avtomat. i Telemeh.* **1976**, *no.* 6, 78–116 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 6, *part* 2, 879–912. (Andrew P. Sage) **55** #14069 90–02 (93–02)

Kovalenko, A. A. Finite coalition games. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp.* 93–95. *Izdat. "Mintis", Vilnius*, 1973. (I. V. Romanovskiĭ) **50** #12288 90D12

Kovalenko, A. D. (*with* Kil'činskiĭ, A. A.) The method of variable moduli in problems of linear hereditary elasticity. (Russian) *Prikladna. Meh.* **6** (1970), *no.* 12, 27–34. **45** #6250 73.45

(*with* Karnauhov, V. G.) Dynamical problems for a reinforced visco-elastic cylinder and sphere. (Russian) *Prikladna. Meh.* **7** (1971), *no.* 12, 3–10. (Z. Kączkowski) **45** #8112 73.45

★Избранные труды. (Russian) [Selected works] Edited by G. S. Pisarenko. *Izdat. "Naukova Dumka", Kiev*, 1976. 762 *pp.* (1 *plate*) (Editors) **54** #12463 01A75 (73.35, 33A30)

See also **Mathematics and progress in science and technology**, **48** #8170

Kovalenko, A. G. The local extremum principle for the equation $W_{xy}+\beta\cdot(y-x)^{-1}(W_x-W_y)-b^2W=0$. (Russian) *Volž. Mat. Sb. No.* 15 (1973), 100–105. (A. M. Nahušev) **52** #11349 35M05

(*with* Ovčinnikov, V. G.) The additive problem of nonlinear programming. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), 248–251, 279. (K. Zimmermann) **51** #9825 90C30

Kovalenko, A. Ja. Perturbation of the periodic solutions of differential equations in the case when the spectrum of the monodromy operator of the generating equation contains 1. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 7(110), 44–49. (G. Ladas) **45** #2294 34G05

Kovalenko, A. N. Natural waves of microstrip line. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **21** (1978), *no.* 2, 188–194. (Author's summary) **58** #14391 78.41

Kovalenko, A. P. Finite groups in which nonincident centralizers of even order have cyclic intersections. (Russian) *Algebra, No.* 1 (*Russian*), *pp.* 13–20. *Irkutsk. Gos. Univ., Irkutsk*, 1972. (B. K. Durakov) **56** #12116 20D25

A characterization of groups of Janko-Ree type and the Hall-Janko group. (Russian) *Algebra i Logika* **15** (1976), *no.* 3, 292–299, 365. (Sergei A. Syskin) **55** #12810 20D05

On the ranks of the intersections of centralizers of involutions in finite groups. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 4, 821–829, 957. (A. V. Borovik) **56** #15759 20D05

(*with* Nīkolenko, Ī. V.) Two theorems on the stability of equilibrium of certain mechanical systems. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 19 (1977), 85–88, 151–152. (Authors' summary) **58** #25206 70.34

Kovalenko, B. B. On the theory of generalized modules. (Russian) *Studies in algebra, No.* 5 (*Russian*), *pp.* 30–43, 75. *Izdat. Saratov. Univ., Saratov*, 1977. (Author's summary) **58** #22179 16A64

Kovalenko, E. A. (*with* Klimov, V. E.) An algorithm for the analysis of the planarity of a graph and its realization. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 348 *Teor. Grafov* (1977), 118–122. (D. Ja Kesel'man) **58** #32036 68A10 (05C10)

Kovalenko, E. G. ★Англо-русский словарь по надежности и контролю качества. (Russian) [English-Russian dictionary of reliability and quality control] *Izdat. "Russkiĭ Jazyk", Moscow*, 1975. 479 *pp.* (Editors) **53** #5227 00A20

Kovalenko, E. I. (*with* Borisjuk, G. N.; Borisjuk, R. M.; Dunin-Barkovskiĭ, V. L.; Kovalenko, V. H.) Estimation of information capacity of Purkinje cells. *Locally interacting systems and their application in biology* (*Proc. School-Sem. Markov Interaction Processes in Biology, Pushchino*, 1976), *pp.* 72–90. *Lecture Notes in Math., Vol.* 653, *Springer, Berlin*, 1978. (Giovanni Melzi) **58** #26124 92A05 (94A15)

Kovalenko, E. V. (*with* Aleksandrov, V. M.) Periodic contact problems for an elastic strip. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **30** (1977), *no.* 4, 18–33, 89. (Editors) **58** #14172 73.45

(*with* Aleksandrov, V. M.) The method of orthogonal functions in mixed problems of continuum mechanics. (Russian) *Prikl. Meh.* **13** (1977), *no.* 12, 9–17, 140. (Z. Kączkowski) **57** #18427 76.33 (45B05)

(*with* Aleksandrov, V. M.; Mhitarjan, S. M.) Investigation of bounded solutions of the problem of interaction of an elastic half-plane with elastic caps. (Russian) *Izv. Akad. Nauk Armjan. SSR Ser. Meh.* **31** (1978), *no.* 1, 3–15, 81. (Editors) **58** #19651 73.65

Kovalenko, I. A. *See* **Kovalenko, Ī. P.**

Kovalenko, Ī. M. (*with* Ivnickiĭ, V. A.; Suhanova, N. I.) Certain practical methods for the formation of multidimensional random numbers with uniform distribution inside a polyhedron. (Russian) *Complex systems and simulation* (*Proc. Sem., Kiev*, 1968/1969), *No.* 1 (*Russian*), *pp.* 3–14. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (Authors' introduction) **45** #9443 65C10

Queueing theory. (Russian) *Probability theory. Mathematical statistics. Theoretical cybernetics*, 1970 (*Russian*), *pp.* 5–110. (*errata insert*) *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1971. (K. Wickwire) **50** #8750 60K25

(*with* Jurkevič, O. M.) Optimal servicing of demands in systems with limited waiting time. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 1, 26–35 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 1, 21–29. (A. Descloux) **46** #4919 90B05

(*with* Barzilovič, E. Ju.; Kaštanov, V. A.) On minimax criteria in reliability problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 3, 87–98 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 3, 467–477 (1972). (C. Ratiu-Suciu) **47** #1440 90B25

On the computation of the probability of the uniqueness of the solution of a system of random nonlinear Boolean equations. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 3, 12–15. (D. Simovici) **47** #4726 94A20

On the theory of random graphs. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no*. 4, 1–4. (C. G. d'Ambly) **46** #98 05C99 (60C05)

The queueing system with a service rate that depends on the number of demands and with a periodic switching off of the channels. (Russian) *Problemy Peredači Informacii* 7 (1971), *no*. 2, 106–111. (I. Văduva) **48** #3139 60K25 (94A05)

(*with* Jurkevič, O. M.) A mass service system with simultaneously arriving "impatient customers". *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1972**, *no*. 1, 52–56 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 1, 43–47. (P. R. Milch) **49** #6407 60K25

(*with* Špak, V. D.) Probabilistic characteristics of complex systems with hierarchical control. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1972**, *no*. 6, 30–34 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 6, 964–969. (M. Iosifescu) **52** #10113 93A10 (60K15)

Structure of an oriented random graph. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No*. 6 (1972), 83–91. (P. Vondráček) **52** #10258 94A20

The distribution of the linear rank of a stochastic matrix. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **17** (1972), 354–359. (W. A. Woyczyński) **45** #6061 60F99

An algorithm for the asymptotic analysis of the sojourn time of a Markov chain in a set of states. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 497–500, 572. (A. Ja. Dorogovcev) **48** #3125 60J10

The deviation of the reliability of a reserve system with a general repair time distribution from the reliability of a system with exponential repair time law. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no*. 5, 36–41. (B. Dimitrov) **49** #11744 62N05 (90B25)

(*with* Gnedenko, B. V.) ★Einführung in die Bedienungstheorie. Mit einem Anhang über die Unempfindlichkeitseigenschaften von Bedienungsprozessen von D. König, K. Matthes und K. Nawrotzki. In Verbindung mit den Autoren bearbeitet und in deutscher Sprache herausgegeben von Hans-Joachim Rossberg. Übersetzt aus dem Russischen von Jurgis Szlaza. Zweite, berichtigte Auflage. Mathematische Lehrbücher und Monographien. I. Abteilung: Mathematische Lehrbücher, Band XVI. *Akademie-Verlag, Berlin*, 1974. xii + 450 *pp*. (Editors) **55** #4424 60K25

(*with* Musaev, È. M.) The reliability of complex systems that are under periodic perturbations. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no*. 3, 89–93. (Viorel Gh. Vodă) **52** #15918 62N05 (90B25)

(*with* Stoĭkova, L. S.) The productivity of a system and the time for solving a problem in case of random break-downs and periodic data storage. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no*. 5, 73–75. (Viorel Gh. Vodă) **53** #4951 90B25 (62N05)

★Исследования по анализу надежности сложных систем. (Russian) [Studies in the reliability analysis of complex systems] *Izdat. "Naukova Dumka", Kiev*, 1975. 210 *pp*. (Z. Khalil) **56** #9721 60K20 (90B25, 62N05)

(*with* Levitskaja, A. A.) Limiting behavior of the number of solutions of a system of random linear equations over a finite field and a finite ring. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no*. 4, 778–781. (B. Volkmann) **52** #1854 (E **52** #9343) 60F99 (15A06)

(*with* Levitskaja, A. A.) Letter to the editors: "Limiting behavior of the number of solutions of a system of random linear equations over a finite field and a finite ring" (Dokl. Akad. Nauk SSSR **221** (1975), no. 4, 778–781). (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no*. 1, viii. (B. Volkmann) **52** #9343 60F99 (15A06)

Invariance theorems for random Boolean matrices. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no*. 5, 138–152. (Author's summary) **56** #16752 60F99

(*with* Levitskaja, A. A.) The limit behavior of the number of solutions of a random system of linear equations over a finite field and a finite ring. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 13 (1975), 70–83, 172. (Editors) **53** #14664 60H99

The probability of compatibility for a certain class of random logical equations. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no*. 8, 681–685, 766. (R. Shirtladze) **55** #5316 94A20

(*with* Pajanov, F. S.) On the optimization of the control of systems with variable states. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no*. 2, 120–123. (From the authors' introduction) **56** #16814 60J85

An analytic-statistical method for computing the characteristics of systems with high reliability. (Russian. English summary) *Kibernetika* (*Kiev*) **1976**, *no*. 6, 82–92. (Author's summary) **58** #24588 60K10

(*with* Leonenko, M. M.) On the calculation of the reliability of branching structures. (Russian) *Methods of operations research and of reliability theory in systems analysis* (*Russian*), *pp*. 3–8. *Akad. Nauk. Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (B. Dimitrov) **58** #24811 62N05 (60F10, 60K20, 62E25)

Limit theorems of reliability theory. (Russian. English summary) *Kibernetika* (*Kiev*) **1977**, *no*. 6, 106–116, 152. (Author's summary) **58** #24589 60K10 (60K20, 62N05)

See also **Słupecki, Jerzy; et al.**, (Not reviewed); **Probability theory, Mathematical statistics, Engineering cybernetics**, **49** #11669; **Karlin, Samuel**, **50** #3349; **Bendat, Julius S.; et al.**, **50** #8875; **Methods of operations research and of reliability theory in systems analysis**, **56** #4721; **Methods of operations research and of reliability theory in systems analysis**, **57** #18751; **Algorithmic methods in reliability theory**, **58** #24591 *and* **Systems analysis by operations research and reliability theory methods**, **58** #32898

Kovalenko, Ī. P. (*with* Roĭtberg, Ja. A.) The Green's function of a general elliptic boundary value problem with pseudodifferential boundary conditions. (Russian) *Ukrain. Mat. Ž*. **23** (1971), 772–777. (H. Triebel) **45** #3916 35S15 (35J40)

Isomorphism theorems for elliptic systems with boundary conditions that are not normal. (Russian) *Ukrain. Mat. Ž*. **25** (1973), 373–379, 430. (P. C. Fife) **48** #6670 35J35

(*with* Roĭtberg, Ja. A.) The boundary values of the generalized solutions of elliptic systems. (Russian) *Ukrain. Mat. Ž*. **27** (1975), *no*. 3, 308–319, 429. (H. Triebel) **52** #979 35D10 (35J55)

Kovalenko, L. I. An extremum principle for the generalized solution of an equation of mixed type with lower order terms. (Russian) *Sibirsk. Mat. Ž*. **14** (1973), 221–228, 240. (J. Kačur) **48** #11802 35M05

Existence of a generalized solution of the Tricomi problem. I. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no*. 3, 511–528, 574. (Megumi Saigo (Zb 37 #35053)) **58** #1709a 35M05

Existence of a generalized solution of the Tricomi problem. II. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no*. 4, 700–719, 774. (Megumi Saigo (Zb 37 #35053)) **58** #1709b 35M05

Kovalenko, L. S. Synthesis of the optimal discrete controls of a continuous object a fixed interval of time. (Russian) *Theory and methods of construction of multiva le control systems* (*Russian*), *pp*. 310–318, 339. *Izdat. "Nauka", Moscow*, 1973. (L. Mikołajczyk) **52** #10145 93C15

Kovalenko, N. V. (*with* Kakičev, V. A.) On the theory of two-dimensional partial in al equations. (Russian) *Ukrain. Mat. Ž*. **25** (1973), 302–312, 428. (B. V. Loginov) **48** #9456 47G05

Two-dimensional integral equations of convolution type, with particular inte s that are solvable in closed form. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* 5 *no*. 1(152), 111–114. (Jürgen Leiterer) **51** #13603 45E10

Kovalenko, S. I. (*with* Arhipov, I. M.) The computation of blockage coefficien o determine losses in a fully available cluster of *v* lines that is separated into *h* ider al directions. (Russian) *Methods of teletraffic theory in information distribution sys s* (*Russian*), *pp*. 103–107. *Izdat. "Nauka", Moscow*, 1975. (Editors) **56** #8200 9 0 (90B99)

Kovalenko, S. P. (*with* Litvin, O. M.) A construction of the Green's function in the for a single analytic expression. (Ukrainian. English and Russian summaries) *Dop Akad. Nauk Ukraïn. RSR Ser. A* **1970**, 9–12, 91. (Authors' summary) **54** #55 34B05 (65L10)

(*with* Kartašov, L. M.) A certain method of solution of a loaded linear integro-differential equation. (Ukrainian. English and Russian summaries) *Dopo Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 688–691, 763. (J. Muszyński) **46** #249 47G05

(*with* Kartašov, L. M.) A certain multi-point boundary value problem. (Ukrair English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* 1 1063–1067, 1148. (J. Muszyński) **46** #2499 47G05

Investigation of a certain operator equation. (Ukrainian. English and Rus summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 693–696, 764. (Ul Kosel) **48** #4862 47H15 (45G99)

(*with* Kartašov, L. M.) Certain analytic solutions of the Cauchy problem fo perturbed linear loaded integro-differential equation. (Russian. English summary) *Vyčisl. Prikl. Mat*. (*Kiev*) *No*. 17 (1972), 71–77. (M. I. Imanaliev) **46** #7822 4

The family of *S*-adjoint operators. (Ukrainian. English and Russian summari *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 975–977, 1052. (E. Gerlach) **58** #23656 47A05

S-closed operators, and their properties. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 786–789, 861. (E. Gerla **58** #23657 47A05

Finite restrictions of Noetherian operators. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 970–973, 1051. (Auth summary) **57** #13547 47A55

Certain theorems on the positioning of subspaces, and their application to the stu of linear operators. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no*. 5, 1023–1 (Pavel Doktor) **52** #3992 47A50 (46B05)

(*with* Kartašov, L. M.) The Cauchy operator in a Banach space. (Ukrainian. Engl and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no*. 978–982, 1051. (H. Baumgärtel) **54** #3453 47A50

Kovalenko, V. F. (*with* Semenov, Ju. A.) Essential self-adjointness of many-particle Hamiltonian operators of Schrödinger type with singular two-particle potentials. *A Inst. H. Poincaré Sect. A* (*N.S.*) **26** (1977), *no*. 4, 325–332. (Lawrence E. Thom **55** #14018 81.47

(*with* Belyĭ, A. G.; Semenov, Ju. A.) On the continuity of generalized eigenfunctions of the Schrödinger operator. *Rep. Mathematical Phys*. **12** (1977), *no*. 307–310. (Teruo Ikebe) **58** #23149 35P05 (81.35)

Kovalenko, V. H. (*with* Borisjuk, G. N.; Borisjuk, R. M.; Dunin-Barkovskiĭ, V. L.; Kovalenko, E. I.) Estimation of information capacity of Purkinje cells. *Locally interacting systems and their application in biology* (*Proc. School-Sem. Markov Interacti Processes in Biology, Pushchino*, 1976), *pp*. 72–90. *Lecture Notes in Math., Vol*. 6 *Springer, Berlin*, 1978. (Giovanni Melzi) **58** #26124 92A05 (94A15)

Kovalenko, V. P. (*with* Iljuhin, A. G.) ★Численные методы обработки информации п исследовании динамических систем. (Russian) [Numerical methods of informati processing in the study of dynamical systems] *Izdat. "Naukova Dumka", Kiev*, 197 176 *pp*. (From the publisher's description) **54** #4359 78.65

Kovalerčuk, B. Ja. Classifications that are invariant with respect to the namings of object (Russian) *Vyčisl. Sistemy No*. 55 (1973), 90–97, 140. (Author's summary) **49** #7134 02H05 (68A45, 92A25)

Cyclic scales. (Russian) *Vyčisl. Sistemy Vyp*. 61 *Èmpiričesk. Predskazan. i Raspoznavan. Obrazov* (1975), 51–59, 120. (Author's summary) **58** #19423 68A45

Kovalev, A. M. *See* **Koval'ov, O. M.**

Kovalev, B. D. The concept of pressure during the early stages of the development hydrodynamics. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn*. **197** *no*. 4(49), 45–50, 101. (Editors) **58** #20988 01A05

The evolution of the basic ideas of theoretical hydromechanics. (Russian) *NT Schr. Geschichte Naturwiss. Tech. Medizin* **13** (1976), *no*. 2, 24–40. (Editors) **58** #2701 01A55 (76.01)

Kovalev, E. A. A certain class of optimum problems for continuous control processes (Russian) *Control systems, No*. 2 (*Russian*), *pp*. 38–41. *Akad. Nauk SSSR Sibirsk. Otde Inst. Mat. Inst. Kataliza, Novosibirsk*, 1969. (G. Zatiašvili) **49** #7881 49B10

Kovalev, I. F. (*with* Molodenkova, I. D.) On the question of applying a certain iteratio process to the separation of the overlapping contours of spectral lines. (Russian) *Differential equations and numerical analysis, No*. 1 (*Russian*), *pp*. 54–64. *Izdat. Sarato Univ., Saratov*, 1972. (Hans Kaper) **49** #2016 82.65

Kovalev, I. S. *See* **New elements of systems of automation, remote control and compute technology**. **54** #7092

ev, M. M. (*with* Emeličev, V. A.) The solution of certain problems of concave rogramming by the method of the construction of a sequence of plans. II. (Russian) *esci Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1972**, *no.* 1, 65–74. (E. G. Gol'šteĭn) 5 #6446 90C25

(*with* Emeličev, V. A.) Local minima in the transport problem with a target function hat is concave in the sense of Schur. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 312–1316, 1366. (S. Zlobec) **48** #1716 90C50

Algorithms for the solution of a certain nonlinear pseudo-Boolean programming roblem. I. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1973**, *no.* 3, 3–9, 90. (S. Zlobec) **49** #2092 90C10

(*with* Emeličeva, V. S.) An algorithm for the construction of local minima in the ransport problem with a target function that is concave in the sense of Schur. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1974**, *no.* 2, 117–119, 142. (S. Zlobec) **50** #1721 90C25

(*with* Girlich, È.) The class of polyhedra of the standardization problem with maximal number of vertices. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1974**, *no.* 6, 29–34, 141. (E. G. Gol'šteĭn) **50** #15917 90C25

A certain integer programming problem with a convex symmetric target function. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1974**, *no.* 1, 64–65, 89. (Author's summary) **51** #2639 90C10

★Дискретная оптимизация (целочисленное программирование). (Russian) [Discrete optimization (integer programming)]. *Izdat. Beloruss. Univ., Minsk*, 1977. 191 *pp.* (J. S. Joel) **55** #14199 90C10

(*with* Girlich, È.) Zum Problem der optimalen Standardisierung. (Russian and English summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 1, 89–103. (Knut Richter) **56** #14746 90C50 (90C10)

(*with* Isačenko, A. N.) The constraint polytopes for a linear programming problem. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 3, 204–207, 283. (Authors' summary) **58** #25967 90C05

(*with* Girlich, È.) The exact number of vertices of polyhedra in the conditions of the standardization problem. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1978**, *no.* 2, 16–21, 138. (E. G. Gol'štein) **58** #4262 90B10

(*with* Milanov, P. B.; Isačenko, A. N.) Linear programming problems with a maximal number of bases. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1978**, *no.* 3, 19–24, 137. (Z. Waksman) **58** #20407 90C05 (52A40)

valev, P. I. Lie triple systems, and spaces with affine connection. (Russian) *Mat. Zametki* **14** (1973), 107–112. (D. I. Papuc) **48** #12385 53C05

Certain properties of the structure defined by the Riemann tensor on a space with affine connection. (Russian) *Ukrain. Geometr. Sb. No.* 13 (1973), 95–100, 3. (W. Waliszewski) **48** #12343 53B05

A certain class of Lie triple systems. (Russian) *Ukrain. Geometr. Sb. No.* 14 (1973), 24–28, 114. (K. Radziszewski) **48** #11241 17E05 (53B05)

A certain generalization of a "curvature structure". (Russian) *Ukrain. Geometr. Sb. No.* 16 (1974), 22–30, i–ii. (P. Ver Eecke) **51** #4097 53C15

ovalev, S. N. (*with* Amirov, M.) Formation of folded envelopes by singling them out from kinematic sets of lines. (Russian) Questions on differential equations, number theory, algebra and geometry. *Trudy Samarkand. Gos. Univ.* (*N.S.*) *Vyp.* 202 (1972), 87–93. (Editors) **57** #3978 50D15

ovalev, V. F. *See* **Koval'ov, V. F.**

ovalev, V. N. Determination of the real roots of algebraic equations of degrees 3 to 6 by the method of nomogram movement. (Russian) *Èlektroènerget. i Avtomat.* (*Kishinev*) *Vyp.* 21 (1975), 56–60, 105. (L. Bal) **58** #3596 65S05

ovaleva, G. D. A method for calculating interference waves in a vertically inhomogeneous half-space. (Russian) Mathematical problems in the theory of wave propagation, 6. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **42** (1974), 162–173, 270. (S. Kaliski) **53** #4685 73.35

ovalevič, È. V. *See* **Proceedings: Republican Conference of Belorussian Mathematicians**, **48** #3669

ovalevskaja, È. I. The simultaneous distribution of the fractional parts of polynomials. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1971**, *no.* 5, 13–23. (F. Schweiger) **52** #10648 10K05 (10K10)

Metric theorems on the approximation of zero by a linear combination of polynomials with integral coefficients. *Acta. Arith.* **25** (1973/74), 93–104. (*errata insert*) (F. Schweiger) **49** #2633 10K15 (10F10)

Metric theorems on the approximation of zero by a linear combination of integer-valued polynomials. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 1085–1088, 1163–1164. (F. Schweiger) **49** #7231 10K15 (10F05)

(*with* Bernik, V. I.) An extremal property of certain surface in Euclidean *n*-space. (Russian) *Mat. Zametki* **15** (1974), 247–254. (F. Schweiger) **50** #2108 10K15

"Hyperbolic" Diophantine approximations on analytic varieties. (Russian) *Dokl. Akad. Nauk BSSR* **19** (1975), 200–203, 282. (Grigoriĭ V. Čudnovskiĭ) **51** #8041 10F10

Diophantine approximations with quadratic polynomials. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1975**, *no.* 4, 7–14, 139. (S. E. Schuur) **52** #13633 10B45

Diophantine approximations with quadratic polynomials. II. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1977**, *no.* 6, 26–32, 140. (S. E. Schuur) **58** #10765 10F10

Kovalevskaja, M. I. (*with* Lebedev, S. S.) Lagrange multipliers in a simple allocation problem. (Russian) *Studies in discrete optimization* (*Russian*), *pp.* 170–180. *Izdat. "Nauka", Moscow*, 1976. (M. M. Sysło) **57** #5084 90C10

Kovalevskaja, S. V. *See* **Tee, Garry J.**, **56** #2761; **Oleĭnik, O. A.**, **58** #1495; **Masopust, Rudolf**, **58** #10193; **Correspondence: Karl Weierstrass and S. V. Kovalevskaja**, **58** #21330 *and* **Juškevič, A. P.**, **58** #27012

Kovalevskiĭ, M. A. Asymptotic behavior of the solutions of the equation that describes the axially symmetric oscillations of a thin dome with a turning point at the vertex. (Russian) *Asymptotic methods in systems theory, No.* 7 (*Russian*), *pp.* 124–136. *Irkutsk. Gos. Univ., Irkutsk*, 1974. (Editors) **57** #11252 73.34

Asymptotic behavior of certain entire functions that are defined by the coefficients of their Maclaurin expansion. (Russian. English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 1 *Mat. Meh. Astronom. vyp.* 1, 11–15, 159. (C. Tanaka) **55** #663 30A66

Asymptotic behavior of the solutions, that are holomorphic at zero, of a certain linear differential equation. (Russian. English summary) *Vestnik Leningrad. Univ.* **1978**, *no.* 1 *Mat. Meh. Astronom. vyp.* 1, 34–39, 155. (Snežana Hristova) **58** #17367 34E05 (34A20)

Kovalevskiĭ, M. Ju. (*with* Peletminskiĭ, S. V.; Sokolovskiĭ, A. I.) Nonequilibrium entropy, and a symmetry principle for the kinetic coefficients. (Russian. English summary) *Teoret. Mat. Fiz.* **33** (1977), *no.* 3, 377–389. (Nicolae Angelescu) **58** #14450 80.60 (82.60)

Kovalevskiĭ, N. P. The solutions of the Briot and Bouquet equation with constant deviations of the argument in the case of simple roots of the characteristic equation. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1801–1812. (J. Rausen) **45** #2232 34A20

The solutions of the Briot and Bouquet equation with constant deviations of the argument in the case of multiple roots of the characteristic equation. (Russian) *Differencial'nye Uravnenija* **7** (1971), 2099–2102. (J. Rausen) **45** #2233 34A20

On the question of the existence of solutions of differential equations with deviating argument. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1957–1962, 2110. (A. Halanay) **47** #3789 34K05

(*with* Grudo, È. I.) The implicit functions that are defined by equations with deviating argument. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1972**, *no.* 2, 31–40. (S. R. Bernfeld) **46** #5801 34K99 (26A57)

The solutions of functional equations in multidimensional spaces. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1972**, *no.* 4, 11–19, 138. (I. M. Sheffer) **47** #2216 39A30

The solutions of differential equations with deviating argument. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1972**, *no.* 5, 11–16, 137. (L. J. Grimm) **52** #8608 34K05

Nonholomorphic solutions of a class of functional equations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk* **1977**, *no.* 2, 17–22, 139. (Roman Ger) **58** #12057 39A15

Kovalevskiĭ, V. A. (*with* Sibircev, V. G.; Tret'jak, O. D.) Optimal linear filters for the preliminary processing of patterns. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 5, 127–133. (M. Arató) **53** #2506 94A05 (68A45)

★Методы оптимальных решений в распознавании изображений. (Russian) [Methods for optimal solutions in pattern recognition] *Izdat. "Nauka", Moscow*, 1976. 328 *pp.* (V. Komkov) **56** #10199 68A45

See also **Cybernetics encyclopedia**, **54** #9919; **Cybernetics encyclopedia**, **54** #9920; **Pattern recognition**, **56** #10189; **Pattern recognition**, **56** #10212 *and* **Pattern recognition**, **58** #32143

Kovalin, Ja. V. (*with* Gogina, M. A.; Kononenko, I. A.; Kuzjakin, Ju. I.) Certain algorithms of logical operations over Boolean sets. (Russian) *Vyčisl. Sistemy No.* 31 (1968), 72–81. **46** #5055 94A20

(*with* Bitjuckiĭ, V. P.; Čistov, V. P.) On functional completeness of a strip of very simple homogeneous structure. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 5 104–109 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 5, 94–98. (Jürgen Dassow) **54** #12376 94A20

Kovališina, I. V. Additive decomposition of an arbitrary reactive matrix-valued function. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **6** (1971), *no.* 1, 43–60. (R. F. Rinehart) **45** #1949 15A15 (94A20)

J-expansive matrix-valued functions in the Carathéodory problem. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **59** (1974), 129–135. (D. Sarason) **51** #5939 30A96 (30A76)

(*with* Potapov, V. P.) An indefinite metric in the Nevanlinna-Pick problem. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **59** (1974), *no.* 1, 17–22. (J. Bognár) **53** #13577 30A76 (47B50)

J-expansive matrix-valued functions, and the classical problem of moments. (Russian. Armenian summary) *Akad. Nauk Armjan. SSR Dokl.* **60** (1975), *no.* 1, 3–10. (A. Devinatz) **53** #822 30A80

(*with* Čubkova-Vidova, G. M.) The Nevanlinna-Pick problem for Nevanlinna symmetric matrix-valued functions in the upper half-plane. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **13** (1978), *no.* 1, 48–78, 183. (R. P. Boas, Jr.) **58** #11450 30A96 (15A48, 30A80)

Koval'ov, B. A. The index of rest points of certain nonlinear systems of differential equations. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 106 (1975), 75–78, 202. (Author's summary) **58** #22832 34C35

Koval'ov, O. M. A geometric proof of some theorems on the conservation of integrals of motion. (Russian) *Meh. Tverd. Tela Vyp.* 7 (1974), 36–40. (J. S. Joel) **58** #7705 58F05 (58F10, 70.58)

(*with* Savčenko, O. Ja.) Stability of uniform rotations of a rigid body about a principal axis. *Prikl. Mat. Meh.* **39** (1975), *no.* 4, 650–660 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 4, 623–633 (1976). (Robert E. Roberson) **54** #9206 70.34

Stability of the integrals of the equations of the dynamics of a rigid body under a small change in the Hamiltonian function. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 3–4, 137. (Editors) **56** #13276 58F05 (70.58)

(*with* Iljuhin, A. A.) Normal oscillations of a rigid body around a stable equilibrium position. (Russian) *Meh. Tverd. Tela Vyp.* 8 (1976), 65–71, 138. (From the authors' text) **57** #11232 70.34

(*with* Harlamov, P. V.; Gorr, G. V.; Dokševič, A. Ì.; Konosevič, B. Ī.; Savčenko, O. Ja.) Some questions on the nonlinear theory of the observation of dynamical systems. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 3, 244–247, 286. (Szyman Dolecki) **56** #13078 49E05 (34C35)

(*with* Čudnenko, O. M.) On the stability of the equilibrium position of a two-dimensional Hamiltonian system in the case of equal frequencies. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 11, 1011–1014, 1056. (S. V. Temko) **57** #4923 81.58 (70.49)

(*with* Savčenko, O. Ja.) Stability of stationary motions of Hamiltonian systems in the presence of a fourth order resonance. (Russian) *Meh. Tverd. Tela Vyp.* 9 (1977), 40–44, 125. (Editors) **58** #13167 58F05

Observability criteria for nonlinear dynamical systems when there are multidimensional measurements. (Russian) *Prikl. Meh.* **13** (1977), *no.* 12, 95–101, 143. (From the introduction) **58** #15379 93B05 (93C10)

Determination of the phase coordinates of a rigid body that moves in a Newtonian force field. (Russian) *Meh. Tverd. Tela No.* 10 (1978), 65–76, 119. (Author's summary) **58** #14055 70.34

Koval'ov, V. F. Application of the solution of the Hilbert problem to the calculation of filtration in inhomogeneous media. (Ukrainian. English and Russian summaries) *Dopovidi Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 5, 399–402, 474. (Author's summary) **51** #12105 76.30

A boundary value problem of the type of Schwarz's problem for a certain differential equation of elliptic type. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 6, 495–498, 573. (G. Wildenhain) **54** #10841 35J40

Steady state temperature distribution in an inhomogeneous plate. (Russian) *Analytic, numerical and analog methods in heat conduction problems* (*Russian*), *pp.* 49–55, 237. *Izdat. "Naukova Dumka", Kiev*, 1977. (Editors) **58** #25432 80.42

A generalization of harmonic functions. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 1, 9–12, 94. (S. V. Temko) **56** #12289 31A35

(*with* Mel'ničenko, Ī. P.) Monogenic functions on the biharmonic plane. (Russian) *Akad. Nauk Ukrain. SSR Inst. Mat. Preprint No.* 20 (1978), 16 *pp.* (R. P. Boas, Jr.) **58** #22596 30A97 (31A30)

See also **Mathematical physics, 48** #5770

Kovals, B. (*with* Hižņaka, V.) The stability of the trivial solution of countable systems of stochastic equations. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 14 (*Russian*), *pp.* 223–232. *Izdat. "Zinatne", Riga*, 1974. (G. S. Ladde) **51** #3632 34F05 (60H10)

(*with* Lenec, N. P.) The stability of the solutions of linear partial differential equations with random coefficients. (Russian) *Mathematical physics, No.* 15 (*Russian*), *pp.* 74–82, 180. *Izdat. "Naukova Dumka", Kiev*, 1974. (Dahsoong Yü) **49** #3300 35B40

Stability of the solutions of linear partial differential equations with random perturbations of the parameters. (Russian) *A study of systems with random perturbations* (*Russian*), *pp.* 15–25. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (Z. Schuss) **58** #11833 35B35 (60H15)

Stability of the solutions of systems of linear stochastic partial differential equations. (Russian) *A study of systems with random perturbations* (*Russian*), *pp.* 26–30. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (Editors) **58** #7848 60H15

See also **Study of systems with random perturbations, 56** #1384

Koval'skiĭ, I. P. (*with* Kiričenko, M. F.) The control of certain nonlinear systems. (Russian) *Certain questions on simulation and systems control* (*Russian*), *pp.* 53–62. *Izdat. "Naukova Dumka", Kiev*, 1973. (J. Jarník) **54** #7990 34H05 (49D99)

Koval'skiĭ, Ja. *See* **Kowalski, J.**

Kovancov, M. Ī. (*with* Iščenko, E. N.) A pair of quasispecial complexes of the second kind. (Russian) *Ukrain. Geometr. Sb. No.* 7 (1969), 65–67, 184 (1970). (H. W. Guggenheimer) **47** #9447 53A25

Isomorphism of the Newton and Einstein relativity theories for a two-dimensional space-time continuum. (Russian) *Publ. Math. Debrecen* **17** (1970), 379–386 (1971). **46** #3039 83.53

(*with* Fan Lyong Hieu) An analogue of parallel translation in a space with elliptic connection. (Russian) *Ukrain. Geometr. Sb. No.* 9 (1970), 60–67. **48** #1074 53B15

(*with* Nagy, Péter) The moving frame method in a space of line elements with a general transformation law. (Russian) *Publ. Math. Debrecen* **18** (1971), 77–87 (1972). (L. Tamássy) **46** #8108 53B40

The theory of congruences in three-dimensional Euclidean space as a theory of nonholonomic surfaces. (Russian) *Ukrain. Geometr. Sb. No.* 11 (1971), 35–47. (C. Simionescu) **46** #8053 53A05

(*with* Phan Luong Hieu) Clifford parallel translation on a surface as the analogue of Levi-Civita parallel translation. (Ukrainian. French and Russian summaries) *Vīsnik Kiïv. Unīv.* **1971**, *no.* 13, 3–9, 145. (J. Chrastina) **46** #6189 53A35

Nonholonomic varieties in the moving frame. (Russian) Collection of articles commemorating Władysław Ślebodziński. *Colloq. Math.* **26** (1972), 93–108. (I. Kolář) **48** #12586 58A15 (53A99)

Normal-inflection complexes with quadruple inflection center. (Russian) Collection of articles dedicated to Stanisław Gołab on his 70th birthday, II. *Demonstratio Math.* **6** (1973), 687–705 (1974). (C. Simionescu) **50** #3125 53A25

(*with* Iščenko, E. N.) Quasispecial complexes in the three-dimensional Euclidean space E_3. (Russian) *Ukrain. Geometr. Sb. No.* 13 (1973), 88–95, 3. (L. Tamássy) **49** #6049 53A25

(*with* Nosal', T. V.) Stratification of a line complex in three-dimensional euclidean space into normal congruences. (Russian) *Ukrain. Geometr. Sb. No.* 14 (1973), 28–44, 114. (B. Rozenfel'd) **49** #3708 53A25

(*with* Ponomarov, V. G.) Complexes of projective rotation and complexes with a quadruple inflection center on each ray in three-dimensional projective space. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 200–213, 285. (Froim Marcus) **49** #1347 53A25

(*with* Īl'jašenko, V. Ja.) Two classes of complexes in hyperbolic space. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 15 (1973), 13–23, 142. (K. Svoboda) **50** #3126 53A35

(*with* Nosal', T. V.) Stratification of a linear complex into congruences that are normal to surfaces of constant curvature. (Russian) *Ukrain. Geometr. Sb. No.* 16 (1974), 31–35, ii. (B. Rozenfel'd) **52** #6589 53A25

On the geometry of harmonic functions. (Russian) *Publ. Math. Debrecen* **22** (1975), *no.* 1-2, 87–94. (V. M. Isakov) **52** #14321 31A05

(*with* Borovec, A. N.) Structure of biaxially central complexes. (Russian) *Ukrain. Geometr. Sb. No.* 17 (1975), 70–82, 146. (B. Rozenfel'd) **51** #11304 53A25

Surfaces that are orthogonal to the congruences of a line complex. (Russian) *Ukrain. Geometr. Sb. No.* 17 (1975), 82–92, 146. (M. Decuyper) **51** #11301 53A20

Stratification of a line complex into normal congruences that are orthogonal to surfaces of zero curvature. (Russian) *Ukrain. Geometr. Sb. Vyp.* 18 (1975), 65–73, iii. (M. C. Chaki) **53** #3923 53A25

(*with* Mjagkov, V. I.) The *K*-stratification of a line complex. (Russian) *Ukrain. Geometr. Sb. Vyp.* 18 (1975), 74–84, iii. (R. M. Geĭdel'man) **53** #1444 53A25

(*with* Lubens'ka, T. V.) An analogue of parallel transport in a space w a hyperbolic connection. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv.* *Ser. Mat. Meh. No.* 17 (1975), 56–63, 178. (L. Tamássy) **55** #8980 53B15

(*with* Ponomarov, V. G.) Integral-free representation of certain complexes a triple inflection center on each ray in three-dimensional projective space. (Ukra English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 17 ( ), 170–175, 183. (Leo Boček) **55** #3993 53A25

Stratification of a line complex into normal congruences that are orthogo to surfaces of constant mean curvature. (Russian) *Ukrain. Geometr. Sb. Vyp.* 19 ( ), 65–77, iii. (W. Wrona) **58** #18178 53A15

(*with* Mjagkov, V. I.) A special case of *K*-stratification of a line compl in three-dimensional Euclidean space. (Russian) *Ukrain. Geometr. Sb. Vyp.* 19 ( ), 77–90, iii. (W. Wrona) **58** #18179 53A15

A generalization of minimal surfaces. (Russian) *Ukrain. Geometr. Sb. Vy* 20 (1977), 48–56, 3. (Author's introduction) **58** #24034 53A10

(*with* Īl'jašenko, V. Ja.) Inflexional-parabolic line complexes in hyperbolic s (Russian) *Ukrain. Geometr. Sb. Vyp.* 20 (1977), 57–69, 3. (M. A. Akivis) **58** #24 53A20

See also **Obituary: Finikov, S. P., 57** #5646

Kovanic, Pavel Minimum penalty estimate. (Czech summary) *Kybernetika* (*Pragu* 8 (1972), 367–383. (Mir Ali) **48** #5289 62J99 (93E10)

Generalized linear estimate of functions of random matrix arguments. *Kyberne* (*Prague*) **10** (1974), 303–316. (V. N. Igolkin) **51** #9922 93E10

Kovan'ko, O. S. (*with* Rogačenko, V. F.; Kostenko, V. G.; Kostovs'kiĭ, O. M.; Fleiš N. P.; Griliс'kiĭ, D. V.; Martinovič, T. L.) Scientific work in the Faculty of Mecha and Mathematics during the years of Soviet rule. (Ukrainian. Russian summary) *Vi* *L'vīv. Derž. Unīv. Ser. Fīz., Hīm. ī Meh.-Mat.* **1968**, 122–132. (Editors) **49** #70 01A60

The approximation of S_p almost periodic functions by Bochner-Fejér polynom (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Univ. Ser. Meh.-Mat.* **1971**, *n* 29–31, 88. (J. Musielak) **47** #7317 42A84

A certain relation of two classes of generalized almost periodic functions. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Univ. Ser. Meh.-Mat.* **1971**, *n* 3–4, 133. (A. Alexiewicz) **46** #9639 42A84

See also **Kostovs'kiĭ, O. M.; et al., 53** #2593

Kövari, Thomas On the order of polynomial approximation for closed Jordan domai Collection of articles dedicated to J. L. Walsh on his 75th birthday, IV. *J. Approxima* *Theory* **5** (1972), 362–373. (D. Gaier) **49** #600 31A05

Kovarik, Z. V. Spectrum localization in Banach spaces. I. *Linear Algebra and App* (1974), 225–236. (C. M. Schneeberger) **50** #8111 47A10 (65J05)

(*with* Olesky, D. D.) Sharpness of generalized Gerschgorin disks. *Linear Alge* *and Appl.* **8** (1974), *no.* 6, 477–482. (Robert J. Wernick) **56** #12034 15A42

Spectrum localization in Banach spaces. II. *Linear Algebra and Appl.* **12** (1975), 3, 223–229. (C. M. Schneeberger) **52** #11624 47A10

Compatibility of approximate solutions of inaccurate linear equations. *Lin* *Algebra and Appl.* **15** (1976), *no.* 3, 217–225. (Author's summary) **58** #22098 15 (65F35)

Similarity and interpolation between projectors. *Acta Sci. Math.* (*Szeged*) **39** (19 *no.* 3-4, 341–351. (Chandler Davis) **58** #2397 47A99 (46M35)

Minimal compatible solutions of linear equations. *Linear Algebra and Appl.* (1977), *no.* 2, 95–106. (N. N. Abdelmalek) **57** #14385 65F30

Kováts, A. On the generalized Bernstein polynomials. *Ann. Univ. Sci. Budapest. Eöt* *Sect. Math.* **19** (1976), 93–98 (1977). (Charles K. Chui) **58** #29603 41A10

Kovbasa, G. T. (*with* Udilov, V. V.) Investigation of the eigenoscillations of systems rods with group symmetry. (Russian) *Cybernetics and computer technology, No.* *Complex control systems* (*Russian*), *pp.* 82–92. *Naukova Dumka, Kiev*, 1969. (Autho summary) **45** #9570 70.35

(*with* Udilov, V. V.) The decomposition of multidimensional symmetric line automatic control systems. (Russian) *Complex control systems* (*Russian*), *pp.* 65– *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (K. Amborski) **48** #13367 93C05

(*with* Udilov, V. V.; Lebedev, D. V.) Decomposition and determination of t parameters of a system for stabilization of the angular motion of a nonsymmetric solid. *Avtomatika* **1973**, *no.* 4, 27–34 (*Ukrainian*); *translated as Soviet Automat. Contr* **6** (1973), *no.* 4, 19–25. (Peter Likins) **50** #12394 93D15 (70.34)

(*with* Udilov, V. V.) An application of the methods of abstract algebra to t synthesis of a system for the automatic control of the longitudinal motion of an airplan (Russian) *Cybernetics and computer technology, No.* 23: *Complex control systems* (*Russian*), *pp.* 28–33, 155. "*Naukova Dumka*", *Kiev*, 1974. (Vladimír Kučera) **52** #16759 93C05 (93D15)

An algebraic method for the synthesis of automatic control systems of nonstationa multidimensional systems. (Russian) *Complex control systems* (*Russian*), *pp.* 27–39. *In* *Kibernet., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (From the text) **58** #33302 93C

Kovbasenko, B. S. (*with* Žaldak, M. I.) A certain iteration process for seeking the Čebyš point of a system of linear equations. (Russian. English summary) *Vyčisl. Prikl. Ma* (*Kiev*) *No.* 5 (1968), 104–111. (Authors' summary) **45** #9473 65F10

(*with* Žaldak, M. I.) A certain iteration process for the Čebyšev approximation of continuous function by a polynomial. (Russian. English summary) *Vyčisl. Prikl. Ma* (*Kiev*) *No.* 12 (1970), 17–22. (Authors' summary) **45** #2888 65D15

(*with* Žaldak, M. I.) An accumulative iteration process for solution of a problem o convex programming. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* (1971), 84–88. (Alexander M. Rubinov) **46** #6839 90C25

(*with* Žaldak, M. I.) An accumulating iteration process for the solution of a linea programming problem with continuously prescribed constraints. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 16 (1972), 75–84. (Constantin Vîrsan) **46** #8656 90C05

(*with* Žaldak, M. I.) An accumulative iteration process for the solution of a linear-programming problem with continuously prescribed constraints in Hilbert space. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 24 (1974), 69–81, 159. (B. T.

Poljak) **51** #7288 65K05

nja, V. M. Conservative difference scheme for solution of stationary equations of gas dynamics. (Russian) *Proceedings of the Fifth All-Union Seminar on Numerical Methods n the Mechanics of a Viscous Fluid* (*Kaciveli*, 1974), *Part II* (*Russian*), 77–94. *Vyčisl. Centr, Akad. Nauk SSSR Sibirsk. Otdel.*, *Novosibirsk*, 1975. (Editors) **58** #32397 76.65

(*with* Berezin, Ju. A.; Janenko, N. N.) Implicit numerical method for blunt-body problem in supersonic flows. *Internat. J. Comput. & Fluids* **3** (1975), 271–281. (David F. Griffiths) **52** #2400 76.65

(*with* Janenko, N. N.) A difference scheme for the solution of the multidimensional equations of gas dynamics. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 6, 1273–1276. (Authors' introduction) **58** #8790 76.65 (65P05)

See also **Computing methods in applied sciences**, **54** #14476

er, T. M. *See* **Cover, T. M.**

erninskiĭ, I. V. Estimation of the probability of interlocking in switching circuits by means of probability graphs. (Russian) *Problemy Peredači Informacii* **11** (1975), *no.* 1, 80–90. (Ju. D. Burtin) **53** #10499 94A20

esi-Domokos, S. (*with* Yunn, B. C.; Domokos, G.) Broken conformal symmetry. I. The Hadron spectrum. (Italian summary) *Nuovo Cimento A* (11) **17** (1973), 103–124. (Eldad Gal-Ezer) **52** #16383 81.47

(*with* Casalbuoni, R.; Domokos, G.) Algebraic approach to the quark problem. (Italian and Russian summaries) *Nuovo Cimento A* (11) **31** (1976), *no.* 3, 423–446. (Authors' summary) **55** #4972 81.17

(*with* Casalbuoni, R.; Domokos, G.) Coloured supersymmetry. (Italian summary) *Nuovo Cimento A* (11) **33** (1976), *no.* 3, 432–446. (Authors' summary) **55** #4973 81.17

(*with* Domokos, G.) The algebra of color. *J. Mathematical Phys.* **19** (1978), *no.* 6, 1477–1481. (Authors' summary) **58** #4007 81.17

(*with* Domokos, G.) Gauge fields on coset spaces. (Italian and Russian summaries) *Nuovo Cimento A* (11) **44** (1978), *no.* 2, 318–330. (J. Blackman) **58** #8952 81.53 (53C05, 58E99)

(*with* Casalbuoni, R.; Domokos, G.) Internal symmetries and ghost symmetries: models on Hermitian spheres. *Phys. Rev. D* (3) **17** (1978), *no.* 8, 2048–2057. (Authors' summary) **58** #14488 81.22

vetz, A. (*with* Enosh, M.) Characterization of gravitational theories by cumulative effects in free particles' motion and in the behaviour of clocks. *Ann. Physics* **69** (1972), 279–296. (H. A. Eliopoulos) **49** #2024a 83.53

(*with* Enosh, M.) Generalized Fermi transport in generalized gravitation theories. *J. Mathematical Phys.* **14** (1973), 572–575. (H. A. Eliopoulos) **49** #2024b 83.53

(*with* Enosh, M.) Differential constants of motion for systems of free gravitating particles. I. Newton's theory. *Internat. J. Theoret. Phys.* **16** (1977), *no.* 12, 895–913. (Authors' summary) **58** #32188a 70.35 (83.35)

(*with* Enosh, M.) Differential constants of motion for systems of free gravitating particles. II. General relativity. *Internat. J. Theoret. Phys.* **17** (1978), *no.* 5, 319–346. (Authors' summary) **58** #32188b 70.35

ovner, J. L. (*with* Patil, S. A.; Patel, D. C.) The distribution of the MLE of the uniform correlation coefficient in the multivariate normal population. *Ann. Inst. Statist. Math.* **26** (1974), 403–411. (P. Fortunati) **50** #15153 62H10

(*with* Patil, S. A.) Properties of estimators of wildlife population density for the line transect method. (French summary) *Biometrics* **30** (1974), 225–230. (P. K. Bhattacharya) **50** #1393 62F10 (62P10)

(*with* Patil, S. A.) On the power of the best test of exponentiality against gamma alternatives. *Calcutta Statist. Assoc. Bull.* **24** (1975), *no.* 93-96, 53–60 (1976). (Ram Dahiya) **55** #4474 62F05

(*with* Patil, S. A.) On the test and power of zero drift on first passage times in Brownian motion. *Technometrics* **18** (1976), *no.* 3, 341–342. (Rashid Ahmad) **54** #3915 62F05

(*with* Patil, S. A.; Patel, D. I.) On bivariate truncated Poisson distribution. *J. Statist. Comput. and Simulation* **6** (1977/78), *no.* 1, 49–66. (Viorel Gh. Vodă) **57** #10879 62E15 (62F10)

Kovrig, V. G. Solution of the Cauchy problem for quasilinear hyperbolic systems by means of iterations. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1972**, *no.* 1, 19–28. (J. Kopáček) **46** #532 35L45 (65M25)

A numerical comparison of the methods of Moser and Picard for quasilinear hyperbolic equations. (Russian) *Bul. Akad. Štiince RSS Moldoven.* **1972**, *no.* 3, 3–10, 91. (C. Ilioi) **48** #7622 65M99

Kovrigin, A. B. (*with* Igolkin, V. N.; Miheev, S. E.) Optimal arrangement of observers in the case of a step-by-step observation. (Russian) *Operations research and statistical modeling*, *No.* 1 (*Russian*), *pp.* 71–78. *Izdat. Leningrad. Univ.*, *Leningrad*, 1972. (Editors) **48** #10108 65K05

★Методы обработки наблюдений в навигационных задачах. (Russian) [Methods for the processing of observations in navigation problems] *Izdat. Leningrad. Univ.*, *Leningrad*, 1974. 177 *pp.* (Editors) **54** #3932 62F10

Kovrikov, A. B. (*with* Ljudčik, A. M.) Application of the Gell-Mann-Feynman theorem to nonempirical computations of the electron structure of molecules. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 3, 215–218, 282. (Tetz Yoshimura) **56** #7568 81.35

Kovrižkin, V. V. Weak solutions of the Darboux problem. (Russian) *Differencial'nye Uravnenija* **8** (1972), 68–75. (M. Haimovici) **45** #8981 35D99

Smoothness of the solutions of the generalized Tricomi problem. (Russian) All-Union Symposium on Selected Questions of Partial Differential Equations (Prièlbrus, 1972). *Differencial'nye Uravnenija* **9** (1973), 97–105, 195. (Ja. A. Roĭtberg) **48** #721 35M05

Kovšel', M. N. (*with* Aleksandrov, Ju. S.; Selivohin, O. S.; Sorokin, A. V.) The synthesis of statistically optimal automatic systems. (Russian) *Proceedings of the First All-Union Symposium on Statistical Problems in Engineering Cybernetics* (*Moscow* 1967), *Nonlinear and optimal systems* (*Russian*), *pp.* 104–119, 435. *Izdat. "Nauka"*, *Moscow*, 1971. (V. N. Igolkin) **47** #8183 93E20

Kovšov, A. I. Determination of the *k*-order and the *k*-type of an entire function. Finding a particular solution of an inhomogeneous differential equation of infinite order that is generated by entire functions of finite *k*-order. (Russian) *Selected problems of mathematics and physics* (*Russian*), *pp.* 3–11. *Čuvaš. Gos. Univ.*, *Cheboksary*, 1971. (V. P. Petrenko) **57** #12852 30A66

A generalization of the concept of the exponent of convergence of the sequence of zeros of an entire function. Generalization of certain theorems. (Russian) *Selected problems of mathematics and physics* (*Russian*), *pp.* 11–19. *Čuvaš. Gos. Univ.*, *Cheboksary*, 1971. (V. P. Petrenko) **57** #12853 30A66

Inhomogeneous differential equations of infinite order in generalized derivatives that are generated by entire functions of finite κ-order. (Russian) *Theory of functions of a complex variable and boundary value problems*, *No.* 1 (*Russian*), *pp.* 3–18, 99. *Čuvaš. Gos. Univ.*, *Cheboksary*, 1972. (P. Talpalaru) **51** #8514 34A35 (30A64)

(*with* Ušakov, A. Z.) The completeness of systems of derivatives of an analytic function in a disc. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 910–920. (V. P. Havin) **47** #478 30A82

Kovšov, G. N. Transportation in a system of models of long-range planning of the national economy. (Russian) *Èkonom. i Mat. Metody* **13** (1977), *no.* 5, 1033–1053. **57** #5020 90A15

Kovtun, I. I. On the solution of certain systems of differential equations with random perturbation. (Russian) *Analytic and qualitative methods of the theory of differential equations* (*Russian*), *pp.* 112–117. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1972. (G. S. Ladde) **52** #3682 34F05 (60H10)

A certain method of solution of a system of differential equations with random perturbation. (Russian. Polish and English summaries) *Nonlinear vibration problems*, *No.* 15 (*Proc. Sixth Internat. Conf. Nonlinear Oscillations*, *Poznań*, 1972, *Part II*), *pp.* 257–263. *PWN—Polish Sci. Publ.*, *Warsaw*, 1974. (Author's summary) **56** #16084 34F05 (60H10)

Kovtun, I. M. Certain boundary value problems for an iterated equation of generalized axially symmetric potential theory. (Russian) *Mathematical physics*, *No.* 9 (*Russian*), *pp.* 47–56. *Naukova Dumka*, *Kiev*, 1971. (B. A. Bondarenko) **45** #3745 31A25

Solution of certain boundary value problems for problems of generalized axially symmetric potential theory. (Russian) *Mathematical physics*, *No.* 11 (*Russian*), *pp.* 35–40. *Naukova Dumka*, *Kiev*, 1972. (M. A. Atahodžaev) **46** #3818 31A25

The analyticity of the solutions of the iterated equation of generalized axially symmetric potential theory. (Russian. English summary) *Linear boundary value problems of mathematical physics* (*Russian*), *pp.* 300–306. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (V. M. Isakov) **51** #6184 35Q05

An iteration equation of generalized axially symmetric potential theory. (Russian) *Mathematical physics*, *No.* 15 (*Russian*), *pp.* 82–90, 180. *Izdat. "Naukova Dumka"*, *Kiev*, 1974. (V. M. Isakov) **52** #14702 35Q99 (31A35)

Analytic properties of the solutions of an iterated equation of generalized axially symmetric potential theory. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 32 (1977), 142–148, 161. (Author's summary) **56** #15959 31C05

Kovtunenko, V. P. *See* **Spanier, Jerome; et al.**, **50** #6104

Kovura, O. B. (*with* Mossakovskiĭ, V. Ī.) A certain method for the solution of problems of potential theory, and its application to elasticity theory. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 1, 44–47, 94. (M. O. Bašeleĭšvili) **53** #15039 73.31

Kowada, Masasi The orbit-preserving transformation groups associated with a measurable flow. *J. Math. Soc. Japan* **24** (1972), 355–373. (Karl Petersen) **46** #5577 28A65

The rate of convergence in the ergodic theorem. (Japanese) *J. Tsuda College No.* 4 (1972), 1–5. (T. Onoyama) **49** #5301 28A65

Convergence rate in the ergodic theorem for an analytic flow on the torus. *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 251–254. *Lecture Notes in Math.*, *Vol.* 330, *Springer*, *Berlin*, 1973. (From the text) **57** #16539 28A65 (58F15)

Kowal, Z. (*with* Dziubdziela, W.; Kopociński, Bolesław) Ultimate bearing capacity of structural systems with minimal critical sets having joint elements in pairs. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 719–731. (J. Murzewski) **50** #1610 73.62

Kowalczyk, Bohdan ★Macierze i ich zastosowania. (Polish) [Matrices and their applications] *Wydawnictwa Naukowo-Techniczne*, *Warsaw*, 1976. 414 *pp.* (Z. V. Kovarik) **56** #8589 15–01 (65–01, 69.00)

(*with* Ratajczak, Tadeusz) An iterative method for calculating the eigenoscillations and amplitudes of a system with finitely many degrees of freedom. (Polish. Russian and English summaries) *Mech. Teoret. Stos.* **14** (1976), *no.* 2, 237–252. (G. Khmelevskaja-Plotnikova) **54** #4237 70.65

Kowalczyk, E. Certain information concepts tentatively defined in terms of the relations theory. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 10, 817–820. (S. Guiaşu) **56** #2657 94A15

Kowalczyk, T. (*with* Pleszczyńska, Elzbieta) Monotonic dependence functions of bivariate distributions. *Ann. Statist.* **5** (1977), *no.* 6, 1221–1227. (R. P. Gupta) **56** #7009 62H05 (62G99)

General definition and sample counterparts of monotonic dependence functions of bivariate distributions. (German and French summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 3, 351–365. (Richard L. Dykstra) **58** #8021 62H05

Kowalczyński, Jerzy K. (*with* Plebański, Jerzy F.) Properties of a solution of the Einstein equations with the cosmological constant. *Acta Phys. Polon B* **8** (1977), *no.* 3, 169–171. (Authors' summary) **57** #8896 83.53

(*with* Plebański, Jerzy F.) A few properties of a certain class of degenerate space-times. *Internat. J. Theoret. Phys.* **16** (1977), *no.* 5, 357–370. (Authors' summary) **58** #20215 83.53

(*with* Plebański, Jerzy F.) Metric and Ricci tensors for a certain class of space-times of *D*-type. *Internat. J. Theoret. Phys.* **16** (1977), *no.* 5, 371–388. (Authors' summary) **58** #20216 83.53 (53C50)

Kowalenko, I. N. *See* **Kovalenko, Ī. M.**

Kowalik, H. *See* **Control in space**, **48** #13319

Kowalik, J. S. (*with* Osborne, Michael R.) ★Methods for unconstrained optimization problems. Modern Analytic and Computational Methods in Science and Mathematics, No. 13. *American Elsevier Publishing Co., Inc.*, *New York*, 1968. xii+148 *pp.* (S. P. Bingulac) **48** #1462 65K05 (90Cxx) (*with* Jacoby, S. L. S.; Pizzo, J. T.) ★Iterative methods for nonlinear optimization problems. Prentice-Hall Series in Automatic Computation. *Prentice-Hall, Inc., Englewood Cliffs, N.J.*, 1972. xi+274 *pp*. (J. E. Dennis, Jr.) **49** #4194 65–02 (65K05)

(*with* Chow, Tse-Sun) Computing with sparse matrices. *Internat. J. Numer. Methods Engrg.* 7 (1973), 211–223. (B. Levinger) **48** #12787 65F05

(*with* Gagnon, C. R.; Hicks, R. H.; Jacoby, S. L. S.) A nonlinear programming approach to a very large hydroelectric system optimization. *Math. Programming* **6** (1974), 28–41. (M. Dragomirescu) **50** #1734 90C50

(*with* Ramakrishnan, K. G.) A numerically stable optimization method based on a homogeneous function. *Math. Programming* **11** (1976), *no*. 1, 50–66. (Werner Krabs) **55** #12106 90C30 (65K05)

(*with* Kumar, Sheo) Fast Givens transformations applied to the homogeneous optimization method. *Appl. Math. Comput.* **4** (1978), *no*. 3, 239–252. (Authors' summary) **57** #18094 65K05

Kowalik, Stanisław Investigation of the stochastic stability of a certain mechanical system. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz Zeszyt* 26 (1976), 227–233. (Author's summary) **58** #26464 93E15

Minimization of the influence of interference by selecting suitable coefficients at the input of the system. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976), 235–243. (Author's summary) **58** #26476 93E20

Kowaljow, M. *See* **Kovalev, M. M.**

Kowalski, Andrzej Informativeness of a process, and the synthesis of the optimal structure of a predictor. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **20** (1975), *no*. 2, 183–197. (Author's summary) **51** #15113 93E10

Quality indicators in the synthesis of an optimal predictor of hazard states. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **21** (1976), *no*. 1, 105–126. (Author's summary) **56** #10895 90B25 (94A15)

Kowalski, Eugeniusz Certain properties of the finite group defined by the relations $a^n = b^m = 1$, $ba = a^r b$. (Polish. English summary) *Wyż. Szkoł. Ped. w Katowicach—Zeszyty Nauk. Sekc. Mat. No.* 5 (1966), 23–29 (1967). (M. Herzog) **51** #5761 20D99

The group that is defined by the relations $A^n = B^m = 1$, $BA = A^r B^s$, $BA^2 = A^t B$. (Polish. English summary) *Wyż. Szkoł. Ped. w Katowicach—Zeszyty Nauk. Sekc. Mat. No.* 6 (1968), 25–30. (M. Herzog) **47** #3545 20F05

Semidirect product of two finite cyclic groups. (Polish. English summary) *Wyż. Szkoł. Ped. w Katowicach—Zeszyty Nauk. Sekc. Mat. No.* 6 (1968), 31–35. (M. Herzog) **47** #3525 20D40 (20F25, 20K25)

Kowalski, J. A difference method for the solution of a linear differential equation with a discontinuous coefficient. I. (Russian) *Vestnik Moskov. Univ. Ser. XV Vyčisl. Mat. Kibernet.* **1978**, *no*. 2, 3–16. (Author's summary) **58** #19186 65M10

Kowalski, Jacek M. Simple inequality for the free energy of disordered systems. *J. Statist. Phys.* **16** (1977), *no*. 2, 197–200. (Author's summary) **56** #2143 82.49

Kowalski, James George Leśniewski's ontology extended with the axiom of choice. *Notre Dame J. Formal Logic* **18** (1977), *no*. 1, 1–78. (John T. Canty) **57** #2876 02B15 (02K20)

Kowalski, Jan Krzysztof A finite-difference method for parabolic differential equations with mixed derivatives. *Math. Comp.* **25** (1971), 675–698. (J. Ll. Morris) **46** #8432 65M05

Kowalski, K. L. Structure-invariant perturbation theory in three-particle scattering. *Phys. Rev. C* (3) **8** (1973), 1973–1980. (Author's summary) **53** #12361 81.47

Kowalski, Michał Linear independence in linear rings with abstract differentiation. *Ann. Polon. Math.* **32** (1976), *no*. 3, 215–234. (Michael F. Singer) **54** #10222 12H05 (13B10, 44A40)

Kowalski, Oldřich A contribution to the Cartan's method of specialization of frames. *Arch. Math.* (*Brno*) **4** (1968), 107–120. (Ü. Lumiste (RŽMat **1971** #5 A713)) **46** #2584 53B15

Vector bundles as an instrument of the metric and conformal differential geometry. *Comment. Math. Univ. Carolinae* **12** (1971), 627–632. (C. B. Allendoerfer) **45** #4324 53A30 (53C30)

Properties of hypersurfaces which are characteristic for spaces of constant curvature. *Ann. Scuola Norm. Sup. Pisa* (3) **26** (1972), 233–245. (Shoshichi Kobayashi) **50** #14598 53C40

Some algebraic theorems on vector-valued forms and their geometric applications. Collection of articles commemorating Władysław Ślebodziński. *Colloq. Math.* **26** (1972), 59–92. (A. Nijenhuis) **49** #6089 53C20

A note on the Riemann curvature tensor. *Comment. Math. Univ. Carolinae* **13** (1972), 257–263. (C. Teleman) **49** #11415 53B20

Type numbers in metric differential geometry of higher order. *J. Differential Geometry* 7 (1972), 403–421. (Y. Katsurada) **50** #3158 53C40

On regular curvature structures. *Math. Z.* **125** (1972), 129–138. (M. do Carmo) **45** #4318 53C20

Partial curvature structures and conformal geometry of submanifolds. *J. Differential Geometry* **8** (1973), 53–70. (J. D. Zund) **50** #11068 53B25

On the Gauss-Kronecker curvature tensors. *Math. Ann.* **203** (1973), 335–343. (J. L. Kazdan) **50** #5686 53C20

Generalized symmetric spaces. *Comment. Math. Univ. Carolinae* **15** (1974), 361–375. (Samuel I. Goldberg) **49** #9780 53C35

Riemannian manifolds with general symmetries. *Math. Z.* **136** (1974), 137–150. (K. Nomizu) **49** #6097 53C35

Generalized pointwise symmetric spaces. *Comment. Math. Univ. Carolinae* **16** (1975), *no*. 3, 459–467. (T. J. Willmore) **52** #11794 53C35

Classification of generalized symmetric Riemannian spaces of dimension $n < 5$. *Rozpravy Československé Akad. Věd Řada Mat. Přírod. Věd.* **85** (1975), *no*. 8, 61 *pp*. (Dominic S. P. Leung) **53** #1479 53C35

Existence of generalized symmetric Riemannian spaces of arbitrary order. *J. Differential Geometry* **12** (1977), *no*. 2, 203–208. (J. Szenthe) **58** #24128 53C35

Generalized affine symmetric spaces. *Math. Nachr.* **80** (1977), 205–208. (K. L. Duggal) **57** #7461 53C35

Generalized symmetric Riemannian spaces. *Period. Math. Hungar.* **8** (1977), 181–184. (J. Szenthe) **58** #7495 53C35

Smooth and affine *s*-manifolds. *Period. Math. Hungar.* **8** (1977), *no*. 3-4, 299- (C. S. Houh) **58** #7493 53C30

Thom's theorem on the seven elementary catastrophes. (Czech) *Pokroky Mat. Astronom.* **22** (1977), *no*. 6, 302–315. (J. S. Joel) **57** #17701 58C25

Kowalski, Robert Search strategies for theorem-proving. *Machine intelligence*, 5, *pp*. 181–201. *American Elsevier, New York*, 1970. (I. Kramosil) **45** #6521 68A40

(*with* Kuehner, Donald) Linear resolution with selection function. *Artificial Intelligence* **2** (1971), 227–260. (From the authors' summary) **55** #9618 68A40

Predicate logic as programming language. *Information processing* 74 (*Proc. Congress, Stockholm*, 1974), *pp*. 569–574. *North-Holland, Amsterdam*, 1974. (Aut summary) **55** #1785 68A05

A proof procedure using connection graphs. *J. Assoc. Comput. Mach.* **22** (1975) 4, 572–595. (Charles G. Morgan) **52** #16169 68A40

(*with* van Emden, M. H.) The semantics of predicate logic as a program language. *J. Assoc. Comput. Mach.* **23** (1976), *no*. 4, 733–742. (A. J. Kfoury) **56** #1 68A05 (02B10)

See also **Cybernetics collection, 50** #1765

Kowalski, Tadeusz Some properties of the Sobolev spaces that are connected with paral equations. (Russian) *Demonstratio Math.* **10** (1977), *no*. 2, 339–348. (A. I. Atana **57** #13464 46E35 (35K99)

Kowalski, Zbigniew S. The method of least relative squares in determining parameter approximation functions. (Polish. Russian and English summaries) *Przegląd Statyst* (1971), 19–31. **46** #8381 65D15

(*with* Pliś, Andrzej) Difference inequalities of the elliptic type. *Ann. Polon. M* **26** (1972), 239–251. (*errata insert*) (C. E. Billigheimer) **47** #7254 39A12

Invariant measures for piecewise monotonic transformations. *Probability—Wi School* (*Proc. Fourth Winter School, Karpacz*, 1975), *pp*. 77–94. *Lecture Notes in M Vol*. 472, *Springer, Berlin*, 1975. (M. S. Waterman) **52** #10999 28A65

Continuity of invariant measures for piecewise monotonic transformations. (Rus summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no* 519–524. (K. Krzyżewski) **52** #3475 28A65

Ergodic properties of piecewise monotonic transformations. *Dynamical syste Vol. I—Warsaw, pp*. 145–149. *Astérisque, No*. 49, *Soc. Math. France, Paris*, 1977. (Ja W. England) **58** #17042 28A65

Some remarks about invariant measures for piecewise monotonic transformati (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (19 *no*. 1, 7–12. (M. S. Waterman) **55** #3219 28A65

Kowalsky, Hans-Joachim ★Einführung in die lineare Algebra. *Walter de Gruyter, Berlin-New York*, 1971. 233 *pp*. (Editors) **49** #10707 15–01

★Lineare Algebra. Sechste, verbesserte Auflage. *Walter de Gruyter, Berlin- York*, 1972. 341 *pp*. (Editors) **49** #10706 15–01

★Vektoranalysis. I. *Walter de Gruyter, Berlin-New York*, 1974. 311 *pp*. (Will Margulies) **50** #14505 53–01

★Einführung in die lineare Algebra. Zweite Auflage. de Gruyter Lehrbuch. *Wa de Gruyter, Berlin-New York*, 1974. 233 *pp*. (Editors) **52** #13871 15–01

★Lineare Algebra. Siebente Auflage. de Gruyter Lehrbuch. *Walter de Gruy Berlin-New York*, 1975. 341 *pp*. (Editors) **52** #13872 15–01

★Vektoranalysis. II. de Gruyter Lehrbuch. *Walter de Gruyter, Berlin-New Yo* 1976. 251 *pp*. (Editors) **52** #14181 26–02 (28–01, 53–01)

★Lineare Algebra. Achte Auflage. de Gruyter Lehrbuch. *Walter de Gruy Berlin-New York*, 1977. 341 *pp*. *ISBN* 3-11-007409-5 (Editors) **57** #12544 15–01

(*with* Hischer, H.) Elementarteilersatz und Normalformen. *Abh. Braunschwe Wiss. Ges.* **28** (1977), 69–79. (Authors' introduction) **58** #28028 15A21

Kowaltowski, Tomasz Axiomatic approach to side effects and general jumps. *Acta Informat.* 7 (1976/77), *no*. 4, 357–360. (T. Rus) **55** #4765 68A05

Kowarczyk, Hugon The cooperation of Hugo Steinhaus with the medical sciences a physicians. (Polish) Papers presented at a Conference in Honor of Hugo Steinha (Wrocław, 1972). *Wiadom. Mat.* (2) **17**, 65–69 (1973). (Editors) **52** #13210 01A7

Kowata, A. (*with* Hashizume, Michihiko; Minemura, Katsuhiro; Okamoto, Kiyosato) integral representation of an eigenfunction of the Laplacian on the Euclidean spac *Hiroshima Math. J.* **2** (1972), 535–545. (W. D. Evans (Zbl **269** #35012)) **55** #3168 22E45 (43A85)

Kowata, Atsutaka (*with* Okamoto, Kiyosato) Harmonic functions and the Borel-Weil theorem. *Hiroshima Math. J.* **4** (1974), 89–97. (László Zsidó) **56** #16000 32M (43A85, 31B05)

(*with* Eguchi, Masaaki) On the Fourier transform of rapidly decreasing functions L^p type on a symmetric space. *Hiroshima Math. J.* **6** (1976), *no*. 1, 143–158. (P. Trombi) **55** #3686 43A85

Kowol, Gerhard Über die Struktur einer Klasse von auflösbaren Gruppen. *Monatsh. Mat.* 76 (1972), 306–316. (M. F. Newman) **47** #6846 20D10 (20D15)

Ein Nilpotenzkriterium für endliche Gruppen. *Arch. Math.* (*Basel*) **24** (197 461–464. (Thomas Laffey) **49** #2926 20D15

Über die Struktur einer Klasse von auflösbaren Gruppen. II. *Monatsh. Math.* 7 (1973), 120–131. (M. F. Newman) **48** #2252 20D25

Über eine *n*-dimensionale Permutationspolynomgruppe. (English summary) *Monatsh. Math.* **79** (1975), 115–121. (M. F. Newman) **52** #545 20B99

Conditions for the commutativity of semigroups. *Proc. Amer. Math. Soc.* **56** (1976 85–88. (Mohan S. Putcha) **53** #8294 20M10

(*with* Mitsch, Heinz) Polynomial functions over commutative semi-groups. *Semigroup Forum* **12** (1976), *no*. 2, 109–118. (Saraswathi Subbiah) **53** #8303 20M1

(*with* Mitsch, Heinz) On the decomposition of rl-semigroups into groups. *Semigroup Forum* **13** (1976/77), *no*. 2, 127–134. (Johnny A. Johnson) **55** #534 20M10

First-*n*-abelsche Gruppen. *Arch. Math.* (*Basel*) **29** (1977), *no*. 1, 55–66. (J. L Alperin) **56** #15783 20F99

Gruppen von Polynomen über Ringen. *Math. Nachr.* **78** (1977), 139–143. (H Lausch) **57** #3109 13B25

Kowolik, Jan A remark on geodesics. (Polish. English summary) *Zeszyty Nauk. Wyż.*

Szkoły Ped. w Opolu Mat. **18** *Zastos. Mat.* (1975), 17–19. (Editors) **56** #13126 53B40

(*with* Szwiec, Wiesław) Optimal synthesis of a dynamical system with bounded velocities. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. W Opolu Mat.* **20** *Algebra, Zastos. Mat.* (1978), 93–103. (Authors' summary) **58** #26373 93C99

Anne Jacob (*with* Guichelaar, Jan; de Groot, Sybren Ruurds) Théorie relativiste de l'influence d'un phénomène de relaxation sur la propagation du son. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 13, Aii, A959–A961. (Authors' summary) **54** #11972 76.53

ama, Akira (*with* Ono, Jin; Tsuda, Kōichi) An algebraic characterization of pointed S^n-movability. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 12, 1249–1252. (Maria Moszyńska) **58** #13028 55E99

Hopf classification theorem in shape theory. *Math. Japon.* **22** (1977/78), *no.* 4, 479–490. (Jerzy Dydak) **58** #18428 55D99

ama, Muneshi (*with* Sunahara, Yoshifumi; Kojima, Fumio; Aihara, Shin'ichi) On the optimal control for distributed parameter systems with Markov chain coefficients. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras,* 1976), *Vol.* 1, *pp.* 27–31. *Hemisphere, Washington, D.C.,* 1977. (Authors' summary) **58** #9729 93E20

yama, Shoichi (*with* Tajima, Koji; Miura, Ryoichi) Comments on: "Determination of matrix transfer function in the form of matrix fraction from input-output observations" (IEEE Trans. Automatic Control **AC-20** (1975), 392–396) by K. Furuta and J.-G. Paquet. With a reply by the authors. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 4, 684–685. (Editors) **57** #9180 93B15

yama, Toshiko (*with* Nishi, Mieo; Yanagihara, Hiroshi) On characterizations of Dedekind domains. *Hiroshima Math. J.* **4** (1974), 71–74. (Norman Eggert) **50** #305 13F05

A proof to Dieudonné's theorem on infinite abelian *p*-groups. *Natur. Sci. Rep. Ochanomizu Univ.* **26** (1975), *no.* 2, 61–62. (P. Gräbe) **54** #2838 20K10

On a characterization of quasi-complete *p*-groups. *Natur. Sci. Rep. Ochanomizu Univ.* **27** (1976), *no.* 2, 131–132. (Doyle O. Cutler) **56** #3148 20K25

On *p*-indicators in Ext$(Q/Z, T)$. *Hiroshima Math. J.* **8** (1978), *no.* 1, 211–216. (L. Bican) **58** #5982 20K40

yame, Kenji (*with* Minato, Kotaro; Eiho, Shigeru; Kuwahara, Michigoshi) A method for solving multivariable quadratic programming problems having special properties. (Japanese) *Systems and Control* **19** (1975), *no.* 7, 402–404. (Nobuo Sannomiya) **54** #4654 90C20

oyanagi, Ryohei A counter example of a homomorphism theorem for locally convex spaces. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 2, 227–231. (R. A. Raimi) **58** #23475 46A30

oyanagi, Tsunehira On a certain property of a Riemannian space admitting a special concircular scalar field. *J. Fac. Sci. Hokkaido Univ. Ser. I* **22** (1972), 154–157. (T. Okubo) **46** #6240 53C25

A remark on a closed hypersurface with constant second mean curvature in a Riemann space. *Hokkaido Math. J.* **7** (1978), *no.* 1, 97–109. (Y. Katsurada) **57** #10655 53C40

oyekin, A. I. *See* **Koekin, A. I.**

oyré, Alexandre *See* **Newton, Isaac**, **58** #4966a *and* **Newton, Isaac**, **58** #4966b

ozaček, V. V. (*with* Antonova, L. A.; Barancev, R. G.) A numerical solution of the problem of scattering on bodies of rotation. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **17** (1970), 7–19. (I. O. Bohachevsky) **46** #1113 65N99

(*with* Barancev, R. G.; Grudcyn, V. V.; Zabolotnyĭ, F. T.) Rayleigh's hypothesis in the problem of scattering by finite bodies of arbitrary form. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 7, 56–62. (J. R. Schulenberger) **46** #1204 78.35 (35J05)

A solution by the partial wave method of problems of scattering by objects of complex shape. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 19 *Mat. Meh. Astronom. No.* 4 (1972), 88–94, 148. (J. E. Rosenthal) **52** #4824 78.35

See also **Mathematical problems in the theory of wave propagation**, **46** #9559

Kozačenko, Ju. V. The uniform convergence of certain stochastic series. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 2 (1970), 104–110. (G. K. Eagleson) **45** #2773 60F99 (60G17)

Local properties of sample distribution functions of a certain class of random processes. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist.* **1970**, *no.* 1, 109–116. (J. H. Kučkarov) **46** #2729 60G17

(*with* Senčenkova, A. Ju.) Sufficient conditions for the sample differentiability of random processes. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No.* 7 (1972), 75–80, 164. (M. Loève) **48** #3115 60G15

(*with* Buldigīn, V. V.) Local properties of realizations of certain random processes and fields. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 10 (1974), 39–47, 174. (Ju. M. Ryžov) **54** #1363 60G17

(*with* Rudomanov, V. I.) The probability of a stationary Gaussian random process crossing a curvilinear level. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 12 (1975), 62–76, 171. (A. C. Offord) **54** #1358 60G15

(*with* Jadrenko, M. Ĭ.) Local properties of sample functions of random fields. I. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 14 (1976), 53–66, 155. (1 *table*) (R. M. Dudley) **54** #6252 60G17

(*with* Jadrenko, M. Ĭ.) Local properties of sample functions of random fields. II. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 15 (1976), 82–98, 155. (R. M. Dudley) **54** #6253 60G17

Kozáčik, Jaroslav (*with* Štecha, Jan; Kozáčiková, Alena) Algorithms for solution of equations $\mathbf{PA}+\mathbf{A}^{\mathrm{T}}\mathbf{P}=-\mathbf{Q}$ and $\mathbf{M}^{\mathrm{T}}\mathbf{PM}-\mathbf{P}=-\mathbf{Q}$ resulting in Lyapunov stability analysis of linear systems. *Kybernetika* (*Prague*) **9** (1973), 62–71. **48** #5697 93D05

(*with* Štecha, Jan; Kozáčiková, Alena; Lidický, Jiří) Optimal control of a linear discrete system. *Kybernetika* (*Prague*) **9** (1973), 374–388. **48** #3562 93C55

Kozáčiková, Alena (*with* Štecha, Jan; Kozáčik, Jaroslav) Algorithms for solution of equations $\mathbf{PA}+\mathbf{A}^{\mathrm{T}}\mathbf{P}=-\mathbf{Q}$ and $\mathbf{M}^{\mathrm{T}}\mathbf{PM}-\mathbf{P}=-\mathbf{Q}$ resulting in Lyapunov stability analysis of linear systems. *Kybernetika* (*Prague*) **9** (1973), 62–71. **48** #5697 93D05

(*with* Štecha, Jan; Kozáčik, Jaroslav; Lidický, Jiří) Optimal control of a linear discrete system. *Kybernetika* (*Prague*) **9** (1973), 374–388. **48** #3562 93C55

Kozačkov, L. S. Certain integral properties of information systems of hierarchic type. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 1, 139–148. (A. A. Mullin) **49** #8447 68A45

Kozadaev, V. S. Characteristic cone of partial differential equations. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 7 (1976), 96–100. (E. M. Saak) **57** #6767 35A30

Stability of systems with a principal part. (Russian) *Differencial'nye Uravnenija* (*Rjazan'*) *Vyp.* 7 (1976), 101–105. (M. W. Konstantinov) **57** #809 34D20

Kožagulova, S. O. The first boundary value problem for a certain equation with discontinuous coefficients. (Russian) *Differential equations and their application* (*Russian*), *pp.* 31–38, 210. *Izdat. "Nauka" Kazah. SSR, Alma-Ata,* 1970. (Pavel Doktor) **51** #10853 35G15

Kožahmedov, I. B. Solution of the fundamental boundary value problems for Lamé's equation by the method of simplicial approximation. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **1** (1970), *no.* 1, 63–82. (C. I. Borş) **48** #10263 73.35

Kozai, Yoshihide (*with* Hori, Gen-ichiro) Analytical theories of the motion of artificial satellites. *Satellite dynamics* (*Fourth Sympos., São Paulo,* 1974), *pp.* 1–15. *Springer, Berlin,* 1975. (John V. Breakwell) **56** #17299 70.41

Kozak, A. V. A certain projection method of solving operator equations in a Banach space. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 1042–1045. (G. Vainikko) **48** #4785 47A50

A local principle in the theory of projection methods. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 1287–1289. (F. Smithies) **51** #11144 47A50

The reduction method for multidimensional discrete convolutions. (Russian) *Mat. Issled.* **8** (1973), *no.* 3(29), 157–160, 184. (D. Sarason) **49** #1200 47B35

Kozak, Jernej Splines and interpolation. (Slovenian. English summary) *Obzornik Mat. Fiz.* **18** (1971), 59–64. (Author's summary) **45** #787 41A15

Kozak, John J. (*with* Cheng, Ing Yih S.) Application of the theory of Orlicz spaces to statistical mechanics. I. Integral equations. *J. Mathematical Phys.* **13** (1972), 51–58. (M. Drăganu) **45** #8198 82.46 (46E30, 45G99)

(*with* Cheng, Ing Yih S.) On the relationship between bifurcation points of the Kirkwood-Salsburg equation and phase transitions. *J. Mathematical Phys.* **14** (1973), 632–637. (Authors' summary) **56** #10663 82.47

(*with* Goldstein, Ronald A.) Phase transitions in *D*-dimensional Ising lattices. *Global analysis and its applications, Vol. II* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., Trieste,* 1972), *pp.* 245–261. *Internat. Atomic Energy Agency, Vienna,* 1974. (See RŽMat **1975** #2 B1154; MR **55** #9129b) 82.47

Kozák, Jozef On the weighted method of least squares with weights from a Pascal distribution. I, II. (Czech. English summary) *Ekonom.-Mat. Obzor* **8** (1972), 426–433; *ibid.* **10** (1974), 207–220. (V. Fabian) **51** #9404 62M10

Corollaries to the prediction method of Z. Pawłowski. (Polish. Russian and English summaries) *Przegląd Statyst.* **19** (1972), 341–347. (M. Hušková) **47** #7880 62M20

Kozák, Miroslav Finiteness conditions on EDZ-varieties. *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 3, 461–472. (James B. Nation) **54** #12605 08A15

Kozak, P. P. Certain questions connected with the Wiener integral in a space of continuous functions of several variables. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Fīz. Hīm. ī Meh.-Mat.* **1968**, 138–143. (G. N. Sytaja) **50** #10195 28A40 (60J65)

On the representation of the solution of the Goursat problem for the equation $\partial^n u/(\partial t_1 \cdots \delta t_n) + p(t_1, \cdots, t_n)u = f(t_1, \cdots, t_n)$ in the form of a continual integral. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 44 (1970), 97–101, 213. (M. I. Jadrenko) **45** #2326 35L60 (28A40)

On the representation of the solution of the Goursat problem for the equation $\partial^n u/(\partial t_1 \cdots \partial t_n) + F(t_1, \cdots, t_n; u) = f(t_1, \cdots, t_n)$ in the form of a continual integral. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 44 (1970), 102–105, 213. (M. I. Jadrenko) **45** #721 35L60 (28A40)

The representation of the solution of a linear differential equation in the form of a continual integral. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 780–784, 857. (Ju. L. Daleckiĭ) **46** #7617 34B05 (28A40)

Representation of the solution of a nonlinear differential equation in the form of a continual integral. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 608–612, 669. (Ju. M. Berezanskiĭ) **48** #6521 34A99

Certain connections of differential equations with a continual integral. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 978–982, 1053. (A. Ja. Dorogovcev) **47** #5213 28A40 (34G05, 35R15)

The representation of the solution of the characteristic problem for a higher order linear equation in the form of a continual integral. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 692–694, 764. (Ju. L. Daleckiĭ) **50** #7774 35C15

The representation in the form of a continual integral of the solution of the characteristic problem for a certain linear equation. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 84–90, 142. (Ju. L. Daleckiĭ) **49** #5535 35C15 (46G10)

The representation of the solution of the characteristic problem for a system of linear equations of higher orders in the form of a continual integral. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, 198–201, 283. (Ju. L. Daleckiĭ) **51** #6109 35C15 (28A40)

Representation of the solution of the Cauchy problem for a system of higher order ordinary differential equations in the form of a continual integral. (Ukrainian. Russian summary) *Vīsnik L'vīv. Polītehn. Īnst. No.* 106 (1975), 67–71, 201. (Author's summary) **58** #22721 34A10

Representation of the solution of the Cauchy problem for a system of higher order ordinary nonlinear diffrential equations in the form of a path integral. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 3, 195–200, 286. (Ju. L. Daleckiĭ) **54** #629 34A05 (28A40, 45F05)

(*with* Kadob'jans'kiĭ, R. M.) Representation of the solution of the Cauchy problem for systems of integro-differential equations in the form of a multiple Wiener integral. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 3, 210–213, 285. (Nicolae Luca) **58** #12251 45J05 (28A40)

(*with* Kadob'jans'kiĭ, R. M.) A representation of the solution of the characteristic problem for a system of integro-differential equations in the form of a Wiener-type integral. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 4, 298–301, 381. (A. Ja. Dorogovcev) **58** #13357 60H99 (28A40, 45K05)

Kozakevič, È. G. *See* **Kozakiewicz, Erwin**

Kôzaki, Masanori On manifolds with many geodesic loops. *Kumamoto J. Sci.* (*Math.*) **11** (1974/75), 15–20. (R. S. Millman) **49** #11426 53C20 (57F15)

On Riemannian manifolds with certain geodesic loops. *Tamkang J. Math.* **5** (1974), 145–148. (Ph. Tondeur) **51** #11559 57F15 (53C20)

Kozakiewicz, Erwin Ein linearer Funktionenraum und seine Anwendungen. *Beiträge Anal. Heft* 9 (1976), 43–44. (V. Šěda) **56** #9037 34K15

Über lineare Funktionensysteme vom Durchdringungstyp. *Period. Math. Hungar.* **7** (1976), *no.* 1, 37–48. (K. Schmitt) **55** #808 34K15

On the asymptotic behavior of positive solutions of two differential inequalities with retarded argument. *Differential equations* (*Colloq., Keszthely*, 1974), *pp.* 309–319. *Colloq. Math. Soc. János Bolyai, Vol.* 15, *North-Holland, Amsterdam*, 1977. (A. D. Ziebur) **57** #16912 34K15

Positive solutions of a functional inequality with aftereffect. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp.* 158–168, 304. *Izdat.* "*Naukova Dumka*", *Kiev*, 1977. (Author's summary) **57** #13274 39A15

Asymptotic dichotomy of the solutions of a nonlinear differential equation with aftereffect. (Russian) *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I*, *Teil* 1, *pp.* 431–435. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (Pavel Marušiak) **58** #22927 34K15

Kožanov, A. I. Periodic solutions of the multidimensional degenerate diffusion equation. (Russian) *Dinamika Splošn. Sredy Vyp.* 15 *Dinamika Bystroprotckajuščih Processov* (1973), 55–65, 186 (1974). (Author's summary) **57** #3645 35K60

The first boundary value problem for some classes of quasi-linear elliptic degenerate equations. (Russian) *Dinamika Splošn. Sredy Vyp.* 17 *Bystroprotekajuščie Processy* (1974), 31–42, 116. (From the author's text) **57** #878 35J70

A priori estimates of generalized solutions of degenerate quasilinear elliptic equations. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 1, 69–78, 187. (O. John) **56** #6081 35D05 (35J10)

The first boundary value problem for elliptic equations with an implicit degeneracy. (Russian) *Dinamika Splošn. Sredy Vyp.* 27 *Dinamika Neodnorodn. Židkosti* (1976), 66–77, 160–161. (J. Kačur) **58** #6689 35J70

Kožanov, T. S. A formulation of the two-body problem with a variable gravitational "constant". (Russian. English summary) *Akad. Nauk Kazah. SSR Trudy Astrofiz. Inst.* **32** *Dinamika Zvezdnyh Sistem* (1978), 48–53, 81. (Z. Janković) **58** #14876 83.34

Kožapysov, A. Asymptotic behavior of the solutions of linear integro-differential equations. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970), 98–102. (See RŽMat **1970** #12 B422) 45J05

(*with* Šaršenaliev, Ž.) A certain method for seeking the global extremum of continuous and discrete signals. (Russian) *Izv. Akad. Nauk Kirgiz. SSR* **1975**, *no.* 6, 49–52. (Not reviewed) 94A05

(*with* Šaršenaliev, Ž.) Optimal control of linear systems with a small parameter. (Russian. Loose Russian summary) *Izv. Akad. Nauk Kirgiz. SSR* **1977**, *no.* 1, 33–37. (F. M. Kirillova) **56** #9421 49D99

Kožapysov, P. Asymptotic behavior of the solutions of the Cauchy problem in the case when the limit equation has a singularity. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 7 (1970), 93–97. (See RŽMat **1970** #12 B421) 45J05

szczodrowska-Kozar, B. *See* **Szczodrowska-Kozar, B.**

Kozarov, Marin (*with* Mladenov, Kosta) Solution of certain elliptic integrals. (Bulgarian) *Fiz.-Mat. Spis. B"lgar. Akad. Nauk.* **18(51)** (1975), *no.* 1, 30–33. (RŽMat **1976** #1 B41) **58** #22693 33A15

Kozeev, V. A. Identification of nonlinear control systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 1, 198–204 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 1, 170–175. (Huibert Kwakernaak) **52** #10178 93E10 (93B30)

Choosing the number of trials in the Monte Carlo method. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 3, 184–188 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 3, 519–522. (Author's summary) **52** #2126 65C05

Increasing the quality of work of nonlinear adaptive control systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 5, 166–172 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 5, 142–147. (T. Sasagawa) **54** #7072 93E10

Kožegel'dinov, S. Š. Some properties of the squares of multidigit numbers. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **1** (1970), 240–248, 332. (Author's summary) **56** #8470 10–04 (10J05, 65A05)

On the approach problem in the presence of constraints on the control actions. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1976**, *no.* 1, 67–71, 93. (J. M. Skowroński) **56** #4881 90D25

Kozek, Andrzej (*with* Bednarek-Kozek, Bogusława) On the robustness of properties characterizing the normal distribution. (Polish summary) *Zastos. Mat.* **13** (1972/73), 215–230. (J. D. Mason) **48** #3151 62E10

A note on an extension of a theorem of Morozenskiĭ. (Polish summary) *Zastos. Mat.* **13** (1972/73), 507–510. (H. E. Reinhardt) **48** #12677 62E10

Inverse Cauchy problem and unbiased estimation. *Zastos. Mat.* **14** (1974), 37–51. (M. D. Perlman) **49** #1659 62F10

On efficiency of best unbiased estimators for convex loss functions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 8, 635–638. (Lubomír Kubáček) **54** #14210 62F10

Orlicz spaces of functions with values in Banach spaces. *Comment. Math. Prace Mat.* **19** (1976/77), *no.* 2, 259–288. (M. P. Eršov) **57** #17272 46E40

On the theory of estimation with convex loss functions. *Proceedings of the Symposium to honour Jerzy Neyman* (*Warsaw*, 1974), *pp.* 177–202. *Państw. Wydawn. Nauk., Warsaw*, 1977. (A. L. Rukhin) **56** #6982 62F10 (62C07)

Efficiency and Cramér-Rao type inequalities for convex loss functions. *J. Multivariate Anal.* **7** (1977), *no.* 1, 89–106. (A. L. Rukhin) **55** #4480 62F10

bednarek-Kozek, Bogusława *See* **Bednarek-Kozek, Bogusława**

Kozel, P. T. The similarity of integral matrices of order two over the field of rational numbers. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1969**, *no.* 2, 8–11, 98. (M. C. Chaki) **49** #321 15A21

The similarity of integral matrices of order three over the field of rational num (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1969**, *no.* 2, 12–15, 98. (M. C. Ch **49** #322 (E **49** #7281) 15A21

A supplement to the article "The similarity of integral matrices of order three the field of rational numbers" (Vestnik Beloruss. Gos. Univ. Ser. I **1969**, no. 2, 12 98). (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1970**, *no.* 1, 96. (M. C. Ch **49** #7281 15A36

The similarity over the field of rational numbers of fourth order matrices of inte (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1971**, *no.* 2, 20–25, 89. (G. Max **47** #3420 15A36

(*with* Šakleina, T. A.) The number of isotropic subspaces in a space with orthogonal metric. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1975**, *no.* 1, 11–15 (George P. Barker) **51** #5633 15A63

(*with* Fam Kan' Zyong) The order of the elements of the symplectic gr (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 3, 15–18, 92. (Authors' summ **58** #16904 20G40 (50A15)

The structure of isometric transformations of a space with a symplectic me (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1978**, *no.* 1, 3–5. (J. Browkin) **58** #7 15A63

Construction of isometries of a space with an orthogonal metric. (Russian) *Ves Beloruss. Gos. Univ. Ser. I* **1978**, *no.* 3, 21–25, 86. (J. L. Brenner) **58** #22097 15A

Kozel', U. *See* **Kosel, U.**

Kožel, V. O. Estimation of the accuracy of the reconstruction of the potential fr incomplete scattering data. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No* (1973), 187–190, 246. (J. Wiesner) **49** #7505 34B25

(*with* Lundina, D. Š.; Marčenko, V. O.) Integral representation of positive operator-valued functionals. (Russian) *Teor. Funkciĭ Funkcional. Anal. I Priložen. V* 22 (1975), 67–76, 161. (A. Devinatz) **53** #1331 47B37

A certain class of solutions of the "sine-Gordon" equation. (Russian. Engl summary) *Questions on mathematical physics and functional analysis* (*Proc. Res. S Inst. Low Temp. Phys. Engrg., Kharkov*) (*Russian*), *pp.* 132–139, 174. "*Naukova Dumk Kiev*, 1976. (Author's introduction) **58** #17601 35Q99

(*with* Kotljarov, V. P.) Almost periodic solutions of the equation $u_{tt}-u_{xx}+$ $u=0$. (Russian. English and Ukrainian summaries) *Dokl. Akad. Nauk Ukrain. SSR S A* **1976**, *no.* 10, 878–881, 959. (O. Vejvoda) **56** #6069 35B15

(*with* Lundina, D. Š.; Marčenko, V. O.) A generalized spectral matrix for a three-dimensional non-selfadjoint Schrödinger operator. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 27 (1977), 71–90, 3. (Woodford W. Zachary) **56** # 35P05 (47A99)

Kozen, Dexter On parallelism in Turing machines. 17*th Annual Symposium on Foundati of Computer Science* (*Houston, Tex.*, 1976), *pp.* 89–97. *IEEE Comput. Soc., Long Bea Calif.*, 1976. (Donald B. Johnson) **57** #4621 68A20 (02F15, 68A25)

Lower bounds for natural proof systems. 18*th Annual Symposium on Foundations Computer Science* (*Providence, R.I.*, 1977), *pp.* 254–266. *IEEE Comput. Sci., Long Bea Calif.*, 1977. (Zvi Galil) **58** #13931 68A20 (02F20, 02G05)

Complexity of finitely presented algebras. *Conference Record of the Ninth Ann ACM Symposium on Theory of Computing* (*Boulder, Colo.*, 1977), *pp.* 164–177. *Ass Comput. Mach., New York*, 1977. (Claude Benzaken) **58** #8487 68A20 (08A20)

Kozera, Wojciech (*with* Kaczorek, Tadeusz) The selection of state variables on the basis an operator transfer for a linear stationary system with lags. (Polish. Russian a English summaries) *Arch. Elektrotech.* (*Warsaw*) **24** (1975), *no.* 2, 277–303. (Autho summary) **56** #13581 65F99 (93C50)

(*with* Kaczorek, Tadeusz) An algorithm for the transformation to fundamental for of the characteristic polynomial matrix of a system. (Polish. English and Russi summaries) *Podstawy Sterowania* **5** (1975), *no.* 1, 101–108. (Jerzy Klamka) **53** #2447 93B25

(*with* Kaczorek, Tadeusz) The design of multivariable linear stationary tracki systems with lags. (Polish. Russian and English summaries) *Arch. Automat. i Telemec* **21** (1976), *no.* 2, 155–165. (Editors) **56** #11166 93B25

(*with* Kaczorek, Tadeusz) Minimal realization of transfer function matrices multvariable linear systems with delays. (Polish and Russian summaries) *Arch. Elektrotech.* (*Warsaw*) **25** (1976), *no.* 1, 65–78. (Authors' summary) **56** #2514 93B

(*with* Kaczorek, Tadeusz) Design of linear multivariable tracking systems wi delays. *Internat. J. Systems Sci.* **8** (1977), *no.* 6, 639–650. (Alan Bradshaw) **58** #154 93C05

Kozerenko, K. V. A remark on the cohomology of a Witt algebra. (Russian) *Funkciona Anal. i Priložen.* **11** (1977), *no.* 4, 84. (A. Blokh) **58** #5812 17B50

Kožero, M. V. Certain nonlocal theorems on the existence of solutions of multidimensiona differential equations. (Russian) *Mathematics* (*Russian*), *pp.* 42–46. *Minsk. Gos. Pe Inst., Minsk*, 1973. (K. Goebel) **51** #1053 34G05

The solving operator of a multidimensional linear differential equation. (Russian *Mathematics* (*Russian*), *pp.* 30–33. *Gos. Ped. Inst. im. A. M. Gor'kogo, Minsk*, 197 (Author's summary) **58** #28951 34G05

The continuation of the solutions of multidimensional differential equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 2075–2076, 2088. (A. Szép) **51** #105 34G05

Kožešník, Jaroslav Contribution to the method of collocation. *Acta Tech. ČSAV* **16** (1971 585–596. (Robert D. Russell) **52** #9621 65L10

See also **Transactions: Prague Conference on Information Theory, Statistical Decision Functions, Random Processes**, **48** #10617 *and* **Nedoma, Jiří**, **58** #16037

Koževnikov, A. N. Spectral problems for pseudodifferential systems that are elliptic in th sense of Douglis-Nirenberg, and their applications. (Russian) *Mat. Sb.* (*N.S.*) **92** (**134** (1973), 60–88, 166. (P. Szeptycki) **49** #1232 47G05 (35S05)

The asymptotic behavior of the eigenvalues of an elliptic boundary value problem with λ in the equation and in the boundary condition. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 4 (190), 265–266. (Ja. A. Roĭtberg) **54** #10892 35P20 (58G15)

The asymptotic behavior of the eigenvalues of elliptic systems. (Russian) *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 4, 82–83. (D. M. Èĭdus) **58** #1734 35P20

Different asymptotic behavior of the two series of eigenvalues of an elliptic undary value problem. (Russian) *Mat. Zametki* **22** (1977), *no.* 5, 699–710. (Author's mmary) **58** #17590 35P20 (35J25)

nikov, D. A. (*with* Nasibullaev, Š. K.) Noncanonical forms of the transport equation. ussian) *Dokl. Akad. Nauk SSSR* **205** (1972), 1320–1323. (L. Finkelstein) **46** #8601 .45

nikov, Ju. V. (*with* Bikčantaev, M. H.) The optimal averaging of discontinuous ocesses with distributed parameters. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 130 971), 3–8. (R. Tomovič) **45** #6477 93C20

(*with* Bikčantaev, M. H.) The damping of oscillations by boundaries. (Russian) *rudy Kazan. Aviacion. Inst. No.* 130 (1971), 20–27. (R. Tomović) **45** #8077 70.34 3D99)

Optimization of tests of adjustable objects. (Russian) *Izv. Vysš. Učebn. Zaved. viacion. Tehn.* **1972**, *no.* 3, 5–11, 138. (K. Magnus) **47** #10118 93E20

(*with* Bikčantaev, M. H.; Čeprasov, V. P.) The estimation of functions of several ariables. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 144 (1972), 20–35, 101. (H. andemer) **48** #1390 62J05

Mean optimization of systems with random parameters. (Russian) *Problems of nalytical mechanics, stability and control theories* (*Proc. Second Četaev Conf. Kazan,* 973), *Vol.* 2 (*Russian*), *pp.* 166–182, 407. *Kazan. Aviacion. Inst., Kazan,* 1976. (Author's ımmary) **58** #9715 93E20

nikov, O. B. Homomorphisms of categorial semigroups. (Russian) *Izv. Vysš. Učebn. aved. Matematika* **1972**, *no.* 7(122), 42–52. (L. Bokut') **46** #9202 20M10

Generalized Brandt semigroups. (Russian) *Modern algebra, No.* 1 (*Russian*), *pp.* 7–69. *Leningrad. Gos. Ped. Inst., Leningrad,* 1974. (H.-J. Hoehnke) **53** #678 0M20 (20L10)

Minimal imbeddings of semigroups into categorial semigroups. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 2 (141), 64–75. (G. Pollák) **50** #13327 20M10

vnikov, V. I. Some extremal problems for the zeros of polynomials and the eigenvalues of matrices. (Russian) *Moskov. Inž.-Stroitel. Inst. Sb. Trudov No.* 130 (1975), 34–47. (Z. ubinstein) **56** #15857 26A78 (30A08)

vnikova, G. P. The complexity of certain *A*-algorithms. (Russian) *Automata theory and methods of formalized synthesis for computers and computer systems* (*Proc. Sem., Kiev,* 968), *No.* 8 (*Russian*), *pp.* 25–43. *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (V. Moščenskiĭ RŽMat **1970** #3 V328)) **45** #9540 68A20

Computational complexity of the syntax-directed transduction of a certain grammar. (Russian) *Automata theory* (*Proc. Sem., Kiev,* 1969), *No.* 5 (*Russian*), *pp.* 57–84. *Akad. Nauk Ukrain. SSR, Kiev,* 1969. (E. Matèr (RŽMat **1970** #9 V483)) **45** #9874 68A20

See also **Theory of languages and methods of construction of programming systems,** **48** #7682

eyev, V. A. *See* **Kozeev, V. A.**

hinskaya, L. I. *See* **Kožinskaja, L. I.**

hukarov, A. N. *See* **Kožuharov, A. N.**

hushner, M. A. *See* **Kožušner, M. A.**

iara, Jan Application of the Monte Carlo method to the solution of linear differential equations of second order. (Russian and Polish summaries) *Biul. Lubel. Towarz. Nauk. Mat. Fiz. Chem.* **17** (1975), *no.* 1/2, 3–9 (1976). (John P. Coleman) **54** #11726 65C05

viadomska-Kozieł, Gabriela *See* **Niewiadomska-Kozieł, Gabriela**

ielski, Stanisław Optimal observation horizon in the identification of nonstationary processes for a certain case of control. (Polish. English and Russian summaries) *Podstawy Sterowania* **3** (1973), 235–240. (Author's summary) **53** #12712 93E10

Identification of nonstationary processes in real time systems. (Polish. English and Russian summaries) *Podstawy Sterowania* **5** (1975), *no.* 1, 63–71. (W. Greblicki) **54** #7030 93B30

ii, B. Ī. (*with* Fil'c, R. V.; Timošuk, V. V.) Calculation of *D*-partition boundary in the plane of two parameters that occur nonlinearly in the coefficients of the characteristic equation. *Avtomatika* **1971**, *no.* 2, 70-73 (*Ukrainian*); *translated as Soviet Automat. Control* **4** (1971), *no.* 2, 61–63. (I. A. Stegun) **47** #2818 93–04

ik, N. N. ρ-reductive structures on a homogeous space. (Russian) Geometry collection, No. 14. *Trudy Tomsk. Gos. Univ.* **255** (1974), 32–46. (Rolf Sulanke) **53** #3951 53C30

Invariant affine connections of higher order on a homogeneous space. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 8(183), 99–101. (I. Kolář) **58** #7473 53C05 (53C10)

zin, Frank Stability of stochastic systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London,* 1966), *Vol.* 1, *pp.* 4–5, *Paper 3A,* 8 *pp. Inst. Mech. Engrs., London,* 1967. (A. Ja. Dorogovcev) **53** #10441 93E15

Stability of stochastic systems with randomly varying coefficients. (Russian) *Proceedings of the First All-Union Symposium on Statistical Problems in Engineering Cybernetics* (*Moscow,* 1967), *Nonlinear and optimal systems* (*Russian*), *pp.* 326–335, 438. *Izdat. "Nauka", Moscow,* 1971. (V. N. Igolkin) **47** #8182 93E15

(*with* Prodromou, S.) Necessary and sufficient conditions for almost sure sample stability of linear Ito equations. *SIAM J. Appl. Math.* **21** (1971), 413–424. (G. Papanicolaou) **46** #4609 60H15

Stability of the linear stochastic system. *Stability of stochastic dynamical systems* (*Proc. Internat. Sympos., Univ. Warwick, Coventry,* 1972), *pp.* 186–229. *Lecture Notes in Math., Vol.* 294, *Springer, Berlin,* 1972. (T. T. Soong) **53** #7582 93E15

(*with* Belle Isle, A. P.) On the almost-sure sample stability of systems with randomly time-varying delays. (French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 755–763. (P. E. Sarachik) **48** #13414 93E15

(*with* Wu, C. M.) On the stability of linear stochastic differential equations. *Trans. ASME Ser. E. J. Appl. Mech.* **40** (1973), 87–92. (A. N. V. Rao) **48** #9845 60H10

(*with* Mitchell, Richard R.) Sample stability of second order linear differential equations with wide band noise coefficients. *SIAM J. Appl. Math.* **27** (1974), 571–605. (M. Zakai) **50** #16046 (E **50** #16047) 93E15

(*with* Mitchell, Richard R.) Erratum: "Sample stability of second order linear differential equations with wide band noise coefficients" (SIAM J. Appl. Math. 27 (1974), 571–605). *SIAM J. Appl. Math.* **28** (1975), 778. (Editors) **50** #16047 60H10 (94–XX)

(*with* Lee, T. S.) Consistency of maximum likelihood estimators for a class of non-stationary models. *Proceedings of the Ninth Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii,* 1976), *pp.* 187–189. *Western Periodicals, North Hollywood, Calif.,* 1976. (Authors' summary) **58** #26441 93E10

(*with* Sugimoto, S.) Relations between sample and moment stability for linear stochastic differential equations. *Proceedings of the Conference on Stochastic Differential Equations and Applications* (*Park City, Utah,* 1976), *pp.* 145–162. *Academic Press, New York,* 1977. (Kunio Nishioka) **58** #7842 60H10 (93E20)

(*with* Sugimoto, S.) Decision criteria for stability of stochastic systems from observed data. With discussion. *Stochastic problems in dynamics* (*Sympos., Univ. Southampton, Southampton,* 1976), *pp.* 8–35. *Pitman, London,* 1977. (G. N. Mil'šteĭn) **58** #20739 93E15

(*with* Lee, T. S.) Almost sure asymptotic likelihood theory for diffusion processes. *J. Appl. Probability* **14** (1977), *no.* 3, 527–537. (B. M. Brown) **56** #9859 62M05 (60J60)

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360b

Kozin, I. V. Probabilities of errors of recognition of non-Gaussian random processes. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 5, 176–181 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 5, 910–915. (M. I. Jadrenko) **49** #11743 62M99 (94A05)

Kozin, N. S. Small perturbations in a stream issuing from a slit. *Prikl. Mat. Meh.* **36** (1972), 641–646 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 605–610 (1973). (R. C. Ackerberg) **51** #2457 76.41

Conditions on the state equation for a viscoelastic medium. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1976**, *no.* 5, 119–123, 185. (Author's summary) **56** #14123 76.65

Construction of elastic jumps on the profile of shock waves for viscoelastic media. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1977**, *no.* 6, 112–118, 176. (From the introduction) **58** #19573 73.35 (76.35)

Kozina, A. V. (*with* Kozyrev, V. P.) Enumeration of shortest connection networks with supplementary constraints. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 6, 109–115. (A. D. Koršunov) **55** #11688 68A10 (94A20)

Kozīna, G. O. The periodic solutions of a certain differential equation. (Ukrainian. English and loose Russian summaries) *Vīsnik Kiïv. Unīv.* **1970**, *no.* 12, 89–95. (A. A. Juščenko) **47** #561 34C25

Kozinowski, Otto (*with* Giering, Oswald; Seybold, Hans) ★Konstruktive Ingenieurgeometrie. Mathematische Grundlagen für Mathematiker, Physiker und Ingenieure. *Carl Hanser Verlag, Munich-Vienna,* 1976. 176 *pp.* (Editors) **52** #11721 50–01

Kožinskaja, L. I. (*with* Galperin, Efrim A.) Control of pole locations in linear systems with incomplete information. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1970**, *no.* 5, 159–170 (*Russian*); *translated as Engrg. Cybernetics* **8** (1970), *no.* 5, 973–984. (P. E. Sarachik) **46** #10460 93C45

Performance of linear controllable systems. *Avtomat. i Telemeh.* **1972**, *no.* 1, 23–31 (*Russian*); *translated as Automat. Remote Control* **33** (1972), *no.* 1, *part* 1, 17–25. (Author's summary) **56** #11206 93C05 (93C45)

(*with* Grigor'eva, T. P.) On the question of the control of a linear system with incomplete information. (Russian) *Current problems in control theory* (*Russian*), *pp.* 74–80, 107. *Inst. Problem Upravlenija, Moscow,* 1973. (Editors) **58** #9486 93B05

Koziol, James A. (*with* Green, Sylvan B.) A Cramér-von Mises statistic for randomly censored data. *Biometrika* **63** (1976), *no.* 3, 465–474. (A. N. Philippou) **56** #7000 62G10

(*with* Reid, Nancy) On the asymptotic equivalence of two ranking methods for *K*-sample linear rank statistics. *Ann. Statist.* **5** (1977), *no.* 6, 1099–1106. (Authors' summary) **58** #24705 62G10

(*with* Halperin, Max; Ware, James H.; Byar, David P.; Mantel, Nathan; Brown, Charles C.; Gail, Mitchell H.; Green, Sylvan B.) Testing for interaction in an $I \times J \times K$ contingency table. *Biometrika* **64** (1977), *no.* 2, 271–275. (Dennis D. Wackerly) **58** #13464 62F05

On goodness of fit tests based on the empirical distribution function for uniform spacings. *J. Roy. Statist. Soc. Ser. B* **39** (1977), *no.* 3, 333–336. (J. S. Rao) **58** #13493 62G10

Koziol, Joseph S., Jr. An approximate root locus method in the *S* plane for sampled-data systems. *IEEE Trans. Automatic Control* **AC-16** (1971), 101–102. (Edward J. Davison) **45** #3103 93D99

Kozirenko, V. On a certain effective method of investigating electromagnetic processes in magnetohydrodynamic channels. I. *Magnit. Gidrodinamika* 7 (1971), *no.* 2, 39–44 (*Russian*); *translated as Magnetohydrodynamics* 7 (1971), 172–177 (1973). (A. A. Blank) **51** #9646 76.35

On a certain effective method for investigating electromagnetic processes in MHD channels. II. *Magnit. Gidrodinamika* 7 (1971), *no.* 4, 43–48 (*Russian*); *translated as Magnetohydrodynamics* 7 (1971), 470–475 (1974). (Author's summary) **55** #1927 76.35 (78.35)

Kozirēv, V. D. (*with* Bučins'kiĭ, O. B.; Mīrtalībov, A. Ja.) Optimum correction signals for synchronization of binary information-transmission systems for minimum probability of error. *Avtomatika* **1970**, *no.* 6, 74–79 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **3** (1970), *no.* 6, 61–64. (R. A. Scholtz) **52** #7698 94A10

Kozirs'kiĭ, V. G. (*with* Maksimov, S. Ĭ.) Break-down of selfsimulation in the first order with respect to ν^{-1}. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 600–601, 668. (Alexej Sitenko) **48** #3404 81.46

Koziy, B. I. *See* **Kozīĭ, B. Ī.**

Kozjakin, V. S. (*with* Krasnosel'skiĭ, M. A.; Pokrovskiĭ, A. V.) Vibrationally stable hysterons. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 800–803. (Wolfdietrich Müller) **47** #4667 93A10

The vibrostability of second order differential equations. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 5(167), 241–242. (M. M. Konstantinov) **52** #14514 34D99

The inverse Minkowski inequality for monotone functions. (Russian) *Voronež. Gos. Univ. Trudy Naucn.-Issled. Inst. Mat. VGU Vyp.* 5 *Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 59–64. **56** #561 26A86

(*with* Ahmerov, R. R.; Kamenskiĭ, M. I.; Sobolev, A. V.) Periodic solutions of systems of autonomous functional-differential equations of neutral type with small lag. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1923–1931, 2081. (G. B. Gustafson) **51** #3644 34K15

A second necessary condition for the bifurcation of *N*-periodic points. (Russian) *Differential equations* (*Russian*), *pp*. 39–44, 167. *Kuĭbyšev. Gos. Univ., Kuybyshev*, 1976. (Author's summary) **58** #24362 58F10 (58E05)

The breaking of invariant tori. (Russian) *Differential equations* (*Russian*), *pp*. 45–50, 167. *Kuĭbyšev. Gos. Univ., Kuybyshev*, 1976. (Author's summary) **58** #24363 58F10 (34C15, 34D30)

Subfurcation of periodic oscillations. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 1, 24–27. (A. A. Reinfelds) **55** #3426 34C15 (58F20, 92A05)

The occurrence of subfurcation when there is loss of stability of the equilibrium state of a system of differential equations with lag. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no*. 3, 580–594, 718. (Russell C. Thompson) **58** #1490 34K20

The generation of periodic points from an equilibrium position. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no*. 4 (196), 255–256. (Milan Medved') **57** #7694 58F20

Kozlik, G. A. (*with* Timofeev, B. B.; Kulakov, A. F.; Mart'janov, A. J.) ★Algorithmierung in automatisierten Leitungssystemen. Herausgegeben von Hartmut Schultze. Übersetzt aus dem Russischen von W. Heidrich. Elektronisches Rechnen und Regeln, Sonderband 22. *Akademie-Verlag, Berlin*, 1976. x + 248 *pp*. (Editors) **57** #11848 93–04

Kozlov, A. G. *See* **Nomography collection**, **48** #7641

Kozlov, E. A. Subtraction of a set of wave packets. (Russian) *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1974**, *no*. 7, 32–42. (A. S. Alekseev) **52** #12954 94A05 (86.00)

Kozlov, È. S. (*with* Meščerjakov, B. K.; Sergeev, N. P.) Peculiarities of solving inhomogeneous boundary value problems of elliptic type by means of an automated network analog computer. (Russian) *Penz. Politehn. Inst. Učen. Zap. Mat. Meh.* **1969**, *no*. 2, 91–98. **54** #9117 65N99

Kozlov, G. A. The distribution of random numbers that can be produced by sequential physical generators. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 370–378. (V. Dupač) **45** #1342 65C10

Estimation of the error in the method of statistical search (Monte Carlo) that is caused by the nonideal distribution of random numbers. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 518–534. (G. Vainikko) **46** #8372 65C05

Kozlov, G. T. Undecidability of the theory of abelian groups with a chain of subgroups. (Russian) *Algebra, No.* 1 (*Russian*), *pp*. 21–23. *Irkutsk. Gos. Univ., Irkutsk*, 1972. (R. S. Pierce) **57** #2902 02G05 (20A10)

(*with* Kokorin, A. I.) Proof of a lemma on model completeness. (Russian) *Algebra i Logika* **14** (1975), *no*. 5, 533–535, 606. (S. R. Kogalovskiĭ) **56** #11729 02H15 (20K99)

Kozlov, I. S. The existence of a new class of periodic solutions of the restricted circular three body problem. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1970**, *no*. 11(102), 39–48. (C. V. Coffman) **45** #7182 34A25 (70.34)

The existence of a new class of periodic orbits in the restricted circular three-body problem which includes both attracting masses. *Astronom. Ž.* **48** (1971), 405–416 (*Russian*); *translated as Soviet Astronom. AJ* **15** (1971), 314–322 (1972). (C. Marchal) **58** #14056 70.34 (34A10)

A study of the motions in a case of the problem of fixed centers. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 6(181), 55–61. (B. D. Jovanović) **58** #14032 70.31

Kozlov, Ju. D. Stability in the critical case for a system with aftereffect in a Banach space. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no*. 2 *Issled. Sovremen. Mat. Anal.*, 51–62, 215 (1977). (V. G. Zadorožniĭ) **58** #6583 34G05 (34K20)

(*with* Prokop'ev, V. P.) Stability of motion in the critical case of two zero roots and *k* pairs of pure imaginary roots. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no*. 2 *Issled. Sovremen. Mat. Anal.*, 63–73, 216 (1977). (V. G. Zadorožniĭ) **58** #6546 34D20

Kozlov, Ju. M. (*with* Vavilov, A. A.; Maksimov, A. D.; Markov, S. I.; Pavlov, V. V.; Popov, E. P.; Semenko, A. I.; Starikova, M. V.; Topčeev, Ju. I.; Fedorov, S. M.; Hlypalo, E. I.; Hljamov, V. M.; Cvetkov, V. I.) ★Метод гармонической линеаризации в проектировании нелинейных систем автоматического управления. (Russian) [The method of harmonic linearization in the design of nonlinear automatic control systems] Edited by Ju. M. Topčeev. Nonlinear Automatic Control Systems, Vol. 1. *Izdat. "Mašinostroenie", Moscow*, 1970. 567 *pp*. (*errata insert*) (S. P. Bingulac) **50** #6589 (EA **53**) 93C10

(*with* Andreev, N. I.; Dostupov, B. G.; Kazakov, I. E.; Kočetkov, V. T.; Poceluev, A. V.; Sajutin, Ju. V.; Smirnov, V. I.; Sotskiĭ, N. M.; Tihonov, V. I.; Černeckiĭ, V. I.) ★Статистические методы в проектировании нелинейных систем автоматического управления. (Russian) [Statistical methods in the design of nonlinear automatic control systems] Edited by B. G. Dostupov. Nonlinear Automatic Control Systems, Vol. 6. *Izdat. "Mašinostroenie", Moscow*, 1970. 407 *pp*. (*errata insert*) (V. N. Igolkin) **50** #9403 93E20

(*with* Geraščenko, E. I.; Erman, V. L.; Il'in, I. P.; Korotaeva, I. P.; Makar'ev, B. M.; Pal'tov, I. P.; Popov, E. P.; Samoĭlov, V. E.; Sidorov, I. M.; Favorskiĭ-Pavlovskiĭ, S. S.; Fedorov, S. M.; Hlypalo, E. I.; Ščerbakov, V. A.) ★Методы синтеза нелинейных систем автоматического управления. (Russian) [Methods for the synthesis of nonlinear authomatic control systems.] Edited by S. M. Fedorov. Nonlinear Automatic Control Systems, Vol. 3. *Izdat. "Mašinostroenie", Moscow*, 1970. 416 *pp*. (Stanislav K. Myškov) **52** #7629 93C10

Kozlov, K. P. Admissible operators for the variation of semigroups. (Russian) *Modern algebra, No.* 1 (*Russian*), *pp*. 91–101. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974. (B. Ponděliček) **53** #658 20M05

Semigroups with maximally nonrigid cells. (Russian) *Modern algebra, No.* 3 (*Russian*), *pp*. 74–86. *Leningrad. Gos. Ped. Inst., Leningrad*, 1975. (M. Kilp) **56** #5750 20M10

Semigroups with a minimal number of rigid cells in a variety of commutative semigroups. (Russian) *Modern algebra, No.* 4 (*Russian*), *pp*. 91–96. *Leningrad. Gos. Ped. Inst., Leningrad*, 1976. (V. Havel) **58** #22348 20M05

Kozlov, L. A. *See* **Multilevel systems of subsystem optimization**, **57** #8989

Kozlov, L. F. (*with* Losinskaja, T. I.) Integration on an electronic computer of the boundary layer equations of a Tani flow in the presence of suction. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 23 (1974), 127–135, 175–176. (A ors' summary) **49** #10258 76.65

Kozlov, L. G. (*with* Malinovskiĭ, B. N.; Bojun, V. P.) Solution algorithms for syst s of algebraic equations that are oriented toward hardware realization. (Russian. lish summary insert) *US i M—Upravljajuščie Sistemy i Mašiny* **1977**, *no*. 5 (31), 79–8 50 **57** #7984 65H10

Kozlov, M. K. (*with* Šafranskiĭ, V. V.) Time scheduling of operation complex with limited intensities of execution of component operations. *Izv. Akad. Nauk SSSF* *hn. Kibernet.* **1977**, *no*. 5, 38–43 (*Russian*); *translated as Engrg. Cybernet.* **15** (1977) 5, 25–30 (1978). (John C. Gittins) **58** #25934 90B35

Kozlov, M. V. The totality of codes with a small density of units in the test rix. (Russian) *Problemy Peredači Informacii* **7** (1971), *no*. 3, 107–109. (J. Černý) **50** 107 94A10

Random walk in a one-dimensional random medium. (Russian. English sum y) *Teor. Verojatnost. i Primenen.* **18** (1973), 406–408. (E. Seneta) **47** #7818 J15 (60J80)

(*with* Kesten, Harry; Spitzer, Frank L.) A limit law for random walk in a r om environment. *Compositio Math.* **30** (1975), 145–168. (K. B. Erickson) **52** # 5 60J15 (60F05, 60J80)

The asymptotic behavior of the probability of non-extinction of critical bra ing processes in a random environment. (Russian. English summary) *Teor. Verojat* *Primenen.* **21** (1976), *no*. 4, 813–825. (P. Jagers) **55** #1513 60J80

Kozlov, N. I. (*with* Drožžinov, Ju. N.) Asymptotic behavior of the solution of a ave equation with a piecewise discontinuous coefficient. (Russian) *Ž. Vyčisl. Mat.* *at Fiz.* **15** (1975), *no*. 3, 782–785, 814. (O. Vejvoda) **51** #13417 35B40

Kozlov, N. N. Optimization of trajectory measurements. *Kosmičes. Issled.* **9** (1971), 16 (*Russian*); *translated as Cosmic Res.* **9** (1971), 1–13. (S. Hess) **49** #11904 70.6

(*with* Dīdenko, V. P.) Regularization of a certain class of measurement proc ng problems. (Russian) *Avtometrija* **1974**, *no*. 5, 9–14, 111. (C. Ilioi) **50** #15327 05

(*with* Dīdenko, V. P.) The regularization of certain ill-posed problems of tec al cybernetics. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 528–530. (V. V. in **49** #5940 47G05 (45A05)

(*with* Dīdenko, V. P.) A regularized method for the solution of message estin on problems. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no*. 5, 1045–1048. (Fro he authors' introduction) **57** #2733 94A05

(*with* Dīdenko, V. P.) The regularization of the target functional in measur nt processing problems. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp*. 20–23, 118. (*errata*) *Inst. Mat., Akad. Nauk U in. SSR, Kiev*, 1976. (Authors' summary) **58** #33416 93E10

Kozlov, O. K. A strong converse of Shannon's theorem on channels without memory th errors in synchronization. (Russian) *Problemy Peredači Informacii* **7** (1971), 1. 102–105. (J. Wolfowitz) **46** #6933 94A15

A Gibbs description of a system of random variables. (Russian) *Problemy Pe* *ci Informacii* **10** (1974), *no*. 3, 94–103. (Author's summary) **57** #7813 60G35

Description of a point random field by means of the Gibbs potential. (Rus) *Uspehi Mat. Nauk* **30** (1975), *no*. 6(186), 175–176. (D. Szász) **53** #6799 60K35

A Gibbsian description of point random fields. (Russian. English summary) *r. Verojatnost. i Primenen.* **21** (1976), *no*. 2, 348–365. (D. Szász) **54** #3885 6 15 (82.60)

Consistent systems of conditional distributions of a random field. (Russian) *Problemy Peredači Informacii* **13** (1977), *no*. 3, 77–90. (F. L. Spitzer) **58** #314 60K35

Kozlov, O. M. (*with* Filippovič, E. I.; Èskina, A. I.) Determination of the time distrib n function of the completion of a complex of tasks. (Russian) *Èkonom. i Mat. Meto* 7 (1971), 250–258. (P. Vondráček) **48** #7948 90B35

Kozlov, R. I. On the question of stability under perturbations. (Russian) *Trudy K* *Aviacion. Inst. No.* 149 (1972), 40–45, 48. (H. I. Freedman) **49** #7539 34D99

On the theory of differential equations with discontinuous right-hand sides. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1264–1275, 1341. (A. D. Zie) **50** #2585 34A10

The influence of perturbations on the solutions of a differential equation. (Russ *Problems of analytical mechanics, stability and control theories* (*Proc. Second Č* *Conf., Kazan*, 1973), *Vol.* 2 (*Russian*), *pp*. 182–192, 407. *Kazan. Aviacion. Inst., K* 1976. (Author's summary) **58** #6539 34D10 (34G05)

Kozlov, S. E. An application of the variational theory of geodesics to the stud f pseudo-Riemannian spaces of kinematic type. (Russian) *Ukrain. Geometr. Sb. No* 3 (1973), 101–106, 4. (D. I. Papuc) **52** #9134 53C50

Kozlov, S. M. Generalized analytic operators. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no*. 5, 58–65. (B. Szafirski) **58** #294 35R15 (35Q10)

Averaging of differential operators with almost periodic, fast oscillating coeffici (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no*. 5, 1068–1071. (O. Vejvoda) **57** #13131 35B99

Equivalence of measures in Itô's linear partial differential equations. (Russ English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no*. 4, 47–52. (Ju Daleckiĭ) **58** #3044 60H15 (35R15, 58G99, 60G30)

Kozlov, V. Ja. (*with* Verčenko, I. Ja.; Kolmogorov, A. N.; Men'šov, D. E.) Ge Pavlovič Tolstov (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. N* **27** (1972), *no*. 1(163), 255–264 (1 *plate*). (Editors) **52** #5327 01A70

(*with* Mardžanišvili, K. K.) Andreĭ Borisovič Šidlovskiĭ (on the occasion of sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **31** (1976), *no*. 3(189), 225–232. (1 *pl* (Editors) **54** #32 01A70 (10–03)

Kozlov, V. N. *See* **Theoretische Kybernetik und mathematische Logik**, **52** #13307

Kozlov, V. P. A certain optimal design problem for a statistical experiment. (Russ English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 226–230. (H. Bandem **50** #6074 62K05

Kozlov, V. V. Certain properties of particular integrals of the canonical equations. (Russian. French summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no*. 81–84. (P. Unger) **49** #1855 70.58

The nonexistence of analytic integrals of canonical systems that are nearly egrable. (Russian. French summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** 74), *no.* 2, 77–82. (D. Newton) **49** #8055 58F05 (70.58)

The geometry of the "action-angle" variables in the Euler-Poinsot problem. ussian. French summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 5, -79. (Djordje Djukic) **50** #15499 70.34

Dynamic systems arising on the invariant tori of the Kowalewska problem. *Prikl.* *t. Meh.* **39** (1975), *no.* 1, 24–29 (*Russian*); *translated as J. Appl. Math. Mech.* **39** 75), *no.* 1, 20–25. (J. Jarník) **52** #4756 70.34

New periodic solutions for the problem of motion of a heavy solid body around a ed point. *Prikl. Mat. Meh.* **39** (1975), *no.* 3, 407–414 (*Russian*); *translated as J. Appl.* *ath. Mech.* **39** (1975), *no.* 3, 385–392 (1976). (Cataldo Agostinelli) **54** #11889 .34

The nonexistence of an additional analytic integral in the problem of the motion of nonsymmetric heavy solid around a fixed point. (Russian. English summary) *Vestnik* *oskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 1, 105–110. (D. ter Haar) **51** #7414 .34

Nonexistence of analytic integrals near equilibrium positions of Hamiltonian stems. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *o.* 1, 110–115. (Giorgio E. O. Giacaglia) **53** #9773 70.34

Splitting of the separatrices in the perturbed Euler-Poinsot problem. (Russian. nglish summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 6, 99–104. (E. eimanis) **57** #11233 70.34

On the qualitative analysis of motion of a solid body in the Goriachev-Chaplygin roblem. *Prikl. Mat. Meh.* **41** (1977), *no.* 2, 225–233 (*Russian*); *translated as J. Appl.* *ath. Mech.* **41** (1977), *no.* 2, 216–224. (C. Marchal) **57** #8247 70.34

The geometry of domains of possible motions with boundary. (Russian. English ummary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 5, 118–120. (J. S. Joel) **8** #18563 58F05 (58E10)

The integrals of quasiperiodic functions. (Russian. English summary) *Vestnik* *oskov. Univ. Ser. I Mat. Meh.* **1978**, *no.* 1, 106–115. (A. D. Brjuno) **57** #17717 8F10 (34C30)

va, E. G. A method for iterating the auxiliary variables in nomograms with oriented ransparency and with a transparency that has one degree of sliding freedom. (Russian) *omography collection, No.* 10 (*Russian*), *pp.* 146–175, 225. *Akad. Nauk SSSR Vyčisl.* *entr, Moscow,* 1975. (L. Bal) **57** #11141 65S05

A nomographic method for studying extremal properties of the relation $\bar{v} = a\bar{u}^2 + b\bar{v}^2 + c\bar{u}\bar{v} + d\bar{u} + e\bar{v} + f$. (Russian) *Nomography collection, No.* 11 (*Russian*), *pp.* 7–23, 154. *Akad. Nauk SSSR Vyčisl. Centr, Moscow,* 1976. (Author's summary) **8** #31981 65S05

ova, E. S. (*with* Citovič, P. A.) Oscillations in nonlinear systems. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1968**, *no.* 10, 14–16. (W. S. Loud) **52** #8565 34C15

(*with* Citovič, P. A.) Relaxation systems with weak connections. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1970**, *no.* 2, 6–9. (J. A. Morrison) **50** #5101 34C15

lova, M. V. (*with* Podgornov, V. V.) The uniqueness of the solution of the first boundary value problem for quasilinear parabolic systems with retarded argument. (Russian. English summary) *Trudy Sem. Teor. Differencial. Uravneniĭ s Otklon. Argumentom Univ. Družby Narodov Patrisa Lumumby* **8** (1972), 89–99. (L. E. Bobisud) **49** #904 35R10

lova, O. N. Analyticity of the semigroup of the Cauchy problem for an equation with a hypoelliptic operator. (Russian) *Trudy Rižsk. Inst. Inž. Graždan. Aviacii Vyp.* 195 *Kraevye Zadači Differencial'nyh Uravneniĭ* (1972), 52–67. (Editors) **56** #12606 35K30

A theorem on the summability of positive solutions of a degenerate evolution system with Douglis-Nirenberg structure in domains with piecewise smooth boundary. (Russian) *Collection of algorithms and programs, No.* 5 (*Russian*), *pp.* 111–125. *Rižsk. Politehn. Inst., Riga,* 1975. (J. Kačur) **55** #8559 35K40

A theorem on the summability of the positive solutions of a system of degenerate differential equations with Douglis-Nirenberg structure in domains with a piecewise smooth boundary. (Russian) *Mat. Issled.* **10** (1975), *no.* 3(37), 81–89, 240. (I. Aganović) **53** #13810 35D99

Positive solutions of certain degenerate elliptic equations. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 133–144, 245. (V.-V. Olariu) **57** #10231 35J70

Positive solutions of a parabolic differential equation with the Bessel operator. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 19 (1976), 145–159, 245. (V.-V. Olariu) **57** #10239 35K10

A theorem on the summability of weak positive solutions of parabolic equations with the Bessel operator in domains with piecewise smooth boundary. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 20 (1976), 95–103, 213. (V.-V. Olariu) **57** #10242 35K25

zlova, S. I. Tree-like sorting of data in a computer. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 4, 28–29. (G. O. H. Katona) **53** #7123 68A20

zlova, Z. I. $(v)R$-, $(v)R^c$-operations and the construction of their bases. (Russian) *Volgograd. Gos. Ped. Inst. Učen. Zap. No.* 23 (1969), 60–78. (V. Amstislavskiĭ (RŽMat **1970** #8 A47)) **52** #7901 (EA 53) 02K30

B-sets of certain topological spaces of odd weight. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 7(122), 53–64. (S. Dimiev) **47** #8309 04A15 (54A25)

Z_N-classification, and approximation of sets. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 8(123), 60–69. (Đ. Kurepa) **49** #2391 04A05

An *R*-operation with complete depth of chains over uncountable families of sets. (Russian) Mathematical logic, theory of algorithms and theory of sets (dedicated to P. S. Novikov on the occasion of his seventieth birthday). *Trudy Mat. Inst. Steklov.* **133** (1973), 121–126, 275. (R. A. DiPaola) **50** #6850 02K30

Some properties of projective operations with full depth of chains over uncountable families of sets. (Russian) *Current questions in mathematical logic and set theory* (*Russian*), *pp.* 178–211. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow,* 1975. (Dj. Kurepa) **57** #5757 04A15

(*with* Arsenin, V. Ja.) A survey of A. A. Ljapunov's works on descriptive set theory. (Russian) Issue dedicated to the memory of Alekseĭ Andreevič Ljapunov. *Problemy Kibernet. No.* 32 (1977), 15–44, 246. (Editors) **57** #9432 01A70 (04A15, 54H05)

(*with* Filippov, V. P.) The construction of classes of projective sets. (Russian) Issue dedicated to the memory of Alekseĭ Andreevič Ljapunov. *Problemy Kibernet. No.* 32 (1977), 137–160, 246. (Dj. Kurepa) **58** #27497 04A15 (28A05)

Kozlovcev, A. P. (*with* Bakuradze, D. V.; Malyšev, A. A.; Černeckiĭ, V. I.) A mathematical model of the distribution of resources among programs for the development of large systems. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 350–354. (B. Bereanu) **48** #13237 90B99

(*with* Červonyĭ, A. A.; Čobanjan, V. A.; Švarc, V. A.; Terehov, N. E.; Frolov, A. I.) ★Методы определения и контроля надежности больших систем. (Russian) [Methods for the determination and control of the reliability of large-scale systems] *Izdat. "Ènergija", Moscow,* 1976. 264 *pp.* (Publisher's description) **55** #7475 93A15 (90B15)

Kozlovskaja, A. A. (*with* Gončarova, L. E.; Rabinovič, B. I.; Sidorov, I. M.) Construction of a control system with a standard model. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 1037–1039. (L. Mikołajczyk) **49** #2159 93C15

Kozlovskaja, T. D. A boundary value problem for systems of conditionally stable type with different small parameters multiplying the higher derivatives. (Russian) *Differencial'nye Uravnenija* **9** (1973), 832–845, 975. (J. W. Macki) **48** #642 34D15

A boundary value problem for systems of conditionally stable type with several small parameters multiplying the highest derivatives. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy No.* 438 *Nekotorye Probl. Sovremen. Mat. i ee Priložen. v Železnodorž. Transporte* (1973), 33–52, 128. (M. Kakabadze) **51** #10779 34D15

Kozłovskiĭ, B. V. (*with* Francuz, A. G.; Kel'zon, A. A.; Markov, B. P.) Statistical estimation of the quality of recognition systems. (Russian) *Vyčisl. Sistemy No.* 50 (1972), 106–125. (Jana Zvárová) **47** #9910 68A45 (62C10)

Kozlovskiĭ, I. M. Two theorems on metric spaces. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 784–787. (W. M. Fleischman) **47** #9572 54F15 (54E35)

Absolute spectral decompositions. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 533–536. (G. Chogoshvili) **48** #1140 54B25

Kozlovskiĭ, M. I. *See* **Abstracts: Conference on the Results of the Scientific Research of the Professorial and Teaching Staff of the Tiraspol State Pedagogical Institute,** **48** #10740

Kozlovs'kiĭ, M. P. (*with* Juhnovskiĭ, I. R.) Recurrence relations in the three-dimensional Ising model. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 7, 1125–1134, 1226. (Authors' summary) **56** #14421 82.33

Kozlovskiĭ, M. Z. *See* **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics,** **47** #4666 (EA 47)

Kozlovskiĭ, N. Ja. On the question of the estimation of the remainder terms of the Čebyšev formula. (Russian) *Dokl. Akad. Nauk BSSR* **15** (1971), 965–967. (A. Lupaş) **45** #2919 65D30

(*with* Tureckiĭ, A. H.) Estimation of the remainder term of the interpolation quadrature formula with Čebyšev nodes of the first kind. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 2, 73–89. (J. Kofroň) **46** #4688 65D30

Estimation of the remainder term of the interpolation quadrature formula with Čebyšev nodes of the second kind. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 2, 90–98. (J. Kofroň) **46** #4689 65D30

Kozlovskiĭ, V. A. The unique colorability of graphs of families of partitions. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 43 (1977), 10–18. (W. Dörfler) **58** #21760 05C15

Kozłowska, Grażyna Approximation of functions of two variables by entire functions. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No.* 24 (1974), 79–111. (B. Choczewski) **52** #3815 41A30

Approximation of periodic functions of two variables by singular integrals. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No.* 24 (1974), 113–125. (B. Choczewski) **52** #3814 41A30 (42A08)

Expanding the function $f(x, y) \in L^{p}p(x, y)[a, b; a, b]$ into a Fourier series. (Polish. Russian and English summaries) *Zeszyty Nauk. Politech. Śląsk. No.* 441 *Mat.-Fiz. Zeszyt* 26 (1976), 175–187. (Author's summary) **56** #965 42A56

Kozlowski, George (*with* Segal, Jack) On the shape of 0-dimensional paracompacta. *Fund. Math.* **83** (1974), *no.* 2, 151–154. (S. Mardešić) **48** #12461 54C56

(*with* Segal, Jack) *n*-movable compacta and ANR-systems. *Fund. Math.* **85** (1974), 235–243. (R. R. Summerhill) **50** #11137 54C56

Maps of ANR's determined on null sequences of AR's. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.,* 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 277–284. *Academic Press, New York,* 1975. (A. Lelek) **51** #1720 54C55

(*with* Powderly, Mary; Tong, Hing) On a problem of Alexandroff and Hopf. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 15–16. (R. Engelking) **53** #3985 54C10

(*with* Segal, Jack) Movability and shape-connectivity. *Fund. Math.* **93** (1976), *no.* 2, 145–154. (K. Kuperberg) **55** #4160 55D99

(*with* Segal, Jack) Locally well-behaved paracompacta in shape theory. *Fund. Math.* **95** (1977), *no.* 1, 55–71. (R. B. Sher) **56** #1301 55D99 (54C55)

(*with* Segal, Jack) Local behavior and the Vietoris and Whitehead theorems in shape theory. *Fund. Math.* **99** (1978), *no.* 3, 213–225. (J. Dugundji) **58** #2808 55E05

See also **Aleksandrov, P. S.; et al.,** **53** #78

Kozłowski, M. (*with* Jaroszyński, M.; Abramowicz, M. A.) The analytic theory of fluid disks orbiting the Kerr black hole. *Astronom. and Astrophys.* **63** (1978), *no.* 1-2, 209–220. (R. L. Ingraham) **57** #8957 85.53

Kozma, Ilan Some relations between semigroups of polyhedra. *Proc. Amer. Math. Soc.* **39** (1973), 388–394. (K. Sieklucki) **47** #4251 55D10

Witt vectors and complex cobordism. *Topology* **13** (1974), 389–394. (Michiel Hazewinkel) **50** #8571 57D90 (14L05)

Generators for $\Pi_*(MU)$. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), *part* 2, 321–322. (R. E. Stong) **51** #11550 57D90

Irreducibles in the Landweber Novikov algebra. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 2, 453–456. (R. Paul Beem) **53** #1590 55G25

Kozmanov, M. Ju. Method of solution of certain boundary value problems for hyperbolic systems of quasilinear equations of first order with two variables. *Prikl. Mat. Meh.* **39** (1975), *no.* 2, 253–259 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 2, 237–243. (V.-V. Olariu) **52** #6198 35L50 (35C10)

A method for the solution of boundary value problems for systems of first order quasilinear equations. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **7** (1976), *no.* 2, 44–53. (G. W. Hedstrom) **57** #8083 65N99 (35L45)

Kozmanova, A. A. (*with* Gur′janova, K. N.) A certain method of summation of a series for a metaharmonic function. (Russian) *Ural. Gos. Univ. Mat. Zap.* **9**, *no.* 2, 48–52, 142 (1975). (P. T. Mocanu) **54** #569 31B05 (40G99)

Kozmidiadi, V. A. A certain generalization of finite automata that produces a hierarchy analogous to A. Grzegorczyk's classification of primitively recursive functions. (Russian) *Problemy Kibernet. No.* 23 (1970), 127–170, 303. (A. A. Mullin) **45** #1758 02F35

(*with* Breĭtbart, Ju.) Certain subclasses of Turing machines that are reducible to finite automata. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 1, 31–41. (Robert M. Baer) **46** #1498 94A30

See also **Complexity of computations and algorithms, 51** #2325 *and* **Problems of mathematical logic, 54** #44

Koz′min, N. G. (*with* Anisimov, V. I.) A topological analysis of electronic schemes by the method of *K*-trees. (Russian. English summary) *Teoret. Èlektrotehn. No.* 12 (1972), 9–16. (A. D. Koršunov) **47** #1544 94A20

Koz′minyh, V. V. Representation of partially recursive functions in the form of superpositions. (Russian) *Algebra i Logika* **11** (1972), 270–294, 361. (G. Wechsung) **47** #26 02F20

The representation of partial recursive functions with certain conditions in the form of superpositions. (Russian) *Algebra i Logika* **13** (1974), *no.* 4, 420–424, 487–488. (Ju. V. Matijasevič) **53** #107 02F20

Koźniewska, Ira The problem of estimating the parameter λ of the exponential reliability law. (Polish. Russian and English summaries) *Przegląd. Statyst.* **19** (1972), 259–266. (V. Fabian) **47** #2734 62F10

Renovation models of saltus type. (Polish. Russian and English summaries) Statistical-mathematical methods in economics. *Zeszyty Nauk. Szkoły Głown. Planowania i Statyst. No.* 86 (1972), 169–190. (P. Vondráček) **51** #12310 90B25

Méthode algébrique pour la solution de deux équations linéaires, l'une de récurrence et l'autre différentielle. *Comment. Math. Prace Mat.* **17** (1973), 119–125. (William N. Everitt) **48** #2463 34A20

Estimation of the supply of spare parts for machinery. (Polish. Russian and English summaries) *Przegląd Statyst.* **25** (1978), *no.* 1, 39–56. (Author's summary) **58** #20364 90B25

Kožokar′-Gončar, M. T. The spectrum of Cesaro operators. (Russian) *Mat. Issled.* **7** (1972), *no.* 4(26), 94–103, 253. (N. K. Nikol′skiĭ) **50** #5531 47B37 (47G05)

(*with* Fel′dman, I. A.) Certain equations connected with a semigroup of operators. (Russian) *Mat. Issled.* **9** (1974), *no.* 4(34), 69–78, 174. (D. A. Herrero) **51** #11178 47B37 (47D05)

Semigroups of fractional powers, and Hausdorff operators. (Russian) *Mat. Issled.* **10** (1975), *no.* 3(37), 71–80, 240. (Richard E. Frankfurt) **53** #3772 47B37

The spectrum of certain triangular and block triangular matrices. (Russian) Nonselfadjoint operators. *Mat. Issled. Vyp.* 42 (1976), 34–46, 230. (Author's summary) **58** #30453 47B37

(*with* Fel′dman, I. A.) Integral operators with homogeneous kernels in spaces of vector-valued functions. (Russian) Spectral properties of operators. *Mat. Issled. Vyp.* 45 (1977), 58–66, 180. (R. V. Dudučava) **57** #17388 47G05

Kozubovskaja, I. G. (*with* Martinjuk, A. A.) Certain criteria for $(\lambda, A, t_0, T, \|\cdot\|^h)$-stability and Ljapunov stability of systems with lag. (Russian) *Mathematical physics, No.* 10 (*Russian*), *pp.* 80–91. *Naukova Dumka, Kiev*, 1971. (G. S. Ladde) **47** #2169 34K20

A certain variant of approximate solutions. (Russian) *Approximate methods for the study of nonlinear systems* (*Russian*), *pp.* 56–66. *Izdanie Inst. Mat. Akad. Nauk SSR, Kiev*, 1976. (C. E. Langenhop) **57** #759 34A40 (34A45)

Kožuh, I. G. (*with* Belevec, P. S.) A qualitative study in the large of a certain class of dynamical systems. (Russian) *Differencial′nye Uravnenija* **10** (1974), 195–201, 369. (A. A. Reinfelds) **50** #10421 34C05

(*with* Belevec, P. S.) Qualitative study in the large of a certain dynamical system. (Russian) *Differencial′nye Uravnenija* **10** (1974), 1196–1204, 1339. (K. R. Schneider) **50** #7662 34C05

The global trajectories of a certain dynamical system. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 7, 1339–1340, 1352. (Author's summary) **58** #22762 34C05

The behavior of the trajectories of a certain dynamical system in the Poincaré disc. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 7, 1306–1309, 1343. (B. A. Ščerbakov) **56** #3406 34C05

Kožuhar′, P. A. The spectrum of a perturbed Wiener-Hopf operator. (Russian) Operators in Banach spaces. *Mat. Issled. No.* 47 (1978), 25–34, 136. (V. V. Peller) **58** #23723 47B35 (47A55)

(*with* Fel′dman, I. A.) The finiteness of the discrete spectrum of a perturbed selfadjoint operator. (Russian) Operators in Banach spaces. *Mat. Issled. No.* 47 (1978), 35–40, 136. (V. V. Peller) **58** #23683 47A55 (47B25)

Kožuharov, A. N. (*with* Laričev, O. I.) Multi-test assignment problem. *Avtomat. i Telemeh.* **1977**, *no.* 7, 71–88 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 7, *part* 1, 1004–1018. (Rubin Saposnik) **56** #14655 90B99

Kožuharova, R. (*with* Mekerov, D. G.) Congruences of lines in a three-dimensional projective space with a plane-absolute and a sequence of points on it. (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 1, 251–271 (1977). (Authors' summary) **58** #18190 53A20

(*with* Mekerov, D. G.) On the differential geometry of congruences of lines in the space *A*(*g*). (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **13** (1975), *no.* 1, 273–287 (1977). (Authors' summary) **58** #18191 53A20

Kožubov, I. B. Chained semigroup rings. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 1 (175) 169–170. (Not reviewed) 20M25

Kožuhova, E. A. Questions of duality in the formation of polyhedral configurations. (Russian) *Moskov. Aviacion. Inst. Ordžonikidze Trudy No.* 250 *Geometr. Preobrazovan. i Tehn. Priloženija* (1972), 22–25. (Not reviewed) 50D15

Kozulina, E. B. Nonnilpotent finite groups with three $JE_{\bar{n}}$-systems. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 271 (1973), 77–83. (Sergei A. Syskin) **50** #7340 20D99

Kožušner, M. A. (*with* Gol′danskiĭ, V. I.; Zel′dovič, Ja. B.; Kondrat′ev, V. N.; Lifšic, I. M.; Novožilov, B. V.; Semenov, N. N.; Sokolov, N. D.; Tal′roze, V. L.; Harit B.) Aleksandr Solomonovich Kompaneets (obituary). *Uspehi Fiz. Nauk* **114** (197 3-4, 687–688 (*Russian*); *translated as Soviet Physics Uspekhi* **17** (1975), *no.* 6, 96 (Editors) **51** #12464 01A70

Kozyr′, N. P′. (*with* Saliĭ, V. N.) Geometric lattices, and idempotent algebras. (Rus *Ordered sets and lattices, No.* 2 (*Russian*), *pp.* 91–98. *Izdat. Saratov. Univ., Saratov*, (V. Havel) **58** #463 08A25

Kozyrenko, V. E. *See* **Kozirenko, V.**

Kozyrev, A. N. Optimization of resource allocation in a system of linear prod models. (Russian) *Optimizacija Vyp.* 16 (33) (1975), 62–72, 180. (I. Gh. Cio **55** #12026 90B30

Polynomial measures that are defined on a system of Borel sets of a compactum. (Russian) *Optimizacija Vyp.* 18(35) (1976), 96–106, 162. (P. S. Ken **57** #6345 28A05 (26A21)

Kozyrev, V. P. The computation of functions on networks with a large number of ve (Russian) *Cybernetics—in the service of Communism, Vol.* 4 (*Russian*), *pp.* 51–55. "*Ènergija*", *Moscow*, 1967. (Author's introduction) **50** #9420 90A20

Graph theory. (Russian) *Probability theory. Mathematical statistics. Theo cybernetics, Vol.* 10 (*Russian*), *pp.* 25–74, 144. (*errata insert*) *Akad. Nauk SSSR Vse Inst. Naučn. i Tehn. Informacii, Moscow*, 1972. (H. Fleischner) **52** #2896 05–

Axiomatic determination of the proximity measure of a certain class of ma (Russian) *Studies in discrete mathematics* (*Russian*), *pp.* 200–213. (*errata insert*) "*Nauka*", *Moscow*, 1973. (V. Titov (RŽMat **1973** #9 V497)) **56** #17921 (90A05)

(*with* Kozina, A. V.) Enumeration of shortest connection networks with supplementary constraints. (Russian. English summary insert) *Kibernetika* (*Kiev*) *no.* 6, 109–115. (A. D. Koršunov) **55** #11688 68A10 (94A20)

(*with* Koršunov, A. D.) The size of a cut set in a random graph. (Rus *Problemy Kibernet. No.* 29 (1974), 27–62, 245. (H. Sachs) **51** #2983 (E **52** #295 05C35

(*with* Koršunov, A. D.) Erratum: "The size of a cut set in a random g" (Problemy Kibernet. No. 29 (1974), 27–62, 245). (Russian) *Problemy Kibernet.* (1975), 342. (H. Sachs) **52** #2953 05C35

Hamiltonian connectivity of the square of graphs. (Russian) *Problemy Kiberne* 31 (1976), 225–230, 238. (D. Cvetković) **54** #10074 05C35

The problem of finding all Hamiltonian chains of a graph, and the stu Hamiltonian-connected graphs. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), 767–775, 822. (L. S. Mel′nikov) **55** #173 05C35

See also **Probability theory, Mathematical statistics, Theoretical cybernetics, 49** #10504; **Harary, Frank, 49** #10586; **Proceedings: All-Union Seminar on Combinatorial Mathematics, 58** #247; **Proceedings: All-Union Seminar on Combinatorial Mathematics, 58** #248 *and* **Proceedings: Seminar on Combinatorial Mathematics, 58** #249

Kozyreva, E. D. A predicting unbiased estimator for an undetected defect. (Rus *Mathematical methods in quality control and reliability* (*Proc. All-Union Colloq., Tashkent*, 1967) (*Russian*), *pp.* 43–50. *Izdat.* "*Fan*" *Uzbek. SSR, Tashkent*, 1 **48** #5703 93E10

Kozyryev, V. D. *See* **Kozirēv, V. D.**

Kpedekpo, G. M. K. Recent advances on some aspects of stratified sample design. A r of the literature. *Metrika* **20** (1973), 54–64. (J. N. K. Rao) **52** #12146 62D05

Kra, Irwin On cohomology of Kleinian groups. III. Singular Eichler integrals. *Acta* **127** (1971), 23–40. (B. Maskit) **45** #3703 30A58

(*with* Gardiner, Frederick P.) Stability of Kleinian groups. *Indiana Univ. Ma* **21** (1971/72), 1037–1059. (B. Maskit) **45** #8837 30A58

A generalization of a theorem of Poincaré. *Proc. Amer. Math. Soc.* **27** (1 299–302. (A. M. Macbeath) **46** #347 30A58 (20H10)

★Automorphic forms and Kleinian groups. Mathematics Lecture Note Serie *A. Benjamin, Inc., Reading, Mass.*, 1972. xiv+464 *pp.* (C. Earle) **50** #10242 3

(*with* Maskit, Bernard) Involutions on Kleinian groups. *Bull. Amer. Math. So* (1972), 801–805. (C. Earle) **46** #348 30A58

On spaces of Kleinian groups. *Comment. Math. Helv.* **47** (1972), 53–69. (C. E **46** #5611 30A58

On new kinds of Teichmüller spaces. *Israel J. Math.* **16** (1973), 237–257 Greenberg) **51** #886 30A58

Varieties of Kleinian groups. Complex analysis, 1972 (Proc. Conf., Rice U Houston, Tex., 1972), Vol. II: Analysis on singularities. *Rice Univ. Studies* **59** (1973 2, 41–56. (B. Maskit) **50** #602 30A58

Deformation spaces. *A crash course on Kleinian groups* (*Lectures at a Sp Session, Annual Winter Meeting, Amer. Math. Soc., San Francisco, Calif.*, 1974) 48–70. *Lecture Notes in Math., Vol.* 400, *Springer, Berlin*, 1974. (L. Keen) **53** #59 32G15 (30A58)

(*with* Earle, Clifford J.) On holomorphic mappings between Teichmüller spa *Contributions to analysis* (*a collection of papers dedicated to Lipman Bers*), *pp.* 107– *Academic Press, New York*, 1974. (Jane Gilman) **55** #3324 32G15

(*with* Earle, Clifford J.) On isometries between Teichmüller spaces. *Duke Ma* **41** (1974), 583–591. (William Harvey) **50** #596 30A46 (32G15)

★Автоморфные формы и Клейновы группы. (Russian) [Automorphic forms Kleinian groups] Translated from the English by G. A. Margulis. *Izdat.* "*Mir*", *Mo* 1975. 296 *pp.* (Editors) **52** #14279 30A58

(*with* Earle, Clifford J.) On sections of some holomorphic families of closed Riemann surfaces. *Acta Math.* **137** (1976), *no.* 1-2, 49–79. (Lipman Bers) **54** #131 32G15 (30A46)

See also **Contributions to analysis, 48** #10737 (EA **48**) ; **Crash course on Klei groups, 49** #10878 *and* **Roy, Ranjan, 57** #3383

Krabbe, Erik C. W. Note on a completeness theorem in the theory of counterfactuals *Philos. Logic* 7 (1978), *no.* 1, 91–93. (D. Nelson) **57** #12177 02C10

The adequacy of material dialogue-games. *Notre Dame J. Formal Logic* **19** (1 *no.* 3, 321–330. (From the introduction) **58** #10341 02C99

Krabbe, Gregers L. Linear operators and operational calculus. I. *Studia Math.* **40** (1 199–223. (See RŽMat **1972** #5 B724) 44A40

An algebra of generalized functions on an open interval: two-sided operational alculus. *Pacific J. Math.* **42** (1972), 381–411. (Zbl **239** #46032) **58** #30180 46F10 46E30, 46H05)

Initial-value problems involving generalized functions; two-sided operational alculus. *Rev. Roumaine Math. Pures Appl.* **19** (1974), 895–910. (S. Łojasiewicz) 1 #3897 46F10 (34A30, 44A40)

★Operational calculus. Reprint. *Plenum/Rosetta Edition, New York*, 1975. vi+349 *pp.* (Hans-Jürgen Glaeske) **56** #16283 44A40

A new algebra of distributions; initial-value problems involving Schwartz listributions. I. *Publ. Math. Debrecen* **22** (1975), *no.* 3-4, 279–292. (H. Marcinkowska) 2 #14992 46F10 (34A25)

The periodic part of the response to a periodic excitation. *SIAM J. Math. Anal.* **6** 1975), 375–403. (E. J. Scott) **53** #3610 44A45 (94A20)

A new algebra of distributions; initial value problems involving Schwartz listributions. II. *Publ. Math. Debrecen.* **23** (1976), *no.* 3-4, 191–206. (H. Marcinkowska) 6 #1058 46F10

An extension of Duhamel's integral to differential equations involving generalized unctions; the steady-state solution. *Studia Math.* **59** (1976), *no.* 1, 1–35. (L. Berg) 4 #13491 44A45

ill, D. (*with* Reichaw, M.) Expansions of real numbers relative to a sequence of unctions. *SIAM J. Numer. Anal.* **11** (1974), 75–86. (Y. L. Luke) **49** #4222 65D99 41A30)

ill, James Richard (*with* Kim, Ki Hang) Abelian subsemigroups, enumeration, and niversal matrices. *Duke Math. J.* **40** (1973), 587–598. (Št. Schwarz) **47** #6922 0M30

(*with* Kim, Ki Hang) Circulant Boolean relation matrices. *Czechoslovak Math. J.* **4 (99)** (1974), 247–251. (B. M. Schein (Šaĭn)) **50** #515 20M10

s, Werner Nichtlineare Optimierung mit unendlich vielen Nebenbedingungen. English summary) *Computing* (*Arch. Elektron. Rechnen*) **7** (1971), 204–214. (I. V. Beiko) **46** #3092 90C30

Zur Dualitätstheorie bei linearen Optimierungsproblemen in halbgeordneten Vektorräumen. *Math. Z.* **121** (1971), 320–328. (P. J. Laurent) **45** #9680 90C05

Bemerkungen zur einseitigen Tschebyscheff-Approximation. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **9** (1972), 335–342. (L. Collatz) **47** #7286 1A50 (65D15)

Zur stetigen Abhängigkeit des Extremalwertes eines konvexen Optimierungsproblems von einer stetigen Änderung des Problems. *Z. Angew. Math. Mech.* **52** (1972), 359–368. (A. Göpfert) **53** #7476 90C25 (49A25)

(*with* Collatz, Lothar) ★Approximationstheorie. Tschebyscheffsche Approximation mit Anwendungen. *B. G. Teubner, Stuttgart*, 1973. 208 *pp.* (J. L. Ullman (Zbl **266** #41019)) **56** #3497 41–02

Discretization of approximation problems in the view of optimization. *Approximation theory* (*Proc. Internat. Sympos., Univ. Texas, Austin, Tex.*, 1973), *pp.* 395–401. *Academic Press, New York*, 1973. (E. W. Cheney) **49** #9509 41A65

Stetigkeitsfragen bei der Diskretisierung konvexer Optimierungsprobleme. *Numerische Methoden bei Optimierungsaufgaben* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1971), *pp.* 73–89. *Internat. Schr. Numer. Math., Band* 17, *Birkhäuser, Basel*, 1973. (Klaus Lommatzsch) **54** #6953 90C25

On discretization in generalized rational approximation. (German summary) *Abh. Math. Sem. Univ. Hamburg* **39** (1973), 231–244. (H. L. Loeb) **48** #9189 41A20

Nonlinear optimization and approximation. *J. Approximation Theory* **9** (1973), 316–326. (Norman P. Coleman, Jr.) **49** #9510 41A65

Unsymmetrische gleichmässige Approximation. (English and Russian summaries) *Z. Angew. Math. Mech.* **53** (1973), 541–552. (W. J. Kotzé) **50** #854 41A50

(*with* Weck, Norbert) Über ein Kontrollproblem in der Wärmeleitung. *Numerische Methoden bei Optimierungsaufgaben, Band* 2 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1973), *pp.* 85–100. *Internat. Schriftenreihe Numer. Math., Band* 23, *Birkhäuser, Basel*, 1974. (F. V. Pohle) **55** #4956 80.35

(*with* Glashoff, Klaus) Konvergenz der Linienmethode bei einem parabolischen Rand-Kontrollproblem. (English and Russian summaries) *Z. Angew. Math. Mech.* **54** (1974), 551–555. (L. von Wolfersdorf) **51** #8927 49B30 (65N35)

★Optimierung und Approximation. Teubner Studienbücher: Mathematik. *B. G. Teubner, Stuttgart*, 1975. 208 *pp.* (H. Kramer (Zbl **321** #41017)) **58** #17652 41–01

(*with* Glashoff, Klaus) Dualität und Bang-Bang-Prinzip bei einem parabolischen Rand-Kontrollproblem. (English summary) *Numerische Behandlung von Variations und Steuerungsproblemen* (*Tagung, Sonderforschungsber.* 72 "*Approximation und Optimierung*", *Inst. Angew. Math., Univ. Bonn, Bonn*, 1974), *pp.* 1–8. *Bonn. Math. Schr., No.* 77, *Inst., Angew. Math. Univ. Bonn, Bonn*, 1975. (K. Hawlitschek) **52** #15164 49A20

Zur Berechnung des Extremalwertes bei einem parabolischen Rand-Kontrollproblem. *Beiträge Numer. Math.* **4** (1975), 129–139. (L. D. Berkovitz) **56** #1745 65N30 (49A20)

(*with* Opfer, Gerhard) Eine Methode zur Lösung des komplexen Approximationsproblems mit einer Anwendung auf konforme Abbildungen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, T208–T211. (Manfred v. Golitschek) **53** #11270 41A30 (30A28)

Ein Kontroll-Approximationsproblem für die schwingende Saite. (English summary) *Numerische Methoden der Approximationstheorie, Band* 3 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1975), *pp.* 257–275. *Internat. Ser. Numer. Math., Vol.* 30, *Birkhäuser, Basel*, 1976. (Author's summary) **58** #23879 49A35

Boundary control of the higher-dimensional wave equation. *Optimization and operations research* (*Proc. Conf., Oberwolfach*, 1975), *pp.* 183–189. *Lecture Notes in Econom. Math. Systems, Vol.* 117, *Springer, Berlin*, 1976. (E. O. Roxin) **57** #18969 93C20 (35L05, 49A20)

Über die einseitige Randsteuerung einer schwingenden Saite in einen Zustand minimaler Energie. (English summary) *Computing* **17** (1976/77), *no.* 4, 351–359. (H. S. P. Grässer) **55** #4833 70.49 (49A35)

On optimal damping of one-dimensional vibrating systems. *Optimization techniques* (*Proc. 8th IFIP Conf., Würzburg*, 1977), *Part* 1, *pp.* 321–331. *Lecture Notes in Control and Informat. Sci., Vol.* 6, *Springer, Berlin*, 1978. (T. Zolezzi) **58** #15490 93C99 (49A10)

See also **Dynamical systems**, **58** #22710 *and* **Symposium: Operations Research**, **58** #32839a

Kračev, V. G. *See* **Cybernetics and computer technology**, **47** #4546

Kracht, Manfred W. (*with* Schröder, Gunnar) Zur Intervallrechnung in linearen Räumen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 1, 73–79. (H. Ratschek) **52** #2196 65J05

(*with* Schröder, Gunnar) Bergmansche Polynom-Erzeugende erster Art. *Manuscripta Math.* **9** (1973), 333–355. (E. Kreyszig) **48** #2542 35C15 (32H10)

(*with* Schröder, Gunnar) Eine Einführung in die Theorie der quasilinearen Räume mit Andwendung auf die in der Intervallrechnung auftretenden Räume. *Math.-Phys. Semesterber.* **20** (1973), 226–242. (Walter Gautschi) **48** #3240 65G05 (46A99)

Zur Existenz und Charakterisierung von Bergman-Operatoren. I. Der eingliedrige Lösungsansatz. *J. Reine Angew. Math.* **265** (1974), 202–220. (E. Kreyszig) **49** #806 35C15

Zur Existenz und Charakterisierung von Bergman-Operatoren. II. Paare von Zugeordneten. *J. Reine Angew. Math.* **266** (1974), 140–158. (E. Kreyszig) **49** #807 35C15

(*with* Kreyszig, Erwin) Zur Konstruktion gewisser Integraloperatoren für partielle Differentialgleichungen. I, II. (English summaries) *Manuscripta Math.* **17** (1975), *no.* 1, 79–103; *ibid.* **17** (1975), *no.* 2, 171–186. (S. Ruscheweyh) **52** #8632 35C15

Spezielle Bergman-Operatoren nebst Anwendungen. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos., Darmstadt*, 1976), *pp.* 327–341. *Lecture Notes in Math., Vol.* 561, *Springer, Berlin*, 1976. (W. Watzlawek) **58** #1546 35C15

Kracík, Vladimír Periodical coefficient linear systems with random stationary input. *Kybernetika* (*Prague*) **9** (1973), 313–329. (D. H. Chyung) **50** #4082 93E20

On one method of analysis of linear systems with random stationary coefficients. *Kybernetika* (*Prague*) **12** (1976), *no.* 6, 421–438. (Tamer Basar) **56** #11458 93E25

Kračilov, K. K. (*with* Andrunakievič, V. A.; Rjabuhin, Ju. M.; Tèbyrcè, E. I.) Erbliche Radikale von Algebren (Torsionen von Algebren). *Universale Algebren und Theorie der Radikale*, *pp.* 1–8. *Studien zur Algebra und ihre Anwendungen, Band* 1, *Akademie-Verlag, Berlin*, 1976. (H.-J. Hoehnke) **58** #769 16A21

Radical closures in complete lattices. II. (Russian) Rings and modules. *Mat. Issled. Vyp.* 38 (1976), 150–169, 208–209. (B. J. Gardner) **56** #187b 06A15 (16A21)

(*with* Andrunakievič, V. A.; Rjabuhin, Ju. M.) Radical closures in complete lattices. General theory. (Russian) *Mat. Sb.* (*N.S.*) **100(142)** (1976), *no.* 3, 339–355, 477. (B. J. Gardner) **56** #187a 06A15 (16A21)

Projective hereditary radical closures in the lattice of subgroups of the infinite cyclic group. (Russian) Topological structures and algebraic systems. *Mat. Issled. Vyp.* 44 (1977), 75–86, 179. (J. Karásek) **58** #22033 13A15 (15A63)

(*with* Rjabuhin, Ju. M.) Lattice-complementary torsions in algebras. (Russian) Algebras and modules. *Mat. Issled. Vyp.* 48 (1978), 94–111, 169–170. (W. G. Leavitt) **57** #9740 16A21

Kracklauer, Aloysius F. A geometric proof of no-interaction theorems. *J. Mathematical Phys.* **17** (1976), *no.* 5, 693–694. (David J. Simms) **54** #3756 58F05 (70.58)

Kračkovskiĭ, A. P. (*with* Emeličev, V. A.; Kravcov, M. K.) A proof for Bolker's conjecture. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 9, 788–790, 860. (P. Vondráček) **57** #5817 05C30

(*with* Emeličev, V. A.; Kravcov, M. K.) On a conjecture about the maximal number of vertices of a transportation polytope. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 6, 114–118, 144. (J. Abrham) **58** #9217 90C05

(*with* Emeličev, V. A.; Kravcov, M. K.) The minimal number of vertices of a nondegenerate transportation polytope with a fixed number of faces. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 1, 15–17, 91. (E. Ja. Gabovič) **58** #9228 90C10

A formula for the maximum number of vertices of a transportation polytope. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 1, 105–106, 143. (J. Abrham) **58** #9221 90C05 (90C10)

(*with* Emeličev, V. A.) Asymptotic behavior of transport polyhedra. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 4, 116–118, 139. (Authors' summary) **58** #20464 90C35

Kračkovskiĭ, S. N. (*with* Dikanskiĭ, A. S.) Fredholm operators and their generalizations. (Russian) *Mathematical analysis*, 1968 (*Russian*), *pp.* 39–71 (*errata insert*). *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1969. (D. Przeworska-Rolewicz) **53** #8949 47B30

The solutions of a certain operator equation. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy No.* 361 (1970), 21–28. (A. Alexiewicz) **45** #2505 (EA **58**) 47A50

(*with* Gol′dman, M. A.) Homomorphisms and mappings with a closed graph. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 9 (*Russian*), *pp.* 33–37. *Izdat. "Zinatne", Riga*, 1971. (Peter Kessler) **47** #9518 54C10

(*with* Gol′dman, M. A.) The stability of certain properties of a closed linear operator. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 769–772. (H. Baumgärtel) **48** #910 47A55

(*with* Valaeva, N. A.; Strašinskaja, F. F.) A quasilinear multipoint boundary value problem for ordinary differential equations. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy No.* 438 *Nekotorye Probl. Sovremen. Mat. i ee Priložen. v Železnodorož. Transporte* (1973), 25–32, 127. (M. Kakabadze) **51** #10737 34B10

(*with* Gol′dman, M. A.) Operators whose zeros form a finite-dimensional protuberance on the Riesz kernel. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 1281–1284. (Robert D. Brown) **55** #3836 47A55

(*with* Gol′dman, M. A.) Behavior of the space of zeros with a finite-dimensional salient on the Riesz kernel under perturbations of the operator. (Russian) *Dokl. Akad. Nâuk SSSR* **221** (1975), *no.* 13, 532–534. (G. Vainikko (Zbl **319** #47018)) **57** #17333 47A55

(*with* Gol′dman, M. A.) A generalization of the Riesz theorem on the almost perpendicular. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp.* 510 *Prikl. Mat. i Zadači Železnodorož. Transporta* (1976), 87–89, 133–134. (Authors' summary) **57** #1081 46B05

See also **Bourbaki, Nicolas**, **58** #18315

Kraczkowski, Andrzej On double Haar series of functions of the class V_p. *Funct. Approximatio Comment. Math.* **5** (1977), 25–30. (D. J. Eustice) **58** #12176 42A56

Kraeft, Jandirk Über 3-realisierbare Folgen mit beliebigen Sechseckzahlen. (English summary) *J. Geometry* **10** (1977), *no.* 1-2, 32–44. (A. Florian) **58** #24009 52A25

Kraeft, W. D. (*with* Kremp, D.; Ebeling, Werner) Quantum-statistical second virial coefficient and scattering theory. *Physica* **51** (1971), 146–164. (F. C. Auluck) **47** #2953 82.47

Kraemer, Helena Chmura Improved approximation to the non-null distribution of the correlation coefficient. *J. Amer. Statist. Assoc.* **68** (1973), 1004–1008. (S. John) **50** #15149 (EA **51**) (E **52** #9496) 62H10

Corrigenda: "Improved approximation to the non-null distribution of the correlation coefficient" (J. Amer. Statist. Assoc. **68** (1973), 1004–1008). *J. Amer. Statist. Assoc.* **70** (1975), 494. (S. John) **52** #9496 62H10

On estimation and hypothesis testing problems for correlation coefficients. *Psychometrika* **40** (1975), *no.* 4, 473–485. (Author's summary) **58** #8035 62H20 (62P15)

Kraemer, Svend A. (*with* Love, Robert F.) A dual decomposition method for minimizing transportation costs in multifacility location problems. *Transportation Sci.* **7** (1973), 297–316. (I. M. Stancu-Minasian) **49** #8614 90B05

See also **Operational Research**, **49** #12059

Kraev, M. M. (*with* Kademova, K. V.) Realisations of the representations of para-Fermi algebra. III. Fock space of Fermi operators. *Internat. J. Theoret. Phys.* **3** (1970), 185–189. (Authors' summary) **51** #12200 81.47

(*with* Kademova, K. V.) Realisations of the representations of para-Fermi algebras. IV. Fock spaces of para-Bose and para-Fermi operators. *Internat. J. Theoret. Phys.* **4** (1971), 159–170. (Authors' summary) **53** #2202 81.47

Kraeva, A. G. *See* **Applied multidimensional geometry**, **48** #12228

Kraevskaja, M. Ja. *See* **Studies in elasticity and plasticity**, **48** #3334

Krafft, Fritz Die Stellung der Technik zur Naturwissenschaft in Antike und Neuzeit. *Technikgeschichte* **37** (1970), *no.* 3, 189–209. (Editors) **58** #26703 01A20 (01A40)

Zu den Μηχανικά des Archimedes. *Actes XIIe Congrès Internationale d'Histoire des Sciences* (*Paris*, 1968), *Tome IV*: *Histoire des mathématiques et de la mécanique*, *pp.* 97–101. *Librairie Sci. et Techn. A. Blanchard*, *Paris*, 1971. (M. Folkerts) **45** #9 01A20

Keplers Wissenschaftspraxis und -verständnis. *Sudhoffs Arch.* **59** (1975), *no.* 1, 54–68. (Author's summary) **57** #12051 01A45

Krafft, G. W. *See* **Lysenko, V. I.**, **58** #26970

Krafft, Olaf Bounds for the minimax risk when testing simple hypotheses. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ. Prague*, *Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 433–447. *Academia*, *Prague*, 1973. (Lionel Weiss) **50** #3419 62F05 (62C10)

(*with* Sonnemann, Eckart) Independence numbers of product graphs. *J. Combinatorial Theory Ser. B* **17** (1974), 133–142. (Michel Chein) **51** #7963 05C99

Heinrich Behnke—50 Jahre Doktor der Mathematik. *Math.-Phys. Semesterber.* **21** (1974), 1–4. (1 *plate*) (Editors) **50** #32 01A70

(*with* Puri, Madan Lal) The asymptotic behavior of the minimax risk for multiple decision problems. *Sankhyā Ser. A* **36** (1974), *no.* 1, 1–12. (Volker Baumann) **52** #12142 62C99

(*with* Gaffke, N.) Optimum properties of Latin square designs and a matrix inequality. (German and French summaries) *Math. Operationsforsch. Statist. Ser. Statist.* **8** (1977), *no.* 3, 345–350. (Authors' summary) **58** #24768 62K05 (62K10)

Statistische Experimente: ihre Planung und Analyse. *Z. Angew. Math. Mech.* **57** (1977), *no.* 5, T17–T23. (Editors) **58** #31474 62–01

Kraft, Charles H. Posterior distributions for non-parametric priors. *Publications des Séminaires de Mathématiques* (*Univ. Rennes*, *Rennes*, *année* 1969–1970), *Fasc.* 2: *Séminaire de Probabilités et Statistiques*, *Exp. No.* 6, 7 *pp. Dép. Math. et Informat.*, *Univ. Rennes*, *Rennes*, 1970. (Mir Ali) **51** #9332 62F15

(*with* van Eeden, Constance) Linearized rank estimates and signed-rank estimates for the general linear hypothesis. *Publications des Séminaires de Mathématiques* (*Univ. Rennes*, *Rennes*, *Année* 1969–1970), *Fasc.* 2: *Séminaire de Probabilités et Statistiques*, *Exp. No.* 4, 31 *pp. Dép. Math. et Informat.*, *Univ. Rennes*, *Rennes*, 1970. (Hira L. Koul) **51** #4525 62G05

(*with* van Eeden, Constance) Linearized rank estimates and signed-rank estimates for the general linear hypothesis. *Ann. Math. Statist.* **43** (1972), 42–57. (P. K. Bhattacharya) **46** #1012 62G10

(*with* Olkin, Ingram; van Eeden, Constance) Estimation and testing for differences in magnitude or displacement in the mean vectors of two multivariate normal populations. *Ann. Math. Statist.* **43** (1972), 455–467. (P. Fortunati) **46** #1016 62H15

Kraft, Hanspeter Cohomological dimension of local fields. *Math. Z.* **133** (1973), 257–274. (G. A. Efroymson) **49** #2676 12B20 (12G10)

★Kommutative algebraische Gruppen und Ringe. Lecture Notes in Mathematics, Vol. 455. *Springer-Verlag*, *Berlin-New York*, 1975. iii + 163 *pp.* (Robert A. Morris) **52** #13862 14L15

(*with* Borho, Walter) Über die Gelfand-Kirillov-Dimension. *Math. Ann.* **220** (1976), *no.* 1, 1–24. (Helmut Strade) **54** #367 17B35

Parametrisierung von Konjugationsklassen in $\mathfrak{sl}_n$. *Math. Ann.* **234** (1978), *no.* 3, 209–220. (J. E. Humphreys) **58** #11047 17B20

Kraft, Richard Convergence of semidiscrete approximations of linear transport equations. *J. Math. Anal. Appl.* **37** (1972), 412–431. (P. Gordon) **45** #4690 65R05

Uniqueness and existence for the integral equation of interreflections. *SIAM J. Math. Anal.* **5** (1974), 293–302. (N. D. Sengupta) **49** #8513 78.45

Kraft, Robert E. (*with* Wells, William R.) Adjointness properties for differential systems with eigenvalue-dependent boundary conditions, with application to flow-duct acoustics. *J. Acoust. Soc. Amer.* **61** (1977), *no.* 4, 913–922. (Authors' summary) **58** #32339 76.35

Krägeloh, Klaus-Dieter (*with* Lockemann, Peter C.) Top-down optimization in multi-level
data base systems. *Information processing* 77 (*Proc. IFIP Congr.*, *Toronto*, *Ont.*,
pp. 399–404. *IFIP Congr. Ser.*, *Vol.* 7, *North-Holland*, *Amsterdam*, 1977. (Vi
Raghavan) **57** #8123 68A05

Krahnov, A. D. (*with* Kogan, V. R.) Asymptotic behavior of eigenvalues and
eigenfunctions of the Laplace operator on a compact Riemannian manifold. (Ru
English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), 448–453. (H. T
46 #547 35P20 (53C20, 58G99)

(*with* Gudkov, D. A.) The periodicity of the Euler characteristic of real alg
($M-1$)-manifolds. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 2, 15–19.
Wallace) **48** #9735 57D20 (32C05)

Asymptotic behavior of the eigenvalues of pseudodifferential operators, and
invariant tori. (Russian) *Usephi Mat. Nauk* **31** (1976), *no.* 3 (189), 217–218.
Weinstein) **54** #8757 58G99 (35P20)

(*with* Kogan, V. R.) The canonical operator on a closed trajectory. (Russian
Vysš. Učebn. Zaved. Matematika **1977**, *no.* 2(177), 60–70. (J. S. Joel) **58** #31
58G15 (58F05)

Krahotko, V. V. (*with* Gabasov, R. F.) Relative controllability of linear stationary s
with deviating argument of neutral type. (Russian) *Differencial'nye Uravnenija* **6** (
1359–1365. (M. Švec) **45** #8962 34K99 (93B05)

(*with* Gabasov, R. F.; Kirillova, F. M.) Controllability of multiloop system
lumped parameters. *Avtomat. i Telemeh.* **1971**, *no.* 11, 18–25 (*Russian. English
summary*); *translated as Automat. Remote Control* **1971**, *no.* 11, *part* 1, 1710–1717 (
(Authors' summary) **57** #15595 93B05

(*with* Gabasov, R. F.; Kirillova, F. M.; Minjuk, S. A.) Theory of the controlla
of linear discrete systems. I. The defining equation. (Russian) *Differencial'nye
Uravnenija* **8** (1972), 767–773. (A. Halanay) **46** #8699 93B05

(*with* Gabasov, R. F.; Kirillova, F. M.; Minjuk, S. A.) Theory of the controlla
of linear discrete systems. II. Ordinary systems. (Russian) *Differencial'nye Uravne*
(1972), 1081–1091. (A. Halanay) **46** #8700 93B05

(*with* Gabasov, R. F.; Kirillova, F. M.; Minjuk, S. A.) Theory of the controlla
of linear discrete systems. III. Systems with aftereffect. (Russian) *Differencia*
Uravnenija **8** (1972), 1283–1291. (A. Halanay) **46** #8701 93B05

Relative controllability of systems with distributed lag. (Russian) *Differencia*
Uravnenija **9** (1973), 265–270, 394. (M. M. Konstantinov) **47** #5697 49E15 (3
93B05)

(*with* Ignatenko, V. V.) Controllability of a linear system with aftereffect. (Rus
Differencial'nye Uravnenija **10** (1974), 241–245, 371. (G. Zatiašvili) **49** #2140
(*with* Metel'skiĭ, A. V.) On the controllability of systems with distribute
(Russian) *Differencial'nye Uravnenija* **10** (1974), 419–425, 570. (A. Halanay) **49** #
49E15

(*with* Ignatenko, V. V.) A proof of a relative controllability criterion for sy
with lag. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 3, 64–65, 95. (E
58 #15375 93B05

Kraichnan, Robert H. Test-field model for inhomogeneous turbulence. *J. Fluid Me*
(1972), 287–304. (R. P. Kanwal) **46** #10297 76.45

Convection of a passive scalar by a quasi-uniform random straining field. *J.*
Mech. **64** (1974), 737–762. (J. L. Lumley) **50** #6313 76.60

Remarks on turbulence theory. *Advances in Math.* **16** (1975), 305–331. (
Lumley) **51** #7475 76.60 (82.60)

Remarks on turbulence theory. *Surveys in applied mathematics* (*Proc. Firs*
Alamos Sympos. Math. in Natural Sči., *Los Alamos*, *N.M.*, 1974), *pp.* 197–223. *Aca*
Press, *New York*, 1976. (Editors) **58** #32387 76.60

Eulerian and Lagrangian renormalization in turbulence theory. *J. Fluid Me*
(1977), *no.* 2, 349–374. (J. C. J. Nihoul) **57** #2156 76.60

See also **Statistical mechanics: new concepts, new problems, new applications**,
49 #8558 (EA **50**)

Kraige, L. G. (*with* Junkins, John L.) Perturbation formulations for satellite att
dynamics. *Celestial Mech.* **13** (1976), *no.* 1, 39–64. (C. Marchal) **52** #16206 7
(*with* Skaar, S. B.) A variation of parameters approach to the arbitrarily tor
asymmetric rigid body problem. *J. Astronaut. Sci.* **25** (1977), *no.* 3, 207–22
Ignaczak) **57** #8269 70.65

Kraĭko, A. N. (*with* Ivanov, M. Ja.; Mihaĭlov, N. V.) The method of continuous
computation for two-dimensional and spatial supersonic flows. I. (Russian) *Ž. V*
Mat. i Mat. Fiz. **12** (1972), 441–463. (L. Dragoş) **46** #8542 76.65

(*with* Ivanov, M. Ja.) The method of continuous computation for two-dimens
and spatial supersonic flows. II. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (
805–813. (L. Dragoş) **46** #8543 76.65

(*with* Ivanov, M. Ja.) Numerical solution of a problem concerning the dischar
a supersonic jet of viscous gas into an accompanying supersonic stream. (Russian)
Metody Meh. Splošn. Sredy **6** (1975), *no.* 2, 32–51. (RŽMat **1976** #4 B1044) **58** #
76.65 (65N05)

(*with* Godunov, S. K.; Zabrodin, A. V.; Ivanov, M. Ja.; Prokopov, G. P.)
★Численное решение многомерных задач газовой динамики. (Russian) [Num
solution of multidimensional problems of gas dynamics] *Izdat.* "*Nauka*", *Moscow*,
400 *pp.* (Hans Kaper) **57** #8441 76.65

Kraines, David The cohomology of some k-stage Postnikov systems. *Proceedings*
Advanced Study Institute on Algebraic Topology (*Aarhus Univ.*, *Aarhus*, 1970), *Vol.*
212–239. *Various Publ. Ser.*, *No.* 13, *Mat. Inst.*, *Aarhus Univ.*, *Aarhus*, 1970. (D
Anderson) **51** #6812 55G45

On excess in the Milnor basis. *Bull. London Math. Soc.* **3** (1971), 363–365. (
Barcus) **45** #9317 55G10

(*with* Drachman, Byron) A duality between transpotence elements and M
products. *Pacific J. Math.* **39** (1971), 119–123. (J. F. Adams) **46** #4533 5
(18H15)

Approximations to self dual Hopf algebras. *Amer. J. Math.* **94** (1972), 963
(Kenneth Newman) **47** #1853 16A24

(*with* Schochet, Claude) Differentials in the Eilenberg-Moore spectral sequen
Pure Appl. Algebra **2** (1972), *no.* 2, 131–148. (J. Stasheff) **45** #9331 55H20

The $\mathcal{A}(p)$ cohomology of some k stage Postnikov systems. *Comment. Math.*
48 (1973), 56–71. (D. W. Anderson) **48** #1233 (E **48** #9723) 55G20

Corrigendum: “The $\mathcal{A}(p)$ cohomology of some k stage Postnikov systems” omment. Math. Helv. **48** (1973), 56–71). *Comment. Math. Helv.* **48** (1973), 194. litors) **48** #9723 55G45

Twisted multiplications on generalized Eilenberg-MacLane spaces. *Math. Scand.* **32** 73), 273–285 (1974). (J. P. May) **49** #3913 55D20

The kernel of the loop suspension map. *Illinois J. Math.* **21** (1977), *no.* 1, 91–108. (J. Adams) **54** #11334 55H20 (55D40)

See also **Topology and its applications,** **50** #6736

k, G. G. (*with* Futors′kiĭ, D. L.) Calculation of the constants of the S-Hamiltonian crystal fields of low symmetry. (Russian. English summary) *Ukrain. Fiz. Ž.* **16** (1971), 34–1341, 1401. (A. Nikodémusz) **46** #3018 81.35

v, G. A. (*with* Kim, K. V.; Surmenev, E. V.) A problem of compiling a schedule. ussian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 4, 767–772. (M. M. Sysło) **57** #5058 B35

v, V. P. *See* **Mathews, Jon; et al.,** **50** #3681

va, L. I. (*with* Kamolitdinov, D.) The rate of convergence of the Fourier integral d of the conjugate integral of a certain class of functions. (Russian. Tajiki summary) okl. Akad. Nauk Tadžik. SSR* **17** (1974), *no.* 4, 10–12. (R. P. Boas, Jr.) **50** #2806 A76

(*with* Kamolitdinov, D.) The rate of convergence of the Fourier integral and njugate integral of a function with a given modulus of smoothness on the interval. ussian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **18** (1975), *no.* 5, 7–10. ditors) **58** #1975 42A40

(*with* Kamolitdinov, D.) The speed of the (R, α)-summability of the Fourier integral d the conjugate integral of a certain class of function. (Russian. Tajiki summary) *okl. Akad. Nauk Tadžik. SSR* **19** (1976), *no.* 12, 7–10. (Naza Tanović-Miller) #1968 42A24

an, V. L. Perturbation theory for resonance states in a potential without spherical mmetry. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauki* **76**, *no.* 1, 84–85, 119. (Editors) **57** #8692 81.47

W. (*with* Bodziony, Jakub; Górski, Jerzy) On the method of determination of the rface area of convex bodies. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* (1976), *no.* 3, 175–183. (Authors’ summary) **57** #7376 52A15 (60D05)

O. On discontinuous solutions of the Dirichlet problem for a second order equation. lbanian. French summary) *Bul. Univ. Shtetëror Tiranë. Shk. Nat.* **26** (1972), *no.* 1-2, –31. (Author’s summary) **56** #5916 31B20

k, R. A. (*with* Nieto, Michael Martin) Bhabha first-order wave equations. I. C, P, nd T. *Phys. Rev. D* (3) **10** (1974), 4049–4063. (Authors’ summary) **55** #13997 .35

(*with* Nieto, Michael Martin) Bhabha first-order wave equations. II. Mass and spin omposition, Hamiltonians, and general Sakata-Taketani reductions. *Phys. Rev. D* (3) (1975), 1442–1458. (Authors’ summary) **55** #13998 81.35

(*with* Nieto, Michael Martin) Bhabha first-order wave equations. III. Poincaré enerators. *Phys. Rev. D* (3) **11** (1975), 1459–1471. (Authors’ summary) **55** #13999 1.35

(*with* Foldy, L. L.) Separable solutions for directly interacting particle systems. *hys. Rev. D* (3) **12** (1975), *no.* 6, 1700–1710. (Johan G. Belinfante) **56** #10577 1.47

(*with* Nieto, Michael Martin) Bhabha first-order wave equations. IV. Causality with inimal electromagnetic coupling. *Phys. Rev. D* (3) **13** (1976), *no.* 4, 924–941. (Authors’ ummary) **55** #14000 81.35

(*with* Nieto, Michael Martin) Foldy-Wouthuysen transformations in an ndefinite-metric space. I. Necessary and sufficient conditions for existence. *Phys. Rev.* (3) **13** (1976), *no.* 8, 2245–2249. (Authors’ summary) **58** #25591a 81.47

(*with* Nieto, Michael Martin) Foldy-Wouthuysen transformations in an ndefinite-metric space. II. Theorems for practical calculations. *Phys. Rev. D* (3) **13** 1976), *no.* 8, 2250–2254. (Authors’ summary) **58** #25591b 81.47

(*with* Nieto, Michael Martin) Bhabha first-order wave equations. V. Indefinite etric and Foldy-Wouthuysen transformations. *Phys. Rev. D* (3) **14** (1976), *no.* 2, 18–436. (Authors’ summary) **55** #14001 81.35

(*with* Nieto, Michael Martin) Foldy-Wouthuysen transformations in an ndefinite-metric space. III. Relation to Lorentz transformations for first-order wave quations and the Poincaré generators. *Phys. Rev. D* (3) **15** (1977), *no.* 2, 416–425. Authors’ summary) **58** #25591c 81.47

(*with* Nieto, Michael Martin) Foldy-Wouthuysen transformations in an ndefinite-metric space. IV. Exact, closed-form expressions for first-order wave quations. *Phys. Rev. D* (3) **15** (1977), *no.* 2, 426–432. (Authors’ summary) **58** #25591d 81.47

(*with* Nieto, Michael Martin) Bhabha first-order wave equations. VI. Exact, losed-form, Foldy-Wouthuysen transformations and solutions. *Phys. Rev. D* (3) **15** 1977), *no.* 2, 433–444. (Authors’ summary) **55** #14002 81.35

(*with* Nieto, Michael Martin) Bhabha first-order wave equations. VII. Summary nd conclusions. *Phys. Rev. D* (3) **15** (1977), *no.* 2, 445–452. (Authors’ summary) 5 #14003 81.35

cinovic, Dusan (*with* Hajdin, Nikola) Integral equation method for solution of oundary value problems of structural mechanics. I. Ordinary differential equations. *nternat. J. Numer. Methods Engrg.* **4** (1972), 509–522. (J. W. Dailey) **47** #1308a 5N99

(*with* Hajdin, Nikola) Integral equation method for solution of boundary value problems of structural mechanics. II. Elliptic partial differential equations. *Internat. J. Numer. Methods Engrg.* **4** (1972), 523–539. (J. W. Dailey) **47** #1308b 65N99

ewski, Lawrence L. A remark on totally normal spaces. *Delta* (*Waukesha*) **3** (1972/73), *no.* 4, 9–11. (V. J. Mancuso) **51** #4164 54D15

ewski, Stanisław (*with* Rutkowski, Aleksander) Preliminary results and problems concerning Π_{n+1}^0 functions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 805–809. (Robert M. Baer) **48** #1897 02F20

Mutually inconsistent satisfaction classes. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 983–987. (M. Boffa) **52** #10417 02K05 (02K10)

A remark on automorphisms and nonstandard properties. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 989–991. (J. A. Makowsky) **52** #86 02H20

Predicative expansions of axiomatic theories. *Z. Math. Logik Grundlagen Math.* **20** (1974), 435–452. (P. Štěpánek) **51** #10082 02H10 (02K10)

Non-standard satisfaction classes. *Set theory and hierarchy theory* (*Proc. Second Conf., Bierutowice*, 1975), *pp.* 121–144. *Lecture Notes in Math., Vol.* 537, *Springer, Berlin*, 1976. (L. D. Kugler) **56** #5280 02H20

A note on expansion of models of set theories. *Prace Nauk. Inst. Mat. Politech. Wrocław. No.* 14 *Ser. Konfer. No.* 1 (1977), 63–67. (Editors) **58** #10447 02K15

Krajewski, Władysław Correspondence principle and the idealization. *Formal methods in the methodology of empirical sciences* (*Proc. Conf., Warsaw*, 1974), *pp.* 380–386. *Synthese Library*, 103. *Reidel, Dordrecht*, 1976. (Editors) **58** #27235 02A05

See also **Methodological and historical essays in the natural and social sciences,** **52** #13078

Krajkiewicz, P. (*with* Bosh, W.) Cauchy integral formulas for complex functions. *Portugal. Math.* **30** (1971), 89–92. (J. H. Curtiss) **46** #3803 30A86

The Picard theorem for multianalytic functions. *Pacific J. Math.* **48** (1973), 423–439. (M. O. Gonzalez) **53** #829 30A92

Bianalytic functions with exceptional values. *Proc. Amer. Math. Soc.* **38** (1973), 75–79. (M. O. Gonzalez) **47** #2073 30A92

Exceptional values of analytic functions. *Proc. Amer. Math. Soc.* **40** (1973), 159–165. (M. O. Gonzalez) **48** #8803 30A72

Polyanalytic functions with exceptional values. *Trans. Amer. Math. Soc.* **197** (1974), 181–210. (M. O. Gonzalez) **50** #2517 30A92 (30A70)

A new proof of a theorem of Saxer. *Ann. Polon. Math.* **33** (1976/77), *no.* 3, 293–309. (M. Hervé) **55** #8344 30A42

Krajňáková, Dorota On dual semigroups. *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 87–91. (D. R. LaTorre) **46** #7412 20M10

Krakauer, J. (*with* Feldman, Marcus W.) Genetic modification and modifier polymorphisms. *Population genetics and ecology* (*Proc. Conf., Israel*, 1975), *pp.* 547–583. *Academic Press, New York*, 1976. (Klaus Hinkelmann) **55** #5236 92A10

Krakhotko, V. V. *See* **Krahotko, V. V.**

Krakowiak, Anna (*with* Sewioł, Krystyna) On the continuous dependence of solutions of a boundary value problem for ordinary second-order differential equations. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 15 (1971), 79–82. (R. Grimmer) **50** #2597 34B15

An application of the homotopy method to linear problems for nonlinear differential systems. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 16 (1974), 71–75. (R. A. Struble) **50** #5078 34B15

The degenerate case of boundary value problems for nonlinear differential systems. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 16 (1974), 77–82. (V. Lakshmikantham) **50** #7648 34B15

Krakowski, Don (*with* Regev, Amitai) The polynomial identities of the Grassmann algebra. *Trans. Amer. Math. Soc.* **181** (1973), 429–438. (J. L. Fisher) **48** #4005 15A75

A note on Galois groups of algebraic closures. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 1, 12–15. (William C. Waterhouse) **53** #10774 12F10

Upper and lower fields for profinite groups of given cardinality. *J. Austral. Math. Soc. Ser. A* **21** (1976), *no.* 1, 16–18. (William C. Waterhouse) **53** #8029 12F10

Krakowski, Martin Random file. *Rev. Française Automat. Informat. Recherche Opérationnelle* **5** (1971), *Sér.* V-2, 111–112. (Editors) **48** #5139 60C05 (90B40)

A renewal theorem for stationary populations. *Rev. Française Automat. Informat. Recherche Opérationnelle* **6** (1972), *Sér.* V-2, 99–103; *addendum, ibid.* 6 (1972), V-2, 104. (N. Keyfitz) **48** #7520 62P10 (92A15)

Conservation methods in queuing theory. (Loose French summary) *Rev. Française Automat. Informat. Recherche Opérationnelle* 7 (1973), *Sér.* V-1, 63–83. (L. Takács) **48** #9885 60K25

The relevation transform and a generalization of the gamma distribution function. (Loose French summary) *Rev. Française Automat. Informat. Recherche Opérationnelle* 7 (1973), *Sér.* V-2, 107–120. (L. L. Campbell) **48** #7517 62N05 (90B25)

Krakus, B. Some properties of convex metric spaces. *Fund. Math.* **73** (1971/72), *no.* 3, 193–198. (A. Lelek) **45** #5968 (E **45** #5969) 54E45

Errata to the paper: “Some properties of convex metric spaces”. *Fund. Math.* **74** (1972), *no.* 3, 255. (A. Lelek) **45** #5969 54E45

An example of a strongly convex metric space. *Ark. Mat.* **12**, 73–83 (1974). (A. Lelek) **50** #1123 52A10 (53C70)

Král, František (*with* Dupač, Václav) Robbins-Monro procedure with both variables subject to experimental error. *Ann. Math. Statist.* **43** (1972), 1089–1095. (K. B. Athreya) **49** #1708 62L20

Kral′, I. *See* **Král, Josef**

Král, Jaroslav A modification of substitution theorem with some applications. *Automatentheorie und formale Sprachen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1969), *pp.* 227–241. *Bibliographisches Inst., Mannheim*, 1970. (J.-F. Perrot) **48** #12915 68A30

Some sources of primitive constructs in programming languages. *Mathematical foundations of computer science* (*Proc. Sympos. and Summer School, Štrbské Pleso*, 1973), *pp.* 251–254. *Math. Inst., Slovak Acad. Sci., Bratislava*, 1973. (Neal R. Wagner) **53** #9765 68A99

(*with* Demner, Jiří) A note on the number of states of the De Remer’s recognizer. *Information Processing Lett.* **2** (1973), 22–23. (J. E. L. Peck) **48** #7669 68A30

A note on grammars with regular restrictions. *Kybernetika* (*Prague*) **9** (1973), 159–161. (S. A. Greibach) **48** #5434 68A30

Numerical methods and computers. (Czech) *Pokroky Mat. Fyz. Astronom.* **19** (1974), 281–289. (Editors) **58** #8128 65–01 (65Fxx)

(*with* Demner, Jiří) Parsing as a subtask of compiling. *Mathematical foundations of computer science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp.* 61–74. *Lecture Notes in Comput. Sci., Vol.* 32, *Springer, Berlin*, 1975. (A. L. Fuksman) **53** #7143 68A30

Statistical properties of some hash methods. (Czech and Russian summaries) *Information Processing Machines* **18** (1975), 93–106. (K. H. V. Booth) **53** #9757 68A50

A top-down no backtrack parsing of general context-free languages. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnica*, 1977), *pp.* 333–341. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (Ju. G. Karpov) **58** #32102 68A30

Almost top-down analysis for generalized LR(k) grammars. *Methods of algorithmic language implementation* (*Sympos., Novosibirsk*, 1975), *pp.* 149–172. *Lecture Notes in Comput. Sci., Vol.* 47, *Springer, Berlin*, 1977. (David B. Benson) **57** #4649 68A30

Syntax directed compiling and the problem of grammatical covering. (Czech and Russian summaries) *Acta Polytech. Práce ČVUT* (4) **1977**, *no.* 2, 39–52. (Author's summary) **58** #3733 68A30

Král, Josef Functions satisfying an integral Lipschitz condition. *Acta Univ. Carolinae—Math. et Phys.* **12** (1971), *no.* 1, 51–54 (1972). (T. A. Botts) **47** #6967 26A69

Hölder-continuous heat potentials. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **51** (1971), 17–19. (D. T. Haimo) **46** #7707 35K05

(*with* Lukeš, Jaroslav; Netuka, Ivan) Elliptic points in one-dimensional harmonic spaces. *Comment. Math. Univ. Carolinae* **12** (1971), 453–483. (B. Walsh) **45** #584 31D05

The removable singularities of the solutions of the heat equation. (Russian) *Application of functional methods to the boundary value problems of mathematical physics* (*Proc. Third Soviet-Czechoslovak Conf., Novosibirsk*, 1971) (*Russian*), *pp.* 103–106. *Inst. Mat. Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1972. (V. Djurikovič) **52** #3562 31B20 (35K10)

(*with* Lukeš, Jaroslav) Integrals of the Cauchy type. *Czechoslovak Math. J.* **22(97)** (1972), 663–682. (R. A. Kordzadze) **49** #3142 30A72 (30A86)

Regularity of potentials and removability of singularities of solutions of partial differential equations. *Proceedings of Equadiff III* (*Third Czechoslovak Conf. Differential Equations and their Appl., Brno*, 1972), *pp.* 179–185. *Folia Fac. Sci. Natur. Univ. Purkynianae Brunensis, Ser. Monograph., Tomus* 1, *Purkyně Univ., Brno*, 1973. (L. A. Peletier) **50** #10518 35D10

(*with* Lukeš, Jaroslav) Indefinite harmonic continuation. (Czech summary) *Časopis Pěst. Mat.* **98** (1973), 87–94, 100. (P. A. Loeb) **47** #8894 31D05

A note on the Robin problem in potential theory. *Comment. Math. Univ. Carolinae* **14** (1973), 767–771. (Gottfried Anger) **48** #11544 31B20

Removable singularities of solutions of semielliptic equations. (Italian summary) *Rend. Mat.* (6) **6** (1973), 763–783. (D. L. Colton) **50** #7765 35A20

(*with* Lukeš, Jaroslav) Brelot spaces on one-dimensional manifolds. (Czech. English summary) *Časopis Pěst. Mat.* **99** (1974), 179–185. (I. Netuka) **51** #5952 31D05

Potentials and removability of singularities. *Nonlinear evolution equations and potential theory* (*Proc. Summer School, Podhradí*, 1973), *pp.* 95–106. *Academia, Prague*, 1975. (See Zbl **316** #00013; MR **51** #1079) 31A15

Potentials and boundary value problems. 5. *Tagung über Probleme und Methoden der Mathematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *Heft* 3, *pp.* 484–500. *Wiss. Schr. Techn. Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt*, 1975. (M. M. Schiffer) **55** #3278a (E **55** #3278b) 31A20

Singularités non essentielles des solutions des équations aux dérivées partielles. *Séminaire de Théorie du Potentiel* (*Paris*, 1972–1974), *pp.* 95–106. *Lecture Notes in Math., Vol.* 518, *Springer, Berlin*, 1976. (I. Aganović) **58** #22975 35B99

An example of a harmonic sheaf. (Czech. Loose English and Russian summaries) *Časopis Pěst. Mat.* **101** (1976), *no.* 1, 98–99. (M. Hušek) **57** #4083 54D05 (31D05)

An example toward the inversion of Green's theorem. (Czech) *Časopis Pěst. Mat.* **101** (1976), *no.* 2, 205–206. (A. I. Heĭfic) **56** #3216 26A66

On a mathematical hair-combing problem. (Czech. Loose English and Russian summaries) *Časopis Pěst. Mat.* **101** (1976), *no.* 3, 305–307. (M. Hušek) **56** #3807 54F15

Correction of some misprints in my paper "Potentials and boundary value problems" published in "Wissenschaftliche Schriftenreihe der T. H. Karl-Marx-Stadt". *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 1, 205–206. (M. M. Schiffer) **55** #3278b 31A20

(*with* Netuka, Ivan) Contractivity of C. Neumann's operator in potential theory. *J. Math. Anal. Appl.* **61** (1977), *no.* 3, 607–619. (Denis Feyel) **58** #22617 31B15

(*with* Fuka, Jaroslav) Analytic capacity and linear measure. *Czechoslovak Math. J.* **28(103)** (1978), *no.* 3, 445–461. (Klaus Janssen) **58** #11370 30A44 (31A15)

See also **Nonlinear evolution equations and potential theory**, **51** #1079

Králik, D. (*with* Alexits, Gyorgy) Some remarks on the approximation in the strong sense. (Russian summary) *Anal. Math.* **1** (1975), 3–8. (F. Liverani) **51** #1265 42A60

Kraljević, Hrvoje (*with* Kurepa, Svetozar) Semigroups on Banach spaces. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **5(25)** (1970), 109–117. (G. Da Prato) **45** #9190 47D05

(*with* Miličić, Dragan) The C^*-algebra of the universal covering group of SL(2, R). (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1972), 35–48. (S. Strătilă) **49** #5222 22D25

Irreducibility of the principal series representations of the group GL(n, R). (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1972), 49–51. (N. R. Wallach) **48** #465 22E45 (20G05)

The dual space of the group SU(2, 1) and of its universal covering group. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1972), 173–187. (Kenneth Johnson) **48** #2308 22E45 (22D25)

Representations of the universal convering group of the group SU(n, 1). (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **8(28)** (1973), 23–72. (E. A. Thieleker) **48** #8692 22E45

(*with* Miličić, Dragan) Elementary representations of the group SO(3, 2). (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 43–57. (C. J. Henrich) **50** #4818 22E45

Subquotient theorem and some other results for semisimple Lie groups with infinite center. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 223–231. (D.-N. Verma) **53** #3207 22E45

(*with* Veselić, Krešimir) On algebraic and spectrally finite Banach algebras. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **11(31)** (1976), *no.* 2, 291–318. (B. E. Johnson) **55** #8796 46H05

On representations of the group $SU(n, 1)$. *Trans. Amer. Math. Soc.* **221** (19 2, 433–448. (A. U. Klimyk) **53** #13477 22E45

A note on nonunitary principal series representations. *Proc. Amer. Math.* (1978), *no.* 2, 213–216. (D. Miličić) **57** #12785 22E45

Krall, Allan M. ★Stability techniques for continuous linear systems. Notes on Mathematics and its Applications. *Gordon and Breach Science Publishers, New York-London-Paris*, 1967. x + 150 *pp.* (Not reviewed) 93C05

(*with* Green, Gary B.) Linear differential systems with infinitely many bo points. *Ann. Mat. Pura Appl.* (4) **91** (1972), 53–67. (J. W. Neuberger) **47** # 34B25

Self-adjoint boundary value problems with infinitely many boundary points *Mat. Pura Appl.* (4) **91** (1972), 69–77. (J. W. Neuberger) **47** #5354 34B25

An eigenfunction expansion for a nonselfadjoint, interior point boundary problem. *Trans Amer. Math. Soc.* **170** (1972), 137–147. (Jerry Ridenhour) **47** 34B25 (47E05)

★Linear methods of applied analysis. *Addison-Wesley Publishing Co., R Mass.-London-Amsterdam*, 1973. xiv + 706 *pp.* (From the author's introduction) **56** #5099 00A05 (69.00, 34–01, 35–01)

(*with* Brown, Richard C.; Green, Gary B.) Eigenfunction expansions under multipoint-integral boundary conditions. *Ann. Mat. Pura Appl.* (4) **95** (1973), 23 (C. A. Swanson) **48** #2480 34B25

(*with* Brown, Richard C.) Adjoints of multipoint-integral boundary value pro *Proc. Amer. Math. Soc.* **37** (1973), 213–216. (C. Avramescu) **46** #7968 47E05 (34B05)

Stieltjes differential-boundary operators. *Proc. Amer. Math. Soc.* **41** (1973), (W. T. Reid) **47** #8954 34B05

Addendum to: "Differential-boundary opertators". *Trans. Amer. Math. Sc* (1973), 505. (Editors) **47** #7109 34B25

Stieltjes differential-boundary operators. II. *Pacific J. Math.* **55** (1974), 20 (W. T. Reid) **51** #8532 34B25 (47E05)

(*with* Brown, Richard C.) Ordinary differential operators under Stieltjes bo conditions. *Trans. Amer. Math. Soc.* **198** (1974), 73–92. (M. Tvrdý) **50** #1 47E05 (34B10)

An extension of a stability theorem of J. J. Wong. [J. S. Wong]. (French sum *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 3–4, 173–175. (N. Onuchic) **57** #1 34D20

On the solutions of $(ry')' + qy = f$. *Monatsh. Math.* **80** (1975), *no.* 2, 115–118. Utz) **52** #886 34C10

Stieltjes differential-boundary operators. III. Multivalued operators–linear rel *Pacific J. Math.* **59** (1975), *no.* 1, 125–134. (W. T. Reid) **53** #1308 47A50 (

The development of general differential and general differential-boundary sy *Rocky Mountain J. Math.* **5** (1975), *no.* 4, 493–542. (Richard Brown) **53** #1 34Bxx (35G05, 47E05)

(*with* Brown, Richard C.) n-th order ordinary differential systems under S boundary conditions. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 1, 119–131. (R. Kemp) **55** #3399 34B25

(*with* Brown, Richard C.) On minimizing the sum of squares of $\mathfrak{L}^2$ nor differential operators under constraints. *Czechoslovak Math. J.* **27(102)** (1977), 132–143. (R. R. D. Kemp) **55** #3400 34B25

nth order Stieltjes differential boundary operators and Stieltjes differential bou systems. *J. Differential Equations* **24** (1977), *no.* 2, 253–267. (R. C. Gilbert) **55** # 34B25 (47E05)

Orthogonal polynomials through moment generating functionals. *SIAM J. Anal.* **9** (1978), *no.* 4, 600–603. (A. G. Law) **58** #12171 42A52

(*with* Morton, Robert D.) Distributional weight functions for orthogonal polynomials. *SIAM J. Math. Anal.* **9** (1978), *no.* 4, 604–626. (A. G. Law) **58** #12 42A52

Krall, Giulio *See* **Cattaneo, Carlo**, **46** #5092 *and* **Pignedoli, Antonio**, **48** #8182

Krall, H. L. (*with* Sheffer, I. M.) On trigonometric polynomials satisfying differ equations. *J. Indian Math. Soc.* (*N.S.*) **39** (1975), 29–49 (1976). (J. S. Byrnes) **54** # 42A04

Kramar, Edi (*with* Suhadolc, Anton) Fredholm integral equations of the first kind. (Slovenian. English summary) *Obzornik Mat. Fiz.* **21** (1974), 17–25. (Authors' summary) **55** #13183 45B05

Kramar, Edvard The role of compactness in analysis. (Slovenian. English summ *Obzornik Mat. Fiz.* **18** (1971), 145–153. (Editors) **45** #468 26A03 (46N05, 54

Solution of nonlinear operator equations in a Banach space. (Slovenian. E summary) *Obzornik Mat. Fiz.* **24** (1977), *no.* 6, 193–200. (Author's summary) **58** #13688 65J05 (47H15)

Kramar, F. D. Aristotle's parallelogram of motions. (Russian. English summary) *Vo Istor. Estestvoznan. i Tehn.* **1972**, *no.* 1(38), 26–30, 125, 134. (Editors) **58** #26 01A20

Kramarczyk, W. Information-theoretical interpretation of the thermal Hartree-Fock approximation. *Phys. Lett.* **49A** (1974), 199–200. (Author's summary) **50** #12 82.49

Kramarev, B. A. Topological groups with invariant centralizers of the elements. (Rus *Mat. Zametki* **21** (1977), *no.* 3, 297–300. (Ju. I. Merzljakov) **55** #12858 22A05

Kramareva, R. F. Certain properties of i-distributive n-quasigroups. (Russian) *Stud the theory of quasigroups and loops* (*Russian*), *pp.* 102–114, 197. *Izdat.* "*Štiinca*", *Kishinev*, 1973. (V. Havel) **52** #3408 20N05

Kramarovskiĭ, B. I. (*with* Turakulov, K.) A necessary optimality condition for a contr process with a complex functional. (Russian. Uzbek summary) *Dokl. Akad. UzSSR* **1968**, *no.* 12, 5–7. (M. M. Konstantinov) **53** #11454 49B10

The problem of finding the complete integral of a certain class of Hamilton-Ja equations. *Dokl. Akad. Nauk UzSSR* **1969**, *no.* 8, 5–6. (K. Moszyński) **47** #38 35Q99 (70.35)

(*with* Turakulov, K.) Variational problems with complex functionals of the se kind. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1970**, *no.* 7, 9–11 Mikołajczyk) **51** #11238 49B15 (*with* Šul′gin, A. M.) Integrability of an equation of Hamilton-Jacobi type by paration of variables. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *No.* 7 (1971), –17. (See RŽMat **1972** #6 A103) 70.34

Optimality conditions for a complex integrodifferential game. (Russian) *Voprosy čisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 26 (1974), 3–16, 199. (O. Hajek) **57** #11805 D25

A method for solving systems of complex integro-differential equations. (Russian) *oprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 28 (1974), 55–68, 180. (Author's summary) #17745 45J05

Solution of a class of integro-differential equations. (Russian) *Voprosy Vyčisl. i ikl. Mat.* (*Tashkent*) *No.* 38 (1975), 3–15, 155. (RŽMat **1976** #7 B360) **58** #29950 J05 (34G05, 35R20)

Approximate solution of a class of functional equations. (Russian) *Voprosy Vyčisl. i ikl. Mat.* (*Tashkent*) *No.* 44 (1976), 3–17, 185. (RŽMat **1977** #6 B845) **58** #31957 Q05 (39A15)

Existence and uniqueness of the solution of a two-point boundary value problem. ussian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 46 (1977), 9–23, 191. (Author's mmary) **58** #8404 65R05

Optimality conditions in the theory of integro-differential games. (Russian) *Voprosy čisl. i Prikl. Mat.* (*Tashkent*) *No.* 48 (1977), 3–19, 191. (Bojan Popović) **58** #26075 D25 (49Bxx)

arz, Luis Global approximations to solutions of initial value problems. *Math. Comp.* (1978), *no.* 141, 35–59. (Gheorghe Micula) **57** #1899 65L05

The collocation solution of nonlinear differential equations by spline functions. *Z. ngew. Math. Mech.* **58** (1978), *no.* 3, 163. (From the text) **58** #19162 65L10

er, Dieter *See* **Taschenbuch Elektrotechnik in sechs Bänden, 52** #13100

er, Dietrich Gruppenstruktur und Feldgleichungen im Einstein-Kosmos. *Acta Phys. olon. B* **4** (1973), 11–20. (Author's summary) **52** #7432 83.35

(*with* Lotze, K. H.) Quantisierung in statischen Gravitationsfeldern. (English mmary) *Acta Phys. Polon. B* **5** (1974), 437–446. (N. V. Mickevič) **55** #2026 83.47

Quantization of the electro-magnetic field in Riemannian spaces. *Acta Phys. Polon.* **6** (1975), *no.* 4, 467–478. (Author's summary) **57** #18725 83.53 (53B20)

Canonical quantization on general spacelike hypersurfaces. *Acta Phys. Polon. B* **7** 976), *no.* 2, 117–125. (P. M. Mathews) **53** #12390 81.53

(*with* Lotze, K. H.) Quantization of the Dirac field in Riemannian spaces. *Acta hys. Polon. B* **7** (1976), *no.* 4, 227–236. (Hans P. Künzle) **54** #4439 81.53

Quantized scalar field in curved space-time. *Acta Phys. Polon. B* **7** (1976), *no.* 4, 37–245. (Hans P. Künzle) **54** #4440 81.53

Gravitationsfelder mit zweidimensionaler Bewegungsgruppe. (Russian and English ummaries) *Wiss. Z. Friedrich-Schiller-Univ. Jena Math.-Naturwiss. Reihe* **25** (1976), *no.* , 447–454. (H. S. Green) **56** #4672 83.53

Einstein-Maxwell fields with null Killing vector. *Acta Phys. Acad. Sci. Hungar.* **43** 1977), *no.* 2, 125–132. (C. W. Kilmister) **58** #4175 83.53

(*with* Wegner, Gerd) Ein ebenes Extremalproblem. *Elem. Math.* **32** (1977), *no.* 5, 09–112. (Bernd Kind) **57** #17505 52A10

er, Earl S. Indecomposable triple systems. *Discrete Math.* **8** (1974), 173–180. Charles C. Lindner) **48** #10863 05B30

(*with* Mesner, Dale M.) On Steiner tableaus. *Discrete Math.* **10** (1974), 123–131. Jane W. Di Paola) **50** #1933 05B30

On λ-designs. *J. Combinatorial Theory Ser. A* **16** (1974), 57–75. (M. Kimberley) 1 #5331 05B05

(*with* Mesner, Dale M.) Intersections among Steiner systems. *J. Combinatorial Theory Ser. A* **16** (1974), 273–285. (E. F. Assmus, Jr.) **49** #78 05B05

(*with* Magliveras, Spyros S.) Some mutually disjoint Steiner systems. *J. Combinatorial Theory Ser. A* **17** (1974), 39–43. (E. F. Assmus, Jr.) **49** #7155 05B05

Some t-designs for $t \geqslant 4$ and $v = 17, 18$. *Proceedings of the Sixth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1975), *pp.* 443–460. *Congressus Numerantium, No. XIV, Utilitas Math., Winnipeg, Man.*, 1975. (Luc Teirlinck) **53** #5328 05B05

(*with* Mesner, Dale M.) The possible (impossible) systems of 11 disjoint $S(2,3,13)$'s ($S(3,4,14)$'s) with automorphism of order 11. *Utilitas Math.* **7** (1975), 55–58. (W. M. Kantor) **51** #7898 05B05

(*with* Mesner, Dale M.) Admissible parameters for Steiner systems $S(t,k,v)$ with a table for all $(v-t) \leqslant 498$. *Utilitas Math.* 7 (1975), 211–222. (W. M. Kantor) **51** #7899 05B05

(*with* Mesner, Dale M.) t-designs on hypergraphs. *Discrete Math.* **15** (1976), *no.* 3, 263–296. (Luc Teirlinck) **57** #139 05B05

A generalized Room square GRS(4, 24) of dimension 9. *Discrete Math.* **20** (1977/78), *no.* 1, 91–92. (A. Rosa) **57** #9576 05B30

Some triple system partitions for prime powers. *Utilitas Math.* **12** (1977), 113–116. (Luc Teirlinck) **57** #16099 05B05

See also **Proceedings: Southeastern Conference on Combinatorics, Graph Theory and Computing, 48** #10747

mer, Florica Relations between the diameter of a graph and the degrees of the nodes of a graph. (Romanian. German summary) *Rev. Anal. Numer. Teoria Aproximaţiei* **1** (1972), 125–131. (T. Zamfirescu) **54** #170 05C99

Sur le nombre chromatique $K(p,G)$ des graphes. *Rev. Française Automat. Informat. Recherche Opérationnelle* **6** (1972), *Sér.* R-1, 67–70. (J. W. Moon) **47** #1657 05C15

On the radius of a graph. *Anal. Numér. Théor. Approx.* **6** (1977), *no.* 1, 31–36. (Editors) **58** #27588 05C10

mer, G. L. Reduction to diagonal form of certain classes of triangular matrices in function spaces that are analytic in multi-circular domains. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 615–619, 670. (J. Siciak) **47** #9256 46E10 (32A07, 47B99)

The similarity of certain classes of row-finite matrices in spaces of functions that are analytic in multi-circular domains. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 7, 590–593, 670. (Alexander A. Pankov) **54** #13623 47B37 (32A07)

amer, Garal′d *See* **Cramér, Harald**

amer, Gerald H. Sophisticated voting over multidimensional choice spaces. Collection of articles on social choice. *J. Mathematical Sociology* **2** (1972), 165–180. (From the author's introduction) **55** #12179 92A20 (90A05)

On a class of equilibrium conditions for majority rule. *Econometrica* **41** (1973), 285–297. (J. H. Blau) **48** #5669 92A20

A note on single peakedness. *Internat. Econom. Rev.* **17** (1976), *no.* 2, 498–502. (Maurice Salles) **56** #10765 90A05

A dynamical model of political equilibrium. *J. Econom. Theory* **16** (1977), *no.* 2, 310–334. (B. G. Mirkin) **58** #25863 90A05 (92A20)

Krämer, Helmut Über Torsion von Moduln und Koszulkomplexe. *Arch Math.* (*Basel*) **22** (1971), 364–369. (Jonathan Golan) **45** #3383 13C10

Einige Anwendungen der G-Funktion von MacRae. *Arch. Math.* (*Basel*) **22** (1971), 479–490. (R. E. MacRae) **46** #1774 13D05

Über die Automorphismengruppe des Burnsideringes endlicher abelscher Gruppen. *J. Algebra* **30** (1974), 279–293. (A. Mader) **49** #10764 20B25

Über die injektive Dimension des Burnsideringes einer endlichen Gruppe. *J. Algebra* **30** (1974), 294–304. (William H. Gustafson) **51** #3283 20C05

(*with* Dress, Andreas W. M.) Bettireihen von Faserprodukten lokaler Ringe. *Math. Ann.* **215** (1975), 79–82. (R. E. MacRae) **51** #5578 13C99

Kramer, Henry P. The digital form of operators on band-limited functions. *J. Math. Anal. Appl.* **44** (1973), 275–287. (G. Doetsch) **48** #8085 94A05

(*with* Lane, Richard N.) Decomposition of a function into a weighted sum of shifted replicas of another function. *J. Math. Anal. Appl.* **46** (1974), 595–608. (J. Pickands, III) **49** #8272 65C99

(*with* Bruckner, Judith B.) Iterations of a non-linear transformation for enhancement of digital images. *Pattern Recognition* **7** (1975), *no.* 1-2, 53–58. (Arnold Griffith) **52** #7233 68A45

Kramer, Horst (*with* Németh, A. B.) Triangles inscribed in smooth closed arcs. *Rev. Anal. Numér. Théorie Approximation* **1** (1972), 63–71. (H. W. Guggenheimer) **51** #11391 53C75 (52A10)

(*with* Németh, A. B.) Supporting spheres for families of independent convex sets. *Arch. Math.* (*Basel*) **24** (1973), 91–96. (G. D. Chakerian) **47** #4139 52A20

Eine Schnitteigenschaft der Stützfunktionen kompakter Mengen im $\mathbf{R}^n$. *Mathematica* (*Cluj*) **15(38)** (1973), 57–69. (G. D. Chakerian) **50** #14489 52A20

(*with* Németh, A. B.) Equally spaced points for families of compact convex sets in Minkowski spaces. *Mathematica* (*Cluj*) **15(38)** (1973), 71–78. (G. D. Chakerian) **50** #14504 52A50

Supporting spheres for families of sets in product spaces. *Rev. Anal. Numér. Théorie Approximation* **2** (1973), 49–53. (G. D. Chakerian) **51** #11278 52A20

(*with* Németh, A. B.) Equally spaced points for families of compact sets in Euclidean spaces. *Arch. Math.* (*Basel*) **25** (1974), 198–202. (G. D. Chakerian) **50** #1129 52A40

Observations on r-convex sets. (Romanian. English summary) *Rev. Anal. Numer. Teoria Aproximaţiei* **3** (1974), *no.* 2, 117–120 (1975). (H. W. Guggenheimer) **51** #13865 52A20

(*with* Németh, A. B.) The application of Brouwer's fixed point theorem to the geometry of convex bodies. (Romanian. French summary) *An. Univ. Timişoara Ser. Şti. Mat.* **13** (1975), *no.* 1, 33–39 (1977). (H. W. Guggenheimer) **57** #7384 52A20

A Helly-type theorem for arcwise connected sets in the plane. *Anal. Numér. Théor. Approx.* **6** (1977), *no.* 1, 37–42. (Editors) **58** #30752 52A35

Kramer, Ivan The product-integral calculus formulation in quantum mechanics. *Amer. J. Phys.* **40** (1972), 1221–1230. (Author's summary) **52** #12621 81.47

Kramer, Judy (*with* Hoggatt, Verner E., Jr.) Special cases of Fibonacci periodicity. *Fibonacci Quart.* **10** (1972), *no.* 5, 519–522, 530. (L. Carlitz) **46** #7135 10A40

Kramer, Kenneth Colength of derivation ideals. *Proc. Amer. Math. Soc.* **40** (1973), 346–350. (S. Yuan) **47** #6671 13B10

An example in the singularities of mappings. *Topology* **13** (1974), 193–197. (G. R. Belickiĭ) **50** #1282 58C25

(*with* Brumer, Armand) The rank of elliptic curves. *Duke Math. J.* **44** (1977), *no.* 4, 715–743. (M. A. Kenku) **56** #15658 14K15 (10B15, 14G25)

Two-descent for elliptic curves in characteristic two. *Trans. Amer. Math. Soc.* **232** (1977), 279–295. (J. W. S. Cassels) **56** #366 14G25

Kramer, Leslie C. (*with* Athans, Michael) On the application of deterministic optimization methods to stochastic control problems. *IEEE Trans. Automatic Control* **AC-19** (1974), 22–30. (H. J. Kushner) **54** #12331 93E20

Krämer, Manfred Über das Verhalten endlicher Untergruppen bei Darstellungen kompakter Liegruppen. *Invent. Math.* **16** (1972), 15–39. (D. Miličić) **46** #5532 22E45

Eine Klassifikation bestimmter Untergruppen kompakter zusammenhängender Liegruppen. *Comm. Algebra* **3** (1975), *no.* 8, 691–737. (E. A. Thieleker) **51** #13140 22E45

Multiplicity free subgroups of compact connected Lie groups. *Arch. Math.* (*Basel*) **27** (1976), *no.* 1, 28–36. (Robert E. Beck) **53** #3217 22E70 (17B10)

Über Untergruppen kompakter Liegruppen als Isotropiegruppen bei linearen Aktionen. *Math. Z.* **147** (1976), *no.* 3, 207–224. (Henning Hauschild) **53** #8330 22E45

Kramer, Otto-Uwe Halluntergruppen und Residuen gesättigter Formationen. *Arch. Math.* (*Basel*) **25** (1974), 344–347. (H. Bechtell) **50** #10060 20D10

Endliche Gruppen mit Untergruppen mit paarweise teilerfremden Indizes. *Math. Z.* **139** (1974), 63–68. (H. Heineken) **50** #2327 20D10

Zur Struktur endlicher auflösbarer Gruppen mit mindestens drei Untergruppen von paarweise teilerfremden Indizes. *Arch. Math.* (*Basel*) **26** (1975), *no.* 4, 361–366. (Otto Mutzbauer) **51** #13026 20D10

On the theory of soluble factorizable groups. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 1, 97–110. (David Finkel) **54** #10406 20D40

Über Durchschnitte von Untergruppen endlicher auflösbarer Gruppen. *Math. Z.* **148** (1976), *no.* 1, 89–97. (H. Bechtell) **53** #10918 20D10

Krämer, P. (*with* Schenzle, D.) Some applications of canonical transformations in Bargmann Hilbert space. (Spanish summary) *Rev. Mexicana Fís.* **22** (1973), *no.* 1-2, 25–44. (Thomas A. Barnebey) **56** #10565 81.46

(*with* Moshinsky, Marcos; Seligman, Thomas H.) Complex extensions of canonical transformations and quantum mechanics. *Group theory and its applications, Vol. III, pp.* 249–332. *Academic Press, New York*, 1975. (A. O. Barut) **57** #2239 81.22

(*with* Brunet, Michael) Complex extension of the representation of the symplectic group associated with the canonical commutation relations. *Group theoretical methods in physics* (*Fourth Internat. Colloq., Nijmegen*, 1975), *pp*. 441–449. *Lecture Notes in Phys., Vol.* 50, *Springer, Berlin*, 1976. (J. F. Cornwell) **57** #12790 22E70 (81.22)

(*with* Moshinsky, Marcos; Seligman, Thomas H.) Nonbijective canonical transformations and their representation in quantum mechanics. *J. Mathematical Phys.* **19** (1978), *no*. 3, 683–693. (Hans P. Künzle) **57** #18644 81.58 (58A15, 58F05)

See also **Proceedings: International Colloquium on Group Theoretical Methods in Physics, 48** #10342 *and* **Group theoretical methods in physics, 58** #25451

Kramer, Richard A. Zeros of entire functions in several complex variables. *Trans. Amer. Math. Soc.* **172** (1972), 143–160. (R. O. Kujala) **47** #494 32A15

Kramer, Richard J. The Cauchy problem for Douglis-Nirenberg elliptic systems of partial differential equations. *Trans. Amer. Math. Soc.* **182** (1973), 211–225. (M. H. Protter) **48** #11764 35J55

(*with* Kazdan, Jerry L.) Invariant criteria for existence of solutions to second-order quasilinear elliptic equations. *Comm. Pure Appl. Math.* **31** (1978), *no*. 5, 619–645. (Z. C. Motteler) **57** #16973 35J65

Sub- and super-solutions of quasilinear elliptic boundary value problems. *J. Differential Equations* **28** (1978), *no*. 2, 278–283. (Dale W. Lick) **58** #1616 35J65

Kramer, Thomas R. A note on countably subparacompact spaces. *Pacific J. Math.* **46** (1973), 209–213. (J. E. Vaughan) **48** #2995 54D20

On the product of two topological spaces. *General Topology and Appl.* **6** (1976), *no*. 1, 1–16. (James Chew) **52** #9155 54B10 (54Dxx)

Kramers, H. A. *See* **Ehrenfest, P., 52** #7834

Krames, Josef Eine bemerkenswerte Eigenschaft der Viviani-Kurve. *Elem. Math.* **25** (1970), *no*. 1, 1–7. (Editors) **52** #15211 50B05

Zur mittleren Krümmung einschaliger Hyperboloide. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1971**, *no*. 1, 1–3. (J. Hoschek) **52** #6583 53A05

Bemerkenswerte Fusspunktkurven auf besonderen Hyperboloiden. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **180** (1972), 1–16. (O. Bottema) **46** #6139 50B10

Über die Loxodromen vierter Ordnung auf Kreisringflächen. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B II* **180** (1972), 33–48. (O. Bottema) **46** #5336 50B99 (14N99)

Über Darbouxsche Zykliden. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1973**, *no*. 1, 1–2. (F. Şemin) **52** #11742 53A05

Ergänzende Bemerkungen zu vorangegangenen Publikationen. *Anz. Österreich. Akad. Wiss. Math.-Naturwiss. Kl.* **1973**, *no*. 11, 145–151. (W. Burau) **53** #9046 53A05 (50B10)

Über Kegelschnitte in Ponceletscher Viereckslage. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **181** (1973), 175–201. (K. Strubecker) **49** #1316 50D15

Über die bizirkularen Kurven vierter Ordnung. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **182** (1974), 31–42. (W. Burau) **50** #8263 50B10

Über die Kugelschnitte der Darbouxschen Zykliden vierter Ordnung. *Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II* **182** (1974), 67–91. (K. Strubecker) **49** #1312 50B10 (14N05)

Über Drehzykliden vierter Ordnung. (English summary) *Monatsh. Math.* **80** (1975), *no*. 1, 45–60. (K. Strubecker) **51** #10348 14J25 (50D15)

Über kubische Zykliden. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **184** (1975), *no*. 8-10, 579–598. (H. W. Guggenheimer) **55** #5644 14J25 (14N05, 50D15)

Zur Geometrie kubischer Zykliden. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **186** (1977), *no*. 1-3, 105–120. (E. J. F. Primrose) **57** #16315a 14J25 (50D20)

Über zwei bemerkenswerte kubische Flächen und die Steinersche Römerfläche. *Österreich. Akad. Wiss. Math.-Naturwiss. Kl. S.-B. II* **186** (1977), *no*. 1-3, 153–169. (E. J. F. Primrose) **57** #16315b 14J25 (50D20)

Kramli, A. B. Geodesic flows on compact Riemann surfaces without focal points. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no*. 5(167), 245–246. (Ju. Burago) **53** #9300 58F15 (28A65)

Geodesic flows on compact Riemannian surfaces without focal points. (Russian) *Studia Sci. Math. Hungar.* **8** (1973), 59–78. (V. Drobot) **49** #8060 58F99 (28A65)

Flows of bihedra on a three-dimensional manifold of negative curvature. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no*. 4(172), 219–220. (A. Morimoto) **54** #6202 58F10

Krámli, András Homogeneous Gaussian Markov processes. (Russian) *Studia Sci. Math. Hungar.* **6** (1971), 167–168. (G. Niculescu) **49** #11627 60H10

On the connection between a continuous-time and a discrete-time stationary Gauss-Markov process. (Hungarian. English and Russian summaries) *Közlemények—MTA Számitástechn. Automat. Kutató Int. Budapest No.* 11 (1973), 55–56. (G. Tusnády) **51** #7203 62M10

(*with* Pergel, József) The connection between Gaussian Markov processes and autoregressive-moving average processes. (Russian summary) *Közlemények—MTA Számitástechn. Automat. Kutató Int. Budapest No.* 13 (1974), 53–58. (E. Parzen) **51** #14481 62M10 (60G15)

(*with* Arató, Mátyás; Benczúr, András; Pergel, József) Statistical problems of the elementary Gaussian processes. I. Stochastic processes. *Tanulmányok-MTA Számitástechn. Automat. Kutató Int. Budapest* **1974**, *no*. 22, 133 *pp*. (Bennett Eisenberg) **54** #14023 60–02 (62M10, 60G30)

(*with* Pergel, József) On the Randon-Nikodým derivatives of measures generated by means of processes of autoregression type. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **1** (1975), *no*. 1-2, 73–79. (M. Arató) **54** #11477 60G30

(*with* Arató, Mátyás; Benczúr, András; Pergel, József) Statistical problems of the elementary Gaussian processes. II. Statistics and related problems. *Tanulmányok-MTA Számitástechn. Automat. Kutató Int. Budapest No.* 41 (1975), 66 *pp*. (Bennett Eisenberg) **54** #14024 60–02 (60G30, 62M10)

(*with* Benczúr, András; Pergel, József) On the Bayesian approach to optimal performance of page storage hierarchies. *Acta Cybernet.* **3** (1976/77), *no*. 2, 79–89. (Authors' summary) **58** #25175 68A50

(*with* Hatvani, L.) A condition for non-asymptotical stability. *Differential equations* (*Colloq., Keszthely*, 1974), *pp*. 269–276. *Colloq. Math. Soc. János Bolyai, Vol.* 15, *North-Holland, Amsterdam*, 1977. (James S. Muldowney) **57** #16844 34D05

(*with* Pergel, J.) Approximation of a record insertion algorithm by rando process. (Russian summary) *Problems of Control and Information Theory / P Upravlenija i Teorii Informacii* **6** (1977), *no*. 4, 207–211. (Erol Gelenbe) **58** # 68A50

Kramm, Bruno Über deformationen von analytischen Abbildungskeimen. (English summary) *Manuscripta Math.* **10** (1973), 163–189. (Michael Schlessinger) **50** # 14D15 (32K10)

A characterization of Riemann algebras. *Pacific J. Math.* **65** (1976), *no*. 2, 3 (D. W. Bailey) **56** #1076 46J15

(*with* Schuster, Hans-Werner) Über die Cohomologie analytischer Algebren *Roumaine Math. Pures Appl.* **22** (1977), *no*. 5, 655–668. (H. Kerner) **56** # 32G05 (13D10, 18H15)

Krammer, M. *See* **Concepts in hadron physics, 48** #1596

Kramosil, Ivan Statistical estimation of deducibility in polyadic algebras. (Czech sum *Kybernetika* (*Prague*) **7** (1971), 181–200. (D. Monk) **46** #41 02G05

A method for random sampling of formulas of an elementary theory and sta estimation of their deducibility equipped by a program. I. A method for r sampling of well-formed formulas. (Czech summary) *Kybernetika* (*Prague*) **8** 133–148. (P. C. Gilmore) **49** #8156a 62D05

Statistical estimation of deducibility in formalized theories. (French sum *Proceedings of the Fourth Conference on Probability Theory* (*Braşov*, 1971), *pp*. 2 *Editura Acad. R.S.R., Bucharest*, 1973. (Pavel Strnad) **55** #5402 02D99

Statistical estimation of deducibility in a random sequence of formulas. *Transactions of the Sixth Prague Conference on Information Theory, Statistical D Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the mem Antonín Špaček*), *pp*. 449–463. *Academia, Prague*, 1973. (Editors) **58** #27429

A method for random sampling of formulas of an elementary theory and sta estimation of their deducibility equipped by a program. II. A method for sta testing of an at random sampled formula. *Kybernetika* (*Prague*) **9** (1973), 162–1 C. Gilmore) **49** #8156b 62D05

A statistical model for theorem proving with a limited instantaneous me *Progress in statistics* (*European Meeting of Statisticians, Budapest*, 1972), *Vol.* 425–453. *Colloq. Math. Soc. János Bolyai, Vol.* 9, *North-Holland, Amsterdam*, (Editors) **56** #10188 68A40

(*with* Zwinogrodzki, Zbigniew) Statistical methods for comparing theorem p algorithms. *Kybernetika* (*Prague*) **10** (1974), 221–240. (P. C. Gilmore) **49** #1 68A40

A probabilistic approach to automaton-environment systems. *Kybernetika* (*P* **11** (1975), *no*. 3, 173–206. (From the author's summary) **56** #2704 94A35 (6

(*with* Michálek, Jiří) Fuzzy metrics and statistical metric spaces. *Kybernetika* (*Prague*) **11** (1975), *no*. 5, 336–344. (C. K. Wong) **53** #14381 54A99

A selection-based formal description of an environment. *Kybernetika* (*Prag* (1976), *no*. 3, 127–150. (Andor Dobó) **55** #12189 93A99

(*with* Winkelbauer, Karel) Dr. Zdeněk Koutský has passed away. (Czech) *Kybernetika* (*Prague*) **12** (1976), *no*. 6, 393–396. (Editors) **54** #9940 01A70

A probabilistic restriction of branching plans. *Mathematical foundations of co science* (*Proc. Sixth Sympos., Tatranská Lomnica*, 1977), *pp*. 342–349. *Lecture N Comput. Sci., Vol.* 53, *Springer, Berlin*, 1977. (I. M. Havel) **57** #4694 68A45

Gentzen-like random axiomatic systems. *Transactions of the Seventh Prague Conference on Information Theory, Statistical Decision Functions, Random Process of the Eighth European Meeting of Statisticians* (*Tech. Univ. Prague, Prague*, 1974) *A*, *pp*. 345–352. *Reidel, Dordrecht*, 1977. (P. Štěpánek) **58** #10294 02B99 (6 68A40)

Mechanized experiment planning in automaton-environment systems. *Kyber* (*Prague*) **13** (1977), *no*. 4, 225–244. (Andor Dobó) **57** #8983 90A05 (90B99)

A classification of inconsistent theories. *Polish Acad. Sci. Inst. Philos. Sociol. Sect. Logic* **6** (1977), *no*. 1, 35–41. (N. C. A. da Costa) **55** #7761 02G99

A Boolean-valued probability theory. *Kybernetika* (*Prague*) **14** (1978), *no*. 1, (I. Ruzsa) **58** #220 02J05

Krampe, Horst (*with* Kubát, Jiří; Runge, Walter) ★Bedienungsmodelle. Ein Leit für die praktische Anwendung. *Verlag Die Wirtschaft, Berlin*, 1974. 512 *pp*. (Ed **53** #2324 90Bxx (60K25)

Krams′koĭ, V. V. (*with* Lukovič, V. V.) The stability of certain difference schemes f solution of heat equations with a nonselfadjoint elliptic operator. (Ukrainian. E and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 985 1053. (T. Styś) **47** #7924 65M10

Kranc, George M. (*with* Vachtsevanos, G. J.) Optimization of non-linear adaptive processes. *Internat. J. Control* **20** (1974), 935–944. (Kunihiko Ichikawa) **51** #5 93C40

(*with* Park, Chanbin) On the least-time suboptimal feedback problem in L_p-sp *J. Franklin Inst.* **298** (1974), 231–244. (P. E. Sarachik) **55** #2248 93C25

(*with* Park, Chanbin; Thau, Fred E.) On the least time suboptimal contr nonlinear processes. *J. Franklin Inst.* **300** (1975), *no*. 5/6, 377–389. **56** #112 93C10

Krancberg, A. S. Divergent Fourier series with respect to orthogonal systems. (Russ *Mat. Sb.* (*N.S.*) **93(135)** (1974), 540–553, 629. (M. Tomić) **50** #5348 42A60

Rearrangements of the Haar system. (Russian) *Mat. Zametki* **15** (1974), 63–71 R. Wade) **49** #984 42A56

Kranenburg, C. On a model of turbulent diffusion. *Appl. Sci. Res.* **32** (1976), *no*. 1, 4 (J. L. Lumley) **54** #11974 76.60

On the extension of gradient-type transport to turbulent diffusion in inhomogen flows. *Appl. Sci. Res.* **33** (1977), *no*. 2, 163–175. (Zbl **366** #76047) **58** #25355

Kranjc, Marko Perfect numerical integration. (Slovenian. English summary) *Obz Mat. Fiz.* **23** (1976), *no*. 4, 105–108. (Author's summary) **58** #8167 65D30

Kranold, H. U. (*with* Petzold, J.) Newtons lex prima in der Quantenmechanik. (En summary) *Ann. Physik* (7) **34** (1977), *no*. 2, 99–104. (Carl W. Helstrom) **56** #7 81.60

Kranoselskii, M. A. (*with* Kreĭn, M. G.) Fundamental theorems on the extensio Hermitian operators and certain of their applications to the theory of orthog polynomials and the problem of moments. (Hungarian) Translated from the Russian by János Bognár. *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.* **23** (1977), *no.* 1–2, 139–187. (Editors) **57** #10481 47B25 (44A50)

antz, David H. (*with* Luce, R. Duncan; Suppes, Patrick; Tversky, Amos) ★Foundations of measurement. Vol. 1: Additive and polynomial representations. *Academic Press, New York-London*, 1971. xxiv + 577 *pp*. (V. Komkov) **56** #17265 69.00

(*with* Luce, R. Duncan) Conditional expected utility. *Econometrica* **39** (1971), 253–271. (A. Rapoport) **49** #8152 62C05 (90A10)

A theory of magnitude estimation and cross-modality matching. *J. Mathematical Psychology* **9** (1972), 168–199. (Author's summary) **54** #4726 92A25

Measurement-free tests of linearity in biological systems. *IEEE Trans. Systems, Man, and Cybernet.* **SMC-3** (1973), 266–271. (I. Mezník) **50** #9369 92A05 (93C05)

Fundamental measurement of force and Newton's first and second laws of motion. *Philos. Sci.* **40** (1973), 481–495. (Author's summary) **57** #8239 70.15

Color measurement and color theory. I. Representation theorem for Grassmann structures. *J. Mathematical Psychology* **12** (1975), *no.* 3, 283–303. (R. D. Luce) **52** #7588 92A10 (92A25)

Color measurement and color theory. II. Opponent-colors theory. *J. Mathematical Psychology* **12** (1975), *no.* 3, 304–327. (R. D. Luce) **52** #7589 92A10 (92A25)

See also **Contemporary developments in mathematical psychology**, **50** #6554 *and* **Contemporary developments in mathematical psychology**, **50** #6555

rantz, Steven G. Optimal Lipschitz and L^p estimates for the equation $\bar{\partial} u = f$ on strongly pseudo-convex domains. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 1, 51–52. (Editors) **58** #6355 32F15 (35N10)

Structure and interpolation theorems for certain Lipschitz spaces and estimates for the $\bar{\partial}$ equation. *Duke Math. J.* **43** (1976), *no.* 2, 417–439. (B. M. Weinstock) **55** #3316 32E30 (35F10, 46E35)

Optimal Lipschitz and L^p regularity for the equation $\bar{\partial} u = f$ on stongly pseudo-convex domains. *Math. Ann.* **219** (1976), *no.* 3, 233–260. (Y.-T. Siu) **53** #880 32F15 (35N10)

rantzberg, Julius A. Existence theorem for the initial-boundary value problem for a singular parabolic partial differential equation. *Canad. Math. Bull.* **15** (1972), 229–234. (S. V. Parter) **46** #2226 35K10 (65Q05)

ranyš, Miroslav Phase and signal velocities of waves in dissipative media. Special relativistic theory. *Arch. Rational Mech. Anal.* **48** (1972), 274–301. (P. Sengupta) **49** #2020 83.35

Relativistic theory of waves in dissipative media. (French summary) *Théories cinétiques classiques et relativistes* (*Colloq. Internat. Centre Nat. Recherche Sci., No.* 236, *Paris*, 1974), *pp.* 315–330. *Centre Nat. Recherche Sci., Paris*, 1975. (N. D. Sengupta) **56** #14062 76.35

Eigenwaves in a relativistic gas according to Marle's 14-moment description. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **25** (1976), *no.* 2, 197–230. (H. S. Green) **54** #9539 82.53

Hyperbolic elasticity of dissipative media and its wave propagation modes. *J. Phys. A* **10** (1977), *no.* 5, 689–709. (Author's summary) **57** #11264 73.35 (80.35)

Kranz, Przemysław Additive functionals on abelian semigroups. *Comment. Math. Prace Mat.* **16** (1972), 239–246. (A. T.-M. Lau) **49** #3016 22A20 (46B99)

Sandwich and extension theorems on semigroups and lattices. *Comment. Math. Prace Mat.* **18** (1974/75), *no.* 2, 193–200. (T. S. Blyth) **52** #14119 20M15 (06A20)

Extension of a valuation on a lattice. *Fund. Math.* **91** (1976), *no.* 3, 171–178. (O. Frink) **54** #12584 06A20 (28A60)

Mutual equivalence of vector and scalar measures on lattices. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 3, 243–250. (Igor Kluvánek) **56** #3238 28A45

The origins of the mathematical school in Poland. *Bull. Malaysian Math. Soc.* **8** (1977), *no.* 3, 101–103. (Editors) **58** #10129 01A60

Additive and subadditive lattice and set functions. *Nanta Math.* **10** (1977), *no.* 1, 82–90. (G. Grätzer) **57** #5843 06A20 (26A60)

(*with* Guó, Mài) A metrizable cancellative semigroup without translation invariant metric. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 1, 17–19. (J. Kist) **56** #8746 22A15

Kranzer, Herbert C. (*with* Gorelick, Michael R.) An extension of the Kreiss stability theorem to families of matrices of unbounded order. *Linear Algebra and Appl.* **14** (1976), *no.* 3, 237–255. (F. Szidarovszky) **56** #9947 65F35 (34A30)

(*with* Keyfitz, Barbara L.) Existence and uniqueness of entropy solutions to the Riemann problem for hyperbolic systems of two nonlinear conservation laws. *J. Differential Equations* **27** (1978), *no.* 3, 444–476. (J. Smoller) **57** #6866 35L65

Kranzler, Stan K. (*with* Sloss, James M.) Localization of the eigenvalues of linear integral equations with applications to linear ordinary differential equations. *J. Math. Anal. Appl.* **37** (1972), 659–676. (H. E. Fettis) **46** #2370 45C05

Sums of convolution operators. *SIAM J. Math. Anal.* **3** (1972), 380–388. (J. L. B. Cooper) **47** #821 46F10 (47G05)

Existence theorems for systems of convolution equations. *J. Math. Anal. Appl.* **45** (1974), 698–717. (J. L. B. Cooper) **49** #1101 46F10

(*with* McDermott, Terrence S.) Extending continuous linear functionals in convergence inductive limit spaces. *Proc. Amer. Math. Soc.* **43** (1974), 357–360. (Bernd Müller) **48** #11964 46A05

(*with* McDermott, Terrence S.) Extending continuous linear functionals in convergence vector spaces. *Trans. Amer. Math. Soc.* **200** (1974), 149–168. (M. Schroder) **53** #11330 46A15

(*with* McDermott, Terrence S.) Continuous extension of sequentially continuous linear functionals in inductive limits of normed spaces. *Czechoslovak Math. J.* **25(100)** (1975), 190–201. (G. Marinescu) **57** #7093 46A05 (46M10)

Krapčetov, N. I. (*with* Bahito, R. U.; Krotov, V. F.) Synthesis of an approximately optimal control for one class of controlled systems. *Avtomat. i Telemeh.* **1972**, *no.* 10, 33–43 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 10, *part* 1, 1590–1599 (1973). (Authors' summary) **58** #4531 93C99

Krapčev, V. B. (*with* Rizov, V. A.; Todorov, I. T.) A quasipotential approach to the electromagnetic interaction of scalar charged particles. (Russian. English summary) *Bulgar. J. Phys.* **1** (1974), *no.* 2, 115–137. (Authors' summary) **54** #12045a (E **54** #12045b) 81.47

(*with* Rizov, V. A.; Todorov, I. T.) Errata to "A quasipotential approach to the electromagnetic interaction of scalar charged particles" (Russian) (Bulgar. J. Phys. 1 (1974), no. 2, 115–137). *Bulgar. J. Phys.* **1** (1974), *no.* 3, 316. (Authors' summary) **54** #12045b 81.47

Krapchetov, N. I. *See* **Krapčetov, N. I.**

Krapchev, Vladimir (*with* Freedman, Barry) Effects of boundary conditions on massless two-dimensional electrodynamics in a static bag. *Phys. Rev. D* (3) **14** (1976), *no.* 2, 566–577. (Anton Z. Capri) **56** #4497 81.35

Krapčin, A. I. (*with* Pokrovskiĭ, A. N.; Mal′ginov, E. N.) Arrangement and distribution of modules in the automated design of radio electronic apparatus. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 5, 7–11. (V. Kryčenkov (RŽMat **1970** #5 V521)) **45** #9541 68A20

Krapež, A. On a generalization of Fermat's theorem in the theory of groups. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **17(31)** (1974), 77–81. (A. Peluso) **54** #7621 20D99

Krapivin, A. A. Fixed points of quadratic operators with positive coefficients. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 24 (1975), 62–67, ii. (K. Drechsler) **53** #430 14E05

(*with* Ljubič, Ju. I.) An estimate of the dimension of the set of fixed points of a certain class of quadratic operators. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 4, 940–944. (G. R. Belickiĭ) **55** #4148 55C20

Quasistationary quadratic mappings. (Russian) *Vestnik Har′kov. Gos. Univ. No.* 134 *Mat. i Meh. Vyp.* 41 (1976), 104–108, 3. (Author's summary) **58** #5736 15A63

(*with* Ljubič, Ju. I.) Estimates of Lipschitz constants for polynomial operators in a simplex. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 3, 528–531. (Authors' review (RŽMat **1977** #10 B719)) **58** #7262 47H99 (90C99)

Generalization of a theorem of Bernšteĭn. (Russian) *Dokl. Akad. Nauk UzSSR* **1978**, *no.* 2, 9–11. (M. Iosifescu) **58** #4439 92A10 (47A99)

Krapivin, V. F. Certain methods of solving continuous antagonistic games. (Russian) *Studies in cybernetics* (*Russian*), *pp.* 115–129. *Izdat. "Sovet. Radio", Moscow*, 1970. (R. Petrović) **47** #8129 90D13

The probability of survival of a system in the case of a Poisson flow of losses of vitally important elements. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 4, 93–96 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 4, 643–646. (R. Subramanian) **49** #8625 90B25

A study of the solutions of survival games that are described by equations of Lanchester type. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp.* 284–287. *Izdat. "Mintis", Vilnius*, 1973. (Editors) **50** #6533 90D25

Krarup, J. (*with* Harary, Frank; Schwenk, Allen J.) Graphs suppressible to an edge. *Canad. Math. Bull.* **15** (1972), 201–204. (E. M. Palmer) **47** #75 05C99

Krarup, Jakob (*with* Helbig Hansen, Keld) Improvements of the Held-Karp algorithm for the symmetric traveling-salesman problem. *Math. Programming* **7** (1974), 87–96. (G. D. Byrne) **50** #11776 65K05

The peripatetic salesman and some related unsolved problems. *Combinatorial programming: methods and applications* (*Proc. NATO Advanced Study Inst., Versailles*, 1974), *pp.* 173–178. *NATO Advanced Study Inst. Ser., Ser. C: Math. and Phys. Sci., Vol.* 19, *Reidel, Dordrecht*, 1975. (W. D. Wallis) **53** #7406 90B10 (90C35)

(*with* Bilde, Ole) Plant location, set covering and economic lot size: an $O(mn)$-algorithm for structured problems. *Numerische Methoden bei Optimierungsaufgaben, Band* 3 (*Tagung, Oberwolfach*, 1976), *pp.* 155–180. *Internat. Ser. Numer. Math., Vol.* 36, *Birkhäuser, Basel*, 1977. (From the summary) **58** #26036 90C50

(*with* Bilde, Ole) Sharp lower bounds and efficient algorithms for the simple plant location problem. *Studies in integer programming* (*Proc. Workshop, Bonn.* 1975), *pp.* 79–97. *Ann. of Discrete Math., Vol.* 1, *North-Holland, Amsterdam*, 1977. (Der-San Chen) **57** #2581 90C50 (90C10)

See also **Optimization methods for resource allocation**, **48** #13205

Krarup, T. (*with* Eeg, J.) Integrated geodesy. *Mathematical geodesy* (*Internat. Summer School Math. Methods Phys. Geodesy, Ramsau*, 1973), *Part II*, *pp.* 77–123. *Methoden und Verfahren Math. Phys., Band* 13, *Bibliographisches Inst., Mannheim*, 1975. (W. Buchheim) **55** #9823 86.31

On potential theory. *Mathematical geodesy, Part I* (*Internat. Summer School Math. Methods Phys. Geodesy, Ramsau*, 1973), *pp.* 79–160. *Methoden und Verfahren Math. Phys., Band* 12, *Bibliographisches Inst., Mannheim*, 1975. (Ü. Kuran) **53** #8455 31B05

Kraševinnikov, V. R. Correlated one-dimensional random walk. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **130** (1970), *no.* 3, 60–68. (F. L. Spitzer) **46** #956 60J15

Almost uncorrelated analogues of correlated random walks. (Russian) *Probabilistic methods and cybernetics, No.* 9 (*Russian*), *pp.* 57–65. *Izdat. Kazan. Univ., Kazan*, 1971. (E. Seneta) **47** #5965 60J15

(*with* Os′minin, A. A.; Evplov, A. S.; Lušnikov, A. S.) Some possibilities of minimizing errors of measurement in the determination of the parameters of random variables from their quantiles. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 5, 93–95. (V. N. Igolkin) **49** #8273 65C99 (62F10)

See also **Probabilistic methods and cybernetics**, **47** #1090

Kraševinnikova, N. L. *See* **Hydromechanics**, **53** #2123

Krasičkov-Ternovskiĭ, I. F. (*with* Butkovskiĭ, A. G.; Poltavskiĭ, L. N.; Hurgin, Ja. I.) Problems of compactly supported control. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 1: *Optimal and adaptive systems* (*Russian*), *pp.* 15–26, 305. *Izdat. "Nauka", Moscow*, 1972. **48** #7064 49A99

Invariant subspaces of analytic functions. I, II. Spectral synthesis on convex domains. (Russian) *Mat. Sb.* (*N.S.*) **87(129)** (1972), 459–489; *ibid.* (*N.S.*) **88(130)** (1972), 3–30. (L. Janos (Zbl **253** #46041, #46042)) **54** #10622 30A98 (46E10)

Invariant subspaces of analytic functions. III. Extension of spectral synthesis. (Russian) *Mat. Sb.* (*N.S.*) **88(130)** (1972), 331–352. (L. Janos (Zbl **253** #46043)) **54** #10623 30A98 (46E10)

Invariant subspaces of analytic functions. Dirichlet coefficients. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 4, 38–43. (I. Nikol′skiĭ (RŽMat **1974** #3B151))

55 #683 30A98 (46E10)

Invariant subspaces of analytic functions. Analytic continuation. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 931–945. (V. P. Havin) **51** #3475 30A98 (30A14)

Methods for the approximation of functions belonging to invariant subspaces by Dirichlet polynomials. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 5, 1019–1030, 1131. (B. D. Bojanov (Zbl **328** #41016)) **54** #10624 30A98 (46E10, 46J15)

Estimates for a subharmonic difference of subharmonic functions. I. (Russian) *Mat. Sb.* (*N.S.*) **102(144)** (1977), *no.* 2, 216–247, 326. (Author's review (RŽMat **1977** #6 B186)) **58** #22602 31A05

Krasil′hikov, O. P. (*with* Pogromskiĭ, Ju. V.; Grišov, A. P.) Certain questions on the theory of a device for finding the ratio of the amplitudes of harmonics of a periodic signal. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1972**, *no.* 10, 1047–1052, 1154. (P. Brunovský) **48** #650 34D99 (93D99)

Krasil′nikov, Ju. P. (*with* Gavrilov, A. F.) Feedforward cyclic-service queueing system. *Avtomat. i Telemeh.* **1976**, *no.* 10, 17–22 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 10, *part* 1, 1485–1490 (1977). (Authors' summary) **56** #1494 60K25

Krasil′nikov, L. T. (*with* Dubko, V. D.) A certain method of the mathematical processing of measurement results. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 314–317, 380. (Authors' summary) **53** #14860 65D10

Krasil′nikov, P. S. (*with* Kunicyn, A. L.) On the stabilization of the collinear libration points of the restricted circular three-body problem. *Celestial Mech.* **15** (1977), *no.* 1, 41–51. (Manfred Andrié) **57** #8248 70.34

Krasil′nikov, V. N. (*with* Klass, V. A.) On the formal solution of problems of diffraction by spheres and cylinders with time-varying radii. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **18** (1975), *no.* 12, 1855–1864. (Authors' summary) **57** #14925 78.35

(*with* Klass, V. A.) A study of integrodifferential equations that arise in problems of the diffraction of waves by spheres and cylinders with radii changing in time. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **19** (1976), *no.* 1, 116–127. (Authors' summary) **57** #8478 78.45

Krasil′nikov, V. V. (*with* Roščupkin, S. M.; Ščolokov, V. S.) On the theory of kinetic equations for electron systems with impurity. (Russian. English summary) *Ukrain. Fiz. Ž.* **16** (1971), 1690–1698. (L. Arkeryd) **45** #9630 82.45

(*with* Cukanov, V. D.; Jacenko, A. A.) Kinetic equations for electron systems with paramagnetic impurities. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 133–140. (Authors' summary) **57** #8775 82.47

Krasil′nikov, Yu. P. *See* **Krasil′nikov, Ju. P.**

Krasil′ščik, I. S. (*with* Vinogradov, A. M.) What is Hamiltonian formalism? (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 1(181), 173–198. (J. S. Joel) **58** #31235 58F05

(*with* Vinogradov, A. M.; Lyčagin, V. V.) ★Применение нелинейных дифференциальных уравнений в гражданской авиации. (Russian) [Application of nonlinear differential equations in civil aviation] *Moskov. Inst. Inž. Graždan. Aviacii, Moscow*, 1977. 123 *pp*. (J. S. Joel) **58** #24416 58G99

Krasil′ščikov, M. N. *See* **Control in space**, **48** #13319

Krasil′ščikova, E. A. The velocity field that is excited by a front of small perturbations on an elastic plate. (Russian) *Proceedings of the Symposium on Continuum Mechanics and Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 2 (*Russian*), *pp.* 147–158. *Izdat. "Mecniereba", Tbilisi*, 1974. **56** #13920 73.35

The flow of gas behind the front of a sound wave striking a plate. (Russian. Bulgarian and English summaries) *Teoret. i Prilož. Meh.* **6** (1975), *no.* 1, 4, 5, 7, 65–71. **56** #14063 76.35

Acoustic field generated by a wave incident on a moving plane. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 1, 35–38. (V. P. Kalašnikov) **57** #2112 76.35

See also **Proceedings: Conference on Boundary Value Problems**, **49** #7061

Krasin, A. K. *See* **Naumov, V. A.; et al.**, **58** #25721

Krasin, L. A. (*with* Volynskiĭ, È. I.; Vjatkin, A. K.) A type of the assignment problem. (Russian. English summary insert) *Kibernetika* (*Kiev*) (**1973**), *no.* 2, 111–113. (I. Gh. Ciobanu) **57** #11784 90C50 (90B99)

(*with* Volynskiĭ, È. I.; Vjatkin, A. K.) The assignment problem for a production line with operative storage points. (Russian) *Èkonom. i Mat. Metody* **10** (1974), 159–167. (S. Krčevinac) **53** #10262 90B35

(*with* Volynskiĭ, È. I.) Optimal arrangement of performers in a complex of jobs prescribed by a network. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 3, 139–145. (R. Salia) **52** #16579 90B10

(*with* Volynskiĭ, È. I.) On the question of singling out stable groups. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 2, 135–138. (Authors' summary) **56** #14837 92A20

Krasinkiewicz, Józef No 0-dimensional set disconnects the hyperspace of a continuum. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 755–758. (D. W. Hall) **46** #6321 54F15 (54B20)

On the composants of indecomposable plane continua. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 935–940. (J. J. Charatonik) **47** #2563 54F20

On quasi-embeddability of dendroids. *Comment. Math. Prace Mat.* **16** (1972), 249–252. (B. L. Brechner) **49** #3867 54F50

Remark on the notion of the fundamentally compact spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 69–71. (Anne K. Steiner) **47** #4217 54D30

Concerning the boundaries of plane continua and the fixed point property. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 427–431. (L. O. Vaughan, Jr.) **49** #1489 54F20

Concerning the accessibility of composants of indecomposable plane continua. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 621–628. (F. Burton Jones) **49** #6187 54F20

Certain properties of hyperspaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 705–710. (S. Mardešić) **48** #9639 54B20

A mapping theorem for tree-like continua. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1235–1238. (A. Lelek) **51** #17 54F20

On a class of indecomposable continua. *Colloq. Math.* **32** (1974), 71–75, 150. (L. Brechner) **51** #1772 54F20

On the hyperspaces of snake-like and circle-like continua. *Fund. Math.* **83** (1), *no.* 2, 155–164. (Sam B. Nadler, Jr.) **54** #6102 54F20 (54B20, 54H25)

On the hyperspaces of hereditarily indecomposable continua. *Fund. Math* (1974), *no.* 3, 175–186. (B. L. Brechner) **50** #3203 54F20 (54B20)

On internal composants of indecomposable plane continua. *Fund. Math.* **84** (1), *no.* 3, 255–263. (J. J. Charatonik) **49** #3864 54F20

Remark on mappings not raising dimension of curves. *Pacific J. Math.* **55** (1), 479–481. (A. Lelek) **52** #15407 54F50

On the hyperspaces of certain plane continua. (Russian summary) *Bull. A Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 9, 981–983. (Aut s summary) **58** #12942 54F15 (54B20)

Curves which are continuous images of tree-like continua are movable. *Fund. M* **89** (1975), *no.* 3, 233–260. (A. Lelek) **52** #9195 54F50

(*with* Minc, Piotr) Nonexistence of universal continua for certain classes of cu (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1), *no.* 9, 733–741. (A. Lelek) **55** #4111 54F50

Mappings onto circle-like continua. *Fund. Math.* **91** (1976), *no.* 1, 39–49. (Jam Rogers, Jr.) **53** #11586 54F20

On a method of constructing ANR-sets. An application of inverse limits. *F Math.* **92** (1976), *no.* 2, 95–112. (R. B. Sher) **54** #8560 54C55

On one-point union of two circles. *Houston J. Math.* **2** (1976), *no.* 1, 91–95. Mohler) **53** #1537 54F20 (54E45)

(*with* Minc, Piotr) Approximations of continua from within. (Russian summa *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 3, 283–289. (Fugate) **57** #10684 54F15

(*with* Minc, Piotr) Mappings onto indecomposable continua. (Russian summa *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 7, 675–680. (Ja T. Rogers, Jr.) **57** #4119 54F15

Local connectedness and pointed 1-movability. (Russian summary) *Bull. A Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 12, 1265–1269. (D McMillan, Jr.) **58** #18468 57A65 (54F15, 55D99)

Continuous images of continua and 1-movability. *Fund. Math.* **98** (1978), *n* 141–164. (James T. Rogers, Jr.) **57** #4162 55D99 (54F15)

(*with* Nadler, Sam B., Jr.) Whitney properties. *Fund. Math.* **98** (1978), *n* 165–180. (James T. Rogers, Jr.) **57** #7546 54F15

(*with* Minc, Piotr) Dendroids and their endpoints. *Fund. Math.* **99** (1978), *n* 227–244. (A. Lelek) **58** #12952 54F50

Krasińska, Stefania (*with* Kierat, Władysław) On the difference equations of two varia (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **2** (1972), 25–33. (R. Kodnár) **46** #9580 39A10 (44A40)

See also **Congress: Polish Mathematicians**, **52** #13067

Krasiński, Andrzej Solutions of the Einstein field equations for a rotating perfect flui I. Presentation of the flow-stationary and vortex-homogeneous solutions. *Acta P Polon. B* **5** (1974), 411–436. (Steve Kloster) **55** #5135 83.34

Solutions of the Einstein field equations for a rotating perfect fluid. II. Propertie the flow-stationary and vortex-homogeneous solutions. *Acta Phys. Polon. B* **6** (19), 223–238. (Steve Kloster) **55** #14049 83.35

Solutions of the Einstein field equations for a rotating perfect fluid. III. A surve models of rotating perfect fluid or dust. *Acta Phys. Polon. B* **6** (1975), 239–240. (S Kloster) **55** #14050 83.35

Some solutions of the Einstein field equations for a rotating perfect fluid. *Mathematical Phys.* **16** (1975), 125–131. (A. H. Taub) **50** #15816 83.35

Ellipsoidal space-times, sources for the Kerr metric. *Ann. Physics* **112** (1978), *n* 22–40. (L. K. Patel) **58** #25789 83.53

Krasinskiĭ, G. A. Critical inclinations in planetary problems. (Russian summary) *Cele Mech.* **6** (1972), 60–83. (K. Forster) **49** #4360 70.41

(*with* Merman, G. A.; Petrovskaja, M. S.; Evdokimova, L. S.; Skripničenko, V Celestial mechanics. (Russian) *Astronomy*, *Vol.* 11 (*Russian*), *pp.* 5–154 (*errata ins Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (E. Leimanis) **57** #11226 70.00 (70.65)

Kraska, E. (*with* Filippi, Siegfried) Stabile k-Schritt-Verfahren der Ordnung $p=3k+1$ numerischen Lösung von Anfangswertaufgaben bei gewöhnilichen Differentialgleichungen. (English and Russian summaries) *Z. Angew. Math. Mech* (1973), 527–539. (J. R. Cannon) **49** #10148 65L05

Kraskevič, V. E. (*with* Kostjuk, V. I.; Zelenskiĭ, K. H.) Frequency domain identificatio complex systems. (Russian summary) *Systems Sci.* **3** (1977), *no.* 1, 5–12. (Auth summary) **57** #9185 93B30

Krasnakevich, J. R. *See* **Weiner, L. B.**, **57** #9270

Krasnenker, A. S. Conditions for Pareto optimality. (Russian) *Voronež. Gos. Univ. Tr Mat. Fak. Vyp.* 5 (1971), 73–77. (V. G. Ramm) **53** #10303 90C25

The behavior of a system with several exponents. (Russian) *Voronež. Gos. U Trudy Mat. Fak. Vyp.* 5 (1971), 77–86. (V. G. Ramm) **53** #10313 90C30

(*with* Kučment, P. A.) Certain sufficient conditions for the existence of nonhomogeneous flows in networks. (Russian. English summary insert) *Kiberne* (*Kiev*) **1972**, *no.* 4, 136–138. (B. Zelinka) **46** #6950 94A20 (90B10)

(*with* Cypkin, Ja. Z.; Kaplinskiĭ, A. I.) Methods of local improvement in stocha optimization problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 6, 3- (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 6, 889–897. (B. Berea **51** #5002 90C15

(*with* Kaplinskiĭ, A. I.; Cypkin, Ja. Z.) Randomization and smoothing in adaptation problems and algorithms. *Avtomat. i Telemeh.* **1974**, *no.* 6, 47–57 (*Russia translated as Automat. Remote Control* **35** (1974), *no.* 6, *part* 1, 913–921. (B. Berea **52** #16615 90C15 (65K05)

On the vector optimization problem. (Russian) *Proceedings of the Sixth Wi School on Mathematical Programming and Related Questions* (*Drogobych*, 1973) (*Russian*), *pp.* 90–99. *Central. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow*, 19

(Editors) **56** #14754 90C99

(*with* Kaplinskiĭ, A. I.) The multitest approach to the formation of multilevel algorithms for stochastic optimization. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1975**, *no.* 4, 14–21. (Authors' summary) **57** #15441 90C15

(*with* Kaplinskiĭ, A. I.) The formation of dialogue algorithms for vector optimization. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 5, 32–37, 92. (Authors' summary) **58** #9279 90C30

asner, Marc Domaines complets d'existence des fonctions analytiques uniformes dans les corps valués complets. *Séminaire Delange-Pisot-Poitou*: 1969/70, *Théorie des Nombres, No.* 2, *Exp.* 18, 8 *pp. Secrétariat Math., Paris*, 1970. (G. Whaples) **45** #238 12J10

Valuations des anneaux et des corps non commutatifs. *Séminaire Delange-Pisot-Poitou*: 1969/70, *Théorie des Nombres, No.* 2, *Exp.* 20, 20 *pp. Secrétariat Math., Paris*, 1970. (H. S. Butts) **45** #257 13A15 (16A10)

Une nouvelle présentation de la théorie des groupes de permutations et ses applications à la théorie de Galois et de produit d'entrelacement ("wreath product") de groupes. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth. *Math. Balkanica* **3** (1973), 229–280. (Peter M. Neumann) **51** #3273 20B05

Rapport sur le prolongement analytique dans les corps valués complets par la méthode des éléments analytiques quasi-connexes. *Table Ronde d'Analyse non archimédienne* (*Paris*, 1972), *pp.* 131–254. *Bull. Soc. Math. France, Mém. No.* 39–40, *Soc. Math. France, Paris*, 1974. (Alain Escassut) **52** #6033 32D15 (32K10)

Remarques à propos des récents résultats de M. Lambros Dokas sur les groupes abéliens *p*-primaires. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *A*ii, *A*1277–*A*1280. (E. A. Walker) **53** #3149a 20K10

Encore au sujet des résultats de L. Dokas sur les groupes *p*-primaires: analogie avec les espaces projectifs. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), *no.* 22, *A*ii, *A*1499–*A*1501. (E. A. Walker) **53** #3149b 20K10

Polythéorie de Galois abstraite dans le cas infini général. *Ann. Sci. Univ. Clermont No.* 60 *Math. No.* 13 (1976), 87–91. (I. G. Rosenberg) **58** #16468 08A25

Endothéorie de Galois abstraite et son théorème d'homomorphie. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 13, Ai, A683–A686. (G. Grätzer) **53** #5550 12F10 (08A25)

(*with* Lecomte, Pierre-Claude) Quotients projectifs des demi-hypergroupes et des hypergroupes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 10, *A*i, *A*737–*A*740. (Donald W. Miller) **54** #12949 20N99

See also **Mathematics and philosophy**, **58** #21414

rasner, N. Ja. (*with* Pinskiĭ, M. M.) The reconstructing numeration of permutations. (Russian) *Proceedings of the Fourth Winter School on Mathematical Programming and Related Questions* (*Drogobych*, 1971), *No.* 2 (*Russian*), *pp.* 71–78. *Moskov. Inž.-Stroitel. Inst., Moscow*, 1971. (P. Vondráček) **56** #11812 05A15

(*with* Pinskiĭ, M. M.) Regenerative numeration of an arbitrary set of samples from *n* elements. (Russian) *Proceedings of the Sixth Winter School on on Mathematical Programming and Related Questions* (*Drogobych*, 1973) (*Russian*), *pp.* 100–113. *Central. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow*, 1975. (M. Iordanskiĭ (RŽmat **1976** #3V381)) **56** #11849 05C30 (90C99)

rasner, Norman (*with* Kailath, Thomas) On the factorization of semi-separable kernels. *Proceedings of the Seventh Hawaii International Conference on System Sciences* (*Univ. Hawaii, Honolulu, Hawaii*, 1974), *pp.* 223–225. *Western Periodicals, North Hollywood, Calif.*, 1974. (B. P. Molinari) **56** #15045 93E10

Krasngorov, V. A. *See* **Abstracts: Conference of the Faculties on Advances in Research**, **48** #3665

Kraśnicka, Barbara (*with* Malec, Marian) On the order of linear dependence of real functions. *Colloq. Math.* **30** (1974), 143–147. (N. Passell) **50** #554 26A06 (34A30)

Krasnikov, A. I. Solution of a certain Neumann problem for a complex rectangular domain by the Fourier method. (Russian. English summmary) *Teoret. Èlektrotehn. No.* 18 (1975), 78–86, 145. (Not reviewed) 65N99

Krasnikov, N. V. (*with* Wieczorek, E.; Dörfel, B.; Matveev, V. A.; Robaschik, D.; Četyrkin, K. G.) Self-similar behavior of a highly inelastic reaction involving a massless particle. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 308–314. (Authors' summary) **57** #8662 81.46

Equations of scale invariance and conformal invariance in Bogoljubov's axiomatic approach. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **16** (1975), *no.* 6, 752–753. (Tetz Yoshimura) **55** #1966 81.46

Krasnikova, L. N. Some models of multi-phase queueing systems. (Russian) *Upravlenie Složn. Sistemami* (*Riga*) *Vyp.* 1 (1973), 43–52, 103. (Author's summary) **56** #16833 60K25

Krasnikova, R. D. *See* **Scientific Reports: Collection of papers by graduate students at Dnepropetrovsk State University**, **48** #8171

Krasnits′kiĭ, S. M. A certain limit theorem for a random field of M. M. Čencov. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv.* **1971**, *no.* 13, 133–135, 150. (Ju. M. Ryžov) **46** #6435 60G15

Conditions for the equivalence of probability measures corresponding to Gaussian fields that differ by their correlation functions. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 528–529. (M. Loève) **49** #11612 60G30

Conditions for the equivalence of probability measures corresponding to Gaussian fields that differ in their mean values. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 779–780. (Z. Zerakidze) **48** #7360 60G30

On an integral equation in the statistics of random fields. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 9 (1973), 109–118, 176. (M. A. Mirzahmedov) **54** #8828 60G25 (62M10)

Conditions for the equivalence and orthogonality of measures corresponding to homogeneous Gaussian fields. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 615–621. (A. Badrikian) **50** #5924 60G30

Krasnoborov, N. A. Continuability and asymptotic behavior of the solution of an operator differential equation of parabolic type. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 1, 78–86. (P. P. Zabreĭko) **51** #13493 35R20 (35K30)

Krasnodębski, R. Dihedral angle of the regular *n*-simplex. *Comment. Math. Prace Mat.* **15** (1971), 87–89. (P. McMullen) **46** #9848 50B10

Krasnodębski, Ryszard (*with* Bieńkowska-Lipińska, Krystyna; Browkin, Jerzy; Dymowski, Stanisław; Grochowski, Bogusław; Gutowski, Roman; Jeśmanowicz, Leon; Kotlarski, Ignacy I.; Kudrewicz, Jacek; Leitner, Roman; Muszyński, Jerzy; Osiowski, Jerzy; Pawłowicz, Ireneusz; Piskorek, Adam; Sobczyk, Kazimierz; Traczyk, Tadeusz; Trajdos, Tadeusz; Waligórski, Stanisław; Wojdat, Marian; Zuber, Roman; Żakowski, Wojciech) ★Mathematik Handbuch für Technik und Naturwissenschaft. Herausgegeben von Jerzy Dreszer. Redaktion der deutschsprächigen Ausgabe von Günther Eisenreich und Wolfgang Naumann. Aus dem Polnischen übersetzt von A. Dworak, L. Kulik, L. Kutyła und W. Pilarczyk. *Verlag Harri Deutsch, Zurich-Frankfurt am Main*, 1975. xii + 1346 *pp.* (Editors) **52** #7771 00A20

Krasnodembskiĭ, A. M. Periodicity of the solutions of a certain type of first order linear partial differential equations. (Russian) *Theoretical and applied questions of algebra and differential equations* (*Russian*), *pp.* 100–102, 122. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Author's summary) **58** #29064 35B10

Krasnogorov, V. A. Application of the method of orthogonal trajectories to the first problem of discrimination in the plane. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 181 (1970), 50–60. (Wolfdietrich Müller) **45** #3843 34C05

Krasnopevcev, E. A. An application of the Padé-approximation for the solution of dispersion relations. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1971**, *no.* 7, 73–77. (Z. Janković) **45** #6335 81.65

Krasnoprošin, V. V. (*with* Lepešinskiĭ, N. A.) The efficiency of a certain pattern recognition algorithm. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 6, 32–36, 140. (Josef Kittler) **58** #8564 68A45

Krasnošapka, V. A. On the question of the influence of the variability of pressure on the amplitudes and frequencies of a self-oscillating process in a certain mechanical system. (Russian) *Analytic and qualitative methods of the theory of differential equations* (*Russian*), *pp.* 135–142. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (Editors) **50** #11896 70.34

See also **Nonlinear oscillations and stability of motion**, **57** #12950

Krasnosel′skiĭ, A. M. Remarks on the fixed points of monotone operators. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 6(198), 257–258. (V. V. Obuhovskiĭ) **57** #7271 47H10

Krasnosel′skiĭ, M. A. (*with* Zabreĭko, P. P.; Koševel, A. I.; Mihlin, S. G.; Rakovščik, L. S.; Stecenko, V. Ja.) ★Интегральные уравнения. (Russian) [Integral equations] Справочная Математическая Библиотека. [Mathematical Reference Library] *Izdat. "Nauka", Moscow*, 1968. 448 *pp.* (See RŽMat **1968** #10 B382) 45–01

(*with* Zabreĭko, P. P.; Pokrovskiĭ, A. V.) On the problem of bifurcation points. (Russian) *Problemy Mat. Anal. Slož. Sistem No.* 2 (1968), 41–56. (J. Kolomý) **45** #1004 47H15

A certain spectral property of linear completely continuous operators in the space of continuous functions. (Russian) *Problemy Mat. Anal. Slož. Sistem Vyp.* 2 (1968), 68–71. (E. Gerlach) **58** #23730 47B37 (47B55)

(*with* Burd, V. Š.; Kolesov, Ju. S.) ★Нелинейные почти периодические колебания. (Russian) [Nonlinear almost periodic oscillations] *Izdat. "Nauka", Moscow*, 1970. 351 *pp.* (J. K. Hale) **45** #7183 34C15 (47H10)

Mathematical description of the oscillations of a mass point on an elasto-plastic element. (Russian) *Partial differential equations* (*Proc. Sympos.*) (*Russian*), *pp.* 146–149. *Izdat. "Nauka", Moscow*, 1970. (Editors) **46** #9825 47H15 (73.47)

(*with* Lifšic, E. A.) A principle of relationship for elliptic equations. (Russian. English summary) *Elliptische Differentialgleichungen, Band II, pp.* 147–153. *Schriftenreihe Inst. Math. Deutsch. Akad. Wissensch. Berlin, Reihe A, Heft* 8, *Akademie-Verlag, Berlin*, 1971. (B. A. Fleishman) **49** #7599 35J65

(*with* Zabreĭko, P. P.) Iterations of operators, and fixed points. (Russian) *Dokl. Akad. Nauk SSSR* **196** (1971), 1006–1009. (S. Fučík) **47** #4082 47H10

(*with* Pokrovskiĭ, A. V.) Systems of hysterons. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 286–289. (Wolfdietrich Müller) **45** #1440 73.34 (93B20)

(*with* Zabreĭko, P. P.; Pokornyĭ, Ju. V.) A certain class of positive linear operators. (Russian) *Funkcional. Anal. i Priložen.* **5** (1971), *no.* 4, 9–17. (N. Popa) **45** #928 47B55

(*with* Birman, M. Š.; Vilenkin, N. Ja.; Gorin, E. A.; Zabreĭko, P. P.; Iohvidov, I. S.; Kadec′, M. Ĭ.; Kostjučenko, A. G.; Kreĭn, S. G.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Semenov, E. M.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, È. S.) ★Функциональный анализ. (Russian) [Functional analysis] Edited by S. G. Kreĭn. Second edition, revised and augmented. Mathematical Reference Library. *Izdat. "Nauka", Moscow*, 1972. 544 *pp.* (Editors) **50** #5406 46–02 (47–02)

(*with* Vaĭnikko, G.; Zabreĭko, P. P.; Rutickiĭ, Ja. B.; Stecenko, V. Ja.) ★Approximate solution of operator equations. Translated from the Russian by D. Louvish. *Wolters-Noordhoff Publishing, Groningen*, 1972. xii + 484 *pp.* (Editors) **52** #6515 47H15 (47A50)

(*with* Bobylev, N. A.) Operators with continua of fixed points. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 1015–1018. (S. Fučík) **46** #4286 47H10

(*with* Kozjakin, V. S.; Pokrovskiĭ, A. V.) Vibrationally stable hysterons. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 800–803. (Wolfdietrich Müller) **47** #4667 93A10

(*with* Zabreĭko, P. P.; Strygin, V. V.) Invariance of rotation principles. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 5(120), 51–57. (J. Kolomý) **47** #908 47H10

(*with* Pokrovskiĭ, A. V.) Vibrationally stable differential equations with a continuous right hand side. (Russian) *Trudy Moskov. Mat. Obšč.* **27** (1972), 93–112. (A. Corduneanu) **50** #13792 34H05 (34D99)

(*with* Burd, V. Š.; Kolesov, Ju. S.) ★Nonlinear almost periodic oscillations. Translated from the Russian by A. Libin. Translation edited by D. Louvish. *Halsted Press* [*A division of John Wiley & Sons*], *New York-Toronto, Ont.*; *Israel Program for Scientific Translations, Jerusalem-London*, 1973. x + 326 *pp.* (Editors) **49** #9334 34C15 (34C25, 34D15)

Several new fixed point principles. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1280–1281. (J. Daneš) **47** #9371 47H10

(*with* Sobolev, A. V.) Fixed points of discontinuous operators. (Russian) *Sibirsk.*

Mat. Ž. **14** (1973), 674–677, 696. (J. Daneš) **48** #4852 47H10 (47B55)

(*with* Bobylev, N. A.) Deformation of a system into an asymptotically stable system. *Avtomat. i Telemeh.* **1974**, *no.* 7, 5–8 (*Russian*); *translated as Automat. Remote Control* **35** (1974), *no.* 7, *part* 1, 1041–1044. (A. S. C. Sinha) **52** #12912 93D05

Quasilinear operator equations. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 761–764. (P. P. Zabreĭko) **49** #7859 47H15

(*with* Pokrovskiĭ, A. V.) Periodic oscillations in systems with relay nonlinearities. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 733–736. (J. Jarník) **50** #7686 34C35

(*with* Emelin, I. V.; Panskih, N. P.) The spurt method of constructing successive approximations. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 535–538. (A. S. Householder) **51** #4643 65F10

(*with* Lifšic, E. A.; Pokornyĭ, Ju. V.; Stecenko, V. Ja.) Positively invertible linear operators, and the solvability of nonlinear equations. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **17** (1974), *no.* 1, 12–15. (I. K. Marek) **50** #10893 47B55 (47H15)

(*with* Efimov, N. V.; Kantorovič, L. V.; Kreĭn, S. G.; Iohvidov, I. S.; Ljusternik, L. A.) Vladimir Ivanovič Sobolev (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 1(175), 247–250. (1 *plate*) (Editors) **52** #7798 01A70

(*with* Zabreĭko, P. P.; Koševel, A. I.; Mihlin, S. G.; Rakovščik, L. S.; Stecenko, V. Ja.) ★Integral equations—a reference text. Translated and edited by T. O. Shaposhnikova, R. S. Anderssen and S. G. Mikhlin. *Noordhoff International Publishing, Leyden*, 1975. xix + 443 *pp.* (See Zbl **293** #45001) 45–01

(*with* Zabreĭko, P. P.) ★Геометрические методы нелинейного анализа. (Russian) [Geometric methods of nonlinear analysis] Нелинейный Анализ и его Приложения. [Monographs in Nonlinear Analysis and Applications] *Izdat. "Nauka", Moscow*, 1975. 511 *pp.* (J. Daneš) **58** #17976 47Hxx (55C20, 55C25, 58Cxx, 65J05)

(*with* Sobolev, A. V.) Cones of finite rank. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 6, 1256–1259. (A. V. Buhvalov) **52** #14911 46A40 (47B55)

(*with* Zabreĭko, P. P.) The rotation of vector fields with superpositions and iterations of operators. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 12 (1975), 23–37. (Ju. G. Borisovič) **56** #16675 58C25 (47H10)

(*with* Zabreĭko, P. P.; Pustyl'nik, E. I.; Sobolevs'kiĭ, P. O.) ★Integral operators in spaces of summable functions. Translated from the Russian by T. Ando. Monographs and Textbooks on Mechanics of Solids and Fluids, Mechanics: Analysis. *Noordhoff International Publishing, Leiden*, 1976. xv + 520 *pp.* (Editors) **52** #6505 47G05 (47H99)

(*with* Bobylev, N. A.) The bifurcation of solutions of nonlinear equations from a continuum of fixed points. (Russian) *Differential equations* (*Russian*), *pp.* 27–38, 167. *Kuĭbyšev. Gos. Univ., Kuybyshev*, 1976. (Authors' summary) **58** #7248 47H15 (34C25, 58E05)

(*with* Pokrovskiĭ, A. V.) Regular solutions of equations with discontinuous nonlinearities. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 3, 506–509. (P. P. Zabreĭko) **58** #30559 47H15 (45G99)

(*with* Pokrovskiĭ, A. V.) Simulation of transformers with hysteresis by means of continual relay systems. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 3, 547–550. (From the text) **58** #33267 93B99

(*with* Pokrovskiĭ, A. V.) Operators of hysteresis nonlinearities. (Russian) *Operator theory in function space* (*Proc. School, Novosibirsk*, 1975) (*Russian*), *pp.* 167–187, 342. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1977. (P. P. Zabreĭko) **58** #23841 47H99

Equations with hysteresis nonlinearities. (Russian) *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Teil* 1, *pp.* 437–458. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (J. S. Joel) **58** #26307 93C10 (47H15, 58E05)

(*with* Pokrovskiĭ, A. V.) The principle of the absence of bounded solutions in the problem of absolute stability. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 3, 293–396. (Wolfdietrich Müller) **55** #13019 34D25

(*with* Pokrovskiĭ, A. V.) The discontinuous superposition operator. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 1(193), 169–170. (A. L. Oniščik) **56** #568 28A20 (47H99)

(*with* Bobylev, N. A.) Generalized Ljapunov systems. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 5, 1021–1024. (G. Bojadžiev) **58** #6486 34C05

(*with* Bobylev, N. A.; Muhamadiev, È. M.) A scheme for the study of degenerate extremals of functionals in the classical calculus of variations. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 3, 530–533. (Stefan Mirică) **58** #12609 49B30 (47H99)

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8968 *and* **Transactions of the Moscow Mathematical Society**, **50** #9478

Krasnosel'skiĭ, S. G. (*with* Vilenkin, N. Ja.; Gorin, E. A.; Kostjučenko, A. G.; Kreĭn, S. G.; Maslov, V. P.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, È. S.) ★Functional analysis. Translated from the Russian by Richard E. Flaherty. English edition edited by George F. Votruba with the collaboration of Leo F. Boron. *Wolters-Noordhoff Publishing, Groningen*, 1972. xv + 380 *pp.* (Editors) **52** #11516 46–02 (47–02)

Krasnosel'skiĭ, V. M. A projection method of investigating the bifurcations of the zero solution of a nonlinear operator equation in the case of multidimensional degeneracy. (Russian) *Dokl. Akad. Nauk SSSR* **198** (1971), 1265–1268. (B. V. Loginov) **45** #9216 47H15

Krasnov, I. P. The solution of certain boundary value problems of the theory of harmonic functions. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 11, 2052–2066, 2109–2110. (M. A. Atahodžaev) **52** #14334 31B20

A boundary value problem for the Laplace equation that arises in the theory of vortex flows. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 4, 778–787, 954. (B. A. Bondarenko) **58** #22613 31B05 (76.31)

Krasnov, Ja. A. A mixed boundary value problem for the Laplace equation. (Russian) *Theoretical and applied problems in mathematics and mechanics* (*Russian*), *pp.* 198–204, 313. *Nauka Kazah. SSR, Alma-Ata*, 1977. (Author's summary) **58** #29151 35J05

Krasnov, M. L. (*with* Kiselev, A. I.; Makarenko, G. I.) ★Problems and exercises in integral equations. Translated from the Russian by George Yankovsky. Revised from the 1968 Russian edition. *Mir Publishers, Moscow*, 1971. 214 *pp.* (Editors) **50** # 45–01

(*with* Makarenko, G. I.; Kiselev, A. I.) The solvability of certain quasilinear parabolic systems of the plane. (Russian) *Trudy Moskov. Orden. Lenin. Ènerg Vyp.* 89 (1971), 41–49. (M. A. Dow) **54** #5627 35K60

(*with* Makarenko, G. I.; Kiselev, A. I.) ★Вариационное исчисление. ([Calculus of variations] *Izdat. "Nauka", Moscow*, 1973. 191 *pp.* (Editors) **50** # 49–01

(*with* Makarenko, G. I.; Kiselev, A. I.) ★Problems and exercises in the cal variations. Translated from the Russian by George Yankovsky [G. Jankovsk *Publishers, Moscow*, 1975. 222 *pp.* (Editors) **52** #4059 49–01

★Интегральные уравнения. (Russian) [Integral equations] Введение в [Introduction to the theory] Избранные главы высшей математики для инже студентов втузов. [Selected topics in higher mathematics for engineers and techn university students] *Izdat. "Nauka", Moscow*, 1975. 303 *pp.* (Editors) **58** # 45–01

(*with* Makarenko, G. I.; Kiselev, A. I.) ★Cálculo variacional (ejemplos y problemas). (Spanish) [Calculus of variations (examples and problems)] Tra from the Russian by Carlos Vega. *Editorial Mir, Moscow*, 1976. 191 *pp.* (**55** #1177 49–01

(*with* Kiselev, A. I.; Makarenko, G. I.) ★Интегральные уравнения. ([Integral equations] Second enlarged edition. *Izdat. "Nauka", Moscow*, 1976. (Editors) **58** #29887 45–01

(*with* Kiselev, A. I.; Makarenko, G. I.) ★Équations intégrales: problèmes et exercices. Traduit du russe par Irina Pétrova. *Éditions Mir, Moscow*, 1977. 208 Corduneanu) **57** #10380 45A05

Krasnov, S. N. (*with* Smirnov, O. K.) Calculation of the nonstationary heat conditic duct wall by means of the regularization method. (Russian) *Trudy Moskov. Lenin. Ènerget. Inst. Vyp.* 239 (1975), 86–99. (Editors) **58** #32463 80.65

Krasnov, V. A. (*with* Foht, O. S.) A certain representation of a polynomial that is on the interval (0, 1). (Russian) *Moskov. Gos. Ped. Inst. Učen. Zap. No.* 277 168–175. (D. Ž. Djoković) **46** #9254 26A75

Cohomology of complexes of meromorphic forms, and residues. (Russiar *Akad. Nauk SSSR Ser. Mat.* **36** (1972), 1237–1268. (C. Bănică) **53** #11084

(*with* Foht, O. S.) Integral estimates of the fractional derivatives of a ha function, and some of their applications. (Russian) *Differencial'nye Uravnenija* **9** 2276–2279, 2303. (G. Wildenhain) **48** #12031 46E35 (31B05)

Deformations of complex analytic modfications. (Russian) *Izv. Akad. Nauk Ser. Mat.* **37** (1973), 516–532. (J.-M. Kantor) **50** #5025 32G05

Formal modifications. Existence theorems for modifications of complex ma (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 848–882. (Gerhard **48** #8841 32C45 (14B05)

The equivalence of imbeddings of contractible complex spaces. (Russian *Akad. Nauk SSSR Ser. Mat.* **38** (1974), 1012–1036. (K. Wolffhardt) **51** # 32C45

(*with* Foht, O. S.) Integral estimates of the fractional derivatives of the solut linear equations of elliptic type in the L_2 metric. I. (Russian) *Differencial'nye Ura* **11** (1975), *no.* 6, 1042–1053, 1149. (Pavel Doktor) **52** #1004 35J99 (26A33)

Transitivity of exceptional subspaces. (Russian) *Izv. Akad. Nauk SSSR Se* **39** (1975), 15–22, 239. (K. Wolffhardt) **51** #10685 32C45 (32J99)

Compact complex manifolds without meromorphic functions. (Russian) *Mat. Zametki* **17** (1975), 119–122. (R. O. Wells, Jr.) **50** #13619 32J25

Fractional derivatives of functions of several variables. (Russian. English sum *Boundary value problems of the electrodynamics of conducting media* (*Russia* 240–243. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (RŽMat 19 B58) **58** #22436 26A33

(*with* Foht, O. S.) Integral estimates of the fractional derivatives of the solut linear equations of elliptic type in the L_2 metric. II. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 3, 529–539, 574. (Pavel Doktor) **54** #712 35J30 (46

A generalized Petrovskiĭ inequality for odd degree. (Russian) *Funkcional. Priložen.* **10** (1976), *no.* 2, 41–48. (A. H. Wallace) **55** #2919 14H45 (57D85)

The Albanese mapping for varieties without meromorphic functions. (Ru *Mat. Zametki* **20** (1976), *no.* 2, 207–214. (Miles Reid) **54** #10689 32J25

(*with* Foht, O. S.) Two nonlinear imbedding theorems. (Russian) *Nonlinear differential equations in applied problems* (*Russian*), *pp.* 177–180, 220. *Izdanie Inst Akad. Nauk Ukrain. SSR, Kiev*, 1977. (Editors) **58** #7062 46E35

The fractional derivative of a function with respect to another function. (Ru *Taškent. Gos. Univ. Naučn. Trudy No.* 548 *Voprosy Mat.* (1977), 56–60, 142. (A summary) **58** #28351 26A33

Estimates of the constants in nonlinear weighted imbedding theorems, and applications to integral estimates of Legendre polynomials. (Russian) *Ukrain. M* **29** (1977), *no.* 1, 50–57, 142. (Pavel Doktor) **55** #10750 33A65

(*with* Foht, O. S.) An imbedding theorem for associated Legendre functions, application. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 3, 389–392, 429. (Pavel D **57** #3475 33A45

Krasnova, L. M. Geometric transformations of plane fields. (Russian) *Moskov. Av Inst. Ordžonikidze Trudy No.* 250 *Geometr. Preobrazovan. i Tehn. Priloženija* (30–34. (Not reviewed) 50D15

Formation of nets of third order curves in a (3, 3)-valued correspondence. (Rus *Moskov. Aviacion. Inst. Ordžonikidze Trudy No.* 250 *Geometr. Preobrazovan. i Priloženija* (1972), 53–55. (Not reviewed) 50D15

Krasnova, S. A. *See* **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **55** #7711 *and* **al-Bīrūnī, Abū'l-Rayḥān Muḥammad ibn Aḥmad**, **58** #15834b

Krasnushkin, P. E. *See* **Krasnuškin, P. E.**

Krasnuškin, E. V. *See* **Optimization, Operations research, Bionics**, **48** #1846

Krasnuškin, P. E. (*with* Fedorov, E. N.) The multiplicity of wave numbers of normal in stratified media. *Radiotehn. i Èlektron.* **17** (1972), 1129–1140 (*Russian*); *translat Radio Engrg. Electron. Phys.* **17** (1972), 877–887. (Y. Hayashi) **50** #15596 78.

(*with* Goličev, I. I.) Spectral source-like expansions in wave propagation theor the quantum theory of potential scattering. (Russian. English summary) *Teoret.*

Fiz. **10** (1972), *no*. 3, 370–387. (Authors' summary) **57** #15025 81.35 (81.47)

The properties of normal waves in periodic wave guides close to the multiplicity of the wave numbers. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1053–1056. (Boris Pavlov) **47** #9340 (E **48** #7006) 47B45 (78.47)

Correction to "The properties of normal waves in periodic wave guides close to the multiplicity of the wave numbers" (Dokl. Akad. Nauk **209** (1973), 1053–1056). (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), *no*. 4-6, viii. (Editors) **48** #7006 (EA **49**) 47B45 (78.47)

rasnyh, Ju. M. Method for the minimization of Boolean functions. *Avtomat. i Telemeh.* **1969**, *no*. 11, 138–144 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no*. 11, 1838–1843. **56** #11587 94A20

rasnyĭ, L. G. (*with* Dalec'kiĭ, Ju. L.; Štatland, B. S.) The optimal detection of a signal in the noise field described by the wave equation. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 15 (1976), 38–46, 154. (A. N. Širjaev) **54** #11478 60G35 (94A05)

rasnykh, Yu. M. *See* **Krasnyh, Ju. M.**

rasovic'kiĭ, V. B. (*with* Kryms'kiĭ, O. M.) Excitation of regular oscillations of large amplitude in a nonlinear plasma by a modulated electron beam. (Russian) *Ukrain. Fiz. Ž*. **22** (1977), *no*. 10, 1733–1736, 1755. (From the text) **57** #2192 78.35

rasovskaja, I. A. (*with* Kalinovskaja, S. S.; Pavlova, L. I.) A method and program for seeking the Čebyšev center of a system of weighted points. (Russian) *Mathematical programming and related questions* (*Proc. Seventh Winter School, Drogobych*, 1974), *Convex programming* (*Russian*), *pp*. 16–22. *Central. Èkonom.-Mat. Inst. Akad. Nauk SSSR, Moscow*, 1976. (A. B. Pevnyĭ) **55** #14186 90B99

rasovskiĭ, A. A. (*with* Aĭzerman, M. A.; Bendrikov, G. A.; Hramoĭ, A. V.; Kusovkov, N. G.; Lerner, A. Ja.; Letov, A. M.; Petrov, B. N.; Petrov, V. V.; Šaripov, D. S.; Šatalov, A. S.; Solodovnikov, V. V.; Teodorčik, K. F.; Topčeev, Ju. I.; Uderman, E. G.; Voronov, A. A.; Cypkin, Ja. Z.) ★Теория автоматического регулирования. Книга 1: Математическое описание, анализ устойчивости и качества систем автоматического регулирования. (Russian) [Theory of automatic control. Book 1: Mathematical description, analysis of stability and quality of automatic control systems] Edited by V. V. Solodovnikov. *Izdat. "Mašinostroenie", Moscow*, 1967. 768 *pp*. (Editors) **50** #6557 93–02

Statistical stability of nonlinear systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol*. 1, *p*. 34, *Paper* 18*B*, 7 *pp*. *Inst. Mech. Engrs., London*, 1967. (G. N. Mil'šteĭn) **53** #10442 93E15

Generalization of the problem of analytical design of controllers for prescribed control operation and control signals. *Avtomat. i Telemeh.* **1969**, *no*. 7, 7–17 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no*. 7, 1023–1031. **56** #11434 93E20

(*with* Aĭzerman, M. A.; Bendrikov, G. A.; Hramoĭ, A. V.; Kusovkov, N. G.; Lerner, A. Ja.; Letov, A. M.; Petrov, B. N.; Petrov, V. V.; Šaripov, D. S.; Šatalov, A. S.; Solodovnikov, V. V.; Teodorčik, K. F.; Topčeev, Ju. I.; Uderman, E. G.; Voronov, A. A.; Cypkin, Ja. Z.) ★Grundlagen automatischer Regelsysteme. Band 1: Stetige lineare Systeme. Gesamtredaktion der Originalausgabe von W. W. Solodownikow. Aus dem Russischen übersetzt von Klaus Biener, Klaus Franke, Manfred Krauß, Helmut Otto, Edmund Suschke und Bernd Weber. Deutsche Bearbeitung unter Manfred Peschel. *VEB Verlag Technik, Berlin*, 1971. 744 *pp*. (3 *foldouts*) (W. Oppelt (Zbl **229** #93002)) **50** #6558 93–02

A new solution to the problem of a control system analytical design. (French, German, and Russian summaries) *Automatica—J. IFAC* **7** (1971), 45–50. (Yoshikazu Sawaragi) **48** #13373 93C20 (49C10)

Optimality and adaptivity of control systems. (Russian) *Adaptive automatic systems* (*Russian*), *pp*. 5–17. *Izdat. "Sovetskoe Radio", Moscow*, 1972. (O. Š. (RŽKibernet **1972** #12 G157)) **58** #20697a 93C15 (93C40)

New methods for the analytic design of control systems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol*. 1: *Optimal and adaptive systems* (*Russian*), *pp*. 94–102, 307. *Izdat. "Nauka", Moscow*, 1972. **48** #8026 93A10

Solution of the Fokker-Planck-Kolmogorov equation by the method of series. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 550–552. (C. E. Langenhop) **46** #3877 34A25

Solution of the Fokker-Planck-Kolmogorov equation for a dynamic system with analytical characteristics. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 6, 200–211 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 6, 1117–1127. (N. U. Ahmed) **52** #2692 93E10

(*with* Gerasjuta, M. F.; Kompaniec, È. P.) Selection of extremal trajectories for the start from orbit of an artificial earth satellite. (Russian) *Space research in the Ukraine, No*. 2: *Space mechanics and control systems* (*Russian*), *pp*. 14–25, 94. *Izdat. "Naukova Dumka", Kiev*, 1973. (D. P. Rašković) **53** #2096 70.49 (93C15)

Optimality and adaptivity of control systems. Translated from the Russian. *J. Cybernet*. **3** (1973), *no*. 3, 74–82. (O. Š. (RŽKibernet **1972** #12 G157)) **58** #20697b 93C15 (93C40)

★Фазовое пространство и статистическая теория динамических систем. (Russian) [Phase space and the statistical theory of dynamical systems] Теоретические Основы Технической Кибернетики. [Series in the Theoretical Foundations of Engineering Cybernetics] *Izdat. "Nauka", Moscow*, 1974. 232 *pp*. (See RŽMat **1974** #11 V337K) 93E20

(*with* Bukov, V. N.) An iterative solution of the Kolmogorov equation in the statistical dynamics of continuous systems. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 485–487. (Hans Kaper) **50** #1670 82.35

Limiting accuracy of micro-observation and microcontrol. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no*. 3, 177–187 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no*. 3, 136–145. (Zdeněk Ertinger) **53** #15515 93E10

(*with* Bukov, V. N.; Šendrik, V. S.) Statistical dynamics of nonlinear continuous systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no*. 6, 161–168, 223 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no*. 6, 127–133. (Ruth Curtain) **53** #1734 60H10 (93E99)

The limited sensitivity of instruments with large relaxation time. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no*. 1, 83–86. (Editors) **58** #3817 70.34

The conditional mathematical expectation and algorithms for estimating continuous processes. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no*. 5, 184–191 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no*. 5, 144–151. (Author's summary) **58** #26439 93E10

A probabilistic investigation of linear systems with random parameters. (Russian) *Sensitivity of control systems* (*Proc. All-Union School-Sem., Vladivostok*, 1975), *Vol. I* (*Russian*), *pp*. 40–47, 324. *Akad. Nauk SSR Dal'nevostočn. Naučn. Centr, Vladivostok*, 1976. (Editors) **58** #9716 93E20

An adaptive algorithm for suboptimal estimation. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no*. 3, 538–540. (Not reviewed) 93E10

A suboptimal algorithm for estimating and identifying continuous processes. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no*. 4, 826–828. (G. N. Mil'šteĭn) **55** #2303 93E10

A certain generalization of the problem of the analytic design of control systems. (Russian. English summary) *Problems of Control and Information Theory/Problemy Upravlenija i Teorii Informacii* **5** (1976), *no*. 1, 2–12. (È. G. Al'breht) **54** #5941 49C99

(*with* Bukov, V. N.; Šendrik, V. S.) ★Универсальные алгоритмы оптимального управления непрерывными процессами. (Russian) [Universal algorithms for the optimal control of continuous processes] Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat. "Nauka", Moscow*, 1977. 271 *pp*. (Vadim Komkov) **58** #20710 93C60

A suboptimal algorithm for identification of dynamic objects. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1977**, *no*. 5, 168–173 (*Russian*); *translated as Engrg. Cybernet*. **15** (1977), *no*. 5, 109–114 (1978). (Seihaka Higuchi) **58** #15575 93E10

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360a

Krasovskiĭ, G. I. (*with* Cochlar, Jiří) On the question of optimal filtering and extrapolation of a radio location signal with incomplete data. (Russian) *Kybernetika* (*Prague*) **10** (1974), 133–145. (L. I. Gal'čuk) **49** #10429 94A05

Krasovskiĭ, Ju. P. (*with* Ščepkin, G. G.) Asymptotic behavior of an electromagnetic field on a laminated medium with high conductivity. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **16** (1976), *no*. 3, 705–717, 821. (V. P. Kalašnikov) **54** #14573 78.35

Krasovskiĭ, N. N. Sufficient conditions of encounter in a differential game. *Prikl. Mat. Meh* **34** (1970), 777–784 (*Russian*); *translated as J. Appl. Math. Mech*. **34** (1970), 749–755 (1971). (R. Petrović) **46** #4963 90D25

(*with* Subbotin, A. I.) An alternative for the game problem of convergence. *Prikl. Mat. Meh*. **34** (1970), 1005–1022 (*Russian*); *translated as J. Appl. Math. Mech*. **34** (1970), 948–965 (1971). (A. Friedman) **46** #1362 90D25

(*with* Gavrilov, M. A.; Letov, A. M.; Pugačev, V. S.) General control problems. (Russian) *Vestnik Akad. Nauk SSSR* **1970**, *no*. 8, 10–25. (J. S. Joel) **55** #10076 93–02

Extremal strategies in a differential game. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 3, *pp*. 177–181. *Gauthier-Villars, Paris*, 1971. (From the author's text) **55** #10039 90D25

Program absorption in differential games. (Russian) *Dokl. Akad. Nauk SSSR* **201** (1971), 270–272. (M. Vlach) **45** #6465 90D25

(*with* Subbotin, A. I.) On the structure of game problems of dynamics. *Prikl. Mat. Meh*. **35** (1971), 110–122 (*Russian*); *translated as J. Appl. Math. Mech*. **35** (1971), 81–91. (A. Blaquière) **46** #3115 90D25

Minimax absorption in a game of encounter. *Prikl. Mat. Meh*. **35** (1971), 945–951 (*Russian*); *translated as J. Appl. Math. Mech*. **35** (1971), 901–906 (1972). (J. Fichefet) **51** #9848 90D25

On the game-theoretical problem of deflection. (Russian) *Differencial'nye Uravnenija* **8** (1972), 243–248. (A. B. Kuržanskiĭ) **45** #9710 90D25

Extremal control in a nonlinear differential position game. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 520–523. (L. A. Petrosjan) **45** #9711 90D25

(*with* Subbotin, A. I.; Ušakov, V. N.) A minimax differential game. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 277–280. (A. Friedman) **47** #3024 90D25

(*with* Batuhtin, V. D.) Program control onto a maximin. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 6, 35–44 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 6, 969–978. (È. G. Al'breht) **52** #10062 90D25

Extremal control in a nonlinear differential game. *Prikl. Mat. Meh*. **36** (1972), 986–1006 (*Russian*); *translated as J. Appl. Math. Mech*. **36** (1972), 930–947 (1973). (C. P. Tsokos) **48** #13293 90D25

(*with* Subbotin, A. I.) The saddle point of a positional differential game. (Russian) Collection of articles dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, II. *Trudy Mat. Inst. Steklov*. **128** (1972), 22–33, 258. (A. B. Kuržanskiĭ) **49** #8678 90D25

Program construction for positional differential games. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 1287–1290. (M. Vlach) **50** #3967 90D25

(*with* Batuhtin, V. D.) The nonlinear pursuit-evasion differential game. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 29–32. (F. M. Kirillova) **52** #5067 90D25

A differential game of approach and evasion. I. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no*. 2, 3–18 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no*. 2, 189–203. (G. Zatiašvili) **52** #10065 90D25

A differential game of approach and evasion. II. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no*. 3, 22–42 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no*. 3, 376–394. (G. Zatiašvili) **52** #10066 90D25

(*with* Batuhtin, V. D.) Extremal control in a nonlinear positional differential game. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no*. 4, 55–63 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no*. 4, 591–598. (E. O. Roxin) **51** #5043 90D25

(*with* Subbotin, A. I.) Approximation in a differential game. *Prikl. Mat. Meh*. **37** (1973), 197–204 (*Russian*); *translated as J. Appl. Math. Mech*. 37 (1973), 185–192. (Authors' summary) **58** #15249 90D25

(*with* Eremin, I. I.) Linear inequalities, and some of their applications. (Russian) *Ukrain. Mat. Ž*. **25** (1973), 465–478, 573. (L. Mirsky) **49** #2793 15A39

(*with* Subbotin, A. I.) ★Позиционные дифференциальные игры. (Russian) [Positional differential games] *Izdat. "Nauka", Moscow*, 1974. 456 *pp*. (N. N. Petrov)

55 #10040 90D25

(*with* Osipov, Ju. S.) On the theory of differential games with incomplete information. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 780–783. (A. B. Kuržanskiĭ) **51** #15027 90D25

Regular differential game. *Prikl. Mat. Meh.* **38** (1974), 389–401 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 361–373 (1975). (See Zbl **301** #90054) 90D25

(*with* Rešetov, V. M.) Encounter-evasion problems in systems with a small parameter in the derivatives. *Prikl. Mat. Meh.* **38** (1974), 771–779 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 723–731 (1975). (E. O. Roxin) **52** #7571 90D25

Game-theoretic control and problems of stability. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 3, 171–182. (W. E. Schmitendorf) **53** #7515 90D25 (93C20, 93D99)

(*with* Batuhtin, V. D.) Extremal aiming in a nonlinear approach game. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR No.* 8 *Èkstremal. Strategii v Pozicion. Differencial. Igrah* (1974), 26–76, 274 (*loose errata*). (RŽMat **1974** #11 B621) **58** #33012 90D25

Minimax aiming in a differential game. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR No.* 8 *Èkstremal. Strategii v Pozicion. Differencial. Igrah* (1974), 121–137, 275 (*loose errata*). (RŽMat **1974** #11 B622) **58** #33025 90D25

(*with* Subbotin, A. I.) Differential games in mixed strategies. (Russian) *Problems in analytical mechanics, stability and control theories* (*Second Četaev Conf., Kazan,* 1973) (*Russian*), *pp.* 11–18, 336. *Izdat. "Nauka", Moscow,* 1975. (È. G. Al′breht) **56** #17871 90D25

Optimal control under conditions of conflict or uncertainty. *Proceedings of the IFAC 6th World Congress* (*Boston / Cambridge, Mass.,* 1975), *Part* 4, *Paper No.* 28.5, 8 *pp. IFAC, Düsseldorf,* 1975. (Author's summary) **58** #33469b 93E20 (90D45)

(*with* Subbotin, A. I.; Rossohin, V. F.) Stochastic strategies in differential games. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 1023–1026. (F. M. Kirillova) **51** #15028 90D25

(*with* Batuhtin, V. D.) Extremal control in a nonlinear positional differential game. (Russian) Differential games and control problems. *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR Vyp.* 15 (1975), 34–63, 265. (A. I. Subbotin) **57** #15503 90D25

(*with* Bol′šev, L. N.; Il′in, V. A.; Prohorov, Ju. V.; Sotskov, B. S.; Tihonov, A. N.) Petr Ivanovič Kuznecov (on the fortieth anniversary of his scientific activity). (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 3, 567–570. (Editors) **53** #2588 01A70

On the problem of the unification of differential games. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 6, 1260–1263. (From the text) **58** #15250 90D25

Game control in differential evolutionary systems. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 5, 1049–1052. (From the text) **58** #26076 90D25 (93C99)

The problem of control with incomplete information. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1976**, *no.* 2, 3–7 (*Russian*); *translated as Engrg. Cybernetics* **14** (1976), *no.* 2, 1–5 (1977). (Author's summary) **58** #15614 93E20 (90D25)

Game-theoretic control under incomplete phase-state information. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **5** (1976), *no.* 4, 291–302. (D. Hajek) **56** #2578 93E05 (90D99)

(*with* Subbotin, A. I.) ★Jeux différentiels. Traduit du russe par Djilali Embarek. *Éditions Mir, Moscow,* 1977. 446 *pp.* (Editors) **56** #14784 90D25

Control under incomplete information. *Information processing 77* (*Proc. IFIP Congr., Toronto, Ont.,* 1977), *pp.* 353–365. *IFIP Congr. Ser., Vol.* 7, *North-Holland, Amsterdam,* 1977. (Vera Winitzky de Spinadel) **57** #5279 93C15 (90D25)

Mixed strategies in differential games. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 3, 519–522. (È. G. Al′braht) **57** #5137 90D25

Extremal constructions for a differential game. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 6, 1260–1262. (È. G. Al′breht) **57** #11806 90D25

An approach-evasion game with a stochastic leader. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 5, 1020–1023. (Editors) **58** #20520 90D25

(*with* Čencov, A. G.) On the design of differential games. I. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **6** (1977), *no.* 5-6, 381–395. (Vera Winitzky de Spinadel) **58** #33026 90D25

Unification of differential games. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR No.* 24 *Igrovye Zadači Upravlenija* (1977), 32–45, 115–116. (A. I. Subbotin) **58** #33027 90D25

On the synthesis of control in a differential game. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 5, 1041–1043. (O. Hajek) **58** #15251 90D25

See also **Collection: Vinogradov, I. M., 49** #7050; **Kamenkov, G. V., 57** #9445 *and* **Kamenkov,** G. V., **58** #11694

Krasovskiĭ, V. L. *See* **Calculation of three-dimensional constructions, 48** #7754

Krasovskiy, A. A. *See* **Krasovskiĭ, A. A.**

Krasovskiy, N. N. *See* **Krasovskiĭ, N. N.**

Krasovsky, A. A. *See* **Krasovskiĭ, A. A.**

Krass, Iosif A. Parametrization of the von Neumann model in a Banach space. (Russian) *Optimal. Planirovanie No.* 11 (1968), 17–24. (See Zbl **218** #90013) 90A15

Conflict interaction of two linear economic models. (Russian) *Control systems, No.* 2 (*Russian*), *pp.* 20–31. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat. Inst. Kataliza, Novosibirsk,* 1969. (Bojan Popović) **48** #5610 90A15

(*with* Leonov, V. V.) Conditions for periodicity on the maximum of the criterion for multistep processes. (Russian) *Upravljaemye Sistemy No.* 3 (1969), 3–4. (Not reviewed) 93D99

Certain questions of the theory of von Neumann models. (Russian) *Studies in cybernetics* (*Russian*), *pp.* 53–86. *Izdat. "Sovet. Radio", Moscow,* 1970. (Author's summary) **52** #9988 90A15

(*with* Grin′ko, L. F.) A certain game between two economic models. (Russian) *Studies in cybernetics* (*Russian*), *pp.* 99–114. *Izdat. "Sovet. Radio", Moscow,* 1970. (G. Tkačenko (RŽMat **1970** #11 V417)) **52** #9987 90A15 (90D45)

(*with* Volokitin, E. P.) A method for the study of differential games. (Russian) *Upravljaemye Sistemy No.* 6 (1970), 3–16. (See RŽMat **1971** #7 B577) 90D25

(*with* Poletaev, I. A.) Cooperation of Leont′ev models. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 1, 116–123. (V. Spiridonov) **46** #10377 90A15

The asymptotic behavior of trajectories and the existence of submodels in t Neumann-Gale model. (Russian) *Optimizacija No.* 2(19) (1971), 90–108. (D. Obr **46** #4913 90A15

(*with* Luk′janova, V. A.) An investigation of a Leontief model with delay. (Ru *Optimizacija No.* 7(24) (1972), 45–60, 145. (Alexander M. Rubinov) **49** #4546 90A15

An investigation of the continuity of a technological mapping in the von Neumann-Gale model. (Russian) *Sibirsk Mat. Ž.* **13** (1972), 1016–1029, 1197. (Alexander M. Rubinov) **51** #13804 47H99

(*with* Muhsinov, M. A.) Some methods for the study of differential games o with three terminal surfaces. (Russian) *Upravljaemye Sistemy No.* 10 (1972), 10–2 RŽMat **1973** #5 B516) 90D25

(*with* Lagunov, V. N.) Studies in the theory of differential games appl cybernetics. (Russian) *Upravljaemye Sistemy No.* 12 (1974), 11–15, 86. (See **1974** #9 B684) 90D25

Cooperation between models of economic dynamics. (Russian) *Dokl. Akad. SSSR* **221** (1975), *no.* 6, 1268–1271. (S. Krčevinac) **53** #10197 90A15

(*with* Ahmetov, O. A.) On a certain extremal problem in inequalities in a B space. (German and Russian summaries) *Math. Operationsforsch. Statist.* **6** (1975), 341–354. (From the authors' text) **57** #3933 49A25 (90A05)

The growth rate of a dynamical model of intersector balance with different for fund building. (Russian) *Optimizacija Vyp.* 17 (34) (1975), 28–39, 166. (R. **54** #14753 90A15

Properties of the equilibrium of von Neumann-Gale cooperation models. *Computing equilibria: how and why* (*Proc. Internat. Conf., Comput. Centre, Polish Sci., Toruń,* 1974), *pp.* 133–139. *North-Holland, Amsterdam,* 1976. (Georg Bol) **57** #15335 90A15

Cooperation of models of economic dynamics, and equalization of the growth of the products. (Russian) *Èkonom. i Mat. Metody* **13** (1977), *no.* 1, 121–134. (Samuel) **56** #17731 90A15

soljanik-Krassa, K. V. *See* **Soljanik-Krassa, K. V.**

Krassovski, N. *See* **Krasovskiĭ, N. N.**

Krassowski, A. A. *See* **Krasovskiĭ, A. A.**

Krastyn′, S. V. The rate of growth of the solution of a quasilinear elliptic equation unbounded domain. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Meh.* **28** (1973), *no.* 2, 57–60. (M. A. Atahodžaev) **48** #6679 35J60

Krasulina, T. P. Investigation of the asymptotic properties of potential functions m algorithms intended to determine the characteristics of a plant from observed va *Avtomat. i Telemeh.* **1968**, *no.* 2, 114–121 (*Russian. English summary*); *translat Automat. Remote Control* **1968**, *no.* 2, 274–281. (Author's summary) **55** #12 93E10

Application of stochastic approximation algorithms to automatic control prol in the presence of strong interference. *Avtomat. i Telemeh.* **1969**, *no.* 5, 10 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 5, 745 **56** #11382 93E10 (93C40)

Method of stochastic approximation in the determination of the largest eigen of the mathematical expectation of random matrices. *Avtomat. i Telemeh.* **1970**, 50–56 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, 215–221. (Author's summary) **46** #196 15A51

The stochastic approximation for random processes with continuous time. (Ru English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 688–695. (J. Wolfc **45** #6123 62L20

Robbins-Monro process in the case of several roots. *Avtomat. i Telemeh.* **197** 4, 61–65 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1 *no.* 4, *part* 1, 580–585. (Ivar Petersen) **52** #9535 62L20

The Robbins-Monro process in the case of several roots. (Russian) *Opera research and statistical simulation, No.* 2 (*Russian*), *pp.* 109–115, 152. *Izdat. Lenin Univ., Leningrad,* 1974. (V. Fabian) **54** #14270 62L20

(*with* Gapoškin, V. F.) The law of the iterated logarithm in stochastic approximation processes. (Russian. English summary) *Teor. Verojatnost. i Primenen* (1974), 879–886. (P. Révész) **51** #2206 62L20 (60F15)

Some remarks on stochastic approximation processes. *Avtomat. i Telemeh.* **197** 7, 70–74 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1 *no.* 7, *part* 1, 1114–1117. (Ivar Petersen) **52** #9536 62L20

Stochastic approximation procedures. *Avtomat. i Telemeh.* **1976**, *no.* 10, 7 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no part* 1, 1692–1695 (1977). (Author's summary) **55** #11523 62L20

The law of the iterated logarithm for stochastic approximation processes. (Rus English summary) *Vestnik Leningrad. Univ.* **1976**, *no.* 19 *Mat. Meh. Astronom. vy* 58–60, 155. (P. Révész) **56** #1623 62L20 (60F15)

Krasznoszelozkij, M. A. *See* **Kranoselskiĭ, M. A.**

Kratko, M. Ī. The degree of an information graph. (Russian) *Vyčisl. Sistemy No.* 34 (1 64–70. (G. Agibalov (RŽMat **1970** #4 V331)) **45** #9811 94A20

(*with* Vinničenko, M. G.) Upper and lower bounds for the number of edges graph with given density and external stability number. (Russian) *Theoretical cybernetics* (*Proc. Sem. Automata Theory, Kiev,* 1970/1971) (*Russian*), *pp.* 178–186. *Kibernet. Akad. Nauk Ukrain. SSR, Kiev,* 1971. (See RŽMat **1973** #1 V523; M #15417) 05C99

(*with* Revin, O. M.) The problem of the decomposition of regular iterative automata. (Ukrainian. English and Russian summaries) *Dopovidī Akad. Nauk Uk RSR Ser. A* **1974**, 784–785, 860. (E. Ikaunieks) **50** #6675 94A30

The number of switchings that are necessary for the unblocking of a three- commutator. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 1, 54–56. (Edit **58** #9851 94A20

(*with* Revin, O. M.) Turing machines that operate on the plane, and stable itera systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 5, 146– (Robert M. Baer) **57** #11967 94A30

A remark on an upper bound of the degree of information graphs. (Russi *Sibirsk. Mat. Ž.* **18** (1977), *no.* 5, 1192–1193, 1208. (I. Kramosil) **57** #5822 0 (05C30)

See also **Mostowski, Andrzej**, **49** #10548; **Cybernetics encyclopedia**, **54** #9919 *and* **Cybernetics encyclopedia**, **54** #9920

Kratky, K. W. The area of intersection of *n* equal circular disks. *J. Phys. A* **11** (1978), *no.* 6, 1017–1024. (B. B. Phadke) **58** #12678 50B30 (76.50)

Kratochvil, Alexandr (*with* Nečas, Jindřich) The discreteness of the spectrum of a nonlinear Sturm-Liouville equation of fourth order. (Russian) *Comment. Math. Univ. Carolinae* **12** (1971), 639–653. (K. R. Schneider) **45** #970 47E05 (34B25)

(*with* Fučík, Svatopluk; Nečas, Jindřich) Kačanov-Galerkin method. *Comment. Math. Univ. Carolinae* **14** (1973), 651–659. (L. Janos) **51** #1553 49D15

(*with* Fučík, Svatopluk; Nečas, Jindřich) Kačanov-Galerkin method and its application. Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys.* **15** (1974), *no.* 1-2, 31–33. (Z. Poracká-Diviš) **52** #7277 73.49

(*with* Fučík, Svatopluk; Nečas, Jindřich) Kačanov's method and its application. *Rev. Roumaine Math. Pures Appl.* **20** (1975), *no.* 8, 907–916. (D. P. Rašković) **58** #32279 73.49

See also **Application of functional methods to the boundary value problems of mathematical physics**, **50** #14144

Kratochvíl, Jan (*with* Nečas, Jindřich) On the existence of solutions of boundary-value problems for elastic-inelastic solids. *Comment. Math. Univ. Carolinae* **14** (1973), 755–760. (John M. Ball) **49** #1872 73.35

(*with* Zárubová, N.) A method of determination of inelastic constitutive equations. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no.* 5-6, 749–757. (M. Carrassi) **54** #14506 73.35

(*with* Šilhavý, Miroslav) A theory of inelastic behavior of materials. I. Ideal inelastic materials. *Arch. Rational Mech. Anal.* **65** (1977), *no.* 2, 97–129. (J. P. Boehler) **58** #14097a 73.00

(*with* Šilhavý, Miroslav) A theory of inelastic behavior of materials. II. Inelastic materials. *Arch. Rational Mech. Anal.* **65** (1977), *no.* 2, 131–152. (J. P. Boehler) **58** #14097b 73.00

Kratochvil, P. Note on a representation of universal algebras as subdirect powers. *Colloq. Math.* **24** (1971/72), 11–14. (M. Gould) **46** #3415 08A25

On a convergence property of set algebras. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 253–255. *Academia, Prague*, 1972. (M. Nosal) **50** #13414 28A05

A sequential decomposition of filters. *Proceedings of the Conference on Convergence Spaces* (*Univ. Nevada, Reno, Nev.*, 1976), *pp.* 124–131. *Dept. Math., Univ. Nevada, Reno, Nev.*, 1976. (Labib Haddad) **56** #16552 54A20

Multisequences and measures. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 237–244. *Soc. Czechoslovak Mathematicians and Physicists, Prague*, 1977. (L. Ja. Savel'ev) **57** #569 28A10 (54A20)

Kratohvil, Aleksander *See* **Kratochvil, Alexandr**

Kratz, L. (*with* Jeltsch, Rolf) On the stability properties of Brown's multistep multiderivative methods. *Numer. Math.* **30** (1978), *no.* 1, 25–38. (John J. H. Miller) **58** #8271 65L05

Kratz, Werner Zur Unlösbarkeit linearer partieller Differentialgleichungen. *Monatsh. Math.* **78** (1974), 223–228. (Howard A. Levine) **49** #11023 35F05

(*with* Jurkat, W. B.; Peyerimhoff, A.) The Tauberian theorems which interrelate different Riesz means. Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, III. *J. Approximation Theory* **13** (1975), 235–266. (K. Chandrasekhara Rao) **52** #8718 40E05

(*with* Borwein, David) On the zeros of the power series $\sum_{n=0}^{\infty}(-1)^n(1-c^{-n-1})^{k}z^{n}$ with an application to discontinuous Riesz-summability. *Canad. Math. Bull.* **19** (1976), *no.* 4, 417–424. (A. Peyerimhoff) **56** #3261 30A08 (40C15)

(*with* Trautner, Rolf) Zum Gultigkeitsbereich des zentralen Grenzwertsatzes und des Gesetzes der grossen Zahlen. *Acta Math. Acad. Sci. Hungar.* **29** (1977), *no.* 1-2, 55–66. (J. R. Blum) **55** #9229 60F05

(*with* Jurkat, W. B.; Peyerimhoff, A.) Explicit representations of Dirichlet approximations. *Math. Ann.* **228** (1977), *no.* 1, 11–25. (Thomas W. Cusick) **57** #5913 10F20

(*with* Shawyer, Bruce L. R.) A strong-Riesz mean-value theorem with applications to summability factor theorems. *J. Reine Angew. Math.* **298** (1978), 16–31. (D. C. Russell) **58** #6817 40F05

Krätzel, Ekkehard (*with* Menzer, Hartmut) Verallgemeinerte Hankel-Funktionen. *Publ. Math. Debrecen* **18** (1971), 139–147 (1972). (R. N. Jain) **46** #9410 33A40

Zahlen *k*-ter Art. *Amer. J. Math.* **94** (1972), 309–328. (E. Grosswald) **45** #5093 10H99

Mittlere Darstellungen natürlicher Zahlen als Summe von *n* *k*-ten Potenzen. *Czechoslovak Math. J.* **23(98)** (1973), 57–73. (W. J. Ellison) **48** #262 (EA **48**) 10J25

Zur Frage der Produktentwicklung höherer Thetafunktionen. *Math. Nachr.* **71** (1976), 291–302. (K. Thanigasalam) **53** #7986 10J20 (10D05)

Asymptotische Entwicklung von Funktionen und asymptotische Lösungen von Funktionalgleichungen in mehreren Veränderlichen. *Math. Nachr.* **78** (1977), 249–261. (R. A. Rosenbaum) **58** #23228 39A30 (41A60)

Kratzer, Charles Opérations d'Adams en *K*-théorie algébrique. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 5, A297–A298. (Author's summary) **58** #22244 18F25 (55G25)

Krätzig, W. B. (*with* Fritz, H.; Wittek, U.) Stabilitätsgleichungen elastischer Flächentragwerke unter besonderer Beachtung der Energieerhaltung. (English and Russian summaries) *Z. Angew. Math. Mech.* **56** (1976), *no.* 9, 409–421. (Yi-Yuan Yu) **55** #7055 73.49

Krauklis, P. V. Head waves in a medium with a high-speed layer. (Russian) Asymptotic methods and stochastic models in wave propagation problems. (Russian) *Trudy Mat. Inst. Steklov.* **95** (1968), 98–105, 213–215. (Author's summary) **50** #9304 86.35

See also **Mathematical problems in the theory of wave propagation**, **48** #5773 *and* **Asymptotic methods and stochastic models in problems of wave propagation**, **49** #11933

Kraus, Gerald A. Unique extensions of abstract measures. *Math. Nachr.* **59** (1974), 125–128. (J. E. Huneycutt, Jr.) **49** #7410 28A10

Kraus, Günther Holomorphe Korrespondenzen und meromorphe Abbildungen allgemeiner komplexer Räume-Fortsetzungssätze. (English summary) *Manuscripta Math.* **6** (1972), 1–15. (W. Thimm) **47** #500 32D15

Meromorphe Funktionen auf allgemeinen komplexen Räumen. *Math. Ann.* **209** (1974), 257–265. (M. Hervé) **50** #2552 32C15

C-Korrespondenzenkategorien, insbesondere über der Kategorie der komplexen Räume. (English summary) *Manuscripta Math.* **15** (1975), 165–184. (C. Bănică) **52** #14356 32C15

Relative Probleme von Poincaré und Cousin auf nicht-reduzierten komplexen Räumen. *Bayer. Akad. Wiss. Math.-Nat. Kl. Sitzungsber.* **1976**, 23–34 (1977). (Ingo Lieb) **56** #12310 32E10

Kraus, J. (*with* Barut, Asim O.) Solution of the Dirac equation with Coulomb and magnetic moment interactions. *J. Mathematical Phys.* **17** (1976), *no.* 4, 506–508. (P. Pascual) **53** #15168 81.35

Kraus, K. General state changes in quantum theory. *Ann. Physics* **64** (1971), 311–335. (I. K. Marek) **45** #1520 81.47

(*with* Schröter, J.) Expectation values of unbounded observables. *Internat. J. Theoret. Phys.* **7** (1973), 431–442. (Authors' summary) **50** #15717 81.47

Operations and effects in the Hilbert space formulation of quantum theory. *Foundations of quantum mechanics and ordered linear spaces* (*Advanced Study Inst., Marburg*, 1973), *pp.* 206–229. *Lecture Notes in Phys., Vol.* 29, *Springer, Berlin*, 1974. (Johan G. Belinfante) **58** #14672 81.47 (46N05, 47B99)

(*with* Just, K.) Linear independence of field operators at different space-time points. *Lett. Math. Phys.* **1** (1975/76), *no.* 3, 171–174. (Aubrey Truman) **54** #14636 81.47

(*with* Polley, L.; Reents, G.) Models for infrared dynamics. I. Classical currents. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **26** (1977), *no.* 2, 109–162. (F. Rocca) **57** #18626 81.47

(*with* Polley, L.; Reents, G.) Generators of infinite direct products of unitary groups. *J. Mathematical Phys.* **18** (1977), *no.* 11, 2166–2171. (Adriaan Tip) **56** #12983 47D10 (81.47)

Kraus, Laslo L. (*with* Cvetković, Dragoš M.) Evaluation of a lower bound for the chromatic number of the complete product of graphs. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 357-380 (1971), 63–68. (H. V. Kronk) **45** #6679 05C15

(*with* Cvetković, Dragoš M.) Tables of simple eigenvalues of some graphs whose automorphism group has two orbits. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 381-409 (1972), 89–95. (H. Sachs) **48** #8297 05C25

(*with* Slavić, Dušan V.) Computer programs for computation of the hyperbolic tangent function. *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz. No.* 461-497 (1974), 41–46. (H. E. Fettis) **50** #15280 65D20

Kraus, Marvin Land use in a circular city. *J. Econom. Theory* **8** (1974), *no.* 4, 440–457. (Author's summary) **57** #15402 90B99

Krause, D. J. (*with* Graupe, Daniel; Cline, W. K.) Identification of Kalman-Bucy filters from noisy measurement arrays. *Internat. J. Systems Sci.* **4** (1973), 739–755. (N. U. Ahmed) **49** #7002 94A05 (93E10)

Krause, E. (*with* Hirschel, E. H.; Kordulla, W.) Fourth order "Mehrstellen"-integration for three-dimensional turbulent boundary layers. *Comput. & Fluids* **4** (1976), *no.* 2, 77–92. (Editors) **56** #4419 76.65

Krause, Fr. (*with* Scheunert, M.) On the construction and uniqueness of superpropagators for scalar massless fields. (Italian and Russian summaries) *Nuovo Cimento A* (11) **12** (1972), 221–240. (A. C. Manoharan) **48** #10344 81.30

(*with* Roberts, P. H.) Bochner's theorem and mean-field electrodynamics. *Mathematika* **20** (1973), 24–33. (G. Papanicolaou) **48** #7778 76.60

Perturbation theory for Green's functions as an effective mass formalism. *J. Mathematical Phys.* **18** (1977), *no.* 12, 2414–2422. (Author's summary) **58** #8900 81.35

Krause, Günter (*with* v. Blumenthal, N.; Bock, H.-M.; Drechsler, J.; Erbe, H.; Giencke, E.; Hieronimus, K.; Kalzidu, D.; Knothe, K.; Lehmann, Daniel; Petersen, J.; Rinneberg, Chr.) ★Einführung in finite Berechnungsverfahren. Redaktionelle Bearbeitung: Klaus Hieronimus, Klaus Knothe und Jürgen Petersen. *Abteilung Publikationen, Universitätsbibliothek, Technische Universität Berlin, Berlin*, 1972. xiii + 394 *pp.* (Editors) **50** #9133 (EA **51**) 73.65 (65N30)

On fully left bounded left noetherian rings. *J. Algebra* **23** (1972), 88–99. (B. J. Müller) **46** #7303 16A46 (16A66)

Zur Krull-Dimension linksnoetherscher Ringe. *Rings, modules and radicals* (*Proc. Colloq., Keszthely*, 1971), *pp.* 259–269. *Colloq. Math. Soc. János Bolyai, Vol.* 6, *North-Holland, Amsterdam*, 1973. (G. Michler) **50** #396 16A46

Descending chains of submodules and the Krull-dimension of Noetherian modules. *J. Pure Appl. Algebra* **3** (1973), 385–397. (J. C. Robson) **49** #2838 16A46

Krull dimension and Gabriel dimension of idealizers of semimaximal left ideals. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 2, 137–140. (J. C. Robson) **52** #8186 16A46

(*with* Teply, Mark L.) The transfer of the Krull dimension and the Gabriel dimension to subidealizers. *Canad. J. Math.* **29** (1977), *no.* 4, 874–888. (J. C. Robson) **56** #8616 16A46

Some recent developments in the theory of Noetherian rings. *Séminaire d'Algèbre Paul-Dubreil*, 30 *ème année* (*Paris*, 1976–1977), *pp.* 209–219. *Lecture Notes in Math., Vol.* 641, *Springer, Berlin*, 1978. (Robert Gordon) **58** #5778 16A46 (16A08, 16A48)

(*with* Teply, Mark L.) Erratum: "The transfer of the Krull dimension and the Gabriel dimension to subidealizers" (Canad. J. Math. **29** (1977), no. 4, 874–888). *Canad. J. Math.* **30** (1978), *no.* 3, 672. (Editors) **57** #6096 16A46

See also **Problems: Rings, modules and radicals**, **50** #13099

Krause, Heinz (*with* Böhm, Franz; Hempel, Lorenz; Kirchheim, Alfred; Weise, Gotthard) ★Mathematische Standardmodelle der Operationsforschung. Zweite erweiterte Auflage. Die Arbeit des Autorenkollektivs wurde koordiniert von Heinz Krause. *Verlag Die Wirtschaft, Berlin*, 1972. 719 *pp.* (F. Weinberg) **48** #3445 90–01

Krause, Jorge Embedding approach to a restricted covariance group in general relativity. (Italian and Russian summaries) *Nuovo Cimento B* (11) **18** (1973), 302–310. (J. Rosen) **49** #4525 83.53

Orthonormal tetrad transport. II. Physical identitication of the normals and curvatures of a time-like curve. *Internat. J. Theoret. Phys.* **11** (1974), 273–284. (Author's summary) **54** #6819 82.53

Some remarks on orthonormal tetrad transport. *Internat. J. Theoret. Phys.* **12** (1975), 35–45. (Author's summary) **54** #6818 82.53

The de Donder coordinate condition and minimal class 1 space-time. *J. Mathematical Phys.* **16** (1975), 1090–1092. (Alan Barnes) **51** #12272 83.53

The de Donder coordinate condition and minimal class 1 space-time. *J. Mathematical Phys.* **16** (1975), 1234–1236. (R. I. Pimenov) **52** #9963 83.53

Christoffel symbols and inertia in flat space-time theory. *Internat. J. Theoret. Phys.* **15** (1976), *no.* 11, 801–807. (Edward N. Glass) **57** #10617 53A35 (83.53)

Structure of the Einstein tensor for class-*i* embedded space-time. (Italian and Russian summaries) *Nuovo Cimento B*(11) **32** (1976), *no.* 2, 381–406. (Edward N. Glass) **54** #14722 83.53

Krause, K. L. (*with* Shen, V. Y.; Schwetman, H. D.) Analysis of several task-scheduling algorithms for a model of multiprogramming computer systems. *J. Assoc. Comput. Mach.* **22** (1975), *no.* 4, 522–550. (Richard A. DeMillo) **52** #12758 (E **55** #14181) 90B35 (68A99)

(*with* Shen, V. Y.; Schwetman, H. D.) Errata: "Analysis of several taskscheduling algorithms for a model of multiprogramming computer systems" (J. Assoc. Comput. Mach. **22** (1975), no. 4, 522–550). *J. Assoc. Comput. Mach.* **24** (1977), *no.* 3, 527. (Editors) **55** #14181 90B35 (68A05)

Krause, Thomas O. (*with* Mulligan, Bernard) Cancellation of the Green's function in the generation of continuum bound states by nonlocal potentials. *J. Mathematical Phys.* **15** (1974), *no.* 6, 770–773. (Authors' summary) **52** #16332 81.31

(*with* Mulligan, Bernard) Some aspects of redundant states in nucleon-nucleus scattering solutions with antisymmetrization. *Ann. Physics* **94** (1975), *no.* 1, 31–46. (Christiane Coudray) **52** #16333 81.31

(*with* Mulligan, Bernard; Arnold, L. G.; Bagchi, B.) Solutions of the radial equation for scattering by a nonlocal potential. *Phys. Rev. C* (3) **13** (1976), *no.* 6, 2131–2148. (Corneliu Eftimiu) **53** #9973 81.45

Krause, Ulrich Der Satz von Choquet als ein abstrakter Spektralsatz und vice versa. *Math. Ann.* **184** (1969/70), 275–296. (See RŽMat **1970** #8 B553) 46A99

The inner orthogonality of convex sets in axiomatic quantum mechanics. *Foundations of quantum mechanics and ordered linear spaces* (*Advanced Study Inst., Marburg*, 1973), *pp.* 269–280. *Lecture Notes in Phys., Vol.* 29, *Springer, Berlin*, 1974. (Author's review (Zbl **289** #46018)) **57** #18590 81.46 (46A99, 46L99)

Ein neuer Gesichtspunkt für kollektive Entscheidungen. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I, pp.* 187–190. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. (M. Rössler) **56** #2421 90D05 (90D35)

Krauss, Eckehard Zur Steuerung mit Operatorgleichungen. *Theory of nonlinear operators* (*Proc. Summer School, Neuchâtel*, 1972), *pp.* 169–176. *Schr. Zentralinst. Math. Mech. Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin*, 1974. (L. von Wolfersdorf) **49** #11347 49A50 (47H15)

Krauß, Fritz (*with* Behncke, Horst; Leptin, Horst) C^*-Algebren mit geordneten Ideal Folgen. *J. Functional Analysis* **10** (1972), 204–211. (M. Takesaki) **49** #5857 46L05

(*with* Lawson, Terry C.) Examples of homogeneous C^*-algebras. *Recent advances in the representation theory of rings and C^*-algebras by continuous sections* (*Sem., Tulane Univ., New Orleans, La.*, 1973), *pp.* 153–164. *Mem. Amer. Math. Soc., No.* 148, *Amer. Math. Soc., Providence, R.I.*, 1974. (Larry Brown) **50** #8093 46L05

Krauss, Peter H. Universally complete universal theories. *Z. Math. Logik Grundlagen Math.* **17** (1971), 351–370. (M. Benda) **45** #50 02H99

On primal algebras. *Algebra Universalis* **2** (1972), 62–67. (Alden Pixley) **46** #5213 08A25

(*with* Clark, David M.) Monomorphic relational systems. *Z. Math. Logik Grundlagen Math.* **18** (1972), 229–235. (Michel Jean) **46** #8830 02H10

On quasi primal algebras. *Math. Z.* **134** (1973), 85–89. (G. Grätzer) **48** #10952 08A25

Quantifier elimination. ⊧*ISILC Logic Conference* (*Proc. Internat. Summer Inst. and Logic Colloq., Kiel*, 1974), *pp.* 426–444. *Lecture Notes in Math., Vol.* 499, *Springer, Berlin*, 1975. (M. M. Richter) **54** #4969 02H05

(*with* Clark, David M.) Para primal algebras. *Algebra Universalis* **6** (1976), *no.* 2, 165–192. (Alden Pixley) **54** #10105 08A15

(*with* Clark, David M.) Relatively homogeneous structures. *Logic Colloquium* 76 (*Oxford*, 1976), *pp.* 255–285. *Studies in Logic and Found. Math., Vol.* 87, *North-Holland, Amsterdam*, 1977. (Cyprian Gnanvo) **58** #10416 02H15 (02G20)

(*with* Clark, David M.) Varieties generated by para primal algebras. *Algebra Universalis* 7 (1977), *no.* 1, 93–114. (Heinrich Werner) **55** #2707 08A15

Krausser, D. (*with* Hellwig, K.-E.) Propositional systems and measurements. I, II. *Internat. J. Theoret. Phys.* **9** (1974), 277–289; *ibid.* **10** (1974), 261–272. (Authors' summary) **54** #12003 81.06

(*with* Hellwig, K.-E.) Propositional systems and measurements. III. Quasitensorproducts of certain orthomodular lattices. *Internat. J. Theoret. Phys.* **16** (1977), *no.* 10, 775–793. (Authors' summary) **58** #14463 81.06

Krausz, Frank G. Cancellations of mass singularities in Yang-Mills theories. *Nuclear Phys. B* **126** (1977), *no.* 2, 340–364. (Author's summary) **56** #10589 81.47

Krauth, Joachim A locally most powerful tied rank test in a Wilcoxon situation. *Ann. Math. Statist.* **42** (1971), 1949–1956. (P. K. Sen) **45** #7892 62G30

An asymptotic UMP sign test in the presence of ties. *Ann. Statist.* **1** (1973), 166–169. (Author's summary) **49** #1672 62G10

Nichtparametrische Ansätze zur Auswertung von Verlaufskurven. (English summary) *Biometrische Z.* **15** (1973), 557–566. (W. J. Conover) **54** #14228 62G10

(*with* Lienert, G. A.) Ein lokationsinsensitiver Dispersionstest für zwei unabhängige Stichproben (DU-Test). (English summary) *Biometrische Z.* **16** (1974), 83–90. (G. E. Noether) **52** #9484 62G10

(*with* Lienert, G. A.) Ein lokationsinsensitiver Dispersionstest für zwei abhängige Stichproben (DP-Test). (English summary) *Biometrische Z.* **16** (1974), 91–95. (G. E. Noether) **52** #9485 62G10

(*with* Steinebach, Josef) Extended tables of the percentage points of the chi-square distribution for at most ten degrees of freedom. (German summary) *Biometrische Z.* **18** (1976), *no.* 1, 13–22. (Authors' summary) **54** #14302 62Q05

Some locally optimal two-sample rank tests of scale. (German and French summaries) *Math. Operationsforsch. Statist.* **7** (1976), *no.* 1, 113–121 (M. Raghava **54** #3957 62G10

Krauthausen, Clemens On the theorems of Dugundji and Schauder for certain nonc spaces. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, *Math. Balkanica* **4** (1974), 365–369. (S. Swaminathan) **51** #11208 47H10

Kravčenko, A. I. (*with* Dorošuk, G. P.) A probabilistic analysis of circuits wit parameter elements. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1966**, 363–371. (Not reviewed) 94A20

Kravčenko, A. N. *See* **Cybernetics and computer technology**, **47** #4546; **Boundary problems of mathematical physics**, **48** #1842 *and* **Mathematics and progress in s and technology**, **48** #8170

Kravčenko, Fedor G. Domains of absolute convergence of the series that represent K_{ml_i}-functions of several parameters. (Russian. Polish and English summaries) Proceedings of the Fifth Conference on Analytic Functions (Univ. Mariae Curie-Skłodowska, Lublin, 1970). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* (1968/70), 91–93 (1972). (Editors) **49** #5411 33A30

Analytic functions of roots of polynomials. (Russian. English summary) *Prikl. Mat.* (*Kiev*) *No.* 7 (1969), 77–93. (Author's summary) **45** #7095 32A15 (30A08)

Elementary K_{ml}-functions and their properties. (Russian. English summary) *Prikl. Mat.* (*Kiev*) *No.* 11 (1970), 171–185. (I. M. Sheffer) **46** #5590 30A08 (3

(*with* Kravčenko, V. F.) Domains of absolute convergence for the series that the K_{ml_i}-functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 19 (72–81, 158. (V. L. Makarov) **48** #751 40B05 (33A30)

(*with* Kravčenko, V. F.) Properties of the derivatives and integrals of eleme K_{ml}-functions, and their applications. (Russian. English summary) *Vyčisl. Prikl.* (*Kiev*) *Vyp.* 33 (1977), 81–89, 160. (Authors' summary) **56** #14124 76.65

Kravčenko, P. P. *See* **Cybernetics and computer technology**, **47** #4546 *and* **Cyber and computer technology**, **48** #7523

Kravčenko, S. A. (*with* Kohanovskiĭ, I. N.; Lukovič, V. V.) A numerical Fourier trans method. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 32 (1977), 123 160. (Walter Gautschi) **57** #4553a 65T05

(*with* Kohanovskiĭ, I. N.; Lukovič, V. V.) A numerical Fourier transform. (Ru English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 33 (1977), 143–151, 163. (W Gautschi) 57 #4553b 65T05

Kravčenko, T. K. (*with* Jablonskiĭ, A. I.) A certain boundary value problem on a semi-infinite interval. (Russian) *Differencial'nye Uravnenija* **8** (1972), 2180–2186 Ráb) **47** #5346 34B15

Kravčenko, T. P. (*with* Mironova, N. V.; Agapova, L. I.; Kuznecova, N. P.; Barano N.; Petrov, V. P.) Calculation of the subgroup coefficients for the reduction from g R_3 to the crystallographic groups O and D_4. (Russian) *Trudy Moskov. Orden. L Ènerget. Inst. Vyp.* 170 (1974), 50–60. (A. A. Maradudin) **53** #15219 82.20

Kravčenko, V. E. *See* **Automated control systems**, **53** #4904; **Automated systems of management control**, **56** #7767; **Systems analysis in industrial production**, **56** # *and* **Automated control systems and data processing**, **56** #8113

Kravčenko, V. F. (*with* Dikarev, V. A.) Expansion in eigenoscillations in a cross-secti a cylindrical wave guide. (Russian) *Radiotehn.* (*Har'kov*) *No.* 15 (1970), 65–7 Wiesner) **45** #7316 35P10 (78.35)

(*with* Polevoĭ, V. I.; Rvačov, V. L.) A solution of the diffraction problem truncated cylinder by a variational method by using the apparatus of *R*-funct (Russian) *Radiotehn.* (*Har'kov*) *No.* 17 (1971), 89–96. (I. O. Bohachevsky) **46** #67 78.35

(*with* Rvačov, V. L.; Slesarenko, A. P.; Jarmoljuk, V. K.) The solution of external problems of electrostatics by the method of *R*-functions. (Russian) *Radio* (*Har'kov*) *No.* 20 (1972), 150–154. (A. A. Mullin) **47** #4544 (EA **47**) 78.65 (31

(*with* Kravčenko, Fedor G.) Domains of absolute convergence for the series define the K_{ml_i}-functions. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *N* (1973), 72–81, 158. (V. L. Makarov) **48** #751 40B05 (33A30)

(*with* Tokarenko, A. V.) Solution of a mixed boundary-value problem by Bubnov-Galerkin method. *Inž.-Fiz. Ž.* **23** (1972), 732–736 (*Russian*); *translated* *Engrg. Phys.* **23** (1974), 1319–1322. (Stephen Hilbert) **52** #2249 65N30

(*with* Ratner, V. I.) On the theory of the propagation of electromagnetic wave irregular cylindrical wave guides. (Russian) *Radiotehn.* (*Har'kov*) *Vyp.* 35 (1975), 36 ii. (Authors' summary) **55** #7124 78.42

(*with* Kravčenko, Fedor G.) Properties of the derivatives and integrals of elementary K_{ml}-functions, and their applications. (Russian. English summary) *Vy* *Prikl. Mat.* (*Kiev*) *Vyp.* 33 (1977), 81–89, 160. (Authors' summary) **56** #14124 7

Kravčenko, V. G. On the Noether theory of functional equations with non-Carleman s (Russian) *Dokl. Akad. Nauk SSSR* **201** (1971), 1275–1278. (D. Mitrović) **45** #98 47G05 (45E99)

On the Noether theory of integro-functional equations with a shift. (Russi *Ukrain. Mat. Ž.* **24** (1972), 752–762, 861. (D. Przeworska-Rolewicz) **47** #2441 47G05 (45E05)

The solvability of linear functional equations. (Russian) *Mathematical physics*, 14 (*Russian*), *pp.* 75–78, 174. "*Naukova Dumka*", *Kiev*, 1973. (W. Smajdor) **48** #1 39A15

(*with* Litvinčuk, G. S.) Singular integral equations with non-Carleman shift, their application to the theory of boundary value problems for differential equation mixed type. (Russian) *Proceedings of the Symposium on Continuum Mechanics Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 1 (*Russian*), *pp.* 142–152. *Iz* "*Mecniereba*", *Tbilisi*, 1973. (S. A. Tersenov) **54** #13496 45E05

(*with* Nīkolaĭčuk, A. M.) The equivalence of a certain type of the Riem boundary value problem for a system of *n* pairs of functions to a complete sing integral equation with a Cauchy kernel. (Russian) *Differencial'nye Uravnenija* **9** (19 374–376, 399. (W. Żakowski) **47** #7356 45E05

(*with* Litvinčuk, G. S.) The symbol of a singular integral operator with a Carle shift. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 541–545, 575. (S. G. Samko) **48** #702 47G05

The condition for linear singular integral operators with non-Carleman shift to Noetherian. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser.*

Meh. No. 15 (1973), 57–63, 144. (N. K. Karapetjanc) **50** #5398 45E05

(*with* Nīkolaĭčuk, A. M.) The partial indices of the Riemann problem for two pairs of functions. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 53–56. (S. G. Samko) **58** #22586 30A88

The singular integral operator with a shift. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 1301–1304. (S. G. Samko) **50** #1057 47G05 (45E05)

(*with* Karlovič, Ju. I.) The Noether theory of a singular integral operator with a shift that has periodic points. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 2, 277–280. (N. K. Karapetjanc) **55** #1143 47G05 (45E05)

(*with* Karlovič, Ju. I.) A singular integral operator with non-Carleman shifts on an open contour. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 4, 792–795. (N. K. Karapetjanc) **57** #1204 47G05 (45E10)

(*with* Karlovič, Ju. I.) Systems of functional and integro-functional equations with non-Carleman shift. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 5, 1064–1067. (N. K. Karapetjanc) **57** #7240 47B37 (47G05)

A functional equation with shift in the space of continuous functions. (Russian) *Mat. Zametki* **22** (1977), *no.* 2, 303–311. (N. K. Karapetjanc) **57** #7241 47B37 (45Exx, 39A15)

(*with* Karlovič, Ju. I.) An algebra of singular integral operators with non-Carleman shift. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 1, 38–41. (R. V. Dudučava) **58** #7217 47G05 (45E10)

Kravčenko, V. P. (*with* Kuhta, K. Ja.) Finding the eigenvalues of boundary value problems of the theory of oscillations of supporting surfaces by means of numerical methods. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 589–594, 667. (V. Komkov) **46** #8441 65N25

(*with* Rvačov, V. L.; Jarmoljuk, V. K.) The application of the method of *R*-functions to the solution of mixed boundary value problems with nonhomogeneous boundary conditions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 984–987, 1052. (A. Ženíšek) **46** #6626 65N30

(*with* Kuhta, K. Ja.) Reduction of certain boundary value problems of the theory of oscillations to integral equations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 1067–1072, 1148. (V. Komkov) **46** #7720 73.35

(*with* Kuhta, K. Ja.) A certain method for the numerical solution of one-dimensional boundary value problems with discrete-continuous parameters under discrete excitations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 499–503, 573. (G. Maess) **50** #3615 65N99 (70.35)

(*with* Kuhta, K. Ja.) A certain method for reducing the differential equations of wing flutter to integral equations. (Russian) *Mixed boundary value problems and questions of mathematical simulation* (*Russian*), *pp.* 187–197. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1975. (N. D. Kopačevskiĭ) **53** #12193 76.35

(*with* Andrusenko, O. M.; Bēljancev, Ī. Ī.) The theory of the diffraction of electromagnetic strips by superconducting tapes. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 5, 438–441, 476. (Authors' summary) **51** #9664 78.35

(*with* Kuhta, K. Ja.) A certain nonlinear boundary value problem of the oscillations of a heavy string. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 107–110, 143. (Authors' summary) **57** #14769 73.41

(*with* Kuhta, K. Ja.) ★Непрерывно-дискретные граничные задачи теории колебаний. (Russian) [Continuous-discrete boundary value problems of the theory of oscillations] *Izdat. "Naukova Dumka"*, *Kiev*, 1976. 255 *pp.* (G. Bojadžiev) **57** #14695 73.00

(*with* Kuhta, K. Ja.) Finding the critical rate of flutter in the case of nonstationary flow around an elastic wing. (Russian) *Analytic, numerical and analogue methods in heat conduction problems* (*Russian*), *pp.* 166–173, 239. *Izdat. "Naukova Dumka"*, *Kiev*, 1977. (Authors' summary) **58** #3924 76.35

See also **Nonlinear boundary value problems of mathematical physics, 50** #1797 *and* **Nonlinear oscillations and stability of motion, 57** #12950

Kravchenko, V. F. *See* **Kravčenko, V. F.**

Kravchuk, A. S. *See* **Kravčuk, A. S.**

Kravcov, A. V. (*with* Azarin, V. S.; Baĭbikov, V. D.) A certain limit theorem and its application. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 25 (1976), 3–5, i. (A. A. Svešnikov) **54** #14047 60F05

Kravcov, E. B. (*with* Šimel'fenig, O. V.) Semigroups of games. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Conf.*, *Vilnius*, 1971) (*Russian*), *pp.* 190–193. *Izdat. "Mintis"*, *Vilnius*, 1973. (J. R. Isbell) **50** #6518 90D05

Reduction of games to canonical form. (Russian) *Mathematical models of behavior, No.* 1 (*Russian*), *pp.* 61–70, 91. *Izdat. Saratov. Univ.*, *Saratov*, 1973. (Author's summary) **57** #15536 90D99

Kravcov, Ju. A. (*with* Fuks, I. M.; Šmelev, A. B.) Successive application of Kirchhoff's method to the problem of the scattering of a sound wave by a surface with random irregularities. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 854–864. (A. Nikodémusz) **46** #7717 35L05 (76.35)

(*with* Mazurov, V. M.; Malov, D. I.) The synthesis of an optimal control system with low sensitivity for a unit with a lag in the control. (Russian) *Sensitivity of control systems* (*Proc. All-Union School-Seminar Theory of Sensitivity of Control Systems and its Application*, *Vladivostok*, 1975), *Vol. I* (*Russian*), *pp.* 269–278, 333. *Akad. Nauk SSR Dal'nevostočn. Naučn. Centr*, *Vladivostok*, 1976. (Authors' summary) **58** #20662 93B05

Kravcov, L. Ja. (*with* Maĭorov, S. A.; Skorubskiĭ, V. I.) Universal logic modules and their application. (Russian. English summary) *US i M—Upravljajuščie Sistemy i Mašiny* **1977**, *no.* 1(27), 98–104, 149, 150. (Authors' summary) **58** #15718 94A20

Kravcov, M. K. On the question of lowering the dimension of a transport problem. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 2, 59–62, 136. (Author's summary) **58** #20477 90C50 (65K05)

A difference method for solving the assignment problem. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 5, 56–62, 137. (Editors) **57** #9052 90C05

(*with* Kurcevič, K. A.) A method for lowering the dimension of the transportation problem of linear programming. (Russian) *Mathematical methods in economic research* (*Russian*), *pp.* 32–38. *Izdat. "Nauka"*, *Moscow*, 1974. (I. Maruşciac) **53** #7456 90C05

(*with* Šerman, A. H.; Averbuh, N. D.) A certain algorithm for the solution of the assignment problem. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 6, 102–105, 143. (Ulrich Eckhardt) **53** #4970 90C10

(*with* Emeličev, V. A.; Averbuh, N. D.) The maximal number of vertices of a transportation polyhedron. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 6, 509–512, 572. (E. Hertel) **54** #1087 52A40 (90C05)

(*with* Emeličev, V. A.) Certain properties of transport polyhedra with a maximal number of vertices. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 5, 1025–1028. (E. Ja. Gabovič) **53** #12604 90C35 (90B10)

(*with* Emeličev, V. A.) On enumerative problems on transport polyhedra. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 1, 9–13, 138. (Z. Nádeník) **53** #12552 90B10 (52A40)

(*with* Emeličev, V. A.) Transportation polyhedra with a given number of facets. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 5, 97–98, 142. (E. Ja. Gabovič) **57** #10607 52A25 (90C10)

(*with* Emeličev, V. A.; Kračkovskiĭ, A. P.) A proof for Bolker's conjecture. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 9, 788–790, 860. (P. Vondráček) **57** #5817 05C30

(*with* Emeličeva, V. S.) The facets of a degenerate transportation polyhedron. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 5, 23–26, 137–138. (E. Ja. Gabovič) **58** #9229 90C10

(*with* Emeličev, V. A.; Kračkovskiĭ, A. P.) On a conjecture about the maximal number of vertices of a transportation polytope. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 6, 114–118, 144. (J. Abrham) **58** #9217 90C05

(*with* Emeličev, V. A.; Kračkovskiĭ, A. P.) The minimal number of vertices of a nondegenerate transportation polytope with a fixed number of faces. (Russian. English summary) *Dokl. Akad. Nauk BSSR* **22** (1978), *no.* 1, 15–17, 91. (E. Ja. Gabovič) **58** #9228 90C10

Kravcov, O. V. (*with* Pyragas, Kazimiras A.; Bondarenko, N. P.) On the equilibrium figures of an ideal rotating liquid in the post-Newtonian approximation of general relativity. I. Equilibrium conditions. *Astrophys. and Space Sci.* **27** (1974), 437–452. (W. H. Julian) **51** #9750 85.35

Kravcov, S. S. Certain topological properties of the functions of the algebra of logic. (Russian) *Diskret. Analiz No.* 21 (1972), 10–25, 95. (Ivan Havel) **49** #8871 05A05 (68A20)

Kravcov, V. K. Conversion of fractions from a place system into a system of residue classes and vice versa. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1969**, *no.* 1, 63–64. (J. B. Roberts) **45** #3303c 10A10

(*with* Buza, M. K.; Posnov, N. N.) Sign determination and redundancy for fractions of the form A/B^k in a residue class number system. (Russian) *Vestnik Beloruss.·Gos. Univ. Ser. I* **1969**, *no.* 3, 16–20. (J. B. Roberts) **45** #3303d 10A10

(*with* Posnov, N. N.; Buza, M. K.) The floating point in a residue class number system. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1969**, *no.* 3, 21–27. (J. B. Roberts) **45** #3303e 10A10

Kravcov, V. V. The method of antenna potentials in three-dimensional diffraction problems. (Russian) *Vyčisl. Metody i Programmirovanie Vyp.* 24 (1975), 118–122. (A. Ramm) **58** #3971 78.35

Approximation of functions of several variables by means of an antenna potential. (Russian) *Dokl. Akad. Nauk SSSR* **233** (1977), *no.* 1, 23–26. (A. G. Ramm (Zbl **367** #41016)) **58** #17662 41A30

(*with* Elkin, N. N.) A numerical study of the problem of the diffraction of waves in a rotating basin. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 6, 1599–1602, 1630. (Authors' summary) **56** #14117 76.65

Approximation of functions of several variables by an antenna potential. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 3, 672–680, 812. (Editors) **58** #17443 35A35 (41A30, 78.31)

Kravcova, T. S. *See* **Mathematical problems in the theory of wave propagation, 46** #9559

Kravčuk, A. S. Note on the proof of convergence of the method of finite elements. *Prikl. Mat. Meh.* **38** (1974), 958–960 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 909–912 (1975). (I. Norman Katz) **53** #7074 65N30

On the Hertz problem for linearly and nonlinearly elastic bodies of finite dimensions. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no.* 2, 308–310. (A. Radu) **55** #9680 73.65

On the Hertz problem for linearly and nonlinearly elastic bodies of finite dimensions. *Prikl. Mat. Meh.* **41** (1977), *no.* 2, 329–337 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 2, 320–328. (Author's summary) **57** #4761 73.35

Kravčuk, D. N. (*with* Aĭzenštat, V. S.) The minimum of a linear form on the set of all complete cycles of the symmetric group S_n. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 2, 64–66. (Authors' summary) **45** #6830 15A06 (90B99)

(*with* Aĭzenštat, V. S.) The extremum of a linear form on the set of all cyclic permutations of degree n. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 6, 76–81. (Authors' summary) **45** #6831 15A06 (90B99)

Kravčuk, M. I. Certain classes of factorable finite groups. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1970**, *no.* 4, 5–11. (U. Schoenwaelder) **45** #3581 20D30

System normalizers of π-solvable groups. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 6, 18–27. (B. Hartley) **46** #3613 20D20

Finite factorizable groups. (Russian) *Finite groups* (*Proc. Gomel Sem.*, 1973/1974) (*Russian*), *pp.* 52–62, 228. *Izdat. "Nauka i Tehnika"*, *Minsk*, 1975. (K. Seitz) **55** #3079 20D40

(*with* Šemetkov, L. A.; Kohno, A. P.; Poljakov, L. Ja.; Rusakov, S. A.) Sergeĭ Antonovič Čunihin (on the occasion of his seventieth birthday). (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1975**, *no.* 5, 129–130. (Editors) **52** #27 01A70

(*with* Čunihin, S. A.; Šemetkov, L. A.) All-Union Algebra Symposium in the City of Gomel. (Russian) Held June 30-July 3,1975. *Uspehi Mat. Nauk* **31** (1976), *no.* 3(189), 239–242. (Editors) **54** #2 00A10

(*with* Poljakov, L. Ja.) The Gomel Algebraic Seminar (on the occasion of the twenty-fifth anniversary of its founding). (Russian) *Finite groups* (*Proc. Gomel Sem., Gomel*, 1975–1977) (*Russian*), *pp.* 5–7, 172. *Izdat.* "*Nauka i Tehnika*", *Minsk*, 1978. (Editors) **58** #16004 01A65

Finite factorizable groups. (Russian) *Finite groups* (*Proc. Gomel Sem., Gomel*, 1975–1977) (*Russian*), *pp.* 28–30, 173. *Izdat.* "*Nauka i Tehnika*", *Minsk*, 1978. (V. D. Mazurov) **58** #22280 20D10

Kravčuk, M. P. *See* **Movčan, V. O., 58** #4905 *and* **Movčan, V. O., 58** #15993

Kravčuk, T. S. Certain conditions for the convergence of a general nonstationary iteration method. (Russian) *Mathematical provisioning of electronic digital computers and effective organization of the computing process* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 66–74. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (I. Šelihova (RŽMat **1970** #4 B844)) **45** #4581 65H05

Questions of monotonicity in certain generalizations of the Newton-Kantorovič method. (Russian) *Approximate and qualitative methods of the theory of differential and integral equations* (*Russian*), *pp.* 195–201. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (J. S. Shipman) **51** #4661 65J05 (47H15)

(*with* Vakulenko, L. V.) Approximation of the inverse of a linear operator by means of non-stationary algorithms. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 604–607, 668. (A. Buraczewski) **49** #4206 65J05 (65F10)

Kravec, N. A. (*with* Berezovs'kiĭ, A. Ī.) An efficient algorithm for the construction of interpolational parabolic splines of a certain form. (Russian) Optimization of computations (approximation and minimization of functions). *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 18 (1977), *pp.* 11–16. (A. Coţiu) **58** #31717 65D05

Kravec, T. F. Approximation of the domain of asymptotic stability on the plane. (Russian) *Trudy Rjazan. Radiotehn. Inst. Vyp.* 62 *Differencial'nye Uravnenija* (1975), 117–122, 183. (Author's summary) **57** #10115 34D05

Kravec, V. M. *See* **Boundary value problems of mathematical physics, 48** #1842

Kravec, V. V. (*with* Poljakova, N. M.) Selection of the regular parameters from the requirement of obtaining a constant degree of stability of the motion. (Russian) *Complex control systems* (*Russian*), *pp.* 116–126. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (K. Magnus) **48** #10590 93D99

Kraveckiĭ, A. N. On the theory of the isomorphisms of direct decompositions of idempotents in semigroups. (Russian) *Mat. Issled.* **7** (1972), *no.* 2(24), 91–104, 287. (B. M. Schein (Šaĭn)) **47** #5152 20M10

On the theory of the isomorphisms of direct decompositions in categories. (Russian) *Mat. Issled.* **7** (1972), *no.* 4(26), 104–122, 254. (B. M. Schein (Šaĭn)) **47** #5073 18A20 (20F15)

Kravickiĭ, A. O. (*with* Lidskiĭ, V. B.) Asymptotic series for the solution of the Cauchy problem. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 748–759. (N. D. Kazarinoff) **45** #665 34E05

Kravitz, Sidney Corrigendum: "On weird and pseudoperfect numbers" (Math. Comp. **28** (1974), 617–623) by S. J. Benkoski and P. Erdős. *Math. Comp.* **29** (1975), 673. (Editors) **50** #12902 10A40

(*with* Penney, David E.) An extension of Trigg's table. *Math. Mag.* **48** (1975), 92–96. (L. Carlitz) **50** #9769 10A25

Kravtsov, O. V. *See* **Kravcov, O. V.**

Kravvaritis, Dimitrios Continuity properties of monotone nonlinear operators in locally convex spaces. *Proc. Amer. Math. Soc.* **72** (1978), *no.* 1, 46–48. (Simeon Reich) **58** #7228 47H05

Kravženko, V. P. Finding solutions for systems of ordinary differential equations in the case of an arbitrary number of conjugations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 512–515, 573. (R. Kodnár) **46** #8429 65L10 (34B05)

Krawczyk, Adam On a class of models for sentences of languages α_A. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 4, 381–385. (M. E. Nadel) **52** #5347 (E **53** #12867) 02B25 (02F27)

Erratum to: "On a class of models for sentences of language α_A" (Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys. **23** (1975), no. 4, 381–385). *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 12, 1 *loose p.* (M. E. Nadel) **53** #12867 02B25 (02F27)

(*with* Krynicki, M.) Ehrenfeucht games for generalized quantifiers. *Set theory and hierarchy theory* (*Proc. Second Conf., Bierutowice*, 1975), *pp.* 145–152. *Lecture Notes in Math., Vol.* 537, *Springer, Berlin*, 1976. (G. Fuhrken) **55** #79 02B20

(*with* Marek, Wiktor) On the rules of proof generated by hierarchies. *Set theory and hierarchy theory, V* (*Proc. Third Conf., Bierutowice*, 1976), *pp.* 227–239. *Lecture Notes in Math., Vol.* 619, *Springer, Berlin*, 1977. (Editors) **58** #21621 02K99 (02B15, 02H10)

Krawczyk, Andrzej A certain property of pyramidal numbers. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 3 *Teoria grafów* (1970), 43–44. (J. S. Joel) **51** #3048 10A40

A generalization of the problem of Perisastri. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 6 *Zagadnienia kombinatoryczne* (1972), 67–70. (K. Szymiczek) **50** #9765 (EA **53**) 10A20

A certain estimate concerning odd perfect numbers. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. Ser. Studia i Materiały No.* 6 *Zagadnienia kombinatoryczne* (1972), 71–74. (K. Szymiczek) **50** #9766 (EA **53**) 10A20

Some theorems on semi-decomposable conformally symmetric spaces. (Polish and Russian summaries) Geometry of Riemannian spaces. *Prace Nauk. Inst. Mat. Politechn. Wrocław. No.* 16 *Ser. Stud. i Materiały No.*12 (1976), 3–10. (G. Tsagas) **53** #14337 53B20

Krawczyk, Henryk A model of self-diagnosis of complex digital systems. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **20** (1975), *no.* 4, 473–482. (Author's summary) **56** #18146 94A20

Krawczyk, Jacek B. (*with* Gosiewski, Anatol) The possibilities of suboptimal control in a linear-quadratic problem. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **18** (1973), 257–268. (V. Komkov) **49** #7880 49B10

Krawczyk, Jerzy The geometry of the Friedmann space-time in a special coordinate system. (Polish. English summary) *Zeszyty Nauk. Wyz. Szkoły Ped. w Opolu Mat.* **14** *Zastos. Mat.* (1973), 87–94. (R. I. Pimenov) **54** #14723 83.53

Studies of plane symplectic curves by the method of the moving frame. (English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **14** *Zastos* (1973), 95–101. (M. Kucharzewski) **55** #8972 53A40

(*with* Dornfeld, Engelbert) A certain classification of the three-dimensional in the space E_4^1. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w* *Mat.* **16** *Geometria Różniczkowa* (1973), 11–18. (R. I. Pimenov) **54** #1073 50

The Frenet frame for a two-dimensional pseudo-Euclidean surface in Mink space. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu M* *Geometria Różniczkowa* (1973), 19–25 (*loose errata*). (R. I. Pimenov) **53** #11 53B30

(*with* Dornfeld, Engelbert) The Frenet frame of a three-dimensional isc hypersurface in Minkowski space. (Polish. English summary) *Zeszyty Nauk.* *Szkoły Ped. w Opolu Mat.* **16** *Geometria Różniczkowa* (1973), 27–32. (R. I. Pim **53** #11522 53B30

Comparison of local times in a Schwarzschild space. (Polish. English summ *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **17** *Zastos. Mat.* (1974), 7–22. (Au summary) **55** #7281 83.53

(*with* Kuklewski, Julian) The radial-angular motion of particles in Schwarzs gravitational field. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w* *Mat.* **18** *Zastos. Mat.* (1975), 21–27. (Authors' summary) **56** #17678 83.53

(*with* Kuklewski, Julian) Friedmann's pseudospherical space-time. (Polish. E summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **18** *Zastos. Mat.* (29–42. (Authors' summary) **56** #17679 83.53

(*with* Kuklewski, Julian) Stitching together the metric of Schwarzschild's spac with the metric of Friedmann's space-time. (Polish. English summary) *Zeszyty* *Wyż. Szkoły Ped. w Opolu Mat.* **18** *Zastos. Mat.* (1975), 43–53. (Authors' sum **56** #17680 83.53

Pseudo-Euclidean curves in E_4^1. (Polish. German summary) *Zeszyty Nauk.* *Szkoły Ped. w Opolu Mat.* **20** *Algebra, Zastos. Mat.* (1978), 225–235. (Author's summary) **58** #18204 53A35

Krawczyk, R. Gleichungen in halbgeordneten Räumen. Collection of articles dedica Lothar Collatz on his sixtieth birthday. *Abh. Math. Sem. Univ. Hamburg* **36** (150–165. (J. Vandergraft) **48** #10097 65H10

Zur Einschliessung inverser linearer Operatoren. *Methoden und Verfahre* *mathematischen Physik, Band* 7, *pp.* 1–19. *B. I.-Hochschultaschenbücher, No.* 726, *Bibliographisches Inst., Mannheim*, 1972. (From the author's introduction) **54** #6 65J05 (47B55)

Abbrechkriterium für Iterationsverfahren. (English and Russian summaries *Angew. Math. Mech.* **52** (1972), 227–232. (John Todd) **46** #2812 65B99

Fehlerabschätzung bei nichtlinearen Gleichungssystemen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 4, 365–377. (W. Börsch-S **52** #4610 65H10

Krawczyk, Tomasz (*with* Jarzabek, Stanislaw) LL-regular grammars. *Information Processing Lett.* **4** (1975/76), *no.* 2, 31–37. (From the conclusion) **58** #19386 6

Krawczyńska, Anna Iterative method of least squares. (Polish. Russian and English summaries) *Przegląd Statyst.* **22** (1975), *no.* 4, 495–503. (From the author's sum **53** #9567 62P20

Krawietz, Arnold A comprehensive constitutive inequality in finite elastic strain. *Rational Mech. Anal.* **58** (1975), 127–149. (M. Mişicu) **52** #2363 73.53

Konvergenz des Trefftzschen Verfahrens für gemischte Randwertprobleme Anwendung auf die Singularitätenmethode der Elastizitätstheorie. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, *T*121–*T*122. Teodorescu) **54** #14507 73.35

Kraynek, William T. Interpolation of sublinear operators on generalized Orlicz and Hardy-Orlicz spaces. *Studia Math.* **43** (1972), 93–123. (R. H. Cox) **47** #807 4 (46E30)

Krazer, A. *See* **Festschrift: Weber, Heinrich, 50** #12626

Krbec, Miroslav On L^p-estimates for solutions of elliptic boundary value probl *Comment. Math. Univ. Carolinae* **17** (1976), *no.* 2, 363–375. (Louis Boutet de Mo **54** #5619 35J40

(*with* Fučík, Svatopluk) Boundary value problems with bounded nonlinearity general null-space of the linear part. *Math. Z.* **155** (1977), *no.* 2, 129–138. (Kenne Brown) **57** #13179 35J65

See also **Hess, Peter, 57** #13180

Krbec, Pavel Discontinuous Liapunov functions for differential equations with measur right-hand sides. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 2, 312–318. (S. L **53** #13756 34D20

Weak stability of multivalued differential equations. *Czechoslovak Math. J.* **26**((1976), *no.* 3, 470–476. (S. Leela) **54** #659 34D20

Krbil'a, Jaroslav The algebraic structure of the set of principal hyperbolic phases of differential equations $y''=q(t)y$ in the interval $(-\infty,\infty)$. (Slovak. English summa *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 195–204. (F. Neuman) **46** #5755 34

The existence of principal hyperbolic phases for the differential equation $y''=q$ (Slovak. Russian, English, French and German summaries) *Sb. Prací Vys. Š* *Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **34** (1970), 75–83. (M. Š **46** #447 34C10

Generalized second order linear Euler differential equation. (Slovak. German summary) *Časopis Pěst. Mat.* **96** (1971), 361–366. (M. Švec) **47** #532 34A30

Investigation of quadratic functionals by means of a transformation of second o linear differential equations. (Slovak. Russian, English, French and German summar *Sb. Prací Vys. Školy Doprav. v Žilině a Výzkum. Ústav. Doprav. v Praze* **44** (1971), 5- (Leo F. Boron) **48** #604 34A25

A note on the definiteness of the differential equations $y''=q(t)y$. (Czech summa *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **37** (1972), 19–22. (E. Barvi **52** #853 34A30

Applikation von parabolischen Phasen der Differentialgleichung $y''=q(t)y$. *Fo* *Scientific Conference, College of Transport Engineering, Žilina, Section* 1: *Mathema* *Physics, Cybernetics* (*Slovak*), *pp.* 67–74. *Vysoká Škola Dopravná v Žiline, Žilina*, 1

(Gary D. Jones) **53** #947 34C10

Structure formulas of quadratic functionals. (Russian. English summary) *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 356–363. (Leo F. Boron) **49** #692 34A25

Explicit solutions of several Kummer's nonlinear differential equations. *Mat. Časopis Sloven. Akad. Vied* **24** (1974), *no.* 4, 343–348. (H. A. DeKleine) **52** #3649 34A30

Sufficient condition for definiteness of linear differential equation of the second order. (Slovak. Russian and German summaries) *Práce Štúd. Vys. Školy Doprav. v Žiline Sér. Mat.-Fyz. Čislo* 1 (1974), 21–25. (V. Šeda) **53** #6001 34C10

(*with* Kříž, Ferdinand) Transformation of nth order binomial linear differential equations whose carriers are complex functions of a real variable. (Slovak. Russian, English and German summaries) *Práce Štúd. Vys. Školy Doprav. v Žiline Sér. Mat.-Fyz. Čislo* 1 (1974), 77–82. (Vojislav Marić) **53** #922 34A25

Quadratic functionals with Euler's equation $(py')'+qy=0$. (Slovak and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **45** *Mat.* **14** (1974), 31–43. (Jerry Ridenhour) **52** #887 34C10

Second order linear differential equations without conjugate points. (Russian. Bulgarian and English summaries) Conference on Differential Equations and Applications (Ruse, 1975). *Godišnik Visš. Učebn. Zaved Priložna Mat.* **11** (1975), *no.* 1, 61–68 (1977). (Author's summary) **58** #11642 34C10

Krebs, Hélène Intégrales de formes différentielles d''-fermées sur les cycles analytiques compacts de certains ouverts de $P_n(C)$. Thèse de 3e cycle, U. E. R. de Math., Univ. Paris VII, Paris, 1975. *Fonctions de plusieurs variables complexes, II* (*Sém. François Norguet*, 1974–1975), *pp.* 216–250. *Lecture Notes in Math., Vol.* 482, *Springer, Berlin*, 1975. (Y.-T. Siu) **53** #857 32C30 (32G10)

Intégrales de formes différentielles d''-fermées sur les cycles analytiques compacts de certains ouverts de $\mathrm{P}_n(C)$. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A657–A659. (Y.-T. Siu) **52** #3590 32C30 (14C30, 32G13)

Krebs, V. Das Gleichgewichtstheorem–eine grundsätzliche Aussage über das Verhalten von Regelkreisen. I. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **21** (1973), *no.* 1, 25–27. (V. Kolmanovskiĭ) **53** #10418a 93D99

Das Gleichgewichtstheorem—eine grundsätzliche Aussage über das Verhalten von Regelkreisen. II. *Regelungstech. Prozess-Datenverarbeit.* **21** (1973), *no.* 2, 56–59. (V. Kolmanovskiĭ) **53** #10418b 93D99

Lineare und nichtlineare Filterung. I, II. (English summary) *Regelungstech.* **22** (1974), *no.* 11, 329–338; *ibid.* **22** (1974), *no.* 12, 382–387. (Huibert Kwakernaak) **53** #5124 93E10

(*with* Thöm, H.) Parameter-Indentifizierung nach der Methode der kleinsten Quadrate—ein Überblick. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **22** (1974), *no.* 1, 1–10. (Editors) **55** #10100 93B30 (93E10)

Krečet, V. G. (*with* Ivanenko, D. D.; Lapčinskiĭ, V. G.) Dynamics of charged dust in general relativity theory. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1973**, *no.* 12, 63–67. (Authors' summary) **58** #32736 83.35

(*with* Ivanenko, D. D.; Gololobova, A. S.; Lapčinskiĭ, V. G.) Cosmological solutions for a spinor field in general relativity theory. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1973**, *no.* 12, 68–71. (Authors' summary) **58** #25748 83.35

(*with* Lapčinskiĭ, V. G.; Ponomarev, V. N.; Stanjukovič, K. P.) Problems of gravitational collapse. (Russian) *Problemy Teor. Gravitacii i Èlement. Častic Vyp.* 6 (1975), 129–139. (RŽFiz **1975** #11 B160) **57** #8897 83.53

(*with* Lapčinskiĭ, V. G.; Ponomarev, V. N.) Gravitation, spin, torsion. (Russian) *Problemy Teor. Gravitacii i Èlement. Častic Vyp.* 6 (1975), 139–146. (RŽFiz **1975** #11 B147) **57** #8898 83.53

(*with* Ponomarev, V. N.) Nonlinearity and torsion. (Russian. English summary) *Teoret. Mat. Fiz.* **25** (1975), *no.* 1, 141–144. (Authors' summary) **58** #8954 81.53

(*with* Ponomarev, V. N.) Nonlinearity and torsion. *Acta Phys. Polon. B* **7** (1976), *no.* 8, 553–556. (H. A. Buchdahl) **54** #12111 83.35

Krečetov, G. S. The behavior of the solutions of a certain first order differential equation. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1528–1530, 1543. (G. Niculescu) **45** #671 34D99

The Čaplygin problem for a certain first order differential equation. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1695–1697, 1718. (K. R. Schneider) **47** #564 34C99

Perturbations that preserve the property of stability. (Russian) *Differencial'nye Uravnenija* **8** (1972), 2090–2092, 2115. (S. R. Bernfeld) **48** #6575 34D10

Preservation of the asymptotic stability property in the case of a zero root. (Russian) *Differencial'nye Uravnenija* **9** (1973), 958–960, 980. (R. F. Datko) **47** #8991 34D05

Conditions for the existence of solutions that go to zero for a certain nonlinear first order differential equation. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1143–1145, 1167. (I. Muntean) **48** #2502 34D05

Comparison functions for the solutions of a certain first order nonlinear differential equation. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1911–1914, 1928. (A. D. Ziebur) **48** #8960 34C10

Preservation of the property of stability in the presence of two zero roots and a line of equilibrium. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1993–2000, 2083. (J. W. Macki) **50** #13751 34D05

Asymptotic properties of the solutions of a certain system of two differential equations. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 5, 798–804, 947. (D. Izjumova) **51** #13375 34D05

Conditions for the conservation of asymptotic stability in the case of a double zero root with a nonprime elementary divisor. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 11, 1985–1993, 2108. (Wolfdietrich Müller) **55** #13015 34D20

Some properties of Ljapunov functions. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 6, 1020–1025, 1155. (G. P. Los') **58** #6547 34D20

Krečetov, L. I. (*with* Arkin, V. I.) A stochastic maximum principle in control problems wtih discrete time. *Proceedings of the Third Japan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 692–712. *Lecture Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (Michel Valadier) **56** #2602 93E20

Krechet, V. G. *See* **Krečet, V. G.**

Krecht, Jaroslav *See* **Négation**, **48** #3692

Kreck, Matthias Eine Invariante für stabil parallelisierte Mannigfaltigkeiten. *Bonn. Math. Schr. No.* 66 (1972), v+56 *pp.* (K. H. Mayer) **52** #1736 57D90

(*with* Karras, U.; Neumann, Walter D.; Ossa, Erich) ★Cutting and pasting of manifolds; SK-groups. Mathematics Lecture Series, No. 1. *Publish or Perish, Inc., Boston, Mass.*, 1973. vii+70 *pp.* (K. H. Mayer) **50** #14802 57D80 (57D25, 57D90)

(*with* Hermann, J.) Cutting and pasting of involutions and fiberings over the circle within a bordism class. *Math. Ann.* **214** (1975), 11–17. (C. B. Thomas) **51** #9093 57E15 (57D90)

Bordism of diffeomorphisms. *Bull. Amer. Math. Soc.* **82** (1976), *no.* 5, 759–761. (R. E. Stong) **53** #11634 57D90

Cobordism of odd-dimensional diffeomorphisms. *Topology* **15** (1976), *no.* 4, 353–361. (Laurence R. Taylor) **54** #11361 57D90 (57E20)

Knots and diffeomorphisms. *Transformation groups* (*Proc. Conf., Univ. Newcastle upon Tyne, Newcastle upon Tyne*, 1976), *pp.* 295–298. *London Math. Soc. Lecture Note Series, No.* 26, *Cambridge Univ. Press, Cambridge*, 1977. (J. P. Levine) **57** #13981 57D50 (57C45)

Kreczmar, Antoni The set of all tautologies of algorithmic logic is hyperarithmetical. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 781–783. (J. N. Crossley) **46** #10248 68A30

Degree of recursive unsolvability of algorithmic logic. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 615–617. (J. N. Crossley and R. A. Venables) **47** #4776 02F30 (02E99)

Algorithm for constructing of university timetables and criterion of consistency of requirements. (Russian summary) *Acta Cybernet.* **2**, 135–145 (1973). (W. D. Wallis) **48** #7949 90B35

Effectivity problems of algorithmic logic. *Automata, languages and programming* (*Second Colloq., Univ. Saarbrücken, Saarbrücken*, 1974), *pp.* 584–600. *Lecture Notes in Comput. Sci., Vol.* 14, *Springer, Berlin*, 1974. (M. I. Dehtjar') **54** #12509 02F43 (02E10, 68A05)

On finite and infinite computations. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 441–446. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (Immo O. Kerner) **58** #3626 68A05

(*with* Banachowski, Lech; Mirkowska, Grażyna; Rasiowa, Helena; Salwicki, Andrzej) An introduction to algorithmic logic. Metamathematical investigations in the theory of programs. *Mathematical foundations of computer science, pp.* 7–99. *Państw. Wydawn. Nauk., Warsaw*, 1977. (Authors' review (Zbl **358** #68035)) **58** #16198 02E10 (02F50, 68A05)

On infinite sets of polynomial relations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 3, 1–6. (G. Cherlin) **56** #5277 02H15 (12L05)

Programmability in fields. *Fund. Informat.* (4) **1** (1977), *no.* 2, 195–230. (Andrzej Blikle) **57** #8124 68A05

Effectivity problems of algorithmic logic. *Fundam. Inf.* (4) **1** (1977), *no.* 1, 19–32. (Akira Nakamura) **56** #7300 68A05 (02F10)

Kredencer, B. P. Errors in reliability computations that are caused by the uncertainty of the initial data. (Russian) *Accuracy and reliability of cybernetic systems* (*Russian*), *pp.* 138–149. "*Naukova Dumka*", *Kiev*, 1970. (B. Dimitrov) **48** #1420 62N05 (90B25)

Optimal load of a two-priority queuing system with waiting. *Avtomat. i Telemeh.* **1970**, *no.* 9, 145–150 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 9, 1500–1505. (Author's summary) **46** #975 60K25

(*with* Zaharīn, O. M.) Stepwise servicing of orders under the influence of external disturbances. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 4, 76–84 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 4, 628–635. (George Weiss) **48** #7413 60K25

(*with* Zaharīn, O. M.) The first passage time of a prescribed level of a linearly increasing process with random interference. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 1, 89–94. (K. Wickwire) **46** #2764 60K25

Reliability of a system with instrument redundancy in the presence of time reserve. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 3, 34–41. (Author's summary) **48** #3211 62N05

Reliability of multischedule systems with time-dependent redundancy. (Russian) *Točn. i Nadežn. Kibernet. Sistem No.* 4 (1976), 51–56, 103. (A. M. Zaharin) **58** #20385 90B35

See also **Accuracy and reliability of cybernetic systems**, **47** #9873 *and* **Cybernetics and computer technology**, **48** #1517

Krée, Mirella Propriété de trace en dimension infinie, d'espaces du type Sobolev. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 157–160. (E. Dubinsky) **50** #8072 46G99 (46E35)

Classes K^s du type Sobolev. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 10, 21 *pp. Secrétariat Mathématique, Paris*, 1975. (Editors) **58** #30248 46G99 (46E35)

Propriété de trace en dimension infinie d'espaces du type Sobolev. *Bull. Soc. Math. France* **105** (1977), *no.* 2, 141–163. (M. Itano) **57** #10419 46E35 (58D15)

Krée, Paul R. A class of singular integrals. Pseudo-differential operators on non-quasi-analytic function spaces. *Singular integrals* (*Proc. Sympos. Pure Math., Chicago, Ill.*, 1966), *pp.* 208–212. *Amer. Math. Soc., Providence, R.I.*, 1967. (R. D. Moyer) **52** #15116 47G05 (35S05)

★Distributions quasihomogènes et intégrales singulières. Bull. Soc. Math. France Mém., No. 20. Supplément au Bull. Soc. Math. France, Tome 97, no. 4. *Société Mathématique de France, Paris*, 1969. 47 *pp.* (Zbl **201**, 165) **57** #7162 46F10

Application des méthodes variationnelles aux équations de convolution. *C. R. Acad. Sci. Paris Sér. A-B* **268** (1969), A1193–A1196. (Author's summary) **58** #31818 65J05 (35R99)

Équations linéaires à coefficients aléatoires. *Symposia Mathematica, Vol. VII* (*Convegno sulle Equazioni Ipoellittiche e Spazi Funzionali, INDAM, Rome*, 1970), *pp.* 515–546. *Academic Press, London*, 1971. (R. M. Dudley) **49** #11631 60H99

Produit et accouplement de champs aléatoires généralisés. Applications à l'étude des équations aux dérivées partielles à coefficients aléatoires. *C. R. Acad. Sci. Paris Sér. A-B* **272** (1971), A330–A333. (Author's summary) **45** #1282 60H15

Études d'un problème de transport singulier. *Actes du Colloque d'Analyse Fonctionnelle* (*Univ. Bordeaux, Bordeaux*, 1971), *pp.* 207–214. *Bull. Soc. Math. France*,

Mém. No. 31-32, *Soc. Math. France, Paris*, 1972. (Carlo Pagani) **51** #10918 35R20

Courants et courants cylindriques sur des variétés de dimension infinie. *Linear operators and approximation* (*Proc. Conf., Oberwolfach*, 1971), *pp.* 159–174. *Internat. Ser. Numer. Math., Vol.* 20, *Birkhäuser, Basel*, 1972. (G. Marinescu) **52** #6769 58B10 (46G10)

Accouplement de processus linéaires images de probabilités cylindriques par certaines applications non linéaires. *Séminaire Goulaouic-Schwartz* 1971–1972: *Deux journées p-radonifiantes, Conférence No.* 4, 39 *pp. Centre de Math., École Polytech., Paris*, 1972. (V. Ș. Mandrekar) **53** #14569 60B05 (28A40, 60H05)

Images de probabilités cylindriques par certaines applications non linéaires. Accouplement de processus linéaires. *C. R. Acad. Sci. Paris Sér. A-B* **274** (1972), A342–A345. (R. M. Dudley) **45** #1209 60B05 (28A40)

Application des méthodes variationnelles aux équations de convolution. *J. Math. Pures Appl.* (9) **51** (1972), 295–329. (Carlo Pagani) **54** #11412 58G15 (35M05)

Application de la théorie des noyaux positifs à l'estimation des processus et aux champs Markoviens. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 15, 13 *pp. Centre de Math., École Polytech., Paris*, 1973. (M. M. Rao) **54** #11475 60G20

Théorie et application de l'approximation linéaire optimale des processus linéaires. *C. R. Acad. Sci. Paris Sér. A-B* **276** (1973), A205–A208. (L. Cesari) **47** #9396 49D99

(*with* Tortrat, A.) Désintégration d'une loi gaussienne μ dans une somme vectorielle. *C. R. Acad. Sci. Paris Sér. A-B* **277** (1973), A695–A697. (S. D. Chatterji) **50** #13441 28A50

Pairing stochastic processes. *J. Optimization Theory Appl.* **12** (1973), 53–60. (W. A. Woyczynski) **50** #16033 93Exx (60H99)

Utilisation des distributions pour l'étude des équations aux dérivées partielles en dimension infinie. Actes du Deuxième Colloque d'Analyse Fonctionnelle de Bordeaux (Univ. Bordeaux, 1973), III, pp. 93–110. *Publ. Dép. Math.* (*Lyon*) **10** (1973), *no.* 4, 371–388. (Author's review (Zbl **291** #46026)) **58** #30239 46G20 (35R15, 46F99)

Exemples d'utilisation de la théorie des applications radonifiantes. *Séminaire Maurey-Schwartz* 1973–1974: *Espaces L^p, applications radonifiantes et géométrie des espaces de Banach, Exp. No.* 9, 16 *pp. Centre de Math., École Polytech., Paris*, 1974. (B. M. Makarov) **56** #13358 60G99 (47B99)

Solutions faibles d'équations aux dérivées fonctionnelles. I. *Séminaire Pierre Lelong* (*Analyse*) (*année* 1973–1973), *pp.* 142–181. *Lecture Notes in Math., Vol.* 410, *Springer, Berlin*, 1974. (Carlos A. Berenstein) **51** #8818 46G05

Exemples d'utilisation de la théorie des distributions et des fonctionnelles linéaires sur les espaces de Hilbert. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 335–337. (C. J. Henrich) **49** #1114 46G99

Application des méthodes variationnelles aux équations aux dérivées partielles sur un espace de Hilbert. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 753–755. (E. Gerlach) **50** #990 46G05 (35R15)

Remarques sur la théorie des champs de bosons. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 12, 9 *pp. Secrétariat Mathématique, Paris*, 1975. (Editors) **58** #4058 81.46

Utilisation de limites inductives généralisées d'espaces localement convexes. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 1, 9 *pp. Secrétariat Mathématique, Paris*, 1975. (Editors) **58** #29996 46A05 (46M10)

Protenseurs distributions. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 6, 9 *pp. Secrétariat Mathématique, Paris*, 1975. (Editors) **58** #30245 46G99 (46F99)

Transformation d'une promesure de probabilité en une vraie mesure. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 5, 10 *pp. Secrétariat Mathématique, Paris*, 1975. (Zbl **316** #46036) **58** #1076 28A40

Classes L^p de protenseurs distributions contravariants. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 8, 13 *pp. Secrétariat Mathématique, Paris*, 1975. (Editors) **58** #30246 46G99 (46F99)

Prodistributions. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 2, 14 *pp. Secrétariat Mathématique, Paris*, 1975. (Editors) **58** #30047 46A99 (46F10, 46G99)

Dérivées de densité d'une prodistribution. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 9, 14 *pp. Secrétariat Mathématique, Paris*, 1975. (Editors) **58** #30247 46G99 (46F99)

Probabilités cylindriques et processus linéaires. *Séminaire Paul Krée*, 1*re année* (1974/75), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 4, 17 *pp. Secrétariat Mathématique, Paris*, 1975. (Zbl **316** #46035) **58** #1075 28A40

Solutions faibles d'équations aux dérivées fonctionnelles. II. *Séminaires Pierre Lelong* (*Analyse*) (*année* 1973–1974), *pp.* 16–47. *Lecture Notes in Math., Vol.* 474, *Springer, Berlin*, 1975. (Carlos A. Berenstein) **52** #14998 46G05 (46F10)

Extension du calcul différentiel en dimension infinie. *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A7–A9. (W. A. Woyczyński) **51** #6416 46G05 (28A40)

Distributions sur un espace de Banach. *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 5,6,7,8, *A*ii, *A*227–*A*229. (Author's summary) **54** #13564 46G99 (46F10)

Théories des distributions et calculs différentiels sur un espace de Banach. *Séminaire Pierre Lelong* (*Analyse*), *Année* 1974/75, *pp.* 163–192. *Lecture Notes in Math., Vol.* 524, *Springer, Berlin*, 1976. (J. Eells) **54** #5828 46G05 (46F05, 58C20, 28A40)

Introduction aux théories des distributions en dimension infinie. Journées sur la Géométrie de la Dimension Infinie et ses Applications à l'Analyse et à la Topologie (Univ. Claude-Bernard—Lyon I, Lyon, 1975). *Bull. Soc. Math. France, Mém. No.* 46 (1976), 143–162. (Ju. L. Daleckiĭ) **57** #3849 46F05 (46G99, 58C99)

Mesures de Radon vectorielles définies sure des espaces complètement réguliers. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 10, Aii, A511–A513. (Z. Lipecki) **53** #3683 46E40 (28A45)

Holomorphie et théorie des distributions en dimension infinie. *Infinite dimensional holomorphy and applications* (*Proc. Internat. Sympos., Univ. Estadual de Campinas, São Paulo*, 1975), *pp.* 277–296. *North-Holland Math. Studies, Vol.* 12, *Notas de Mat., No.* 54, *North-Holland, Amsterdam*, 1977. (S. Dineen) **58** #2852 58C10 (46F99, 46G20)

Produits tensoriels topologiques multiples. *Séminaire Paul Krée, 2e année* (19 *Équations aux dérivées partielles en dimension infinie, Exp. No.* 3, 19 *pp.* Secr *Math., Paris*, 1977. (Editors) **58** #7115 46M05

Symboles et noyaux des opérateurs différentiels. *Séminaire Paul Krée*, 2*e* (1975/76), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 1, *Secrétariat Math., Paris*, 1977. (J. S. Joel) **58** #18619 58G99 (81.58)

Introduction à l'holomorphie en dimension infinie. *Séminaire Paul Krée*, 2*e* (1975/76), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 6, *Secrétariat Math., Paris*, 1977. (Editors) **58** #12362 46G20 (32–02)

Classes d'opérateurs à puissances nucléaires. *Séminaire Paul Krée*, 2*e année* (1975/76), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 4, *Secrétariat Math., Paris*, 1977. (Editors) **58** #12473 47B10

Espaces nucléaires. *Séminaire Paul Krée*, 2*e année* (1975/76), *Équations aux dérivées partielles en dimension infinie, Exp. No.* 5, 13 *pp. Secrétariat Math., Paris*, (Editors) **58** #12264 46A05 (46G99)

Théorie de la mesure et holomorphie en dimension infinie. *Séminaire Pierre* (*Analyse*) (*année* 1975/76), *pp.* 44–70. *Lecture Notes in Math., Vol.* 578, *Springer,* 1977. (Sadayuki Yamamuro) **57** #13477 46G10 (28A32, 58C10)

Calcul symbolique et seconde quantification des fonctions sesquiholomorphes. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 1, A25 (Author's summary) **55** #1967 81.46 (46A99)

(*with* Rączka, Ryszard) Kernels and symbols of operators in quantum field th *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **28** (1978), *no.* 1, 41–73. (J. Eells) **58** #2 46F99 (46G99, 47B99, 81.46)

Chaos de Poisson et absolue continuité des processus ponctuels de Poisson. (E summary) *C. R. Acad. Sci. Paris Sér. A-B* **286** (1978), *no.* 4, A229–A232. (Au summary) **57** #14130 60G55 (60G30)

See also **Séminaire: Paul Krée**, **52** #14889; **Séminaire: Paul Krée**, **56** #2 **Séminaire: Paul Krée**, **57** #15812

Kręglewski, Tomasz (*with* Wierzbicki, Andrzej P.; Janiak, Andrzej) Single-iterative saddle-point algorithms for solving constrained optimization problems via augm Lagrangians. *Optimization techniques* (*Proc. 8th IFIP Conf., Würzburg*, 1977), *P* *pp.* 179 -189. *Lecture Notes in Control and Information Sci., Vol.* 7, *Springer, Berlin*, (D. M. Topkis) **58** #4343 90C30 (65K05)

Krehivs'kiĭ, V. V. Elliptic problems with a Bessel operator. (Russian. English summ *Linear boundary value problems of mathematical physics* (*Russian*), *pp.* 307–322. *I* *Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (H. Marcinkowska) **52** #3 35J40

Kreid, Tadeusz The determination of subalgebras of a given algebra by the meth classification. *Demonstratio Math.* **8** (1975), *no.* 3, 269–279. (Evelyn Nelson) **53** # 08A05

On representations of natural numbers as sums of two squares. *Demonstratio* **9** (1976), *no.* 3, 367–378. (John T. Hardy) **55** #295 10J05

Kreienbring, Horst Konvergenzbeschleunigung bei der numerischen Integration uneigentlicher Integrale. (Russian, English and French summaries) *Wiss. Z.* *Rostock Math.-Naturwiss. Reihe* **20** (1971), *no.* 5-6, 389–392. (H. Brunner) **52** #15 65D30

Beiträge zur automatischen Integration bestimmter Integrale. (Russian, Englis French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **21** (1972), 783–790. (Robert Piessens) **52** #15969 65D30

Kreifelts, Thomas ★Über vollautomatische Erfassung und Abschätzung von Rundungsfehlern in arithmetischen Prozessen. Gesellschaft für Mathematik und Datenverarbeitung, Bonn, Ber. No. 62. *Gesellschaft für Mathematik und Datenverarbeitung, Bonn*, 1972. 98 *pp.* (H. Ratschek) **50** #3555 65G05

Über Pivot-Strategien bei der Lösung linearer Gleichungssysteme. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **10** (1972), 167–175. (J. W. Sch **48** #1444 65F05

Optimale Basiswahl für eine Gleitkomma-Arithmetik. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **11** (1973), *no.* 4, 353–363. (H. H. Gold **53** #7009a (E **53** #7009b) 65G05

Berichtigung zu: "Optimale Basiswahl für eine Gleitkomma-Arithmetik" (Computing (Arch. Elektron. Rechnen) **11** (1973), no. 4, 353–363). *Computing* **14** (*no.* 3, 313–314. (H. H. Goldstine) **53** #7009b 65G05

Kreijger, Rudolf G. (*with* Neudecker, Heinz) Exact linear restrictions on parameters i general linear model with a singular covariance matrix. *J. Amer. Statist. Asso* (1977), *no.* 358, 430–432. (C. W. Chen) **56** #7029 62J05

Kreiling, Daryl (*with* Jenkins, Terry L.) On the construction of the Kurosh lower ra class for associative rings. *J. Austral. Math. Soc.* **13** (1972), 362–364. (W. G. Le **46** #5374 16A21

(*with* Tangeman, Richard L.) Lower radicals in nonassociative rings. *J. Au* *Math. Soc.* **14** (1972), 419–423. (E. M. Patterson) **47** #3470 17A99

Kreimer, H. F. (*with* Heerema, Nickolas) Modularity vs. separability for field extensi *Canad. J. Math.* **27** (1975), *no.* 5, 1176–1182. (William C. Waterhouse) **52** #137 12F15

Galois theory and ideals in commutative rings. *Osaka J. Math.* **12** (1975), 441–448. (M. Orzech) **52** #3129 13B05

Galois theory and the existence of maximal unramified subalgebras. *Proc.* *Math. Soc.* **47** (1975), 45–48. (Tadayuki Matsuoka) **50** #4562 13B05

Automorphisms of commutative rings. *Trans. Amer. Math. Soc.* **203** (1975), 7 (Winfried Müller) **53** #384 13B10

Abelian p-extensions and cohomology. *Brauer groups* (*Proc. Conf., Northwe* *Univ., Evanston, Ill.*, 1975), *pp.* 104–111. *Lecture Notes in Math., Vol.* 549, *Spri* *Berlin*, 1976. (S. Yuan) **55** #3037 18H20 (16A62)

(*with* Cook, P. M., II) Galois theories and normal bases. *J. Algebra* **43** (1976), 115–121. (Andy R. Magid) **54** #12740 13B05

See also **Gilmer, Robert; et al.**, **48** #5755

Kreĭn, M. G. (*with* Melik-Adamjan, F. È.) On the theory of the S-matrices of cano differential equations with an integrable potential. (Russian. Armenian summary) *Nauk Armjan. SSR Dokl.* **46** (1968), *no.* 4, 150–155. **53** #13715 34B25 (47B99

(*with* Adamjan, V. M.; Arov, D. Z.) Infinite Hankel matrices and general

Carathéodory-Fejér and I. Schur problems. (Russian) *Funkcional. Anal. i Priložen.* **2** (1968), *no.* 4, 1–17. (Zbl **179**, 467–468) **58** #30446 47B35

(*with* Dalec'kiĭ, Ju. L.) ★Устойчивость решений дифференциальных уравнений в банаховом пространстве. (Russian) [Stability of solutions of differential equations in Banach space] Nonlinear Analysis and its Applications Series. *Izdat.* "*Nauka*", *Moscow*, 1970. 534 *pp.* (H. Langer) **50** #5125 34G05

(*with* Dalec'kiĭ, Ju. L.) Certain results and problems in the theory of stability of solutions of differential equations in a Banach space. (Russian. English summary) *Proceedings of the Fifth International Confererence on Nonlinear Oscillations* (*Kiev*, 1969), *Vol.* 1: *Analytic methods in the theory of nonlinear oscillations* (*Russian*), *pp.* 332–347. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1970. (P. Talpalaru) **47** #7168 34G05 (47A50, 47H15)

(*with* Brodskiĭ, V. M.; Gohberg, Israel C.) Definition and fundamental properties of the characteristic function of a $\mathfrak{G}$-colligation. (Russian) *Funkcional. Anal. i Priložen.* **4** (1970), *no.* 1, 88–90. (Editors) **58** #7141 47A45

(*with* Melik-Adamjan, F. È.) Certain applications of the theorem on the factorization of a unitary matrix. (Russian) *Funkcional. Anal. i Priložen.* **4** (1970), *no.* 4, 73–75. (S. Kurepa (Zbl **232** #34010)) **48** #4396 34B25 (46N05)

(*with* Gohberg, Israel C.) ★Introduction à la théorie des opérateurs linéaires non auto-adjoints dans un espace hilbertien. Traduit du russe par Guy Roos. Monographies Universitaires de Mathématiques, No. 39. *Dunod*, *Paris*, 1971. xix+372 *pp.* (Editors) **50** #2937 47–XX

(*with* Brodskiĭ, V. M.; Gohberg, Israel C.) The characteristic functions of an invertible operator. (Russian) *Acta Sci. Math.* (*Szeged*) **32** (1971), 141–164. (G. K. Kalisch) **49** #5892 47A45

(*with* Adamjan, V. M.; Arov, D. Z.) Infinite Hankel block matrices and related problems of extension. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **6** (1971), *no.* 2-3, 87–112. (N. K. Nikol'skiĭ) **45** #7506 47A65

(*with* Adamjan, V. M.; Arov, D. Z.) Analytic properties of the Schmidt pairs of a Hankel operator and the generalized Schur-Takagi problem. (Russian) *Mat. Sb.* (*N.S.*) **86(128)** (1971), 34–75. (N. K. Nikol'skiĭ) **45** #7505 47A65

(*with* Berezans'kiĭ, Ju. M.; Kolmogorov, A. N.; Levin, B. Ja.; Levitan, B. M.; Marčenko, V. O.) Naum Il'ič Ahiezer (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 6(162), 257–261 (1 *plate*). (Editors) **52** #5290 01A70

(*with* Langer, Heinz) Über die verallgemeinerten Resolventen und die charakteristische Funktion eines isometrischen Operators im Raume Π_κ. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf.*, *Tihany*, 1970), *pp.* 353–399. *Colloq. Math. Soc. János Bolyai*, 5. *North-Holland*, *Amsterdam*, 1972. (From the authors' introduction) **54** #11103 47B50 (47A45)

(*with* Nudel'man, A. A.) ★Проблема моментов Маркова и экстремальные задачи. (Russian) [The Markov moment problems, and extremal problems] Идеи и проблемы П. Л. Чебышева и А. А. Маркова и их дальнейшее развитие. [The ideas and problems of P. L. Čebyšev and A. A. Markov, and their further development] *Izdat.* "*Nauka*", *Moscow*, 1973. 551 *pp.* (W. W. Breckner) **56** #3588 44A50 (46N05)

(*with* Langer, Heinz) Über die Q-Funktion eines π-hermiteschen Operators im Raume Π_κ. *Acta Sci. Math.* (*Szeged*) **34** (1973), 191–230. (L. de Branges) **47** #7504 47B50 (47A65)

(*with* Nudel'man, P. Ja.) Certain new problems for functions of a Hardy class and for continual families of functions with double orthogonality. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 537–540. (M. Cîrnu) **47** #9156 42A68 (46E30)

A certain conjecture of A. M. Ljapunov. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 3, 45–54. (Chandler Davis) **48** #6535 34B25 (47B10)

(*with* Dalec'kiĭ, Ju. L.) ★Stability of solutions of differential equations in Banach space. Translated from the Russian by S. Smith. Translations of Mathematical Monographs, Vol. 43. *American Mathematical Society*, *Providence*, *R.I.*, 1974. vi+386 *pp.* (Editors) **50** #5126 (EA **52**) 34G05

(*with* Nudel'man, P. Ja.) Approximation of functions in $L_2(\omega_1, \omega_2)$ by transmission functions of linear systems with minimal energy. (Russian) *Problemy Peredači Informacii* **11** (1975), *no.* 2, 37–60. (Authors' summary) **58** #1947 42A08

(*with* Langer, Heinz) The indefinite power moment problem. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 2, 261–264. (Ju. M. Berezanskiĭ) **58** #29885 44A50 (47B15)

(*with* Ovčarenko, I. Ē.) The generalized resolvents and resolvent matrices of positive Hermitian operators. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 5, 1063–1066. (J. Bognár) **55** #3858 47B25

(*with* Ovčarenko, I. Ē.) On the theory of generalized resolvents of nondensely defined Hermitian contractions. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 10, 881–885, 960. (F.-H. Vasilescu) **57** #17359 47B25 (47A20)

Nonlinear integral equations that play a role in the theory of Wiener-Hopf equations. I. (Russian) Nonselfadjoint operators. *Mat. Issled. Vyp.* 42 (1976), 47–90, 230–231. (Author's summary) **58** #29930 45G99 (47B30)

(*with* Nudel'man, A. A.) ★The Markov moment problem and extremal problems. Ideas and problems of P. L. Čebyšev and A. A. Markov and their further development. Translated from the Russian by D. Louvish. Translations of Mathematical Monographs, Vol. 50. *American Mathematical Society*, *Providence*, *R.I.*, 1977. v+417 *pp.* *ISBN* 0-8218-4500-4 (Editors) **56** #16284 44A50

(*with* Spītkovs'kiĭ, I. M.) The factorization of matrix-valued functions on the unit circle. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 2, 287–290. (J. Bognár) **56** #1118 47B37

(*with* Nudel'man, A. A.) An interpolation problem that is related to the Stieltjes moment problem. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 12, 1068–1072, 1149. (C. Tanaka) **57** #3395 30A80

(*with* Kranoselskiĭ, M. A.) Fundamental theorems on the extension of Hermitian operators and certain of their applications to the theory of orthogonal polynomials and the problem of moments. (Hungarian) Translated from the Russian by János Bognár. *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.* **23** (1977), *no.* 1–2, 139–187. (Editors) **57** #10481 47B25 (44A50)

(*with* Gohberg, Israel C.) The basic results on the defect numbers, the root numbers and the indices of linear operators. (Hungarian) Translated from the Russian by Károly Buzási. *Magyar Tud. Akad. Mat. Fiz. Oszt. Közl.* **23** (1977), *no.* 3-4, 387–460. (Editors) **56** #3662 47A65 (47B30)

(*with* Langer, Heinz) Über einige Fortsetzungsprobleme, die eng mit der Theorie hermitescher Operatoren im Raume Π_κ zusammenhängen. I. Einige Funktionenklassen und ihre Darstellungen. *Math. Nachr.* **77** (1977), 187–236. (K. Veslič) **57** #1173 47B15

(*with* Ovčarenko, I. Ē.) Q-functions and *sc*-resolvents of nondensely defined Hermitian contractions. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 5, 1032–1056, 1206. (H. Langer) **58** #2416 47B25 (47A20, 47B15)

A remark on a theorem from V. A. Jakubovič's article: "The frequency theorem for the case in which the state space and the control space are Hilbert spaces, and its application in certain problems in the synthesis of optimal control. II" (Sibirsk. Mat. Ž. **16** (1975), no. 5, 1081–1102). (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 6, 1411–1413, 1438. **58** #33376 93D05 (49A99, 47A10)

(*with* Ahiezer, N. I.; Efimov, N. V.; Lavrent'ev, M. A.; Marčenko, V. O.; Ostrovskiĭ, I. V.; Šabat, B. V.) Boris Jakovlevič Levin (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 5(197), 211–213. (Editors) **58** #10149 01A70

Measurable positive Hermitian functions. (Russian) *Mat. Zametki* **23** (1978), *no.* 1, 79–89. (J. L. B. Cooper) **58** #12181 42A72

See also **American Mathematical Society Translations, Ser. 2, 48** #6969 *and* **Adamjan, V. M.; et al., 58** #10148

Kreĭn, M. N. An algebraic interpretation of the index of cross-sections. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 10 (1973), 126–132. (V. Buhštaber (RŽMat **1974** #8 A464)) **57** #7642 58B15

Kreĭn, S. G. ★Линейные уравнения в банаховом пространстве. (Russian) [Linear equations in Banach space] *Voronež. Gosudarstv. Univ.*, *Voronezh*, 1968. 69 *pp.* (Editors) **51** #11146 47A50

(*with* Trofimov, V. P.) Noetherian operators that depend holomorphically on parameters. (Russian) *A collection of articles on function spaces and operator equations* (*Proc. Sem. Functional Anal.*, *Math. Fac.*, *Voronezh State Univ.*, *Voronezh*, 1970)(*Russian*), *pp.* 63–85. *Voronež. Gos. Univ.*, *Voronezh*, 1970. (Alexander A. Pankov) **55** #3839 47A55 (47B30, 32A10)

(*with* Petunīn, Ju. Ī.; Semenov, E. M.) Imbedding theorems and interpolation of linear operators. (Russian) *Imbedding theorems and their applications* (*Proc. Sympos.*, *Baku*, 1966) (*Russian*), *pp.* 127–131, 245. *Izdat.* "*Nauka*", *Moscow*, 1970. (H. Triebel) **47** #2342 46E35 (46E30, 46M35)

(*with* Osipov, V. B.) Ljapunov functions and Cauchy problems for certain systems of partial differential equations. (Russian) *Differencial'nye Uravnenija* **6** (1970), 2053–2061. (N. B. Krylov) **45** #8978 35B35 (47F05)

(*with* Šihvatov, A. M.) Linear differential equations on a Lie group. (Russian) *Funkcional. Anal. i Priložen.* **4** (1970), *no.* 1, 52–61. (J. S. Joel) **55** #12868 22E30 (35R20)

(*with* Trofimov, V. P.) The multiplicity of a characteristic point of the holomorphic operator-function. (Russian) *Mat. Issled.* **5** (1970), *no.* 4(18), 105–114. (E. Gerlach) **47** #867 47A65 (47B30)

★Linear differential equations in Banach space. Translated from the Russian by J. M. Danskin. Translations of Mathematical Monographs, Vol. 29. *American Mathematical Society*, *Providence*, *R.I.*, 1971. v+390 *pp.* (Editors) **49** #7548 34G05 (47E05, 47F05)

★Линейные уравнения в банаховом пространстве. (Russian) [Linear equations in a Banach space] *Izdat.* "*Nauka*", *Moscow*, 1971. 104 *pp.* (E. Gerlach) **51** #11145 47A50

Interpolation of linear operators, and properties of the solutions of elliptic equations. (Russian. English summary) *Elliptische Differentialgleichungen*, *Band II*, *pp.* 155–166. *Schriftenreihe Inst. Math. Deutsch. Akad. Wissensch. Berlin*, *Reihe A*, *Heft* 8, *Akademie-Verlag*, *Berlin*, 1971. (G. Geymonat) **49** #9385 35B45 (47F05)

(*with* Kučment, P. A.) A certain approach to the interpolation problem for linear operators. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU No.* 3 (1971), 54–60. (J. Bergh) **50** #8106 46M35

(*with* Birman, M. Š.; Vilenkin, N. Ja.; Gorin, E. A.; Zabreĭko, P. P.; Iohvidov, I. S.; Kadec', M. Ĭ.; Kostjučenko, A. G.; Krasnosel'skiĭ, M. A.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Semenov, E. M.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, È. S.) ★Функциональный анализ. (Russian) [Functional analysis] Edited by S. G. Kreĭn. Second edition, revised and augmented. Mathematical Reference Library. *Izdat.* "*Nauka*", *Moscow*, 1972. 544 *pp.* (Editors) **50** #5406 46–02 (47–02)

(*with* Vilenkin, N. Ja.; Gorin, E. A.; Kostjučenko, A. G.; Krasnosel'skiĭ, S. G.; Maslov, V. P.; Mitjagin, B. S.; Petunīn, Ju. Ī.; Rutickiĭ, Ja. B.; Sobolev, V. I.; Stecenko, V. Ja.; Faddeev, L. D.; Citlanadze, È. S.) ★Functional analysis. Translated from the Russian by Richard E. Flaherty. English edition edited by George F. Votruba with the collaboration of Leo F. Boron. *Wolters-Noordhoff Publishing*, *Groningen*, 1972. xv+380 *pp.* (Editors) **52** #11516 46–02 (47–02)

(*with* Savčenko, Ju. B.) Exponential dichotomy for partial differential equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 835–844. (K. R. Schneider) **46** #3941 34G05 (35E99)

(*with* Gudovič, I. S.; Kulikov, I. M.) Boundary value problems for the Maxwell equations. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 321–324. (E. Sánchez Palencia) **47** #5440 35J55 (78.35)

(*with* Gudovič, I. S.) Elliptic boundary value problems for the system $(\mathcal{A})u=f$. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 4, 75–76. (P. Szeptycki) **47** #7213 35J55 (35N15)

(*with* Gudovič, I. S.) Boundary value problems for operators of exterior differentiation. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp. 5 Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 35–45. (G. I. Lapter (RŽMat **1973** #3 B704)) **56** #6690 58A10 (35J55)

(*with* Semenov, E. M.) A certain property of equimeasurable functions. (Russian) *Voronez. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp. 5 Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 70–74. (H. Kogan (RŽMat **1973** #4B61)) **56** #5823 28A20

(*with* Jackin, N. I.) Differential form equations. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp. 5 Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 75–79. (Authors' introduction) **56** #6691 58A10 (32L10)

(*with* L'vin, S. Ja.) A general initial problem for a differential equation in a Banach space. (Russian) *Dokl. Akad. Nauk SSSR* **211** (1973), 530–533. (A. Szép) **49** #7549 34G05

(*with* Grabovskaja, R. Ja.) A certain representation of the algebra of differential operators, and the differential equations connected with it. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 280–283. (S. G. Gindikin) **49** #7633 35R99 (47D10, 58G99)

(*with* Semenov, E. M.) Interpolation of operators of weakened type. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 2, 89–90. (S. D. Riemenschneider) **47** #3978 46E35 (46E30, 46M35, 47B99)

(*with* Grabovskaja, R. Ja.) The formula for the permutation of functions of operators that represent a Lie algebra. (Russian) *Funkcional. Anal. i Priložen.* **7** (1973), *no.* 3, 81. (D. Miličić) **49** #1180 47A60 (17B15)

(*with* Šablickaja, L. N.) Necessary conditions for the stability of difference schemes, and the eigenvalues of difference operators. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 647–657, 812. (I. M. Sheffer) **48** #10137 65M10

(*with* Gudovič, I. S.) Boundary value problems for overdetermined systems of partial differential equations. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija Vyp.* 9 (1974), 1–145. (P. Szeptycki (Zbl **344** #35066)) **58** #1720 35N05 (35E99, 58G05)

(*with* Efimov, N. V.; Kantorovič, L. V.; Iohvidov, I. S.; Krasnosel'skiĭ, M. A.; Ljusternik, L. A.) Vladimir Ivanovič Sobolev (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 1(175), 247–250. (1 *plate*) (Editors) **52** #7798 01A70

(*with* Kotko, L. A.) The completeness of a system of eigen- and associated functions of boundary value problems with a parameter in the boundary conditions. (Russian) *Collection of articles on applications of functional analysis* (*Russian*), *pp.* 71–89. *Voronež. Tehnolog. Inst., Voronezh*, 1975. (Ja. A. Roĭtberg) **58** #1730 35P10

(*with* Zaĭdenberg, M. G.; Kučment, P. A.; Pankov, A. A.) Banach bundles and linear operators. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 5(185), 101–157. (Jürgen Leiterer) **54** #3741 58B99 (47A55, 32L99)

(*with* Semenov, E. M.) Some interpolation theorems of the theory of linear operators and their applications. (Russian) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata*, 1973) (*Russian*), *pp.* 64–68, 188. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (Jöran Bergh) **58** #2213 46E30 (46E35, 46M35)

(*with* Kotko, L. A.) The completeness of the system of eigen- and associated functions of boundary value problems with a parameter in the boundary conditions. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 2, 288–290. (H. Triebel) **53** #6117 35P10

(*with* Grabovskaja, R. Ja.) Second order differential equations with operators generating a Lie algebra representation. *Math. Nachr.* **75** (1976), 9–29. (V. Iftimie (Zbl **362** #35013)) **58** #1773 35R20 (47A50, 47D05)

(*with* Dmitriev, V. I.; Ovčinnikov, V. I.) Fundamentals of the theory of interpolation of linear operators. (Russian) *Geometry of linear spaces and operator theory* (*Russian*), *pp.* 31–74. *Jaroslav. Gos. Univ., Yaroslavl*, 1977. (E. Gerlach) **58** #30336 46M35 (46Exx)

Interpolation of linear operators in the spaces of smooth functions. (Russian) *Operator theory in functional spaces* (*Proc. School, Novosibirsk*, 1975) (*Russian*), *pp.* 188–205, 342. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1977. (See RŽMat **1978** #8 B562; MR **58** #2114) 46F99

(*with* Ivanov, L. A.; Kotko, L. A.) Boundary value problems in variable domains. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 19 (1977), 161 *pp.* (Ja. A. Roĭtberg) **58** #17507 35J65 (35G30, 46E35, 58G99)

See also **Collection: Function spaces and operator equations**, **52** #15044; **Collection: Applications of functional analysis**, **55** #3723 *and* **Berezans'kiĭ, Ju. M.; et al.**, **57** #12102

Kreindler, E. *See* **Kreindler, Eliezer**

wexler-Kreindler, Eléna *See* **Wexler-Kreindler, Eléna**

Kreindler, Eliezer (*with* Jameson, Antony) Conditions for nonnegativeness of partitioned matrices. *IEEE Trans. Automatic Control* **AC-17** (1972), 147–148. (A. R. Amir-Moéz) **49** #2803 15A48

(*with* Jameson, Antony) Optimality of linear control systems. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 3, 349–351. (Authors' summary) **55** #7502 93C05

On performance sensitivity of optimal control systems. *Internat. J. Control* (1) **15** (1972), 481–486. (Author's summary) **47** #1501 93B35

(*with* Jameson, Antony) On criteria for closed-loop sensitivity reduction. *J. Math. Anal. Appl.* **37** (1972), 457–466. (R. Gabasov (RŽMat **1972** #8 B539)) **52** #10133 93B35

(*with* Jameson, Antony) On sensitivity reduction in nonlinear feedback systems. *Sensitivity, adaptivity and optimality* (*Proc. Third IFAC Sympos., Ischia*, 1973), *pp.* 131–136. *Instrument Soc. Amer., Pittsburgh, Pa.*, 1973. (B. J. Leon) **50** #12359 93B35

(*with* Jameson, Antony) Inverse problem of linear optimal control. *SIAM J. Control* **11** (1973), 1–19. (Jan C. Willems) **47** #9387 49B10

(*with* Rothschild, David) Model-following in linear-quadratic optimization. *AIAA J.* **14** (1976), *no.* 7, 835–842. (Authors' summary) **56** #17995 93C15

See also **System sensitivity analysis**, **52** #12863

Kreines, Klaus *See* **Smirnov, V. I.**, **50** #4842

Kreĭnin, A. Ja. Some estimates of the mean characteristics of non-Poisson queueing systems. (Russian) *Moskov. Inst. Inž. Železnodorož. Transporta Trudy Vyp.* 510 *Prikl. Mat. i Zadači Zeleznodorož. Transporta* (1976), 106–110, 135. (From the author's introduction) **56** #16834 60K25

(*with* Dimitrov, A. A.; Kagan, B. M.) Analytic models of real time computational systems with background tasks. (Russian) *Programmirovanie* **1977**, *no.* 6, 60–65, 80. (T. Rus) **58** #8434 68A05

Kreĭnin, Ja. L. Sets that are diagonally different from all *S*-sets. (Russian) *Dokl.*
Nauk SSSR **213** (1973), 30–33. (D. V. Čudnovs'kiĭ) **49** #2392 04A05

The basis and classification of recursive functions. (Russian) *Current questi*
mathematical logic and set theory (*Russian*), *pp.* 164–170. *Moskov. Gos. Ped. In.*
Lenina, Moscow, 1975. (Igor Lavrov) **57** #5710 02F20

Sets of cardinality effectively higher than a given cardinal number. (Ru
Current questions in mathematical logic and set theory (*Russian*), *pp.* 228–240. *M*
Gos. Ped. Inst. im. Lenina, Moscow, 1975. (W. Marek) **56** #11801 04A15

Kreĭnin, M. I. (*with* Zabotin, Ja. I.) On the convergence of methods for findin
minimax. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 10(185),
(Ulrich Eckhardt) **58** #8260 65K05 (90C30)

Kreĭnovič, V. Ja. On the problem of the metrization of spaces of kinematic type. (Ru
Dokl. Akad. Nauk SSSR **218** (1974), 1272–1275. (Z. Nádeník) **50** #12116 83.

What does the law of the excluded middle follow from? (Russian. English sum
Investigations in constructive mathematics and mathematical logic, VI (dedicated
A. Markov on the occasion of his 70th birthday). *Zap. Naučn. Sem. Leningrad.*
Mat. Inst. Steklov. (*LOMI*) **40** (1974), 30–37, 156. (A. Tauts) **52** #5369 02C1

Constructivization of the concepts of ε-entropy and ε-capacity. (Russian. E
summary) Investigations in constructive mathematics and mathematical logi
(dedicated to A. A. Markov on the occasion of his 70th birthday). *Zap. Naučn.*
Leningrad. Otdel. Mat. Inst. Steklov. (*LOMI*) **40** (1974), 38–44, 156. **57** #78
(02E10, 41A65)

On the inverse of A. F. Timan for the ϵ-entropy of compacta. (Russian)
Mat. Nauk **30** (1975), *no.* 1(181), 241–242. (S. D. Riemenschneider) **53** #6169 41A45

(*with* Belov, S. N.; Gromov, N. A.; Pimenov, R. I.) ★Кривые в кинемати
смежные вопросы физики и космологии. (Russian) [Curves in kinematics and r
questions of physics and cosmology] With an English summary. A paper presente
session of the Presidium of the Komi Branch of the Academy of Sciences of the U
Серия Препринтов "Научные Доклады", Вып. 22. [Preprint Series "Scientific Pa
No. 22] *Akad. Nauk SSSR Komi Filial, Syktyvkar*, 1976. 16 *pp.* (Editors) **58** #14
83.00

(*with* Finkel'šteĭn, A. M.) Relativistic theory of the moon's motion. *Celestial*
13 (1976), *no.* 2, 151–176. (George Contopoulos) **53** #10161 85.34

Derivation of the Schrödinger equation from the conditions for scale invari
(Russian. English summary) *Teoret. Mat. Fiz.* **26** (1976), *no.* 3, 414–418. (Au
summary) **56** #7566 81.35

On the problem of reconstructing the ψ-function in nonrelativistic quantum mechanics. (Russian. English summary) *Teoret. Mat. Fiz.* **28** (1976), *no.* 1, 5
(Author's summary) **57** #2256 81.30

Kreĭs, V. (*with* Mihaĭlov, L. G.) A certain overdetermined system of partial differe
equations. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no.* 6, 1286–1289. (Au
review (RŽMat **1976** #11 B348)) **58** #6733 35N15 (32A30)

Kreisel, Eckhard (*with* v. Borzeszkowski, Horst-Heino; Kasper, Uwe; Liebscher, Dierck-Ekkehard; Treder, Hans-Jürgen) ★Gravitationstheorie und Äquivalenzpri
Lorentz-Gruppe, Einstein-Gruppe und Raumstruktur. Herausgegeben von H.-J. Tr
Mathematische Lehrbücher und Monographien. II. Abteilung: Mathematische Monographien, Band XXVI. *Akademie-Verlag, Berlin*, 1971. viii + 122 *pp.* (Ed
56 #14505 83.53

Erhaltungssätze und Identitäten in der Tetraden-Theorie. *Monatsb. Deutsch.*
Wiss. Berlin **13** (1971), 302–310. (C. W. Kilmister) **46** #6779 83.53

Bemerkungen zur Teilchenerzeugung im expandierenden Universum. (English summary) *Ann. Physik* (7) **33** (1976), *no.* 1, 36–44. (Edward N. Glass) **54** #45
83.47

(*with* Treder, Hans-Jürgen) The conservation of source strength in linear
theories and the superpotentials. *Internat. J. Theoret. Phys.* **15** (1976), *no.* 1, 67–7
Malin) **54** #2115 83.53

Kreisel, Georg Observations on popular discussions of foundations. *Axiomatic set th*
(*Proc. Sympos. Pure Math., Vol. XIII, Part I, Univ. California, Los Angeles, Calif.*, 1
pp. 189–198. *Amer. Math. Soc., Providence, R.I.*, 1971. (James D. Halpern) **45** #
(EA **46**) 02K15 (04–02)

Some reasons for generalizing recursion theory. *Logic Colloquium* '69 (*Proc. Summer School and Colloq., Manchester*, 1969), *pp.* 139–198. *North-Holland, Amster*
1971. (S. Feferman) **48** #46 02–02 (02Fxx)

A survey of proof theory. II. *Proc. Second Scandinavian Logic Sympos.* (*Oslo*, 1
pp. 109–170. *Studies in Logic and the Foundations of Mathematics, Vol.* 63, *North-Holland, Amsterdam*, 1971. (Horst Luckhardt) **54** #12493 02D99 (02D05

(*with* Krivine, Jean-Louis) ★Modelltheorie. Eine Einführung in die mathemati
Logik und Grundlagentheorie. Aus dem Französischen übersetzt von J. Jung. Hochschultext. *Springer-Verlag, Berlin-New York*, 1972. xv + 276 *pp.* (Editors) **50** #4231 02–02 (02Bxx, 02Hxx)

Which number theoretic problems can be solved in recursive progressions
Π^1_1-paths through *O*? *J. Symbolic Logic* **37** (1972), 311–334. (B. van Rootsel
51 #5273 02E15 (02A05, 02F43, 02G05, 02D99)

Perspectives in the philosophy of pure mathematics. *Logic, methodology and philosophy of science, IV* (*Proc. Fourth Internat. Congress, Bucharest*, 1971), *pp.* 255–
Studies in Logic and Foundations of Math., Vol. 74, *North-Holland, Amsterdam*, 1
(David W. Miller) **56** #11733 02A05 (02D99)

(*with* Takeuti, Gaisi) Formally self-referential propositions for cut free class
analysis and related systems. *Dissertationes Math.* (*Rozprawy Mat.*) **118** (1974), 55
(Horst Luckhardt) **52** #5374 02D99

Observations on a recent generalization of completeness theorems due to Schü
⊧*ISILC Proof Theory Symposion* (*Proc. Internat. Summer Inst. and Logic Colloq.*, *K*
1974), *pp.* 164–181. *Lecture Notes in Math., Vol.* 500, *Springer, Berlin*, 1975.
Schwichtenberg) **54** #73 02G20 (02D99)

(*with* Minc, G. E.; Simpson, Stephen G.) The use of abstract language in elementary metamathematics: some pedagogic examples. *Logic Colloquium* (*Bos*
Mass., 1972–1973), *pp.* 38–131. *Lecture Notes in Math., Vol.* 453, *Springer, Berlin*, 1
(Editors) **58** #16190 02D99

Was hat die Logik in den letzten 25 Jahren für die Mathematik geleistet? *Concep*

9 (1975), *no.* 26, 40–45. (Editors) **58** #21356 02-02 (01A65)

What have we learnt from Hilbert's second problem? *Mathematical developments arising from Hilbert problems* (*Proc. Sympos. Pure Math., Northern Illinois Univ., De Kalb, Ill.*, 1974), *pp.* 93–130. *Amer. Math. Soc., Providence, R. I.*, 1976. (H. Schwichtenberg) **55** #7745 02D99 (02G10)

Wie die Beweistheorie zu ihren Ordinalzahlen kam und kommt. *Jber. Deutsch. Math.-Verein.* **78** (1976/77), *no.* 4, 177–223. (H. Schwichtenberg) **56** #11765 02D05

On the kind of data needed for a theory of proofs. *Logic Colloquium* 76 (*Oxford*, 1976), *pp.* 111–128. *Studies in Logic and Found. Math., Vol.* 87, *North-Holland, Amsterdam*, 1977. (R. Parikh) **58** #21397 02A05 (02D99)

From foundations to science: justifying and unwinding proofs. Set theory, foundations of mathematics (Proc. Sympos., Belgrade, 1977). *Zb. Rad. Mat. Inst. Beograd* (*N.S.*) **2(10)** (1977), 63–72. (Author's summary) **58** #16100 02A05

See also **Mathematiker über die Mathematik**, **51** #2831

Kreisinger, Vladimír On some problems concerning the application of certain iteration methods to the solution of stationary nonlinear magnetic fields. *Acta Tech. ČSAV* **21** (1976), *no.* 2, 197–218. (J. S. Colonias) **54** #11991 78.65

Kreisler, Dale W. (*with* Jerri, Abdul J.) Sampling expansions with derivatives for finite Hankel and other transforms. *SIAM J. Math. Anal.* **6** (1975), 262–267. (V. M. Bhise) **51** #1302 44A15

Kreiss, Heinz-Otto Initial boundary value problems for hyperbolic systems. *Comm. Pure Appl. Math.* **23** (1970), 277–298. (Ja. Žitomirskiĭ (RŽMat **1971** #5B438)) **55** #10862 35L50

Difference approximations for initial boundary-value problems. A discussion on numerical analysis of partial differential equations (1970). *Proc. Roy. Soc. London Ser. A* **323** (1971), 255–261. (Author's summary) **58** #19187 65M10

Centered difference approximation for singular systems of ordinary differential equations. *Symposia Mathematica, Vol. X* (*Convegno di Analisi Numerica, INDAM, Rome*, 1972), 453–465. *Academic Press, London*, 1972. (J. C. Butcher) **52** #2225 65L10

Difference approximations for boundary and eigenvalue problems for ordinary differential equations. *Math. Comp.* **26** (1972), 605–624. (Ian Gladwell) **51** #9496 65L10

(*with* Gustafsson, Bertil; Sundström, Arne) Stability theory of difference approximations for mixed initial boundary value problems. II. *Math. Comp.* **26** (1972), 649–686. (A. O. Garder, Jr.) **49** #6634 (E **51** #12134) 65M10

(*with* Oliger, Joseph) Comparison of accurate methods for the integration of hyperbolic equations. (Russian summary) *Tellus* **24** (1972), 199–215. (J. Legras) **47** #7926 65M99

Difference approximations of singular perturbations of systems of ordinary differential equations. *Topics in numerical analysis* (*Proc. Roy. Irish Acad. Conf., Univ. Coll., Dublin*, 1972), *pp.* 185–189. *Academic Press, London*, 1973. (J. Švejda) **49** #8372 65L10

(*with* Browning, Gerald; Oliger, Joseph) Mesh refinement. *Math. Comp.* **27** (1973), 29–39. (I. O. Bohachevsky) **48** #12861 65M10

Boundary conditions for hyperbolic differential equations. *Conference on the Numerical Solution of Differential Equations* (*Univ. Dundee, Dundee*, 1973), *pp.* 64–74. *Lecture Notes in Math., Vol.* 363, *Springer, Berlin*, 1974. (Zbl **299** #65060) **57** #14521 65N99

Numerical solution of singular perturbation problems. *Stiff differential systems* (*Proc. Internat. Sympos., Wildbad, Germany*, 1973), *pp.* 165–170. *IBM Res. Sympos. Ser., Plenum, New York*, 1974. (Janusz Mika) **54** #4115 65L10

(*with* Abrahamsson, Leif R.; Keller, Herbert Bishop) Difference approximations for singular perturbations of systems of ordinary differential equations. *Numer. Math.* **22** (1974), 367–391. (A. R. Mitchell) **52** #9618 65L10

(*with* Parter, Seymour V.) Remarks on singular perturbations with turning points. *SIAM J. Math. Anal.* **5** (1974), 230–251. (Claude Demuth) **50** #710 34E20

Difference approximations for singular perturbation problems. *Numerical solutions of boundary value problems for ordinary differential equations* (*Proc. Sympos., Univ. Maryland, Baltimore, Md.*, 1974), *pp.* 199–211. *Academic Press, New York*, 1975. (A. R. Mitchell) **53** #9661 65L10

Initial boundary value problems for hyperbolic partial differential equations. *Proceedings of the Fourth International Conference on Numerical Methods in Fluid Dynamics* (*Univ. Colorado, Boulder, Colo.*, 1974), *pp.* 22–33. *Lecture Notes in Phys., Vol.* 35, *Springer, Berlin*, 1975. (A. R. Gourlay) **57** #1912 65M05 (65N05)

Initial boundary value problems for hyperbolic partial differential equations. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B.C.*, 1974), *Vol.* 1, *pp.* 127–137. *Canad. Math. Congress, Montreal, Que.*, 1975. (J. Jaenicke (Zbl **337** #35048)) **58** #29285 35Lxx (65P05)

Numerical methods for singular perturbation problems. *Asymptotic methods and singular perturbations* (*Proc. SIAM-AMS Sympos. Appl. Math., New York*, 1976), *pp.* 73–86. *SIAM-AMS Proceedings, Vol. X, Amer. Math. Soc., Providence, R.I.*, 1976. (From the introduction) **58** #24973 65L10

(*with* Nichols, Nancy K.) Numerical methods for singular perturbation problems. *Computing methods in applied sciences* (*Second Internat. Sympos., Versailles*, 1975), *pp.* 544–558. *Lecture Notes in Phys., Vol.* 58, *Springer, Berlin*, 1976. (H. Brunner) **56** #4182 65L10

See also **Mathematical aspects of finite elements in partial differential equations**, **50** #1525

Kreisselmeier, Gerhard A solution of the bilinear matrix equation $\mathbf{AY}+\mathbf{YB}=-\mathbf{Q}$. *SIAM J. Appl. Math.* **23** (1972), 334–338. (A. S. Householder) **47** #5025 15A24 (65F99)

On the determination of the Jordan form of a matrix. *IEEE Trans. Automatic Control* **AC-18** (1973), 686–687. (Alan L. Andrew) **53** #4511 65F30 (15A21)

(*with* Suschowk, Dietrich) Ein Algorithmus zur zyklisch invarianten Zerlegung eines endlich-dimensionalen Vektorraums bezüglich einer linearen Selbstabbildung. (English summary) *Numer. Math.* **22** (1973/74), 69–74. (H. Ratschek) **49** #2777 15-04

Stabilization of linear systems by constant output feedback using the Riccati equation. *IEEE Trans. Automatic Control* **AC-20** (1975), 556–557. (Author's summary) **51** #12387 93D15

(*with* Hirzinger, Gerd) On optimal approximation of high-order linear systems by low-order models. *Internat. J. Control* **22** (1975), *no.* 3, 399–408. (Authors' summary) **58** #9459 93A15 (93C05)

Adaptive observers with exponential rate of convergence. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 1, 2–8. (Author's summary) **56** #2500 93B05

Kreith, Kurt (*with* Travis, Curtis C.) On a comparison theorem for strongly elliptic systems. *J. Differential Equations* **10** (1971), 173–178. (R. N. Pederson) **45** #3910 35B05

Oscillation properties of nonselfadjoint differential equations of even order. *Conference on the Theory of Ordinary and Partial Differential Equations* (*Univ. Dundee, Dundee*, 1972), *pp.* 294–297. *Lecture Notes in Math., Vol.* 280, *Springer, Berlin*, 1972. (W. Allegretto) **54** #10751 34C10

A Picone identity for fourth order differential equations. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **52** (1972), 455–456. (G. A. Bogar) **48** #8961 34C10

(*with* Travis, Curtis C.) Oscillation criteria for selfadjoint elliptic equations. *Pacific J. Math.* **41** (1972), 743–753. (W. Allegretto) **47** #7189 35B05

A Prüfer transformation for nonselfadjoint systems. *Proc. Amer. Math. Soc.* **31** (1972), 147–151. (C. A. Swanson) **45** #2295 34G05 (46N05)

Comparison theorems for nonselfadjoint differential equations based on integral inequalities. *Proc. Amer. Math. Soc.* **34** (1972), 105–109. (T. L. Sherman) **46** #3902 34C10

Oscillation criteria for a class of fourth order differential equations. *SIAM J. Appl. Math.* **22** (1972), 135–137. (W. J. Coles) **47** #8975 34C10

A comparison theorem for focal points of nonselfadjoint differential equations of even order. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 179–186. (W. T. Reid) **50** #7670 34C10

A dynamical approach to fourth order oscillations. *Ordinary and partial differential equations* (*Proc. Conf., Univ. Dundee, Dundee*, 1974), *pp.* 188–192. *Lecture Notes in Math., Vol.* 415, *Springer, Berlin*, 1974. (I. Kiguradze) **54** #13214 34C10

Nonselfadjoint fourth order differential equations with conjugate points. *Bull. Amer. Math. Soc.* **80** (1974), 1190–1192. (G. J. Etgen) **50** #13691 34B05

A non-trigonometric Prüfer transformation. *J. London Math. Soc.* (2) **7** (1974), 728–732. (W. T. Reid) **49** #769 34G05 (34A25)

Comparison theorems for special classes of nonselfadjoint elliptic equations. *Proc. Amer. Math. Soc.* **42** (1974), 186–191. (W. Allegretto) **48** #9060 35B05

A nonselfadjoint dynamical system. *Proc. Edinburgh Math. Soc.* (2) **19** (1974/75), 77–87. (W. T. Reid) **49** #7513 34C10

(*with* Edelson, Allan L.) Upper bounds for conjugate points of nonselfadjoint fourth order differential equations. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 5, 686–695. (A. de Castro Brzezicki) **55** #767 34C10

Analogy in solving Poisson's equation. *Canad. Math. Bull.* **18** (1975), *no.* 4, 517–521. (J. D. Kečkić) **55** #817 35A22 (35J05)

Rotation properties of a class of second order differential systems. *J. Differential Equations* **17** (1975), 395–405. (B. S. Lalli) **51** #8549 34C10

A dynamical criterion for conjugate points. *Pacific J. Math.* **58** (1975), *no.* 1, 123–132. (Jerry Ridenhour) **52** #888 34C10

A class of focal points for non-self-adjoint fourth-order differential equations. *Proc. Roy. Soc. Edinburgh Sect. A* **72**, *no.* 3, 207–214 (1975). (T. L. Sherman) **54** #3069 34B05

Rotation properties of adjoint pairs of differential systems. *Proc. Roy. Soc. Edinburgh Sect. A* **75** (1975/76), *no.* 2, 149–155. (D. Hinton) **56** #6015 34C10

Picone's identity and generalizations. (Italian summary) Collection of articles dedicated to Mauro Picone on the occasion of his ninetieth birthday. *Rend. Mat.* (6) **8** (1975), 251–262. (C. A. Swanson) **51** #10761 34C10 (35B05)

An oscillation theory for fourth order differential equations. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 301–308. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #28844 34C10

Comparison theorems for a class of selfadjoint fourth order differential equations. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 67–73. (Stanley B. Eliason) **58** #11643 34C10

(*with* Edelson, Allan L.) On systems-disconjugacy and a question of Barrett. *Proc. Roy. Soc. Edinburgh Sect. A* **78** (1977/78), *no.* 3-4, 219–224. (Allan C. Peterson) **57** #12967 34B05 (34C10)

(*with* Edelson, Allan L.) Variational systems disconjugacy criteria for nonselfadjoint differential equations. *Quaestiones Math.* **2** (1977/78), *no.* 4, 453–460. (Nicolae Luca) **58** #6493 34C10

Krejn, M. G. *See* **Kreĭn, M. G.**

Krejs, Franz (*with* Li, Ching Teh; Klein, Abraham) Matrix mechanics as a practical tool in quantum theory: the anharmonic oscillator. *Phys. Rev. D* (3) **12** (1975), *no.* 8, 2311–2324. (K. Kumar) **58** #20015 81.47

Krejzlík, Jaroslav Deformations of plane pseudocongruences with projective connection. *Czechoslovak Math. J.* **21(96)** (1971), 213–233. (A. Švec) **46** #8067 53A20

Kreknin, A. A. A differential pursuit game with incomplete information. (Russian) Differential games and control problems. *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR No.* 15 (1975), 113–124, 266. (See RŽMat **1976** #11 B659) 90D25

Kreknina, M. N. *See* **Bibliography: Mitropol's'kiĭ, Ju. O.**, **58** #16050

Krekó, Béla ★Optimierung—nichtlineare Modelle. *VEB Deutscher Verlag der Wissenschaften, Berlin*; *Akadémiai Kiadó, Budapest*, 1974. 508 *pp.* (Siegfried Schaible) **55** #11921 90-01 (90C30)

Krelle, Wilhelm (*with* Gabisch, Günter) ★Wachstumstheorie. Unter Mitarbeit von J. Burgermeister. Lecture Notes in Economics and Mathematical Systems, Vol. 62. *Springer-Verlag, Berlin-New York*, 1972. vii + 223 *pp.* (G. Tintner) **48** #3464 90A15

Disaggregated production functions. *Production theory* (*Proc. Internat. Sem., Univ. Karlsruhe, Karlsruhe*, 1973), *pp.* 121–143. *Lecture Notes in Econom. and Math. Systems, Vol.* 99, *Springer, Berlin*, 1974. (William A. Brock) **53** #2306 90A15 (90B30)

Dynamic utility functions. *Mathematical economics and game theory*, *pp.* 226–233. *Lecture Notes in Econ. and Math. Systems, Vol.* 141, *Springer, Berlin*, 1977. (Norbert Schmitz) **55** #11952 90A10 (92A20)

See also **Operations Research-Verfahren, 50** #9307 *and* **Quantitative Wirtschaftsforschung, 58** #32843

Kremen′kov, O. V. (*with* Polozov, M. N.) Constant tensor fields in general relativity theory. I. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 6, 70–77. (W. M. Tulczyjew) **48** #13158 83.53

(*with* Polozov, M. N.) Constant tensor fields in general relativity theory. II. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 1, 73–80, 139. (W. M. Tulczyjew) **51** #12277 83.53

(*with* Polozov, M. N.) Constant tensor fields in general relativity theory. III. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 6, 81–85, 143. (W. M. Tulczyjew) **52** #16505 83.53

Krementulo, Ju. V. (*with* Jakovlev, V. P.) Application of a method of regularization in an identification problem. (Russian) *Cybernetics and computer technology*, *No.* 6: *Discrete control systems* (*Russian*), *pp.* 110–114. *Naukova Dumka*, *Kiev*, 1970. (Authors' summary) **45** #4892 94A15 (93B30)

(*with* Lazarjan, V. A.; Jakovlev, V. P.; Red′ko, S. F.; Uškalov, V. F.) Estimation of errors in the identification of linear mechanical systems by algebraic means. (Russian) *Prikl. Meh.* **10** (1974), *no.* 9, 78–84, 142. (Authors' summary) **54** #9801 93E10

See also **Cybernetics and computer technology, 48** #1733 *and* **Cybernetics and computer technology, 50** #12334

Krementulo, V. V. ★Стабилизация стационарных движений твердого тела при помощи вращающихся масс. (Russian) [Stabilization of stationary motions of a rigid body by means of rotating masses] *Izdat. "Nauka"*, *Moscow*, 1977. 263 *pp.* (V. Komkov) **56** #10228 70.00

Kremer, Manfred (*with* Gerlach, Echter) Singuläre Integraloperatoren in L^p-Räumen. *Math. Ann.* **204** (1973), 285–304. (Richard Bagby) **51** #6499 47G05

(*with* Gerlach, Echter) Singuläre Integraloperatoren in L^p-Räumen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Ljubljana, 1972). *Z. Angew. Math. Mech.* **53** (1973), T158–T159. (Eberhard Gerlach) **50** #5552 47G05

Ein Existenzbeweis für eine verallgemeinerte Wärmeleitungsgleichung. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, *T*211–*T*212. (J. Meixner) **54** #9369 80.45

Über ein Anfangsrandwertproblem aus der Theorie der Wärmeleitung für Medien mit Gedächtnis. *Methoden und Verfahren der mathematischen Physik*, *Band* 16, *pp.* 69–80. *Bibliographisches Inst.*, *Mannheim*, 1976. (K. Hawlitschek) **53** #3499 35K05 (45K05)

Über eine Algebra "nicht normaler" Wiener-Hopf-Operatoren. I. *Math. Ann.* **220** (1976), *no.* 1, 77–86. (R. G. Douglas) **52** #15080 47B35

Über eine Algebra "nicht normaler" Wiener-Hopf-Operatoren. II. *Math. Ann.* **220** (1976), *no.* 1, 87–95. (R. G. Douglas) **52** #15081 47B35

Kremer, S. (*with* König, E.) Symmetric form of coupling coefficients for single and double point groups and the application of time-reversal symmetry. *Z. Naturforsch.* **29a** (1974), 1179–1187. (Carl Wulfman) **54** #12010 81.22

Kremjanskiĭ, V. I. *See* **Logic, methodology and philosophy of science, 55** #7657

Kremlev, V. Ja. (*with* Sultangazin, U. M.; Eržanov, R. Ž.; Šeryšev, V. P.) Difference methods for the solution of certain two-dimensional problems of functionally integrated structures. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1976**, *no.* 5, 42–47, 88. (Authors' summary) **56** #4439 78.65

Kremp, D. (*with* Kraeft, W. D.; Ebeling, Werner) Quantum-statistical second virial coefficient and scattering theory. *Physica* **51** (1971), 146–164. (F. C. Auluck) **47** #2953 82.47

Krempa, Jan On radical properties of polynomial rings. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 545–548. (S. Williamson) **50** #9938 16A21

(*with* Jaegermann, Michał) Rings in which ideals are annihilators. *Fund. Math.* **76** (1972), *no.* 2, 95–107. (G. Krause) **46** #5381 16A34

Logical connections between some open problems concerning nil rings. *Fund. Math.* **76** (1972), *no.* 2, 121–130. (S. Williamson) **46** #5377 16A22

(*with* Stankiewicz, E.) Radicals of metaideals. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 359–365. (Anthony E. Hoffman) **49** #5070 16A21

(*with* Terlikowska-Osłowska, Barbara) Theory of radicals in self-dual categories. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 367–373. (R. Wiegandt) **49** #10756 18E40 (16A21)

On the Jacobson radical of polynomial rings. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 887-890. (Terry L. Jenkins) **52** #13915 16A21

Radicals of semi-group rings. *Fund. Math.* **85** (1974), *no.* 1, 57–71. (Uno Kaljulaid) **50** #13345 20M25

Lower radical properties for alternative rings. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 2, 139–142. (D. Rodabaugh) **51** #10421 17D05

(*with* Bulaszewska, A.) On epimorphisms in the category of all associative rings. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no.* 11, 1153–1159. (L. Š. Ioffe) **53** #536 16A62

(*with* Mażbic-Kulma, Barbara) ★Elementy logiki teorii mnogości i algebry. (Polish) [Elements of logic, set theory and algebra] *Wydawnictwa Naukowo-Techniczne*, *Warsaw*, 1977. 170 *pp.* (Editors) **58** #4968 02-01 (04-01)

On semi-group rings. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 3, 225–231. (E. Enochs) **57** #501 20M25

(*with* Niewieczerzał, Dorota) Rings in which annihilators are ideals and their application to semi-group rings. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 9, 851–856. (Authors' summary) **58** #22181 16A70 (16A34)

Krempl, E. (*with* Argyris, John H.; Willam, K. J.) Constitutive models and finite element solution of inelastic behaviour. *Formulations and computational algorithms in finite element analysis* (*U.S.-Germany Sympos.*, *Mass. Inst. Tech.*, *Cambridge*, *Mass.*, 1976), *pp.* 353–392. *M.I.T. Press*, *Cambridge*, *Mass.*, 1977. (F. V. Pohle) **57** #14810 73.65

Kren, Claudia A medieval objection to "Ptolemy". *British J. Hist. Sci.* **4** (1969), *no.* 1 4, 378–393. (See Zbl **188**, 305) 01A15 (01A35)

Krendelev, S. F. Self-similar pasting together of a boundary layer with an external (Russian) *Dinamika Splošn. Sredy Vyp.* 10 (1972), 208–211, 249. (V. Komkov) **56** #10373 76.35

Krener, Arthur J. On the equivalence of control systems and linearization of non systems. *SIAM J. Control* **11** (1973), 670–676. (J. M. Skowronski) **49** #8707 9

A generalization of Chow's theorem and the bang-bang theorem to non- control problems. *SIAM J. Control* **12** (1974), 43–52. (Roger Brockett) **52** #40 49E15 (58E15)

A decomposition theory for differentiable systems. *Proceedings of the IFAC World Congress* (*Boston/Cambridge*, *Mass.*, 1975), *Part* 1, *Paper No.* 36.5, 10 *pp.* *I* *Düsseldorf*, 1975. (Author's summary) **58** #33207 93A15

Local approximation of control systems. *J. Differential Equations* **19** (1975), 125–133. (Wai Leung Chan) **55** #2243 93C15

Bilinear and nonlinear realizations of input-output maps. *SIAM J. Contr* (1975), 827–834. (E. G. Manes) **51** #12367 93B15

(*with* Lesiak, Casimir M.) The existence and uniqueness of Volterra serie nonlinear systems. *Proceedings of the* 1977 *IEEE Conference on Decision and C* (*New Orleans*, *La.*, 1977), *Vol.* 1, *pp.* 271–274. *Inst. Electrical Electron. Engrs.*, *York*, 1977. (Authors' summary) **58** #20687 93C10

(*with* Hermann, Robert) The differential-geometric duality between controlla and observability for nonlinear systems. *The* 1976 *Ames Research Center* (*N* *Conference on Geometric Control Theory* (*Moffett Field*, *Calif.*, 1976), *pp.* 49–65. *Groups*: *History Frontiers and Appl.*, *Vol. VII*, *Math Sci Press*, *Brookline*, *Mass.*, 1 (Editors) **58** #20661 93B05 (57D25)

(*with* Hermann, Robert) Nonlinear controllability and observability. *IEEE T* *Automatic Control* **AC-22** (1977), *no.* 5, 728–740. (Authors' summary) **57** #155 93B05

The high order maximal principle and its application to singular extremals. *S* *J. Control Optimization* **15** (1977), *no.* 2, 256–293. (G. M. Ewing) **55** #6265 49

A decomposition theory for differentiable systems. *SIAM J. Control Optimiz* **15** (1977), *no.* 5, 813–829. (Author's summary) **57** #18906 93A15 (34H05, 94A

Krengel, Ulrich A necessary and sufficient condition for the validity of the local erg theorem. *Probability and information theory* (*Proc. Internat. Sympos.*, *McMaster U* *Hamilton*, *Ont.*, 1968), *pp.* 170–177. *Springer*, *Berlin*, 1969. (W Krieger) **45** #53 28A65

Darstellungssätze für Strömungen und Halbströmungen. II. *Math. Ann.* **182** (19 1–39. (W. Krieger) **45** #5315 28A65

Recent results on generators in ergodic theory. *Transactions of the Sixth Pr* *Conference on Information Theory*, *Statistical Decision Functions*, *Random Proce* (*Tech. Univ. Prague*, *Prague*, 1971; *dedicated to the memory of Antonín Špaček*), 465–482. *Academia*, *Prague*, 1973. (L. Sucheston) **50** #576 28A65

(*with* Jones, Lee Kenneth) On transformations without finite invariant measu *Advances in Math.* **12** (1974), 275–295. (R. V. Chacon) **49** #5300 28A65

(*with* Grillenberger, Christian) On matrix summation and the pointwise erg theorem. *Théorie ergodique* (*Actes Journées Ergodiques*, *Rennes*, 1973/1974), *pp.* 113–124. *Lecture Notes in Math.*, *Vol.* 532, *Springer*, *Berlin*, 1976. (P. E. Kc **58** #6157 28A65

On Rudolph's representation of aperiodic flows. (French summary) *Ann. Inst.* *Poincaré Sect. B* (*N.S.*) **12** (1976), *no.* 4, 319–338. (Paul C. Shields) **55** #831 28A65

Un théorème ergodique pour les processus sur-stationnaires. (English summary) *R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 17, *A*iii, *A*1019–*A*1021. (Yves Derrien **54** #11469 60F15 (28A65)

(*with* Grillenberger, Christian) On marginal distributions and isomorphisms stationary processes. *Math. Z.* **149** (1976), *no.* 2, 131–154. (M. S. Waterman) **53** #11020 28A65

Recent progress on ergodic theorems. *Dynamical systems*, *Vol. II—Warsaw*, 151–192. *Astérisque*, *No.* 50, *Soc. Math. France*, *Paris*, 1977. (Pierre Crépel) **58** #616 28A65 (60F05, 60F15)

(*with* Kamae, Teturo; O'Brien, George) Stochastic inequalities on partially orde spaces. *Ann. Probability* **5** (1977), *no.* 6, 899–912. (R. M. Dudley) **58** #13308 60G10

(*with* Sucheston, Louis) Semiamarts and finite values. *Bull. Amer. Math. Soc.* (1977), *no.* 4, 745–747. (S. D. Chatterji) **55** #9261 60G45

Krenger, Peter (*with* Rätz, Jürg) On the sup and inf invariance of some separation axiom *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 145–147. (James Chew) **57** #7521 54D10

Krenk, Steen On the use of the interpolation polynomial for solutions of singular integ equations. *Quart. Appl. Math.* **32** (1974/75), 479–484. (G. F. Miller) **57** #14548 65R05

On quadrature formulas for singular integral equations of the first and the seco kind. *Quart. Appl. Math.* **33** (1975/76), *no.* 3, 225–232. (Author's summary) **56** #72 65R05 (45L10)

Influence of transverse shear on an axial crack in a cylindrical shell. (Fren summary) *Internat. J. Fracture* **14** (1978), *no.* 2, 123–143. (Author's summary) **57** #14780 73.45

Numerical quadrature of periodic singular integral equations. *J. Inst. Math. Ap* **21** (1978), *no.* 2, 181–187. (H. Brunner) **58** #3584 65R05 (45E99)

Kreowski, Hans-Jörg (*with* Ehrig, Hartmut; Kiermeier, K.-D.; Kühnel, Wolfgang) ★Universal theory of automata. A categorical approach. Teubner Studienbüche Informatik. *B. G. Teubner*, *Stuttgart*, 1974. 240 *pp.* (E. G. Manes) **52** #3271 18B

(*with* Ehrig, Hartmut; Pfender, Michael) Kategorielle Theorie der Reduktion, Minimierung und Äquivalenz von Automaten. *Math. Nachr.* **59** (1974), 105–12 (Bostwick F. Wyman) **50** #6668 94A30

(*with* Ehrig, Hartmut) Power and initial automata in pseudoclosed categories *Category theory applied to computation and control* (*Proc. First Internat. Sympos.*, *Sa* *Francisco*, *Calif.*, 1974), *pp.* 144–150. *Lecture Notes in Comput. Sci.*, *Vol.* 25, *Springe* *Berlin*, 1975. (David C. Rine) **53** #12792 94A30 (*with* Ehrig, Hartmut) Parallel graph grammars. *Automata, languages, development*, *pp*. 425–442. *North-Holland, Amsterdam*, 1976. (Leon Levy) **58** #3719 68A30

(*with* Ehrig, Hartmut) Categorical approach to graphic systems and graph grammars. *Mathematical systems theory* (*Proc. Internat. Sympos., Internat. Centre Mech. Sci., Udine*, 1975), *pp*. 323–351. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer, Berlin*, 1976. (Authors' summary) **58** #32096 68A30 (18B99)

(*with* Ehrig, Hartmut) Minimization concepts of automata in pseudoclosed categories. *Mathematical systems theory* (*Proc. Internat. Sympos., Internat. Centre Mech. Sci., Udine*, 1975), *pp*. 359–374. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer, Berlin*, 1976. (Authors' summary) **58** #28122 18B20 (94A30)

(*with* Ehrig, Hartmut) Systematic approach to reduction and minimization in automata and system theory. *J. Comput. System Sci.* **12** (1976), *no*. 3, 269–304. (Authors' summary) **57** #15783 94A30 (93A05)

Transformations of derivation sequences in graph grammars. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp*. 275–286. *Lecture Notes in Comput. Sci., Vol*. 56, *Springer, Berlin*, 1977. (Václav Rajlich) **58** #8528 68A30

Křepela, Josef (*with* Ullrich, Milan) Ein Beitrag zu Stichprobenplänen mit mehreren Merkmalen. (Czech summary) *Kybernetika* (*Prague*) 7 (1971), 458–466. (C. Hayashi) **47** #6048 62N10

(*with* Hanš, Otto) Optimization of single acceptance sampling plans by attributes. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp*. 217–226. *Academia, Prague*, 1973. **50** #3509 62N10

Krepkiĭ, V. M. On the investigation of penalty functions with continuous parameter. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no*. 4, 753–754, 767. (W. W. Breckner) **51** #13811 49A20

A method of approximation for the solution of convex programming problems. (Russian) *Optimizacija Vyp*. 18(35) (1976), 70–75, 161. (Josef Kaška) **56** #13628 65K05 (90C25)

Krepl, Roman Certain connections between groups and nets. (Czech) *Fourth Scientific Conference, College of Transport Engineering, Žilina, Section* 1: *Mathematics, Physics, Cybernetics* (*Slovak*), *pp*. 101–109. *Vysoká Škola Dopravná v Žiline, Žilina*, 1973. (V. Havel) **53** #5797 20N05 (50B30)

On the existence of 3-webs without transversals. (Czech. English and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* **B-56** (1975), 75–78. (V. Havel) **53** #5798 20N05 (05B25)

Kreps, David M. A note on "fulfilled expectations" equilibria. *J. Econom. Theory* **14** (1977), *no*. 1, 32–43. (Leonard J. Mirman) **56** #10822 90A15

Decision problems with expected utility criteria. I. Upper and lower convergent utility. *Math. Oper. Res.* **2** (1977), *no*. 1, 45–53. (Author's summary) **58** #15009a 90A05 (90A10, 90C40)

Decision problems with expected utility criteria. II. Stationarity. *Math. Oper. Res.* **2** (1977), *no*. 3, 266–274. (Author's summary) **58** #15009b 90A05 (90A10, 90C40)

(*with* Porteus, Evan L.) On the optimality of structured policies in countable stage decision processes. II: Positive and negative problems. *SIAM J. Appl. Math.* **32** (1977), *no*. 2, 457–466. (Nagata Furukawa) **55** #9831 90A05

Kreps, V. L. The maximality of certain linear spaces of continuous functions that have a saddle point. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp*. 47–50. *Izdat. "Mintis", Vilnius*, 1973. (A. B. Németh) **50** #12308 90D99

Bimatrix games with unique equilibrium points. *Internat. J. Game Theory* 3 (1974), 115–118. (Nimrod Megiddo) **53** #12615 90D05

The dimension of certain maximal linear spaces of games having a saddle point. (Russian. German and English summaries) *Math. Operationsforsch. Statist*. **6** (1975), *no*. 3, 355–365. (V. F. Dem'janov) **55** #14255 90D99

Krepyšev, G. B. (*with* Kazarinov, L. S.) Synthesis of optimum control systems with allowance for complexity. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 1, 210–216 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 1, 188–195. (M. J. Davies) **48** #9493 49A35

Kres, Heinz ★Statistische Tafeln zur multivariaten Analysis. Ein Handbuch mit Hinweisen zur Anwendung. *Springer-Verlag, Berlin-New York*, 1975. xviii+431 *pp*. (Editors) **52** #7071 62Q05 (62Hxx)

Kresnjakova, L. V. (*with* Važdaev, V. P.) Analytic functions with bounded mean modulus. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no*. 11(126), 3–12. (W. C. Royster) **48** #11518 30A78

(*with* Gudkov, D. A.) ★Лекции по математическому анализу. Вып. 2. (Russian) [Lectures on mathematical analysis. No. 2] *Gor'kov. Gos. Univ., Gorki*, 1975. 107 *pp*. (Editors) **56** #5098 00A05

(*with* Gel'fer, S. A.) Mean values of analytic functions. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no*. 4, 747–754, 955. (L. A. Aksent'ev) **56** #8836 30A38

Kreß, Rainer Interpolation auf einem unendlichen Intervall. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **6** (1970), 274–288. (R. F. Albrecht) **45** #7923 65D05

Greensche Funktionen und Tensoren für verallgemeinerte harmonische Vektorfelder. *Methoden und Verfahren der mathematischen Physik, Band* 4, *pp*. 45–74. *B.I.-Hochschulskripten, No*. 723 *a-b, Bibliographisches Inst., Mannheim*, 1971. (Gottfried Anger) **52** #8458 31B20

Ein kombiniertes Dirichlet-Neumannsches Randwertproblem bei harmonischen Vektorfeldern. *Arch. Rational Mech. Anal.* **42** (1971), 40–49. (Gottfried Anger) **50** #2526 31B20

Ein Neumannsches Randwertproblem bei kraftfreinen Feldern. *Methoden und Verfahren der mathematischen Physik, Band* 7, *pp*. 81–97. *B. I.-Hochschultaschenbücher, No*. 726, *Bibliographisches Inst., Mannheim*, 1972. (D. H. Armitage) **53** #841 31B20

(*with* de Vries, Hans Ludwig; Wegmann, Rudolf) Zu einer Ungleichung von Schur über die Eigenwerte einer Matrix. *Arch. Math.* (*Basel*) **23** (1972), 38–40. (R. C. Thompson) **46** #5359 15A42

Potentialtheoretische Randwertprobleme bei Tensorfeldern beliebiger Dimension und beliebigen Ranges. *Arch. Rational Mech. Anal.* **47** (1972), 59–80. (G. Albinus) **50** #13577 31B20

Über die numerische Berechnung konjugierter Funktionen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **10** (1972), 177–187. (H. E. Fettis) **47** #2796 65D30

On the general Hermite cardinal interpolation. *Math. Comp.* **26** (1972), 925–933. (H. L. Loeb) **47** #9122 41A05

Zur numerischen Integration periodischer Funktionen nach der Rechteckregel. (English summary) *Numer. Math.* **20** (1972/73), 87–92. (John Todd) **47** #6071 65D30

On general Hermite trigonometric interpolation. *Numer. Math.* **20** (1972/73), 125–138. (J. Bryant) **47** #7891 65D05 (42A12)

(*with* Knauff, W.) Optimale Approximation linearer Funktionale auf periodischen Funktionen. (English summary) *Numer. Math.* **22** (1973/74), 187–205. (J. W. Schmidt) **50** #2779 41A65 (65D15)

Zur Quadratur uneigentlicher Integrale bei analytischen Funktionen. (English summary) *Computing* (*Arch. Elektron. Rechnen*) **13** (1974), *no*. 3-4, 267–277. (David R. Ferguson) **53** #6989 65D30

(*with* de Vries, Hans Ludwig; Wegmann, Rudolf) On nonnormal matrices. *Linear Algebra and Appl.* **8** (1974), 109–120. (B. N. Moyls) **49** #2797 15A42

(*with* de Vries, Hans Ludwig) Über die konvexe Hülle der Eigenwerte einer Matrix. *Math. Nachr.* **64** (1974), 95–104. (L. Mirsky) **52** #8163 15A42

(*with* Brosowski, Bruno) ★Einführung in die numerische Mathematik. I. B. I.-Hochschultaschenbücher, Band 202. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1975. 223 *pp*. (Editors) **53** #4445 65–02

Robinsches und Pragersches Problem der Potentialtheorie bei beliebiger Dimension. (English summary) *Applicable Anal.* 5 (1975/76), *no*. 4, 265–276. (D. H. Armitage) **53** #13603 31B99

(*with* Knauff, W.) Optimale Approximation mit Nebenbedingungen an lineare Funktionale auf periodischen Funktionen. (English summary) *Numer. Math.* **25** (1975/76), *no*. 2, 149–152. (Walter Trebels) **53** #4484 65D15

(*with* Brosowski, Bruno) ★Einführung in die numerische Mathematik. Zweiter Teil. B. I.-Hochschultaschenbücher, Band 211. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1976. i–iv *and* 221–338. (Editors) **53** #4446 65–02

(*with* Roach, Gary F.) On the convergence of successive approximations for an integral equation in a Green's function approach to the Dirichlet problem. *J. Math. Anal. Appl.* **55** (1976), *no*. 1, 102–111. (Manfred Feilmeier) **53** #14952 65R05

(*with* Chawla, M. M.) Estimating errors of numerical approximation for periodic analytic functions. (German summary) *Computing* **18** (1977), *no*. 3, 241–248. (G. Blanch) **56** #9915 65D30 (65E05)

Fredholm's alternative for compact bilinear forms in reflexive Banach spaces. *J. Diff. Equations* **25** (1977), *no*. 2, 216–226. (From the text) **58** #23709 47B05 (34B25)

(*with* Roach, Gary F.) On mixed boundary value problems for the Helmholtz equation. *Proc. Roy. Soc. Edinburgh Sect. A* **77** (1977), *no*. 1-2, 65–77. (Authors' summary) **57** #13161 35J05

(*with* González, R.) On the treatment of a Dirichlet-Neumann mixed boundary value problem for harmonic functions by an integral equation method. *SIAM J. Math. Anal.* **8** (1977), *no*. 3, 504–517. (Teruo Ikegami) **55** #12935 31B20

A remark on a boundary value problem for force-free fields. (German summary) *Z. Angew. Math. Phys.* **28** (1977), *no*. 4, 715–722. (Author's summary) **58** #29456 35Q99 (78.35)

(*with* Roach, Gary F.) Transmission problems for the Helmholtz equation. *J. Mathematical Phys.* **19** (1978), *no*. 6, 1433–1437. (Y. Hayashi) **58** #14318 76.45 (35J05)

(*with* Colton, David L.) The construction of solutions to acoustic scattering problems in a spherically stratified medium. *Quart. J. Mech. Appl. Math.* **31** (1978), *no*. 1, 9–17. (R. F. Millar) **58** #19822a 78.35 (35C15)

Kreth, Horst Ein Äquivalenzsatz bei der numerischen Lösung quasilinearer Anfangswertaufgaben. *Numerische Behandlung nichtlinearer Integrodifferential- und Differentialgleichungen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1973), *pp*. 33–55. *Lecture Notes in Math., Vol*. 395, *Springer, Berlin*, 1974. (H. C. Kranzer) **52** #4647 65M10

(*with* Hass, R.) Stabilität und Konvergenz von Mehrschrittverfahren zur numerischen Lösung quasilinearer Anfangswertprobleme. (English and Russian summaries) *Z. Angew. Math. Mech.* **54** (1974), 353–358. (Gilbert Strang) **49** #10162 65M10

(*with* Ansorge, Rainer) Kombination zweier Monotoniesätze von Redheffer und J. Schröder zur numerischen Konstruktion von Schrankenfunktionen. *Beiträge Numer. Math.* **4** (1975), 15–22. (Hans-Jürgen Albrand) **56** #7266 65P05

Der Nachweis der Existenz verallgemeinerter Lösungen quasilinearer Anfangswertaufgaben mittels Differenzenverfahren. (English summary) *Computing* **15** (1975), *no*. 3, 251–261. (Author's summary) **57** #17041 35R20 (34G05, 65M99)

Ein Zwischenschrittverfahren für halblineare Anfangswertaufgaben. (English summary) *Numerische Behandlung von Differentialgleichungen, Band* 2 (*Tagung, Math. Forschungsinst., Oberwolfach*, 1975), *pp*. 105–123. *Internat. Ser. Numer. Math., Vol*. 31, *Birkhäuser, Basel*, 1976. (Author's summary) **58** #25040 65R05 (65L05)

Ein Zwei-Schritt-Differenzenverfahren zur Berechnung strömungsabhängiger Ausbreitungsvorgänge. (English summary) *Z. Angew. Math. Phys.* **29** (1978), *no*. 1, 12–22. (M. Zlámal) **58** #3509 65M10 (65J05)

Křetínský, M. (*with* Ochranová, R.; Havlát, T.) Control structures in programming. *Scripta Fac. Sci. Natur. UJEP Brunensis—Math.* **8** (1978), *no*. 10, 41–57. (Authors' summary) **58** #25080 68A05

Kretov, V. I. *See* **Mathematical simulation and the theory of electrical circuits, 48** #3287

Kretova, L. D. (*with* Byḱovcev, G. I.; Kalužin, A. A.) Wave propagation in three-dimensional elastic-plastic bodies in the case of complete plasticity. *Inž. Ž. Meh. Tverd. Tela* **1967**, *no*. 3, 13–20 (*Russian*); *translated as Mechanics of Solids* **2** (1967), *no*. 3, 8–12 (1971). (H. R. Aggarwal) **46** #8505 73.35

Kretschmann, Jürgen Homotopy triangulations of pseudo lens spaces and actions on products of spheres. *Math. Ann.* **220** (1976), *no*. 2, 157–162. (C. B. Thomas) **53** #14522 57E25 (57D05)

Kretschmer, Hans (*with* Triebel, Hans) L_p-theory for a class of singular elliptic differential operators. II. *Czechoslovak Math. J.* **26(101)** (1976), *no*. 3, 438–447. (R. S. Freeman)

55 #887 35P05 (35J30)

Kretz, Michael (*with* Braun, Klaus; Walter, Bernd; Walter, Manfred) Die chromatischen Polynome unterringfreier Graphen. (English summary) *Manuscripta Math.* **14** (1974), 223–234. (R. C. Read) **50** #6906 05C15

Kretzmann, Norman *See* **Ancient logic and its modern interpretations, 52** #13303

Kretzschmar, Horst Über ein Differenzenverfahren zur Lösung einer Klasse von Integrodifferentialgleichungen. 5. *Tagung über Probleme und Methoden der Mathematischen Physik* (*Techn. Hochschule Karl-Marx-Stadt, Karl-Marx-Stadt*, 1975), *Heft* 1, *pp.* 122–128. *Wiss. Schr. Techn. Hochsch. Karl-Marx-Stadt, Techn. Hochsch., Karl-Marx-Stadt*, 1975. (Manfred Feilmeir) **55** #9579 65R05

Über ein Differenzenverfahren zur Lösung spezieller Integrodifferentialgleichungen. *Beiträge Numer. Math.* **5** (1976), 69–76. (H. Brunner) **56** #1756 65R05

Kreuser, J. (*with* Rosen, J. B.) A gradient projection algorithm for non-linear constraints. *Numerical methods for non-linear optimization* (*Conf., Dundee*, 1971), *pp.* 297–300. *Academic Press, London*, 1972. (S. F. McCormick) **51** #11967 65K05

Kreuter, K. F. *See* **Fachtagung: Gesellschaft für Informatik, Programmiersprachen, 48** #10176

Kreutzkamp, Th. Orthogonale "Lückenpolynome" im endlichen und unendlichen Intervall. *Proceedings of the Conference on the Constructive Theory of Functions* (*Approximation Theory*) (*Budapest*, 1969), *pp.* 267–271. *Akadémiai Kiadó, Budapest*, 1972. (S. K. Chatterjea) **53** #13988 42A52

Kreuzer, H. J. (*with* Kuper, Charles G.) A statistical theory of $\hat{C}\hat{P}$ violation. *Collect. Phenom.* **2** (1975/76), *no.* 3, 131–139. (Authors' summary) **56** #10666 82.47

(*with* Kuper, Charles G.) On the approach to equilibrium in a Gibbs ensemble. *Collect. Phenom.* **2** (1975/76), *no.* 3, 141–147. (Authors' summary) **56** #10667 82.47

Microscopic hydrodynamics in a nonlocal potential. (Italian and Russian summaries) *Nuovo Cimento B* (11) **45** (1978), *no.* 2, 169–204. (Author's summary) **58** #19802 76.65 (81.65)

Kreuzer, Wolfgang ★Parameteridentifikation bei linearen zeitvarianten Systemen. Zur Erlangung des akademischen Grades eines Doktor-Ingenieurs von der Fakultät für Elektrotechnik, Universität Fridericiana Karlsruhe (Technische Hochschule) genehmigte Dissertation. *Universität Fridericiana Karlsruhe* (*Technische Hochschule*), *Karlsruhe*, 1977. 125 + ii *pp.* (From the introduction) **58** #15405 93B30 (93C50, 93E10)

Kreweras, Germain Sur les partitions non croisées d'un cycle. *Discrete Math.* **1** (1972), *no.* 4, 333–350. (R. J. Wilson) **46** #8852 05A17 (06A20)

Classification des permutations suivant certaines propriétés ordinales de leur représentation plane. *Permutations* (*Actes Colloq., Univ. René-Descartes, Paris*, 1972), *pp.* 97–115. *Gauthier-Villars, Paris*, 1974. (J. S. Frame) **51** #3280 20B99

Signification et calcul des coefficients qui apparaissent dans la différence n-ième d'un produit. *C. R. Acad. Sci. Paris Sér. A-B* **281** (1975), *no.* 23, Ai, A1001–A1004. (Author's summary) **54** #10032 05A15

Dénombrements relatifs à une définition combinatoire de la continuité sur un graphe. (English summary) *Math. Sci. Humaines No.* 51 (1975), 13–24, 85. (R. W. Robinson) **53** #7854 05C30

Les préordres totaux compatibles avec un ordre partiel. *Math. Sci. Humaines No.* 53 (1976), 5–30. (Harald Scheid) **54** #10089 06A10 (05A15)

(*with* Poupard, Yves) Sur les partitions en paires d'un ensemble fini totalement ordonné. *Publ. Inst. Statist. Univ. Paris* **23** (1978), *no.* 1-2, 57–74. (G. F. Clements) **58** #21653 05A17

See also **Ordres totaux finis, 51** #12625

Krewski, Daniel Distribution-free confidence intervals for quantile intervals. *Proceeding of the Symposium on Statistics and Related Topics* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 23, 15*pp. Carleton Univ., Ottawa, Ont.*, 1975. (Rudolph J. Beran) **51** #11812 62G30

Distribution-free confidence intervals for quantile intervals. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 354, 420–422. (Kenneth Kaminsky) **54** #3959 62G15

Kreyszig, Erwin Bergman-Operatoren der Klasse P. *Monatsh. Math.* **74** (1970), 437–444. (W. Watzlawek) **45** #746 35Q99 (35C15)

Zur Theorie der Exponentialoperatoren und der Bergman-Operatoren 1. Art. (Romanian summary) *Bu. Inst. Politehn. Iaşi* (*N.S.*) **18(22)** (1972), *no.* 3-4, *part I*, 127–137. (M. Borsuk (RŽMat **1974** #7 B329)) **52** #8633 35C15

★Statistische Methoden und ihre Anwendungen. Vierte durchgesehene Auflage. *Vandenhoeck & Ruprecht, Göttingen*, 1973. 422 *pp.* (Editors) **49** #9988 62–01

(*with* Pendl, Alois) Über die Gauss-Krümmung der Real- und Imaginärteilflächen analytischer Funktionen. *Elem. Math.* **28** (1973), 10–13. (A. Fialkow) **58** #18289a 53C40

Gewöhnliche Differentialgleichungen für Erzeugende gewisser Bergman-Operatoren. Collection of articles dedicated to Helmut Hasse on his seventy-fifth birthday. *J. Reine Angew. Math.* **262/263** (1973), 74–81. (W. Watzlawek) **50** #13854 35C15

Eine Darstellung spezieller Bergman-Kerne. *Arch. Math.* (*Basel*) **25** (1974), 276–279. (W. Watzlawek) **50** #747 35C15

(*with* Pendl, Alois) Bemerkung: "Über die Gauss-Krümmung der Real- und Imaginärteilflächen analytischer Funktionen" (Elem. Math. **28** (1973), 10–13). *Elem. Math.* **29** (1974), 104. (Editors) **58** #18289b 53A05

Schranken für die Normalverteilung. *Statist. Hefte* (*N.F.*) **15** (1974), *no.* 1, 71–74. **55** #13631 62E15

Representations of solutions of certain partial differential equations related to Liouville's equation. *Abh. Math. Sem. Univ. Hamburg* **44** (1975), 32–44 (1976). (M. Kracht (Zbl **321** #35011)) **57** #846 35C05

(*with* Kracht, Manfred W.) Zur Konstruktion gewisser Integraloperatoren für partielle Differentialgleichungen. I, II. (English summaries) *Manuscripta Math.* **17** (1975), *no.* 1, 79–103; *ibid.* **17** (1975), *no.* 2, 171–186. (S. Ruscheweyh) **52** #8632 35C15

(*with* Pendl, Alois) Spherical curves and their analogues in affine differential geometry. *Proc. Amer. Math. Soc.* **48** (1975), 423–428. (E. Heil) **51** #1621 53A05

Integral and differential operators for a class of linear partial differential equations. (Italian summary) *Rend. Ist. Mat. Univ. Trieste* **7** (1975), *no.* 2, 137–142. (Gerhard Jank) **53** #13806 35C15

(*with* Todd, John) QR in two dimensions. *Elem. Math.* **31** (1976), *no.* 5, 109–114. (K. Najzar) **54** #14335 65F15

★Statistische Methoden und ihre Anwendungen. Sixth edition. *Vandenhoe &* *Ruprecht, Göttingen*, 1977. 451 *pp. ISBN* 3-525-40718-1(-40717-3) (Editors) **58** #24 62–01

★Introductory functional analysis with applications. *John Wiley & Sons,* *York-London-Sydney*, 1978. xiv + 688 *pp. ISBN* 0-471-50731-8 (T. A. Gillespie) **57** #7084 46–01 (47–01)

Krgović, Dragica N. (f,g)-rings. (Serbo-Croatian. English summary) *Mat. Vesnik* (1972), 151–154. (Author's summary) **48** #348 16A78

Notes on regular semigroups. *Mat. Vesnik* **10(25)** (1973), 237–239. (D. R. La T **48** #11366 20M10

On identity element of a semigroup. *Math. Balkanica* **5** (1975), 173–175. (Ed **58** #22352 20M10

Note on regular semigroups. *Math. Balkanica* **5** (1975), 176–177. (P. R. J **58** #16918 20M10

On (m,n)-regular semigroups. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **18(32)** (1 107–110. (J. L. Chrislock) **51** #5811 20M10

(*with* Lajos, Sándor) ★Notes on semigroups. II. DM 76-1. *Department of Mathematics, Karl Marx University of Economics, Budapest*, 1976. i + 19 *pp.* (H. D'Alarcao) **54** #2846 20M10

On intra-regular semigroups. *Mat. Vesnik* **13(28)** (1976), *no.* 4, 405–406. (Blyth) **56** #5751 20M10

On $(m,n)_T$-ideals and subgroups of a semigroup. *Mat. Vesnik* **1(14)(29)** (1977) 1, 29–31. (Zbl **375** #20056) **58** #28230 20M10

m-ideals and m-regular semigroups. *Mat. Vesnik* **1(14)(29)** (1977), *no.* 2, 127– (J. B. Kim) **57** #9879 20M10

Kriazhimskii, A. V. *See* **Krjažimskiĭ, A. V.**

Kričever, I. M. Bordisms of groups acting freely on spheres. (Russian) *Uspehi Mat. N* **26** (1971), *no.* 6(162), 245–246. (J. Stasheff) **53** #6597 57D85

Actions of finite cyclic groups on quasicomplex manifolds. (Russian) *Mat.* (*N.S.*) **90(132)** (1973), 306–319, 327. (P. S. Landweber) **51** #11547 (E **52** #11954 57D85

(*with* Guseĭn-Zade, S. M.) Formulae for the fixed points of an action of the gr Z_p. (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 1(169), 237–238. (J. S. Joel) **57** #1 57E10 (57D90)

The invariance of characteristic classes for manifolds of the homotopy type of (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 5(173), 245–246. (A. V. Zarelua) **53** #4 57D85 (57D20)

Formal groups and the Atiyah-Hirzebruch formula. (Russian) *Izv. Akad. N* *SSSR Ser. Mat.* **38** (1974), 1289–1304. (P. S. Landweber) **53** #4102 57D85 (57D

A remark on the paper "Actions of finite cyclic groups on quasicomplex manifol (Mat. Sb. **90(132)** (1973), 306–319). (Russian) *Mat. Sb.* (*N.S.*) **95(137)** (1974), 146– (P. S. Landweber) **52** #11954 57D85

Potentials with zero coefficient of reflection against a background of finite-z potentials. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 2, 77–78. (H. Flasch **52** #8551 34B25 (35Q99)

Equivariant Hirzebruch genera. The Atiyah-Hirzebruch formula. (Russian) *Usp* *Mat. Nauk* **30** (1975), *no.* 1(181), 243–244. (A. V. Zarelua) **54** #1262 (EA **54**) 57D85

An algebraic-geometric construction of the Zaharov-Šabat equations and th periodic solutions. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 2, 291–2 (Shunichi Tanaka) **54** #1298a 58F05 (34B25, 35Q99)

(*with* Dubrovin, B. A.) The Schrödinger equation in a periodic field and Riema surfaces. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 1, 15–18. (Woodford Zachary) **53** #13817 35J10 (58G99)

Algebraic curves and commuting matrix differential operators. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 2, 75–76. (Shunichi Tanaka) **54** #1298b 58F05 (34B25, 35Q99)

Obstructions to the existence of S^1-actions. Bordisms of branched coverings. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 4, 828–844, 950. (A. Zarelua) **55** #13452 57D85 (57D20, 57E15)

Integration of nonlinear equations by the methods of algebraic geometry. (Russia *Funkcional. Anal. i Priložen.* **11** (1977), *no.* 1, 15–31, 96. (Alexander A. Panko **58** #13168 58F05 (14H99, 35Q99)

Methods of algebraic geometry in the theory of nonlinear equations. (Russia *Uspehi Mat. Nauk* **32** (1977), *no.* 6(198), 183–208, 287. (Alexander A. Pankov) **58** #24353 58F05 (14H99, 35Q99)

Rational solutions of the Kadomcev-Petviašvili equation and the integrable syste of N particles on a line. (Russian) *Funkcional. Anal. i Priložen.* **12** (1978), *no.* 1, 76– (Alexander A. Pankov) **58** #7706 58F05 (35Q99)

Kričev'skiĭ, Ī. Ja. (*with* Ulanov, G. M.) On a generalization of the theory of err accumulation. *Prikl. Mat. Meh.* **37** (1973), 794–802 (*Russian*); *translated as J. Ap* *Math. Mech.* **37** (1973), 753–761 (1974). (Authors' summary) **55** #12209 93C05

Kričevskiĭ, R. E. The relation between redundancy coding and reliability of informati from a source. *Problemy Peredači Informacii* **4** (1968), *no.* 3, 48–57 (*Russian*); *translat* *as Problems of Information Transmission* **4** (1968), *no.* 3, 37–45 (1971). (L. L. Campbe **50** #6645 94A15

Two methods for decoding Hadamard codes. (Russian) *Diskret. Analiz No.* *Issledovanija Struktury i Funkcionirovanija Upravljajuščih Sistem* (1974), 46–49, 96. (N. Goss) **51** #2764 94A10

Optimal coding of a source on the basis of observations. (Russian) *Problen* *Peredači Informacii* **11** (1975), *no.* 1, 37–42. (Author's summary) **56** #15158 94A

Complexity of numerations of a finite set of words. (Russian) *Dokl. Akad. Na* *SSSR* **228** (1976), *no.* 2, 287–289. (G. Wechsung) **53** #12769 94A20 (68A20)

(*with* Trofimov, V. K.) Optimal coding of unknown and inaccurately known sources. *Topics in information theory* (*Second Colloq., Keszthely*, 1975), *pp.* 425–43 *Colloq. Math. Soc. János Bolyai, Vol.* 16, *North-Holland, Amsterdam*, 1977. (Giusep Longo) **58** #33527 94A15

Krich, Steven I. (*with* Berger, Toby) Coding for a delay-dependent fidelity criterion *IEEE Trans. Information Theory* **IT-20** (1974), 77–85. (Suguru Arimoto) **50** #16089 94A10

Asymptotic properties of delay-time-weighted probability of error. *IEEE Trans. Information Theory* **IT-20** (1974), 278–279. (Author's summary) **57** #15741 94A15

Krichevskii, I. Ia. *See* **Kričev′skiĭ, Ĭ. Ja.**

Krichevskii, R. E. *See* **Kričevskiĭ, R. E.**

Krickaja, S. S. (*with* Rogač, D. I.) A mathematical consideration of the problem of the transverse vibrations of a viscoelastic rod. (Russian) *Differential equations and their applications* (*Russian*), *pp.* 59–67, 155. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1971. (B. D. Jovanović) **49** #6732 73.35

A mathematical consideration of the problem of transverse oscillations of a beam with freely supported ends taking rotational inertia into account. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 139–142. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (V. Komkov) **53** #15047 73.35

(*with* Rogač, D. I.) The solution of a certain linear boundary value problem. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 142–146. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (V. Komkov) **54** #3190 35Q99

Expansion in eigenfunctions of a fourth order boundary value problem. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications, No.* 6 (*Russian*), *pp.* 180–183. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1975. (Editors) **58** #28811 34B25

A linear problem that is connected with longitudinal oscillations of a relaxation inhomogeneous rod. (Russian) *Studies in contemporary problems of summability and approximation of functions and their applications* (*Russian*), *pp.* 129–134, 164. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1976. (Author's summary) **58** #32237 73.35

Krickeberg, Klaus Theory of hyperplane processes. *Stochastic point processes: statistical analysis, theory, and applications* (*Conf., IBM Res. Center, Yorktown Heights, N.Y.*, 1971), *pp.* 514–521. *Wiley-Interscience, New York*, 1972. (R. V. Ambarcumjan) **50** #11435 60G55

The Cox process. *Symposia Mathematica, Vol. IX* (*Convegno di Calcolo delle Probabilità, INDAM, Rome*, 1971), *pp.* 151–167. *Academic Press, London*, 1972. (P. M. Lee) **49** #9941 60G55

Moments of point processes. *Probability and information theory, II, pp.* 70–101. *Lecture Notes in Math., Vol.* 296, *Springer, Berlin*, 1973. (Olav Kallenberg) **51** #14264 60G55

L'estimation du spectre de processus de droites. Colloque Consacré au Calcul des Probabilités (Univ. Clermont, Clermont-Ferrand, 1973). *Ann. Sci. Univ. Clermont* **51** (1974), *no.* 9, 35–42. (J. L. Soler) **51** #7207 62M15

Hyperplane processes. With discussion. Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 2, Invited papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 2, 623–627, 628–630 (1976). (Roger E. Miles) **58** #18656 60D05

An alternative approach to Glivenko-Cantelli theorems. *Empirical distributions and processes* (*Selected Papers, Meeting on Math. Stochastics, Oberwolfach*, 1976), *pp.* 57–67. *Lecture Notes in Math., Vol.* 566, *Springer, Berlin*, 1976. (R. M. Dudley) **55** #6511 60B10

See also **Probability and information theory**, **50** #1305; **Stochastic geometry**, **50** #3284 *and* **Mathematisierung der Einzelwissenschaften**, **58** #4

Kriebel, Charles H. (*with* Mikhail, Osama I.) Dynamic pricing of resources in computer networks. *Logistics, pp.* 105–124. *North-Holland/TIMS Stud. Management Sci., Vol.* 1, *North-Holland, Amsterdam*, 1975. (A. Prékopa) **58** #3799 68A99

(*with* Kleindorfer, Paul R.; Thompson, Gerald L.; Kleindorfer, George B.) Discrete optimal control of production plans. *Management Sci.* **22** (1975), *no.* 3, 261–273. (D. Hochstädter) **53** #12556 90B30

(*with* Atkinson, Anthony A.; Zia, Huntley W. H.) Optimal investment, pricing and replacement of computer resources. *Naval Res. Logist. Quart.* **24** (1977), *no.* 4, 537–547. (A. C. Williams) **58** #9142 90A15

(*with* Atkinson, Anthony A.; Zia, Huntley W. H.) Corrigenda: "Optimal investment, pricing and replacement of computer resources" (Naval Res. Logist. Quart. **24** (1977), no. 4, 537–547). *Naval Res. Logist. Quart.* **25** (1978), *no.* 2, 375. (Editors) **58** #25886 90A15 (90B99)

(*with* De, Prabuddha; Haseman, William D.) Toward an optimal design of a network database from relational descriptions. *Oper. Res.* **26** (1978), *no.* 5, 805–823. (Authors' summary) **58** #19440 68A50 (90B10)

Krief, Albert (*with* Clout, Pierre-Christian; Weymuller, Bruno) Choix des investissements d'une entreprise. (English, German, Italian and Spanish summaries) *Metra* **9** (1970), 393–405, 432–433, 436–437, 440–441, 444–445. (Georg Bol) **49** #10325 90A15

Krieg, B. *See* **Jahrestagung: Gesellschaft für Informatik**, **48** #1502

Krieg, Raymond D. (*with* Key, Samuel W.; Biffle, Johnny H.) A study of the computational and theoretical differences of two finite strain elastic-plastic constitutive models. *Formulations and computational algorithms in finite element analysis* (*U.S.-Germany Sympos., Mass. Inst. Tech., Cambridge, Mass.*, 1976), *pp.* 321–352. *MIT Press, Cambridge, Mass.*, 1977. (T. G. Rogers) **58** #19661 73.65

Kriegel, H. P. (*with* Maurer, Hermann A.) Formal translations and the containment problem for Szilard languages. *Automata theory and formal languages* (*Second GI Conf., Kaiserslautern*, 1975), *pp.* 233–238. *Lecture Notes in Comput. Sci., Vol.* 33, *Springer, Berlin*, 1975. (Gianni Aguzzi) **53** #4641 68A30

(*with* Maurer, Hermann A.) Formal translations and Szilard languages. *Information and Control* **30** (1976), *no.* 2, 187–198. (Martti Penttonen) **52** #16153 68A30

(*with* Ottmann, Thomas) Left-fitting translations. *Automata, languages and programming* (*Fourth Colloq., Univ. Turku, Turku*, 1977), *pp.* 309–322. *Lecture Notes in Comput. Sci., Vol.* 52, *Springer, Berlin*, 1977. (V. N. Agafonov) **57** #8186 68A30

Krieger, Abba (*with* Berger, Paul D.) Bayesian analysis of 2^{k-p} factorial designs, with implications for optimal design. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **23** (1976), *no.* 3, 83–89. (U. B. Paik) **55** #9432 62K15 (62F15)

Krieger, H. A. (*with* Schaffner, C. A.) The global optimization of incoherent phase signals. *SIAM J. Appl. Math.* **21** (1971), 573–589. (S. Csibi) **46** #8747 94A05

Krieger, Hans-Jürgen ★Beiträge zur Theorie positiver Operatoren. Schriftenreihe der Institute für Mathematik. Reihe A: Reine Mathematik, Heft 6. *Akademie-Verlag, Berlin*, 1969. 83 *pp.* (From the author's preface.) **54** #3491 47B55

Krieger, Helmut Konstruktion bogengleicher algebraischer Kurven in historischer Sicht. *Centaurus* **16** (1971/72), *no.* 2, 92–162. (H. S. M. Coxeter) **56** #5154 01A50 (01A55)

Krieger, Michael M. (*with* Galvin, Fred) The minimum number of cliques in a graph and its complement. *Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing* (*Louisiana State Univ., Baton Rouge, La.*, 1971), *pp.* 345–352. *Louisiana State Univ., Baton Rouge, La.*, 1971. (R. W. Robinson) **48** #3809 05C99

(*with* Jakubowski, Ryszard) System simulation by functional graphs. (Polish and Russian summaries) *Podstawy Sterowania* **1** (1971), 55–70. (S. L. Hakimi) **47** #1502 93B99

(*with* Kleitman, Daniel J.; Rothschild, B. L.) Configurations maximizing the number of pairs of Hamming-adjacent lattice points. *Studies in Appl. Math* **50** (1971), 115–119. (W. G. Brown) **47** #54 05B30 (94A10)

(*with* Kleitman, Daniel J.) An optimal bound for two dimensional bin packing. *16th Annual Symposium on Foundations of Computer Science* (*Berkeley, Calif.*, 1975), *pp.* 163–168. *IEEE Computer Society, Long Beach, Calif.*, 1975. (Witold Lipski) **54** #11176 52A45 (68A10, 90B05)

Krieger, Moshe (*with* Schwartz, J. L.) Méthodes pratiques de réduction et de réalisation des machines séquentielles à séquences d'entrée de longueur déterminée. (Loose English summary) *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Jaune* **7** (1973), *no.* J-3, 45–73. (H. D. Block) **51** #12032 68A25

(*with* DesMarais, P.) Reliability analysis of logic circuits. *IEEE Trans. Reliab.* **R-24** (1975), *no.* 1, 46–52. (R. G. Buharaev) **54** #2340 94A20

(*with* Dussault, Jean; Metze, Gernot) A multivalued switching algebra with Boolean properties. *Proceedings of the Sixth International Symposium on Multiple-Valued Logic* (*Univ. Center, Utah State Univ., Logan, Utah*, 1976), *pp.* 68–73. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Authors' summary) **58** #20835 94A20

Krieger, Wolfgang On the Araki-Woods asymptotic ratio set and non-singular transformations of a measure space. *Contributions to Ergodic Theory and Probability* (*Proc. Conf., Ohio State Univ., Columbus, Ohio*, 1970), *pp.* 158–177. *Lecture Notes in Math., Vol.* 160, *Springer, Berlin*, 1970. (Editors) **54** #2915 28A65 (46L10)

On quasi-invariant measures in uniquely ergodic systems. *Invent. Math.* **14** (1971), 184–196. (J. C. Oxtoby) **45** #2139 28A65

On generators in exhaustive σ-algebras of ergodic measure-preserving transformations. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **20** (1971), 75–82. (R. L. Adler) **49** #5302 28A65

On unique ergodicity. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. II: Probability theory, pp.* 327–346, *Univ. California Press, Berkeley, Calif.*, 1972. (J. C. Oxtoby) **52** #14212 28A65

On the infinite product construction of non-singular transformations of a measure space. *Invent. Math.* **15** (1972), 144–163. (T.-C. Sun) **45** #2140 (E **51** #5894) 28A65

Erratum to: "On entropy and generators of measure-preserving transformations". *Trans. Amer. Math. Soc.* **168** (1972), 519. (Editors) **45** #3673 28A65

On non-singular transformations that arise from Kolmogoroff systems. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **22** (1972), 91–94. (V. Drobot) **46** #5578 28A65

Erratum to: "On the infinite product construction of non-singular transformations of a measure space" (Invent. Math. **15** (1972), 144–163). *Invent. Math.* **26** (1974), 323–328. (From the author's introduction) **51** #5894 28A65

On the uniqueness of the equilibrium state. *Math. Systems Theory* **8** (1974/75), *no.* 2, 97–104. (B. Weiss) **53** #3256 28A65

On generators in ergodic theory. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *Vol.* 2, *pp.* 303–308. *Canad. Math. Congress, Montreal, Que.*, 1975. (Manfred Denker) **54** #10562 28A65

On the construction of factors from ergodic nonsingular transformations. *C*-algebras and their applications to statistical mechanics and quantum field theory* (*Proc. Internat. School of Physics "Enrico Fermi", Course LX, Varenna*, 1973), *pp.* 114–120. *North-Holland, Amsterdam*, 1976. (Editors) **58** #30313 46L10

On ergodic flows and the isomorphism of factors. *Math. Ann.* **223** (1976), *no.* 1, 19–70. (M. Takesaki) **54** #3430 46L10 (28A65)

On Borel automorphisms and their quasi-invariant measures. *Math. Z.* **151** (1976), *no.* 1, 19–24. (Douglas Lind) **54** #5439 28A65

On topological Markov chains. *Dynamical systems, Vol. II—Warsaw, pp.* 193–196. *Astérisque, No.* 50, *Soc. Math. France, Paris*, 1977. (From the introduction) **58** #18383 54H20 (28A65, 46L05)

(*with* Connes, Alain) Measure space automorphisms, the normalizers of their full groups, and approximate finiteness. *J. Functional Analysis* **24** (1977), *no.* 4, 336–352. (Douglas Lind) **56** #3246 28A65

Kriegsmann, Gregory A. An application of the method of geometrical optics to the scattering of plane electromagnetic waves off cylindrically confined cold plasmas. *J. Mathematical Phys.* **17** (1976), *no.* 1, 112–120. (Yu. S. Sayasov) **52** #12552 78.35

(*with* Morawetz, C. S.) Numerical solutions of exterior problems with the reduced wave equation. *J. Comput. Phys.* **28** (1978), *no.* 2, 181–197. (J. S. Colonias) **58** #19857 78.65

(*with* Reiss, Edward L.) New magnetohydrodynamic equilibria by secondary bifurcation. *Phys. Fluids* **21** (1978), *no.* 2, 258–264. (Authors' summary) **56** #17503 78.35

(*with* Larsen, Edward W.) On the parabolic approximation to the reduced wave equation. *SIAM J. Appl. Math.* **34** (1978), *no.* 1, 200–204. (Authors' summary) **57** #6784 35C99

Krien, R. Verfahren zur Selektion geometrischer Merkmale mit homogenen diskreten Schichten. *Nachrichtentech. Elektronik* **26** (1976), *no.* 1, 13–16. (Not reviewed) 68A45

Krier, Marcel Sur les séries de puissances de deux variables à coefficients entiers. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 409–411. (A. Hirschowitz) **49** #7472 32A05

Krier, Nicholas Some characterizations of finite Miquelian Möbius planes. *Math. Z.* **124**

(1972), 1–8. (C. Hering) **46** #6159 50D45

The Hering classification of Möbius planes. *Proc. Internat. Conf. Projective Planes* (*Washington State Univ., Pullman, Wash.*, 1973), *pp.* 157–163. *Washington State Univ. Press, Pullman, Wash.*, 1973. (H. Lüneburg) **54** #5967 50D45

On the non-existence of finite Möbius planes of Hering type I.5. *Arch. Math.* (*Basel*) **24** (1973), 327–331. (M. J. Kallaher) **47** #9417 50D45

Linear representations of derived shears planes. (Italian summary) *Boll. Un. Mat. Ital.* (4) **9** (1974), 709–720. (T. G. Ostrom) **51** #1602 50D35

Finite Möbius planes of even order and Hering type III.1. *Utilitas Math.* **6** (1974), 87–90. (R. Gorton) **51** #1607 50D45

(*with* Liebler, Robert A.) Finite Möbius planes of Hering type 1.3 and related rank 3 groups. *J. Algebra* **35** (1975), 477–482. (W. M. Kantor) **51** #8951 50D45

(*with* Yaqub, Jill C. D. S.) The coexistence of elations and homologies. *Math. Z.* **149** (1976), *no.* 1, 19–28. (F. C. Piper) **55** #6302 50D35

Finite Möbius planes of Hering type I.4. *Utilitas Math.* **9** (1976), 177–180. (P. B. Kirkpatrick) **53** #12997 05B25

A Buekenhout oval which is not projective. *Arch. Math.* (*Basel*) **28** (1977), *no.* 3, 323-324. (Aiden A. Bruen) **58** #12706 50D35

Krier, Norbert ★Komplexe Kreisarithmetik. Zur Erlangung des akademischen Grades eines Doktors der Naturwissenschaften von der Fakultät für Mathematik der Universität Karlsruhe genehmigte Dissertation. Interner Bericht, No. 73/2. *Institut für Praktische Mathematik, Universität Karlsruhe, Karlsruhe*, 1973. iv + 117 *pp.* (H. Ratschek) **54** #1580 65G05

Komplexe Kreisarithmetik. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech.* **54** (1974), T225–T226. (H. Ratschek) **50** #3556 65G05

(*with* Spellucci, Peter) Ein Verfahren zur Behandlung von Ausgleichsaufgaben mit Intervallkoeffizienten. (English summary) *Computing* **17** (1976/77), *no.* 3, 207–218. (G. Alefeld) **55** #4627 65F10

See also **Björck, Åke; et al., 51** #4619

Krier, René Sur les ensembles de synthèse de l'algèbre de Banach commutative $L^1(K/G/K)$. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 417–418. (Gordon Woodward) **50** #2818 43A45 (43A80)

Sur les idéaux de l'algèbre de Banach des fonctions intégrables biinvariantes. *Osaka J. Math.* **12** (1975), *no.* 3, 745–765. (Norman J. Weiss) **55** #6129 43A85

Kriese, J. T. (*with* Chang, T. S.; Siewert, C. E.) Elementary solutions of coupled model equations in the kinetic theory of gases. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **12** (1974), 441–470. (Authors' summary) **56** #17640 82.45

(*with* Siewert, C. E.) Half-range orthogonality relations basic to the solution of time-dependent boundary value problems in the kinetic theory of gases. (Italian summary) *Z. Angew. Math. Phys.* **29** (1978), *no.* 2, 199–205. (M. Drăganu) **58** #9000 82.46

Kriete, Thomas L., III On the Fourier coefficients of outer functions. *Indiana Univ. Math. J.* **20** (1970/71), 147–155. (From the author's introduction) **54** #555 30A78 (60G25)

(*with* Abrahamse, M. B.) The spectral multiplicity of a multiplication operator. *Indiana Univ. Math. J.* **22** (1972/73), 845–857. (Berrien Moore, III) **47** #9331 47B15

Complete non-selfadjointness of almost selfadjoint operators. *Pacific J. Math.* **42** (1972), 413–437. (B. Sz.-Nagy) **48** #4783 47A45

(*with* Rosenblum, Marvin) A Phragmén-Lindelöf theorem with applications to $\mathcal{M}(u,v)$ functions. *Pacific J. Math.* **43** (1972), 175–188. (James G. Caughran) **47** #3670 30A42 (30A78)

Fourier transforms and chains of inner functions. *Duke Math. J.* **40** (1973), 131–143. (S. Merrill) **48** #7001 47B37 (30A98)

(*with* Trutt, David) On the Cesàro operator. *Indiana Univ. Math. J.* **24** (1974/75), 197–214. (D. A. Herrero) **50** #2981 47B37

Canonical models and the self-adjoint parts of dissipative operators. *J. Functional Analysis* **23** (1976), *no.* 1, 39–94. (Chandler Davis) **55** #6213 47A45 (47B44)

(*with* Trent, Tavan) Growth near the boundary in $H^2(\mu)$ spaces. *Proc. Amer. Math. Soc.* **62** (1976), *no.* 1, 83–88 (1977). (D. Trutt) **56** #12892 46J15 (30A78)

Krigelman, Kenneth (*with* Gluck, Herman; Singer, David) The converse to the Gauss-Bonnet theorem in PL. *J. Differential Geometry* **9** (1974), 601–616. (M. L. Gromov) **52** #11785 53C20

Krikelis, N. J. A linearization method in N-person nonzero-sum differential games. *J. Optimization Theory Appl.* **9** (1972), 359–363. (A. Blaquière) **46** #3113 90D25

On the analytical design of sub-optimal controllers for stationary systems. (Loose French summary) *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Jaune* **7** (1973), *no.* J-3, 140–144. (D. F. Lawden) **53** #5100 93C15 (49D05)

Bayes decision rule for a finite mixed population. *J. Statist. Comput. and Simulation* **6** (1977/78), *no.* 1, 11–18. (S. John) **56** #16856 62C25 (62H30, 62C10)

Krikelis, Peter B. Certain relations between generalized topology and universal algebra. (Greek summary) *Prakt. Akad. Athēnōn* **44** (1969), 140–147 (1970). (Z. P. Mamuzić) **49** #7969 54A05 (08A25)

On condensation numbers. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 257–258. *Academia, Prague*, 1972. (D. Kurepa) **51** #1763 54F05

Kriķis, J. Existence and smoothness of asymptotic manifolds in the neighborhood of a stationary point. (Russian. Latvian and English summaries) *Latvian mathematical yearbook*, 11 (*Russian*), *pp.* 101–123. *Izdat. "Zinatne", Riga*, 1972. (S. R. Bernfeld) **48** #6557 34C30

Krikorian, Alice (*with* Kogbetliantz, Ervand) ★Handbook of first complex prime numbers. Part 1: List of first 332, 395 complex prime numbers $(m+in)$. Part 2: Tables of decomposition of real primes of type $(4N+1)$ into sums of two squares. *Gordon and Breach Science Publishers, London-New York-Paris*, 1971. *Part I*: vi + 241 *pp.*; *Part II*: vii + 998 *pp.* (Editors) **50** #11712 65A05 (10–04)

Krikorian, John S., Jr. (*with* Bickart, Theordore A.) A geometrical stability criterion, similar to the Popov criterion, for time-varying, nonlinear, continuous systems. *Proc. IEEE* **57** (1969), 212–214. (Author's summary) **46** #3162 93D10

An l_2 stability criterion with frequency domain interpretation for a class of nonlinear discrete systems. *IEEE Trans. Automatic Control* **AC-17** (1972), n 3. 365–368. (Author's summary) **55** #14340 93D10

Krikorian, Nishan Compact multilinear transformations. *Proc. Amer. Math. Soc.* **33** (1 2). 373–376. (S. Fučík) **45** #4144 46G99 (47H99)

Differentiable structures on function spaces. *Trans. Amer. Math. Soc.* **171** (1 2). 67–82. (A. J. Tromba) **47** #1082 58D15 (58B10)

Invariance of domain in Banach spaces. *Proc. Amer. Math. Soc.* **60** (1976), 367 (1977). (A. J. Tromba) **54** #13966 58B05 (47H99)

Global existence on Banach manifolds. *Rev. Roumanie Math. Pures Appl.* **22** (1). *no.* 9, 1249–1251. (S. G. Gindikin) **57** #1572 58F99 (34G05)

ter-Krikorov, A. M. *See* **Ter-Krikorov, A. M.**

Krikunenko, V. L. (*with* Ladikov, Ju. P.) Damping of the heat convection by a distrib automatic regulator in a fluid which is a good conductor of heat. (Russian) *Kiber* *Vyčisl. Tehn. Vyp.* 37 (1977), 87–93, 120. (Authors' summary) **58** #14325 76.49

Krikunov, Ju. M. The Tricomi problem for a particular case of the equation $K(y)u_{xx}+u_{yy}=0$. II. (Russian) *Trudy Sem. Kraev. Zadačam No.* 5 (1968), 122–136. RŽMat **1969** #4 B303) 35M05

The Tricomi problem for a particular case of the equation $K(y)u_{xx}+u_{yy}=0$. (Russian) *Trudy Sem. Kraev. Zadačam No.* 6 (1969), 94–105. (See Zbl **212**, 44 35M05

The Gellerstedt problem for a particular case of the equation $K(y)u_{xx}+u_{yy}=$ (Russian) *Trudy Sem. Kraev. Zadačam No.* 7 (1970), 183–187. (See RŽMat **1970** B388) 35M05

The Gellerstedt problem for a particular case of the equation $K(y)u_{xx}+u_{yy}=0$ (Russian) *Trudy Sem. Kraev. Zadačam No.* 8 (1971), 129–135. (See Zbl **226** #3505 35M05

The Gellerstedt problem for a particular case of the equation $K(y)u_{xx}+u_{yy}=0$. (Russian) *Trudy Sem. Kraev. Zadačam No.* 9 (1972), 169–172. (See RŽMat **1973** B266) 35M05

A certain generalization of the hypergeometric integral. (Russian) *Trudy S* *Kraev. Zadačam No.* 10 (1973), 90–94. (R. G. Langebartel) **50** #5046 33A30

On the Tricomi problem for the Lavrent'ev-Bicadze equation. (Russian) *Izv. V* *Učebn. Zaved. Matematika* **1974**, *no.* 2(141), 76–81. (T. Kal'menov) **50** #5207 35M05

A boundary value problem for the equation $u_{xx}+\operatorname{sgn}(xy)u_{yy}=0$. (Russian) *Tr* *Sem. Kraev. Zadačam Vyp.* 11 (1974), 100–106. (M. Meredov) **58** #29377 35M

A certain problem of Gellerstedt. (Russian) *Izv. Vysš. Učebn. Zaved. Matema* **1975**, *no.* 6(157), 56–59. (V. V. Kovrižkin) **56** #882 35M05

(*with* Žegalov, V. I.; Norden, A. P.; Tumašev, G. G.) Ljubov' Ivanovna Čibrik (on the occasion of her fiftieth birthday). (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 6(157), 166–167. (Editors) **52** #5330 01A70

A particular case of the equation $K(y)u_{xx}+\operatorname{sgn}(xy)K(x)u_{yy}=0$. (Russian) *Tr* *Sem. Kraev. Zadačam Vyp.* 12 (1975), 126–133. (RŽMat **1976** #6 B383) **58** #2313 35M05

On the Tricomi problem for a square. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 10(185), 81–85. (A. P. Soldatov) **58** #17572 35M05

An equation whose order degenerates along the line of change of type. (Russia *Trudy Sem. Kraev. Zadačam No.* 14 (1977), 137–140. (From the text) **58** #2313 35M05

Krile, Thomas F. (*with* Sabbagh, Harold A.) Application of one-dimensional finite elements to normal mode analysis of ferroelectric cylindrical shells. *J. Acoust. S* *Amer.* **61** (1977), *no.* 1, 2–10. (David F. Griffiths) **55** #1954 78.65

Krimmel, John E. A condition on near-rings with identity. *Monatsh. Math.* **77** (197 52–54. (J. R. Clay) **47** #3460 16A76

Krindač, V. P. (*with* Spasskiĭ, B. I.) A substantiation and some applications for Pie Curie's symmetry principle. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* (1972), *no.* 4, 458–464. (Pavel Winternitz) **53** #9767 70.20

Kríneckiĭ, I. I. (*with* Batkov, A. M.; Borodin, Ju. I.; Gol'dfarb, L. S.; Ioannesian, A. Letov, A. M.; Petrov, V. V.; Popov, E. P.; Semenov, V. V.; Solodovnikov, V. Topčeev, Ju. I.; Ulanov, G. M.; Šatalov, A. S.) ★Техническая кибернетика. Теор автоматического регулирования. Книга 3: Теория нестационарных, нелинейных само-настраивающихся систем автоматического регулирования. Часть 1. (Russia [Engineering cybernetics. Theory of automatic control. Vol. 3: Theory of nonstationa nonlinear and selfadjusting systems of automatic control. Part 1] Edited by V. Solodovnikov. *Izdat. "Mašinostroenie", Moscow*, 1969. 607 *pp.* (Editors) **45** #9726 93–02

See also **Cybernetics in marine transportation, 54** #9827

Kríneckiĭ, O. E. (*with* Petrov, B. N.; Ulanov, G. M.; Gol'denblat, I. I.; Kočubievskiĭ, D.; Ul'janov, S. V.) Informational aspects of the qualitative theory of dynamic systems. (Russian) *Engineering cybernetics, Vol.* 8, *Parts* 1-2 (*Russian*), *pp.* 102–208, 36 *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1977. (Vadi Komkov) **58** #15322 93–01 (49–01, 94A15)

Krings, Wolfgang (*with* Waller, Heinz) ★Matrizenmethoden in der Maschinen- und Bauwerksdynamik. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1975. 377 (Editors) **53** #8085 15–01 (65–01)

Ein finites Elementverfahren für linear-viskoses-isotropes Stoffverhalten. (Engli and Russian summaries) *Z. Angew. Math. Mech.* **57** (1977), *no.* 12, 707–715. (Author summary) **58** #32299 73.65

Krinickiĭ, N. A. Some formal languages. (Russian) *Cifr. Vyčisl. Tehn. i Programmirovan* *No.* 7 (1972), 5–13, 189. (See RŽMat **1972** #8 V614) 68A30

(*with* Mironov, G. A.; Frolov, G. D.) Certain criteria for the complexity of system (Russian) *Digital computer technology and programming, No.* 8 (*Russian*), *pp.* 4–8, 18 *Sovetskoe Radio, Moscow*, 1974. (M. Tetruašvili) **52** #4706 68A20

(*with* Mironov, G. A.; Frolov, G. D.) ★Программирование и алгоритмически языки. (Russian) [Programming, and algorithmic languages] Edited by A. A. Dorodnicyn. Справочная Математическая Библиотека, Но. 15. [Mathematical Reference Library, No. 15] *Izdat. "Nauka", Moscow*, 1975. 496 *pp.* (V. N. Agafonov **55** #13848 68–01

A broad formal definition of algorithm. (Russian) Issue dedicated to the memory o

Alekseĭ Andreevič Ljapunov. *Problemy Kibernet. No.* 32 (1977), 161–186, 247. (Author's summary) **58** #32037 68A10

The concept of a collective of algorithms and some of its applications. (Russian) *Programmirovanie* **1977**, *no.* 3, 3–19, 95. (M. Tetruašvili) **58** #8448 68A05

See also **Buslenko, N. P.; et al.**, 57 #12105

Krinov, S. N. *See* **Papers on engineering cybernetics**, 47 #1339

Krinsky, Samuel (*with* Baker, George A., Jr.) Renormalization group structure for translationally invariant ferromagnets. *J. Mathematical Phys.* **18** (1977), *no.* 4, 590–607. (V. P. Kalašnilov) **56** #2134 82.47

Kripfganz, J. (*with* Ilgenfritz, E. M.; Möhring, H. J.) Hadronische Kaskadenprozesse. *Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **26** (1977), *no.* 2, 205–218. (Editors) **58** #32535 81.35

Kripke, Bernard R. (*with* Holmes, Richard B.) Best approximation by compact operators. *Indiana Univ. Math. J.* **21** (1971/72), 255–263. (J. Blatter) **45** #5718 46B05 (47B05)

Kripke, Saul *See* **Feys, R.**, **50** #9527 *and* **Khatchadourian, Haig**, **58** #21393

Krips, Henry Foundations of quantum theory. I. *Found. Phys.* **4** (1974), 181–193. (S. Gudder) **54** #1965a 81.46 (81.60)

Foundations of quantum theory. II. *Found. Phys.* **4** (1974), 381–394. (S. Gudder) **54** #1965b 81.46 (81.60)

Statistical interpretation of quantum theory. *Amer. J. Phys.* **43** (1975), 420–422. (Author's summary) **53** #15118 81.00

Macroscopic variables. *Internat. J. Theoret. Phys.* **12** (1975), 11–24. (Author's summary) **53** #15119 81.00

Foundations of quantum theory. III. *Found. Phys.* **6** (1976), *no.* 6, 639–659. (S. Gudder) **54** #11999 81.00

Quantum theory and measures on Hilbert space. *J. Mathematical Phys.* **18** (1977), *no.* 5, 1015–1021. (C. J. Henrich) **57** #11426 81.28 (28A45)

Kriščenko, A. P. The structure of the singularities of the solutions of quasilinear equations. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 3 (189), 219–220. (Ja. A. Roĭtberg) **54** #11413 58G15

Foldings of R-manifolds. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 1, 17–20. (M. L. Gromov) **57** #10740 58G15

Krisch, H. Über die Eigenwertaufgabe bei diskreter rationaler Tschebyscheff-Approximation. *Numerische Behandlung von Eigenwertaufgaben* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1972), *pp.* 57–62. *Internat. Schriftenreihe Numer. Math., Band* 24, *Birkhäuser, Basel*, 1974. (Werner Krabs) **53** #8732 41A20 (15A18)

Kriščiūnaitė, A. Contact umbilical hypersurfaces in the space of O-pairs. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 117–124. (J. Merza) **47** #2523 53C25

On the theory of hypersurfaces of certain B-spaces of hyperbolic type. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 1, 145–154, 235. (J. Merza) **50** #3143 53C15

Krishna, B. (*with* Agarwal, V. K.) Torsional vibrations of spherical shells. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 4, 430–436. (Yi-Yuan Yu) **57** #14707 73.35

Krishna, D. V. (*with* Prasada Rao, D. R. V.) Point force in a MHD rotating fluid. *Appl. Sci. Res.* **33** (1977), *no.* 2, 177–185. (Tommaso Ruggeri) **57** #8393 76.35

Krishna, Gopalrao (*with* Nagaraja, G.) An algorithm for the solution of linear inequalities. *IEEE Trans. Computers* **C-23** (1974), 421–427. (J. Abrham) **50** #12281 90C99 (65K05)

Krishna, H. V. A note on permutations. *Math. Education* **4** (1970), 51–53. **45** #78 05A10

Properties of the Pell sequence. *Math. Education* **5** (1971), A18–A20. (J. B. Kelly) **45** #162 10A20

On Mersenne and Fermat numbers. Volume dedicated to the memory of V. Ramaswami Aiyar. *Math. Student* **39** (1971), 51–52 (1972). (E. M. Horadam) **48** #5989 10A40

Integral solutions of $(m-d)x^2+my^2=(m+d)z^2$. Volume dedicated to the memory of V. Ramaswami Aiyar. *Math. Student* **39** (1971), 166 (1972). **48** #3872 10B05

A note on Pell sequence. Volume dedicated to the memory of V. Ramaswami Aiyar. *Math. Student* **39** (1971), 207–208 (1972). (From the author's introduction) **48** #3861 10A35

A note on complete sequences. *Math. Education* **6** (1972), A13. (L. Hoischen) **46** #2295 40A05 (10A40)

A note on digraphs. *Math. Education* **6** (1972), A79–A80. **46** #7079 05C20

Pythagorean pentids. *Math. Student* **42** (1974), 41–43 (1975). (J. M. Gandhi) **53** #267 10A40

(*with* Yalavigi, C. C.) Periodic lengths of the generalized Fibonacci sequence modulo p. *Fibonacci Quart.* **15** (1977), *no.* 2, 150–152. (L. C. Eggan) **55** #10371 10A35

Some properties of the Pell sequence. *Math. Education* **12** (1978), *no.* 1, A18 – A20. (Carl Pomerance) **58** #5495 10A35

gopala Krishna, J. *See* **Gopala Krishna, J.**

Krishna, S. (*with* Mathur, B. L.) On multivariate fractional integration operators. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 9, 1078–1082. (S. L. Kalla) **58** #2056 44A20 (26A33)

Krishnaiah, Paruchuri R. (*with* Waikar, V. B.; Chang, Tseng C.) ★Exact distributions of a few arbitrary roots of some complex random matrices. ARL 71–0035. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1971. iv + 10 *pp.* **45** #1315 62H99

(*with* Chang, Tseng C.) On the exact distribution of the smallest root of the Wishart matrix using zonal polynomials. *Ann. Inst. Statist. Math.* **23** (1971), 293–295. **47** #1176 62H10

(*with* Waikar, V. B.) Simultaneous tests for equality of latent roots against certain alternatives. I. *Ann. Inst. Statist. Math.* **23** (1971), 451–468. (C. G. Khatri) **47** #2750 62H15

(*with* Waikar, V. B.) Exact joint distributions of any few ordered roots of a class of random matrices. *J. Multivariate Anal.* **1** (1971), 308–315. (Author's summary) **46** #1018 62H99

(*with* Chang, Tseng C.) On the exact distributions of the extreme roots of the Wishart and MANOVA matrices. *J. Multivariate Anal.* **1** (1971), *no.* 1, 108–117. (Author's summary) **46** #1015 62H05

(*with* Sen, Pranab Kumar) Some asymptotic simultaneous tests for multivariate moving average processes. *Sankhyā Ser. A* **32** (1971), 81–90. (T. V. Avadhani) **47** #4404 62M10

(*with* Waikar, V. B.) Simultaneous tests for equality of latent roots against certain alternatives. II. *Ann. Inst. Statist. Math.* **24** (1972), 81–85. (Editors) **48** #3187 62H15

(*with* Waikar, V. B.; Chang, Tseng C.) Exact distributions of a few arbitrary roots of some complex random matrices. *Austral. J. Statist.* **14** (1972), 84–88. **50** #3460 62H10

(*with* Chang, Tseng C.) On the exact distributions of the traces of $S_1(S_1+S_2)^{-1}$ and $S_1S_2^{-1}$. *Sankhyā Ser. A* **34** (1972), 153–160. (J. Kiefer) **48** #12726 62H10

★On the exact distributions of the test statistics based on the eigenvalues of complex random matrices. Report No. ARL 73-0178. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1973. v + 24 *pp.* (E. J. Williams) **49** #8207 62H10

★Tests for the equality of the convariance matrices of correlated multivariate normal populations. ARL 73-0109. *Applied Mathematics Research Group, Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio; distributed by National Technical Information Services Clearinghouse, Springfield, Va.*, 1973. v + 22 *pp.* (Editors) **52** #15850 62H15

(*with* Schuurmann, F. J.; Chattopadhyay, A. K.) ★Tables for a multivariate F distribution. ARL 73-0006. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1973. v + 26 *pp.* (Authors' summary) **54** #11653 62H10 (62Q05)

(*with* Schuurmann, F. J.; Chattopadhyay, A. K.) ★Exact percentage points of the distribution of the trace of $S_1(S_1+S_2)^{-1}$. ARL 73-0008. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1973. v + 26 *pp.* (Authors' summary) **55** #1618 62H10

(*with* Schuurmann, F. J.; Chattopadhyay, A. K.) ★Tables for the distributions of the ratios of the extreme roots to the trace of Wishart matrix. ARL 73-0010. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1973. v + 16 *pp.* (Authors' summary) **55** #1619 62H10

On the exact distributions of the statistics based on the eigenvalues of complex random matrices. (French summary) Proceedings of the 39th Session of the International Statistical Institute (Vienna, 1973), Vol. 2. *Bull. Inst. Internat. Statist.* **45** (1973), *book* 2, 97–103. (C. G. Khatri) **51** #7144 62H10

(*with* Waikar, V. B.) On the distribution of a linear combination of correlated quadratic forms. *Comm. Statist.* **1** (1973), 371–380. (Robert Hultquist) **49** #1683 62H10

(*with* Schuurmann, F. J.; Chattopadhyay, A. K.) On the distributions of the ratios of the extreme roots to the trace of the the Wishart matrix. *J. Multivariate Anal.* **3** (1973), 445–453. (Somesh Das Gupta) **48** #9976 62H10

(*with* Clemm, D. S.; Chattopadhyay, A. K.) Upper percentage points of the individual roots of the Wishart matrix. *Sankhyā Ser. B* **35** (1973), *no.* 3, 325–338. (Authors' summary) **53** #1845 62H10

(*with* Schuurmann, F. J.; Waikar, V. B.) Upper percentage points of the intermediate roots of the MANOVA matrix. *Sankhyā Ser. B* **35** (1973), *no.* 3, 339–358. (Authors' summary) **53** #1846 62H10

(*with* Gupta, A. K.; Chattopadhyay, A. K.) ★Asymptotic distributions of the determinants of some random matrices. Report No. ARL TR 74-0032. *Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio*, 1974. iii + 17 *pp.* (C. G. Khatri) **50** #3454 62H10

(*with* Schuurmann, F. J.) ★On the exact distributions of the individual roots of the complex Wishart and multivariate beta matrices. Report No. ARL TR 74-0063. *Aerospace Research Laboratories, Air Force Systems Command, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1974. iii + 119 *pp.* (*errata insert*) (C. G. Khatri) **50** #3457 62H10

(*with* Schuurmann, F. J.) ★On the exact distributions of the ratios of the individual roots to the trace of the complex and real Wishart matrices. Report ARL TR 74-0026. *Aerospace Research Laboratories, Office of Aerospace Research, United States Air Force, Wright-Patterson Air Force Base, Ohio*, 1974. iii + 33 *pp.* (*loose errata*) (C. G. Khatri) **51** #4551 62H10

(*with* Sen, Pranab Kumar) On a class of simultaneous rank order tests in MANOCOVA. *Ann. Inst. Statist. Math.* **26** (1974), 135–145. (Malay Ghosh) **52** #6999 62G10 (62J10)

(*with* Schuurmann, F. J.) On the evaluation of some distributions that arise in simultaneous tests for the equality of the latent roots of the covariance matrix. *J. Multivariate Anal.* **4** (1974), 265–282. (E. J. Williams) **50** #11633 62H10

Tests for the equality of the covariance matrices of correlated multivariate normal populations. *A survey of statistical design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *pp.* 355–366. *North-Holland, Amsterdam*, 1975. (Steven Arnold) **51** #14424 62H15

Simultaneous tests for multiple comparisons of growth curves when errors are autocorrelated. (French summary) Proceedings of the 40th Session of the International Statistical Institute (Warsaw, 1975), Vol. 4. Contributed papers. *Bull. Inst. Internat. Statist.* **46** (1975), *no.* 4, 62–66 (1976). (C. G. Khatri) **57** #14266 62H15

(*with* Gupta, A. K.; Chattopadhyay, A. K.) Asymptotic distributions of the determinants of some random matrices. *Comm. Statist.* **4** (1975), 33–47. (Editors) **51** #14417 62H10

(*with* Chattopadhyay, A. K.) On some noncentral distributions in multivariate analysis. *South African Statist. J.* **9** (1975), *no.* 1, 37–45. (C. G. Khatri) **52** #15843 62H10

Some recent developments on complex multivariate distributions. *J. Multivariate Anal.* **6** (1976), *no.* 1, 1–30. (Somesh Das Gupta) **53** #11879 62H10 (62M10)

(*with* Lee, Jack Chao-Sheng) On covariance structures. *Sankhyā Ser. A* **38** (1976), *no.* 4, 357–371. (Edward M. Carter) **57** #17945 62H10 (62E20)

(*with* Lee, Jack Chao-Sheng; Chang, Tseng C.) On the distribution of the likelihood ratio test statistic for compound symmetry. *South African Statist. J.* **10** (1976), *no.* 1, 49–62. (Akio Kudô) **55** #4515 62H10

(*with* Lee, Jack Chao-Sheng) Inference on the eigenvalues of the covariance matrices of real and complex multivariate normal populations. *Multivariate analysis, IV* (*Proc. Fourth Internat. Sympos., Dayton, Ohio,* 1975), *pp.* 95–103. *North-Holland, Amsterdam,* 1977. (C. G. Khatri) **57** #14263 62H10

On generalized multivariate gamma type distributions and their applications in reliability. *The theory and applications of reliability, with emphasis on Bayesian and nonparametric methods* (*Conf., Univ. South Florida, Tampa, Fla.,* 1975), *Vol. I, pp.* 475–494. *Academic Press, New York,* 1977. (Henry W. Block) **58** #18991 62N05

(*with* Khatri, C. G.; Sen, Pranab Kumar) A note on the joint distribution of correlated quadratic forms. *J. Stat. Plann. Inference* **1** (1977), *no.* 3, 299–307. (Goro Nagase) **58** #8025 62H10

See also **Multivariate analysis, 48** #1350; **Multivariate analysis, 56** #1518; **Applications of statistics, 56** #13403 *and* **Developments in statistics, 58** #3139

Krishna Iyer, P. V. (*with* Nath, G. Baikunth) Note on the combinatorial formula for ${}_nH_r$. *J. Austral. Math. Soc.* **14** (1972), 264–268. (W. D. Wallis) **47** #1631 05A15

(*with* Lipton, S.) Some studies in multinomial sequence with double dependence between successive observations. *Indian J. Pure Appl. Math.* **4** (1973), 826–837. (Edward D. Rothman) **55** #6576 60J10

Krishnaji, N. Characterization of some discrete distributions based on a damage model. *Sankhyā Ser. A* **36** (1974), *no.* 2, 204–213. (V. Seshadri) **52** #12158 62E10

Krishna Kumar, V. A criterion for a formally symmetric fourth order differential expression to be in the limit-2-case at ∞. *J. London Math. Soc.* (2) **8** (1974), 134–138. (R. R. D. Kemp) **49** #3261 34B20

The strong limit-2 case of fourth-order differential equations. *Proc. Roy. Soc. Edinburgh Sect. A* **71**, *part* 4, 297–304 (1974). (A. Erdélyi) **50** #5081 34B20

On the strong limit-point classification of fourth-order differential expressions with complex coefficients. *J. London Math. Soc.* (2) **12** (1975/76), *no.* 3, 287–298. (E. A. Catchpole) **52** #14443 34B20

(*with* Chaudhuri, Jyoti) On the eigenfunction expansion associated with a singular complex-valued fourth-order differential equation. *Proc. Roy. Soc. Edinburgh Sect. A* **75** (1975/76), *no.* 4, 325–332. (Brian D. Sleeman) **56** #3400 34B25

(*with* Everitt, William N.) On the Titchmarsh-Weyl theory of ordinary symmetric differential expressions. I. The general theory. *Nieuw Arch. Wisk.* (3) **24** (1976), *no.* 1, 1–48. (Alexander Alenicyn) **54** #637 34B25

Krishnamoorthy, A. (*with* Parthasarathy, P. R.) Compounding Bellman-Harris processes allowing immigration. *Math. Biosci.* **37** (1977), *no.* 1-2, 105–111. (Authors' summary) **58** #31426 60J80

(*with* Sankaranarayanan, G.) Branching processes with immigration subjected to disasters. *J. Math. Phys. Sci.* **12** (1978), *no.* 2, 165–176. (Anthony G. Pakes) **58** #7891 60J80

Krishnamoorthy, M. *See* **Operational Research, 49** #12059

Krishnamoorthy, M. S. (*with* Deo, Narsingh) ★An algorithm for removing surplus edges from a directed graph. Technical Report No. TRCS-74-002. *Computer Science Centre, Indian Institute of Technology, Kanpur,* 1974. ii + 14 *pp.* (A. C. Shershin) **50** #6911 05C20 (05–04)

(*with* Deo, Narsingh) Tree graphs and tree numbers. *IEEE Trans. Circuits and Systems* **CAS-22** (1975), 60–62. (S. Znám) **52** #13451 05C05

(*with* Deo, Narsingh; Pai, Ajit B.) Generalizations of line graphs and applications. *Information Processing Lett.* **6** (1977), *no.* 1, 14–17. (Jean H. Bevis) **56** #5362 05C99 (68A10)

Krishnamoorthy, V. (*with* Parthasarathy, K. R.) A note on nonisomorphic cospectral digraphs. *J. Combinatorial Theory Ser. B* **17** (1974), 39–40. (A. C. Shershin) **51** #5374 05C20

(*with* Parthasarathy, K. R.) Cospectral graphs and digraphs with given automorphism group. *J. Combinatorial Theory Ser. B* **19** (1975), *no.* 3, 204–213. (Pedro Sánchez) **53** #2735 05C25

On the Hamiltonian product of graphs. *Bull. Austral. Math. Soc.* **14** (1976), *no.* 2, 289–292. (Derek A. Holton) **55** #10319a (E **55** #10319b) 05C35

Corrigendum: "On the Hamiltonian product of graphs" (Bull. Austral. Math. Soc. **14** (1976), no. 2, 289–292). *Bull. Austral. Math. Soc.* **15** (1976), *no.* 1, 159. (Derek A. Holton) **55** #10319b 05C35

(*with* Parthasarathy, K. R.) Similarity concepts in graphs. *Rev. Roumaine Math. Pures Appl.* **22** (1977), *no.* 9, 1253–1258. (D. L. Greenwell) **57** #9597 05C25

(*with* Parthasarathy, K. R.) *F*-sets in graphs. *J. Combinatorial Theory Ser. B* **24** (1978), *no.* 1, 53–60. (L. V. Quintas) **58** #10579 05C25

Krishnamurthi, V. Correlation between Routh's stability criterion and relative stability of linear systems. *IEEE Trans. Automatic Control* **AC-17** (1972), 144–145. (Author's summary) **55** #12235 93D10

(*with* Seshadri, Viswanatha) A simple and direct method of reducing order of linear systems using Routh approximations in the frequency domain. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 5, 797–799. (Jean-Michel Bismut) **58** #9541 93C05

Krishnamurthy, E. V. (*with* Dabadghao, S. V.) Direct translation of Brzozowski's "linor-hat" language into the conventional regular expression. *Internat. J. Control* (1) **14** (1971), 541–547. (S. Huzino) **46** #8474 68A30

(*with* Krishnan, S.; Prabhu, S. S.) Probabilistic reinforcement algorithms for the reconstruction of pictures from their projections. *Internat. J. Systems Sci.* **4** (1973), *no.* 4, 661–670. (Authors' summary) **53** #4658 68A45 (94A05)

(*with* Sen, Syamal Kumar) Algorithmic line-notation for the representation of knots. *Proc. Indian Acad. Sci. Sect. A* **77** (1973), 51–61. **47** #4243 55A25

(*with* Sen, Syamal Kumar) Rank-augmented LU-algorithm for computing generalized matrix inverses. *IEEE Trans. Computers* **C-23** (1974), 199–201. (W. C. Rheinboldt) **50** #8945 65F20

(*with* Shyamasundar, R. K.) Algorithms for constructing hierarchical graphs. *IEEE Trans. Systems Man Cybernet.* **SMC-4** (1974), *no.* 5, 459–461. (Authors' summary) **53** #9707 68A10 (05C35)

(*with* Subramanian, K.; Rao, T. Mahadeva) Formal description, compression and transformation of digital pictures. I. Picture encoding and decoding. *Proc. Indian Acad. Sci. Sect. A* **79** (1974), 139–159. (1 *plate*) (Arnold Griffith) **53** #7159a 68A45 (94A05)

(*with* Subramanian, K.; Rao, T. Mahadeva; Srinivasan, S.) Formal descrip compression and transformation of digital pictures. II. Picture algebra and geome *Proc. Indian Acad. Sci. Sect. A* **79** (1974), 195–211. (3 *plates*) (Arnold Griffith) **53** #7159b 68A45 (94A05)

(*with* Prabhu, S. S.) Iterative solution of a class of linear equations with applica to reconstruction of three-dimensional object arrays. *Internat. J. Systems Sci.* **6** (19 *no.* 9, 801–807. (Robert Todd Gregory) **54** #11748 65F10

Similarity and typicality of taxa. *J. Indian Inst. Sci.* **57** (1975), *no.* 10, 358– (George F. Estabrook) **54** #4212 68A45 (92A99)

(*with* Rao, T. Mahadeva; Subramanian, K.) Finite segment *p*-adic number syst with applications to exact computation. *Proc. Indian Acad. Sci. Sect. A* **81** (19 58–79. (James Howland) **51** #2343 68A20 (65F10)

(*with* Rao, T. Mahadeva; Subramanian, K.) *p*-adic arithmetic procedures for e matrix computations. *Proc. Indian Acad. Sci. Sect. A* **82** (1975), *no.* 5, 165–175. (Ro Todd Gregory) **52** #13615 10A30 (65F99, 68A15)

(*with* Rao, T. Mahadeva; Subramanian, K.) Residue arithmetic algorithms exact computation of *g*-inverses of matrices. *SIAM J. Numer. Anal.* **13** (1976), *n* 155–171. (Robert Todd Gregory) **55** #13761 65F20

Matrix processors using *p*-adic arithmetic for exact linear computations. *IE Trans. Computers* **C-26** (1977), *no.* 7, 633–639. (V. V. Ivanov) **57** #7963 65 (12C15, 68A20)

(*with* Adegbeyeni, E. O.) Finite field computation technique for exact solution systems of linear equations and interval linear programming problems. *Internat Systems Sci.* **8** (1977), *no.* 10, 1181–1192. (Ja. I. Al'ber) **57** #14359 65F05

Krishna Murthy, M. R. (*with* Sridharan, P. C.; Krishna Swamy, H. S.; Parvathamma, Multiple generators of even digit numbers. *Math. Education* **11** (1977), *no.* 3, B41–E (R. Ayoub) **56** #8478 10A30

Krishnamurthy, M. S. (*with* Ramesha Chandra, H. R.) A note on precedence functio *Information Processing Lett.* **4** (1975/76), *no.* 4, 99–100. (Immo O. Kerner) **53** #464 68A30

Krishnamurthy, P. R. (*with* Agarwal, Ravi P.) On the uniqueness of solution of nonlin boundary value problems. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 1, 17–31. W. Bebernes) **54** #5528 34B15

Krishnamurthy, V. Counting of finite topologies and a dissection of Stirling numbers of second kind. *Bull. Austral. Math. Soc.* **12** (1975), 111–124. (H. Gupta) **50** #1275 05A15

Presidential address. *Math. Student* **43** (1975), 6–14 (1976). (Editors) **55** #767 00A25 (01A65)

On the enumeration of homeomorphism classes of finite topologies. *J. Aust Math. Soc. Ser. A* **24** (1977), *no.* 3, 320–338. (E. Keith Lloyd) **58** #16352 05 (05C20, 54A10)

Krishna Murty, M. (*with* Ramana Murty, P. V.) On admissible semilattices. *Alge Universalis* **6** (1976), *no.* 3, 355–366. (W. Nemitz) **55** #216 06A20

(*with* Ramana Murty, P. V.) On modular semilattices. *Pure Appl. Math. Sci* (1976), *no.* 1-2, 133–140. (R. P. Dilworth) **54** #12592 06A30

Krishnamurty, T. S. G. (*with* Appalanarasimham, V.) A note on the derivation of magnetic symmetry groups. *J. Mathematical and Physical Sci.* **8** (1974), 545–5 (William H. Klink) **54** #12072 82.20 (20H15)

(*with* Appalanarasimham, V.) On the extension of the point groups. *J. Mathematical and Physical Sci.* **9** (1975), 253–257. (Werner Nowacki) **52** #4898 82.20

(*with* Prasad, L. S. R. K.; Rama Mohana Rao, K.) On the utility of the allowa representations. *J. Math. Phys. Sci.* **12** (1978), *no.* 2, 141–147. (Authors' summa **58** #16864 20C35 (82.20)

(*with* Prasad, L. S. R. K.; Rama Mohana Rao, K.) On quasisysmmetry (*P*-symmetry) groups. *J. Phys. A* **11** (1978), *no.* 5, 805–811. (T. Janssen) **58** #11161 20H15

Krishnan, E. V. (*with* Prasad, Phoolan) Nonlinear wave propagation in a two-dimensio steady transonic flow. *J. Fluid Mech.* **82** (1977), *no.* 1, 17–28. (H. K. Cheng) **57** #21 76.35

Krishnan, K. R. (*with* Mukundan, R.; Perreault, D. A.; Bittel, Raymond H.; Helm, Synchronization of a digital communication network by discrete-control-correctio *Internat. J. Systems Sci.* **5** (1974), 1107–1118. (M. D. Srinath) **51** #15213 93C (94A20)

(*with* Koplowitz, Jack) Network synchronization with variable discrete contr corrections. *Proceedings of the Eighteenth Midwest Symposium on Circuits and Syste* (*Concordia Univ., Montreal, Que.,* 1975), *pp.* 428–432. *Western Periodicals, North Hollywood, Calif.,* 1975. (Jerzy Seidler) **56** #11588 94A20 (93C55)

(*with* Perreault, D. A.; Mukundan, R.) Dynamic allocation of hierarchical information paths for the organization of interconnected systems. Special issue large-scale networks and systems. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *n* 12, 814–817. (Authors' summary) **56** #15202 94A20

(*with* Koplowitz, Jack) Network synchronization with variable discrete contr corrections. *Internat. J. Control* **23** (1976), *no.* 5, 729–740. (Erol Gelenbe) **54** #4769 93C55 (94A20)

(*with* Mukundan, R.; Perreault, D. A.; Cotellessa, R. F.) Discrete-control correction. A technique for the synchronization of digital communication networks *Internat. J. Systems Sci.* 7 (1976), *no.* 7, 821–837. (J. Černý) **54** #4838 94A20

Adaptive model-reference control of an unknown plant with limited knowledge model. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 484–486. (Arie Feue **58** #9583 93C40 (93E20)

Krishnan, K. S. (*with* Terry, W. R.; Gupta, Shiv K.) Multi-warehouse inventory mod with constraints. *J. Math. Sci.* **6** (1971), 67–82 (1974). (Authors' summary) **57** #1536 90B05 (90C50)

Krishnan, Marakatha The noncentral bivariate chisquared distribution and extensions *Comm. Statist.–Theory Methods* **A5** (1976), *no.* 7, 647–660. (Author's summary) **53** #4373 62H10

Krishnan, S. (*with* Prabhu, S. S.; Krishnamurthy, E. V.) Probabilistic reinforcement algorithms for the reconstruction of pictures from their projections. *Internat. J. System Sci.* **4** (1973), *no.* 4, 661–670. (Authors' summary) **53** #4658 68A45 (94A05)

Krishnan, T. On linear combinations of binary item scores. *Psychometrika* **38** (1973), 291–304. (O. Gulyás) **50** #8898 62P15

Krishnan, V. Discrete Fourier transform and fast Fourier algorithm. *J. Indian Inst. Sci.* **56** (1974), 227–249. (From the author's summary) **51** #7351 65T05

Krishnan, V. K. Gap Tauberian theorem for generalized Abel summability. *Math. Proc. Cambridge Philos. Soc.* **78** (1975), *no.* 3, 497–500. (M. R. Parameswaran) **53** #3541 40E05

Krishnan, Viakalathur S. Semimetrics, semiécarts in ordered semigroups. *Séminaire P. Dubreil, M.-L. Dubreil-Jacotin, L. Lesieur et C. Pisot* (24*e année*: 1970/71), *Algèbre et théorie des nombres, Fasc.* 1, *Exp. No.* 1, 4 *pp. Secrétariat Mathématique, Paris*, 1972. (K. D. Magill, Jr.) **54** #5073 06A50

Krishna Prasad, K. (*with* Nallasamy, M.) Numerical studies on quasilinear and linear elliptic equations. *J. Computational Phys.* **15** (1974), 429–448. (Murli M. Gupta) **49** #10166 65N20

Krishna Rao, J. On spherically symmetric perfect fluid distributions and class one property. *General Relativity and Gravitation* **2** (1971), 385–386. (Author's summary) **52** #12701 83.53

Radiating Levi-Civita metric. *J. Phys. A* **4** (1971), 17–20. (W. Israel) **48** #13124 83.35

Krishna Swamy, H. S. (*with* Sridharan, P. C.; Krishna Murthy, M. R.; Parvathamma, S.) Multiple generators of even digit numbers. *Math. Education* **11** (1977), *no.* 3, B41–B46. (R. Ayoub) **56** #8478 10A30

Krishnaswamy, Ramachandran (*with* Biermann, Alan W.) Constructing programs from example computations. *IEEE Trans. Software Engrg.* **SE-2** (1976), *no.* 3, 141–153. (S. Huzino) **55** #1776 68A05

Krišman, Ja. S. (*with* Žukovin, V. E.) Multigoal control systems. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 1, 61–63. (Authors' summary) **57** #15657 93C99

Krišták, Milan Some rank tests of independence and the question of their power-function. (Czech summary) *Apl. Mat.* **16** (1971), 412–420. (H. E. Reinhardt) **45** #2872 62G10

Krištal, L. V. Estimates of sums of multiplicative functions by means of the method of integral equations. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 4, 15–16. (Matti Jutila) **53** #13144 10H25

Krištal, R. G. A class of complex-valued multiplicative functions. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 5, 5–7. (H.-E. Richert) **58** #27851 10H25

Kristalinskiĭ, R. H. The approximation of quaternion functions that are continuous on a compact by rational left-regular quaternion functions. (Russian) *Smolensk. Gos. Ped. Inst. Učen. Zap.* **20** (1969), 60–70. (L. Zalcman) **46** #7527 30A97

Certain approximation theorems in the theory of regular quaternion functions. (Russian) *Smolensk. Gos. Ped. Inst. Učen. Zap.* **20** (1969), 71–74. (L. Zalcman) **46** #7528 30A97

Certain applications of functional analysis to the theory of regular quaternion functions. (Russian) *Smolensk. Gos. Ped. Inst. Učen. Zap.* **20** (1969), 75–87. (L. Zalcman) **46** #7529 30A97

Kristal′nyĭ, B. V. (*with* Raskina, A. A.; Sidorov, I. S.) Methodological and technological aspects of describing the paradigms of information retrieval languages of object-symbol type. (Russian) *Voprosy Informacion. Teorii i Praktiki No.* 1 (1976), 100–120. (Not reviewed) 68A45

Kristensen, B. B. (*with* Madsen, O. L.) LR-parsing of extended context free grammars. *Acta Informat.* **7** (1976), *no.* 1, 61–73. (David B. Benson) **54** #6572 68A30

Kristensen, Erik (*with* Albertsen, K.) A previously unpublished solution by Carl Marius Christensen of Erlang's problem on the extinction of families. (Danish. English summary) *Nordisk Mat. Tidskr.* **24** (1976), *no.* 1, 14–18, 43. (P. Holgate) **57** #2844 01A60 (60–03)

Pythagorean twins. (Danish. English summary) *Nordisk Mat. Tidskr.* **24** (1976), *no.* 2, 61–62, 76. (Author's summary) **55** #12628 10A40

Pythagorean number sets and orthonormal matrices. (Danish. English summary) *Nordisk Mat. Tidskr.* **24** (1976), *no.* 3-4, 111–122, 135 (1977). (H. G. Meijer) **58** #10717 10B05 (10M20)

Kristensen, Leif On splittings of the tangent bundle of a manifold. *Algebraic topology* (*Proc. Sympos. Pure Math., Vol. XXII, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 113–123. *Amer. Math. Soc., Providence, R.I.*, 1971. (M. Mahawald) **51** #1818 55F25

(*with* Pedersen, Erik Kjaer) The $\mathcal{A}$-module structure for the cohomology of two-stage spaces. *Math. Scand.* **30** (1972), 95–106. (J. F. Adams) **48** #3050 55G10 (55D20)

Certain features in the development of algebraic topology. (Danish) *Danish Mathematical Society* (1923–1973), *pp.* 71–81. *Dansk Mat. Forening, Copenhagen*, 1973. (Editors) **58** #31046 55–03 (01A60)

Kristev, D. I. A metric property of the solutions of an elliptic equation on the plane. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 5, 26–32. (M. A. Atahodžaev) **55** #844 35J15

Kristeva-Varbanova, M. Asymptotisches Verhalten von geordneten Statistiken in der Umgebung eines Quantils. *C. R. Acad. Bulgare Sci.* **29** (1976), *no.* 10, 1409–1412. (G. E. Noether) **54** #14220 62G05 (62G30)

Kristiansen, G. K. Proof of an inequality for trigonometric polynomials. *Proc. Amer. Math. Soc.* **44** (1974), 49–57. (M. Marden) **49** #5666 42A04 (26A75)

Proof of a polynomial conjecture. *Proc. Amer. Math. Soc.* **44** (1974), 58–60. (M. Marden) **49** #5268 (E **53** #13495) 26A75 (42A04)

Erratum to "Proof of a polynomial conjecture" (Proc. Amer. Math. Soc. **44** (1974), 58–60). *Proc. Amer. Math. Soc.* **58** (1976), 377. (M. Marden) **53** #13495 26A78

Kristinkov, D. S. (*with* Brikman, M. S.) A method for the solution of the fundamental integral equations of the diagnostics of dynamical systems. (Russian) *Cybernetics and diagnostics, No.* 5 (*Russian*), *pp.* 55–69. *Izdat. "Zinatne", Riga*, 1972. (V. Lakshmikantham) **50** #16014 93C22 (45D05)

(*with* Brikman, M. S.) A certain transformation of the fundamental integral equation of cybernetical diagnostics, and a method for its solution in the time domain. (Russian) *Cybernetics and diagnostics, No.* 5 (*Russian*), *pp.* 205–214. *Izdat. "Zinatne", Riga*, 1972. (V. Lakshmikantham) **50** #16015 93C22 (45D05)

(*with* Sokovnin, V. M.) Projection methods in the problem of identification. (Russian) *Control methods and models, No.* 6 (*Russian*), *pp.* 68–72, 136. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1973. (L. von Wolfersdorf) **51** #4663 65J05 (47A50, 93B30)

More on the problem of acoustical diagnostics. (Russian) *Cybernetic methods in diagnostics* (*Russian*), *pp.* 11–17, 128. *Izdat. "Zinatne", Riga*, 1973. (V. Dupač) **52** #16834 94A05 (62M99)

(*with* Brikman, M. S.; Ivanov, V. V.) Regularization of a multidimensional stochastic approximation procedure. (Russian) *Methods and models of control, No.* 5 (*Russian*), *pp.* 93–108, 143–144. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1973. (V. N. Igolkin) **52** #5143 93E10

(*with* Brikman, M. S.; Ivanov, V. V.) An adaptive algorithm for the identification of a nonstationary dynamical system. (Russian) *Methods and models of control, No.* 5 (*Russian*), *pp.* 130–136, 145. *Redakcionno-Izdat. Otdel Rižsk. Politehn. Inst., Riga*, 1973. (V. N. Igolkin) **52** #5144 93E10

(*with* Brikman, M. S.) ★Аналитическая идентификация управляемых систем. (Russian) [Analytic identification of control systems] *Izdat. "Zinatne", Riga*, 1974. 206 *pp.* (*loose errata*) (F. M. Kirillova) **50** #4019 93B30

Inverse problems of engineering cybernetics. (Russian) *Metody i Modeli Upravlenija Vyp.* 8 (1974), 117–124, 132. (Author's summary) **57** #1874 65J05

(*with* Brikman, M. S.; Plaude, A. K.) An integral method for lowering the order of the differential equation of a nonstationary linear system. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1975**, *no.* 4, 93–103, 125. (Ljubomir Lilov) **52** #7597 93A10 (34A45)

(*with* Bardačenko, V. V.) On the question of vibroaccoustical diagnostics of nonlinear systems. (Russian) *Metody i Modeli Upravlenija Vyp.* 9 (1975), 60–66, 209. (Authors' summary) **57** #2677 93C10

(*with* Brikman, M. S.; Plaude, A. K.) On the question of error estimation of integral equivalence methods. (Russian) *Metody i Modeli Upravlenija Vyp.* 9 (1975), 159–165, 214. (Authors' summary) **57** #1944 65R05

A stable method for the solution of an inverse problem in engineering cybernetics. (Russian) *Metody i Modeli Upravlenija Vyp.* 9 (1975), 166–169, 214. (Author's summary) **56** #17060 65J05 (65N30)

★Статистический анализ и синтез линейных непрерывных систем автоматического управления. (Russian) [Statistical analysis and synthesis of linear continuous systems of automatic control] *Rižsk. Politehn. Inst., Riga*, 1977. 97 *pp.* (From the introduction) **58** #33472 93E99

Nonlinear inverse problems of engineering cybernetics. (Bulgarian. Russian and English summaries) *Avtomat. Izčisl. Tehn.* **11** (1977), *no.* 2, 5–9, 2, 4. (Author's summary) **58** #15634 93E99

See also **Methods and models of control, 48** #10741; **Methods and models of control, 50** #12520; **Methods and models of control, 50** #12536 *and* **Methods and models of control, 56** #11114

Kristof, G. *See* **Christoph, Gerd**

Kristof, Walter On the theory of a set of tests which differ only in length. *Psychometrika* **36** (1971), 207–225. (K. G. Jöreskog) **53** #9565 62P15

On a statistic arising in testing correlation. *Psychometrika* **37** (1972), 377–384. (A. K. Gayen) **47** #9774 62H10 (62P15)

Testing a linear relation between true scores of two measures. *Psychometrika* **38** (1973), 101–111. (N. L. Johnson) **46** #10164 62P15

On accuracy in reliability estimation. *Psychometrika* **39** (1974), 23–29. (H. L. Harter) **50** #8899 62P15

Estimation of reliability and true score variance from a split of a test into three arbitrary parts. *Psychometrika* **39** (1974), 491–499. (Author's summary) **53** #4437 62P15

Kristofel′, N. N. *See* **Problems in theoretical physics, 50** #12007

Krithivasan, Kamala (*with* Siromoney, Gift; Siromoney, Rani) Abstract families of matrices and picture languages. *Comput. Graphics and Image Processing* **1** (1972), *no.* 3, 284–307. (K. S. Fu) **52** #2301 68A45

(*with* Siromoney, Gift; Siromoney, Rani) Picture languages with array rewriting rules. *Information and Control* **22** (1973), 447–470. (R. E. Stearns) **49** #4327 68A30

(*with* Siromoney, Rani; Siromoney, Gift) *n*-dimensional array languages and description of crystal symmetry. I. *Proc. Indian Acad. Sci. Sect. A* **78** (1973), 72–88. (M. Novotný) **49** #8437 68A30 (68A45)

(*with* Siromoney, Rani; Siromoney, Gift) *n*-dimensional array languages and description of crystal symmetry. II. *Proc. Indian Acad. Sci. Sect. A* **78** (1973), 130–139. (M. Novotný) **50** #9068 68A30

(*with* Siromoney, Rani) Parallel context-free languages. *Information and Control* **24** (1974), 155–162. (Leon Levy) **49** #4328 68A30

(*with* Siromoney, Rani) Array automata and operations on array languages. *Internat. J. Comput. Math.* **4**, 3–30 (1974). (W. W. Armstrong) **50** #6208 68A25

(*with* Siromoney, Rani) Characterizations of regular and context-free matrices. *Internat. J. Comput. Math.* **4**, 229–245 (1974). (K. S. Fu) **51** #7377 68A30

Variations of the matrix models. *Internat. J. Comput. Math.* **6** (1977/78), *no.* 3, 171–190. (Albert Jugel) **57** #14624 68A30

Kritt, Brian A theory of unbounded generalized scalar operators. *Proc. Amer. Math. Soc.* **32** (1972), 484–490. (E. R. Deal) **45** #2514 47B40

The Fourier transform of an unbounded spectral distribution. *Proc. Amer. Math. Soc.* **35** (1972), 74–80. (E. R. Deal) **45** #5790 47B40

Kritz, A. H. (*with* Ramanathan, G. V.; Sandri, G.) Failure of Bogoljubov's functional assumption. *Phys. Rev. A* (3) **6** (1972), 1950–1955. (Authors' summary) **54** #6809 82.45

Kritzinger, P. S. (*with* Graham, J. Wesley) New sets of linear difference equations for the definition of merge methods. *Proceedings of the Fourth Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1973), *pp.* 397–402. *Utilitas Math., Winnipeg, Man.*, 1973. (Walter Oberschelp) **54** #9145 68A10

(*with* Graham, J. Wesley) A theorem in the theory of compromise merge methods. *J. Assoc. Comput. Mach.* **21** (1974), 157–160. (Authors' summary) **49** #4305 68A20

Kriul′ko, S. A. Solution of two boundary value problems for a certain third order equation of mixed composite type. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1969), *no.* 3, 125–130. (S. A. Tersenov) **46** #5847 35M05

Two problems for a third order equation of mixed-composite type. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 7 (1970), 188–192. (Zbl **206**, 399) **58** #17573 35M05

Krivčenko, L. A. (*with* Bagautdinov, G. N.) Generalized solutions of countable systems of differential equations. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **1** (1970), 15–25, 317. (Authors' summary) **56** #12468 34G05

Krivčenkov, D. V. (*with* Eljutin, P. V.) The validity of the quasiclassical approximation. (Russian. English summary) *Teoret. Mat. Fiz.* **19** (1974), *no.* 2, 233–236. (Authors' summary) **57** #8606 81.34

Krivčenkov, V. D. (*with* Starobinskiĭ, A. A.) A note apropos infinitesimal operators of the representations of the group $O^+(4)$. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1971**, *no.* 9, 40–44. (K. Veselić) **45** #8181 81.47

(*with* Gol'dman, I. I.; Kogan, V. I.; Galickiĭ, V. M.) ★Problems in quantum mechanics. Collected and edited by D. ter Haar. Third Edition. *Pion, London*, 1975. 468 *pp.* ISBN 0-85086-050-4 (Editors) **56** #7517 81.00

Krivcov, V. E. Qualitative features of optimal paths of a convex model of dynamic interindustrial balance with continuous time. *Avtomat. i Telemeh.* **1975**, *no.* 11, 142–150 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1972), *no.* 11, *part* 2, 1878–1886. (Morton I. Kamien) **55** #2078 90A15

Krivcov, V. M. Stability of the method of moments for the computation of selective radiative transfer. (Russian) *Radiation gas dynamics, No.* 2 (*Russian*), *pp.* 61–62, 128. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1976. (M. Drăganu) **55** #14045 82.65

The properties of the solutions of the system of equations of the moment method for the computation of radiative transfer. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 1, 250–252, 272. (Author's summary) **57** #11388 80.45

Krivcova, M. N. A certain method of approximate solution of nonlinear differential equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 11(126), 39–45. (C. Corduneanu) **47** #8943 34A20

Approximate solution of a certain class of systems of nonlinear differential equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* (**1975**), *no.* 9(160), 95–98. (J. F. Heyda) **54** #5525 34A45

Krivcun, M. G. Limit equilibrium of a plate with an elliptic aperture and a crack. (Russian) *Mat. Metody i Fiz.-Meh. Polja Vyp.* 6 (1977), 57–61, 110. (B. Vujanović) **57** #8282 73.30

Krivelevič, B. A. On a differential equation of diffraction theory. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 4, 740–742, 767. (B. S. Popov) **58** #11573 34A25

Krivenko, O. P. (*with* Piragas, K. A.; Žuk, I. T.) On the second integrals of geodesics in the Kerr field. *Astrophys. and Space Sci.* **40** (1976), *no.* 1, 39–61. (C. V. Vishveshwara) **57** #18717 83.53

Krivenko, V. M. Structure and classification of idempotent semigroups in which every subset is a transversal. (Russian) *Modern algebra, No.* 4 (*Russian*), *pp.* 118–132. *Leningrad. Gos. Ped. Inst., Leningrad*, 1976. (Editors) **58** #22353 20M10

Semigroups in which every 2-generated subsemigroup is a normal complex. (Russian) *Modern algebra, No.* 6 (*Russian*), *pp.* 114–125. *Leningrad. Gos. Ped. Inst., Leningrad*, 1977. (B. Pondelicek) **58** #28231 20M10

Krivenkov, Ju. P. Some questions of the theory of network methods of scheduling. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 2, 45–52. (Author's summary) **45** #8246 90B35

Sufficient optimality conditions for linear problems in the mathematical theory of optimal processes with phase constraints. (Russian) *Questions in applied mathematics* (*Russian*), *pp.* 56–62. *Sibirsk. Ènerget. Inst. Akad. Nauk SSSR Sibirsk. Otdel., Irkutsk*, 1975. (Russell D. Rupp) **56** #9377 49B10

Sufficient optimality conditions for problems with second order differential equations of elliptic type in the presence of phase constraints. (Russian) *Differencial'nye Uravnenija* **11** (1975), 85–99, 203. (Author's summary) **58** #7289 49B20

Necessary optimality conditions for an optimal problem with an operator criterion and operator constraints. (Russian) *Dokl. Akad. Nauk SSSR* **227** (1976), *no.* 1, 29–32. (F. M. Kirillova) **53** #14265 49B30

Necessary optimality conditions for a linear problem with second order differential equations of elliptic type in the presence of phase constraints. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 1, 28–31. (L. von Wolfersdorf) **55** #3917 49B25

Krivine, Jean-Louis (*with* Kreisel, Georg) ★Modelltheorie. Eine Einführung in die mathematische Logik und Grundlagentheorie. Aus dem Französischen übersetzt von J. Jung. Hochschultext. *Springer-Verlag, Berlin-New York*, 1972. xv+276 *pp.* (Editors) **50** #4231 02–02 (02Bxx, 02Hxx)

(*with* McAloon, Kenneth) Forcing and generalized quantifiers. *Ann. Math. Logic* **5** (1972/73), 199–255. (J. A. Makowsky) **56** #5209a 02B20 (02H13)

Théorie des modèles et espaces L^p. *C. R. Acad. Sci. Paris Sér. A-B* **275** (1972), A1207–A1210. (W. A. J. Luxemburg) **46** #7879 46E30 (02H99)

(*with* Dacunha-Castelle, Didier) Applications des ultraproduits à l'étude des espaces et des algèbres de Banach. *Studia Math.* **41** (1972), 315–334. (W. A. J. Luxemburg) **46** #4165 46B05 (02H99)

(*with* McAloon, Kenneth) Some true unprovable formulas for set theory. *The Proceedings of the Bertrand Russell Memorial Conference* (*Uldum*, 1971), *pp.* 332–341. *Bertrand Russell Memorial Logic Conf., Leeds*, 1973. (A. Lévy) **50** #9580 02K05 (02H20, 02K15)

(*with* McAloon, Kenneth) Erratum to: "Forcing and generalized quantifiers". *Ann. Math. Logic* **6** (1973), 93. (J. A. Makowsky) **56** #5209b 02B20 (02H13)

Théorèmes de factorisation dans les espaces réticulés. *Séminaire Maurey-Schwartz* 1973–1974: *Espaces L^p, applications radonifiantes et géométrie des espaces de Banach, Exp. Nos.* 22 *et* 23, 22 *pp. Centre de Math., École Polytech., Paris*, 1974. (A. Goullet de Rugy) **55** #13209 46A40

Langages à valeurs réelles et applications. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, III. *Fund. Math.* **81** (1974), 213–253. (W. A. J. Luxemburg) **50** #1873 02H10 (02B10, 02B25, 46B05)

(*with* Dacunha-Castelle, Didier) ★Sous-espaces de L^1. 2ème version. Publication Mathématique d'Orsay, No. 168-75.48. *U.E.R. Mathématique, Université Paris XI, Orsay*, 1975. 51 *pp.* (W. A. J. Luxemburg) **55** #11018 46E30 (02H25, 46B99)

Sur les espaces isomorphes à l^p. *Séminaire Maurey-Schwartz* 1974–1975: *E* *L^p, applications radonifiantes et géométrie des espaces of Banach, Exp. No. XII,* *Centre Math., École Polytech., Paris*, 1975. (C. Ward Henson) **55** #3751 (02H25)

(*with* Dacunha-Castelle, Didier) Sous-espaces de L^1. (English summary) *Acad. Sci. Paris Sér. A-B* **280** (1975), A645–A648. (W. A. J. Luxemburg) **51** #1 46E30 (02H25)

Sur les espaces isomorphes à l^p. (English summary) *C. R. Acad. Sci. Paris Sér* **280** (1975), Aii, A713–A715. (W. A. J. Luxemburg) **51** #1347 46B05

Représentation finie des l^p dans les espaces de Banach réticulés. (English summ *C. R. Acad. Sci. Paris Sér. A-B* **280** (1975), A1061–A1062. (W. A. J. Luxem **51** #3864 46A45

Sous-espaces de dimension finie des espaces de Banach réticulés. *Ann. of Ma* **104** (1976), *no.* 1, 1–29. (W. A. J. Luxemburg) **53** #11341 46B05 (02H25)

Sur la complexification des opérateurs de L^∞ dans L^1. (English summary) *Acad. Sci. Paris Sér. A-B* **284** (1977), *no.* 6, A377–A379. (Author's summary) **55** # 47B37

Sur la constante de Grothendieck. (English summary) *C. R. Acad. Sci. Pari* *A-B* **284** (1977), *no.* 8, A445–A446. (Author's summary) **55** #1435 60G15 (4

(*with* Dacunha-Castelle, Didier) Sous-espaces de L^1. (English summary) *Isr* *Math.* **26** (1977), *no.* 3-4, 320–351. (Authors' summary) **58** #30117 46E30 (0 46B05)

Krivjakova, È. N. (*with* Martynov, G. V.; Tjurin, Ju. N.) The distribution of th statistic in the multidimensional case. (Russian. English summary) *Teor. Verojatn* *Primenen.* **22** (1977), *no.* 2, 415–420. (Sándor Csörgő) **55** #13655 62G10 (62E

Křivka, P. On homomorphism perfect graphs. *Comment. Math. Univ. Carolinae* **12** (619–626. (P. Hell) **45** #117 05C20

On representations of monoids as monoids of polynomials. *Comment. Math.* *Carolinae* **13** (1972), 121–136. (I. Gy. Maurer) **46** #3667 20M30

Krivochéine, Leonida Eugenio *See* **Krivošeĭn, L. E.**

Krivokolesko, V. P. (*with* Južakov, A. P.) Certain properties of linearly convex do with smooth boundaries in C^n. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 452–458 Forster) **46** #399 32F99

Krivonogov, N. P. Some estimates for orthogonal polynomials in the case of algebraic of a weight function. (Russian) *Application of functional analysis in approximation t* *No.* 3 (*Russian*), *pp.* 44–50. *Kalinin. Gos. Univ., Kalinin*, 1974. (Editors) **58** #29 42A52

Fourier series in polynomials that are orthonormal on the circle. (Russian) *Application of functional analysis in approximation theory, No.* 6 (*Russian*), *pp.* 5 *Kalinin. Gos. Univ., Kalinin*, 1975. (Editors) **58** #29797 42A56

Convergence in the mean of Fourier series in orthonormal polynomials on the circle. (Russian) *Application of functional analysis in approximation theory, No.* 5 (*Russian*), *pp.* 64–69. *Kalinin. Gos. Univ., Kalinin*, 1975. (Editors) **58** #29764 4

Krivonos, F. V. The N-high subgroups of an abelian group. (Russian. English summ *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 1, 58–64. (L. Fuchs) **53** #3 20K99

Krivonos, Ju. M. (*with* Galanov, B. O.) A certain method of differential desce extremal problems. (Russian) *Mathematical methods in specialized computer techn* (*Proc. Sem., Kiev*, 1968/1969), *No.* 1 (*Russian*), 38–47. *Akad. Nauk Ukrain. SSR,* 1969. (I. Šelihova (RŽMat **1970** #5 B714)) **46** #1079 65K05

Krivonosov, L. N. A certain method of prescribing a pre-Hilbertian norm. (Russian) *Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 1(116), 52–54. (V. Zizler) **45** #74 46C05

Localized sequences in metric spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 4(143), 45–54. (P. Kratochvíl) **50** #14627 54A20

A certain extension of metric spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 4(155), 33–36. (E. Halfar) **53** #1533 54E40

Krivonožko, V. E. (*with* Čebotarev, S. P.) Factorization method for linear dynamic programming problems. *Avtomat. i Telemeh.* **1976**, *no.* 7, 80–90 (*Russian. En* *summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 7, *part* 1, 1043– (See Zbl **386** #49021) 90C05

(*with* Čebotarev, S. P.) Triangular factoring of matrices in penalty function me for solving problems of linear dynamic programming. *Avtomat. i Telemeh.* **1977**, 103–111 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1 *no.* 6, *part* 2, 861–867. (Author's summary) **58** #9292 90C40

A decomposition algorithm for linear dynamic programming problems. *Izv. A* *Nauk SSSR Tehn. Kibernet.* **1977**, *no.* 3, 18–25, 219 (*Russian*); *translated as E* *Cybernet.* **15** (1977), *no.* 3, 14–20 (1978). (Suresh Chandra) **58** #15204 90C40

(*with* Propoĭ, A. I.) Simplex method for dynamic linear program solution. *Optimization techniques* (*Proc. 8th IFIP Conf., Würzburg*, 1977), *Part* 2, *pp.* 116– *Lecture Notes in Control and Information Sci., Vol.* 7, *Springer, Berlin*, 1978. (U Rieder) **58** #15131 90C05 (90C40)

Krivorotov, V. F. An algorithm for finding the optimal path on a network with prohibitions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 2, 468–476, 542. Maňas) **51** #14916 90B10

An algorithm for the classification of sequential processes with distributio decision making according to a certain hierarchy. (Russian) *Ž. Vyčisl. Mat. i Mat.* **15** (1975), *no.* 3, 757–767, 813. (Author's summary) **58** #8565 68A45

Krivoručko, A. I. The power of the set of continuous functions. (Russian) *Dokl. A* *Nauk SSSR* **206** (1972), 1046–1048. (E. Halfar) **47** #4201 54C05 (54A25)

The cardinal invariants of spaces of mappings. (Russian) *Dokl. Akad. Nauk S.* **213** (1973), 34–37. (W. W. Comfort) **54** #6063 54A25 (54C35)

The perfect extensions of topological spaces. (Russian) *Mat. Zametki* **15** (1 509–513. (J. Mioduszewski) **50** #8445 54D35

Separation in spaces of mappings. (Russian. English summary) *Vestnik Mos* *Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 6, 56–59. (K. Sieklucki) **51** #6711 54C35

Cardinality and density of spaces of mappings. (Russian) *Dokl. Akad. Nauk S* **221** (1975), *no.* 1, 26–29. (C. R. Borges) **54** #8547 54A25 (54C35)

The joint continuity of the compact-open topology. (Russian. English summa *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 3, 3–5. (Thomas E. Gant

56 #6592 54C35

Krivoručko, N. I. (*with* Boĭko, A. G.) Certain sufficient conditions for the $(\lambda, A(t), t_0, T)$-stability of nonlinear systems. (Russian) *Analytic and qualitative methods of the theory of differential equations* (*Russian*), *pp*. 22–28. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1972. (Ja. Fodor) **52** #11221 34D20

Krivorukov, E. V. (*with* Efimov, A. N.) Best order for performing random-process optimal linear statistical operations and functional transformations. *Avtomat. i Telemeh.* **1977**, *no*. 7, 39–44 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no*. 7, *part* 1, 978–98 (Vladimir Katkovnik) **57** #9241 93E10

Krivoščekov, V. K. (*with* Slavnov, A. A.; Faĭzullaev, B. A.) A superdiagrammatic technique for gauge theories. (Russian. English summary) *Teoret. Mat. Fiz.* **26** (1976), *no*. 2, 147–161. (Authors' summary) **56** #7626 81.47

Krivošeĭ, F. A. The uniqueness of the solution of a nonlinear inverse heat conduction problem. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no*. 8, 748–750, 767. (Author's summary) **57** #8497 80.35

Krivošeĭkin, A. V. Congruent matrices of two-element electric circuits. (Russian) *Teoret. Èlektrotehn. No*. 10 (1970), 114–119. (P. L. Hammer) **45** #3123 94A20

(*with* Lannè, A. A.) Peculiarities in the treatment of the stability concept in the theory of linear electrical circuits. (Russian. English summary) *Teoret. Èlektrotehn. No*. 15 (1973), 72–79, 177. **50** #4133 94A20

Krivošeĭn, B. L. (*with* Radčenko, V. P.; Bobrovskiĭ, S. A.; Dubinskiĭ, A. V.; Siperšteĭn, B. I.) Certain mathematical models of unsteady gas flow in trunk pipelines. *Ènerget. i Transport* **6** (1974), 112–120 (*Russian*); *translated as Fluid Mech.—Soviet Res.* **5** (1976), *no*. 2, 32–42. (Authors' summary) **56** #10423 76.65

Krivošeĭn, L. E. Approximate solution of a certain class of nonlinear integrodifferential equations with deviating argument. (Russian) *Studies in integrodifferential equations in Kirghizia, No*. 8 (*Russian*), *pp*. 235–238, 336. *Izdat.* "*Ilim*", *Frunze*, 1971. (See RŽMat **1972** #5 B1109; MR **50** # 14096) 65R05

(*with* Oğuztöreli, Mehmet Namık; Mangeron, Dumitru Ion) Systèmes mathématiques aux structures entremêlées. Nouveaux problèmes "bien posés" concernant une classe d'équations intégro-différentielles non linéaires avec argument retardé. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972). 733–739 **47** #5534 45J05

(*with* Oğuztöreli, Mehmet Namık; Mangeron, Dumitru Ion) Systèmes mathématiques aux structures entremêlées. Problèmes "bien posés" concernant certaines équations intégro-différentielles non linéaires aux arguments retardés contenant l'autoréglage sous forme d'une intégrale. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972), 841–847. **47** #5533 45J05

(*with* Oğuztöreli, Mehmet Namık; Mangeron, Dumitru Ion; Poterasu, Victor F.) Programmation dynamique des problèmes optimaux concernant les systèmes de contrôle aux paramètres distribués. Application à certain système polyvibrant. I. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972), 1090–1098 **47** #5470 35Q99 (49C10)

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Leung, Kin Vinh) Nouveaux problèmes concernant les équations intégro-différentielles non linéaires à plusieurs variables indépendants. I. Recherche des solutions dans le cas des conditions aux limites initiales-intégrales. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972), 1231–1237. **47** #5538 45K05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Systèmes différentiels possédant la structure complexe. I. Existence, unicité, stabilité et approximation des solutions de certains systèmes intégro-différentiels non linéaires aux opérateurs différentiels ordinaires et hyperboliques. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **58** (1972), 1307–1315. **47** #5537 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Mathematical systems of complex structures. I. The solution of systems of integro-differential equations with ordinary and caloric operators. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **18(22)** (1972), *no*. 1-2, *part I*, 21–27. (Authors' summary) **46** #7823 45J05 (93C99)

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Approximate solution of second order nonlinear systems with heredity, having one independent variable. (Russian. Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **18(22)** (1972), *no*. 3-4, *secţ. I*, 121–125. (Authors' summary) **48** #2598 35R10

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Sur l'existence, l'unicité et la stabilité des solutions d'un nouveau problème à la frontière concernant certains systèmes intégro-différentiels non linéaires polyvibrants. I. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **59** (1973), 170–177. **47** #9211 45K05

Sur un problème à la frontière pour les équations intégro-différentielles non linéaires de Mangeron. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **59** (1973), 332–340. (Author's summary) **48** #4670 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Studi concernenti carte estensioni delle equazioni integro-differenziali di Volterra. I. Problemi de valori iniziali. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 187–192. (Authors' summary) **51** #13607 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Rossi, Francesco Saverio) Studi concernenti certe estensioni delle equazioni integrali ed integro-differenziali di Volterra. II. (English summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 860–864 (1974). (Authors' summary) **51** #13608 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Salandi, Dana) Analisi matematica. Studi concernenti certe estensioni delle equazioni integrodifferenziali di Vito Volterra. (English summary) *Atti Accad. Sci. Ist. Bologna Cl. Sci. Fis. Rend.* (13) **1** (1973/74), *no*. 2, 95–102. (Authors' summary) **50** #14126 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Nouvelles extensions des équations intégro-différentielles non linéaires de Volterra. I. Problèmes des valeurs initiales. (English summary) *Monatsh. Math.* **77** (1973), 404–410. (Authors' summary) **48** #9298 45D05

(*with* Leung, Kin Vinh; Oğuztöreli, Mehmet Namık; Salandi, Dana) Sur l'extension du problème de Goursat pour une classe d'équations integro-différentielles d'Urysohn-Mangeron. (Italian summary) *Rend. Accad. Naz. XL* (4) **24/25** (1973/74), 129–134 (1975). **53** #11328 45K05

(*with* Benvenuti, Pietro; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Rossi, Francesco Saverio) Sistemi differenziali con struttura composita. Nuovo problema dei valori integro-differenziali non lineari al contorno concernente una classe di equazioni integro-differenziali non lineari alle derivate parziali. (English summary) *Rend. Accad. Naz. XL* (4) **24/25** (1973/74), 295–306 (1975). (From the authors' summary) **54** #8199 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Problemi di correttezza delle soluzioni esatte ed approssimative dei sistemi integro-differenziali non lineari a derivave parziali. (English summary) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **40** (1973), 127–133. (I. Fenyő) **56** #6318 45K05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Sur une nouvelle extension du problème de Cauchy pour certains systèmes intégro-différentiels non linéaires. I. Problème concernant des systèmes à une seule variable indépendante. *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **60** (1974), 28–35. (Authors' summary) **50** #5404 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Silas, Giorgio) Études des systèmes mathématiques aux opérateurs non linéaires. I. Problème généralisé de valeurs initiales pour une nouvelle classe d'équations intégro-différentielles aux opérateurs non linéaires et aux dérivées partielles du premier ordre. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **60** (1974), 387–395. (Authors' summary) **51** #13609 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Voinea, R. P.) Études des systèmes mathématiques possédant la structure complexe. II. Sur l'extension du problème de Goursat pour certains systèmes intégraux fonctionnels concernant une classe d'équations intégro-différentielles non linéaires aux opérateurs polyvibrants. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (5) **60** (1974), 585–592. (Authors' summary) **51** #13610 45J05

(*with* Džunusbekova, S. S.; Leung, Kin Vinh; Oğuztöreli, Mehmet Namık) Problèmes concernant différentes classes d'équation intégro-différentielles non linéaires de Mangeron. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), 151–156. (From the authors' summary) **54** #8200 45K05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Nouveaux problèmes concernant différentes classes d'équations intégro-différentielles non linéaires. I. Systèmes constitués de nouvelles conditions initiales non linéaires et d'équations non linéaires aux opérateurs héréditaires et aux derivées partielles du premier ordre. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **56** (1974), 157–163. (Authors' summary) **54** #11011 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Silas, Giorgio) Studi concernenti sistemi matematici di struttura composita. II. Problema di valori iniziali-integrali per un sistema misto di equazioni integro-differenziali non lineari a derivate parziali. (English summary) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **108** (1974), *no*. 5-6, 779–788. (Authors' summary) **52** #3904 45K05

(*with* Kutanov, A.; Leung, Kin Vinh; Oğuztöreli, Mehmet Namık; Salaudi, D.) Systèmes différentiels possédant la structure complexe. Problèmes à la frontière pour certaines classes d'équations intégro-différentielles non linéaires de Mangeron. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **20(24)** (1974), *no*. 1-2, *part I*, 111–115. (Stefan Balint) **50** #2849 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Silas, Giorgio) Problèmes différentiels possédant la structure complexe. VI. Recherche des solutions soumises aux conditions initiales concernant certains systèmes intégro-différentiels non linéaires aux opérateurs paraboliques. (Russian and Romanian summaries) *Bul. Şti. Tehn. Inst. Politehn. Timişoara Ser. Mat. Fiz. Mec. Teoret. Apl.* **19(33)** (1974), *no*. 2, 165–171. (From the authors' summary) **55** #8720 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Voinea, R. P.) Études de certaines extensions des équations intégro-différentielles de Volterra. III. Extension du problème de valeurs initiales. *Bull. Soc. Roy. Sci. Liège* **43** (1974), 9–13. (Authors' summary) **51** #13611 45J05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Études de certaines extensions des équations intégro-différentielles non linéaires de Volterra. IV. Extension du problème de valeurs initiales. *Bull. Soc. Roy. Sci. Liège* **43** (1974), 14–19. (Authors' summary) **51** #13612 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Caligula, Sarygoulov) Théorèmes d'existence, d'unicité et de dépendance continue de coefficients des solutions d'une classe d'équations intégro-différentielles non linéaires aux dérivées partielles et arguments retardés de type neutre. (English summary) *Bull. Soc. Roy. Sci. Liège* **43** (1974), 506–511. (Authors' summary) **50** #10729 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Stroe, G.) Systèmes mathématiques possédant la structure complexe. II. Problèmes généralisés de valeurs initiales pour une classe d'équations intégro-différentielles aux dérivées partielles du premier ordre. (English summary) *Bull. Soc. Roy. Sci. Liège* **43** (1974), 512–516. (Authors' summary) **51** #6333 45K05

(*with* Oğuztöreli, Mehmet Namık) Sul problema di Goursat per un'equazione integro-differenziale di Mangeron. (English summary) *Ist. Lombardo Accad. Sci. Lett. Rend. A* **108** (1974), 42–49. (From the authors' summary) **50** #2848 45K05

(*with* Chaléat, Raymond; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Analisi matematica. Sistemi differenziali con struttura composita. Problema di valori iniziali generalizzato concernente una nuova classe di equazioni integro-differenziali non lineari a derivate parziali in due variabili indipendenti. (English summary) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **41** (1974), 363–369 (1975). (I. Fenyő) **56** #12799 45K05

A way of solving boundary value problems for ordinary nonlinear integrodifferential equations. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No*. 9 (1974), 17–22. (See RŽMat **1974** #9 B487) 45J05

Approximate solution of the Cauchy problem for a certain class of ordinary nonlinear integrodifferential equations. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No*. 9 (1974), 23–26. (See RŽMat **1974** #9 B1196) 45J05

(*with* Bykova, È. Ja.) Approximate solution of an integral boundary value problem for a certain class of integrodifferential equations of Barbašin type. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No*. 9 (1974), 26–32. (See RŽMat **1974** #9 B1220) 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Sulla capacità di determinazione delle soluzioni di un sistema costituito da certe equazioni integro-differenziali non lineari di dimensioni diverse tra di loro e con derivate totali di Picone. (French summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **59** (1975), *no.* 1-2, 14–21 (1976). (Authors' summary) **56** #3603 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Salandi, Dana) Sistemi differenziali di struttura composta. Problema non lineare di valori iniziali per una classe di equazioni integro-differenziali alle derivate parziali del primo ordine, avente per limiti funzionali integrali non lineari. (English summary) *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 1, 76–83. (From the authors' summary) **51** #6334 45K05

(*with* Voinea, R. P.; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Differential systems of mixed structures. Initial value problem for nonlinear integro-differential equations that have an integral functional in the limits of integration. (Russian. English summary insert) *Bul. Inst. Politehn. Bucureşti* **37** (1975), *no.* 1, 7–12. (Editors) **51** #6335 45K05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Systèmes différentiels possédant la structure complexe. II. Sur l'existence, l'unicité, la stabilité et l'approximation des solutions de certains systèmes intégrodifférentiels non linéaires aux opérateurs différentiels ordinaires et hyperboliques. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **21(25)** (1975), *no.* 3-4, *part I*, 9–14. (Editors) **52** #8845 45K05 (45J05)

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Systèmes différentiels possédant la structure complexe. Problèmes de type Goursat aux conditions intégrales à la frontière concernant une classe d'équations intégrodifférentielles non linéaires aux dérivées totales de Picone. (English summary) *Bull. Soc. Math. Belg.* **27** (1975), *no.* 1, 41–51. (Authors' summary) **55** #13196 45J05

(*with* Kutanov, A.; Leung, Kin Vinh; Oğuztöreli, Mehmet Namık) Systèmes différentiels possédant la structure complexe. Problèmes à la frontière aux conditions initiales fonctionnelles pour une classe d'équations intégrodifférentielles de Mangeron aux intégrales d'Urysohn. (English summary) *Bull. Soc. Math. Belg.* **27** (1975), *no.* 2, 157–165. (Authors' summary) **58** #23432 45J05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Systèmes différentiels possédant la structure complexe. V. Problèmes de valeurs initiales pour une classe d'équations intégrodifférentielles aux opérateurs polyvibrants. (English summary) *Bull. Soc. Math. Belg.* **27** (1975), *no.* 3, 215–223. (Authors' summary) **58** #29962 45K05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Étude des solutions d'une classe d'équations intégrodifférentielles non linéaires aux opérateurs hyperboliques ayant pour limites des fonctionnelles intégrales. (English summary) *Bull. Soc. Math. Grèce* (*N.S.*) **16** (1975), 22–29. (Authors' summary) **56** #12798 45J05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Analyse mathématique—sur la détermination des solutions de certains systèmes intégrodifférentiels non linéaires aux opérateurs polyvibrants. (English summary) *Bull. Soc. Roy. Sci. Liège* **44** (1975), *no.* 5-6, 322–329. **52** #3905 45K05

(*with* Balli, Raffaele; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Wörle, Helmut) Sistemi differenziali con struttura composita. Problemi non lineari di valori integro-differenziali al contorno concernenti una classe di equazioni integro-differenziali con operatori parabolici. (English summary) *Rend. Circ. Mat. Palermo* (2) **24** (1975), *no.* 1-2, 5–13. (I. Fenyő) **55** #8719 45K05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Systèmes différentiels possédant la structure complexe. Problèmes à la frontière pour une classe d'équations intégrodifférentielles non linéaires aux opérateurs polyvibrants. (English and Spanish summaries) *Rev. Real Acad. Ci. Exact. Fís. Natur. Madrid* **69** (1975), *no.* 4, 831–843. (Stefan Balint) **56** #16298 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Salandi, Dana) Problèmes concernant différentes classes d'équations intégro-différentielles non linéaires aux opérateurs polyvibrants. (English summary) *Arch. Math.* (*Brno*) **12** (1976), *no.* 2, 75–80. (Hans Kaper) **55** #3718 45K05

(*with* Chiriacescu, Sergiu T.; Ioniţă, N.; Mangeron, Dumitru Ion) Nonlinear terminal control problems in the presence of hereditary and functional operators. (Romanian. English summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **22(26)** (1976), *no.* 1-2, *secţ. I*, 7–11. (Constantin Vârsan) **58** #23874 49A30

(*with* Baĭnov, Drumi D.; Chaléat, Raymond; Salandi, Dana) Problèmes concernant différentes classes d'équations intégrodifférentielles non linéaires de Mangeron. II. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **22(26)** (1976), *no.* 1-2, *secţ. I*, 27–31. (Editors) **55** #6153 45K05

(*with* Chaléat, Raymond; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Sur la capacité de détermination des solutions d'un problème intégrodifférentiel non linéaire mixte aux opérateurs polyvibrants et limites d'intégration dépendant de fonctions inconnues. (English and Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 9, 697–704. (I. Fenyő) **55** #13195 45J05

An approximate method for the solution of integro-differential equations. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No.* 12 (1976), 36–39. (Not reviewed) 45J05

(*with* Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık; Vallée, R.) Systèmes différentiels possédant la structure complexe. III. Sur l'existence, l'unicité, la stabilité et l'approximation des solutions de certains systèmes intégro-différentiels non linéaires aux opérateurs différentiels ordinaires et aux derivées partielles d'ordre supérieur. (Macedonian summary) *Makedon. Akad. Nauk. Umet. Oddel. Prirod.-Mat. Nauk. Prilozi* **9** (1977), *no.* 1, 9–17. (Authors' summary) **58** #29951 45J05

(*with* Leung, Kin Vinh; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) Étude de certains systèmes intégrodifférentiels non linéaires aux opérateurs paraboliques et aux autoréglages multiples dans les limites d'intégration. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **44** (1977), 359–366 (1978). (Authors' summary) **58** #12254 45K05

(*with* Kutanov, A.; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) A study of nonlinear integro-differential systems, with automatic control inside the limits of integration, that generalize mathematical models of the dynamics of a bifilar hoist. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no.* 3, 392–397, 429. (Authors' summary) **58** #23446 45K05

Krivošeja, E. Š. The finitary approximability of an independent product of subsemigroups. (Russian) *Modern algebra, No.* 2 (*Russian*), *pp.* 35–46. *Leningrad. Gos. Ped.* *Leningrad*, 1974. (B. Pondělíček) **56** #15802 20M10

The finite approximation of semigroups relative to predicates. (Russian) *algebra, No.* 1 (*Russian*), *pp.* 107–123. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974 Bokut') **57** #490 20M05

Krivošeja, S. A. The construction of approximate solutions of a certain mixed proble a quasi-wave equation. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 5, 670–677, 718. (Olariu) **55** #868 35L05

(*with* Kulik, V. L.) An application of asymptotic methods to the solution o problem of the motion of a fluid in an elastic conduit. (Russian) *Ukrain. Mat.* (1977), *no.* 1, 58–66, 142. (L. Dragoş) **57** #8418 76.41

Krivoshein, B. L. *See* **Krivošeĭn, B. L.**

Krivoshein, Leonida Eugenio *See* **Krivošeĭn, L. E.**

Krivov, V. V. Inclusions of certain classes of mappings. (Russian) *Metric questions o theory of functions and mappings, No.* 3 (*Proc. Second Colloq. Theory of Quasiconfo Mappings and its Generalizations, dedicated to M. A. Lavrent'ev's seventieth birt Donetsk*, 1970) (*Russian*), *pp.* 51–54. *Izdat. "Naukova Dumka", Kiev*, 1971. (S. B. A **50** #4939 30A60

A method of extremal functions in the theory of quasiconformal mappings. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 1056–1066. (E. Reich) **45** #538 30A60

A certain generalization of the concept of conformal capacity. (Russian) *Akad. Nauk SSSR* **215** (1974), 784–787. (E. Reich) **50** #603 30A60

The structure of diffeomorphisms with minimal intermediate dilatation. (Russ *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 1, 40–43. (Ju. Burago) **53** #6591 (30A60, 58A10)

Krivskiĭ, I. Ju. (*with* Fuščič, V. I.) On representations of the inhomogeneous de group and equations in five-dimensional Minkowski space. *Nuclear Phys.* **B14** (1 573–585. (Author's summary) **51** #2541 81.53

(*with* Romanko, G. D.; Fuščič, V. I.) The Kemmer-Duffin equations in the five-dimensional Minkowski space. (Russian. English summary) *Teoret. Mat.F* (1969), *no.* 2, 242–250. (Authors' summary) **57** #2434 83.53

(*with* Lomsadze, Ju. M.; Šuba, Ĭ. M.) Construction of Wightman's axiomatic scheme for a concentratable field. I. The field as a concentratable functional. (Rus English summary) *Ukrain. Fiz. Ž.* **19** (1974), 538–546, 695. (Authors' summ **57** #8651a 81.46

(*with* Lomsadze, Ju. M.; Šuba, Ĭ. M.) Construction of Wightman's axiomatic scheme for a concentratable field. II. Axioms of the global properties of a ge Wightman field. (Russian. English summary) *Ukrain. Fiz. Ž.* **20** (1975), *no.* 4, 621– 697. (Authors' summary) **57** #8651b 81.46

(*with* Lomsadze, Ju. M.; Šuba, Ĭ. M.) Construction of Wightman's axiomatic scheme for a concentratable field. III. Problem of the existence and uniqueness o *S*-operator. (Russian. English summary) *Ukrain. Fiz. Ž.* **21** (1976), *no.* 1, 1–9, (Authors' summary) **57** #8651c 81.46

(*with* Lomsadze, Ju. M.; Šuba, Ĭ. M.) Construction of Wightman's axiomatic scheme for a concentratable field. IV. The WR-axiom. (Russian. English summ *Ukrain. Fiz. Ž.* **21** (1976), *no.* 9, 1409–1418, 1573. (Authors' summary) **57** #865 81.46

(*with* Lomsadze, Ju. M.; Šuba, Ĭ. M.) Construction of Wightman's axiomatic scheme for a concentratable field. V. The VR-axiom. (Russian. English summ *Ukrain. Fiz. Ž.* **22** (1977), *no.* 4, 531–540, 695. (Authors' summary) **57** #8651e

(*with* Lomsadze, Ju. M.; Šuba, Ĭ. M.) Construction of Wightman's axiomatic scheme for a concentratable field. VI. The axiom of local commutativity. (Rus English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 5, 745–751, 870. (Authors' summ **57** #8651f 81.46

(*with* Lomsadze, Ju. M.; Šuba, Ĭ. M.) Construction of Wightman's axiomatic scheme for a concentratable field. VII. The VR-field as a generalized function, an free field as a VR-field. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *n* 1959–1967, 2104. (Authors' summary) **57** #8651g 81.46

Křivský, Pavel Johannes Bernoulli's correspondence with Stanislav Vydra. (Czech. Ge summary) *DVT—Dějiny Věd. Tech.* **5** (1972), *no.* 2, 91–99. (Author's summ **58** #15927 01A50

Krivtsov, V. E. *See* **Krivcov, V. E.**

Kříž, Ferdinand (*with* Krbil'a, Jaroslav) Transformation of *n*th order binomial l differential equations whose carriers are complex functions of a real variable. (Sl Russian, English and German summaries) *Práce Štúd. Vys. Školy Doprav. v Žiline Mat.-Fyz. Čislo* 1 (1974), 77–82. (Vojislav Marić) **53** #922 34A25

Kriz, J. A uniform solution of the Lambert problem. *Celestial Mech.* **14** (1976), 509–513. (Author's summary) **58** #25204 70.34

Variational formulae for solving perturbed boundary-value problems in astrodynamics. *Celestial Mech.* **18** (1978), *no.* 4, 371–382. (Author's summary) **58** #25228 70.65 (65L99)

Kriz, Thomas A. Some binary output sequence properties of deterministic autono finite-state machines with probabilistic intialization. *IEEE Trans. Computers* (1973), 868–869. (I. Mezník) **51** #15247 94A30

Križanič, France ★Linearna algebra in linearna analize. (Slovenian) [Linear algebra linear analysis] Matematika—Zbirka Univerznih Učbenikov in Monografij I Inštitut za Matematiko, Fiziko in Mehaniko Univerze v Ljubljani, No. 2. [Mathem —Collection of University Textbooks and Monographs Published by the Institu Mathematics, Physics and Mechanics of the University of Ljubljana, No. 2] *Mlad Knjiga, Ljubljana*, 1969. 394 *pp.* (Editors) **51** #7762 00A05 (15-01, 46-01, 47-

★Funkcije več kompleksnih spremenljivk. (Slovenian) [Functions of several complex variables] Postdiplomski Seminar iz Matematike, No. 2. [Postgraduate Sem in Mathematics, No. 2] *Inštitut za Matematiko, Fiziko in Mehaniko, Univerza v Ljubljani, Ljubljana*, 1971. 115 *pp.* (See Zbl **241** #32001) 32-01

★Vektorji, matrike, tenzorji. I. Knjiga. (Slovenian) [Vectors, matrices, tensors. I] Second edition. Knjižnica "Sigma", No. 7a (VII). ["Sigma" Library, No. 7a (*Mladinska Knjiga, Ljubljana*, 1972. 208 *pp.* (Editors) **50** #7186 15-01

★Vektorji, matrike, tenzorji. II. Knjiga. (Slovenian) [Vectors, matrices, tensors. II] Second edition. Knjižnica "Sigma", No. 7a (VII). ["Sigma" Library, No. 7a (*Mladinska Knjiga, Ljubljana*, 1972. 128 *pp.* (Editors) **50** #7187 15-01

★Navadne diferencialne enačbe in variacijski račun. (Slovenian) [Ordinary differential equations and the calculus of variations] Zbirka Univ. Učbenikov in Monografij, 5. Izdaja Inšt. Mat. Fiz. in Meh. Univ. Ljublani. *Držav. Založba Slovenije, Ljubljana*, 1974. 544 *pp*. (Editors) **50** #7620 34–01 (49–01)

★Topološke grupe. (Slovenian) [Topological groups] Postgraduate Seminar in Mathematics, No. 6. *Društvo Matematikov, Fizikov in Astronomov SR Slovenije, Ljubljana*, 1974. 132 *pp*. (Editors) **52** #14135 22–02 (43–02, 55–02)

Mathematics in Slovenia. An address given at the celebration of the centennial of the birth of Josip Plemelj. (Slovenian) *Obzornik Mat. Fiz.* **21** (1974), 5–8. (Editors) **57** #5631 01A70

Dynamic programming. (Slovenian. English summary) *Obzornik Mat. Fiz.* **21** (1974), 86–93. (Author's summary) **55** #13310 49–01

★Liejeve grupe. (Slovenian) [Lie groups] Postdiplomski Seminar iz Matematike 8, [Postgraduate Seminar in Mathematics, 8] *Društvo Matematikov, Fizikov in Astronomov SR Slovenije, Ljubljana*, 1976. 145 *pp*. (Editors) **56** #525 22–01

Topological dynamics. (Slovenian. English summary) *Obzornik Mat. Fiz.* **23** (1976), *no*. 1-2, 48–72. (J. S. Joel) **58** #13159 58Fxx (34C35, 54H20)

★Liejeve algebre. (Slovenian) [Lie algebras] Postdiplomski Seminar iz Matematike, No. 10. [Postgraduate Seminar in Mathematics, No. 10] *Društvo Matematikov, Fizikov in Astronomov SR Slovenije, Ljubljana*, 1977. 168 *pp*. (Editors) **57** #12623 17Bxx (22E60)

Simple examples from topological dynamics. (Slovenian. English summary) *Obzornik Mat. Fiz.* **24** (1977), *no*. 1, 1–9. (J. S. Joel) **58** #13106 58–01 (34C35)

Professor Ivan Vidav on the occasion of his sixtieth birthday. (Slovenian) *Obzornik Mat. Fiz.* **25** (1978), *no*. 2, 65–66. (Editors) **58** #21306 01A70

See also **Vidav, Ivan, 53** #12816

Križanivs'ka, A. O. (*with* Kulik, M. N.) A method for the hybrid solution of systems of algebraic equations. (Russian) *Èlektronika i Modelirovanie Vyp*. 12 (1976), 54–57, 106. (Authors' summary) **57** #18067 65H10

Křížek, Miroslav On the convergence of modified relaxation methods for extremum problems. (Czech summary) *Apl. Mat.* **20** (1975), *no*. 5, 359–371. (Claude Carasso) **52** #9604 65K05

Križjus, Z. *See* **Kryžius, Z.**

Křížková, J. (*with* Vrbová, Pavla) A remark on a factorization theorem. *Comment. Math. Univ. Carolinae* **15** (1974), 611–614. (B. E. Johnson) **50** #14234 46H25

Krjačko, Ē. S. On the theory of reduced density matrices. (Russian. English summary) *Teoret. Mat. Fiz.* **24** (1975), *no*. 3, 406–411. (Author's summary) **58** #20012 (E **58** #32591) 81.47

(*with* Krugljak, Ju. O.) A nonorthogonal representation of the second quantization. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no*. 3, 254–257, 288. (W. M. Tulczyjew) **54** #2015 81.53

See also **Mestečkin, M. M., 58** #32591

Krjakvina, S. A. (*with* Andreev, V. B.) The source function of the discrete Laplace operator. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 364–373. (Josef Miklíček) **46** #6618 65N10

(*with* Andreev, V. B.) The fundamental solution of a one-parameter family of difference approximations of Laplace's operator on the plane. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 343–355, 531. (T. Styś) **48** #5399 65N20

Krjanev, A. V. Solution of ill-posed problems by successive approximation methods. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 20–22. (J. W. Schmidt) **48** #909 47A50 (65J05)

An iteration method for the solution of ill-posed problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 25–35, 266. (C. Ilioi) **49** #1766 65J05 (47A50)

(*with* Šihov, S. B.) An application of the methods of partial orderings to the solution of problems of the nonlinear statics of nuclear reactors. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp*. 20 (1975), 73–74. (Editors) **57** #11391 80.47 (47H99)

Krjaževskih, A. P. (*with* Voĭčuk, V. A.; Kobyljanskiĭ, V. A.) Multivariate probability density of the envelope of a normal inhomogeneous random field. *Radiotehn. i Èlektron.* **16** (1971), 2311–2314 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 2119–2122. (Kazimierz Sobczyk) **49** #6789 78.60

Krjažimskiĭ, A. V. A differential-difference game of evasion from a functional target. (Russian) *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no*. 4, 71–79. (Editors) **56** #8042 90D25

(*with* Osipov, Ju. S.) Differential-difference game of encounter with a functional target set. *Prikl. Mat. Meh.* **37** (1973), 3–13 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 1–10. (Pan-Tai Liu) **52** #5068 90D25

The admissibility of a certain optimal strategy. (Russian) Differential Games and Control Problems. *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR Vyp*. 15 (1975), 125–130, 266. (Author's summary) **57** #15512 90D25

A differential approach game under conditions of incomplete information about the system. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no*. 4, 521–526, 574. (N. N. Petrov) **52** #10067 90D25

An alternative in a linear approach-deviation game with incomplete information. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no*. 4, 773–776. (A. I. Subbotin) **55** #7443 90D25

On the problem of the deviation from a functional anti-target of a linear system with time-lag. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR No.* 24 *Igrovye Zadači Upravlenija* (1977), 46–52, 116. (J. M. Skowroński) **58** #33028 90D25

On the theory of positional differential games of approach-evasion. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no*. 4, 779–782. (A. B. Kuržanskiĭ) **58** #15252 90D25

Krjučkov, A. F. Arithmetical invariants of a class of algebraic tori. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **26** (1977), *no*. 1, 9–12. (V. L. Popov) **56** #5566 14G25 (20G30, 20G35)

The field imbedding problem. (Russian) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **26** (1977), *no*. 2, 209–211. (J. Browkin) **57** #272 12A55

Krjučkov, B. Ja. (*with* Aleksandrov, I. A.; Popov, V. Ī.) The first coefficients of bounded holomorphic univalent functions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 3–5, 91. (E. Złotkiewicz) **47** #7018 30A34

(*with* Popova, G. A.) The reduction of an optimal control problem in Löwner's theory to a Cauchy problem for a system of ordinary differential equations. (Russian) *Theory of optimal processes* (*Russian*), *pp*. 47–52. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1974. (A. D. Ioffe) **58** #6217 30A38 (65E05)

Krjučkov, N. I. (*with* Suvorov, N. M.) Examples of certain quasigroups and loops that permit only the discrete topologization. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no*. 2, 471–473, 481. (V. Havel) **54** #444 20N05

Krjučkov, V. S. Boundary imbedding theorems for classes of differentiable functions connected with Lorentz spaces. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 1314–1317. (Pavel Doktor) **51** #8806 46E35

Imbedding theorems for the spaces $L^r_{ps}(R^n)$. (Russian) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata*, 1973) (*Russian*), *pp*. 68–71, 188. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (Author's summary) **57** #17257 46E35

Krjučkova, E. N. Extendable grammars and their use in the assignment of programming languages. (Russian) *Programmirovanie* **1977**, *no*. 4, 24–34, 95. (Author's summary) **58** #19299 68A05

Krjukov, B. I. On the question of the oscillation of the solutions of second order non-linear differential equations. (Russian) *Differential equations and their applications* (*Russian*), *pp*. 78–82, 156. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1971. (A. D. Ziebur) **49** #5468 34C10

(*with* Poljakov, N. I.) Certain conditions for the applicability of the small parameter method to the solution of the Cauchy problem for a system of nonlinear ordinary differential equations. (Russian) *Differential equations and their applications* (*Russian*), *pp*. 82–86, 156. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1971. (R. S. Levitin) **49** #7496 34A25

(*with* Anisovič, V. V.; Dmitriev, M. G.) The number of switchings in a certain optimal control problem. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no*. 10(173), 13–16. (F. M. Kirillova) **58** #2569 49E05

(*with* Zamkovaja, L. D.) The stability of nonlinear differential and finite difference systems. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no*. 4, 756–757, 775. (Wolfgang Hahn) **57** #10120 34D05 (39A12)

See also **Scientific Reports: Collection of papers by graduate students at Dnepropetrovsk State University, 48** #8171 *and* **Differential equations and their applications, 58** #26644

Krjukov, Ju. A. Turing machines with three states and two symbols and with one state and *n* symbols. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no*. 1, 12–13. (A. Ádám) **45** #1695 94A30

Krjukov, V. I. Wald's identity and random walk models for neuron firing. *Advances in Appl. Probability* **8** (1976), *no*. 2, 257–277. (Luigi M. Ricciardi) **54** #4708 92A05 (62Lxx)

See also **Locally interacting systems and their application in biology, 58** #6

Krjutčenko, V. E. (*with* Lazarjan, V. A.) Determination of frequencies and forms of transversal eigenoscillations of a rod with concentrated inclusions. (Russian) *Prikladna. Meh.* 7 (1971), *no*. 6, 79–84. (V. Komkov) **45** #8101 73.35

Krnić, Luka Cardinals of bases in the 3-valued logic. I. (Serbo-Croatian summary) *Glasnik. Mat. Ser. III* **8(28)** (1973), 169–174. (A. Rose) **51** #12476 02C05

Kroc, Ladislav On the synthesis of adaptive multiparameter control systems by the Lyapunov method. *Kybernetika* (*Prague*) **11** (1975), *no*. 4, 277–286. (Kunihiko Ichikawa) **53** #5104 93C40

Kročak, B. Ja. (*with* Bazilenko, O. K.) Calculation of the losses in a buffer storing device with dynamic memory distribution. (Russian) *Information exchange in complex systems* (*Rep. Sem. Cybernetics, No*. 61) (*Russian*), *pp*. 3–11, 26. *Izdat. "Štiinca", Kishinev*, 1973. (Authors' summary) **50** #12423 94A05

See also **Organization of storage devices in complex systems, 48** #12932

Kroček, P. Derivation of a quasilinear equation for a bounded electron beam. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **19** (1978), *no*. 1, 24–28. (Author's summary) **58** #14381 78.35

Kročuk, V. V. The convergence of polynomial approximations of the solutions of systems of differential equations. (Russian) *Methods of approximate solution of differential and integral equations* (*Russian*), *pp*. 106–110. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Editors) **58** #1337 34A45

The polynomial approximation of the solutions of two-point boundary value problems for second order ordinary differential equations. (Russian. English summary) *Nonlinear boundary value problems of mathematical physics* (*Russian*), *pp*. 291–298. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (R. S. Levitin) **51** #3588 34A45 (34B15)

On the question of the convergence of polynomial approximations of the solutions of ordinary differential equations. (Russian) *Theory of the approximation of functions, and its applications* (*Russian*), *pp*. 97–101. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1974. (See RŽMat **1975** #7 B963; MR **50** #13975) 34A45

Kroeber, A. L. *See* **Genetics and social structure, 49** #10401

Kroeber-Riel, W. *See* **Analysis of human behaviour, 52** #12857

Krogdahl, Stein A dynamic storage allocation problem. *Information Processing Lett.* **2** (1973), 96–99. (N. Zierler) **48** #10453 90B05 (68A50)

The dependence graph for bases in matroids. *Discrete Math.* **19** (1977), *no*. 1, 47–59. (Author's summary) **58** #27568 05B35

Kröger, Fred Eine axiomatische Studie zur Identifikation von Identifikatoren. *Dritte Fachtagung über Programmiersprachen der Gesellschaft für Informatik* (*Kiel*, 1974), *pp*. 25–33. *Lecture Notes In Comput. Sci., Vol*. 7, *Springer, Berlin*, 1974. (I. Mezník) **52** #12867 93A10

Formalization of algorithmic reasoning. *Mathematical foundations of computer science* 1975 (*Fourth Sympos., Mariánské Lázně*, 1975), *pp*. 287–293. *Lecture Notes in Comput. Sci., Vol*. 32, *Springer, Berlin*, 1975. (Lee Badger) **53** #7102 68A05

LAR: a logic of algorithmic reasoning. *Acta Informat.* **8** (1977), *no*. 3, 243–266. (Gábor Dávid) **58** #19300 68A05 (02C99)

Kröger, Henner Zwerch-Assoziativität und verbandsähnliche Algebren. *Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* **1973**, *no. II*, 23–48 (1974). (R. J. Bumcrot) **51** #5432 06A20

Das Assoziativgesetz als Kommutativitätsaxiom in Boole'schen Zwerchverbänden. *J. Reine Angew. Math.* **285** (1976), 53–58. (Ralph Freese) **54** #2561 06A40

Distributive lattices as a generalization of Brouwerian lattices. *Discrete Math.* **20** (1977/78), *no.* 3, 297–299. (R. Beazer) **57** #3029 06A35

Ein Assoziativitätskriterium vom Foulis-Holland-Typ. *J. Reine Angew. Math.* **298** (1978), 196–198. (Jacques Lévy-Bruhl) **58** #16441 06A25 (06A30)

Kröger, P. Derivationen in $L^+(D)$. Beiträge zur Theorie nichtnormierbarer topologischer Algebren. *Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe* **24** (1975), *no.* 5, 525–528. (B. R. Gelbaum) **55** #1091 46L15

Krogh, Fred T. Algorithms for changing the step size. *SIAM J. Numer. Anal.* **10** (1973), 949–965. (W. H. Enright) **50** #8985 65L05

Changing stepsize in the integration of differential equations using modified divided differences. *Proceedings of the Conference on the Numerical Solution of Ordinary Differential Equations* (*Univ. Texas, Austin, Tex.*, 1972), *pp.* 22–71. *Lecture Notes in Math.*, *Vol.* 362, *Springer, Berlin*, 1974. (R. L. Brown) **50** #15346 65L05

Efficient implementation of a variable projection algorithm for nonlinear least squares problems. *Comm. ACM* **17** (1974), 167–169; *errata, ibid.* **17** (1974), 591. (From the author's introduction) **49** #1773 65K05

Krogmann, U. K. Auswirkung von Quantisierungsfehlern in hybriden Systemen. (English summary) *Regelungstech. Prozess-Datenverarbeit.* **18** (1970), *no.* 8, 341–346. (Author's summary) **56** #14966 93C55

Krogstad, Harald E. Multipliers on homogeneous Banach spaces on compact groups. *Ark. Mat.* **12** (1974), 203–212. (R. Larsen) **51** #11014 43A22

(*with* Burnham, James T.; Larsen, Ronald) Multipliers and the Hilbert distribution. *Nanta Math.* **8** (1975), *no.* 2, 95–103. (K. A. Ross) **53** #11306 43A22

(*with* Gupta, B. L.) Comments on a paper of B. L. Gupta ("Matrix summability of Fourier series", Period. Math. Hungar. 4 (1973), 45–50). *Period. Math. Hungar.* **6** (1975), *no.* 3, 273–275. (G. M. Petersen) **52** #11451 42A24

Multipliers of Segal algebras. *Math. Scand.* **38** (1976), *no.* 2, 285–303. (U. B. Tewari) **57** #10363 43A22

A class of summability methods for Fourier series. *Period. Math. Hungar.* **7** (1976), *no.* 2, 127–135. (S. M. Mazhar) **55** #10947 42A24

The $A(p, q)$ algebras and singular measures with Fourier transforms in $L(2, q)$, $q > 2$. *Hokkaido Math. J.* **7** (1978), *no.* 1, 27–42. (U. B. Tewari) **58** #12198 43A22 (43A25)

Kroh, Helmut Saturierte Algebren. *Math. Ann.* **211** (1974), 175–182. (B. Yood) **50** #14266 46L20 (47B30)

Quasibeschränkte Fredholmoperatoren. *J. Reine Angew. Math.* **273** (1975), 23–30. (A. Pietsch) **54** #993 47B30

(*with* Volkmann, Peter) Störungssätze für Semifredholmoperatoren. *Math. Z.* **148** (1976), *no.* 3, 295–297. (B. Yood) **53** #14199 47B30 (47A55)

Krohn, Burton J. (*with* Fox, Kenneth) Computation of cubic harmonics. *J. Computational Phys.* **25** (1977), *no.* 4, 386–408. (Authors' summary) **57** #14354 65D99

Krohn, Kenneth *See* **Algebraische Theorie abstrakter Automaten, formaler Sprachen und Halbgruppen**, **49** #10487

høegh-Krohn, Raphael J. *See* **Høegh-Krohn, Raphael J.**

Krol', I. A. Use of the method of confidence sets for interval estimation of reliability criteria. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 1, 118–126, 237 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 99–108. (Sami Abdelhamid) **53** #6950 62N05 (62F25)

Krol', I. N. The continuity of the solutions of quasilinear nonuniformly elliptic equations at a boundary point. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **21** (1971), 42–51. (H. Triebel) **45** #3937 35J25

(*with* Maz′ja, V. G.) The absence of the continuity and Hölder continuity of the solutions of quasilinear elliptic equations near a nonregular boundary. (Russian) *Trudy Moskov. Mat. Obšč.* **26** (1972), 75–94. (Pavel Doktor) **51** #13438 32J25 (35D05)

The solutions of the equation $D_{x_i}(|Du|^{p-2}D_{x_i}u)=0$ with a singularity at a boundary point. (Russian) Boundary value problems of mathematical physics, 8. *Trudy Mat. Inst. Steklov.* **125** (1973), 127–139, 233. (A. Borzymowski) **49** #9409 35J40

The behavior of the solutions of a certain quasilinear equation near zero cusps of the boundary. (Russian) Boundary value problems of mathematical physics, 8. *Trudy Mat. Inst. Steklov.* **125** (1973), 140–146, 233. (A. Borzymowski) **49** #9410 35J40

See also **Boundary value problems of mathematical physics and related aspects of function theory**, **46** #9499; **Boundary value problems of mathematical physics and related aspects of function theory**, **49** #4700; **Transactions of the Moscow Mathematical Society**, **50** #9477 *and* **Boundary value problems of mathematical physics**, **51** #6096

Król, Jerzy (*with* Jakubowski, Ryszard) A simulation language for dynamical systems with improved data organization. (Polish. English and Russian summaries) *Podstawy Sterowania* **1** (1971), 231–237. (B. Zelinka) **46** #6664 68A55 (94A20)

(*with* Jakubowski, Ryszard) Implementation of the simulation language based on functional graphs. (Polish and Russian summaries) *Podstawy Sterowania* **2** (1972), 137–146. (Herbert J. Bernstein) **53** #7166 68A55 (94A20)

(*with* Jakubowski, Ryszard) Simulation of complex systems by means of functional graphs. (Polish. English and Russian summaries) *Podstawy Sterowania* **2** (1972), 269–277. (Editors) **50** #9084 68A55

(*with* Jakubowski, Ryszard) Functional graphs as applied to the description and simulation of complex dynamical systems. (Polish. English and Russian summaries) *Podstawy Sterowania* **3** (1973), 131–151. (*one foldout*) (Authors' summary) **50** #9085 68A55

(*with* Jakubowski, Ryszard) A formalization of the description of the structure of complex systems. (Polish. English and Russian summaries) *Podstawy Sterowania* **4** (1974), 27–37. (B. Zelinka) **50** #6570 93A15

(*with* Jakubowski, Ryszard) A computer representation of the structure of complex systems. (Polish. English and Russian summaries) *Podstawy Sterowania* **4** (1974), 371–379. (W. Kwasowiec) **50** #15437 68A25

(*with* Jakubowski, Ryszard; Lembas, Jacek) The generation of the data structure of a complex system. (Polish. English and Russian summaries) *Podstawy Sterowania* **5** (1975), *no.* 4, 343–354. (M. Novotný) **53** #5070 93A10

(*with* Jakubowski, Ryszard) General algorithm of complex dynamic systems simulation. (Russian summary) *Systems Sci.* **1** (1975), *no.* 1, 17–27. (T. Kaczorek) **53** #5071 93A10 (68A55)

Krol', M. D. On topological models of intuitionistic analysis. A counterexample. (Russian) *Mat. Zametki* **19** (1976), *no.* 6, 859–862. (E. Mendelson) **55** #2524 02E05

Disjunctive and existential properties of intuitionistic analysis with Kripke's sch (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 4, 750–753. (L. L. Maksim **57** #9494 02C15 (02E05)

Different versions of Kripke's schema in intuitionistic analysis. (Russian) *Akad. Nauk SSSR* **239** (1978), *no.* 5, 1048–1051. (L. L. Maksimova) **58** #50 02E05

Król, Mieczysław Remarks on the reversibility of edge-homogeneous graphs. (Polish. English and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. No.* 4 *Ser. Studia i Materiały No.* 4 *Grafy i Sieci* (1972), 31–42. (Pavol **49** #7186 05C99

On a sufficient and necessary condition of 3-colorableness for the planar grap II. (Polish and Russian summaries) *Prace Nauk. Inst. Mat. Fiz. Teoret. Polit Wrocław. Ser. Studia i Materiały No.* 6 *Zagadnienia kombinatoryczne* (1972), 37–40; *No.* 9 *Grafy i hypergrafy* (1973), 49–54. (Branko Grünbaum) **50** #1954 05C15

The chromatic number of some 2-connected graphs. *Recent advances in g theory* (*Proc. Second Czechoslovak Sympos., Prague*, 1974), *pp.* 335–340. *Acade Prague*, 1975. (Paul C. Kainen) **53** #5354 05C15

Krol', N. K. (*with* Romanovskiĭ, I. V.) Construction of a minimal connecting network has a prescribed reliability of coupling. (Russian) *Operations research and stati simulation, No.* 2 (*Russian*), *pp.* 102–105, 151. *Izdat. Leningrad. Univ., Leningrad,* (Editors) **51** #14943 90B99

Krol', V. M. *See* **Optimization, Operations research, Bionics**, **48** #1846

Królikowska, Krystyna On the characteristic of some families of distributions. *Com Math. Prace Mat.* **17** (1973), 243–261. (A. K. Gayen) **49** #8163 62E10

Estimation of the parameters of any finite mixture of geometric distributi *Demonstratio Math.* **9** (1976), *no.* 4, 573–582. (Javad Behboodian) **55** #6657 6

Estimation of the parameters of the mixture of an arbitrary finite numbe Poisson's distributions. (Polish and Russian summaries) *Zeszyty Nauk. Politech. Mat. No.* 7 (1976), 17–23. (Javad Behboodian) **54** #11634 62F10

Królikowski, Andrzej Design procedure of an active identification experiment. *Fo Control Engrg.* **2** (1977), *no.* 1, 3–13. (Author's summary) **57** #11866 93B30

Królikowski, W. (*with* Rzewuski, Jan) Remarks on composite and unstable object quantum field theory. (Italian summary) *Nuovo Cimento B* (11) **25** (1975), 739– (Pierre Hillion) **52** #9905 81.47

Kroll, Hans-Joachim Ordnungsfunktionen in Miquelschen Möbiusebenen und ihre Beziehungen zu algebraischen Anordnungen. (English summary) *J. Geometry* **1** (1 90–109. (R. J. Bumcrot) **46** #2547 50D45

(*with* Heise, Ulrich; Heise, Werner) Über die Existenz endlicher Möbius-*m*-Strukturen. (Italian and English summaries) *Rend. Ist. Mat. Univ. Trie* (1971), 135–139 (1972). (M. J. Kallaher) **50** #8293 50D45 (05B05)

Zur Darstellung Miquelscher Möbiusräume. (English summary) *J. Geomet* (1972), 185–188. (T. G. Ostrom) **47** #954 50D45

(*with* Karzel, Helmut; Sörensen, Kay) Invariante Gruppenpartitionen und Doppelräume. Collection of articles dedicated to Helmut Hasse on his seventy- birthday. *J. Reine Angew. Math.* **262/263** (1973), 153–157. (A. Cronheim) **48** #70 50A15

Ordnungsfunktionen von κ-affinen Räumen. *Abh. Math. Sem. Univ. Hambur* (1974), 17–25. (W. R. Heise) **48** #12284 50D45

(*with* Karzel, Helmut; Sörensen, Kay) Projektive Doppelräume. *Arch. Math.* (*Basel*) **25** (1974), 206–209. (A. Cronheim) **49** #9730 50D25 (50D30)

Zur Struktur geschlitzter Doppelräume. (English summary) *J. Geometry* **5** (19 27–38. (A. Cronheim) **50** #8274 50D05

Bestimmung aller projektiven Doppelräume. *Abh. Math. Sem. Univ. Hambur* (1975), 139–142 (1976). (E. W. Ellers) **53** #3872 50D35

(*with* Karzel, Helmut) Eine inzidenzgeometrische Kennzeichnung projektiver kinematischer Räume. *Arch. Math.* (*Basel*) **26** (1975), 107–112. (E. W. Ellers) **51** #4038 50D20

(*with* Sörensen, Kay) Pseudo-euklidische Ebenen und euklidische Räume. (En summary) *J. Geometry* **8** (1976), *no.* 1-2, 95–115. (J. Yaqub) **58** #23983 50D1

Perspektivitäten in Benz-Ebenen. *Beiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg*, 1976), *pp.* 203–207. *Lehrbücher u. Monographien aus dem Gebiete Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäuser, Basel*, 1977. (H. Freudenthal) **57** #17496 50D45

Anordnungsfragen in Benz-Ebenen. *Abh. Math. Sem. Univ. Hamburg* **46** (19 217–255. (Libuše Marková) **57** #13679 50D30 (50D45)

Die Gruppe der eigentlichen Projektivitäten in Benz-Ebenen. *Geometriae Dedica* (1977), *no.* 4, 407–413. (H. W. Guggenheimer) **57** #7372 50D45

Kroll, Jeffrey R. (*with* Smith, Keith P.) An eigenvalue problem for the Stieltjes sigma-integral related to Gronwall's inequality. *Proc. Amer. Math. Soc.* **33** (19 384–388. (S. J. Taylor) **45** #833 45C05

Kroll, John Uniform flow past an axially uniform viscous vortex. *Studies in Appl. Math* (1977), *no.* 3, 205–223. (P. M. Gupta) **57** #2142 76.41

Krom, Melven R. (*with* Krom, Myren) Free subgroups and Følner's conditions. *M Scand.* **32** (1973), 242–244 (1974). (K. Appel) **48** #11341 20F99

Cartesian products of metric Baire spaces. *Proc. Amer. Math. Soc.* **42** (19 588–594. (J. C. Oxtoby) **48** #12457 54C50 (04A30, 54E35, 90D05)

Infinite games and special Baire space extensions. *Pacific J. Math.* **55** (19 483–487. (J. C. Oxtoby) **51** #13996 54E99 (02K30)

Complete rings of sets and sentential logic. *Studia Logica* **36** (1977), *no.* 3, 173– (H.-D. Ebbinghaus) **58** #10283 02B05

Krom, Myren (*with* Krom, Melven R.) Free subgroups and Følner's conditions. *M Scand.* **32** (1973), 242–244 (1974). (K. Appel) **48** #11341 20F99

Krombi, A. K. *See* **Crombie, A.**

Krommes, John A. Two new proofs of the test particle superposition principle of pla kinetic theory. *Phys. Fluids* **19** (1976), *no.* 5, 649–655. (V. P. Milantiev) **54** #429 76.35

Krompiewska, Ewa On some sequences of integral ideals. *Funct. Approximatio Comm Math.* **5** (1977), 65–68. (Philip A. Leonard) **57** #16231 10H25 (12A40)

Kron, Aleksandar A note on E. *Notre Dame J. Formal Logic* **13** (1972), 424–426. (Auth introduction) **58** #10342 (E **58** #16153) 02C99

Deduction theorems for relevant logics. *Z. Math. Logik Grundlagen Math.* **19** (1973), 85–92. (R. I. Goldblatt) **47** #4769 02C10

Erratum: "A note on *E*" (Notre Dame J. Formal Logic **13** (1972), 424–426). *Notre Dame J. Formal Logic* **15** (1974), 648. (Editors) **58** #16153 02C10

(*with* Milovanović, Veselin) Preference and choice. *Theory and Decision* **6** (1975), 185–196. (Authors' summary) **57** #18756 90A05 (02C10)

Deduction theorems for *T*, *E* and *R* reconsidered. *Z. Math. Logik Grundlagen Math.* **22** (1976), *no.* 3, 261–264. (Merrie Bergmann) **56** #15367 02C10

Kron, Gabriel *See* **Denis-Papin, Maurice; et al.**, **50** #5653; **Nicholson, H.**, **50** #16136; **Gabriel Kron and systems theory**, **52** #7830; **Alger, Philip L.**, **52** #13179; **Higgins, Thomas J.**, **52** #13202; **Hoffmann, Banesh**, **52** #13203 *and* **Bibliography: Kron, Gabriel**, **52** #13243

Kron, Hans H. (*with* DeRemer, Franklin L.) Programming-in-the-large versus programming-in-the-small. *IEEE Trans. Software Engrg.* **SE-2** (1976), *no.* 2, 80–86. (Robert Wagner) **54** #9131 68A05

Kronauer, Richard E. (*with* Yen, N.) Response of three oscillators coupled by a weak nonlinearity. *Trans. ASME Ser. E. J. Appl. Mech.* **44** (1977), *no.* 1, 141–146. (Authors' summary) **56** #10249 70.34

See also **Handbook: Applied mathematics**, **49** #10206

Kronberg, A. A. Solution of linear and nonlinear equations of elliptic type by a Monte Carlo method. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **7** (1976), *no.* 2, 60–74. (RŽMat **1976** #12 B1182) **58** #8375 65N99 (65C05)

On the solution of two boundary value problems by the Monte Carlo method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 1, 162–169, 277. (G. Vainikko) **54** #1535 65C05 (65N99)

Kronecker, Leopold *See* **Weil, André**, **58** #27769a

Kröner, E. Ordered versus disordered materials: consequences for the continuum model. (Polish and Russian summaries) Symposium on Continuum Models of Discrete Systems (Jodłowy Dwór, 1975). *Arch. Mech.* (*Arch. Mech. Stos.*) **28** (1976), *no.* 3, 455–465. (Author's summary) **56** #1908 73.60

See also **Topics in applied continuum mechanics**, **49** #8465 *and* **Applied mechanics**, **50** #11914

Kronfeld, Branko Future predicting algebras. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **8(28)** (1973), 315–322. (K. Jacobs) **48** #9875 60J99

Kronfli, N. S. States on generalised logics. *Internat. J. Theoret. Phys.* **3** (1970), 191–198. (R. Piziak) **48** #5547 81.46

Integration theory of observables. *Internat. J. Theoret. Phys.* **3** (1970), 199–204. (R. Piziak) **48** #5548 81.46

Probabilistic formulation of classical mechanics. *Internat. J. Theoret. Phys.* **3** (1970), 395–399. (M. J. Mączyński) **48** #7799 81.06 (06A40)

Kronheimer, E. H. Time-ordering and topology. *General Relativity and Gravitation* **1** (1970/71), *no.* 3, 261–268. (J. K. Beem) **52** #12702 83.53

Very unlatticelike ordered spaces. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 259–261. *Academia, Prague*, 1972. (O. Frink) **50** #8467 54F05 (06A45)

(*with* Geroch, Robert; Penrose, R.) Ideal points in space-time. *Proc. Roy. Soc. London Ser. A* **327** (1972), 545–567. (R. Göbel) **47** #4583 83.53

Spheres which look round all round are round. *Amer. Math. Monthly* **84** (1977), *no.* 3, 195–198. (C. E. Burgess) **55** #6381 54E60 (57A05)

Kronhuber, Georg Regelflächen im zentroaffinen Raum. (English summary) *Monatsh. Math.* **80** (1975), *no.* 4, 283–296. (P. Drăgilă) **53** #14324 53A15

Kronk, Hudson V. The chromatic number of triangle-free graphs. *Graph theory and applications* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.*, 1972; *dedicated to the memory of J. W. T. Youngs*), *pp.* 179–181. *Lecture Notes in Math., Vol.* 303, *Springer, Berlin*, 1972. (E. A. Nordhaus) **49** #114 05C15

(*with* Mitchem, John) The entire chromatic number of a normal graph is at most seven. *Bull. Amer. Math. Soc.* **78** (1972), 799–800. (K. Wagner) **46** #1632 05C15

(*with* Mitchem, John) On Dirac's generalization of Brooks' theorem. *Canad. J. Math.* **24** (1972), 805–807. (M. E. Watkins) **46** #8883 05C15

(*with* Fleischner, Herbert J.) Hamiltonsche Linien im Quadrat brückenloser Graphen mit Artikulationen. *Monatsh. Math.* **76** (1972), 112–117. (C. St. J. A. Nash-Williams) **47** #1676 05C99

(*with* White, Arthur T.) A 4-color theorem for toroidal graphs. *Proc. Amer. Math. Soc.* **34** (1972), 83–86. (Rudolf Halin) **45** #113 05C15

(*with* Greenwell, D. L.) Uniquely line colorable graphs. *Canad. Math. Bull.* **16** (1973), 525–529. (G. Chartrand) **50** #158 05C15

(*with* Chartrand, Gary; Schuster, Seymour) A technique for reconstructing disconnected graphs. *Colloq. Math.* **27** (1973), 31–34. (L. W. Beineke) **48** #3807 05C99

(*with* Mitchem, John) A seven-color theorem on the sphere. *Discrete Math.* **5** (1973), 253–260. (G. Laman) **47** #6533 05C15

(*with* Chartrand, Gary; Kapoor, S. F.) The many facets of Hamiltonian graphs. *Math. Student* **41** (1973), *no.* 3/4, 327–336 (1974). (F. Harary) **53** #5367 05C35

(*with* Geller, Dennis P.) Further results on the achromatic number. *Fund. Math.* **85** (1974), 285–290. (D. R. Lick) **50** #9666 05C15

(*with* Mitchem, John) Critical point-arboritic graphs. *J. London Math. Soc.* (2) **9** (1974/75), 459–466. (M. E. Watkins) **50** #12784 05C15

(*with* Ringeisen, Richard D.; White, Arthur T.) On 2-cell imbeddings of complete *n*-partite graphs. *Colloq. Math.* **36** (1976), *no.* 2, 295–304. (Jonathan L. Gross) **57** #160 05C10

Kronmal, Richard A. (*with* Ott, Jurg) Some classification procedures for multivariate binary data using orthogonal functions. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 354, 391–399. (Authors' summary) **53** #6897 62H30 (62G05)

Kronrod, A. S. The selection of the minimal confidence region. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 1036. (A. M. Kagan) **47** #1193 62F25 (62F15)

A nonmajorizable prescription for the choice of a confidence region for a given level of reliability. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1026. (Emil Spjøtvoll) **52** #6986 62F25

A nonmajorizable prescription for the selection of a confidence region of a certain form of target function. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 18–19. (Emil Spjøtvoll) **52** #6987 62F25

Kronrod, M. A. The two-dimensional double sweep. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 788–791. (Murli M. Gupta) **50** #6126 65F05

Kronrod, V. A. Exact solutions of nonstationary Navier-Stokes equations with account taken of mass forces action in the the presence of internal heat sources. (Russian) *Numerical analysis and mathematical physics, No.* 2 (*Russian*), *pp.* 65–74. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (See RŽMech **1976** #11 B50; MR **56** #1654) 76.35

Kronše, T. O. M. *See* **Kronsjö, T. O. M.**

Kronsjö, Lydia (*with* Dahlquist, Germund) On the design of nested iterations for elliptic difference equations. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **12** (1972), 63–71. (V. Pereyra) **47** #1309 65N99

A note on the "nested iterations" methods. *Nordisk Tidskr. Informationsbehandling* (*BIT*) **15** (1975), *no.* 1, 107–110. (Zbl **318** #65045) **58** #19255 65P05

Kronsjö, T. O. M. A decomposition in the dual direction of a large nonlinear convex economic system with separable variables. (Russian) Collection of articles dedicated to B. Z. Vulih on the occasion of his sixtieth birthday. *Optimizacija Vyp.* 12(29) (1973), 127–152, 156. (Author's summary) **54** #2142 90A05

Kronstadt, Eric P. General interpolating sequences in disks and polydisks. *Bull. Amer. Math. Soc.* **80** (1974), 132–137. (L. Zalcman) **50** #2919 46J10 (32E25)

Interpolating sequences in polydisks. *Trans. Amer. Math. Soc.* **199** (1974), 369–398. (J. Garnett) **54** #5501 32E25 (46J10)

Compact families of univalent functions. *Michigan Math. J.* **23** (1976), *no.* 4, 367–374 (1977). (W. C. Royster) **56** #5861 30A36

Interpolating sequences for functions satisfying a Lipschitz condition. *Pacific J. Math.* **63** (1976), *no.* 1, 169–177. (Lowell Hansen) **54** #557 30A80

(*with* Neville, Charles W.) Interpolating sequences for Hardy and Bergman classes in polydisks. *Michigan Math. J.* **24** (1977), *no.* 3, 327–345. (Anne-Marie Chollet) **58** #17209 32E30

Analytic structures for H^∞ of certain domains in $\mathbf{C}^n$. *Canad. J. Math.* **30** (1978), *no.* 4, 863–871. (Anne-Marie Chollet) **58** #28666 32E25

Kronstein, Karl Character tables and the Schur index. *Representation theory of finite groups and related topics* (*Proc. Sympos. Pure Math., Vol. XXI, Univ. Wisconsin, Madison, Wis.*, 1970), *pp.* 97–98. *Amer. Math. Soc., Providence, R.I.*, 1971. (J. S. Frame) **47** #8669 20C15

Kroó, A. V. The continuity of best approximations. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 1-2, 175–188. (Lee L. Keener) **57** #985 41A65

Differential properties of the operator of best approximation. *Acta Math. Acad. Sci. Hungar.* **30** (1977), *no.* 3-4, 319–331. (G. D. Taylor) **57** #17092 41A50

The problem of correctness of best approximations by trigonometric polynomials of the class $W_0^r H[\omega]_C$. (Russian) *Mat. Zametki* **22** (1977), *no.* 1, 85–101. (Paul Nevai) **56** #6245 42A08

Kroonenberg, Nelly A topological compact Hausdorff space with countably many isolated points in which sets of isolated points cannot be left out. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 501–503. (D. R. Traylor) **46** #2642 54D35

(*with* Anderson, R. D.) Open problems in infinite-dimensional topology. *Topological structures* (*Proc. Sympos. in honour of Johannes de Groot* (1914-1972), *Amsterdam*, 1973), *pp.* 141–175. *Math. Centre Tracts, No.* 52, *Math. Centrum, Amsterdam*, 1974. (R. R. Summerhill) **50** #11247 57A20

Characterization of finite-dimensional *Z*-sets. *Proc. Amer. Math. Soc.* **43** (1974), 421–427. (C. L. Seebeck, III) **48** #12540 57A20 (54F35)

(*with* Wong, Raymond Y. T.) Unions of Hilbert cubes. *Trans. Amer. Math. Soc.* **211** (1975), 289–297. (J. E. West) **51** #14064 57A20 (54B10, 54F40)

Pseudo-interiors of hyperspaces. *Compositio Math.* **32** (1976), *no.* 2, 113–131. (D. E. Sanderson) **54** #1230 57A20 (54B20)

See also **Juhász, István**, **49** #4778

Kroopnick, Allan Oscillation and boundedness theorems for $y'' + a(t)b(y) = 0$. *Bull. London Math. Soc.* **4** (1972), 321–322. (B. S. Lalli) **47** #5370 34C10

Properties of solutions of differential equations of the form $y'' + a(t)b(y) = 0$. *Proc. Amer. Math. Soc.* **34** (1972), 319–320. (R. E. Fennell) **45** #650 34C10

L^2-solutions to $y'' + c(t)y' + a(t)b(y) = 0$. *Proc. Amer. Math. Soc.* **39** (1973), 217–218. (H. O. Tẹjumọla) **47** #2135 34C10

Oscillation properties of $(m(t)x')' + a(t)b(x) = 0$. *J. Math. Anal. Appl.* **63** (1978), *no.* 1, 141–144. (W. R. Utz) **57** #6623 34C10

Krop, L. E. Verbal ideals of group rings of free abelian groups over a field *K* with characteristic 0. (Russian) Certain questions of group theory (Proc. Algebra Sem., No. 2, Riga, 1969/70). *Latvijas Valsts Univ. Zinātn. Raksti* **151** (1971), 34–68. (L. G. Kovács) **48** #4090 20C05 (20E10)

(*with* Grīnbergs, A.) Verbal ideals of abelian groups of exponent *p*. (Russian) Certain questions of group theory (Proc. Algebra Sem., No. 2, Riga, 1969/70). *Latvijas Valsts Univ. Zinātn. Raksti* **151** (1971), 69–78. (L. G. Kovács) **48** #4091 20C05

(*with* Plotkin, B. I.; Simonjans, L.) Some connections between group varieties and varieties of group representations. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 1072–1075. (J. Wiegold) **52** #5802 20E10

(*with* Plotkin, B. I.) Magnus varieties in group representations. (Russian) *Mat. Sb.* (*N.S.*) **95(137)** (1974), 499–524, 631. (M. Greendlinger) **54** #12897 20E10

Solvable varieties of pairs. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 18 (1976), 64–80, 222. (Robert G. Burns) **57** #9845 20E10 (20H25)

Kropa, James C. Topological semigroups with identity and metrizability. *Proceedings of the University of Houston Point Set Topology Conference* (*Houston, Tex.*, 1971), *pp.* 174–178. *Univ. Houston, Houston, Tex.*, 1971. (John A. Hildebrant) **53** #693 22A15

Kropáč, B. (*with* Dvořák, S.) Decomposition of the Gozinto's graph with the use of a nesting store. *Comput. J.* **17** (1974), 245–248. (Authors' summary) **52** #4698 68A10 (05-04)

Kropáč, Oldřich Relations between distributions of random vibratory processes and distributions of their envelopes. (Czech summary) *Apl. Mat.* **17** (1972), 75–112. (Petr Mandl) **45** #8081 70.60

See also **Applied mechanics**, **50** #11914

Kropp, T. E. (*with* Linz, Peter) A note on the computation of integrals involving products of trigonometric and Bessel functions. *Math. Comp.* **27** (1973), 871–872. **48** #3227 65D30 (33A40)

Krori, K. D. (*with* Borgohain, P.) Massive spheres with constant-density cores and two variable-density outer shells in general relativity. *Indian J. Pure Appl. Phys.* **12** (1974), *no.* 6, 423–429. (Alan Barnes) **55** #2024 83.35

(*with* Barua, Jayantimala) On the interior metric of a charged-dust cylinder in general relativity. *Indian J. Pure Appl. Phys.* **12** (1974), *no.* 6, 430–433. (Edward N. Glass) **55** #7282 83.53

(*with* Borgohain, P.) Massive spheres with two constant-density inner layers & a variable density outer layer in general relativity. *Indian J. Pure Appl. Phys.* **12** (1974), *no.* 9, 616–621. (L. F. Oster) **55** #9805 83.35

(*with* Barua, Jayantimala) Magnetic energy & cylindrically symmetric distribution of matter in equilibrium in general relativity. *Indian J. Pure Appl. Phys.* **12** (1974), *no.* 12, 818–822. (Edward N. Glass) **56** #4673 83.53

(*with* Barua, Jayantimala) The gravitational field of a radiating cylinder. *Indian J. Pure Appl. Math.* 7 (1976), *no.* 5, 522–526. (Authors' summary) **58** #25790 83.53 (53A25)

(*with* Nandy, D.) Birkhoff's theorem and scalar-tensor theories of gravitation. *J. Phys. A* **10** (1977), *no.* 6, 993–996. (D. K. Sen) **57** #8899 83.53

Kroschel, Kristian ★Statistische Nachrichtentheorie. Teil 1. Signalerkennung und Parameterschätzung. Hochschultext. *Springer-Verlag, Berlin-New York,* 1973. viii + 163 *pp.* (Zbl **279** #62028) **58** #31475a 62–01

★Statistische Nachrichtentheorie. Teil 2. Signalschätzung. Hochschultext. *Springer-Verlag, Berlin-New York,* 1974. vii + 189 *pp.* (Zbl **279** #62029) **58** #31475b 62–01

Krošilin, A. E. (*with* Borodin, K. S.; Tolmačev, V. V.) Quasiclassical asymptotic behavior for Wigner's 3*j*-symbols. (Russian. English summary) *Teoret. Mat. Fiz.* **34** (1978), *no.* 1, 110–121. (R. F. Biljalov) **57** #18551 81.22 (22E70)

Kroško, I. G. Detection of stability of periodic flows with the aid of generalized characteristic numbers. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1701–1703. (P. C. Das) **45** #7212 34C35

Sufficient conditions for stability and instability in the sense of V. I. Zubov of invariant manifolds of differential systems. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1527–1529, 1551. (C. S. Coleman) **48** #8981 34C30

Kroszczyński, J. (*with* Seidler, Jerzy; Nowakowski, Jerzy; Szyszkiewicz, J.; Oszywa, W.; Kulikowski, J. L.) ★Współczesne metody optymalizacji systemów telekomunikacyjnych. (Polish) [Modern optimization methods for telecommunication systems] Biblioteka Problemów Telekomunikacji, No. 8. [Library on Telecommunication Problems, No. 8] *Wydawnictwa Komunikacji i Łączności, Warsaw,* 1965. 255 *pp.* (*errata insert*) (Editors) **52** #12955 94A05

Krötenheerdt, Otto Zur Lösung des Isotopieproblems der Rosettenknoten. *Wiss. Beiträge Martin-Luther-Univ. Halle-Wittenberg* **M3** (1971), 19–31. (L. Neuwirth) **51** #9045 55A25

Die flächenkleinsten Dreiecke, die zwei gegebene, sich von aussen berührende Kreise enthalten. Beiträge zur Algebra und Geometrie, 2. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **4** (1973), 145–154 (1974). (C. M. Petty) **53** #1418 52A40

(*with* Mammitzsch, Claus; Richter, Peter) Die flächenkleinsten Vierecke, die zwei gegebene, sich von aussen berührende Kreise enthalten. Beiträge zur Algebra und Geometrie, 3. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **5** (1974), 167–183. (C. M. Petty) **53** #1419 52A40

(*with* Böhm, Johannes; Hertel, E.; Mögling, W.; Börner, Walter; Stammler, Ludwig) ★Geometrie. I. Axiomatischer Aufbau der euklidischen Geometrie. Mit historischen Bemerkungen von H. Wussing. Zweite, berichtigte Auflage. Studienbücherei. Mathematik für Lehrer, Band 6. *VEB Deutscher Verlag der Wissenschaften, Berlin,* 1976. 129 *pp.* (R. Lingenberg) **55** #11139 50A05

(*with* Veit, Sigrid) Zur Theorie massiver Knoten. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* **7** (1976), 61–74. (Hale F. Trotter) **55** #9069 55A25

(*with* Richter, Peter) Bemerkung über "deltoidnahe" und "trapeznahe" asymmetrische Vierecke mit zwei einbeschriebenen Kreisen. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg M* **8** *Beitr. Algebra Geom.* **6** (1977), 19–26. (A. Florian) **58** #18160 52A40

(*with* Reichstein, Jürgen) Über stabile reguläre Kreispackungen *n*-ter Ordnung mit speziellen Untersuchungen für $n=2$. *Wiss. Z. Martin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe* **27** (1978), *no.* 3, 53–73. (Cyril W. L. Garner) **58** #18092 50B30 (20H15)

See also **Beiträge: Algebra und Geometrie**, **52** #5241 *and* **Beiträge: Algebra und Geometrie**, **52** #5242

Krotkova, N. G. The generalized complex numbers of W. R. Hamilton and De Morgan. (Russian) *History and methodology of the natural sciences, No. XIV: Mathematics, mechanics* (*Russian*), *pp.* 127–130. *Izdat. Moskov. Univ., Moscow,* 1973. (Ja. Matviišin (RŽMat **1974** #1 A26)) **58** #21216 01A55

Krotov, G. I. (*with* Boĭčuk, L. M.) A gradient optimization method with nonlinear equality constraints and "oblique" projection matrices. *Avtomatika* **1976**, *no.* 4, 58–62 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **9** (1976), *no.* 4, 47–51. (Norihiko Adachi) **56** #13611 65K05 (90C99)

See also **Mathematical models for prediction and for water quality control**, **56** #14848

Krotov, V. F. (*with* Bahito, R. U.; Krapčetov, N. I.) Synthesis of an approximately optimal control for one class of controlled systems. *Avtomat. i Telemeh.* **1972**, *no.* 10, 33–43 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 10, *part* 1, 1590–1599 (1973). (Authors' summary) **58** #4531 93C99

(*with* Gurman, V. I.) ★Методы и задачи оптимального управления. (Russian) [Methods and problems of optimal control] *Izdat. "Nauka", Moscow,* 1973. 446 *pp.* (F. M. Kirillova) **54** #5931 49–02 (90C30)

Optimization methods of control with minimax criteria. I. *Avtomat. i Telemeh.* **1973**, *no.* 12, 5–17 (*Russian*); *translated as Automat. Remote Control* **34** (1973), *no.* 12, *part* 1, 1863–1873 (1974). **56** #13028a 49A40

Optimization methods in control processes with minimax criteria. II. *Avtom Telemeh.* **1974**, *no.* 1, 5–15 (*Russian*); *translated as Automat. Remote Control* **35** (1), *no.* 1, *part* 1, 1–10 (1974). **56** #13028b 49A40

Methods of optimizing control processes having minimax criteria. III. *Avtom Telemeh.* **1974**, *no.* 3, 5–14 (*Russian*); *translated as Automat. Remote Control* **35** (1), *no.* 3, *part* 1, 345–353. **56** #13028c 49A40

(*with* Hrustalev, M. M.) Optimal control of the thrust and angle of attack c aircraft during a climbing and acceleration maneuver. (Russian) *Problems in anal mechanics, stability and control theories* (*Second Četaev Conf., Kazan,* 1973) (*Russian* 168–175, 339. *Izdat. "Nauka", Moscow,* 1975. (Djordje Djukic) **56** #13872 70.

Computational algorithms for solving and optimizing controllable systems of equations. I. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 5, 3–15 (*Russ*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 5, 1–13. (See Zbl **316** #65009) 6 (49E99, 90C99)

Computational algorithms for solving and optimizing controllable systems of equations. II. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 6, 3–13, 219 (*Russ*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 6, 1–12. (See Zbl **339** #65040) 6 (90C99, 49E99)

Krotov, V. G. Series in the Faber-Schauder system and in bases of the space *C* (Russian) *Mat. Zametki* **14** (1973), 185–195. (D. P. Gupta) **48** #4710 46E15

Series in the Haar system. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 111–127, 237 Schipp) **49** #5689 (E **51** #13577) 42A56

Representation of measurable functions by series in the Faber-Schauder system, universal series. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 1258–1261. (A. Olevskiĭ) **51** #1262 42A56

Continuous functions with monotonically increasing Fourier coefficients in Haar system. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 439–444, 462. (A. Olevskiĭ) **49** # 42A56

Fourier coefficients with respect to a certain orthonormal system that forms a in the space of continuous functions. (Russian) *Izv. Vyssš. Učebn. Zaved. Matem* **1975**, *no.* 10(161), 33–46. (W. R. Wade) **53** #13993 42A56

(*with* Storoženko, È. A.; Osval'd, P.) Direct and inverse theorems of Jackson in the spaces L^p, $0<p<1$. (Russian) *Mat. Sb.* (*N.S.*) **98(140)** (1975), *no.* 3(11), 395– 495. (V. Veselinov) **53** #6205 42A08 (41A30)

Letter to the editors: Corrections to the paper: "Series in the Haar system" (Sib Mat. Ž. **14** (1973), 111–127). (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 417–418. (F. Sch **51** #13577 42A56

Universal Fourier series in the Faber-Schauder system. (Russian. English summ *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 4, 53–58. (F. Schipp) **54** # 42A56

(*with* Osval'd, P.; Storoženko, È. A.) Direct and inverse theorems of Jackson in the spaces L^p $(0<p<1)$. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 1, 44 (J. Peetre) **53** #1131 42A08

On the multipliers of Fourier series with respect to the Haar system. (Ru summary) *Anal. Math.* **3** (1977), *no.* 3, 187–198. (Hans P. Heinig) **57** #7007 4 (42A56)

Representation of measurable functions by series in the Faber-Schauder system, universal series. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 1, 215– 232. (F. Móricz) **55** #10954 42A56

(*with* Leindler, László) On the strong summability of Fourier series and the cl H^{ω}. *Acta Sci. Math.* (*Szeged*) **40** (1978), *no.* 1–2, 93–98. (J. Szabados) **58** #19 42A24

Unconditional convergence of the Fourier series in the Haar system in the sp Λ_{ω}^{p}. (Russian) *Mat. Zametki* **23** (1978), *no.* 5, 685–695. (W. R. Wade) **58** #19 42A56

Krotscheck, Eckhard (*with* Kundt, Wolfgang) Causality criteria. *Comm. Math. Phys* (1978), *no.* 2, 171–180. **58** #14878 83.34

See also **Møller, Christian**, **57** #8838

Kroupa, F. Screw dislocation in a non-homogeneous medium. *Czechoslovak J. Phys.* (1977), *no.* 12, 1378–1384. (D. Ieşan) **56** #17318 73.34

Krowicki, Stanisław (*with* Szczepankiewicz, Eugeniusz) A certain sampling problem *n*-dimensional Euclidean space. (Polish. English summary) *Zeszyty Nauk. Wyż. Sz Ped. w Opolu Mat. No.* 9 *Zastos. Mat.* (1971), 37–44. (Authors' summary) **50** #152 62M10 (62D05)

(*with* Szczepankiewicz, Eugeniusz) Some generalizations of the correlation func (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **12** *Za Mat.* (1973), 27–34. (Editors) **54** #11693b 62M10

(*with* Szczepankiewicz, Eugeniusz) A certain sampling problem in the case quasi-isotropic random fields. (Polish. English summary) *Zeszyty Nauk. Wyż. Sz Ped. w Opolu Mat.* **17** *Zastos. Mat.* (1974), 93–105. (From the authors' summ **55** #6749 62M99

Kr"stev, G. (*with* Vasilev, T.) The solution of the integral $G(T)=\int_{T_0}^{T} e^{-U/KT}\,dT$. (Bulgarian. Russian and French summaries) *Plovdiv. Univ. Naučn. Trud.* **12** (1974) 2, 19–24. (Not reviewed) 81.33

Kr"stev, Rangel St. A certain integral equation. (Bulgarian. Russian and English summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **4** (1967), *no.* 2, 61–68 (1970) Fučík) **45** #4082 45G99

A certain integro-differential equation. (Bulgarian. Russian and French summar *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **6** (1970), *no.* 1, 101–108 (1972). (M. Tv **48** #2479 34B15 (45J05)

A general integral for the system of integro-differential equations $dy_k/dx+\sum_{i=1}^{n} a_{ki}(x)y_i=\lambda\sum_{i=1}^{n}\int_a^b K_{ki}(x,t)y_i(t)dt+f_k(x)$ and stability. (Bulgarian. Russian and English summaries) *Teoret. i Prilož. Meh.* **2** (1971), *no.* 1, 49–59, 5, 7. Bojadžiev) **46** #631 45J05 (34D99)

Stability of order *n*. (Bulgarian. Russian and English summaries) *B"lgar. A Nauk. Izv. Mat. Inst.* **15** (1974), 27–32. (D. Bobrowski) **52** #6123 34D20

Kr"steva, Marija (*with* Obretenov, Apostol) A system of the type "*k* out of *n*" renewal and exponential life time duration. (Bulgarian. Russian and English summari *B"lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* **13** (1972), 93–98. (Auth summary) **54** #12191 90B30 (60K10)

Krtolica, R. Statistical simulation of distributed parameter systems. I. Stochastic model. *Avtomat. i Telemeh.* **1976**, *no.* 1, 82–89 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 1, *part* 1, 27–34. (Author's summary) **57** #15722 93E99

Statistical simulation of distributed parameters systems. II. System identification in the presence of random disturbances. *Avtomat. i Telemeh.* **1976**, *no.* 2, 55–66 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 2, *part* 1, 170–180. (Author's summary) **58** #4560 93E10

Kručinina, T. A. The divergence of interpolation operators. (Russian) *Moskov. Oblast. Ped. Inst. Učen. Zap.* **269**, 255–279 (1969). (C. de Boor) **46** #7773 41A15

Kručkovič, G. I. *H*-Hermitian spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 4(107), 42–49. (B. Cenkl) **46** #837 53C55

H-Hermitian spaces of hypercomplex dimension 1. (Russian) *Trudy Moskov. Inst. Radiotehn. Èlektron. i Avtomat.* **1971**, *no.* 52 *Mat.*, 47–52. (RŽMat **1972** #3 A664) **58** #30866 53B35

Hypercomplex structures on manifolds. I. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **16** (1972), 174–201. (A. Verona) **48** #7157 53C15

Hypercomplex geodesics and their real realizations. (Russian) *Trudy Moskov. Inst. Radiotehn., Èlektron. i Avtomat. Vyp.* 67 *Mat.* (1973), 3–11, 150. (From the text and summary) **58** #18257 53C15

Hypercomplex structures on manifolds. II. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **17** (1974), 218–227. (A. Verona) **51** #1658 53C15

Krueger, Robert J. (*with* Weston, V. H.) On the inverse problem for a hyperbolic dispersive partial differential equation. II. *J. Mathematical Phys.* **14** (1973), 406–408. (J. Wiesner) **48** #1592 78.35

An inverse problem for a dissipative hyperbolic equation with discontinuous coefficients. *Quart. Appl. Math.* **34** (1976/77), *no.* 2, 129–147. (D. L. Colton (Zbl **328** #35074)) **58** #1776 35R30 (35L10)

Krueger, Warren M. Generalized Steenrod-Hopf invariants for stable homotopy theory. *Proc. Amer. Math. Soc.* **39** (1973), 609–615. (J. F. Adams) **52** #6719 55H15

Peterson-Stein formulas in the Adams spectral sequence. *Proc. Amer. Math. Soc.* **56** (1976), 377–379. (Stanley Kochman) **53** #4064 55H15

Hopf invariants and Browder's work on the Kervaire invariant problem. *Trans. Amer. Math. Soc.* **228** (1977), 85–97. (J. F. Adams) **55** #4173 55H15 (57D90)

Krug, E. (*with* Newton, Dan) On sequence entropy of automorphisms of a Lebesgue space. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 211–214. (W. Parry) **48** #500 28A65

Krug, Eugen (*with* Henn, Rudolph) On efficient points of a stochastic production correspondence. *Production theory* (*Proc. Internat. Sem., Univ. Karlsruhe, Karlsruhe,* 1973), *pp.* 221–230. *Lecture Notes in Econom. and Math. Systems, Vol.* 99, *Springer, Berlin*, 1974. (From the authors' introduction) **55** #7310 90A15 (90B30)

Stochastische Produktionskorrespondenzen. *Sechste Oberwolfach-Tagung über Operations Research* (1973), *Teil I, pp.* 219–224. *Operations Research Verfahren, Band XVIII, Hain, Meisenheim am Glan*, 1974. (Yvo M. I. Dirickx) **57** #2519 90B30

★Stochastic production correspondences. Mathematical Systems in Economics, No. 24. *Verlag Anton Hain, Meisenheim am Glan*, 1976. iii + 51 *pp*. (I. M. Stancu-Minasian) **56** #2315 90B30

Krug, G. K. (*with* Dmitriev, A. N.; Kuzin, L. T.; Kurakin, K. I.; Kuhtenko, O. I.; Matveev, P. S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. V.; Topčeev, Ju. I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Теория автоматического регулирования. Книга 2: Анализ и синтез линейных непрерывных и дискретных систем автоматического регулирования. (Russian) [Theory of automatic guidance. Book 2: Analysis and synthesis of continuous and discrete automatic guidance systems] Edited by V. V. Solodovnikov. *Izdat.* "*Mašinostroenie*", *Moscow*, 1967. 679 *pp*. (RŽKibernet **1968** #3 G89) **50** #6559 93–02

(*with* Gol′dfarb, L. S.; Baltruševič, A. V.; Netušil, A. V.; Pasternak, E. B.; Aleksandrovskiĭ, N. M.; Kuzin, R. E.; Burljaev, V. V.) ★Теория автоматического управления. Часть 1. (Russian) [Theory of automatic control. Part 1] *Izdat.* "*Vysš. Škola*", *Moscow*, 1968. 424 *pp*. ((RŽKibernet **1968** #10 G7K)) **50** #6561 93–02

(*with* Bučkov, I. N.) *D*-optimal experimental designs. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 68 (1969), 5–19. (H. Bandemer) **45** #1322 62K05

(*with* Bučkov, I. N.; Ermuratskiĭ, P. V.; Leckiĭ, È. K.; Nikiforova, E. S.) A certain algorithm for obtaining *D*-optimal designs. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 68 (1969), 20–40. (H. Bandemer) **45** #1323 62K05

(*with* Bučkov, I. N.; Leckiĭ, È. K.) A certain method of sequential experiment planning. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 68 (1969), 41–55. (V. Fedorov (RŽMat **1970** #5 V175)) **45** #1320 62L05

(*with* Dmitriev, A. N.; Kuzin, L. T.; Kurakin, K. I.; Kuhtenko, O. I.; Matveev, P. S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. V.; Topčeev, Ju. I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Grundlagen automatischer Regelsysteme. Band 2: Analyse und Synthese linearer Systeme. Gesamtredaktion der Originalausgabe von W. W. Solodownikow. Aus dem Russischen übersetzt von Klaus Franke, Ludmilla Heckendorff, Volker Langguth, Werner Otto Mertins und Uwe Riedel. Deutsche Bearbeitung unter Manfred Peschel. *VEB Verlag Technik, Berlin*, 1971. 620 *pp*. (1 *foldout*) (RŽKibernet **1968** #10 G7K) **50** #6560 93–02

(*with* Gol′dfarb, L. S.; Baltruševič, A. V.; Netušil, A. V.; Pasternak, E. B.; Aleksandrovskiĭ, N. M.; Kuzin, R. E.; Burljaev, V. V.) ★Теория автоматического управления. Часть 2. (Russian) [Theory of automatic control. Part 2] *Izdat.* "*Vysš. Škola*", *Moscow*, 1972. 432 *pp*. ((RŽKibernet **1972** #7 G4K)) **50** #6562 93–02

(*with* Gol′dfarb, L. S.; Baltruševič, A. V.; Netušil, A. V.; Pasternak, E. B.; Aleksandrovskiĭ, N. M.; Kuzin, R. E.; Burljaev, V. V.) ★Theory of automatic control. General editor: A. Netushil. Translated from the Russian by Aleksandr Parnakh. Translation editor Valery Sokolov. *Mir Publishers, Moscow*, 1973. 806 *pp*. (Editors) **50** #6563 93–02

(*with* Bahvalov, L. A.) Synthesis of optimal finite sequences for the identification of dynamical objects. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1974**, *no.* 6, 599–604, 699. (V. N. Igolkin) **50** #6574 93B30

(*with* Sosulin, Ju. A.; Fatuev, V. A.) ★Планирование эксперимента в задачах идентификации и экстраполяции. (Russian) [The design of experiment in identification and extrapolation problems] *Izdat.* "*Nauka*", *Moscow*, 1977. 208 *pp*. (Ivar Petersen) **57** #5252 93B30 (62K05)

Kruger, A. Ja. Optimal search for the root of a function. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1975**, *no.* 3, 3–4, 92. (A. S. Householder) **53** #4518a 65H05

(*with* Morduhovič, B. Š.) Necessary optimality conditions in the problem of terminal control with nonfunctional constraints. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 12, 1064–1067, 1147. (A. B. Kuržanskiĭ) **55** #13317 49B10

On the problem of seeking the root of a function. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1976**, *no.* 1, 3–6, 93. (A. S. Householder) **53** #4518b 65H05

The maximum principle in minimization problems for functionals of the intermediate states of a dynamic system. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1977**, *no.* 2, 75–80, 95. (From the author's summary) **58** #7290 49B20

Some theorems on the closure of functions with applications to subdifferential calculus. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 4, 29–33, 135. (Author's summary) **58** #23918 49C15 (46G99)

Krüger, Christian *See* **Studien zur Algebra und ihre Anwendungen**, **48** #8172

Krüger, H. (*with* Levin, F. S.) Possibility of complex eigenvalues in approximate solutions of the homogeneous Faddeev equations and their implication for the general *n*-body case. *Phys. Lett. B* **65** (1976), *no.* 2, 109–112. (Authors' summary) **56** #10541 81.35

Krüger, J. G. Quantization and superfluous coordinates in generalized mechanics. *Physica* **65** (1973), 1–19. (S. Malin) **54** #12053 81.49 (70.49)

On the modification of the commutation relations in generalized mechanics. *Physica* **65** (1973), 20–27. (S. Gudder) **54** #6744 81.35

(*with* Bovyn, M.) Relativistic motion of a charged particle in a plane electromagnetic wave with arbitrary amplitude. *J. Phys. A* **9** (1976), *no.* 11, 1841–1846. (Authors' summary) **57** #11361 78.35

(*with* Poffyn, A.) Quantum mechanics in phase space. I. Unicity of the Wigner distribution function. *Phys. A* **85** (1976), *no.* 1, 84–100. (Authors' summary) **54** #4445 81.60

(*with* Poffyn, A.) Quantum mechanics in phase space. II. Eigenfunctions of the Liouville operator. *Phys. A* **87** (1977), *no.* 1, 132–144. (Authors' summary) **55** #1985 81.47

(*with* Poffyn, A.) Quantum mechanics in phase space. III. Linear transformations. *Phys. A* **91** (1978), *no.* 1-2, 99–112. (Authors' summary) **58** #14600 81.44

Krüger, Jürgen (*with* Fischer, Burkhart) Mathematical principles in afferent visual neurons: differentiation, integration and transient proportionality related to receptive fields and shift-effect. *Bull. Math. Biology* **38** (1976), *no.* 3, 253–267. (Uwe an der Heiden) **58** #9366 92A05

Krüger, L. *See* **Logic, methodology and philosophy of science**, **55** #7657

Kruger, R. P. (*with* Trussell, H. J.) Comments on: "Nonstationary assumptions for Gaussian models in images" (IEEE Trans. Systems Man Cybernet. **6** (1976), no. 12, 876–882) by B. R. Hunt and T. M. Cannon. *IEEE Trans. Systems Man Cybernet.* **8** (1978), *no.* 7, 579–582. (Authors' summary) **57** #19064 94A05

Krüger, S. (*with* Filippi, Siegfried) Verallgemeinerte Mehrschrittverfahren–eine Klasse effizienter Methoden zur numerischen Integration gewöhnlicher Differentialgleichungen. *Mitt. Math. Sem. Giessen No.* 93 (1971), 32–63. (Jochen Werner) **45** #6194 65L99

Kruglīkov, V. Ī. (*with* Mīkljukov, V. M.) Stability theorems for mappings of class BL. (Russian) *Metric questions of the theory of functions and mappings, No.* 3 (*Proc. Second Colloq. Theory of Quasiconformal Mappings and its Generalizations, dedicated to M. A. Lavrent′ev's seventieth birthday, Donetsk*, 1970) (*Russian*), *pp.* 55–70. *Izdat.* "*Naukova Dumka*", *Kiev*, 1971. (A. Janušauskas (RŽMat **1972** #7 B195)) **51** #10601 30A30

On the theorem on the existence and uniqueness of quasiconformal mappings with unbounded characteristics. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 1289–1291. (P. Caraman) **46** #2046 30A60

(*with* Mīkljukov, V. M.) Stability theorems for mappings of the class *BL*. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 421–423, 477. (J. Ławrynowicz) **46** #5614 30A60

(*with* Mīkljukov, V. M.) Certain classes of plane topological mappings with generalized derivatives. (Russian) *Metric questions of the theory of functions and mappings, No. IV* (*Russian*), *pp.* 102–122. *Izdat.* "*Naukova Dumka*", *Kiev*, 1973. (P. Caraman) **49** #9200 30A60

The existence and uniqueness of mappings that are quasiconformal in the mean. (Russian) *Metric questions of the theory of functions and mappings, No. IV* (*Russian*), *pp.* 123–147. *Izdat.* "*Naukova Dumka*", *Kiev*, 1973. (P. Caraman) **49** #9201 30A60

On stability theorems for mappings with a bounded Dirichlet integral. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 318–320, 381. (H. Renelt) **48** #521 30A34

A characteristic property of mappings that are quasiconformal in the mean. (Russian) *Dolk. Akad. Nauk SSSR* **228** (1976), *no.* 5, 1031–1033. (P. Caraman) **53** #13554 30A60

Kruglikov, V. K. (*with* Svešnikov, A. A.) Boundary conditions in many-dimensional problems of attainment of bounds. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 1, 71–75 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 1, 60–63. (T. V. Avadhani) **47** #4326 60G15

See also **Cybernetics and computer technology**, **48** #1517

Kruglikova, L. G. (*with* Krylov, V. I.) ★Handbook of numerical harmonic analysis. Translated from the Russian by David Louvish. *Israel Program for Scientific Translations, Jerusalem*, 1969. iv + 151 *pp*. (Editors) **52** #12374 65T05 (65A05)

Special cases of transformation of a sequence according to the method of least squares. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1970**, *no.* 6, 62–67. (E. L. Albasiny) **45** #4582 65B99

Linear transformations of sequences according to the method of least squares and summability of divergent series. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1972**, *no.* 3, 97–100. (H.-H. Körle) **47** #676 40C05

Krugljak, Ju. O. (*with* Krjačko, Ē. S.) A nonorthogonal representation of the second quantization. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 3, 254–257, 288. (W. M. Tulczyjew) **54** #2015 81.53

Krugljak, N. Ja. (*with* Zabreĭko, P. P.) A proof of a theorem of M. Artin. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 7 (1974), 134–149. (Gerhard Pfister) **57** #322 14D15

A proof of the convergence of the method of successive approximations for nonlinear equations. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 12 (1975), 75–76. (RŽMat

1976 #5 B925) **58** #24904 65H05

A modification of J. Moser's theorem on the solvability of nonlinear equations. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 12 (1975), 77–86. (Mieczyslaw Altman) **58** #18526 58C15 (65J05)

Families of smoothing operators and interpolation spaces. (Russian) *Qualitative and approximate methods for the investigation of operator equations, No.* 1 (*Russian*), *pp.* 100–108. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (Author's introduction) **58** #30337 46M35 (46E30)

The Nash-Moser implicit function theorem and nonlinear interpolation. (Russian) *Studies in the theory of functions of several real variables* (*Russian*), *pp.* 55–65. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the text) **58** #31162 58C15 (46M35)

Imbedding theorems, interpolation of operators, and the Nash-Moser implicit function theorem. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 4, 771–773. (J. Peetre) **53** #3729 46M35 (58C15)

Krugljak, S. A. Representations of algebras for which the square of the radical equals zero. (Russian) Investigations on the theory of representations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **28** (1972), 60–68. (Ju. A. Drozd) **48** #11214 16A64

See also **Investigations on the theory of representations**, **52** #2785 (EA **52**)

Krugljakov, L. Z. Pairs A_0 of congruences. (Russian) *Trudy Irkutsk. Gos. Univ.* **66** (1969), 52–59. (Z. Nádeník) **46** #6185 53A25

Generalized pseudofocal families of d-planes in P_N. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 11(114), 78–84. (C. Simionescu) **45** #9255 53A20

Frame fields of a system of submanifolds of a 2-family of lines in P_5. (Russian) Geometry collection, No. 8. *Trudy Tomsk. Gos. Univ.* **205** (1972), 34–39. (Josef Vala) **48** #4930 53A25

3-families of lines in P_5. (Russian) Geometry collection, No. 9. *Trudy Tomsk. Gos. Univ.* **212** (1972), 29–48. (M. Decuyper) **49** #1348 53A25

Ruled manifolds that are associated with a pair of congruences. (Russian) *Trudy Tomsk. Gos. Univ.* **230** (1972), 28–38 (1973). (A. Urban) **50** #8328 53A25

Certain classes of nonfocal 2-families of lines in five-dimensional projective space. (Russian) Geometry collection, No. 11. *Trudy Tomsk. Gos. Univ.* **235** (1973), 36–49. (M. Decuyper) **51** #4069 53A20

(*with* Ščerbakov, N. R.) On the geometry of a k-pseudolocal family of d-planes in projective space. (Russian) Geometry collection, No. 13. *Trudy Tomsk. Gos. Univ.* **246** (1973), 43–51. (D. Palman) **50** #14524 53A20

(*with* Rybčenko, L. V.) Pseudofocal a-families of lines in $(a+2)$-dimensional projective space. (Russian) Geometry collection, No. 13. *Trudy Tomsk. Gos. Univ.* **246** (1973), 65–86. (M. Decuyper) **51** #4070 53A20

(*with* Geĭdel'man, R. M.) Planar surfaces. (Russian) *Dokl. Akad. Nauk SSSR* **219** (1974), 19–22. (A. Urban) **52** #9092 53A20

(*with* Kaĭzer, V. V.) Tangential subspaces and higher order characteristics of Pfaffian manifolds of multidimensional planes. (Russian) Geometry collection, No. 14. *Trudy Tomsk. Gos. Univ.* **255** (1974), 47–81. (J. Virsik) **52** #11970 (EA **54**) 58A15 (53A20)

(*with* Ščerbakov, N. R.) 1-pseudofocal a-families of two-dimensional planes in a projective space. (Russian) Geometry collection, No. 14. *Trudy Tomsk. Gos. Univ.* **255** (1974), 82–90. **58** #24064 53A20

Sequences of k-pseudofocal submanifolds of a family of d-planes in P_N. (Russian) Geometry collection, No. 12. *Trudy Tomsk. Gos. Univ.* **244** (1975), 10–16. (Josef Vala) **52** #15268 53A20

On the question of the projective classification of families of multidimensional planes. (Russian) Geometry collection, No. 15. *Trudy Tomsk. Gos. Univ.* **258** (1975), 50–56, 234. (R. M. Geĭdel'man) **54** #10256 14C20 (53A20)

(*with* Sušnikov, B. S.) Pseudocongruences of d-planes in P_{2d+2}. (Russian) Geometry collection, No. 15. *Trudy Tomsk. Gos. Univ.* **258** (1975), 57–74, 234–235. (Josef Vala) **55** #3985 53A20

On the differential geometry of families of subspaces in a projective space. (Russian) *Trudy Tomsk. Gos. Univ.* **263** *Geometr. Sb. Vyp.* 16 (1975), 42–57, 75. (*loose errata*). (Adrian C. Albu) **55** #3986 53A20

(*with* Čupahin, N. P.) Pseudofocal a-families of 2-planes in P_{a+3}. (Russian) *Trudy Tomsk. Gos. Univ.* **263** *Geometr. Sb. Vyp.* 16 (1975), 58–64, 75. (*loose errata*) (M. Decuyper) **57** #7412 53A20

On the differential geometry of families of multidimensional planes in projective space. I. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 6, 1295–1307, 1438. (R. M. Geĭdel'man) **57** #7413 53A20 (53B25)

See also **Geometry collection**, **49** #9749; **Geometry collection**, **52** #4143; **Geometry collection**, **52** #4144 *and* **Geometry collection**, **54** #1094

Krugljakova, L. L. Kellog's theorem in the L_p metric. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 2(129), 51–57. (T. G. Gegelia) **48** #2401 30A78 (30A72)

Kruglov, A. A. (*with* Solomjak, M. Z.) Interpolation of operators in the spaces V_p. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 13, 54–60. (S. D. Riemenschneider) **45** #2464 46E35 (28A25)

Certain spaces of means. (Russian. English summary) *Vestnik Leningrad. Univ.* **1972**, *no.* 1, 155–156. (S. D. Riemenschneider) **45** #5742 46E35

Kruglov, S. I. (*with* Stražev, V. I.) On internal symmetries of the electromagnetic field. (Russian. English summary) *Acta Phys. Polon. B* **8** (1977), *no.* 10, 807–814. (Ll. G. Chambers) **56** #14129 78.20

(*with* Boguš, A. A.) Equations of a vector field of general type. (Russian. English summary) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1978**, *no.* 4, 58–65, 136. (Authors' summary) **58** #25621 81.53 (53B25)

Kruglov, V. Ē. Analogues of the Cauchy kernel and the Riemann boundary value problem on a three-sheeted surface of genus two. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 352–364. (D. Mitrović) **45** #8859 30A88

The solution of the Riemann problem on a certain n-sheeted Riemann surface. (Russian) *Mat. Issled.* **9** (1974), *no.* 2 (32), 230–236, 255. (S. G. Samko) **51** #907 30A88

The number of linearly independent functions that are multiples of a given divisor that contains the conjugate points of the Riemann surface of an algebraic function. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 2(153), 119–122. (J. Čižmár) **52** #5680 14H05

The number of linearly independent functions that are multiples of a given di and the vanishing of the Riemann θ-function on Riemann surfaces of algebraic functions. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 101–107, 143. (B. N. Apana **54** #13091 30A88

Kruglov, V. I. Kinetic equations for a neutral radiating gas with allowance for polariza of the radiation. (Russian. English summary) *Teoret. Mat. Fiz.* **32** (1977), *n* 401–409. (Ł. A. Turski) **57** #15136 82.47

Kruglov, V. M. Letter to the editors. (Russian) *Teor. Verojatnost. i Primenen.* **16** (1 401. (M. Loève) **45** #6052 60E05

A certain class of limit distributions in a Hilbert space. (Russian. Lithuanian English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 3, 85–88, 207. (D. A. Dar **47** #5909 60B05 (60E05)

Integrals with respect to infinitely divisible distributions in Hilbert space. (Russ *Mat. Zametki* **11** (1972), 669–676. (G. N. Sytaja) **49** #9893 60B05

Limit theorems for sums of independent random variables with values in Hi space. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 209– (D. A. Darling) **45** #7769 60F05

A certain extension of the class of stable distributions. (Russian. English summ *Teor. Verojatnost. i Primenen.* **17** (1972), 723–732. (V. Fabian) **47** #2647 60F0

Convergence of numeric characteristics of sums of independent random varia and global theorems. *Proceedings of the Second Japan-USSR Symposium on Probab Theory* (*Kyoto*, 1972), *pp.* 255–286. *Lecture Notes in Math., Vol.* 330, *Springer*, *Be* 1973. (G. K. Eagleson) **56** #3919 60F05

Convergence of numerical characteristics of sums of independent random varia with values in Hilbert space. (Russian. English summary) *Teor. Verojatnost. i Prime* **18** (1973), 734–752. (G. K. Eagleson) **48** #9811 60F05

A global limit theorem for sums of independent random variables. (Russian) *D* *Akad. Nauk SSSR* **219** (1974), 542–545. (Š. K. Formanov) **53** #14601 60F05

Infinitely divisible distributions in Hilbert space. (Russian) *Mat. Zametki* **16** (19 585–594. (D. A. Darling) **52** #9314 60B05

Characterization of a certain class of infinitely divisible distributions in Hil space. (Russian) *Mat. Zametki* **16** (1974), 777–782. (D. A. Darling) **51** #116 60B05

Weak convergence of distributions for sums of independent Hilbert space val random variables. *Stud. Sci. Math. Hungar.* **9** (1974), 33–44 (1975). (Olav Kallenb **51** #9138 60B10 (60F05)

The behavior of sums of independent random variables. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **19** (1974), 387–392. (G. K. Eagleson) **49** #11620 60G50

(*with* Zolotarev, V. M.) Structure of infinitely divisible distributions on a loc bicompact abelian group. (Russian. English summary) *Teor. Verojatnost. i Primenen* (1975), *no.* 4, 712–724. (K. R. Parthasarathy) **53** #1678 60B15

The method of accompanying infinitely divisible distributions. *Proceedings of Third Japan-USSR Symposium on Probability Theory* (*Tashkent*, 1975), *pp.* 316– *Lecture Notes in Math., Vol.* 550, *Springer*, *Berlin*, 1976. (R. Jajte) **55** #9230 60

A new characterization of the Poisson distribution. (Russian) *Mat. Zametk* (1976), *no.* 6, 879–882. (S. G. Maloševskiĭ) **55** #9213 60E05

Global limit theorems. (Russian. English summary) *Teor. Verojatnost. i Prime* **21** (1976), *no.* 1, 123–127. (S. A. Book) **53** #9335 60F05

The convergence of the distributions of sums of a random number of indepenc random variables to the normal distribution. (Russian. English summary) *Ves* *Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 5, 5–12. (J. Galambos) **54** #1405 60F05

Global limit theorems. (Russian. English summary) Continuity and stability problems of probability theory and mathematical statistics. *Zap. Naučn. Sem. Leningr* *Otdel. Mat. Inst. Steklov.* (*LOMI*) **61** (1976), 84–101, 137. (W. A. Woyczyński) **55** #4324 60B10 (60F05)

Kruglov, V. O. A minimization algorithm that uses a modification of the Newton meth (Russian) *Numerical mathematics and computer technology, No. V* (*Russian*), *pp.* 13– 164. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov*, 19 (Author's summary) **56** #9992 65K05

A certain method for the computation of chemical equilibrium systems. (Russia *Questions on numerical mathematics and computer science* (*Proc. Res. Sem., Inst. L Temp. Phys. Engrg., Kharkov*, 1975) (*Russian*), *pp.* 86–89. *Izdat. "Naukova Dumk Kiev*, 1976. (Janusz Mika) **53** #15241 82.65

Kruglova, S. P. The Cauchy problem, and a general representation of the solutions o fourth order elliptic equation with analytic coefficients. (Russian) *Mathematical phys No.* 14 (*Russian*), *pp.* 78–88, 174. "*Naukova Dumka*", *Kiev*, 1973. (A. Haimov **49** #3315 35J30

Krujukov, B. I. (*with* Zaborova, T. N.) An approach to the study of linear differen equations with variable coefficients. (Russian) *Studies in contemporary problems summability and approximation of functions, and their applications* (*Russian*), *pp.* 128–1 *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (M. Švec) **54** #5524 34A30

Kruk, Remke Pseudo-Aristotle: an Arabic version of *Problemata physica X*. *Isis* **67** (19 *no.* 237, 251–256. (Y. Dold) **58** #15846 01A30 (01A20)

Krukovskiĭ, N. M. The Tihonov stable summability of Fourier series with perturt coefficients by certain regular methods. (Russian. English summary) *Vestnik Mosk Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 3, 22–29. (S. Baron) **49** #3434 42A56

(*with* Il'in, V. A.) A theorem on the coincidence of the classical solution of Dirichlet problem for a nonselfadjoint elliptic equation with the generalized solution this problem. (Russian) *Differencial'nye Uravnenija* **10** (1974), 699–711, 766. (V. Olariu) **49** #9393 35D10

The m-fold completeness of the system of generalized eigen- and associated functions of a nonselfadjoint elliptic operator, and the membership of the classi eigen- and associated functions of the operator in the class W_2^1. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 10, 1832–1841, 1918. (H. Triebel) **55** #108 35P10 (35J25)

Theorems on the m-fold completeness of the generalized eigen- and associat functions from W_2^1 of certain boundary value problems for elliptic equations a systems. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 10, 1842–1851, 1919. (H. Triebel) **56** #3478a (E **56** #3478b) 35P10 (35J25)

Theorems on the coincidence of the classical solution of the Dirichlet problem with the generalized solution of this problem from the class W_2^1 for second order elliptic systems of A. V. Bicadze type. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 2, 314–323, 382. (Ja. A. Roĭtberg) **57** #10198 35D10 (35J55)

Uniqueness and membership in the class W_2^1 of the classical solution of a mixed problem for hyperbolic systems of A. V. Bicadze type in an arbitrary cylinder. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 3, 481–488, 573. (Author's summary) **58** #17551 35L55

Letter to the editors: "Theorems on the *m*-fold completeness of the generalized eigen- and associated functions from W_2^1 of certain boundary value problems for elliptic equations and systems" (Differencial'nye Uravnenija **12** (1976), no. 10, 1842–1851). (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 7, 1344. (H. Triebel) **56** #3478b 35P10 (35J25)

Krulikovskiĭ, N. N. The study of the scientific legacy and archives of F. È. Molin. (Russian) *Trudy Tomsk. Gos. Univ.* **163** (1963), 3–5. (Editors) **52** #5308 01A70

Krull, W. Zahlen und Grössen—Dedekind und Eudoxos. Collection of articles dedicated to Joseph Ehrenfried Hofmann on the occasion of his seventieth birthday. *Mitt. Math. Sem. Giessen No.* 90 (1971), 29–47. (Editors) **52** #13134 01A20

Krull, Wolfgang Endlichkeitsbedingungen bei Verbänden, Moduln, Gruppen. *Math. Ann.* **202** (1973), 173–191. (B. H. Neumann) **48** #3823 06A25 (13C99, 20F30)

Krumbein, W. C. (*with* Dacey, Michael F.) Topological properties of disjoint channel networks within enclosed regions. *J. Internat. Assoc. Mathematical Geol.* **8** (1976), *no.* 4, 429–461. (Authors' summary) **56** #10745 86.60

Krumbholz, W. On large deviations of Kolmogorov-Smirnov-Rényi type statistics. *J. Multivariate Anal.* **6** (1976), *no.* 4, 644–652. (Endre Csáki) **54** #14056 60F10 (62G10)

The general form of the law of the iterated logarithm for generalized Kolmogorov-Smirnov-Rényi statistics. *J. Multivariate Anal.* **6** (1976), *no.* 4, 653–658. (Endre Csáki) **54** #14057 60F15 (62G10)

Krumhansl, J. A. (*with* Elliott, Roger J.; Leath, P. L.) The theory and properties of randomly disordered crystals and related physical systems. *Rev. Modern Phys.* **46** (1974), 465–543. (Authors' summary) **56** #7711 82.60

(*with* Fogel, M. B.; Trullinger, S. E.; Bishop, A. R.) Classical particlelike behavior of sine-Gordon solitons in scattering potentials and applied fields. *Phys. Rev. Lett.* **36** (1976), *no.* 24, 1411–1414. (M. Carmeli) **53** #9954 81.35

(*with* Fogel, M. B.; Trullinger, S. E.; Bishop, A. R.) Dynamics of sine-Gordon solitons in the presence of perturbations. *Phys. Rev. B* (3) **15** (1977), *no.* 3, 1578–1592. (G. L. Lamb, Jr.) **55** #11881 82.35

(*with* Trullinger, S. E.; Miller, M. D.; Guyer, R. A.; Bishop, A. R.; Palmer, F.) Brownian motion of coupled nonlinear oscillators: thermalized solitons and nonlinear response to external forces. *Phys. Rev. Lett.* **40** (1978), *no.* 4, 206–210. (Authors' summary) **58** #14759 81.60

Kruming, A. A. On the question of finding the limit cycles of a system of differential equations. (Russian) *Moskov. Oblast. Ped. Inst. Sb. Trudov* **15** (1972), *no.* 2 *Teor. Funkciĭ Funkcional. Anal. i Priložen.*, 138–140 (1973). (See RŽMat **1974** #1 B148) 34C05

Kruming, P. D. Semigroups and homology. (Russian) Questions of modern mathematics and methods of teaching it at institutions of higher learning. *Leningrad. Gos. Ped. Inst. Učen. Zap.* **404** (1971), 275–284. **55** #10595 20M99

Group congruences. (Russian) *Leningrad. Gos. Ped. Inst. Učen. Zap.* **496** (1972), *no.* I, 29–36. (B. Pondělíček) **46** #7413 20M10

A certain property of the functor U_φ. (Russian) *Modern algebra, No.* 2 (*Russian*), *pp.* 47–54. *Leningrad. Gos. Ped. Inst., Leningrad*, 1974. (V. A. Artamonov) **53** #5704 18G05 (16A50)

The isomorphism of the cohomology groups of monoids. (Russian) *Modern algebra, No.* 5 (*Russian*), *pp.* 71–74. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1976. (M. L. Laplaza) **58** #857 18H40

Cohomology and Goldie rings. (Russian) *Modern algebra, No.* 6 (*Russian*), *pp.* 126–131. *Leningrad. Gos. Ped. Inst., Leningrad*, 1977. (L. A. Koifman) **58** #28075 16A62 (18H10, 18H15)

See also **Hercen Lectures**, **47** #4749

Krumin'š, K. Ja. Determination of the nature of the instability of a transient process in a discriminator with two tunnel diodes. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 5, 89–92. (Editors) **48** #8086 94A05

Krumm, L. A. The method of the derived gradient in nonlinear programming. (Russian) *Optimization methods, applied mathematics* (*Russian*), *pp.* 109–157, 169–170. *Sibirsk. Ènerget. Inst. Sibirsk. Otdel. Akad.Nauk SSSR Irkutsk*, 1974 (1975). (Editors) **55** #10005 90C30

Krumov, A. (*with* Zlatev, Minčo) Nonlinear dynamical systems. An investigation by means of linearized differential operators. (Bulgarian. Russian and English summaries) *Avtomat. i Izčisl. Tehn.* **10** (1976), *no.* 4, 5–12. (Authors' summary) **58** #6594 34G05 (65L99)

A criterion for the stability of nonlinear dynamical systems. (Bulgarian. Russian and English summaries) *Avtomat. Izčisl. Tehn.* **12** (1978), *no.* 1, 28–37, 2, 4. (D. Bobrowski) **58** #22839 34D05

Krupenina, G. A. (*with* Movšovič, S. M.) A two-level dynamic model of national economic planning. (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Conf., Vilnius*, 1971) (*Russian*), *pp.* 288–291. *Izdat.* "*Mintis*", *Vilnius*, 1973. (S. Krčevinac) **50** #12164 90A15

(*with* Movšovič, S. M.) The stability of a certain price control process. (Russian) *Èkonom. i Mat. Metody* **10** (1974), *no.* 5, 1013–1015. (RŽMat **1975** #1 V812) **57** #9003 90A15

Krupennikov, N. A. (*with* Stratonovič, R. L.) Nonlinear fluctuation-dissipation thermodynamics. (Russian) *Vestnik Moskov. Univ.* **29** *Ser. III Fiz. Astronom.* **15** (1974), 296–302. (Authors' summary) **58** #9017 82.60

Krupennikova, N. B. (*with* Džibuti, R. I.; Tomčinskiĭ, V. Ju.) On the theory of the hyperspherical basis. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 1, 69–72. (M. Lawrence Glasser) **53** #7266 81.33 (33A65)

Krupickiĭ, È. I. A general solution of the signal discretization problem. (Russian) *Problemy Peredači Informacii* **11** (1975), *no.* 2, 98–103. (Author's summary) **58** #4640 94A15

Krupin, V. G. On continuity of the characteristics of many-line queueing systems with limited sojourn time. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 6, 132–138, 222 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), *no.* 6, 99–105. (Shaler Stidham, Jr.) **54** #11562 60K25

Krupińska, Anna Structure générale de la fonction de sortie pour l'automate abstrait sur le groupoïde de Brandt. Collection of articles dedicated to Stanisław Gołab on his 70th birthday, II. *Demonstratio Math.* **6** (1973), 707–724 (1974). (H. Jürgensen) **50** #4157 94A30 (20L99)

Krupjak, Ī. S. (*with* Vvedens'kiĭ, O. M.) A remark on the nondegeneracy of the Tate pairing in the Galois cohomology of finite modules over a general local field. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 4, 526–528, 574. (Helmut Koch) **55** #5593 12B20

Krupka, Demeter Of the structure of the Euler mapping. *Arch. Math.* (*Brno*) **10** (1974), *no.* 1, 55–61 (1975). (M. L. Gromov) **52** #15554 58E15

(*with* Trautman, Andrzej) General invariance of Lagrangian structures. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 207–211. (Alan Weinstein) **49** #9869 58E99

A setting for generally invariant Lagrangian structures in tensor bundles. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 967–972. (J. E. Marsden) **53** #14536 58E99 (58F05)

On generalized invariant transformations. *Rep. Mathematical Phys.* **5** (1974), 355–360. (W. M. Tulczyjew) **54** #11390 58E99 (58F05)

A geometric theory of ordinary first order variational problems in fibered manifolds. I. Critical sections. *J. Math. Anal. Appl.* **49** (1975), 180–206. (J. E. Marsden) **50** #14839a 58E05

A geometric theory of ordinary first order variational problems in fibered manifolds. II. Invariance. *J. Math. Anal. Appl.* **49** (1975), 469–476. (J. E. Marsden) **50** #14839b 58E05

Lagrangians and topology. Symposium on Relativity and Gravitation (Brno, 1975). *Scripta Fac. Sci. Natur. UJEP Brunensis—Phys.* **5** (1975), *no.* 3-4, 265–270. (M. L. Gromov) **56** #1304 55Fxx

On a class of variational problems defined by polynomial Lagrangians. *Arch. Math.* (*Brno*) **12** (1976), *no.* 2, 99–105. (R. S. Palais) **54** #13985 58E05

A theory of generally invariant Lagrangians for the metric fields. II. *Internat. J. Theoret. Phys.* **15** (1976), *no.* 12, 949–959. (Author's summary) **58** #20217 83.53 (58E15)

A map associated to the Lepagian forms on the calculus of variations in fibred manifolds. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 1, 114–118. (Y. Mutô) **55** #4273 58E99 (49F05)

Krupková, Vlasta Algebraic theories. (Czech. English and Russian summaries) *Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně* **B-56** (1975), 115–124. (A. Pultr) **52** #8219 18C10 (08A15)

Krupnik, N. Ja. (*with* Gohberg, Israel C.) The norm of the Hilbert transform in the space L_p. (Russian) *Funkcional. Anal. i Priložen.* **2** (1968), *no.* 2, 91–92. (See RŽMat **1968** #10 B611) 47G05

(*with* Gohberg, Israel C.) On an algebra generated by the Toeplitz matrices in the spaces h_p. (Russian) *Mat. Issled.* **4** (1969), *no.* 3, 54–62. (M. Rabindranathan) **53** #3763a 47B35

(*with* Gohberg, Israel C.) Singular integral equations with continuous coefficients on a composite contour. (Russian) *Mat. Issled.* **5** (1970), *no.* 2(16), 89–103. (D. Przeworska-Rolewicz (Zbl **223** #45005)) **56** #6306 45E05

(*with* Gohberg, Israel C.) Singular integral equations with unbounded coefficients. (Russian) *Mat. Issled.* **5** (1970), *no.* 3(17), 46–57. (D. Przeworska-Rolewicz) **45** #980 47G05 (45E99)

(*with* Gohberg, Israel C.) Singular integral operators with piecewise continuous coefficients and their symbols. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **35** (1971), 940–964. (F. Smithies) **45** #981 47G05 (45E99)

(*with* Gohberg, Israel C.) Singular integral operators on a composite contour. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **64** (1971), 21–24. (F. Smithies) **45** #4223 47G05 (45E99)

(*with* Gohberg, Israel C.) Banach algebras generated by singular integral operators. *Hilbert space operators and operator algebras* (*Proc. Internat. Conf., Tihany*, 1970), *pp.* 239–264. *Colloq. Math. Soc. János Bolyai*, 5, *North-Holland, Amsterdam*, 1972. (F. Smithies) **52** #1419 47G05 (46L20, 47B35)

(*with* Gohberg, Israel C.) A formula for the inversion of finite Toeplitz matrices. (Russian) *Mat. Issled.* **7** (1972), *no.* 2(24), 272–283, 295. (A. Devinatz) **50** #5525 47B35

(*with* Gohberg, Israel C.) ★**Введение в теорию одномерных сингулярных интегральных операторов.** (Russian) [Introduction to the theory of one-dimensional singular integral operators] *Izdat.* "*Štiinca*", *Kishinev*, 1973. 426 *pp.* (F. Smithies) **53** #8971 47G05 (47B35)

(*with* Gohberg, Israel C.) The symbol of singular integral operators on a composite contour. (Russian) *Proceedings of the Symposium on Continuum Mechanics and Related Problems of Analysis* (*Tbilisi*, 1971), *Vol.* 1 (*Russian*), *pp.* 46–59. *Izdat.* "*Mecniereba*", *Tbilisi*, 1973. (D. Przeworska-Rolewicz) **52** #6504 47G05 (45E05)

(*with* Gohberg, Israel C.) On a local principle and algebras generated by Toeplitz matrices. (Russian. Romanian summary) *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. I a Mat.* (*N.S.*) **19** (1973), 43–71. (M. Rabindranathan) **53** #3763b 47B35

(*with* Gohberg, Israel C.) One-dimensional singular integral operators with shift. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **8** (1973), *no.* 1, 3–12, 88. (S. G. Samko) **48** #12162 47G05 (45E05)

(*with* Gohberg, Israel C.) Algebras of singular integral operators with shift. (Russian) *Mat. Issled.* **8** (1973), *no.* 2(28), 170–175, 194. (N. K. Karapetjanc) **49** #5941 47G05 (45E05)

(*with* Njaga, V. I.) Singular operators in L_p spaces with a weight. (Russian) *Mat. Issled.* **9** (1974), *no.* 3(33), 206–209, 219. (S. G. Samko) **51** #6503 47G05

(*with* Njaga, V. I.) Singular operators with shift in the case of a piecewise Ljapunov contour. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **76** (1974), 25–28. (N. K. Karapetjanc) **50** #14378 47G05 (*with* Polonskiĭ, E. P.) The norm of a singular integration operator. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 4, 73–74. (R. V. Dudučava) **52** #11664 47G05

(*with* Njaga, V. I.) Singular integral operators with shift along a piecewise Ljapunov contour. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 6(157), 60–72. (R. V. Dudučava) **52** #11663 47G05 (45E05)

(*with* Njaga, V. I.) Singular integral operators in the case of a nonsmooth contour. (Russian) *Mat. Issled.* **10** (1975), *no.* 1(35), 144–164, 299. (N. K. Karapetjanc) **52** #4035 47G05 (45E05)

The quotient norm of a singular operator. (Russian) *Mat. Issled.* **10** (1975), *no.* 2(36), 255–263, 288. (N. K. Karapetjanc) **53** #3798 47G05

A criterion for singular integral operators with measurable coefficients to be Noetherian. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **80** (1975), *no.* 3, 533–536. (N. K. Karapetjanc) **53** #6363 47G05 (47B35)

(*with* Verbickiĭ, I. È.) The applicability of the projection method to Toeplitz operators in an L_p space with a weight. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 8(171), 96–99. ((RŽMat **1977** #6 B844)) **58** #23725 47B35

Some general questions on the theory of homogeneous singular operators with matrix coefficients. (Russian) Nonselfadjoint operators. *Mat. Issled. Vyp.* 42 (1976), 91–112, 231. (Author's summary) **58** #30510 47G05 (45E10)

(*with* Špigel', E. M.) Perturbation of singular integral operators. (Russian) Nonselfadjoint operators. *Mat. Issled. Vyp.* 42 (1976), 113–123, 231. (Authors' summary) **58** #23774 47G05

(*with* Rozenberg, S. M.) A counterexample in the theory of singular integral operators. (Russian) *Studies in algebra, mathematical analysis, and their applications* (*Russian*), *pp.* 89–90, 123–124. *Izdat. "Štiinca", Kishinev*, 1977. (Authors' summary) **58** #23775 47G05

A condition for the quasinilpotence of integral operators. Perturbation of operators of local type. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 4, 754–757. (Š. Schwabik) **56** #1138 47G05

(*with* Verbickiĭ, I. È.) The applicability of the projection method to discrete Wiener-Hopf equations with a piecewise continuous symbol. (Russian) Spectral properties of operators. *Mat. Issled. Vyp.* 45 (1977), 17–28, 179. (D. Przeworska-Rolewicz) **57** #17362 47B35

Singular integral operators with matrix coefficients. (Russian) Spectral properties of operators. *Mat. Issled. Vyp.* 45 (1977), 93–100, 181. (N. K. Karapetjanc) **58** #12525 47G05 (47B30)

(*with* Verbickiĭ, I. È.) Sharp constants in theorems of K. I. Babenko and B. V. Hvedelidze on the boundedness of a singular operator. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **85** (1977), *no.* 1, 21–24. (Authors' summary) **56** #16460 47G05 (42A40)

See also **American Mathematical Society Translations, Ser. 2, 48** #6969

Krupnov, Ju. P. (*with* Abrašin, V. N.) The convergence of multipoint difference schemes for the method of characteristics. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 4, 42–50. (T. Styś) **45** #4671 65N10

(*with* Abrašin, V. N.) The convergence of difference schemes for the method of characteristics for a quasilinear hyperbolic system of two first order differential equations. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1971**, *no.* 5, 39–44. (T. Styś) **45** #4672 65N10

Krupnova, N. I. On the question of the stability of the solutions of linear systems of differential equations with lag. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1889–1891, 1914. (S. R. Bernfeld) **48** #6614 34K20

(*with* Šimanov, S. N.) The instability of the solutions of linear systems of differential equations with lag. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1963–1968, 2110. (S. R. Bernfeld) **48** #6615 34K20

(*with* Šimanov, S. N.) Criterion of stability of linear systems with variable coefficients and time lag. *Prikl. Mat. Meh.* **36** (1972), 533–536 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 502–506. (D. Baĭnov) **48** #9048 34K20

Krupowicz, Andrzej Controllability of stationary linear systems under additive perturbations. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **18** (1973), 279–286. (J. M. Skowroński) **48** #7088 49E25 (93E20)

Krupp, R. S. Analysis of toll switching networks. *Bell System Tech. J.* **55** (1976), *no.* 7, 843–856. (W.-K. Chen) **53** #12770 94A20

Krüppel, Manfred Beiträge zur Theorie der vertauschbaren Funktionen. *Math. Nachr.* **56** (1973), 73–100. (David A. Sprecher) **49** #3056 26A18

Krupskaja, D. A. The regularity of boundary points for second order degenerate elliptic equations. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 4, 654–667, 772. (Author's summary) **57** #13184 35J70

Krupski, J. (*with* Suffczyński, M.) Number of Green's function graphs. *Acta Phys. Polon. A* **46** (1974), 73–77. **53** #12239 81.05

(*with* Suffczyński, M.) Number of Green's function graphs with non-zero contribution in the case of a uniform electron gas. *Acta Phys. Polon. A* **46** (1974), 79–82. **53** #12240 81.05

Kruś, Lech Aggregation in dynamic PERT systems. (Polish and Russian summaries) *Control Cybernet.* **2** (1973), *no.* 1–2, 49–57. (T. Kaczorek) **52** #12868 93A10

Optimization of a completely decentralized production system. (Polish and Russian summaries) *Control Cybernet.* **4** (1975), *no.* 2, 5–13. (R. L. Graves) **55** #2104 90B30 (90A15)

Kruse, A. H. Some results on partitions and Cartesian products in the absence of the axiom of choice. *Z. Math. Logik Grundlagen Math.* **20** (1974), 149–172. (M. Boffa) **51** #147 02K10 (04A10)

Kruse, Arian (*with* Carstens, Hans Georg) Graphs in which each m-tuple of vertices is adjacent to the same number n of other vertices. *J. Combinatorial Theory Ser. B* **22** (1977), *no.* 3, 286–288. (Heiko Harborth) **56** #11850 05C35

Kruse, D. E. (*with* McClendon, James F.) Homotopy operations under a fixed space. *Trans. Amer. Math. Soc.* **237** (1978), 153–174. (Harvey Margolis) **57** #7591 55E35 (55G36)

Kruse, Georg *See* **Dictionary: Cybernetics, 51** #2827

Kruse, Klaus-Dieter Asymptotische Entwicklung von n-fachen Faltungsprodukten mit expliziter Abschätzung des Restgliedes. (Russian, English and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **21** (1972), *no.* 8, 775–779. (H. Bergstr) **54** #11458 60F05 (42A72)

Asymptotische Entwicklung von n-fachen Faltungsintegralen unter Verwenc einer verallgemeinerten Ungleichung von Esseen. *Math. Nachr.* **81** (1978), 327–333. Bergstrom) **57** #14106 60F05 (41A60)

Kruse, Robert L. Identities satisfied by a finite ring. *J. Algebra* **26** (1973), 298–318. (Ju Bahturin) **48** #4025 16A44

Kruse, W. Karl (*with* Kaplan, Alan J.) On a paper: "Stationary properties of a two-ech inventory model for low demand items" (Operations Res. **19** (1971), no. 3, 761–773) R. M. Simon. *Operations Res.* **21** (1973), *no.* 6, 1318–1322. (Authors' summ) **56** #10864 90B05

Krušel', E. G. *See* **Proceedings: All-Union Symposium on Statistical Problems in Engineering Cybernetics, 47** #4666 (EA 47)

Krusemeyer, Mark I. Fundamental groups, algebraic K-theory, and a problem of Abhyankar. *Invent. Math.* **19** (1973), 15–47. (H. Inassaridze) **49** #303 14H45 (13D15, 13H15, 18F25)

Completing α^2, β, γ. *Conference on Commutative Algebra*–1975 (*Queen's U Kingston, Ont.*, 1975), *pp.* 253–254. *Queen's Papers on Pure and Applied Math., No. Queen's Univ., Kingston, Ont.*, 1975. (Daniel Lazard) **52** #13796 13C10

Skewly completable rows and a theorem of Swan and Towber. *Comm. Algeb* (1976), *no.* 7, 657–663. (Daniel Lazard) **53** #5566 13C10

(*with* Griffin, Malcolm P.) Matrices as sums of squares. *Linear and Multili Algebra* **5** (1977/78), *no.* 1, 33–44. (John D. Fulton) **56** #5485 10M20

Kruševskiĭ, A. E. (*with* Čurakov, V. M.) Examples of the solution of some problems of mathematical theory of elasticity in nonorthogonal series. (Russian) *Teoret. i P Meh.* (*Minsk*) *Vyp.* 2 (1975), 91–102, 6. (From the authors' text) **56** #17382 73.

Kruševs'kiĭ, A. V. (*with* Poljak, R. A.; Primak, M. E.) An algorithm for the solution certain class of linear programming problems with Boolean variables. (Russian. Eng summary insert) *Kibernetika* (*Kiev*) **1969**, *no.* 3, 68–73. (Authors' summary) **46** #1 90C10

Krušič, Bogdan *See* **Vidav, Ivan, 52** #2 *and* **Vidav, Ivan, 53** #12816

Kruskal, Joseph B. Monotone regression: Continuity and differentiability properties. *Psychometrika* **36** (1971), 57–62. (M. Atiqullah) **46** #10136 62J05

The theory of well-quasi-ordering: A frequently discovered concept. *J. Combinatorial Theory Ser. A* **13** (1972), 297–305. (P. F. Conrad) **46** #5184 06A

(*with* Witsenhausen, Hans S.) An inequality for positively correlated variables. *Amer. Statist. Assoc.* **69** (1974), 540–542. (Authors' summary) **50** #6055 62H20

(*with* Shepard, Roger N.) A nonmetric variety of linear factor analysis. *Psychometrika* **39** (1974), 123–157. (K. G. Jöreskog) **50** #6058 62H25 (62P15)

(*with* Goldstein, A. J.) Least-squares fitting by monotonic functions having inte values. *J. Amer. Statist. Assoc.* **71** (1976), *no.* 354, 370–373. (Colin L. Mallo **53** #9527 62J05

More factors than subjects, tests and treatments: an indeterminacy theorem canonical decomposition and individual differences scaling. *Psychometrika* **41** (19 *no.* 3, 281–293. (Author's summary) **58** #8119 62P15 (62H25)

Three-way arrays: rank and uniqueness of trilinear decompositions, with applicat to arithmetic complexity and statistics. *Linear Algebra and Appl.* **18** (1977), *no* 95–138. (Marvin Marcus) **56** #3040 15A69 (68A20)

See also **Studies in applied mathematics, 49** #4784; **Multivariate statistical methods: among-groups covariation, 51** #14407 *and* **Problems: Geometry of metric linear spaces, 53** #6419

Kruskal, Martin D. (*with* Miller, J. G.; Godfrey, Brendan B.) Taub-NUT (Newman, U Tamburino) metric and incompatible extensions. *Phys. Rev. D* (3) **4** (1971), 2945–29 (J. R. Vanstone) **48** #13154 83.53

(*with* Miller, J. G.) Extension of a compact Lorentz manifold. *J. Mathemat Phys.* **14** (1973), 484–485. (H. A. Eliopoulos) **48** #7180 53C50 (83.53)

The Korteweg-de Vries equation and related evolution equations. *Nonlinear w motion* (*Proc. AMS-SIAM Summer Sem., Clarkson Coll. Tech., Potsdam, N.Y.*, 197 *pp.* 61–83. *Lectures in Appl. Math., Vol.* 15, *Amer. Math. Soc., Providence, R.I.*, 1974. L. Lamb, Jr.) **50** #5228 35Q99

(*with* Gardner, Clifford S.; Greene, John M.; Miura, Robert M.) Korteweg-deVries equation and generalization. VI. Methods for exact solution. *Com Pure Appl. Math.* **27** (1974), 97–133. (J. Smoller) **49** #898 35Q99

(*with* Miura, Robert M.) Application of a nonlinear WKB method to the Korteweg-DeVries equation. *SIAM J. Appl. Math.* **26** (1974), 376–395. (J. Smoll **48** #9134 35Q99

Nonlinear wave equations. *Dynamical systems, theory and applications* (*Rencontr Battelle Res. Inst., Seattle, Wash.*, 1974), *pp.* 310–354. *Lecture Notes in Phys., Vol. Springer, Berlin*, 1975. (Alan Jeffrey) **57** #926 35Q99 (35K55)

Kruškal', S. L. The total variation of a function, and the length of a curve. (Russia *Trudy Tomsk. Gos. Univ.* **163** (1963), 48–53. (J. Král) **53** #733 26A45 (26A63)

Certain theorems of the type of the Fatou theorem. (Russian) *Trudy Tomsk. G Univ.* **163** (1963), 54–57. (Editors) **58** #1157 30A72

Certain extremal problems for conformal and quasiconformal mappings. (Russia *Sibirsk. Mat. Ž.* **12** (1971), 760–784. (H. Renelt) **45** #2152 30A38 (30A60)

The connection of variational problems for conformal and quasiconformal mappings. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 1067–1076. (H. Renelt) **45** #215 30A38 (30A60)

Teichmüller spaces and Kleinian groups. (Russian) *Dokl. Akad. Nauk SSSR* 2 (1972), 771–773. (F. Huckemann) **54** #10597 30A48 (31C05)

The moduli of Riemann surfaces. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 349–3 (G. K. Kiremidjian) **45** #5345 30A48

The measure of the limit set of a finitely generated Kleinian group. (Russian) *Do Akad. Nauk SSSR* **211** (1973), 35–37. (W. Abikoff) **49** #3120 30A46

Extremal problems for conformal and quasiconformal mappings of Riemann surfaces. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 582–598, 694. (G. K. Kiremidjia **49** #5343 30A60

★Вариационные методы в теории квазиконформных отображений. (Russia [Variational methods in the theory of quasiconformal mappings] A course of lectur *Novosibirsk. Gosudarstv. Univ., Novosibirsk*, 1974. 147 *pp.* (*errata on inside back cov*

(B. N. Apanasov) **56** #608 30A60

Stability of Kleinian groups. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 488–490. (W. Abikoff) **50** #2484 30A58 (32G15)

Certain properties of Kleinian groups and their deformations. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 1013–1016. (F. Huckemann) **53** #798 30A58

Quasiconformal deformations of Kleinian groups. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 871–881, 959. (L. Bers) **52** #741 30A58 (32G15)

★Квазиконформные отображения и римановы поверхности. (Russian) [Quasiconformal mappings and Riemann surfaces] *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1975. 195 *pp*. (*errata insert*) (B. N. Apanasov) **56** #609 30A60

A certain property of the limit sets of Kleinian groups. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no*. 3, 500–502. (Tohru Akaza) **53** #11049 (E **56** #15913) 30A58

Two properties of Teichmüller spaces. (Russian) *Some problems in modern function theory* (*Proc. Conf. Modern Problems of Geometric Theory of Functions, Inst. Math., Acad. Sci. USSR, Novosibirsk*, 1976) (*Russian*), *pp*. 81–83. *Akad. Nauk SSSR Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1976. (Editors) **58** #22675 32G15

Two theorems on Teichmüller spaces. (Russian) *Dokl. Akad. Nauk SSSR* **228** (1976), *no*. 2, 290–292. (Lipman Bers) **53** #13652 32G15 (32H15)

Supports of Beltrami differentials for Kleinian groups. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no*. 4, 799–801. (Lipman Bers) **55** #10670 30A58

Erratum to: "A certain property of the limit sets of Kleinian groups" (Dokl. Akad. Nauk SSSR **225** (1975), no. 3, 500–502). (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no*. 2, 256. (Editors) **56** #15913 30A58

Kruskal, V. J. (*with* Bennett, B. T.) LRU stack processing. *IBM J. Res. Develop.* **19** (1975), 353–357. (Frank K. Hwang) **52** #2303 68A50

Kruskal, William H. The geometry of generalized inverses. *J. Roy. Statist. Soc. Ser. B* **37** (1975), 272–283. (M. Z. Nashed) **52** #427 15A09

See also **Statistics: a guide to the unknown**, **53** #9442

Kruszyński, Paweł (*with* Napiórkowski, Kazimierz) On the independence of local algebras. II. *Rep. Mathematical Phys.* **4** (1973), 303–306. (Authors' summary) **48** #7832 81.46

Probability measures on operator algebras. *Rep. Mathematical Phys.* **7** (1975), *no*. 3, 395–401. (F. Gilfeather) **55** #1088 46L10

On the existence of *KMS* states for invariantly approximately inner dynamics. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 4, 299–301. (Gerhardt C. Hegerfeldt) **57** #11471 81.46 (46L99)

Krutchkoff, Richard G. (*with* Griffin, Barry S.) An empirical Bayes estimator for P [success] in the binomial distribution. *Sankhyā Ser. B* **33** (1971), 217–224. (I. J. Good) **47** #6015 (EA **55/56**) 62F10

Empirical Bayes estimation. *Amer. Statist.* **26** (1972), *no*. 5, 14–16. (J. W. Pratt) **52** #2001 62F10

(*with* Ergle, William D.) A nonparametric empirical Bayes estimator. *Biometrika* **59** (1972), 483–485. (Authors' summary) **49** #1667 62G05

(*with* Andrews, R. L.; Arnold, J. C.) Shrinkage of the posterior mean in the normal case. *Biometrika* **59** (1972), 693–695. (I. J. Good) **49** #8186 62F15

The calibration problem and closeness. *J. Statist. Comp. and Simulation* **1** (1972), *no*. 1, 87–95. (N. Giri) **46** #6531 62F10

(*with* Rencher, Alvin C.) Some empirical Bayes estimators allowing for varying error variances. *Biometrika* **62** (1975), *no*. 3, 643–650. (Johannes S. Maritz) **52** #12139 62C25 (62J10)

Krútel', Jozef (*with* Majerník, Vladimír) Prädiktionsentropie der slowakischen Schrift. (Slovak summary) *Kybernetika* (*Prague*) **8** (1972), 277–288. (Authors' summary) **48** #3616 94A15 (68A45)

Krutickaja, N. Č. Conditions for the localization of rectangular Cesàro means and Abel method means in restricted summability of a multiple trigonometric Fourier series in Liouville classes. (Russian) *Dokl. Akad. Nauk SSSR* **206** (1972), 281–282. (D. P. Gupta) **47** #5516 42A92

Localization for bounded summability of multiple Fourier series by the Cesàro, Riesz and Abel methods. (Russian) *Mat. Zametki* **12** (1972), 355–364. (S. Baron) **47** #7319 42A92

Final localization conditions for rectangular Cesàro means and Abel method means in the restricted summability of multiple trigonometric Fourier series in Liouville classes. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **37** (1973), 593–602. (R. L. Cooke) **51** #8734 42A92

Krutigolova, Ē. K. (*with* Dzjadik, V. K.) The representation of analytic functions by Dirichlet series on the boundary of the domain of convergence. (Russian) *Mat. Zametki* **14** (1973), 769–780. (C. Tanaka) **48** #11454 30A16

The representation of analytic functions by Dirichlet series in closed domains. (Ukrainian. English and Russian summaries) *Dopovīdi Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 695–698, 765. (C. Tanaka) **50** #2462 30A16

The behavior of a Dirichlet series on the boundary of the domain of convergence. (Russian) *Ukrain. Mat. Ž.* **27** (1975), 234–240, 286. (C. Tanaka) **51** #8386 30A16

The representation of analytic functions by Dirichlet series on the boundary of closed convex polygonal regions. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no*. 4, 516–521, 574. (C. Tanaka) **52** #713 30A16

Conditions for convergence of Dirichlet series in a closed convex polygon. (Russian) *Questions in the theory of approximation of functions and its applications* (*Russian*), *pp*. 131–137. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Editors) **58** #28455a 30A16

Krutikova, M. V. *See* **Gauß, Carl Friedrich**, **58** #21207

Krutin', V. Ī. The size of the Nevanlinna deficiencies of functions meromorphic in $|z|<1$. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **8** (1973), *no*. 5, 347–358, 425. (W. H. J. Fuchs) **49** #586 30A70

The defect values of entire curves. (Ukrainian. English and Russian summaries) *Dopovīdi Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 789–791, 861. (W. K. Hayman) **51** #5931 30A70 (32H25)

A remark on the growth and distribution of values of p-dimensional entire curves. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 113 *Mat. i Meh. Vyp.* 39 (1974), 31–36, 122. (W. H. J. Fuchs) **52** #8503 32H25 (30A70)

Krut'ko, P. D. (*with* Bedrov, Ja. A.; Goričev, Ju. V.; Gorodeckiĭ, V. I.; Zaharov, V. N.; Kanarev, L. E.; Kočetkov, V. I.; Letov, A. M.; Mogilevskiĭ, V. D.; Ponomarev, V. M.; Tret'jakov, V. E.) ★Нелинейная оптимизация систем автоматического управления. (Russian) [Nonlinear optimization of automatic control systems] Edited by V. M. Ponomarev. Nonlinear Automatic Control Systems, Vol. 5. *Izdat. "Mašinostroenie", Moscow*, 1970. 307 *pp*. (F. M. Kirillova) **50** #12363 93C10

Optimal filtration in discrete automatic systems. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no*. 4, 39–42. (Author's summary) **45** #1625 93C55

Observation of a dynamical system as a control process. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **14** (1971), 978–981. (O. Gürel) **46** #5752 34C35 (93C15)

Analytical construction of optimal regulators. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 5, 182–184 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 5, 916–918. (D. F. Lawden) **48** #7086 49E05

(*with* Petrov, B. N.) Algorithmic construction of optimum regulators in the case of incomplete information regarding the state of the object. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no*. 6, 188–199 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 6, 1107–1117. (Bojan Popović) **52** #2674 93C15 (93E25)

Construction of approximate solutions of nonlinear systems. (Russian. English summary) Theory of oscillations, applied mathematics and cybernetics. *Izv. Vysš. Učebn. Zaved. Radiofizika* **15** (1972), *no*. 11, 1627–1630. (Author's summary) **56** #16033 34A45

An algorithmic procedure for determining the discrete transfer functions of controlled objects. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no*. 1, 213–216 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no*. 1, 184–187. (H. H. Rosenbrock) **52** #7635 93C15 (93C55)

Algorithms for observation of nonlinear dynamic systems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no*. 4, 203–209 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no*. 4, 709–715. (Peter Stavroulakis) **50** #9401 93E10

Krutkov, Ju. A. *See* **Ehrenfest, P.**, **52** #7834

Krutoĭ, B. F. The best uniform approximation of $\bar{\varphi}(x)$ to a given continuous function $f(x)$ on the interval $a<x<b$ and an evaluation of the approximation. (Russian) *Izv. Tomsk. Politehn. Inst.* **277** (1977), 11–15, 197–198. (From the summary) **58** #29668 41A45

Solution by the least squares method of a boundary value problem for the two-dimensional Poisson equation. An extension of the method to time-independent equations. (Russian) *Izv. Tomsk. Politehn. Inst.* **277** (1977), 114–119, 203. (Author's summary) **58** #31936a 65N99

Solution by the least squares method of a spectral problem for a two-dimensional Helmholtz equation with a boundary condition. (Russian) *Izv. Tomsk. Politehn. Inst.* **277** (1977), 120–130, 204. (Author's summary) **58** #31936b 65N99

General expressions for the function $f(x)$ and its derivatives $f^{x}(x)$ that are obtained by the method of partial combination for an arbitrary distribution of the nodes x_s. (Russian) *Izv. Tomsk. Politehn. Inst.* **277** (1977), 131–139, 204. (Author's summary) **58** #31734 65D15

The exact finite-difference solution of a boundary value problem for an ordinary linear second order differential equation. (Russian) *Izv. Tomsk. Politehn. Inst.* **277** (1977), 140–147, 205. (Author's summary) **58** #31863 65L10

The generalized spectral problem for two arbitrary matrices $a_{(nn)}, \varphi_{(nn)}$ and its solution. (Russian) *Izv. Tomsk. Politehn. Inst.* **277** (1977), 148–153, 205. (Author's summary) **58** #31781 65F15

Solution of the spectral problem for the arbitrary matrix $a_{(nn)}$ by a generalized rotation method. (Russian) *Izv. Tomsk. Politehn. Inst.* **277** (1977), 164–177, 206–207. (Author's summary) **58** #31782 65F15

Krutova, I. N. (*with* Petrov, B. N.; Rutkovskiĭ, V. Ju.) The problems of invariance, sensitivity and optimization in the theory of one class of self-adapting systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol*. 1, *p*. 35, *Paper* 18D, 10 *pp*. *Inst. Mech. Engrs., London*, 1967. (Editors) **51** #9881 93B35

(*with* Petrov, B. N.; Rutkovskiĭ, V. Ju.; Zemljakov, S. D.; Jadykin, I. B.) Non-searching self-adjusting systems (NSAS): theoretical foundations and prospects. With a discussion by Jiří Benes. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No*. 37.5, 15 *pp*., A38. *IFAC, Düsseldorf*, 1975. (Authors' summary) **58** #33381 93D05

(*with* Kosikov, V. S.; Pavlov, B. V.) Construction of linear models of nonsearching self-adaptive systems. I. Linearized equations of the systems. *Avtomat. i Telemeh.* **1976**, *no*. 1, 106–116 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no*. 1, *part* 2, 49–57 (1976). (Authors' summary) **58** #15464a 93C40

(*with* Kosikov, V. S.; Pavlov, B. V.) Construction of linear models of nonsearching self-adaptive systems. II. Linear models of NSAS. *Avtomat. i Telemeh.* **1976**, *no*. 2, 116–130 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no*. 2, *part* 2, 225–237. (Authors' summary) **58** #15464b 93C40

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360a

Krutský, František A generalization of the symmetrization theorem. (Czech. Russian and German summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **33** (1971), 51–59. (V. Dlab) **48** #2282 20M10

Über eine Algebraische ausnutzung der messbaren Transformationen. (Czech and Russian summaries) *Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci* **41** (1973), 5–13. (Albert Stralka) **50** #4792 20M10

Krutzke, Wolfgang Konvergenzverbesserung der Spaltenapproximation bei der Anwendung auf lineare Gleichungssysteme. (Russian, English and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **24** (1975), *no*. 10, 1257–1260. (W. Börsch-Supan) **55** #4623 65F10

Kruyswijk, D. (*with* Meijer, H. G.) On small denominators and Farey sequences. *Nederl. Akad. Wetensch. Proc. Ser. A* **80** = *Indag. Math.* **39** (1977), *no*. 4, 332–337. (Werner Kratz) **57** #9664 10L10 (05A20, 10F99)

Kružkov, S. N. (*with* Kolodiĭ, Ī. M.) A priori estimates and Harnack's inequality for generalized solutions of degenerate second order quasilinear parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 283–284. (V. Barbu) **46** #2205 35D10 (35K10)

The fundamental a priori estimate for the solutions of a quasilinear parabolic equation. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **16** (1972), *no.* 3, 16–20. (I. Łojczyk-Królikiewicz) **46** #9533 35K55

(*with* Hil′debrand, F.) The Cauchy problem for first order quasilinear equations in the case when the domain of dependence on the initial data is infinite. (Russian. German summary) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 1, 93–100. (V. Rosa) **49** #9392 35D05 (35J70)

(*with* Andrejanov, P. A.) On the nonlocal theory of the Cauchy problem for quasilinear first order equations in the class of locally summable functions. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 23–26. (P. Szeptycki) **52** #981 35F25

(*with* Castro, Alfonso; Lopez, M.) Schauder type estimates, and theorems on the existence of the solution of fundamental problems for linear and nonlinear parabolic equations. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 277–280. (D. K. Gvazava) **52** #14656 35K20

The Cauchy-Dirichlet problem for Hamilton-Jacobi equations of eikonal type. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 5, 1012–1015. (V. Ju. Ljapidevskiĭ) **53** #11235 35L60

Generalized solutions of Hamilton-Jacobi equations of eikonal type. I. Statement of the problems; existence, uniqueness and stability theorems; certain properties of the solutions. (Russian) *Mat. Sb. (N.S.)* **98(140)** (1975), *no.* 3(11), 450–493, 496. (V. Ju. Ljapidevskiĭ) **53** #8670 35L60

On the question of the differentiability almost everywhere of functions of several variables. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 6, 67–70. (Henryk Fast) **55** #12884 26A54 (46E35)

(*with* Kolodiĭ, Ī. M.) A priori estimates and Harnack's inequality for generalized solutions of degenerate quasilinear parabolic equations. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 3, 608–628, 718. (V.-V. Olariu) **57** #10246 35K55

Kryazhevskikh, A. P. *See* **Krjaževskih, A. P.**

Kryazhimskiy, A. V. *See* **Krjažimskiĭ, A. V.**

Krych, Michał Note on structural stability of open manifolds. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1033–1038. (Clark Robinson) **53** #1650 58F10

Two remarks on structural stability of plane dynamical systems. *Dynamical systems. Vol. II—Warsaw, pp.* 197–204. *Astérisque, No.* 50, *Soc. Math. France, Paris*, 1977. (M. C. Irwin) **58** #18583 58F10

A generic property of non-vanishing vector fields on R^2. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 4, 361–368. (Robert Roussarie) **57** #1564 58F10

C^3-structurally stable diffeomorphism of the plane which is not C^2-structurally stable. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 9, 869–873. (Leo Jonker) **57** #14048 58F10

Kryčkin, I. S. (*with* Sivcev, V. I.; Slepcov, A. A.; Rudzikas, Z. B.) A further study of the relativistic Hamiltonian of many-electron atoms. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **15** (1975), *no.* 4, 539–558, 673. (M. Martinis) **56** #2015 81.34

Krygin, A. B. Extension of diffeomorphisms that preserve volume. (Russian) *Funkcional. Anal. i Priložen.* **5** (1971), *no.* 2, 72–76. (Zbigniew Nitecki) **51** #4309 58D10

An example of a continuous flow on the torus with a mixed spectrum. (Russian) *Mat. Zametki* **15** (1974), 235–240. (D. Newton) **50** #574 28A65

Examples of ergodic cylindrical cascades. (Russian) *Mat. Zametki* **16** (1974), 981–991. (D. Newton) **52** #3476 28A65

The ω-limit sets of a cylindrical cascade. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 4, 879–898. (M. Eisenberg) **53** #4025 54H20

An example of a cylindrical cascade with anomalous metric properties. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 5, 26–32. (D. Newton) **53** #3258 28A65 (54H20)

Krygin, V. I. (*with* Šul′gin, M. F.; Nagornov, V. A.) On the theory of equations of analytical dynamics in generalized coordinates. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 394 (1970), 201–214 (1971). (B. Dolapčiev) **46** #2942 70.35

Kryl, Rudolf The constructive analogue of a certain theorem of Luzin. (Russian) *Comment. Math. Univ. Carolinae* **15** (1974), 465–480. (E. Mendelson) **51** #3367 26A24 (02E99)

Krylatyh, L. P. On a model of collective behavior. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 5, 60–66 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 5, 803–808. (Louis J. Billera) **48** #10442 90A15

Kryldakova, G. B. Abstract holomorphic functions with a countable number of arguments. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **1** (1970), 256–263, 333. (Author's summary) **56** #12878 46G20 (32A30)

Krylov, A. F. Preferable choice of flows and forces in approximate variants of thermodynamics of irreversible processes. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1977**, *no.* 9, 94–98. (Frederick A. Howes) **58** #25426 80.35

Krylov, A. L. The Cauchy problem for a second order equation with two independent variables in the complex domain. *Dokl. Akad. Nauk SSSR* **183** (1968), 765–767 (*Russian*); *translated as Soviet Math. Dokl.* **9** (1968), 1447–1450 (1969). (V. Oproiu (Zbl **175**, 399)) **55** #831 35C99

A two-dimensional model of the magnetosphere with a current sheath. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 90–93. (L. Dragoş) **48** #1579 76.30

Equations of slow electromagnetic phenomena in a strongly magnetized plasma. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 1056–1059. (Ll. G. Chambers) **50** #11994 78.35

Krylov, B. V. The Petrov-Penrose classification of Einstein spaces, and the invariants of a three-dimensional matrix. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 5, 60–63, 139. (Author's summary) **58** #14938 83.53

Krylov, È. G. (*with* Mirenkov, N. N.) Algorithms for planning functional states of a homogeneous computer system. (Russian) *Vyčisl. Sistemy Vyp.* 63 *Teorija Odnorodnyh Vyčislitel′nyh Sistem* (1975), 29–43, 160. (Jacek Błażewicz) **56** #2328 90B35

Krylov, E. V. (*with* Komarov, L. I.; Ferančuk, I. D.) A numerical solution of a nonlinear self-consistent eigenvalue problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 3, 681–691, 813. (Authors' summary) **58** #19957 81.34 (65L15)

Krylov, I. A. (*with* Černous′ko, F. L.) An algorithm for the method of successive approximations for optimal control problems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 14–34. (O. Gürel) **46** #1083 65K05

(*with* Germeĭer, Ju. B.) Seeking maximins by the method of "residuals". (Russ *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 871–881, 1084. (S. Cruceanu) **47** #79 65K05

Krylov, N. M. *See* **Lučka, T. F.**, **58** #27077

Krylov, N. V. The problem with two free boundaries for an elliptic equation and optimal stopping of a Markov process. (Russian) *Dokl. Akad. Nauk SSSR* **194** (1 1263–1265. (L. I. Gal′čuk) **46** #2217 35J25 (60J35)

On the theory of nonlinear degenerate elliptic equations. (Russian) *Dokl. A Nauk SSSR* **201** (1971), 1279–1281. (O. John) **45** #703 35J15

Control of Markov processes, and the spaces *W*. (Russian) *Izv. Akad. Nauk S Ser. Mat.* **35** (1971), 224–255. (M. Iosifescu) **45** #4493 60J25 (90D15, 93E05)

The uniqueness of the solution of Bellman's equation. (Russian) *Izv. Akad. SSSR Ser. Mat.* **35** (1971), 1377–1388. (V. N. Igolkin) **45** #1656 93E20

A certain estimate from the theory of stochastic integrals. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 446–457. (G. E. Denzel) **45** # 60H05

Control of the solution of a stochastic integral equation in the presence of degeneracy. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 248–261. Friedman) **46** #6462 60H20 (93E20)

The control of the solution of a stochastic integral equation. (Russian. En summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 111–128. (Ivar Petersen) **45** # 93E20

Correction to the paper "Itô's stochastic integral equations" (Teor. Verojatnc Primenen. **14** (1969), 340–348). (Russian) *Teor. Verojatnost. i Primenen.* **17** (1 392–393. (E. Lukacs) **49** #6354 60H20

The selection of a Markov process from a Markov system of processes, and construction of quasidiffusion processes. (Russian) *Izv. Akad. Nauk SSSR Ser. Ma* (1973), 691–708. (A. D. Wentzell (Ventcel′)) **49** #4097 60J25 (60J60)

(*with* Genis, I. L.) The exact barriers in the problem with oblique deriva (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 36–43, 235. (J. Kačur) **48** #11756 35J25

Certain estimates in the theory of stochastic integrals. (Russian. English summa *Teor. Verojatnost. i Primenen.* **18** (1973), 56–65. (Ju. M. Ryžov) **46** #10067 60

The regularity of conditional probabilities for stochastic processes. (Russian. En summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 151–155. (H. G. Tucker) **49** # 60G05

Some estimates for the density of the distribution of a stochastic integral. (Russi *Izv. Akad. Nauk SSSR Ser. Mat.* **38** (1974), 228–248. (A. Ja. Dorogovcev) **49** #99 60H05 (60J60)

(*with* Zvonkin, A. K.) Strong solutions of stochastic differential equations. (Russian) *Proceedings of the School and Seminar on the Theory of Random Proce (Druskininkai, 1974), Part II (Russian), pp.* 9–88. *Inst. Fiz. i Mat. Akad. Nauk Lito SSR, Vilnius*, 1975. (D. Surgailis) **54** #14100 60H10

Bellman's equation. (Russian) *Proceedings of the School and Seminar on the Th of Random Processes (Druskininkai, 1974), Part I (Russian), pp.* 203–235. *Inst. Fiz. i Akad. Nauk Litovsk. SSR, Vilnius*, 1975. (See RŽMat **1975** #12 V133; MR **52** #9 93E20

Optimal stopping of controlled diffusion process. *Proceedings of the Third Japan-USSR Symposium on Probability Theory (Tashkent, 1975), pp.* 324–334. *Lec Notes in Math., Vol.* 550, *Springer, Berlin*, 1976. (H.-J. Engelbert) **55** #13564 60 (93E20, 60J60)

(*with* Veretennikov, A. Ju.) Explicit formulae for the solutions of stochastic equations. (Russian) *Mat. Sb. (N.S.)* **100(142)** (1976), *no.* 2, 266–284, 336. (A. Friedman) **53** #14662 60H10

Sequences of convex functions, and estimates of the maximum of the solution parabolic equation. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 2, 290–303, 478. (V Olariu) **54** #8033 35K35

(*with* Genis, I. L.) An example of a one-dimensional controlled process. (Russ English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 1, 147–151. (Clau Simionescu) **56** #9366 49A99

The maximum principle for parabolic equations. (Russian) *Uspehi Mat. Nauk* (1976), *no.* 4(190), 267–268. (P. C. Fife) **54** #13324 35K55

(*with* Rozovskiĭ, B. L.) The Cauchy problem for linear stochastic partial differen equations. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 6, 1329–13 1448. (O. A. Glonti) **58** #18729 60H15 (60G35)

(*with* Rozovskiĭ, B. L.) Conditional distributions of diffusion processes. (Russia *Izv. Akad. Nauk SSSR Ser. Mat.* **42** (1978), *no.* 2, 356–378, 470. (R. Š. Lip **58** #24521 60G35 (60J60)

Some properties of the normal representation of convex functions. (Russian) *M Sb. (N.S.)* **105(147)** (1978), *no.* 2, 180–191, 287. (L. Mikołajczyk) **58** #2243 46 (26A51)

Krylov, P. A. Extension of isomorphisms in abelian *p*-groups. (Russian) *Mat. Zametki* (1973), 543–548. (L. Bican) **48** #6282 20K30

Radicals of rings of endomorphisms of torsion-free Abelian groups. (Russian) *M Sb. (N.S.)* **95(137)** (1974), 214–228, 327. (L. Fuchs) **50** #10118 20K30

Sums of automorphisms of abelian groups, and the Jacobson radical of the endomorphism ring. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 4(1 56–66. (B. J. Gardner) **57** #3283 20K30 (16A21)

Torsion-free abelian groups with cyclic *p*-basic subgroups. (Russian) *Mat. Zame* **20** (1976), *no.* 6, 805–813. (L. Procházka) **56** #498 20K15

Krylov, V. I. (*with* Kantorovič, L. V.; Černin, K. E.) ★Tables for the numerical soluti of boundary value problems of the theory of harmonic functions. Translated from Russian by Alexis N. Obolensky. *Frederick Ungar Publishing Co., New York*, 1963. *pp.* (Editors) **46** #6621 65N20

(*with* Skoblja, N. S.) ★Handbook of numerical inversion of Laplace transform Translated from the Russian by D. Louvish. *Israel Program for Scientific Translatio Jerusalem*, 1969. v+293 *pp.* (Editors) **52** #12302 65D30 (44A10, 65A05)

(*with* Kruglikova, L. G.) ★Handbook of numerical harmonic analysis. Translat from the Russian by David Louvish. *Israel Program for Scientific Translations, Jerusalem*, 1969. iv+151 *pp.* (Editors) **52** #12374 65T05 (65A05) (*with* Pal′cev, A. A.) ★Tables for numerical integration of functions with logarithmic and power singularities. Translated from the Russian by the IPST staff. *Israel Program for Scientific Translations, Jerusalem*, 1971. iv + 172 *pp*. (Editors) **50** #3518 65A05

(*with* Vorob′eva, A. A.) ★Таблицы для вычисления интегралов от функций со степенными особенностями $\int_0^1 x^\alpha f(x)\,dx$, $\int_0^1 x^\alpha(1-x)^\alpha f(x)\,dx$. (Russian) [Tables for the computation of the integrals of functions with power singularities: $\int_0^1 x^\alpha f(x)\,dx$, $\int_0^1 x^\alpha(1-x)^\alpha f(x)\,dx$] *Izdat. "Nauka i Tehnika", Minsk*, 1971. 255 *pp*. (From the publisher's description) **54** #6444 65A05 (65D30)

(*with* Bobkov, V. V.; Monastyrnyĭ, P. I.) ★Вычислительные методы высшей математики. Том 1. (Russian) [Numerical methods of higher mathematics. Vol. 1] *Izdat. "Vyšèĭšaja Škola", Minsk*, 1972. 584 *pp*. (Editors) **50** #11703 65–01

(*with* Bicadze, A. V.; Erugin, N. P.) Viktor Dmitrievič Kupradze (on the occasion of his seventieth birthday). (Russian) *Differencial′nye Uravnenija* **9** (1973), 2105–2111. (Editors) **48** #3676 01A70

(*with* Šul′gina, L. T.) Regularity conditions for nonlinear transformations. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 589–590, 675. (J. Németh) **49** #9700 47H99

(*with* Skoblja, N. S.) ★Методы приближенного преобразования Фурье и обращения преобразования Лапласа. (Russian) [Approximation methods for the Fourier transform and inversion of the Laplace transform] *Izdat. "Nauka", Moscow*, 1974. 223 *pp*. (See Zbl **304** #42024) 44A10 (42A68)

(*with* Bobkov, V. V.; Monastyrnyĭ, P. I.) ★Вычислительные методы высшей математики. Том 2. (Russian) [Numerical methods of higher mathematics. Vol. 2] *Izdat. "Vyšèĭšaja Škola", Minsk*, 1975. 671 *pp*. (Editors) **52** #4569 65–02

(*with* Bobkov, V. V.; Monastyrnyĭ, P. I.) ★Вычислительные методы. Том I. (Russian) [Numerical methods. Vol. I] *Izdat. "Nauka", Moscow*, 1976. 303 *pp*. (Walter Gautschi) **56** #9896 65–01

(*with* Skoblja, N. S.) ★A handbook of methods of approximate Fourier transformation and inversion of the Laplace transformation. Translated from the Russian by George Yankovsky. *Mir Publishers, Moscow*, 1977. 271 *pp*. (Y. L. Luke) **58** #2043 44A10 (65D20)

(*with* Bobkov, V. V.; Monastyrnyĭ, P. I.) ★Вычислительные методы. Том II. (Russian) [Numerical methods. Vol. II] *Izdat. "Nauka", Moscow*, 1977. 399 *pp*. (Ulrich Eckhardt) **58** #8129 65–01

(*with* Erugin, N. P.; Parasjuk, O. S.; Bogoljubov, O. M.; Grigor′jan, A. T.; Juškevič, A. P.) Iosif Zaharovič Štokalo (on the occasion of his eightieth birthday). (Russian) *Differencial′nye Uravnenija* **13** (1977), *no*. 11, 2102–2104. (Editors) **58** #4936 01A70

See also **Erugin, N. P.; et al.**, 47 #1570; **Metel′skiĭ, A. S.; et al.**, 48 #3680; **Eraševskaja, S. P.; et al.**, 53 #6969 *and* **Platonov, V. P.; et al.**, 58 #10209

Krylov, V. V. (*with* Gorbušina, T. A.; Degtjarëv, L. M.) The asymptotic behavior of the solution of the problem of the self-focusing of light in a cubic medium. (Russian) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No*. 122 (1977), 26 *pp*. (Authors' summary) **58** #19829 78.35

(*with* Degtjarëv, L. M.) A method for the numerical solution of problems of the dynamics of wave fields with singularities. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **17** (1977), *no*. 6, 1523–1530, 1628. (Authors' summary) **56** #14115 76.65 (81.65)

Krylová, N. (*with* Vejvoda, Otto) Periodic solutions to partial differential equations, especially to a biharmonic wave equation. *Symposia Mathematica, Vol. VII (Convegno sulle Problemi di Evoluzione, INDAM, Rome*, 1970), *pp*. 85–96. *Academic Press, London*, 1971. (D. Ramakrishna Rao) **49** #794 35B10

Krylova, T. V. (*with* Topoljans′kiĭ, D. B.) Complex eigenvalues in two-parameter problems. (Russian) *Differential equations and their applications* (*Russian*), *pp*. 148–151, 160. *Dnepropetrovsk. Gos. Univ., Dnepropetrovsk*, 1971. (K. Veselić) **49** #9007 15A18

(*with* Topoljans′kiĭ, D. B.) Regions for locating the eigenvalue surfaces in three-parameter boundary value problems for integrodifferential equations. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp*. 156–159. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (Stefan Balint) **54** #5770 45J05

(*with* Topoljans′kiĭ, D. B.) Application of interpolation polynomials to the approximate solution of two-dimensional two-parameter eigenvalue boundary problems. (Russian. English summary) *Vyčisl. Prikl. Mat. (Kiev) Vyp*. 28 (1976), 44–48, 151. (Authors' summary) **58** #3532 65N25

(*with* Topoljans′kiĭ, D. B.) Approximate solution of some nonlinear boundary eigenvalue problems. (Russian. English summary) *Vyčisl. Prikl. Mat. (Kiev) Vyp*. 31 (1977), 56–61, 156. (Authors' summary) **58** #8310 65L10

See also **Differential equations and their applications**, 58 #26644

Kryloveckiĭ, A. G. (*with* Jackin, N. I.) Canonical formalism and its geometrical interpretation in the covariant theory of a classical electron. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no*. 6, 88–92. (Authors' summary) **57** #8731 81.58 (58F05)

Kryms′kiĭ, O. M. (*with* Krasovic′kiĭ, V. B.) Excitation of regular oscillations of large amplitude in a nonlinear plasma by a modulated electron beam. (Russian) *Ukrain. Fiz. Ž*. **22** (1977), *no*. 10, 1733–1736, 1755. (From the text) **57** #2192 78.35

(*with* Maročnik, L. S.; Naselskiĭ, P. D.; Pelihov, N. V.) Turbulence in cosmology. III. The effect of non-linear interactions on the universe expansion law. Quantum turbulence near singularity. *Astrophys. and Space Sci*. **55** (1978), *no*. 2, 325–350. (A. Raychaudhuri) **58** #14975 83.60

Krynicki, M. (*with* Krawczyk, Adam) Ehrenfeucht games for generalized quantifiers. *Set theory and hierarchy theory (Proc. Second Conf., Bierutowice*, 1975), *pp*. 145–152. *Lecture Notes in Math., Vol*. 537, *Springer, Berlin*, 1976. (G. Fuhrken) **55** #79 02B20

Kryński, Henryk ★Zastosowania matematyki w ekonomii. (Polish) [Applications of mathematics in economics] Second, corrected edition. *Państwowe Wydawnictwo Naukowe, Warsaw*, 1975. 348 *pp*. (*errata insert*) (Editors) **52** #4943 90Axx

Krypel, S. (*with* Musiałek, Jan) On a mixed problem for the biharmonic equation. *Comment. Math. Prace Mat*. **18** (1974/75), *no*. 2, 201–211. (G. Albinus) **52** #8459 31B20

Krys, Jaromír *r*-dimensional configurations. (Czech. German summary) *Časopis Pěst. Mat*. **96** (1971), 339–345. (Libuše Marková) **46** #4350 50D25

Groups of points on a straight line and plane configurations. (Czech. German summary) *Časopis Pěst. Mat*. **97** (1972), 357–360. (J. Čižmár) **47** #5005 14H45

Point configurations of a plane cubic. II. (Czech. German summary) *Časopis Pěst. Mat*. **98** (1973), 252–260. (V. Havel) **48** #304 14N10 (14H45)

r-dimensional configurations. II. (Czech. German summary) *Časopis Pěst. Mat*. **98** (1973), 409–414. (Libuše Marková) **49** #9731 50D25 (05B30)

Configurations in four-dimensional space derived by means of plane configurations. (Czech. German summary) *Časopis Pěst. Mat*. **100** (1975), *no*. 2, 129–134. (V. Havel) **52** #2925 05B30

A model of 2*k*-dimensional affine space. (Czech. German and loose Russian summaries) *Časopis Pěst. Mat*. **101** (1976), *no*. 1, 20–27. (K. Burian) **58** #18073 50A20 (50D25)

Point configurations of a plane cubic. III. (Czech. German and loose Russian summaries) *Časopis Pěst. Mat*. **102** (1977), *no*. 2, 186–188. (V. Havel) **56** #5586 14N05

Krysanov, A. I. (*with* Kuzin, L. T.; Letunov, Ju. P.) Synthesis of Markov chains with minimum number of nonzero transition probabilities. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1971**, *no*. 4, 142–146 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no*. 4, 714–722 (1972). **46** #8314 60J20 (94A35)

(*with* Kuzin, L. T.; Letunov, Ju. P.) Some asymptotic estimates of the convergence of discrete Markov chains. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1971**, *no*. 6, 143–150 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no*. 6, 1095–1101 (1972). (E. Seneta) **49** #1592 60J10

(*with* Gorbatov, V. A.; Letunov, Ju. P.) Parallel decomposition of probabilistic automata. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1972**, *no*. 5, 112–120 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 5, 852–860. (Eugene S. Santos) **49** #4695 94A35

(*with* Afanas′ev, Ju. M.; Letunov, Ju. P.) Sequential decomposition of probabilistic automata. *Avtomat. i Telemeh*. **1973**, *no*. 3, 84–88 (*Russian. English summary*); *translated as Automat. Remote Control* **34** (1973), *no*. 3, *part* 1, 412–415. (P. Turakainen) **54** #12408 94A35

(*with* Ždanov, V. N.; Korotkova, M. A.; Popov, S. V.) ★Методы автоматического поиска доказательств. (Russian) [Methods for automatic theorem proving] With an English summary. Preprint No. 30 (1977). *Inst. Prikl. Mat. Akad. Nauk SSSR, Moscow*, 1977. 46 *pp*. (I. Kramosil) **57** #14641 68A40

Kryscio, Richard J. The transition probabilities of the extended simple stochastic epidemic model and the Haskey model. *J. Appl. Probability* **9** (1972), 471–485. (R. Fischler) **50** #3407 60K99 (92A15)

(*with* Severo, Norman C.) Computational and estimation procedures in multidimensional right-shift processes and some applications. *Advances in Appl. Probability* **7** (1975), 349–382. (K. Dietz) **51** #11728 60K99 (92A15)

The transition probabilities of the general stochastic epidemic model. *J. Appl. Probability* **12** (1975), *no*. 3, 415–424. (L. Billard) **52** #12852 92A15 (60K99)

(*with* Saunders, Roy) A note on the cost of carrier-borne, right-shift, epidemic models. *J. Appl. Probability* **13** (1976), *no*. 4, 652–661. (K. Dietz) **54** #6993 92A15

(*with* Saunders, Roy) Parameter estimation for the carrier-borne epidemic model. *J. Roy. Statist. Soc. Ser. B* **38** (1976), *no*. 3, 265–269. (Authors' summary) **58** #31687 62P10 (92A15)

(*with* Billard, L.) The transition probabilities of a bounded bivariate pure death process. *Math. Biosci*. **37** (1977), *no*. 3-4, 205–221. (Authors' summary) **58** #33124 92A15 (60J80)

Krysicki, Włodzimierz (*with* Włodarski, Lech) ★Analiza matematyczna w zadaniach. Część I. (Polish) [Mathematical analysis in problems. Part I] Eighth edition, revised and augmented. *Państwowe Wydawnictwo Naukowe, Warsaw*, 1970. 509 *pp*. (Editors) **51** #10543 26–01

Estimation of the parameters of the mixture of an arbitrary number of exponential distributions. *Demonstratio Math*. **4** (1972), 175–183. (A. C. Cohen) **47** #2735 62F10

★Roster of the great mathematicians. (Polish) *Nasza Księgarnia, Warsaw*, 1975. 236 *pp*. (Editors) **55** #10205 01A70

Krys′ko, V. A. (*with* Amel′čenko, V. V.) Investigation on an electronic computer, by the Bubnov-Galerkin method, of flexible rectangular shells in a supercritical state. (Russian) *Differential equations and numerical analysis, No*. 1 (*Russian*), *pp*. 69–78. *Izdat. Saratov. Univ., Saratov*, 1972. (Authors' introduction) **49** #6755 73.65

(*with* Sokolov, S. S.) On the computation of flexible shallow shells, with allowance for shears, by the finite difference method. (Russian) *Differencial′nye Uravnenija i Vyčisl. Mat. Vyp*. 6 (1976), *no*. 1, 130–137, 178. (Authors' summary) **58** #14232 73.65

Kryštal, A. N. (*with* Pyragas, Kazimiras A.; Bondarenko, N. P.) On the equilibrium figures of an ideal rotating fluid in the post-Newtonian approximation of general relativity. III. Stability of the forms of equilibrium. *Astrophys. and Space Sci*. **33** (1975), 75–97. (Authors' summary) **56** #14502 83.35

Krystev, R. Stability of *n*-th order and degree of stability. *Prikl. Mat. Meh*. **37** (1973), 758–762 (*Russian*); *translated as J. Appl. Math. Mech*. **37** (1973), 718–723. (H. I. Freedman) **49** #10976 34D05

Krytov, A. V. (*with* Petrenko, V. P.) A remark on the defects of meromorphic functions. (Russian. English summary) *Questions on mathematical physics and functional analysis (Proc. Res. Sem. Inst. Low Temp. Phys. Engrg., Kharkov)* (*Russian*), *pp*. 33–42, 171. *"Naukova Dumka", Kiev*, 1976. (Authors' summary) **58** #17096 30A70

Some estimates for defects of *p*-dimensional entire curves. (Russian) *Teor. Funkcii Funkcional. Anal. i Priložen. No*. 29 (1978), 51–60, iii. (F. Huckemann) **58** #28686 32H25 (30A70)

Kryukov, V. I. *See* **Krjukov, V. I.**

Kryžanovskaja, A. O. *See* **Križanivs′ka, A. O.**

Kryžanovskiĭ, G. A. (*with* Soloduhin, V. A.) On a linear programming problem. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1972**, *no*. 4, 30–32 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no*. 4, 587–590. (M. Yamasaki) **48** #10493 90C05

Kryžanovskiĭ, I. A. (*with* Pletn′ova, T. G.; Skopin, V. S.; Èĭdel′man, S. D.) A closed solution of an integral equation that arises in the technology of magnetic sound recording. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz*. **14** (1974), 1593–1595, 1631. (Stefan Balint) **51** #6318 45E10 (30A88)

Kryzhanovskiy, G. A. *See* **Kryžanovskiĭ, G. A.**

Kryžius, Z. The distribution of additive arithmetic functions with shifted arguments. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 4, 127–138, 223. (J. Galambos) **57** #16241 10K20

Kryžnyi, B. K. *See* **Mathematical simulation and the theory of electrical circuits, 48** #3287

Krzemień, Roman (*with* Łukasiewicz, Andrzej) Automatic generation of lexical analyzers in a compiler-compiler. *Information Processing Lett.* **4** (1975/76), *no.* 6, 165–168. (Derick Wood) **55** #1843 68A30

Krzemieńska, Barbara The founding of the Academy of Sciences and Arts in St. Petersburg in 1724–1725 (some remarks on the 250th anniversary of the Academy of Sciences in the USSR). (Czech. English summary) *DVT—Dějiny Věd. a Techniky* **7** (1974), 131–147. (From the author's summary) **57** #12060 01A50

Krzemiński, Stanisław Parameters of a heterogeneous solid conductor in transient state. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **26** (1977/78), *no.* 4, 783–795. (Author's summary) **58** #14408 78.65

Krzeszowiak, Z. On differentiable solutions of the functional equation $\phi(f(x))=g(x,\phi(x))$ for vector-valued functions. *Ann. Polon. Math.* **27** (1973), 121–128. (J. Matkowski) **47** #667 39A15

Krzyśko, Mirosław (*with* Stolarski, Przemysław) Estimation of multivariate density functions. *Funct. Approximatio Comment. Math.* **2** (1976), 101–105. (J. R. Blum) **56** #4039 62G05 (62L20)

A note on the sequential classification. *Funct. Approximatio Comment. Math.* **4** (1976), 3–5. (Margaret P. Gessaman) **55** #9417 62H30 (62L10)

(*with* Stolarski, Przemysław) Classification of observations using the method of potential functions. *Funct. Approximatio Comment. Math.* **4** (1976), 159–161. (M. Arató) **57** #11209 68A45

Nonparametric estimation of a density function of several variables. (Polish) *Mat. Stos.* (3) **11** (1977), 69–73. **56** #16903 62G05

Krzystek, Piotr A certain method of numerical solution of a boundary value problem for a fourth order nonlinear ordinary differential equation. (Polish. Russian and English summaries) *Algorytmy* **9**, *no.* 16, 53–83 (1972). (S. Ząbek (Zbl **266** #65059)) **50** #11788 65L10

A numerical solution of the boundary-value problem for a system of two non-linear second order ordinary differential equations. *Demonstratio Math.* **9** (1976), *no.* 4, 729–745. (F. Perrin) **55** #6869 65L10

Krzystek, Piotr S. On free relatively pseudocomplemented semilattice with three generators. *Polish Acad. Sci. Inst. Philos. Sociol. Bull. Sect. Logic* **6** (1977), *no.* 3, 116–122. (From the text) **58** #16438 06A20

On the free relatively pseudocomplemented semilattice with three generators. *Rep. Math. Logic No.* 9 (1977), 31–38. (M. E. Adams) **58** #27676 06A20

(*with* Zachorowski, Stanisław) Łukasiewicz logics have not the interpolation property. *Rep. Math. Logic No.* 9 (1977), 39–40. (From the text) **58** #21440 02C05

Krzyształowicz, Aleksander (*with* Szczepankiewicz, Eugeniusz) On certain symbols. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **20** *Algebra, Zastos. Mat.* (1978), 195–208. (Authors' summary) **58** #28431 28A65 (54H20)

Krzysztofek, Bronisław The equation $1^n+2^n+\cdots+m^n=(m+1)^n\cdot k$. (Polish. English summary) *Wyż. Szkoł. Ped. w Katowicach—Zeszyty Nauk. Sekc. Mat. No.* 5 (1966), 47–54 (1967). (B. Novák) **51** #352 10B99

Operators of axial symmetry in the prediction of stochastic processes. (Polish. Russian and English summaries) *Przegląd Statyst.* **21** (1974), 41–75. (A. I. Ponomarenko) **50** #11678 62M20

Prediction of stochastic processes in stationary isomorphic probabilistic relation systems. (Polish. Russian and English summaries) Papers presented at the Conference on Econometric Forecasting (Jeleniów, 1973). *Przegląd Statyst.* **21** (1974), 379–400. (Author's summary) **51** #7590 90A15 (62L20)

Krzywda, Lesław A certain algorithm for the identification of a minimal and connected automaton with a limited number of states. (Polish. Russian and English summaries) *Algorytmy* **11**, *no.* 19, 49–70 (1974). (B. M. Schein (Šaĭn)) **50** #4158 94A30

Krzywicki, Andrzej Dynamical systems. (Bulgarian) Translated from the Polish (Prace Naukowoznawcze i Prognostyczne **8** (1973), 51–75). *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **18(51)** (1975), *no.* 3, 199–221. (Editors) **58** #24346 58Fxx (34C35)

On orthogonal decomposition of two-dimensional periodic discrete vector fields. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 2, 123–130. (Stefan Balint) **55** #8600 39A12 (35Q99, 65N05)

Uniform equations for non-stationary filtration in a partially confined aquifer. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 2, 191–195. (Hélène Lanchon) **55** #11797 76.35

(*with* Capella, A.) Theoretical model of soft hadron-nucleus collisions at high energies. *Phys. Rev. D* (3) **18** (1978), *no.* 9, 3357–3370. (Authors' summary) **58** #25577 81.47

Krzywiec, Robert Multi-index sequences. (Polish. Russian and English summaries) *Nonlinear vibration problems, No.* 11, *pp.* 145–193. *Państw. Wydawn. Nauk., Warsaw,* 1971. (Authors' summary) **56** #15667 15A03 (70.50)

Multi-index Lagrange equations of the second kind for multiple mechanical systems —large systems. (Polish. Russian and English summaries) *Nonlinear vibration problems, No.* 11, *pp.* 195–209. *Państw. Wydawn. Nauk., Warsaw,* 1971. (Author's summary) **57** #8249 70.34

v. Krzywoblocki, Maria Z. Bergman's and Gilbert's operators in elasticity, electromagnetism, fluid dynamics, wave mechanics. *Analytic methods in mathematical physics* (*Sympos., Indiana Univ., Bloomington, Ind.,* 1968), *pp.* 207–247. *Gordon and Breach, New York,* 1970. (W. Watzlawek) **49** #808 35C15

Wave mechanics theory of turbulence. *Fluid dynamics transactions Vol.* 6, *Part II,* (*Proc. 10th Sympos. Advanced Problems and Methods in Fluid Mechanics, Rynia,* 1971), *pp.* 365–390. *Państw. Wydawn. Nauk., Warsaw,* 1971. (Editors) **57** #4803 76.35 (81.35)

(*with* Glance, Paul C.) Optimization of the flow-passage-geometry in compressor rotors. *J. Mathematical and Physical Sci.* **5** (1971), 15–46. (E. G. Broadbent) **46** #6715 76.49

Streamline method. *Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* **16** (1971), 655–676. (R. P. Kanwal) **47** #6194 76.53

Controllability and solvability of the wave propagation in troposphere. *J. Mathematical and Physical Sci.* **8** (1974), 257–290. (M. G. F. Boella) **50** #156 78.49

Turbulence and refractivity changes and their sensing based upon the wave mechanics theory. *J. Mathematical and Physical Sci.* **8** (1974), 515–544. (G. Papanicolaou) **50** #15767 82.35

(*with* Srivastava, R. M.) Shock theorems in magneto-gasdynamics with radiat *J. Mathematical and Physical Sci.* **10** (1976), *no.* 5, 375–415. (Rishi Ram) **55** #118 76.35

Krzyż, Jan G. (*with* Rahman, Qazi Ibadur) Univalent polynomials of small degree. (P and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **21** (1967), 7 (1972). (D. A. Brannan) **48** #11471 30A32

An extremal length problem. (Polish and Russian summaries) Proceedings o Fifth Conference on Analytic Functions (Univ. Mariae Curie-Skłodowska, Lu 1970). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **22-24** (1968/70), 95–103 (1 (Editors) **49** #5338 30A40

An extremal length problem and its applications. *Proceedings of the NRL Conference on Classical Function Theory* (*Math. Res. Center, Naval Res. Lab., Washington, D.C.,* 1970), *pp.* 143–155. *Math. Res. Center, Naval Res. Lab., Washin D.C.,* 1970. (F. W. Gehring) **48** #8781 30A40

★Problems in complex variable theory. Translation of the 1962 Polish orig Modern Analytic and Computational Methods in Science and Mathematics, No *American Elsevier Publishing Co., Inc., New York; PWN—Polish Scientific Publis Warsaw,* 1971. xvii + 283 *pp.* (Editors) **56** #5844 30–01

The Green function of domains containing a fixed ellipse. *Michigan Math.* (1973), 13–19. (E. C. Schlesinger) **46** #9314 30A30 (30A34)

(*with* Złotkiewicz, Eliguisz J.) Two remarks on typically-real functions. (Polish Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **30** (1976), 5 (1978). (W. E. Kirwan) **58** #17101 30A78

Convolution and quasiconformal extension. *Comment. Math. Helv.* **51** (1976), *n* 99–104. (E. Reich) **53** #3298 30A60

(*with* Fait, Maria; Zygmunt, Jadwiga) Explicit quasiconformal extensions for s classes of univalent functions. *Comment. Math. Helv.* **51** (1976), *no.* 2, 279–285. (C Anderson) **54** #10587 30A32 (30A60)

Krzyżanowski, Włodimierz A certain generalization of the stereographic projection second order algebraic surface. (Polish. English summary) *Zeszyty Nauk. Akad. Górn.-Hutniczej—Mat.-Fiz.-Chem. No.* 13 (1973), 45–56. (K. Burian) **50** #110 50D20 (14N05)

A certain generalization of the stereographic projection of a second order c surface. (Polish. English summary) *Zeszyty Nauk. Akad. Górn.-Hutniczej—Mat.-Fiz.-Chem. No.* 13 (1973), 57–63. (K. Burian) **50** #110 50D20 (14N05)

Krzyżewski, K. Expanding mappings and Bernoulli shifts. *Papers from the "Open H for Functional Analysts"* (*Aarhus Univ., Aarhus,* 1972), *Paper No.* 9, 3 *pp. Va Publications Ser., No.* 23, *Mat. Inst., Aarhus Univ., Aarhus,* 1972. (Editors) **56** #67 58F15 (28A65)

On a problem of Rohlin. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. M Astronom. Phys.* **20** (1972), 207–210. (L. Shapiro) **47** #2033 28A65

Some results on expanding mappings. *Dynamical systems, Vol. II—Warsaw,* 205–218. *Astérisque, No.* 50, *Soc. Math. France, Paris,* 1977. (M. I. Brin) **58** #131 58F15 (28A65)

Kschwendt, H. (*with* Hembd, H.) Solution of the transport integral equation with anisotropic scattering. *J. Computational Phys.* **10** (1972), 534–553. (M. Drăganu) **50** #3835 82.45

Ksendz, N. A. *See* **Kc′ondz, N. A.**

Ksenofontov, R. S. One-sided estimates in the theory of the Ljapunov stability of differential equations in a Banach space. (Russian) *Vladimir. Večer. Politehn. Inst. Naučn. Trudov No.* 4 (1968), 218–219. (Not reviewed) 34G05

Kshirsagar, Anant M. (*with* Ranganathan, S.) A problem in replacement theory. *Def Sci. J.* **18** (1968), 1–6. (K. B. Athreya) **46** #6799 90B25

(*with* Gupta, Y. P.) Mean and variance of the number of renewals in cer Markov renewal processes. *J. Indian Statist. Assoc.* **6** (1968), 75–80. (B. Dimit **49** #11651 60K15 (90B05)

Life estimation and renewal theory. *J. Indian Statist. Assoc.* **8** (1970), 18–24. Khalil) **52** #2109 62N05

Recovery of inter-row and inter-column information in two-way designs. *Ann. Statist. Math.* **23** (1971), 263–278. (T. Papaioannou) **51** #11870 62K99

★Multivariate analysis. Statistics Textbooks and Monographs, Vol. 2. *Ma Dekker, Inc., New York,* 1972. xiv + 534 *pp.* (N. Giri) **49** #8219 62Hxx

(*with* Gupta, Y. P.) A note on the matrix renewal function. *J. Austral. Math.* **13** (1972), 417–422. (E. Çinlar) **47** #1147 60K05

Professor M. C. Chakrabarti. *J. Indian Statist. Assoc.* **10** (1972), 1–8. (Edit **51** #12466 01A70 (62–03)

(*with* Musket, Stewart F.) A note on discrimination in the case of zero m differences. *J. Indian Statist. Assoc.* **10** (1972), 42–51. (D. G. Kabe) **51** #216 62H30

(*with* Young, John C.) Distribution of two correlated Hotelling's T^2's. *Multivar statistical inference* (*Proc. Res. Sem., Dalhousie Univ., Halifax, N.S.,* 1972), *pp.* 137– *North-Holland, Amsterdam; American Elsevier, New York,* 1973. (Jack. C. Lee) **49** #10054 62H10

(*with* Brock, Dwight B.) A χ^2 goodness-of-fit test for Markov renewal process *Ann. Inst. Statist. Math.* **25** (1973), 643–654. (Rashid Ahmad) **51** #14474 62 (62G10)

Relationship between the inter and intra block adjustments and the adjusted bl sum of squares. *Comm. Statist.* **1** (1973), 149–155. (I. M. Chakravarti) **47** #786 62K10

(*with* Sia, Luisa S.) C-matrix of confounded designs in symmetrical factorial experiments. *Comm. Statist.* **3** (1974), 1015–1024. (U. B. Paik) **51** #4584 62K15

(*with* Arseven, Ersen) Stationary state probabilities of a Markov renewal proc and optimum scores associated with the states. *Comm. Statist.* **3** (1974), *no.* 10, 923–9 (A. K. Aleškevičiene) **52** #15724 60K15

Direction and dimensionality tests based on Hotelling's generalized T_0^2. *Perspecti*

in probability and statistics (*papers in honour of M. S. Bartlett on the occasion of his 65th birthday*), *pp.* 57–66. *Applied Probability Trust, Univ. Sheffield, Sheffield*, 1975. (E. J. Williams) **53** #6890 62H15

(*with* Arseven, Ersen) A note on the equivalency of two discrimination procedures. *Amer. Statist.* **29** (1975), 38–39. (C. W. Chen) **51** #7162 62H30

(*with* McHenry, Claude E.) Tests of hypothetical contrasts in MANOVA using two different multivariate criteria. *Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* **23** (1976), *no.* 1, 6–13. (E. J. Williams) **54** #14241 62H15

(*with* McHenry, Claude E.) Use of Hotelling's generalized T_0^2 in multivariate tests. *Multivariate analysis, IV* (*Proc. Fourth Internat. Sympos., Dayton, Ohio*, 1975), *pp.* 129–139. *North-Holland, Amsterdam*, 1977. (Author's review (A. M. K.)) **58** #24743 62H30 (62H15)

(*with* Sonvico, Violeta) Concurrency of regression equations with k regressors. *Contributions to survey sampling and applied statistics*, *pp.* 173–180. *Academic Press, New York*, 1978. (D. G. Kabe) **58** #18901 62H15 (62J05)

Ktenas, P. (*with* Jannussis, A. D.) On some properties of the operators of the generalized angular momentum. (Bulgarian and Russian summaries) *B″lgar. Akad. Nauk. Izv. Mat. Inst.* **15** (1974), 161–171. (R. K. Ritt) **51** #7512 81.35

Ktitarev, D. N. (*with* Voronina, N. V.) The solution of a boundary value problem for equations of hyperbolic type with lag. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 309 *Mat.—Problemy Nelineĭn. Anal.* (1974), 53–55. (L. E. Bobisud) **51** #8658 35R10

The solution of the Cauchy problem for equations of hyperbolic type with deviating argument. (Russian) *Perm. Gos. Univ. Učen. Zap. No.* 309 *Mat.—Problemy Nelineĭn. Anal.* (1974), 89–95. (L. E. Bobisud) **51** #8659 35R10

Ktorides, C. N. A Clifford algebraic approach to superfields and some consequences. *J. Mathematical Phys.* **16** (1975), *no.* 10, 2123–2129. (W. M. Tulczyjew) **52** #16318 81.15

A non-Lie algebraic framework and its possible merits for symmetry descriptions. *J. Mathematical Phys.* **16** (1975), *no.* 10, 2130–2141. (S. Sankaran) **52** #7339 81.17 (17B35)

(*with* Daniel, Michael) Spinorial charges and their role in the fusion of internal and space-time symmetries. *Nuclear Phys. B* **115** (1976), *no.* 2, 313–332. (A. Crumeyrolle) **54** #12130 83.53

Renormalizability aspects of massive Yang-Mills field models. *Phys. Rev. D* (3) **13** (1976), *no.* 10, 2811–2826. (K. Kumar) **56** #7534 81.22 (81.47)

On a possible incompatibility of Lie-admissible local powers of a quantum field with the Wightman axioms and the spin-statistics theorem. *Hadronic J.* **1** (1978), *no.* 3, 1012–1020. (A. O. Barut) **58** #25484 81.22

Ku, Chia Tai (*with* Masson, Gerald M.) The Boolean difference and multiple fault analysis. *IEEE Trans. Computers* **C-24** (1975), *no.* 1, 62–71. (Krzysztof Sapiecha) **53** #12771 94A20

Ku, Chin Yung The mathematics of ancient China compared with the outstanding contributions of world culture. (Chinese) *Acta Math. Sinica* **18** (1975), *no.* 1, 18–23. (Joong Fang) **56** #5129 01A25

Ku, Hsü Tung (*with* Ku, Mei Chin) Invariant and characteristic homotopy spheres of differentiable actions on homotopy spheres. *Studies and essays* (*Presented to Yu-why Chen on his 60th Birthday, April* 1, 1970), *pp.* 91–106. *Math. Res. Center, Nat. Taiwan Univ., Taipei*, 1970. (C. N. Lee) **45** #7745 57E15

(*with* Ku, Mei Chin) Characteristic invariants of free differentiable actions of S^1 and S^3 on homotopy spheres. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts, Amherst, Mass.*, 1971), *Part I*, *pp.* 19–40. *Lecture Notes in Math., Vol.* 298, *Springer, Berlin*, 1972. (R. Schultz) **51** #14124 57E25

(*with* Mann, L. N.; Sicks, J. L.; Su, J. C.) Degree of symmetry of closed manifolds. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts, Amherst, Mass.*, 1971), *Part I*, *pp.* 430–436. *Lecture Notes in Math., Vol.* 298, *Springer, Berlin*, 1972. (R. Schultz) **50** #14822 57E15

(*with* Ku, Mei Chin) Rational Montgomery-Yang invariants and the extensions of free S^1 actions on homotopy spheres. Collection of articles in celebration of the sixtieth birthday of Ky Fan. *Bull. Inst. Math. Acad. Sinica* **2** (1974), 185–190. (R. Z. Goldstein) **51** #1850 57D60

(*with* Ku, Mei Chin) Dimension of a differentiable transformation group. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 29–42. (Soon-Kyu Kim) **53** #9261 57E15

(*with* Ku, Mei Chin) Dimension of a topological transformation group. *Canad. J. Math.* **28** (1976), *no.* 3, 594–599. (R. Schultz) **53** #14518 57E10

(*with* Ku, Mei Chin) Gaps in the relative degree of symmetry. *Transformation groups* (*Proc. Conf., Univ. Newcastle upon Tyne, Newcastle upon Tyne*, 1976), *pp.* 121–138. *London Math. Soc. Lecture Note Series, No.* 26, *Cambridge Univ. Press, Cambridge*, 1977. (Theodore Chang) **57** #13991 57E15

(*with* Ku, Mei Chin) Degree of symmetry of homologically Kählerian manifolds. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 2, 249–264. (R. Schultz) **58** #7666 57E15 (53C55)

See also **Proceedings: Conference on Compact Transformation Groups**, **48** #7281 *and* **Proceedings: Conference on Compact Transformation Groups**, **48** #7282

Ku, I. H. *See* **Ku, Y. H.**

Ku, Mei Chin (*with* Ku, Hsü Tung) Invariant and characteristic homotopy spheres of differentiable actions on homotopy spheres. *Studies and essays* (*Presented to Yu-why Chen on his 60th Birthday, April* 1, 1970), *pp.* 91–106. *Math. Res. Center, Nat. Taiwan Univ., Taipei*, 1970. (C. N. Lee) **45** #7745 57E15

(*with* Ku, Hsü Tung) Characteristic invariants of free differentiable actions of S^1 and S^3 on homotopy spheres. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts, Amherst, Mass.*, 1971), *Part I*, *pp.* 19–40. *Lecture Notes in Math., Vol.* 298, *Springer, Berlin*, 1972. (R. Schultz) **51** #14124 57E25

(*with* Ku, Hsü Tung) Rational Montgomery-Yang invariants and the extensions of free S^1 actions on homotopy spheres. Collection of articles in celebration of the sixtieth birthday of Ky Fan. *Bull. Inst. Math. Acad. Sinica* **2** (1974), 185–190. (R. Z. Goldstein) **51** #1850 57D60

(*with* Ku, Hsü Tung) Dimension of a differentiable transformation group. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 29–42. (Soon-Kyu Kim) **53** #9261 57E15

Dimension of a differentiable transformation group. II. Generalized degree of symmetry of a manifold. *Bull. Inst. Math. Acad. Sinica* **4** (1976), *no.* 1, 141–157. (Soon-Kyu Kim) **53** #9262 57E15

(*with* Ku, Hsü Tung) Dimension of a topological transformation group. *Canad. J. Math.* **28** (1976), *no.* 3, 594–599. (R. Schultz) **53** #14518 57E10

Newman's theorem for compact Riemannian manifolds. *Proc. Amer. Math. Soc.* **58** (1976), 343–346. (Sheila Carter) **54** #3726 57E15 (53C20)

(*with* Ku, Hsü Tung) Gaps in the relative degree of symmetry. *Transformation groups* (*Proc. Conf., Univ. Newcastle upon Tyne, Newcastle upon Tyne*, 1976), *pp.* 121–138. *London Math. Soc. Lecture Note Series, No.* 26, *Cambridge Univ. Press, Cambridge*, 1977. (Theodore Chang) **57** #13991 57E15

(*with* Ku, Hsü Tung) Degree of symmetry of homologically Kählerian manifolds. *Bull. Inst. Math. Acad. Sinica* **5** (1977), *no.* 2, 249–264. (R. Schultz) **58** #7666 57E15 (53C55)

Ku, Richard T. (*with* Athans, Michael; Gershwin, Stanley B.) The uncertainty threshold principle: some fundamental limitations of optimal decision making under dynamic uncertainty. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 491–495. (Ludwig Arnold) **58** #15605 93E20

(*with* Athans, Michael) Further results on the uncertainty threshold principle. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 866–868. (Ludwig Arnold) **57** #11905 93E20

Ku, Wei Kang (*with* Shih, Yen P'ing) Piecewise constant solutions of integral equations via Walsh functions. (Chinese summary) *J. Chinese Inst. Engrs.* **1** (1978), *no.* 1, 81–85. (P. M. Anselone) **58** #19276 65R05 (45L10)

Ku, Y. H. Liapunov function of a sixth-order nonlinear system. *Proc. IEEE* **57** (1969), 91–94. (Author's summary) **46** #3161 93D05

(*with* Jonnada, R. K.) Bifurcation theorems and limit cycles in nonlinear systems. I, II. *J. Franklin Inst.* **292** (1971), 19–33; *ibid.* **292** (1971), 293–302. (R. F. Matlak) **50** #10427 34C05

(*with* Lin, T. S.) Analysis of nonlinear systems with stochastic input and stochastic parameters. *J. Franklin Inst.* **292** (1971), 313–331. (Yoshikazu Sawaragi) **48** #1780 93E20

Analysis of nonlinear control systems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 24–42, 475. *Izdat, "Nauka", Moscow*, 1972. (Ljubomir Lilov) **49** #8708 93C10

Solution of the Riccati equation by continued fractions. *J. Franklin Inst.* **293** (1972), 59–65. (G. D. Byrne) **46** #9418 34A05

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969

Kuan, K. S. The tail probability of a statistic similar to Student's t. *Southeast Asian Bull. Math.* **1** (1977), *no.* 2, 46–49. (I. Vincze) **58** #13452 62E15 (62G30)

Kuan, L. Y. (*with* Thierrin, G.) π-independent languages. *Tamkang J. Math.* **8** (1977), *no.* 1, 87–97. (I. F. Blake (Zbl **365** #94071)) **58** #25143 68A30 (20M35)

Kuan, Shêng Yü Some invariant properties on summability domains. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 2, 248–250. (A. Wilansky) **56** #6186 40H05

Some relations between a matrix transformation and its transpose on summability domains. *Bull. Inst. Math. Acad. Sinica* **6** (1978), *no.* 1, 1–5. (Robert DeVos) **58** #12072 40C05

Kuan, T. H. (*with* Yüeh, T. Y.; Li, Y. T.; Chang, P.) Markov description of stationary turbulence at large Reynolds number. *Sci. Sinica* **17** (1974), *no.* 2, 181–192. (François Ronday) **57** #8439 76.60

Kuan, Wei Eihn On the hyperplane section through a rational point of an algebraic variety. *Pacific J. Math.* **36** (1971), 393–405. (H. Popp) **45** #1910 14A10

Specialization of a generic hyperplane section through a rational point of an algebraic variety. *Ann. Mat. Pura Appl.* (4) **94** (1972), 75–82. (H. Yanagihara) **47** #3390 14C99

(*with* Brown, William C.) Ideals and higher derivations in commutative rings. *Canad. J. Math.* **24** (1972), 400–415. (Tadayuki Matsuoka) **45** #3388 (E **55** #8015) 13B10

A note on a lemma of Zariski and higher derivations. *Proc. Amer. Math. Soc.* **42** (1974), 333–340. (Allen B. Altman) **48** #11080 13B10

Some results on normality of a graded ring. *Pacific J. Math.* **64** (1976), *no.* 2, 455–463. (Y. Nakai) **55** #328 13A15

An addendum to: "Ideals and higher derivations in commutative rings" (Canad. J. Math. **24** (1972), 400–415) by W. C. Brownand Kuan. *Canad. J. Math.* **29** (1977), *no.* 1, 65–70. (Tadayuki Matsuoka) **55** #8015 13B10

ta Kuang Haï *See* **Ta Kuang Haï**

dam Kuang Zang *See* **Dam Kuang Zang**

Kubáček, Lubomír On the general problem of adjustment of measured values. *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 270–275. (E. S. Keeping) **46** #10120 62F10

The estimation of the values of physical quantities. (Russian) *Numerische Methoden in der Geophysik* (*Sympos., Liblice*, 1972), *pp.* 69–84. *Academia, Prague*, 1973. (Author's summary) **50** #15010 62-01

On a generalization of the orthogonal regression. (Slovak summary) *Apl. Mat.* **20** (1975), *no.* 2, 87–95. (Emil Spjøtvoll) **51** #11841 62J05

Kubáčková, L. Some problems on the numerical treatment of optimal filtrations of geophysical fields. (Russian) *Numerische Methoden in der Geophysik* (*Sympos., Liblice*, 1972), *pp.* 131–137. *Academia, Prague*, 1973. (Jiří Nedoma) **51** #4937 86.65

Kubale, Marek Problems of automatic organization of time-tables for universities. (Polish. Russian and English summaries) *Algorytmy* **10**, *no.* 18, 79–103 (1973). (M. Mañas) **48** #3478 90B35

(*with* Dąbrowski, Janusz) Empirical comparison of efficiency of some graph colouring algorithms. (Polish and Russian summaries) *Arch. Automat. Telemech.* **23** (1978), *no.* 1-2, 129–139. (Narsingh Deo) **58** #8488 68A20 (05C15)

Kubanskaja, A. P. Application of the nine-point scheme of the method of lines to certain nonlinear boundary value problems. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **23** (1971), 41–52. (M. Zlámal) **46** #1099 65M20

An application of the method of straight lines to a certain boundary value problem with a nonlinear equation that contains derivatives of arbitrary even order. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel.*

Mat. Inst. Steklov. (*LOMI*) **35** (1973), 45–55. (G. W. Hedstrom) **55** #6876 65M20 (65M10)

A matrix equality. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **58** (1976), 47–53, 159–160. (Ulrich Eckhardt) **57** #11078 65M05 (65F30)

An application of a multi-point difference-differential scheme to a boundary value problem. Numerical methods and questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **70** (1977), 76–88, 290. (Author's summary) **58** #24992 65N05

See also **Automatic programming and numerical methods of analysis**, **46** #8464 *and* **Numerical methods and functional analysis**, **49** #6540

Kubarev, S. I. The random field method for the Ising model. *Phys. Lett. A* **62** (1977), *no.* 3, 175–177. (Author's summary) **56** #10689 82.60

The normal random field for the Ising model. The evaluation of the critical indexes. *Phys. Lett. A* **62** (1977), *no.* 3, 178–180. (Author's summary) **56** #10690 82.60

Kubát, Jiří (*with* Krampe, Horst; Runge, Walter) ★Bedienungsmodelle. Ein Leitfaden für die praktische Anwendung. *Verlag Die Wirtschaft, Berlin,* 1974. 512 *pp.* (Editors) **53** #2324 90Bxx (60K25)

Lagerstandortoptimierung mit Hilfe des Verfahrens Branch and Bound. (English and Czech summaries) *Ekonom.-Mat. Obzor* **11** (1975), 61–83. (D. Hochstädter) **51** #4961 90B05

Solution of a generalized distribution problem with optimization of the source capacity by the branch and bound method. (Czech. English summary) *Ekonom.-Mat. Obzor* **11** (1975), *no.* 3, 273–289. (Author's summary) **57** #15432 90C10 (90B05)

Kubát, Libor The replacement-of-elements method as a model for other methods of technical diagnosis. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague,* 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 483–500. *Academia, Prague,* 1973. (F. Weinberg) **50** #6464 90B25

See also **Entropy and information in science and philosophy**, **55** #12314

Kubekov, B. S. A certain algorithm for pattern recognition that is based on the computation of estimates. (Russian) *Coding theory and information modeling, No.* 2 (*Russian*), *pp.* 129–135, 247. *Izdat. "Nauka" Kazah. SSR, Alma-Ata,* 1975. (V. D. Dimitrov) **58** #14004 68A45

Kubenko, V. D. The solution of problems on the diffraction of nonstationary elastic waves by obstacles of cylindrical or spherical shape. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 10, 901–906, 957. (J. L. Nowinski) **53** #4691 73.45

The numerical solution of a certain type of singular integral equations that arise in nonstationary problems of hydroelasticity. (Russian) *Mat. Fiz. Vyp.* 18 (1975), 95–103, 166. (J. Švejda) **56** #4204 65R05

Kubert, Daniel Sion (*with* Lang, Serge) Units in the modular function field. I. *Math. Ann.* **218** (1975), *no.* 1, 67–96. (S. Raghavan) **55** #10424a 12A45 (12A90, 10D05, 14G25)

(*with* Lang, Serge) Units in the modular function field. II. A full set of units. *Math. Ann.* **218** (1975), *no.* 2, 175–189. (S. Raghavan) **55** #10424b 12A45 (12A90, 10D05, 14G25)

(*with* Lang, Serge) Units in the modular function field. III. Distribution relations. *Math. Ann.* **218** (1975), *no.* 3, 273–285. (S. Raghavan) **55** #10424c 12A45 (12A90, 10D05, 14G25)

A system of free generators for the universal even ordinary $Z_{(2)}$ distribution on Q^{2k}/Z^{2k}. *Math. Ann.* **224** (1976), *no.* 1, 21–31. (S. Raghavan) **55** #2762 10D20 (14K15)

(*with* Lang, Serge) Distributions on toroidal groups. *Math. Z.* **148** (1976), *no.* 1, 33–51. (S. Raghavan) **53** #5479 10D05

Universal bounds on the torsion of elliptic curves. *Proc. London Math. Soc.* (3) **33** (1976), *no.* 2, 193–237. (J. W. S. Cassels) **55** #7910 10B15 (14G25)

(*with* Lang, Serge) Units in the modular function field. *Modular functions of one variable V* (*Proc. Second Internat. Conf., Univ. Bonn, Bonn,* 1976), *pp.* 247–275. *Lecture Notes in Math., Vol.* 601, *Springer, Berlin,* 1977. (Hiroshi Saito) **56** #11906 10D10 (12A45)

Quadratic relations for generators of units in the modular function field. *Math. Ann.* **225** (1977), *no.* 1, 1–20. (S. Raghavan) **55** #5536 10D05 (14H05)

(*with* Lang, Serge) Units in the modular function field. IV. The Siegel functions are generators. *Math. Ann.* **227** (1977), *no.* 3, 223–242. (S. Raghavan) **58** #16521 10D10

Kubesov, A. (*with* Rozenfel'd, B. A.) On the geometrical treatise of al-Farabi. *Arch. Internat. Histoire Sci.* **22** (1969), *no.* 86–87, 50. (From the authors' text) **57** #12027 01A30

al-Fārābī's treatise on geometric constructions. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn. Vyp.* 2(35) (1971), 39–40, 112, 118. (Editors) **58** #21051 01A30

★Математическое наследие аль-Фараби. (Russian) [The mathematical heritage of al-Fārābī] *Izdat. "Nauka" Kazah. SSR, Alma-Ata,* 1974. 246 *pp.* (E. S. Kennedy) **56** #2733 01A30 (01A35)

The most prominent methodologist and mathematician of the Middle Ages. (Russian) *Mat. v Škole* **1975**, *no.* 5, 83–84. (See RŽMat **1976** #7 A18) 01A35

See also **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **55** #7711 *and* **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **57** #15845

Kubiaczyk, Ireneusz (*with* Rzepecki, Bogdan) A note on contractive mappings and generalizations. II. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **18(66)** (1974), *no.* 3–4, 311–314 (1976). (B. E. Johnson) **57** #17611 54H25

(*with* Rzepecki, Bogdan) A note on contractive mappings and generalizations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 9, 743–747. (B. E. Johnson) **55** #4124 54H25 (34A10)

(*with* Rzepecki, Bogdan) A note on Smart theorem. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **20(68)** (1976), *no.* 3-4, 265–267 (1977). (R. E. Smithson) **56** #16604 54H25

Common fixed point theorems in metric spaces. *Demonstratio Math.* **9** (1976), *no.* 2, 301–306. (Benjamin Halpern) **54** #1196 54H25 (47H10)

Some fixed point theorems. *Demonstratio Math.* **9** (1976), *no.* 3, 507–515. (M. Edelstein) **56** #1289 54H25

Common fixed points of correspondences. *Funct. Approximatio Comment. Ma* (1976), 163–165. (J. S. W. Wong) **55** #11232 54H25

Kubiak, Andrzej (*with* Puchałka, Tadeusz) Improving the reliability of sequential machines. (Polish. English summary) *Studia Automat.* **3**, 5–37 (1975). (Editors) **50** #16154 94A25

Kubiak, Ewa On some aspect of renewal function over locally compact groups. (Po summary) *Bull. Soc. Sci. Lettres Łódź* **24** (1974), *no.* 13, 4 *pp.* (1975). (A. Mukhe **55** #11329 60B15 (60K05)

Kubíček, Jan A simple new solution of the Diophantine equation $A^3+B^3+C^3=$ (Czech. German summary) *Časopis Pěst. Mat.* **99** (1974), 177–178. (B. Novák) **51** #8024 10B10

Kubicek, John D. (*with* Hicks, Troy L.) Nonexpansive mappings in locally convex spa *Canad. Math. Bull.* **20** (1977), *no.* 4, 455–461. (Kok-Keong Tan) **58** #7232 47H

(*with* Hicks, Troy L.) On the Mann iteration process in a Hilbert space. *J. M Anal. Appl.* **59** (1977), *no.* 3, 498–504. (From the introduction) **58** #23802 47H

Kubíček, M. (*with* Hlaváček, V.) General parameter mapping technique—a procedure solution of non-linear boundary value problems depending on an actual parameter *Inst. Math. Appl.* **12** (1973), 287–293. (David F. Griffiths) **49** #5433 34A10 (65

(*with* Višňák, Karel) Two classes of numerical methods for stiff problems. Proceedings of the Third Conference on Basic Problems of Numerical Mathem (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys.* **15** (1974), *no.* 1-2, 63–66. Liniger) **57** #8032 65L05

Evaluation of branching points for nonlinear boundary-value problems based on GPM technique. *Appl. Math. Comput.* **1** (1975), *no.* 4, 341–352. (G. D. Byrne) **52** #16039 65L10

(*with* Holodniok, M.; Hlaváček, V.) Computation of the flow between two rota coaxial disks. *J. Fluid Mech.* **81** (1977), *no.* 4, 689–699. (Authors' summary) **56** #1 76.65

(*with* Višňák, Karel) A class of numerical methods of high order for stiff probl in ordinary differential equations. *J. Inst. Math. Appl.* **21** (1978), *no.* 3, 251– (Henning Esser) **58** #3473 65L05

Kubik, Jan Method of displacement for visco-elastic systems. (Polish. Russian and Eng summaries) *Rozprawy Inż.* **19** (1971), 97–110. (S. Drobot) **45** #8113 73.45

Kubik, K. Das Problem Slalom oder Optimale Linienführung innerhalb eines Korridors—ein nichtlineares Optimierungsproblem. *Numerische Methoden bei Optimierungsaufgaben* (*Tagung, Math. Forschungsinst., Oberwolfach,* 1971), *pp.* 91– *Internat. Schriftenreihe Numer. Math., Band* 17, *Birkhäuser, Basel,* 1973. (Klaus Lommatzsch) **52** #10055 90C50

Interpolation und uneigentliche Differentialgleichungsaufgaben. *Numerische Methoden der Approximationstheorie, Band* 2 (*Tagung, Math. Forschungsinst., Oberwolfach,* 1973), *pp.* 73–77. *Internat. Schriftenreihe Numer. Math., Band* 26, *Birkhäuser, Basel,* 1975. (From the author's introduction) **51** #14516 65D05

Kubik, Lech T. On a class of characteristic functions satisfying a differential equat *Period. Math. Hungar.* **6** (1975), *no.* 2, 185–190. (Stephen James Wolfe) **51** #141 60E05

See also **Diner, I. Ja.; et al.**, **56** #6768

Kubík, Stanislav (*with* Kotek, Zdeněk; Hrušák, Josef; Wachtl, Jaroslav; Chalupa, Vác ★Optimální systémy automatického řízení. (Czech) [Optimal automatic control systems] Teoretická Knižnice Inženýra. [Theoretical Library for the Engineer] *SNTL-Nakladatelství Technické Literatury, Prague,* 1972. 499 *pp.* (Publisher's description) **55** #2203 93–02

To the theory of nonlinear dynamic systems. *Acta Tech. ČSAV* **20** (1975), 186– (V. M. Popov) **52** #16761 93C10 (93D05)

Kubilius, J. The method of generating Dirichlet series in the theory of the distributio additive arithmetic functions. I. (Russian. Lithuanian and English summaries) *Lito Mat. Sb.* **11** (1971), 125–134. (J. Galambos) **45** #1864 10K20

(*with* Juškys, Z.) The distribution of the values of multiplicative functions. (Russ Lithuanian and German summaries) *Litovsk. Mat. Sb.* **11** (1971), 261–273. (B. No **45** #3342 10H15

Asymptotic local distribution laws for arithmetic functions. (Russian. Lithua and English summaries) *Litovsk. Mat. Sb.* **11** (1971), 809–816. (J. Galambos (Zbl 71)) **47** #6639 10K20

The method of generating Dirichlet series in the theory of the distributio additive arithmetic functions. II. (Russian. Lithuanian and English summaries) *Lito Mat. Sb.* **12** (1972), *no.* 2, 65–76, 203–204. (J. Galambos) **47** #4951 10H25 (10H 10J99, 10K10, 10K20)

(*with* Laurinčikas, A.) Large deviations of multiplicative functions. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 2, 77–86, 203. (Vinogradov) **47** #4964 10K20 (10H25)

Large deviations of additive arithmetic functions. (Russian) Collection of arti dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, *Trudy Mat. Inst. Steklov.* **128** (1972), 163–171, 260. (J. Galambos) **47** #6630 10

Questions of the distribution of arithmetic functiions. (Russian) Proceedings of International Conference on Number Theory (Moscow, 1971). *Trudy Mat. Inst. Stek* **132** (1973), 99–113, 265. (J. Galambos) **52** #10656 10K20

Probabilistic methods in the theory of the distribution of arithmetic functi (Russian) *Current problems of analytic number theory* (*Proc. Summer School, Mi* 1972) (*Russian*), *pp.* 81–118, 271. *Izdat. "Nauka i Tehnika", Minsk,* 1974. (J. Galam **52** #10657 10K20

On an inequality for additive arithmetic functions. Collection of articles in mem of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 371–383. (G. Jogesh Babu) **51** #3105 10K20

Additive arithmetic functions and Brownian motion. *Proceedings of the T Japan-USSR Symposium on Probability Theory* (*Tashkent,* 1975), *pp.* 335–350. *Lec Notes in Math., Vol.* 550, *Springer, Berlin,* 1976. (Gutti J. Babu) **55** #7977 10K2

See also **Collection: Vinogradov, I. M.**, **49** #7050 *and* **Proceedings: Internatio Conference on Number Theory**, **51** #5463

Kubincev, G. M. (*with* Taran, V. A.) The problem of automatic matching of plane ima I. *Avtomat. i Telemeh.* **1974**, *no.* 1, 82–89 (*Russian*); *translated as Automat. Rem*

Control **35** (1974), *no.* 1, *part* 1, 74–83. (Authors' summary) **58** #3768a 68A45

(*with* Taran, V. A.) The problem of automatic matching of plane images. II. *Avtomat. i Telemeh.* **1974**, *no.* 2, 37–45 (*Russian*); *translated as Automat. Remote Control* **35** (1974), *no.* 2, *part* 1, 203–210. (Authors' summary) **58** #3768b 68A45

Kubinec, M. V. Recognition of the self-intersection of a plane trajectory by Kolomogorov's algorithm. (Russian. English summary) Investigations in constructive mathematics and mathematical logic, V. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **32** (1972), 35–44, 154; *errata, ibid.* **40** (1974), 161. (M. Tetruašvili) **49** #8830 02F15 (68A15)

Kubinov, A. N. *See* **Collection: Al'muhamedov, M. I., 50** #1795

Kubintsev, G. M. *See* **Kubincev, G. M.**

Kubitz, William J. (*with* Stenzel, William J.; Garcia, Gilles H.) A compact high-speed parallel multiplication scheme. *IEEE Trans. Computers* **C-26** (1977), *no.* 10, 948–957. (M. Tetruašvili) **57** #1963 68A10 (94A20)

Kublanova, E. M. Triangular polynomial groups. (Russian) Certain questions of group theory (Proc. Algebra Sem., No. 2, Riga, 1969/1970). *Latvijas Valsts Univ. Zinātn. Raksti* **151** (1971), 79–103. (J. Wiegold) **46** #7393 20F25

Dimension subgroups and their generalizations. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 554–561. (G. M. Bergman) **58** #897 20E10

(*with* Plotkin, B. I.; Dididze, C. E.) Varieties of automata. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 6, 1284–1287. (H. Jürgensen) **52** #14124 20M35 (94A30)

Semidirect products that are connected with stable representations of groups. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 18 (1976), 100–109, 222. (*loose erratum*) (Author's summary) **58** #22302 20E10 (20C20)

(*with* Plotkin, B. I.; Dididze, C. E.) Varieties of automata. I. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 1, 47–54. (André Lentin) **58** #33600a 94A30 (08A15, 20M35, 68A25)

(*with* Plotkin, B. I.; Dididze, C. E.) Varieties of automata. II. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no.* 3, 16–24. (André Lentin) **58** #33600b 94A30 (08A15, 20M35, 68A25)

Kublanovskaja, V. N. A certain approach to the solution of the inverse eigenvalue problem. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **18** (1970), 138–149. (B. V. Loginov) **46** #4701 65F15 (47A55)

Application of orthogonal transformations to the solution of nonlinear systems. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **23** (1971), 53–71. (J. Segethová) **46** #4712 65H10

Application of the normalized process to the solution of the inverse problem of matrix eigenvalues. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **23** (1971), 72–83. (J. Segethová) **46** #4702 65F15

(*with* Hazanov, V. B.) A certain inverse problem of matrix eigenvalues. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **23** (1971), 84–93. (J. Segethová) **46** #4703 65F15

Application of the orthogonal transformations to the solution of one extremal problem. *Information processing* 71 (*Proc. IFIP Congr., Ljubljana*, 1971), *Vol.* 2: *Applications*, *pp.* 1311–1316. *North-Holland, Amsterdam*, 1972. (Author's summary) **56** #17073 65K05

Application of a normalized process to the solution of linear algebraic systems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1091–1098, 1363. (J. Segethová) **48** #5353 65F10

Newton's method for the determination of the eigenvalues and eigenvectors of a matrix. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1371–1380, 1627. (J. Segethová) **48** #5356 65F15

Two-sided approximations in the algorithms *LR* and *QR*. (Russian) *Numerical methods of linear algebra* (*Proc. Third All-Union Conf., Novosibirsk*, 1973) (*Russian*), *pp.* 15–22. *Vyčisl. Centr Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1973. (F. Szidarovszky) **55** #4630 65F15

A normalized scheme for the square root method, and its application to the solution of certain algebra problems. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **35** (1973), 56–66. (F. Szidarovszky) **48** #12796 65F15

On the solution of a nonlinear problem of matrix eigenvalues. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **35** (1973), 67–74. (F. Szidarovszky) **48** #12797 65F15

(*with* Savinov, G. V.; Smirnova, T. N.) On the solution of problems with sparse matrices. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **35** (1973), 75–94. (F. Szidarovszky) **49** #1749 65F05

Application of the normalized decomposition to the solution of the partial matrix eigenvalue problem. (Russian) Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys.* **15** (1974), *no.* 1-2, 67–78. (J. Segethová) **52** #9589 65F30

On the solution of an additive problem for the eigenvalues of a matrix. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **48** (1974), 12–17, 212. (Murli M. Gupta) **51** #9455 65F15

On the solution of linear algebraic systems. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 6, 1578–1579, 1629. (J. Segethová) **58** #13663 65F20

(*with* Kon'kova, T. Ja.; Savinova, L. T.) On the solution of a nonlinear spectral problem for a matrix. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **58** (1976), 54–66, 160. (A. S. Householder) **57** #7973 65F15

(*with* Kon'kova, T. Ja.) Two-sided approximations in the *LR* algorithm. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **58** (1976), 67–71, 160. (From the authors' text) **58** #3361 65F15 (65–04)

(*with* Mihaĭlov, V. B.; Hazanov, V. B.) On the eigenvalue problem of a nonregular λ-matrix. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **58** (1976), 80–92, 161. (Authors' summary) **57** #18053 65F15

(*with* Smirnova, T. N.; Hazanov, V. B.) On the solution of the eigenvalue problem of sparse matrices. (Russian) Numerical methods and automatic programming. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov* (*LOMI*) **58** (1976), 92–110, 161. (G. F. Miller) **58** #19075 65F15

Analysis of singular pencils of matrices. (Russian) Numerical methods and questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **70** (1977), 89–102, 291. (Author's summary) **58** #19081 65F30

(*with* Kon'kova, T. Ja.) Solution of the eigenvalue problem for a regular pencil $\lambda A_0 - A_i$ with singular matrices. (Russian) Numerical methods and questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **70** (1977), 103–123, 291. (Authors' summary) **58** #24884 65F15

(*with* Savinova, L. T.) On the solution of matrix eigenvalue problems. (Russian) Numerical methods and questions on organization of computations. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **70** (1977), 124–139, 291–292. (Authors' summary) **58** #19076 65F15

On the solution of the spectral problem for a singular pencil of matrices. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 4, 1056–1060, 1071. (Author's summary) **58** #24889 65F30

See also **Automatic programming and numerical methods of analysis, 46** #8464; **Numerical methods and automatic programming, 48** #7522; **Numerical methods and functional analysis, 49** #6540 *and* **Numerical methods and questions on organization of computations, 56** #9898

Kublanovskiĭ, S. I. Separative semigroups. (Russian) *Modern algebra, No.* 5 (*Russian*), *pp.* 75–87. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1976. (Jan Chvalina) **58** #6008 20M10

Kubli, F. *See* **Louis de Broglie: sa conception du monde physique, 52** #13119

Kubli, Hans Ulrich ★Galois-Theorie für unendliche, rein-inseparable Körpererweiterungen vom Exponenten 1. Abhandlung zur Erlangung der Würde eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich. Diss. No. 4527. *Eidgenössische Technische Hochschule Zürich, Zurich*, 1971. 25 *pp.* (G. Frei-Imfeld) **49** #2686 12F15

Kubo, Fujio On an infinite-dimensional Lie algebra satisfying the maximal condition for subalgebras. *Hiroshima Math. J.* **6** (1976), *no.* 3, 485–487. (I. Stewart) **54** #10363 17B65

On infinite-dimensional algebras satisfying the maximal condition for subalgebras. *Hiroshima Math. J.* **7** (1977), *no.* 1, 287–289. (I. Stewart) **55** #3019 17B65

A note on Witt algebras. *Hiroshima Math. J.* **7** (1977), *no.* 2, 473–477. (Ralph K. Amayo) **57** #394 17B65

Finiteness conditions for Abelian ideals and nilpotent ideals in Lie algebras. *Hiroshima Math. J.* **8** (1978), *no.* 2, 301–303. (Ralph K. Amayo) **58** #814 17B65 (17B30)

Kubo, Fumio (*with* Fujii, Masatoshi) Operator norms as bounds for roots of algebraic equations. *Proc. Japan Acad.* **49** (1973), 805–808. (F. Szidarovszky) **51** #565 15A60

(*with* Tamaki, Kazuhiro) Contractive mappings and projections among operator algebras. *Math. Japon.* **19** (1974), *no.* 3, 247–250. (John B. Conway) **55** #8820 46L15

On theorems of Phelps, Russo and Dye. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon.* **20** (1975), *special issue*, 69–71. (Richard I. Loebl) **52** #15028 46L05

On decompositions of linear mappings among operator algebras. *Proc. Japan Acad.* **51** (1975), 113–116. (Ş. Strătilă) **51** #13711 46L10

On algebraically definite operators. *Math. Japon.* **21** (1976), *no.* 1, 23–35. (Zbl **343** #47025) **58** #23743 47B50 (47A65)

(*with* Fujii, Masatoshi; Kajiwara, Mitsuharu; Kato, Yoshinobu) Decompositions of operators in Hilbert spaces. *Math. Japon.* **21** (1976), *no.* 2, 117–120. (Bernard B. Morrel) **54** #11088 47A65

(*with* Matsumoto, Kyoko) Equivalences of operator representations of semigroups. III. *Math. Japon.* **21** (1976), *no.* 4, 377–380. (J. A. Goldstein) **56** #1131 47D05

See also **Kato, Yoshinobu; et al., 58** #23744

Kubo, Horoshi (*with* Okino, Norio) A solution for large-scale traveling salesman problems. (Japanese. English summary) *J. Operations Res. Soc. Japan* **19** (1976), *no.* 4, 272–285. (Authors' summary) **56** #2291 90B10

Kubo, Izumi Ergodicity of the dynamical system of a particle on a domain with irregular walls. *Proceedings of the Second Japan-USSR Symposium on Probability Theory* (*Kyoto*, 1972), *pp.* 287–295. *Lecture Notes in Math., Vol.* 330, *Springer, Berlin*, 1973. (L. A. Bunimović) **56** #8809 28A65

(*with* Muratâ, Harvo; Totoki, Haruo) On the isomorphism problem for endomorphisms of Lebesgue spaces. I, II, III. *Publ. Res. Inst. Math. Sci.* **9** (1973/74), 285–296; *ibid.* **9** (1973/74), 297–303; *ibid.* **9** (1973/74), 305–317. (Nathaniel Friedman) **49** #5303 (EA **50**) 28A65

The ergodicity of the motion of a particle in a potential field. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto*, 1975), *pp.* 230–235. *Lecture Notes in Phys.*, 39. *Springer, Berlin*, 1975. (U. D'Ambrosio (Zbl **325** #28018)) **58** #32197 70.58 (58F15)

The motion of disks in a torus. *International Conference on Dynamical Systems in Mathematical Physics* (*Rennes*, 1975), *pp.* 113–116. *Astérisque, No.* 40, *Soc. Math. France, Paris*, 1976. (J. S. Joel) **56** #6750 58F15 (28A65)

Perturbed billiard systems. I. The ergodicity of the motion of a particle in a compound central field. *Nagoya Math. J.* **61** (1976), 1–57. (L. A. Bunimovič) **55** #6486 58F15 (28A65)

Kubo, Noboru (*with* Tsukiyama, Shuji; Shirakawa, Isao; Ariyoshi, Hiromu) An algorithm for finding a maximal cut. *Electron. Comm. Japan* **60** (1977), *no.* 4, 30–37. (Narsingh Deo) **58** #13888 68A10 (68A20, 94A20)

Kubo, Reijiro *See* **Zav'jalov, O. I., 58** #25456

Kubo, Ryogo Non-linear relaxation and fluctuation of macrovariable. *Proceedings of the International Symposium on Statistical Physics* (*Calcutta*, 1974), *pp.* 27–38. *S. N. Bose Inst. Physical Sciences, Calcutta*, 1974. (From the text) **58** #4136 82.60

Response, relaxation and fluctuation. *Transport phenomena* (*Sitges Internat. School Statist. Mech., Sitges*, 1974), *pp.* 74–124. *Lecture Notes in Phys., Vol.* 31, *Springer, Berlin*, 1974. (D. ter Haar) **53** #7330 82.60

Relaxation and fluctuation of macrovariables. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ*., *Kyoto*, 1975), *pp*. 274–280. *Lecture Notes in Phys*., 39. *Springer*, *Berlin*, 1975. (Editors) **58** #32704 82.60

(*with* Saito, Yukio) Nonlinearity in cooperative systems—dynamical Bethe-Ising model. *J. Statist. Phys*. **15** (1976), *no*. 3, 233–253. (Authors' summary) **58** #9021 82.60

(*with* Takagahara, Toshihide; Hanamura, Eiichi) Stochastic models of intermediate state interaction in second order optical processes–transient response. *J. Phys. Soc. Japan* **43** (1977), *no*. 5, 1522–1532. (Authors' summary) **57** #2209 78.60

Kubo, Sadato (*with* Namiki, Mikio; Ohba, Ichiro) Soliton solutions of coupled field equations and suggestion of the "soliton bag" in dynamical particle model. *Progr. Theoret. Phys*. **55** (1976), *no*. 3, 860–875. (Wolfgang Lücke) **53** #9956 81.35

Kubo, Tadao (*with* Murazawa, Tadashi) Resolvability of Dirichlet problem on harmonic spaces. *Tech. Rep. Osaka Univ*. **19** (1969), 277–284. (N. Boboc) **50** #4994 31D05

(*with* Ohnaka, Kohzaburo; Yasui, Hiroshi) An automatic error estimation method in numerical calculation. *Tech. Rep. Osaka Univ*. **25** (1975), *no*. 1254-1275, 257–265. (Ramon E. Moore) **56** #13586 65G05

(*with* Inoue, Tetsuo) Extremal ring domain bounded by quasiconformal curves. *Tech. Rep. Osaka Univ*. **25** (1975), *no*. 1254–1275, 267–275. (Donald K. Blevins) **56** #5875 30A60

(*with* Inoue, Tetsuo) Extremal ring domain bounded by quasiconformal curves. II. *Tech. Rep. Osaka Univ*. **27** (1977), *no*. 1364–1393, 291–297. (Donald K. Blevins) **57** #6387 30A24

Kubo, Yoshiko Invariant submanifolds of codimension 2 of a manifold with (F, G, u, v, λ)-structure. *Kōdai Math. Sem. Rep*. **24** (1972), 50–61. (G. D. Ludden) **46** #8118 53C15

A characterization of the almost **O*-manifold. *Kōdai Math. Sem. Rep*. **24** (1972), 270–276. (R. Miron) **47** #7635 53B35

Vector fields in a metric manifold with torsion and boundary. *Kōdai Math. Sem. Rep*. **24** (1972), 383–395. (E. Bompiani) **48** #1099 53C20

Kaehlerian manifolds with vanishing Bochner curvature tensor. *Kōdai Math. Sem. Rep*. **28** (1976), *no*. 1, 85–89. (J. R. Vanstone) **54** #13813 53C55

Kubokawa, Yoshihiro *See* **Hasegawa, Shigeru**

Kubokawa, Yoshihiro Finite and infinite invariant measures for a measurable transformation. *Ann. Inst. Statist. Math*. **21** (1969), 185–193. (O. P. Stackelberg (Zbl **184**, 210)) **45** #7019 28A65

Remarks on finite invariant measures for one-parameter group of measurable transformations. *Ann. Inst. Statist. Math*. **21** (1969), 195–200. (O. P. Stackelberg (Zbl **184**, 210)) **45** #7018 28A65

A pointwise ergodic theorem for positive bounded operator. *Proc. Japan Acad*. **48** (1972), 458–460. (C. L. Scheffer) **48** #8752 28A65

A general local ergodic theorem. *Proc. Japan Acad*. **48** (1972), 461–465. (Michael Lin) **48** #6365 28A65

A local ergodic theorem for semi-group on L_p. *Tôhoku Math. J*. (2) **26** (1974), 411–422. (U. Krengel) **50** #4892 28A65

Ergodic theorems for contraction semi-groups. *J. Math. Soc. Japan* **27** (1975), 184–193. (U. Krengel) **53** #1303 47A35 (28A65)

Kubota, Hitoshi (*with* Nishida, Toshio) Optimal allocation of service rates for correlated two-server queue with general input. Collection of articles dedicated to Tatsujiro Shimizu on the occasion of his 77th birthday. *Math. Japon*. **20** (1975), *special issue*, 161–170. (Peter J. Brockwell) **53** #11800 60K25

Kubota, Kazuji Ample sheaves. *J. Fac. Sci. Univ. Tokyo Sect. I A Math*. **17** (1970), 421–430. (T. Oda) **45** #1931 14F05

Unramified pairs over a pair. *Mem. Defense Acad*. **11** (1971), 1–7. (S. L. Kleiman) **46** #9045a 14E20 (13D99)

Etale pairs over a pair. *Mem. Defense Acad*. **11** (1971), 9–13. (S. L. Kleiman) **46** #9045b 14E20 (13D99)

A note on radical extensions of rings. *Mem. Defense Acad*. **16** (1976), *no*. 3, 75–80. (R. E. MacRae) **55** #331 13B99

Remarks on the radicial closure of a subring. *Mem. Defense Acad*. **16** (1976), *no*. 4, 127–132. (B. J. Gardner) **56** #337 13B99

Kubota, Kenneth K. Multiplicities of second order linear recurrences. *Proceedings of the Number Theory Conference* (*Univ. Colorado*, *Boulder*, *Colo*., 1972), *pp*. 114–116. *Univ. Colorado*, *Boulder*, *Colo*., 1972. (Heiko Harborth) **52** #13618 10A35

(*with* Alter, Ronald; Curtz, Thaddeus B.) Remarks and results on congruent numbers. *Proceedings of the Third Southeastern Conference on Combinatorics*, *Graph Theory and Computing* (*Florida Atlantic Univ*., *Boca Raton*, *Fla*., 1972), *pp*. 27–35. *Florida Atlantic Univ*., *Boca Raton*, *Fla*., 1972. (E. L. Cohen) **50** #2047 10–04 (10B05)

Pythagorean triples in unique factorization domains. *Amer. Math. Monthly* **79** (1972), 503–505. (J. B. Kelly) **45** #6742 10A40

Note on a conjecture of W. Narkiewicz. *J. Number Theory* **4** (1972), 181–190. (C. G. Wagner) **46** #9007 12A99

Factors of polynomials under composition. *J. Number Theory* **4** (1972), 587–595. (D. J. Lewis) **58** #27922 12E05

(*with* Eakin, Paul M.) A note on the uniqueness of rings of coefficients in polynomial rings. *Proc. Amer. Math. Soc*. **32** (1972), 333–341. (J. W. Brewer) **45** #6815 13B25

Image sets of polynomials. *Acta Arith*. **23** (1973), 183–194. (W. Narkiewicz) **48** #8459 12E05 (12E10, 14H99)

(*with* Alter, Ronald) Prime and prime power divisibility of Catalan numbers. *J. Combinatorial Theory Ser. A* **15** (1973), 243–256. (H. Gupta) **48** #3867 10A40

(*with* Alter, Ronald) The diophantine equation $x^2+D=p^n$. *Pacific J. Math*. **46** (1973), 11–16. (E. L. Cohen) **48** #2063 10B15

(*with* Alter, Ronald) Multiplicities of second order linear recurrences. *Trans. Amer. Math. Soc*. **178** (1973), 271–284. (R. R. Laxton) **56** #235a 10A35 (10B05)

(*with* Alter, Ronald) The Diophantine equation $x^2+11=3^n$ and a related sequence. *J. Number Theory* 7 (1975), 5–10. (E. L. Cohen) **51** #344 10B05

An application of Kronecker's theorem to transcendence theory. *Séminaire de Théorie des Nombres*, 1975–1976 (*Univ. Bordeaux I*, *Talence*), *Exp. No*. 25, 10 *pp*. *Lab. Théorie des Nombres*, *Centre Nat. Recherche Sci*., *Talence*, 1976. (A. J. van der Poo n) **56** #273 10F35

(*with* Liardet, Pierre) Réfutation d'une conjecture de W. Narkiewicz. (En h summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no*. 22, Ai, A1261–A1264. W. Narkiewicz) **54** #12725 12E05

Algebraic independence of the numbers $\Pi_{K=0}^{\infty}(1-p^{-2^K})$ with p prime. *Sémi re Delange-Pisot-Poitou*, 17*e année* (1975/76), *Théorie des nombres*: *Fasc*. 1, *Exp. No*. 9 *pp*. *Secrétariat Math*., *Paris*, 1977. (John H. Loxton) **58** #21959 10F35

Linear functional equations and algebraic independence. *Transcendence th*: *advances and applications* (*Proc. Conf*., *Univ. Cambridge*, *Cambridge*, 1976), *pp*. 227– 9. *Academic Press*, *London*, 1977. (R. Wallisser) **57** #16220 10F35

On a conjecture of Morgan Ward. I. *Acta Arith*. **33** (1977), *no*. 1, 11–28. (R. Laxton) **56** #235b 10A35 (10B05)

On a conjecture of Morgan Ward. II. *Acta Arith*. **33** (1977), *no*. 1, 29–48. (R. Laxton) **56** #235c 10A35 (10B05)

On a conjecture of Morgan Ward. III. *Acta Arith*. **33** (1977), *no*. 2, 99–109. (R. Laxton) **56** #235d 10A35 (10B05)

(*with* Brownawell, W. Dale) The algebraic independence of Weierstrass func s and some related numbers. *Acta Arith*. **33** (1977), *no*. 2, 111–149. (D. W. Ma r) **56** #2932 10F35 (12H05)

On a transcendence problem of K. Mahler: "Remarks on a paper by W. Schw " (J. Number Theory **1** (1969), 512–521). *Canad. J. Math*. **29** (1977), *no*. 3, 638–64 S. Chowla) **58** #16549 10F35

On the algebraic independence of holomorphic solutions of certain functi al equations and their values. *Math. Ann*. **227** (1977), *no*. 1, 9–50. (John H. Lox) **58** #16548 10F35 (39A15)

Kubota, Kôji Remarks on boundary value problems for hyperbolic equations. *Hokk o Math. J*. **2** (1973), 202–213. (J. B. Rauch) **48** #4522 35L30

A characterization of L^2-well posedness for iterations of hyperbolic mixed prob s of second order. *Proc. Japan Acad*. **52** (1976), *no*. 9, 492–495. (Maria Cinquini-Cibra) **55** #8568 35L20

Remarks on L^2-well posedness of mixed problems for hyperbolic systems. *Hokkaido Math. J*. **6** (1977), *no*. 1, 74–101. (M. S. Agranovič) **55** #10863 35L5

(*with* Ohkubo, Toshio) On well posedness of mixed problems for Maxwell's equations. *Hokkaido Math. J*. **7** (1978), *no*. 1, 142–168. (Maria Cinquini-Cibra) **58** #23110 35L50

Kubota, R. M. Waring's problem for $\mathbf{F}_q[x]$. *Dissertationes Math*. (*Rozprawy Mat*.) (1974), 60 *pp*. (F. Dress) **51** #12756 10J05

Kubota, Tomio The reciprocity law and real analysis. (Japanese) *Sûgaku* **22** (1970), *n* , 241–251. (T. Ono) **57** #9671 12A65 (10D20)

Some results concerning reciprocity and functional analysis. *Actes du Co s International des Mathématiciens* (*Nice*, 1970), *Tome* 1, *pp*. 395–399. *Gauthier-Vi r*, *Paris*, 1971. (Stephen Gelbart) **55** #2758 10D15 (10C15, 12A65)

Some results concerning reciprocity law and real analytic automorphic functi . 1969 *Number Theory Institute* (*Proc. Sympos. Pure Math*., *Vol. XX*, *State Univ. w York*, *Stony Brook*, *N.Y*., 1969), *pp*. 382–395. *Amer. Math. Soc*., *Providence*, *R.I*., 1. (J. Lehner) **49** #4976 12A65 (10–02, 32N15)

Some number-theoretical results on real analytic automorphic forms. *Several Complex Variables*, *II* (*Proc. Internat. Conf*., *Univ. Maryland*, *College Park*, *Md*., 1), *pp*. 87–96. *Lecture Notes in Math*., *Vol*. 185, *Springer*, *Berlin*, 1971. (F. van der) **47** #3320 10D20 (10H35, 12A70)

On Eisenstein series. (Japanese) *Sûgaku* **24** (1972), *no*. 1, 39–50. **58** #277 10D15 (22E45)

★Elementary theory of Eisenstein series. *Kodansha Ltd*., *Tokyo*; *Halsted* [*John Wiley & Sons*], *New York-London-Sydney*, 1973. xi + 110 *pp*. (Audrey A. Te) **55** #2759 10D15 (22E45, 32N10)

On an analogy to the Poisson summation formula for generalized Fourier transformation. Collection of articles dedicated to Helmut Hasse on his seventy- birthday, II. *J. Reine Angew. Math*. **268/269** (1974), 180–189. (F. van der Blij) **50** #4539 12A65 (10A15, 12A85)

A generalized Weil type representation and a function analogous to e^{-x^2}. *Amer. Math. Soc*. **81** (1975), *no*. 5, 902–903. (Stephen Gelbart) **52** #10957 22E

A complex Airy integral. *Nagoya Math. J*. **61** (1976), 113–116. (Audrey A. Ter) **53** #13677 33A40

On a generalized Weil type representation. *Algebraic number theory* (*Kyoto Inte Sympos*., *Res. Inst. Math. Sci*., *Univ. Kyoto*, *Kyoto*, 1976), *pp*. 117–128. *Japan Promotion Sci*., *Tokyo*, 1977. (Stephen Gelbart) **56** #12184 22E50 (10D15)

On a generalized Fourier transformation. *J. Fac. Sci. Univ. Tokyo Sect. IA M* **24** (1977), *no*. 1, 1–10. (T. Ono) **56** #5438 10D99 (12A65, 22E55, 42A68)

On modular forms of integer weight for discontinuous groups. (Japanese) *Sûg* **29** (1977), *no*. 3, 195–203. (Hiroshi Saito) **58** #515 10D10

See also **Mathematics: Periodical collection of translations of foreign articles,** **50** #12531 (EA **58**)

Kubota, Yoshihisa (*with* Ozawa, Mitsuru) Bieberbach conjecture for the eighth coeffici *Kōdai Math. Sem. Rep*. **24** (1972), 331–382. (V. Linis) **47** #5246 30A34

(*with* Kato, Takao) A note on analytic self-mappings. *Kōdai Math. Sem. Rep* (1973), 104–110. (Ian Richards) **50** #5033 32H25 (30A50, 30A60)

(*with* Ozawa, Mitsuru) Bieberbach conjecture for the eighth coefficient. II. *K Math. Sem. Rep*. **25** (1973), 257–288. (V. Linis) **48** #4298 30A34

On extremal problems which correspond to algebraic univalent functions. *K Math. Sem. Rep*. **25** (1973), 412–428. (T. Giec) **49** #563 30A40

A coefficient inequality for certain meromorphic univalent functions. *Kōdai M Sem. Rep*. **26** (1974/75), 85–94. (F. R. Keogh) **51** #5915 30A34

On the fourth coefficient of meromorphic univalent functions. *Kōdai Math. S Rep*. **26** (1974/75), 267–288. (J. G. Krzyż) **52** #732 30A34

Coefficients of meromorphic univalent functions. *Kōdai Math. Sem. Rep*. **28** (1976/77), *no*. 2–3, 253–261. (L. A. Aksent'ev) **55** #10658 30A34

A remark on the third coefficient of meromorphic univalent functions. *Kōdai M Sem. Rep*. **29** (1977), *no*. 1–2, 197–206. (V. Linis) **57** #6401 30A34

Kubota, Yôto An approximately continuous Perron integral. *Canad. Math. Bull*. **14** (19

261–263. (H. Burkill) **47** #2010 26A24 (26A39)

A constructive definition of the approximately continuous Denjoy integral. *Canad. Math. Bull.* **15** (1972), 103–108. (W. D. L. Appling) **47** #6960 26A39

An integral with basis and its application to trigonometric series. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 5 (1973), 1–8. (H. Burkill) **48** #8707 26A39

On Romanovski's general Denjoy integral. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 8 (1976), 17–22. (Cheng-Ming Lee) **58** #11271 26A39

Some theorems on the approximately continuous Denjoy integral. *Math. Japon.* **22** (1977), *no.* 3, 289–293. (Cheng-Ming Lee) **57** #3331 26A39

Kubrak, V. K. (*with* Korobeĭnik, Juriĭ F.) The existence of particular solutions of a differential equation of infinite order with prescribed growth. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 9(136), 36–45. (C. Tanaka) **48** #6417 30A66 (34A20)

The growth of particular solutions of a differential equation of infinite order. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 1130–1133, 1159. (K. Seitz) **48** #11644 34A35

The growth of particular solutions of a differential equation of infinite order. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk.* **1977**, *no.* 1, 5–7, 116. (Author's summary) **58** #11582 34A35

Kubrusly, Carlos S. (*with* Curtain, Ruth F.) Identification of noisy distributed parameter systems using stochastic approximation. *Internat. J. Control* **25** (1977), *no.* 3, 441–455. (V. N. Igolkin) **56** #11383 93E10

Distributed parameter system identification: a survey. *Internat. J. Control* **26** (1977), *no.* 4, 509–535. (Shinzo Kitamura) **57** #2681 93C20 (93B30)

Applied stochastic approximation algorithms in Hilbert space. *Internat. J. Control* **28** (1978), *no.* 1, 23–31. (Vladimir Katkovnik) **58** #26440 93E10

Kucenko, È. N. On the theory of semifields of the second kind. (Russian) *Taškent. Politehn. Inst. Naučn. Trudy* (*N.S.*) *No.* 56 (1970), 37–39. (See RŽMat **1971** #4 A461) 54H99

(*with* Koševnikova, I. G.) On the definition of Hilbert spaces over semifields. (Russian) *Taškent. Politehn. Inst. Naučn. Trudy* (*N.S.*) *No.* 56 (1970), 40–44. (See RŽMat **1971** #4 B634) 46C05

(*with* Koševnikova, I. G.) The pseudo-quasimetrization of topogeneous structures. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), 363–367, 392. (Á. Császár) **52** #6632 54A15

(*with* Koševnikova, I. G.) A certain connection between quasiuniform and quasiproximity structures. (Russian) *Taškent. Gos. Univ. Naučn. Trudy No.* 418 *Voprosy Mat.* (1972), 368–374, 392. (Á. Császár) **52** #6633 54A15 (54E05)

(*with* Koševnikova, I. G.) Some properties of the proximity relation on convergence spaces. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 460 *Voprosy Mat.* (1974), 71–73, 175. (Roman Frič) **54** #8578 54E05 (54A20)

(*with* Antonovskiĭ, M. Ja.) A remark on the theory of discrete spaces. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 490 *Voprosy Matematiki* (1976), 51–61, 262. (Authors' summary) **57** #13854 54D35

Kucenko, L. V. (*with* Fedorenko, Ju. D.) Certain iteration methods for the solution of nonlinear functional equations in B-spaces. (Russian) *Studies in contemporary problems of summability and approximation of functions, and their applications* (*Russian*), *pp.* 146–151. *Dnepropetrovsk. Univ., Dnepropetrovsk*, 1972. (P. P. Zabreĭko) **54** #8370 47H15 (65J05)

(*with* Fedorenko, Ju. D.) Some iteration processes for the minimization of functionals and the solution of nonlinear equations. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 26 (1975), 166–175, 181. (Authors' summary) **57** #18077 65J05

Kučer, N. A. (*with* Antoncev, S. N.) The Poincaré problem with discontinuous coefficients of the boundary condition for a quasilinear elliptic equation. (Russian) *Dinamika Splošn. Sredy Vyp.* 5 (1970), 118–124. (Editors) **57** #874 35J65

The Riemann-Hilbert problem for an elliptic system of equations with a degenerate boundary condition matrix. (Russian) *Dinamika Splošn. Sredy Vyp.* 10 (1972), 54–69, 246. (From the author's text) **56** #12584 35J55 (30A88)

The solvability of the mixed problem for a certain system of equations of gas dynamics. (Russian) *Dinamika Splošn. Sredy Vyp.* 11 (1972), 44–57, 123. (Author's summary) **56** #10374 76.35

The Riemann-Hilbert boundary value problem for a class of nonlinear elliptic systems on the plane. (Russian) *Dinamika Splošn. Sredy Vyp.* 18 *Dinamika Židkost. so Svobod. Granicami* (1974), 238–242, 255. (T. Styś) **57** #3627 35J55

Kučera, Adolf (*with* Korvas, Zdeněk) Some methods for a fault-safe digital network design. (Czech and Russian summaries) *Information Processing Machines* **17** (1974), 123–149. (W.-K. Chen) **50** #16131 94A20

Kučera, Antonin Locally convex topologies of finite-dimensional constructive spaces. (Russian) *Theory of algorithms, and mathematical logic* (*dedicated to A. A. Markov on the occasion of his seventieth birthday*) (*Russian*), *pp.* 71–86, 214. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1974. (E. Mendelson) **53** #12900 02E05 (46A05)

The algorithmic nonapproximability of the least upper bounds of constructive pseudosections. (Russian) *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 3, 445–453. (V. Ja. Kreĭnovič) **57** #9508 02E99 (02F25)

(*with* Kušner, B. A.) A type of recursive isomorphism of certain concepts of constructive analysis. (Russian) *Comment. Math. Univ. Carolinae* **19** (1978), *no.* 1, 97–105. (Cristian Calude) **58** #173 02E15 (02F20)

Kučera, Jan On multipliers of temperate distributions. *Czechoslovak Math. J.* **21(96)** (1971), 610–618. (C. W. Swartz) **45** #2468 46F10

On representation of temperate distributions. *Czechoslovak Math. J.* **22(97)** (1972), 191–194. (C. W. Swartz) **47** #2355 46F05

(*with* McKennon, K.) Certain topologies on the space of temperate distributions and its multipliers. *Indiana Univ. Math. J.* **24** (1974/75), 773–775. (C. W. Swartz) **50** #10810 46F05

Fractional spaces of temperate distribution. *Fractional calculus and its applications* (*Proc. Internat. Conf., Univ. New Haven, West Haven, Conn.*, 1974), *pp.* 249–255. *Lecture Notes in Math., Vol.* 457, *Springer, Berlin*, 1975. (Author's summary) **58** #30181 46F10 (26A33)

Extension of the L. Schwartz space $\mathcal{O}_M$ of multipliers of temperate distributions. *J. Math. Anal. Appl.* **56** (1976), *no.* 2, 368–372. (J. L. B. Cooper) **54** #5826 46F05

(*with* McKennon, K.) The topology on certain spaces of multipliers of temperate distributions. *Rocky Mountain J. Math.* **7** (1977), *no.* 2, 377–383. (Henri Mascart) **55** #13237 46F05

(*with* McKennon, K.) Bounded sets in inductive limits. *Proc. Amer. Math. Soc.* **69** (1978), *no.* 1, 62–64. (J. Dieudonné) **57** #3875 46M10 (46A05)

Kučera, Jaroslav *See* **Quantitative sociology, 56** #2480

Kučera, Luděk (*with* Chvátal, Václav; Hell, Pavol; Nešetřil, Jaroslav) Every finite graph is a full subgraph of a rigid graph. *J. Combinatorial Theory Ser. B* **11** (1971), 284–286. (H. V. Kronk) **45** #3227 05C99

Every category is a factorization of a concrete one. *J. Pure Appl. Algebra* **1** (1971), *no.* 4, 373–376. (H. Gonshor) **45** #8596 18B15

(*with* Pultr, Aleš) On a mechanism of choosing morphisms in concrete categories. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 263–265. *Academia, Prague*, 1972. (Editors) **50** #2291 18A20

(*with* Pultr, Aleš) The category of compact Hausdorff spaces is not algebraic if there are too many measurable cardinals. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 267–269. *Academia, Prague*, 1972. (Editors) **50** #4690 18B05

(*with* Pultr, Aleš) On a mechanism of defining morphisms in concrete categories. (French summary) *Cahiers Topologie Géom. Différentielle* **13** (1972), 397–410, 443. (J. Sonner) **52** #13983 18B05

(*with* Pultr, Aleš) Non-algebraic concrete categories. *J. Pure Appl. Algebra* **3** (1973), 95–102. (R. Fritsch) **49** #375 18B15

On universal concrete categories. *Algebra Universalis* **5** (1975), *no.* 2, 149–151. (D. Pumplün) **53** #8187 18B99 (04A05)

Expected behavior of graph coloring algorithms. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 447–451. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (R. C. Read) **58** #334 05C15

Kučera, Milan Hausdorff measures of the set of critical values of functions of the class $C^{k,\lambda}$. *Comment. Math. Univ. Carolinae* **13** (1972), 333–350. (L. C. Young) **46** #4551 49F99 (28A75, 57D70)

Morse-Sard theorem for functions from the class C^k, α. *Theroy of nonlinear operators* (*Proc. Summer School, Babylon*, 1971), *pp.* 57–60. *Academia, Prague*, 1973. (Editors) **52** #4338 58E05 (47H15)

(*with* Fučík, Svatopluk; Souček, Jiří; Souček, Vladimír) Topics in nonlinear spectral theory. *Theory of nonlinear operators* (*Proc. Summer School, Neuchâtel*, 1972), *pp.* 57–73. *Schr. Zentralinst. Math. Mech. Akad. Wiss. DDR, Heft* 20, *Akademie-Verlag, Berlin*, 1974. (H. Amann) **51** #1494 47Hxx (58E05)

(*with* Fučík, Svatopluk; Nečas, Jindřich; Souček, Jiří; Souček, Vladimír) Morse-Sard theorem in infinite dimensional Banach spaces and investigation of the set of all critical levels. *Časopis Pěst. Mat.* **99** (1974), 217–243. (M. Klingmann) **51** #6875 58E05 (47H15)

(*with* Fučík, Svatopluk; Nečas, Jindřich) Ranges of nonlinear asymptotically linear operators. *J. Differential Equations* **17** (1975), 375–394. (H. Amann) **51** #8903 47H15 (35J65)

(*with* Nečas, Jindřich) Interior regularity of solutions to systems of variational inequalities. (Loose Russian summary) *Časopis Pěst. Mat.* **102** (1977), *no.* 1, 73–82. (M. Biroli) **56** #834 35G20 (35D10)

A new method for the obtaining of eigenvalues of variational inequalities of the special type (preliminary communication). *Comment. Math. Univ. Carolinae* **18** (1977), *no.* 1, 205–210. (H. Amann) **55** #8860 47A70 (49G20)

(*with* Nečas, Jindřich; Souček, Jiří) The eigenvalue problem for variational inequalities and a new version of the Ljusternik-Schnirelmann theory. *Nonlinear analysis* (*collection of papers in honor of Erich H. Rothe*), *pp.* 125–143. *Academic Press, New York*, 1978. (A. Vanderbauwhede) **58** #23958 49G05 (58E05)

See also **Theory of nonlinear operators, 51** #8897

Kucera, T. G. (*with* Sands, Bill) Lattices of lattice homomorphisms. *Algebra Universalis* **8** (1978), *no.* 2, 180–190. (R. Balbes) **57** #3019 06A20

Kučera, Vladimír On nonnegative definite solutions to matrix quadratic equations. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and nonlinear systems*; *Identification, differential games, discrete and stochastic systems, Paper No.* 29.4, 8 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 [1972]. (D. K. Hughes) **51** #8512 34A30 (93D99)

On nonnegative definite solutions to matrix quadratic equations. (French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 413–423. (T. Kaczorek) **48** #11152 15A24 (93C05)

A contribution to matrix quadratic equations. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 3, 344–347. (Marcel Amouroux) **56** #8131 93D10 (15A24)

State space approach to discrete linear control. (Czech summary) *Kybernetika* (*Prague*) **8** (1972), 233–251. (M. Q. Jacobs) **49** #2168 93C55

The discrete Riccati equation of optimal control. (Czech summary) *Kybernetika* (*Prague*) **8** (1972), 430–447. (L. D. Berkovitz) **48** #10581 93C55

A review of the matrix Riccati equation. *Kybernetika* (*Prague*) **9** (1973), 42–61. (L. D. Berkovitz) **48** #6522 34A99 (93C15)

Algebraic theory of discrete optimal control for single-variable systems. I. Preliminaries. *Kybernetika* (*Prague*) **9** (1973), 94–107. (D. H. Chyung) **49** #2169 93C55

Algebraic theory of discrete optimal control for single-variable systems. II. Open-loop control. *Kybernetika* (*Prague*) **9** (1973), 206–221. (D. H. Chyung) **49** #2170 93C55

Algebraic theory of discrete optimal control for single-variable systems. III. *Kybernetika* (*Prague*) **9** (1973), 291–312. (D. H. Chyung) **49** #2171 93C55

Closed-loop stability of discrete linear single-variable systems. *Kybernetika* (*Prague*) **10** (1974), 146–171. (D. H. Chyung) **49** #8716 93D10

Constrained optimal control. The algebraic approach. *Kybernetika* (*Prague*) **10** (1974), 317–349. (Bostwick F. Wyman) **52** #16769 93C55 (93B25)

Algebraic theory of discrete optimal control for multivariable systems. *Kybernetika* (*Prague*) *Suppl.* **10/12** (1974/76), 240 *pp.* (From the preface) **58** #26264 93B25

The matrix equation $AX+XB=C$. *SIAM J. Appl. Math.* **26** (1974), 15–25. (Frank

W. Owens) **49** #5035 15A24

Stability of discrete linear feedback systems. With a discussion by F. M. Callier, W. S. Chan and C. A. Desoer and a reply by the author. *Proceedings of the IFAC 6th World Congress (Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No*. 44.1, 6 *pp*., A39–A40. *IFAC, Düsseldorf*, 1975. (Author's summary) **58** #33393 93D15

Algebraic approach to discrete linear control. *IEEE Trans. Automatic Control* **AC-20** (1975), 116–120. (I. Muntean) **55** #5273 93C55

Algebraic methods in discrete linear estimation. *Kybernetika (Prague)* **12** (1976), *no*. 3, 171–191. (Steven I. Marcus) **54** #2304 93E10

Shortest correlation control strategy. *IEEE Trans. Automatic Control* **AC-22** (1977), *no*. 3, 463–465. (Author's summary) **58** #15615 93E20

Constrained least squares control. *Kybernetika (Prague)* **13** (1977), *no*. 2, 106–115. (Katsutoshi Tamura) **56** #14967 93C55 (93C05)

Discrete linear model following systems. *Kybernetika (Prague)* **13** (1977), *no*. 5, 333–342. (B. Wittenmark) **57** #18981 93C55 (93B99)

Transfer-function solution of the Kalman-Bucy filtering problem. *Kybernetika (Prague)* **14** (1978), *no*. 2, 110–122. (Ĭ. M. Stojanov) **58** #9673 93E10

Kučerenko, È. I. (*with* Loskutov, A. V.) Uniqueness of the generalized solution for a hyperbolic equation that contains a nonlinearity of the form sin u^α. (Russian) Differential equations. *Trudy Rjazan. Radiotehn. Inst. No*. 20 (1969), 138–145. (See RŽMat **1971** #2 B431; MR **52** #13071) 35D05

(*with* Muzlov, D. P.) A certain method for solving the system of equations of a two-rotor gyrocompass. (Russian) Differential equations. *Trudy Rjazan. Radiotehn. Inst. No*. 20 (1969), 181–187. (See RŽMat **1970** #12 B222; MR **52** #13071) 70.34

(*with* Loskutov, A. V.) A certain method of solution of Einstein's systems of equations. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 1071–1073. (V. G. Pisarenko) **50** #15817 83.35

(*with* Gorbunov, A. D.) On the question of the solvability of a two-point boundary value problem for an ordinary differential equation. (Russian) *Dokl. Akad. Nauk SSSR* **220** (1975), 516–519. (I. Kiguradze) **52** #11175 34B15

(*with* Loskutov, A. V.) A mixed problem for Einstein's equations and an approximate method of solving them. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1976**, *no*. 5, 113–118. (Ilija Lukačević) **57** #8855 83.35

Convergence of the Bogoljubov-Galerkin method. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no*. 1, 112–116, 143. (Stefan Balint) **55** #13190 45G99

On the question of the convergence of certain approximate methods for the solution of the equations of motion of a four-gyroscope vertical. (Russian) *Ukrain. Mat. Ž.* **29** (1977), *no*. 2, 259–263, 287. (V. Komkov) **56** #17300 70.41

Kučerenko, V. M. *See* **Calculation of three-dimensional constructions, 48** #7754

Kučerenko, V. P. Selfoscillations in combustion states of a homogeneous mixture in a pipe. (Russian) *Prikl. Meh.* **13** (1977), *no*. 8, 93–97, 143. (Author's summary) **58** #8759 76.41

Kučerenko, V. V. The quasiclassical asymptotic behavior of a point source function for a stationary Schrödinger equation. (Russian. English summary) *Teoret. Mat. Fiz.* **1** (1969), *no*. 3, 384–406. (Author's summary) **57** #18614 81.47 (35J10)

Some properties of the short wave asymptotic behavior of the fundamental solution of the equation $[\Delta+k^2n^2(x)]u=0$. (Russian) *Moskov. Inst. Èlektron. Mašinostroenija—Trudy MIÈM Vyp. 25 Asimpt. Metody i Raznost. Shemy* (1972), 32–55. (Editors) **57** #3587 35C05 (58G99)

The Hamilton-Jacobi equation in a complex nonanalytic situation. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 1021–1024. (J. Sjöstrand) **52** #6795 58G15 (35F10)

Maslov's canonical operator on the germ of a complex almost analytic manifold. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 1251–1254. (J. Sjöstrand) **52** #6796 58G15 (35F10)

Asymptotic behavior of the solution of the system $A(x,-ih\partial/\partial x)u=0$ as $h\to0$ in the case of characteristics with variable multiplicity. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **38** (1974), 625–662. (J. R. Schulenberger) **51** #3663 35B40

A formula for the commutation of an h^{-1}-pseudodifferential operator with a rapidly oscillating exponent in the case of a complex phase. (Russian) *Mat. Sb. (N.S.)* **94(136)** (1974), 89–113, 159–160. (A. Ramm) **49** #7848 47G05 (81.47)

Asymptotic solutions of equations with complex characteristics. (Russian) *Mat. Sb. (N.S.)* **95(137)** (1974), 163–213, 327. (J. R. Schulenberger) **51** #3664 35B40 (58G99)

Necessary conditions for the stability of difference schemes. (Russian) *Mat. Zametki* **16** (1974), 545–552. (N. N. Janenko) **52** #2233 65M10

A parametrix for equations with a degenerate symbol. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no*. 4, 797–800. (J. S. Joel) **58** #1550 35D05 (35S05)

Kuceriuc, Victor A variational method of calculation for plates and systems of plates. (Romanian. Russian summary insert) *Bul. Inst. Politehn. Bucureşti* **36** (1974), *no*. 3, 59–66. (W. Kecs) **50** #9125 73.49

Kučerjavii, V. Ī. The recursive structure of the parametric functions of the Feynman amplitude. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 785–789, 860. (M. J. Mączyński) **46** #8910 05C99 (81.05)

On the question of parametric functions of non-renormalized Feynman amplitude. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 884–887, 957. (Author's summary) **49** #8549 81.46

Some topological properties of the Feynman graphs. (Russian. English summary) *Teoret. Mat. Fiz.* **10** (1972), *no*. 2, 182–195. (Author's summary) **57** #18557 81.32 (32C40)

Feynman amplitude and the Meijer G-function. A unified representation for divergent and convergent graphs. (Russian. English summary) *Teoret. Mat. Fiz.* **20** (1974), 29–47. (Author's summary) **57** #8604 81.33

On some algorithmic features of the subtraction procedure in quantum field theory. *Nuclear Phys. B* **127** (1977), *no*. 1, 66–86. (Author's summary) **57** #2288 81.41

Kučerov, A. B. (*with* Nikolaev, E. S.) An alternating-triangular iteration method for the solution of elliptic difference equations in a rectangle. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no*. 5, 1164–1174, 1371. (Authors' introduction) **57** #18137 65N20

(*with* Nikolaev, E. S.) An alternating-triangular iterative method for the solution of elliptic difference equations in an arbitrary domain. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no*. 3, 664–675, 804. (Authors' summary) **58** #13768 65N20

Kučerov, A. N. One-dimensional stationary gas flow in the case of energy supply in a finite region. (Russian) *Učen. Zap. CAGI* **8** (1977), *no*. 1, 115–121. (Author's summ) **58** #25333 76.35 (35Q10)

Kuchař, Karel A bubble-time canonical formalism for geometrodynamics. *J. Mathema Phys.* **13** (1972), 768–781. (N. Rosen) **45** #8215 83.53

Geometrodynamics regained: a Lagrangian approach. *J. Mathematical Phys.* (1974), 708–715. (H. Rund) **49** #8587 83.53

(*with* Hojman, Sergio A.; Teitelboim, Claudio) Geometrodynamics regained. *Physics* **96** (1976), *no*. 1, 88–135. (D. Lovelock) **54** #4535 83.53

Geometry of hyperspace. I. *J. Mathematical Phys.* **17** (1976), *no*. 5, 777– (Khawaja Tahir Shah) **55** #6464 58B20 (83.58, 53C50)

Kinematics of tensor fields in hyperspace. II. *J. Mathematical Phys.* **17** (1976), *n* 792–800. (Khawaja Tahir Shah) **55** #6465 58B20 (53C50, 83.58)

Dynamics of tensor fields in hyperspace. III. *J. Mathematical Phys.* **17** (1976), *n* 801–820. (Khawaja Tahir Shah) **55** #6466 58B20 (53C50, 83.58)

Geometrodynamics with tensor sources. IV. *J. Mathematical Phys.* **18** (1977), *n* 1589–1597. (Khawaja Tahir Shah) **57** #18743 83.58 (53C50, 58F05)

On equivalence of parabolic and hyperbolic super-Hamiltonians. *J. Mathemat Phys.* **19** (1978), *no*. 2, 390–400. (Khawaja Tahir Shah) **57** #11614 83.53

Kucharczak, J. (*with* Woyczyński, Wojbor A.) Bochner's theorem for Orlicz seque spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* (1973), 551–558. (V. Mandrekar) **48** #8740 28A40 (43A35, 60B05)

A characterization of α-convolutions. *Colloq. Math.* **27** (1973), 141–147, 163. (E Boylan) **49** #4066 60B15

(*with* Urbanik, Kazimierz) Quasi-stable functions. (Russian summary) *Bull. Ac Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 263–268. (A. De Hoyos) **49** #8080 60E05 (60B15)

On operator-stable probability measures. (Russian summary) *Bull. Acad. Polon. Sér. Sci. Math. Astronom. Phys.* **23** (1975), *no*. 5, 571–576. (K. R. Parthasarat **55** #4337 60E05

Remarks on operator-stable measures. *Colloq. Math.* **34** (1975/76), *no*. 1, 109–1 (Barthel W. Huff) **53** #9326 60E05

(*with* Urbanik, Kazimierz) Operator-stable probability measures on some Ban spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* (1977), *no*. 6, 585–588. (Albert Tortrat) **57** #10752 60B05

Kucharczyk, Piotr (*with* Peradzyński, Zbigniew; Zawistowska, E.) Unsteady multidimensional isentropic flows described by linear Riemann invariants. (Polish Russian summaries) *Arch. Mech. (Arch. Mech. Stos.)* **25** (1973), 319–350. (C. Rog **52** #2376 76.35

See also **Fluid dynamics transactions, 54** #14543 *and* **Sulanke, Rolf; et al., 55** #1373

Kucharski, D. (*with* Becker, Michael; Nessel, Rolf Joachim) Global approximation theorems for the Szász-Mirakjan operators in exponential weight spaces. *Linear spa and approximation (Proc. Conf., Math. Res. Inst., Oberwolfach*, 1977), *pp*. 319–3 *Internat. Ser. Numer. Math., Vol*. 40, *Birkhäuser, Basel*, 1978. (Sheldon Eisenbe **58** #17666 41A40

Kucharski, Z. A coincidence index. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Math. Astronom. Phys.* **24** (1976), *no*. 4, 245–252. (Benjamin Halpern) **53** #1447 55C20 (47H10)

Two consequences of the coincidence index. (Russian summary) *Bull. Acad. Pol Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no*. 6, 437–444. (Gilles Fourni **54** #3687 55C20

Kucharz, Wojciech A characterization of C^∞-sufficient k-jets. *Proc. Amer. Math. Soc.* (1976), *no*. 2, 419–423. (Martin Golubitsky) **53** #4126 58C25

Jets suffisants et fonctions de détermination finie (cas $\mathbf{R}^n\to\mathbf{R}^p$, $p\geqslant1$). (Engl summary) *C. R. Acad. Sci. Paris Sér. A-B* **284** (1977), *no*. 15, A877–A879. (Autho summary) **55** #6471 58C25

Kucharzewski, Michał Some remarks on the covariant derivative. (Polish. German summary) *Prace Nauk. Inst. Mat. Fiz. Teoret. Politechn. Wrocław. No. 2 Ser. Studi Materiały No. 2 Geom. Rózniczk.* (1970), 23–29. (E. Siwek) **49** #9763 53A55

Kucharzewski, Mieczysław ★Elementy teorii obiektów geometrycznych. (Polish) [Eleme of the theory of geometric objects] Uniwersytet Śląski w Katowicach, Wydawnict Dydaktyczna, 7. *Wydawnictwo Uniwersytetu Śląskiego, Katowice*, 1969. 170 *pp*. Moszner) **50** #11057 53A55

Einige Sätze über die Funktionen mit Matrizenargumenten. (Polish summar *Uniw. Śląski w Katowicach—Prace Mat.* **1** (1969), 53–60. (S. Gołąb) **45** #5144 15A15 (39A35)

Kovariante Ableitung der Skalare und Dichten. (Polish summary) *Uniw. Śląski Katowicach—Prace Mat.* **1** (1969), 61–70. (From the author's introduction) **48** #4935 53A45

(*with* Zajtz, Andrzej) Allgemeine Lösung der multiplikativen Funktionalgleichu für pseudostochastische Matrizen. (Romanian and Russian summaries) *Bul. Şti. Teh Inst. Politehn. Timişoara—Ser. Mat.-Fiz.-Mec. Teoret. Apl.* **16(30)** (1971), *no*. 2, 145–153. (B. Choczewski) **49** #3364 39A35

(*with* Węgrzynowski, Stefan) On scalar concomitants of geometric objects and th transitive domains. Collection of articles commemorating Władysław Ślebodzińs *Colloq. Math.* **26** (1972), 263–269. (Michał Lorens) **48** #12338 53A55

(*with* Jasins'ka, Ē. U.) Kleinsche Geometrie und Theorie der geometrischen Objekte. Collection of articles commemorating Władysław Ślebodziński. *Colloq. Mat* **26** (1972), 271–279. (M. Kuczma) **49** #3713 53A55

Liesche Ableitung der Tensordichten. (Polish summary) *Uniw. Śląski w Katowica —Prace Mat.* **2** (1972), 35–41. (Z. Moszner) **46** #8085 53A45

(*with* Midura, Stanisław) Über eine Eigenschaft der Mengen von Transformatione (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **2** (1972), 43–48. (Z. Moszner) **46** #8086 53A55 (39A40)

Scientific achievements of Professor Stanisław Gołąb in the domain of geometry Collection of articles dedicated to Stanisław Gołąb on his 70th birthday, I. *Demonstrat Math.* **6** (1973), 19–38. (Editors) **49** #7094 01A70 (53-03)

(*with* Kareńska, Zofia) Geometric objects of the type [3, 2, 1] with a linear homogeneous transformation formula. Collection of articles dedicated to Stanisła Gołąb on his 70th birthday, I. *Demonstratio Math.* **6** (1973), 143–169. (Y. Mut

49 #6059 53A55

Über die Liesche Ableitung der linearen geometrischen Objekte. Collection of articles dedicated to Stanisław Gołąb on his 70th birthday, I. *Demonstratio Math.* **6** (1973), 171–179. (H. Osborn) **51** #6620 53A55

Kovariante Ableitung der linearen geometrischen Objekte. (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **3** (1973), 37–43. (Z. Moszner) **49** #11409 53A55

(*with* Szociński, Brunon) Über eine kanonische Form der regulären doppelt pseudostochastischen Matrizen. (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **4** (1973), 35–43. (*loose errata*) (Pl. Kannappan) **48** #3986 15A21

(*with* Zajtz, Andrzej) Über die multiplikative Funktionalgleichung für stochastische Matrizen. (English summary) *Aequationes Math.* **11** (1974), 128–137. (Pl. Kannappan) **51** #3737 39A15 (15A51)

(*with* Jasins′ka, Ē. U.) Grundlegende Begriffe der Kleinschen Geometrie. *Demonstratio Math.* **7** (1974), 381–402. (Z. Moszner) **50** #14444 50A15 (53A55)

(*with* Zajtz, Andrzej) Eine kanonische Form der pseudostochastischen Matrizen. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 16 (1974), 15–23. (George P. Barker) **50** #7217 15A57

Über die Orientierung der Kleinschen Geometrien. Collection of articles dedicated to the memory of Tadeusz Ważewski, IV. *Ann. Polon. Math.* **29** (1975), *no.* 4, 363–371. (L. M. Kelly) **53** #3844 50A15

(*with* Szociński, Brunon) Über Homomorphismen einer Gruppe von Matrizen. *Ann. Polon. Math.* **30** (1975), *no.* 3, 237–242. (Thomas H. Foregger) **55** #8068 15A51

The life and works of Professor Stanisław Gołąb. (Polish) *Wiadom. Mat.* (2) **19** (1976), *no.* 2, 128–131. (Editors) **56** #64 01A70

Über die Grundlagen der Kleinschen Geometrie. *Period. Math. Hungar.* **8** (1977), *no.* 1, 83–89. (J. Cofman) **58** #12666 50A15

Kucheriavy, V. I. *See* **Kučerjaviĭ, V. Ī.**

Kuchin, B. L. *See* **Kučin, B. L.**

beier-Küchler, I. *See* **Beier-Küchler, I.**

Küchler, Uwe (*with* Priber, Ulrich) Über die Anzahl der Ruhetakte einer Markovschen Kette. *Wiss. Z. Techn. Univ. Dresden* **22** (1973), 787–790. (A. A. Juškevič) **54** #6286 60J10 (60J80)

Über die σ-Algebra der asymptotischen Ereignisse bei diskreten Geburts- und Todesprozessen. *Math. Nachr.* **65** (1975), 321–329. (M. I. Jadrenko) **51** #4440 60J80

(*with* Müller, Paul Heinz; Rohmeiss, Silvia) Über eine Veralgemeinerung der Supermartingaleigenschaft. Collection of articles dedicated to the memory of Wolfgang Richter. *Math. Nachr.* **70** (1975), 55–70. (S. D. Chatterji) **53** #14651 60G45

See also **Rozanov, Ju. A.**, **53** #9314

Kuchling, Heinz *See* **Quantoren-Modalitäten-Paradoxien**, **56** #2775

Kuchowicz, Bronisław Two aspects of neutrino physics in gravitational fields. (Russian summary) *Gravitation: Problems, prospects* (*dedicated to the memory of A. Z. Petrov*) (*Russian*), *pp.* 113–128, 357. *Izdat. "Naukova Dumka", Kiev,* 1972. (A. H. Taub) **48** #13148 83.53

Neutrinos in general relativity: four(?) levels of approach. *General Relativity and Gravitation* **5** (1974), *no.* 2, 201–234. (Thomas A. Barnbey) **54** #4502 83.00

Methods of deriving exact solutions of spherical symmetry in the Einstein-Cartan theory for a perfect fluid with a "classical description" of spin. *Acta Phys. Polon. B* **6** (1975), 173–196. (A. F. da F. Teixeira) **53** #4886 83.53

The Einstein-Cartan equations in astrophysically interesting situations. I. The case of spherical symmetry. *Acta Phys. Polon. B* **6** (1975), *no.* 4, 555–575. (Brian O. J. Tupper) **53** #12447 83.35

Non-singular homogeneous universes with four-parameter Lie groups. *Phys. Lett. A* **54** (1975), *no.* 1, 13–14. (Richard Hansen) **54** #2098 83.53

Friedmann-like cosmological models without singularity. *General Relativity and Gravitation* **9** (1978), *no.* 6, 511–517. (Kotik K. Lee) **58** #14939 83.53

Kucia, Anna On coverings of a uniformity. *Colloq. Math.* **27** (1973), 73–74. (Mary Powderly) **50** #14679 (EA **58**) 54E15

(*with* Kulpa, Władysław) Spaces having uniformities with linearly ordered bases. (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **3** (1973), 45–50. (A. H. Stone) **48** #5015 54E15 (54F45)

(*with* Szymański, Andrzej) Absolute points in $\beta N\setminus N$. *Czechoslovak Math. J.* **26(101)** (1976), *no.* 3, 381–387. (D. V. Čudnovs′kiĭ) **54** #1167 54D35 (04A15, 54A25)

On saturating ultrafilters on N. *Colloq. Math.* **37** (1977), *no.* 1, 23–27. (Alan D. Taylor) **58** #5240 04A20

(*with* Szymański, Andrzej) There are absolute ultrafilters on N which are not minimal. *Colloq. Math.* **37** (1977), *no.* 1, 29–34. (Alan D. Taylor) **58** #5239 04A20

Kučin, B. L. (*with* Pšeničnyĭ, B. N.; Unigovskiĭ, L. M.) Some game problems for systems described by partial differential equations. *Avtomat. i Telemeh.* **1975**, *no.* 12, 27–35 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 12, *part* 1, 1949–1957 (1976). (Guy Jumarie) **53** #10341 90D25 (93C20)

Kučin, V. A. (*with* Bagrov, V. G.; Gitman, D. M.) The eigenfunctions of linear combinations of creation and annihilation operators. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1975**, *no.* 9, 13–19. (Authors' summary) **58** #25574 81.47

Kučinić, Branko Special cases of a certain model of the geometry of the hyperbolic plane. (Russian. Serbo-Croatian summary) *Rad Jugoslav. Akad. Znan. Umjet.* **349** (1971), 159–165. (L. Bitay) **45** #2557 50C05

Connection of the Φ-model and the Klein model of hyperbolic plane geometry. (Serbo-Croatian. German summary) *Proceedings of the Fifth Congress of Mathematicians, Physicists and Astronomers of Yugoslavia* (*Ohrid*, 1970), *Vol. I, Mathematics* (*Macedonian*), *pp.* 131–137. *Sojuz Društva. Mat., Fiz. i Astronom. Jugoslav., Skopje*, 1973. (J. B. Pavliček) **57** #13672 50C05

Some recent models of the hyperbolic plane. (Russian. Serbo-Croatian summary) *Glasnik Mat. Ser. III* **10(30)** (1975), *no.* 1, 101–108. (L. Bitay) **51** #13844 50A25

The V-models of the hyperbolic plane. (Russian. Serbo-Croatian summary) *Rad Jugoslav. Akad. Znan. Umjet.* **370** (1975), 117–118. (L. Bitay) **58** #7354 50A25

Kuck, David J. (*with* Sameh, Ahmed H.) Parallel computation of eigenvalues of real matrices. *Information processing* 71 (*Proc. IFIP Congr., Ljubljana,* 1971), *Vol.* 2: *Applications, pp.* 1266–1272. *North-Holland, Amsterdam,* 1972. (Authors' summary) **56** #17037 65F15 (68A10)

(*with* Muraoka, Yoichi; Chen, Shyh Ching) On the number of operations simultaneously executable in Fortran-like programs and their resulting speedup. *IEEE Trans. Computers* **C-21** (1972), 1293–1310. (A. K. Dewdney) **49** #4306 68A20

(*with* Muraoka, Yoichi) Bounds on the parallel evaluation of arithmetic expressions using associativity and commutativity. *Acta Informat.* **3** (1973/74), 203–216. (John T. Gill) **50** #1562 68A20

(*with* Muraoka, Yoichi) On the time required for a sequence of matrix products. *Comm. ACM* **16** (1973), 22–26. (M. Tetruašvili) **51** #2347 68A20

(*with* Brent, Richard P.; Maruyama, Kiyoshi) The parallel evaluation of arithmetic expressions without division. *IEEE Trans. Computers* **C-22** (1973), 532–534. (I. Kaufmann) **50** #11843 68A20

(*with* Chen, Shyh Ching) Time and parallel processor bounds for linear recurrence systems. *IEEE Trans. Computers* **C-24** (1975), 701–717. (Robert P. Daley) **54** #4181 68A20

(*with* Maruyama, Kiyoshi) Time bounds on the parallel evaluation of arithmetic expressions. *SIAM J. Comput.* **4** (1975), 147–162. (K. H. V. Booth) **52** #4707 68A20

(*with* Sameh, Ahmed H.; Chen, Shyh Ching) Parallel Poisson and biharmonic solvers. (German summary) *Computing* **17** (1976/77), *no.* 3, 219–230. (L. W. Ehrlich) **55** #11644 65N20

A survey of parallel machine organization and programming. *Comput. Surveys* **9** (1977), *no.* 1, 29–59. (V. A. Val′kovskiĭ) **55** #13857 (EA **55/56**) 68A05

(*with* Sameh, Ahmed H.) A parallel QR algorithm for symmetric tridiagonal matrices. *IEEE Trans. Computers* **C-26** (1977), *no.* 2, 147–153. (Jozef Miklosko) **56** #7308 68A10 (68A20, 65F15)

(*with* Parker, Douglass S., Jr.; Sameh, Ahmed H.) Analysis of rounding methods in floating-point arithmetic. *IEEE Trans. Computers* **C-26** (1977), *no.* 7, 643–650. (V. V. Ivanov) **57** #7979 65G05

(*with* Chen, Shyh Ching) Combinational circuit synthesis with time and component bounds. *IEEE Trans. Computers* **C-26** (1977), *no.* 8, 712–726. (B. Hazeltine) **56** #11550 94A20

(*with* Sameh, Ahmed H.) Parallel direct linear system solvers—a survey. *Math. Comput. Simulation* **19** (1977), *no.* 4, 272–277. (J. Vandergraft) **57** #14366 65F05

(*with* Sameh, Ahmed H.) On stable parallel linear system solvers. *J. Assoc. Comput. Mach.* **25** (1978), *no.* 1, 81–91. (Jozef Miklоško) **58** #3347 65F05

See also **Complexity of sequential and parallel numerical algorithms**, **50** #6200

Kučkarov, Ja. H. (*with* Sarymsakov, T. A.; Mamirov, U. È.) The law of the iterated logarithm for inhomogeneous Markov chains. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1973**, *no.* 6, 3–5. (V. V. Anisimov) **49** #9918 60F15

(*with* Mahmudov, H.) Semigroups of class (1, A)'s. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 459 *Fizika* (1974), 100–106. (RŽMat **1975** #7 B821) **57** #17382 47D05

(*with* Halikulov, I. B.) Measures with values in topological Boolean algebras. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 3, 6–8. (Beloslav Riečan) **54** #5434 28A55

(*with* Sarymsakov, T. A.; Mahmudov, H.) The rate of convergence in ergodic theorems. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 6, 3–5. (Constantin Niculescu) **54** #13626 47B55 (28A65)

Kolmogorov's theorem on the law of the iterated logarithms for measures with values in semifields. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 10, 3–5. (RŽMat **1977** #2 V37) **58** #7801 60F15 (28A60)

The weak convergence of Boolean measures. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **16** (1976), *no.* 3, 73–83, 233. (Stefan P. Niculescu) **58** #6148 28A45 (60B10)

The rate of convergence in ergodic theorems for discrete time Markov processes. (Russian) *Taškent. Gos. Univ. Naučn. Trudy Vyp.* 499 *Fizika* (1976), 76–80, 121–122. (M. Iosifescu) **56** #3914 60B99 (60J05)

(*with* Sarymsakov, T. A.; Dauletbaev, T. E.) Convergence of Boolean measures in metric spaces. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 5, 1023–1025. (T. Neubrunn) **55** #5837 28A55 (60B10)

Convergence of semifield-valued measures in the Prohorov metric. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 2, 260–263. (Stefan P. Niculescu) **57** #6362 28A60 (60B10)

Convergence of semifield-valued distributions, and a generalization of the Lindeberg-Feller theorem. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 6, 1273–1276. (Constantin Niculescu) **57** #1610 60F05

(*with* Šadmanov, Dž.) A generalization of Feller's theorem for martingales. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 3, 12–14. (Ştefan P. Niculescu) **56** #9654 60F15 (60G45)

(*with* Dauletbaev, T. E.) Measures and linear operators in metric spaces with values in semifields. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 5, 3–4. (Beloslav Riečan) **57** #12816 28A55

(*with* Halikulov, I. B.) Some probability-theoretic results that are connected with Boolean measures. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1978**, *no.* 1, 12–17, 91. (S. A. Čobanjan) **58** #18649 60B99 (60F15)

The law of the iterated logarithm with respect to measures with values in semifields. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **18** (1978), *no.* 3, 63–72, 214. (Stefan P. Niculescu) **58** #18650 60B99 (60F15)

Kučko, L. P. Linear functional equations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 320–323, 381. (B. Crstici) **47** #7261 39A25

Conditions for the existence of a local C^∞-solution of a certain class of functional equations. (Russian. English summary) *Mathematical physics and functional analysis, No. V* (*Russian*), *pp.* 147–150, 159. *Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov,* 1974. (A. Smajdor) **54** #6186 58C25 (39A15)

The invariant manifolds of germs of C^∞ mappings. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 32–34, 92. (Ju. Ju. Trohimčuk) **49** #4022 58C25

Linear functional equations. (Russian) *Vestnik Har′kov. Gos. Univ. No.* 113 *Mat. i Meh. Vyp.* 39 (1974), 3–14, 121. (B. Choczewski) **52** #8702 39A25

Local solvability of functional equations, and the existence of invariant manifolds. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 2, 327–339, 478. (W. Smajdor) **57** #1546 58C25 (39A15)

Linear functional equations. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **42** (1978), *no.* 2, 379–395, 470–471. (G. R. Belickiĭ) **58** #24329 58C25 (39A15)

Kučma, M. *See* **Kuczma, Marek**

Kučment, P. A. (*with* Kreĭn, S. G.) A certain approach to the interpolation problem for linear operators. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU No.* 3 (1971), 54–60. (J. Bergh) **50** #8106 46M35

Nötherian operators in a pair of Banach spaces. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 3 (1971), 61–77. (M. Šubin (RŽMat **1972** #4A607)) **57** #1176 47B30

The index of Fredholm operators in a family of Banach spaces. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 31–33. (Karl-Heinz Förster) **46** #695 47A55 (58B99)

(*with* Pankov, A. A.) Classifying spaces for the groups $K_G{}^{p,q}(X)$. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 1049–1052. (A. Morimoto) **46** #2702 55F50

(*with* Krasnenker, A. S.) Certain sufficient conditions for the existence of nonhomogeneous flows in networks. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 4, 136–138. (B. Zelinka) **46** #6950 94A20 (90B10)

On the question of the affine-invariant points of convex bodies. (Russian) *Optimizacija No.* 8(25) (1972), 48–51, 127. (K. Radziszewski) **50** #3113 52A20

Locally trivial Banach bundles. (Russian) *Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU Vyp.* 5 *Sb. Stateĭ Teor. Operator. i Differencial. Uravneniĭ* (1972), 80–85. (Author's introduction) **56** #6696 58B10 (32L05)

Complemented subspaces in spaces with a symmetric basis. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1027–1030. (G. J. O. Jameson) **48** #845 46B15 (46M35)

Certain properties of semi-Noetherian operators in a Banach space. (Russian) *Mat. Issled.* **8** (1973), *no.* 2(28), 80–92, 189. (Alexander A. Pankov) **48** #6995 47B30

A remark on the homotopy type of the group of *J*-unitary operators. (Russian) *Mat. Issled.* **9** (1974), *no.* 4(34), 170–171, 178. (Author's summary) **57** #13572 47B50 (58B05)

(*with* Pankov, A. A.) Classifying spaces for equivariant *K*-theory. (Russian) *Mat. Sb.* (*N.S.*) **95(137)** (1974), 35–52, 159. (A. Verona) **51** #4218 (E **54** #6124) 55B15 (58G10)

Certain properties of holomorphic functions with values in a Banach space. *Collection of articles on applications of functional analysis* (*Russian*), *pp.* 97–101. *Voronež. Tehnolog. Inst., Voronezh*, 1975. (Alexander A. Pankov) **57** #13480 46G99 (30A96)

On the problem of the lifting of functions with values in a quotient space of a Banach space. (Russian) *Mat. Issled.* **10** (1975), *no.* 1(35), 185–193, 299–300. (R. G. Bartle) **53** #8899 46G15

(*with* Pankov, A. A.) Letter to the editors: "Classifying spaces for equivariant *K*-theory" (Mat. Sb. (N.S.) **95(137)** (1974), 35–52). (Russian) *Mat. Sb.* (*N.S.*) **98(140)** (1975), *no.* 4(12), 635. (A. Verona) **54** #6124 55B15 (58G10)

(*with* Zaĭdenberg, M. G.; Kreĭn, S. G.; Pankov, A. A.) Banach bundles and linear operators. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 5(185), 101–157. (Jürgen Leiterer) **54** #3741 58B99 (47A55, 32L99)

Recovery of a continuous representation from a subrepresentation and a factor-representation. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 1, 79–80. (J. M. G. Fell) **54** #467 22D12

Kučmīns′ka, H. Ī. (*with* Bodnarčuk, P. Ī.) The two-point and the multipoint Thiele formula. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 22 (1974), 74–81, 171. (E. L. Albasiny) **51** #7233 65D10

(*with* Bodnarčuk, P. Ī.) An interpolational and a functional formula for functions of several variables in the form of branching continued fractions. (Russian) *Mathematical methods, and physical and mechanical fields, No.* 2 (*Russian*), *pp.* 31–36, 171. "*Naukova Dumka*", *Kiev*, 1975. (S. V. Kotov) **53** #14857 65D05 (41A20)

Interpolation formula for functions of two variables. (Russian) *Continued fractions and their applications* (*Russian*), *pp.* 25–29, 103–104 (*errata insert*). *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Author's summary) **58** #31721 65D05

Approximation of functions of two variables by branching continued fractions with polynomial components. (Russian) *Mathematics collection* (*Russian*), *pp.* 31–34. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (Editors) **56** #12702 41A05

The approximation of functions by branching continued fractions. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 11, 971–974, 1051. (B. D. Donevski) **56** #16194 40A15

Corresponding and associated branching continued fractions for a double power series. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1978**, *no.* 7, 614–617, 669. (Author's summary) **58** #17641 40A15 (10A30, 30A22)

Kucovskiĭ, A. I. (*with* Geršteĭn, V. M.; Erofeev, A. A.; Sadovskiĭ, B. N.) An approach to the mathematical study of discrete systems with thyristors. (Russian) *Mathematical simulation and the theory of electrical circuits, No.* 15 (*Russian*), *pp.* 41–56, 99. *Izdat.* "*Naukova Dumka*", *Kiev*, 1977. (From the authors' introduction) **57** #2683 93C55 (93C10)

Kuczkowski, Joseph E. On radicals in a certain class of semigroups. *Mat. Časopis Sloven. Akad. Vied* **20** (1970), 278–280. (H. D'Alarcao) **46** #3653 20M10

On the Frattini ideal in a certain class of semigroups. *Mat. Časopis Sloven. Akad. Vied* **22** (1972), 3–5. (J. B. Kim) **46** #3654 20M10

On the embedding of semigroups into 2-Engel groups. *Mat. Časopis Sloven. Akad. Vied* **22** (1972), 282–285. (I. Gy. Maurer) **47** #378 20M10 (20F45)

On the embedding of semigroups into nilpotent groups. *Mat. Časopis Sloven. Akad. Vied* **25** (1975), *no.* 3, 245–247. (S. M. Yusuf) **55** #3130 20M99

(*with* Gersting, Judith L.) ★Abstract algebra. A first look. Monographs and Textbooks in Pure and Applied Mathematics, No. 38. *Marcel Dekker, Inc., New York-Basel*, 1977. viii+323 *pp.* (T. W. Hungerford) **56** #3 00A05

Kuczma, Marcin E. (*with* Kuczma, Marek) An elementary proof and an extension of a theorem of Steinhaus. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **6(26)** (1971), 11–18. (B. K. Lahiri) **46** #3729 28A05 (39A15)

A generalization of Steinhaus' theorem to coordinatewise measure preserving binary transformations. *Colloq. Math.* **36** (1976), *no.* 2, 241–248. (B. K. Lahiri) **55** #128 28A70

See also **Żelazko, Wiesław, 56** #6389 *and* **Szmydt, Zofia, 58** #22952b

Kuczma, Marek (*with* Dubikajtis, L.) On non-localized oriented angles. *Ann. Polon. M* **25** (1971/72), 227–239. (Z. Moszner) **46** #4338 50A20 (39A40)

Remarks concerning the general solution of a functional equation. (Russian Romanian summaries) *Bul. Şti. Tehn. Inst. Politehn. Timişoara—Ser. Mat.-Fiz.- Teoret. Apl.* **16(30)** (1971), *no.* 2, 155–165. (R. A. Rosenbaum) **48** #11835 39A4

On integrable solutions of a functional equation. (Russian summary) *Bull. A Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 593–596. (Pl. Kannap **46** #566 39A15

(*with* Kuczma, Marcin E.) An elementary proof and an extension of a theore Steinhaus. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **6(26)** (1971), 11–18. (B Lahiri) **46** #3729 28A05 (39A15)

(*with* Smajdor, W.) Analytic solutions of some functional equations. *J. Lon Math. Soc.* (2) **4** (1971/72), 418–424. (Fred Gross) **45** #3992 39A15

On a problem of the optimalization of a discrete process with bounds at every s (Polish and Russian summaries) *Podstawy Sterowania* **1** (1971), 153–160. (A. Buraczewski) **46** #10424 90C99 (49D20)

The Laplace transformation. (Polish) *Functional equations in the theory of stoch processes* (*Polish*), *pp.* 51–76. *Publ. Silesian Univ. Katowice, No.* 47, *Wydawn. U Śląsk., Katowice*, 1972. (E. J. Scott) **51** #8752 44A10

The Galton-Watson process. (Polish) *Functional equations in the theory of stocha processes* (*Polish*), *pp.* 101–161. *Publ. Silesian Univ. Katowice, No.* 47. *Wydawn. U Śląsk., Katowice*, 1972. (Editors) **55** #9307 60J80

On a certain series. *Ann. Polon. Math.* **26** (1972), 199–204. (W. Beekmann) **46** #572 40A05

(*with* Matkowski, J.) Solutions of a functional equation in a special class functions. *Ann. Polon. Math.* **26** (1972), 287–293. (M. Hosszú) **46** #5872 39A15

Special solutions of a functional equation. *Ann. Polon. Math.* **27** (1972/73), 29– (B. Choczewski) **49** #3360 39A15

On a problem of the optimalization of a discrete process with bounds at every st (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 151–153. (Ger G. L. Meyer) **49** #6613 65K05

(*with* Choczewski, B.) On a problem of Lipiński concerning an integral equatio *Colloq. Math.* **25** (1972), 113–115, 164. (H. E. Gollwitzer) **46** #5967 45H05

On the stability of a discrete process with bounds at every step. (Polish and Russ summaries) *Podstawy Sterowania* **2** (1972), 97–104. (R. N. P. Singh) **46** #6891 93D99

Note on additive functions of several variables. (Polish summary) *Uniw. Śląsk Katowicach—Prace Mat.* **2** (1972), 49–51. (P. Javor) **46** #7750 39A40

(*with* Dubikajtis, L.; Ferens, C.; Ger, Roman) On Mikusiński's functional equation. *Ann. Polon. Math.* **28** (1973), 39–47. (J. G. Dhombres) **49** #11087 39A

Quelques observations à propos de l'équation pré-Schröder. *Ann. Polon. Math.* (1973), 49–52. (Pl. Kannappan) **48** #9159 39A40

Cauchy's functional equation on a restricted domain. *Colloq. Math.* **28** (197 313–315. (P. Javor) **49** #3366 (EA **50**) 39A40

On some set classes occurring in the theory of convex functions. *Comment. Ma Prace Mat.* **17** (1973), 127–135. (M. E. Muldoon) **48** #4224 (EA **58**) 26A51

Activity of Professor Stanisław Gołąb in the theory of functional equation Collection of articles dedicated to Stanisław Gołąb on his 70th birthday, I. *Demonstra Math.* **6** (1973), 39–44. (Editors) **49** #7095 01A70 (39-03)

A contribution to the theory of fractional iteration of differentiable function Collection of articles dedicated to Stanisław Gołąb on his 70th birthday, I. *Demonstra Math.* **6** (1973), 181–189. (R. A. Rosenbaum) **50** #811 39A15 (26A18)

A remark concerning measure and category. (Polish summary) *Uniw. Śląski Katowicach—Prace Mat.* **3** (1973), 51–52. (*errata insert*) (A. Appert) **47** #6976 28A10

(*with* Ger, Roman) On the structure of continuous solutions of some function equations. (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **4** (1973), 13–2 (P. Javor) **48** #9158 39A40

Functional equations in the theory of stochastic processes. (Polish) *Wiadom. M* (2) **16**, 13–22 (1973). (Editors) **56** #16191 39A15 (60J80)

Note on linearization. Collection of articles dedicated to the memory of Tadeu Ważewski. *Ann. Polon. Math.* **29** (1974), 75–81. (F. J. Papp) **49** #9462 39A30

(*with* Kannappan, Pl.) On a functional equation related to the Cauchy equation *Ann. Polon. Math.* **30** (1974), 49–55. (J. G. Dhombres) **49** #9466 39A40

(*with* Ger, Roman) On inverse additive functions. (Italian summary) *Boll. Un. Ma Ital.* (4) **11** (1975), *no.* 3, 490–495. (A. Climescu) **52** #6234 39A40

Normalizing factors for iterates of random valued functions. *Uniw. Śląski Katowicach Prace Naukowe No.* 87 *Prace Mat. No.* 6 (1975), 67–72. (B. Choczewsk **53** #9345 60F15

On a theorem of Roman Ger: "On an alternative functional equation" (Aequation Math. **15** (1977), no. 2-3, 145–162) by R. Ger. *Uniw. Śląski w Katowicach Pra Naukowe No.* 87 *Prace Mat. No.* 6 (1975), 73–76. (Roman Ger) **54** #8448 52A2 (26A51, 39A15)

Various aspects of the functional equation of Schröder. (French summary) Ave discussion. *Transformations ponctuelles et leurs applications* (*Colloq. Internat. CNRS, N* 229, *Toulouse*, 1973), *pp.* 245–257, 270–271. *Éditions Centre Nat. Recherche Sci., Paris* 1976. (J. S. Joel) **58** #23225 39A15

(*with* Smítal, Jaroslav) On measures connected with the Cauchy equation. *Aequationes Math.* **14** (1976), *no.* 3, 421–428. (L. Losonczi) **53** #13502 28A10 (39A20)

Regularly varying solutions of a linear functional equation. *J. Austral. Math. Soc Ser. A* **22** (1976), *no.* 2, 135–143. (K. Lajkó) **54** #10910 39A25

(*with* Brown, James Ward) Self-inverse Sheffer sequences. *SIAM J. Math. Anal.* (1976), *no.* 5, 723–728. (I. M. Sheffer) **54** #13177 33A70

Uniqueness of the solutions of functional equations in one variable. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev, 1975* (*Russian*), *pp.* 187–199, 305. *Izdat.* "*Naukova Dumka*", *Kiev*, 1977. (Author's summary

57 #13275 39A15

General continuous solution of a linear homogeneous functional equation. *Ann. Polon. Math.* **35** (1977/78), *no.* 1, 21–25. (Pl. Kannappan) **57** #17063b 39A25

(*with* Baron, Karol) Iteration of random-valued functions on the unit interval. *Colloq. Math.* **37** (1977), *no.* 2, 263–269. (B. Choczewski) **58** #24492 60F99 (26A18, 39A20)

On mappings preserving linear dependence and independence. (Polish summary) *Uniw. Śląski w Katowicach Prace Naukowe No.* 158 *Prace Mat. No.* 7 (1977), 29–49. (J. Aczél) **55** #913 39A35 (15A03)

On the number of continuous solutions of a functional equation. (Polish summary) *Uniw. Śląski w Katowicach Prace Naukowe No.* 158 *Prace Mat. No.* 7 (1977), 51–55. (J. Aczél) **55** #911 39A15

Additive functions and the Egorov theorem. *General inequalities* (*Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach,* 1976), *I, pp.* 169–173. *Birkhäuser, Basel,* 1978. (Jaroslav Smital) **58** #29531 39A20 (28A20)

Nonnegative continuous solutions of a functional inequality in a single variable. *General inequalities* (*Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach,* 1976), *I, pp.* 175–180. *Birkhäuser, Basel,* 1978. (L. Losonczi) **58** #29528 39A15

Functional equations on restricted domains. *Aequationes Math.* **18** (1978), *no.* 1-2, 1–34. (Józef Tabor) **58** #29532 39A20 (39A40)

See also **Functional equations in the theory of stochastic processes, 50** #10582 *and* **Functional equations and inequalities, 58** #23210

Kuczura, Anatol Batch input to a multiserver queue with constant service times. *Bell System Tech. J.* **52** (1973), 83–99. (J. G. C. Templeton) **48** #1342 60K25

The interrupted Poisson process as an overflow process. *Bell System Tech. J.* **52** (1973), 437–448. (L. Takács) **47** #9744 60K30

(*with* Neal, Scotty) A theory of traffic-measurement errors for loss systems with renewal input. *Bell System Tech. J.* **52** (1973), 967–990. (S. Ekberg) **48** #9892 60K30

Loss systems with mixed renewal and Poisson inputs. *Operations Res.* **21** (1973), 787–795. (P. R. Milch) **51** #4460 60K25

Piecewise Markov processes. *SIAM J. Appl. Math.* **24** (1973), 169–181. (E. B. Dynkin) **47** #9728 60J25

(*with* Neal, Scotty) A theory of traffic-measurement errors for loss systems with renewal input. *Mathematical methods in queueing theory* (*Proc. Conf., Western Michigan Univ., Kalamazoo, Mich.,* 1973), *pp.* 199–229. *Lecture Notes in Econom. and Math. Systems, Vol.* 98, *Springer, Berlin,* 1974. (George Weiss) **51** #14312 60K25

Kuczyński, A. J. (*with* Puczyłowski, E. R.) On semisimplicity of group rings. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1103–1106. (Donald S. Passman) **51** #12918 16A26

Kudaev, M. B. From the problems of prime number theory. (Russian) *Colloq. Math.* **24** (1971/72), 121–122, 123. (B. Gordon) **46** #8949 10A30

On the behavior of solutions of systems of second order differential equations. (Russian) *Czechoslovak Math. J.* **25(100)** (1975), 179–189. (P. Talpalaru) **51** #8550 34C10

Kudakova, R. V. (*with* Harasahal, V. H.) Almost periodic solutions of linear systems of differential equations. (Russian) *Mathematics and mechanics, No.* 1, *Part* 1 (*Russian*), *pp.* 61–70. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija Kazah. SSR, Alma-Ata,* 1966 (1969). (See RŽMat **1970** #7 B281; MR **48** #595) 34C25

(*with* Harasahal, V. H.) Almost periodic solutions of nonlinear systems of differential equations. (Russian) *Mathematics and mechanics, No.* 1, *Part* 1 (*Russian*), *pp.* 71–75. *Ministerstvo Vysš. i Srehn. Spec. Obrazovanija Kazah. SSR, Alma-Ata,* 1966 (1969). (See RŽMat **1970** #8 B266; MR **48** #595) 34C25

(*with* Dobrohotova, G. G.) A certain partial differential equation with lag. (Russian) *Mathematics and mechanics, No.* 3 (*Russian*), *pp.* 62–65, 188–189. *Ministerstvo Vysš. i Sredn. Spec. Obrazovanija Kazah. SSR, Alma-Ata,* 1968 (1971). (See RŽMat **1971** #10 B290; MR **50** #6724) 35R10

See also **Mathematics and mechanics, 48** #595

Kudelski, Franciszek Sur quelques problèmes de la théorie des fonctions subordonnées. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **27** (1973), 43–48 (1975). (D. M. Campbell) **52** #8411 30A42

Kudenko, Ju. A. (*with* Zaslavskiĭ, G. M.; Slivinskiĭ, A. P.) Thermodynamics and dynamics of spin systems in the phase transition to the superradiance state. (Russian. English summary) *Teoret. Mat. Fiz.* **33** (1977), *no.* 1, 95–109. (Authors' summary) **56** #14424 82.34

Kudīn, G. Ī. (*with* Kiričenko, M. F.) The stabilization of nonlinear oscillations. (Russian) *Certain questions on simulation and systems control* (*Russian*), *pp.* 63–70. *Izdat. "Naukova Dumka", Kiev,* 1973. (Authors' introduction) **54** #649 34C15 (34D20)

Stabilization of the equilibrium in nonlinear oscillatory systems. (Russian) *Ukrain. Math. Ž.* **26** (1974), 380–386, 430. (I. Muntean) **50** #1091 49E20 (34C15)

Kudin, I. B. The solution of the general linear programming problem. (Russian) *Èkonom. i Mat. Metody* **11** (1975), *no.* 4, 794–795. (RŽMat **1975** #12 Y734) **57** #11730 90C05

Kudīn, V. F. Dynamic programming design of three-position controller. *Avtomatika* **1973**, *no.* 5, 17–23 (*Ukrainian*); *translated as Soviet Automat. Control* **6** (1973), *no.* 5, 13–18. (M. J. Davies) **50** #12364 93C10

An approximate controller synthesis method in the case of a constrained control parameter. *Avtomatika* **1973**, *no.* 6, 24–31 (*Ukrainian*); *translated as Soviet Automat. Control* **6** (1973), *no.* 6, 15–21. (R. Liu) **50** #16011 93C15

Remarks on "Suboptimal design of a class of nonlinear controllers" (Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control **95** (1973), 352–255) by W. B. Rouse and D. P. Garg. *Avtomatika* **1975**, *no.* 6, 75–78 (*Ukrainian*); *translated as Soviet Automat. Control* **8** (1975), *no.* 6, 57–60. (K. Amborski) **54** #7037 93C10

Kudīn, V. I. (*with* Minkevič, A. V.) Gauge fields and the Lorentz group. (Russian. English summary) *Acta Phys. Polon. B* **5** (1974), 335–344. (Authors' summary) **53** #12485 83.53

Kudina, L. S. Estimates for functions that are representable in the form of a difference of functions subharmonic in the ball. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 14 (1971), 58–67. (S. V. Temko) **45** #7086 31B05

Indecomposability of the arcsine law. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 25–26. (R. Cuppens) **46** #2712 60E05

Indecomposable laws with a preassigned spectrum. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 16 (1972), 206–212, 221. (R. Cuppens) **49** #1557 60E05

The closure of the set of indecomposable distributions with a fixed spectrum. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 17 (1973), 51–56, 242. (R. Cuppens) **49** #1558 60E05

Decompositions of radially symmetric distributions. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no.* 3, 656–660. (R. Cuppens) **51** #14199 60E05

The components of radially symmetric distributions. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 25 (1976), 77–81, iii. (R. Cuppens) **54** #11448 60E05

Indecomposable radially symmetric distributions. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp.* 28 (1977), 35–45, ii. (S. G. Maloševskiĭ) **56** #6787 60E05

Kudinceva, I. G. Exponential solutions of a general boundary value problem in an infinite strip. (Russian) *Mathematics collection* (*Russian*), *pp.* 141–144. *Izdat. "Naukova Dumka", Kiev,* 1976. (A. Haimovici) **56** #12556 35G15

Kudinov, A. F. The probability that a system of numerical functions will be mutually prime. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 12(115), 81–85. (J. Galambos) **45** #205 10K20

The sum of the mumber of divisors on a certain sequence. (Russian) *Studies in number theory, No.* 4 (*Russian*), *pp.* 52–64. *Izdat. Saratov. Univ., Saratov,* 1972. (Karl-Heinz Indlekofer) **53** #251 10A20

The mean values of arithmetic functions. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 774–776. (A. I. Vinogradov) **46** #3475 10K20

(*with* Čudakov, N. G.) Kirill Andrcevič Rodosskiĭ (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **28** (1973), *no.* 6(174), 227–230. (1 *plate*) (Editors) **52** #7807 01A70

Kudinov, A. N. *See* **Studies in the theory of plates and shells, 48** #3343

Kudjašev, Ju. A. Complete systems in the space of functions of a quaternionic variable that are regular in the ball. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **68** (1972), 301–304. (V. P. Havin) **50** #8033 46E10 (30A98)

See also **Mathematical analysis and the theory of functions, 58** #29266

Kudla, Stephen S. On the *R*-forms of certain algebraic varieties. *Bull. Amer. Math. Soc.* **81** (1975), 471–473. (T. Ono) **52** #410 14G05 (10D20)

Relations between automorphic forms produced by theta-functions. *Modular functions of one variable, VI* (*Proc. Second Internat. Conf., Univ. Bonn, Bonn,* 1976), *pp.* 277–285. *Lecture Notes in Math., Vol.* 627, *Springer, Berlin,* 1977. (J. Spilker) **58** #516 10D10

Theta-functions and Hilbert modular forms. *Nagoya Math. J.* **69** (1978), 97–106. (Hiroshi Saito) **57** #5908 10D20 (10C15)

Kudláček, Václav Lineare Erweiterungen der teilweisen Anordnung in Ringen. *Arch. Math.* (*Brno*) **8** (1972), 35–44 (1973). (O. Frink) **47** #4891 06A70

Kudlaev, È. M. The estimation of the parameters of a distribution from segments of a variational series. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 655–662. (N. L. Johnson) **48** #7439 62F05

Distribution of an analogue of the Sherman statistic in the case of observations censored according to rank. (Russian) *Mat. Zametki* **19** (1976), *no.* 4, 635–640. (Ju. V. Borovskih) **53** #9498 62G10

The distribution of the weighted Sherman statistic for contiguous alternatives. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 4, 813–822. (S. A. Book) **56** #16875 62E20

Asymptotic normality of some classes of goodness-of-fit statistics and homogeneity tests. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 3, 534–537. (M. S. Nikulin) **58** #13490 62G10 (62E20)

Kudlek, Manfred Characterization of derivation sets of formal systems. *Erste Fachtagung der Gesellschaft für Informatik über Automatentheorie und Formale Sprachen* (*Bonn,* 1973), *pp.* 156–165. *Lecture Notes in Comput. Sci., Vol.* 2, *Springer, Berlin,* 1973. (Editors) **58** #3734 68A30

Comparing several ways of context-independent parallel rewriting. *Vierte Jahrestagung der Gesellschaft für Informatik* (*Berlin,* 1974), *pp.* 122–130. *Lecture Notes in Comput. Sci. Vol.* 26, *Springer, Berlin,* 1975. (Branislav Rovan) **52** #16154 68A30

(*with* Novotný, Miroslav) Reducing operators for normed general formal systems. *Mathematical foundations of computer science* (*Proc. Sixth Sympos., Tatranská Lomnica,* 1977), *pp.* 350–358. *Lecture Notes in Comput. Sci., Vol.* 53, *Springer, Berlin,* 1977. (Etsuro Moriya) **57** #4650 68A30

(*with* Novotný, Miroslav) On a reducing operator for combinatorial systems. *Information and Control* **37** (1978), *no.* 2, 197–206. (Etsuro Moriya) **57** #18253 68A30

Kudo, Aichi On Iwasawa's explicit formula for the norm residue symbol. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **26** (1972), 139–148. (G. Whaples) **46** #5284 12A65

On the reflection theorem in prime cyclotomic fields. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **26** (1972), *no.* 2, 333–337. (Charles J. Parry) **53** #13162 12A35

On a class number relation of imaginary abelian fields. *J. Math. Soc. Japan* **27** (1975), 150–159. (T. Metsänkylä) **50** #12968 12A50 (12A35)

On a generalization of a theorem of Kummer. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 255–261. (Yasumasa Akagawa) **53** #8010 12A50

Kudô, Akio (*with* Yao, Ching Hsing) On slippage tests. IV. The invariance of the least favorable distributions. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **26** (1972), *no.* 2, 323–331. (M. S. Srivastava) **58** #24677a 62F05

(*with* Tarumi, Tomoyuki) An algorithm related to all possible regression and discriminant analysis. *J. Japan Statist. Soc.* **4** (1973/74), *no.* 2, 47–56. (Authors' summary) **49** #6502 62H30

(*with* Yao, Ching Hsing) Note on "On slippage tests. IV. The invariance of the least favorable distributions" (Mem. Fac. Sci. Kyushu Univ. Ser. A **26** (1972), no. 2, 323–331). *Mem. Fac. Sci. Kyushu Univ. Ser. A* **27** (1973), 193. (M. S. Srivastava) **58** #24677b 62F05

(*with* Kimura, Miyoshi) On slippage tests. V. Monotonicity of power. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **28** (1974), 147–171. (M. S. Srivastava) **58** #24677c 62F05 (*with* Choi, Jae Rong) A generalized multivariate analogue of the one sided test. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 303–328. (P. K. Sen) **52** #7012 62H10

(*with* Choi, Jae Rong) Geometric properties of the convex cone associated with QP under linear constraints. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 1, 1–7. (Richard S. Sacher) **56** #1700 65K05 (90C20)

Kudō, Hirokichi A note on the strong convergence of σ-algebras. *Ann. Probability* **2** (1974), *no.* 1, 76–83. (Y.-K. Chan) **51** #6900 60A10

Correction: "On an approximation to a sufficient statistic including a concept of asymptotic sufficiency" (J. Fac. Sci. Univ. Tokyo Sect. I **17** (1970), 273–290). *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **22** (1975), *no.* 3, 449. (Editors) **54** #14175 62B05

Best approximations in L^1 space and their applications to statistics. (Japanese) Approximation theory in functional analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 265 (1976), 93–104. (Masafumi Akahira) **58** #13429 62B05

Kudo, Kiyoshi (*with* Yamamoto, Hiroshi) A vacuum with double structure. *Progr. Theoret. Phys.* **53** (1975), 275–282. (Authors' summary) **53** #12328 81.46

Kudo, Tatsuji (*with* Kawahara, Yasuo) A construction of closed categories related to k-spaces. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 113–121. (Donald W. Kahn) **53** #4009 54D50 (55D99)

Kudo, Yoshimitsu Gysin sequences in K-theories. *Sci. Rep. Hirosaki Univ.* **18** (1971), 1–3. (B. Cenkl) **48** #7259 55B15

A lemma on K-theory. *Sci. Rep. Hirosaki Univ.* **20** (1973), 33–43. (A. Dold) **51** #14023 55B15

On the group structure of $\mathrm{Hom}(k(Y), k(X))$. *Sci. Rep. Hirosaki Univ.* **20** (1973), 44–46. (C. S. Hoo) **49** #8000 55B15

Formulas of geometrical dimension. *Sci. Rep. Hirosaki Univ.* **20** (1973), 47–50. (S. Gitler) **49** #3905 55C10

On a classifying mapping of conjugate bundle. *Sci. Rep. Hirosaki Univ.* **24** (1977), *no.* 1, 1–3. (David Handel) **57** #1488 55F15

Kudračenko, L. A. Certain generalizations of groups with finite layers. (Russian) *Groups with subgroups having prescribed properties* (*Russian*), *pp.* 270–308, 340–342. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (L. G. Kovács) **54** #7643 20F50

Kudrajašova, L. V. *See* **Kudrjašova, L. V.**

Kudrewicz, Halina Integral equations of periodic loads and currents in a nonlinear transmission channel. (Polish) *Prace IPPT/IFTR Rep.* **1974**, *no.* 16 (*Prace Zakładu Teorii Fal Elektromagnetycznych Prace No.* 105), 27 *pp.* **55** #13957 78.45

Kudrewicz, Jacek Energetic stability of nonlinear system. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *p.* 24, *Paper* 12F, 7*pp. Inst. Mech. Engrs., London*, 1967. (V. M. Popov) **52** #5139 93D99

Contribution to the theory of the describing function. *Proceedings of the Fourth Conference on Nonlinear Oscillations* (*Prague*, 1967), *pp.* 197–205. *Academia, Prague*, 1968. (T. Kaczorek) **49** #6972 93C10

The stability of linear systems with periodically varying parameters. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **15** (1970), 259–278. (R. F. Matlak) **46** #3167 93D99

Periodic oscillations in a system containing an element of a discontinuous characteristic. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **16** (1971), 375–393. (S. Fučík) **45** #7415 45E10

On the continuity of the operator describing variable structure nonlinear system. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 705–709. (E. R. Deal) **48** #961 47G05

Periodic vibrations in the variable structure nonlinear system. *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 711–715. (E. R. Deal) **48** #962 47G05

(*with* Odyniec, Michał) Small periodic oscillations in autonomous systems. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **23** (1974), 265–276. (J. F. Heyda) **50** #14141 45M10

(*with* Bieńkowska-Lipińska, Krystyna; Browkin, Jerzy; Dymowski, Stanisław; Grochowski, Bogusław; Gutowski, Roman; Jeśmanowicz, Leon; Kotlarski, Ignacy I.; Krasnodębski, Ryszard; Leitner, Roman; Muszyński, Jerzy; Osiowski, Jerzy; Pawłowicz, Ireneusz; Piskorek, Adam; Sobczyk, Kazimierz; Traczyk, Tadeusz; Trajdos, Tadeusz; Waligórski, Stanisław; Wojdat, Marian; Zuber, Roman; Żakowski, Wojciech) ★Mathematik Handbuch für Technik und Naturwissenschaft. Herausgegeben von Jerzy Dreszer. Redaktion der deutschsprächigen Ausgabe von Günther Eisenreich und Wolfgang Naumann. Aus dem Polnischen übersetzt von A. Dworak, L. Kulik, L. Kutyła und W. Pilarczyk. *Verlag Harri Deutsch, Zurich-Frankfurt am Main*; 1975. xii + 1346 *pp.* (Editors) **52** #7771 00A20

Modulated signals in a nonlinear resonant circuit. (Polish. Russian and English summaries) *Arch. Elektrotech.* (*Warsaw*) **24** (1975), *no.* 3, 491–502. (Author's summary) **56** #15187 94A20 (34C15)

★Analiza funkcjonalna dla automatyków i elektroników. (Polish) [Functional analysis for control engineers and electrical engineers] Biblioteka Naukowa Inżyniera. [Science Library for the Engineer] *Państwowe Wydawnictwo Naukowe, Warsaw*, 1976. 175 *pp.* (*errata insert*) (S. Rolewicz) **56** #9212 46–01 (93–01)

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8969 *and* **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360a

Kudriavtsev, B. A. *See* **Kudrjavcev, B. A.**

Kudric′kiĭ, V. D. Optimal extrapolation of multidimensional random processes. *Avtomatika* **1969**, *no.* 3, 16–21 (*Ukrainian*); *translated as Soviet Automat. Control—Ukrain. J. Automat.* **1969**, *no.* 3, 10–13. **46** #3182 93E20

See also **Cybernetics and computer technology**, **48** #1517

Kudrik, P. Ī. Momentlessness of multiply connected convex shells. (Ukrainian. English and Russian summaries) *Dopovidī Akad. Nauk. Ukraïn. RSR Ser. A* **1972**, 917–921, 959. (Vadim Komkov) **47** #1350 73.30

(*with* Rjabčič, N. V.) A certain boundary value problem of the theory of shells with curvature of variable sign. (Russian) *Methods for the quantitative and qualitative study of differential and integral equations* (*Russian*), *pp.* 60–70. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (From the authors' introduction) **53** #15048 73.35

A boundary value problem with gluing in the theory of deformation of surfa (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* (1977), 25–31, 149. (Author's summary) **58** #30934 53C45

Kudrin, V. D. (*with* Kuzin, V. A.; Synah, V. S.; Fage, M. K.) Some nonlinear problems mathematical chemistry and physics. (Russian) *Some problems of numerical and appl mathematics* (*Russian*), *pp.* 154–163, 310. *Nauka Sibirsk. Otdel., Novosibirsk*, 19 (Authors' summary) **58** #32435 80.35 (49H05, 78.35)

See also **Problems of numerical and applied mathematics**, **58** #19015

Kudrina, K. N. (*with* Gil′derman, Ju. I.; Poletaev, I. A.) Models of L-systems (syste with limiting factors). (Russian) *Studies in cybernetics* (*Russian*), *pp.* 165–210. *Iza "Sovet. Radio", Moscow*, 1970. (D. Obradović) **47** #6350 93A10

(*with* Gil′derman, Ju. I.) Positive cycles in a system with a limiting factor. (Russia *Differencial′nye Uravnenija* **8** (1972), 1569–1576, 1714. (C. E. Langenhop) **47** #213 34C25

Kudrinskiĭ, V. Ju. (*with* Ostapčuk, V. S.) The solution of degenerate and ill-condition systems of linear algebraic equations. (Russian) *Mathematical methods in specializ computer technology* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 59–67. *Akad. Na Ukrain. SSR, Kiev*, 1969. (I. Šelihova (RŽMat **1970** #7 B785)) **45** #9468 65F35

(*with* Ostapčuk, V. S.) Certain algorithms for the solution of systems of line algebraic equations with rectangular matrices. (Russian. English summary) *Vyč Prikl. Mat.* (*Kiev*) *No.* 12 (1970), 78–86. (F. Szidarovszky) **45** #6172 65F05

(*with* Ostapčuk, V. S.) The construction of a uniformly convergent sequence algebraic polynomials by the generalized method of least squares for a certain class continuous functions. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 101–105, 140. (M. Stojanović) **47** #7894 65D15

An analysis of the accuracy of the solution of systems of linear algebraic equatio (Russian) *Optimization of computations* (*Russian*), *pp.* 60–64. *Inst. Kibernet., Akad. Na Ukrain. SSR, Kiev*, 1975. (Editors) **58** #31789 65F99

(*with* Gluškov, V. M.; Ohrīmenko, M. G.) A model of macrolevel planning wi optimization of transportation costs. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *n* 3, 555–558. (M. M. Sysło) **55** #2103 90B30

See also **Theory of languages and methods of construction of programming system** **48** #7682

Kudrja, V. P. (*with* Mahviladze, T. M.; Sinicyn, I. G.; Šelepin, L. A.) Coherence effec and questions of radiation control in multilevel systems. (Russian) *Trudy Fiz. In Lebedev.* **87** (1976), 38–54. (From the text) **58** #32668 82.45

Kudrjašov, A. B. Singularities of the solutions of nonlinear equations of Ginzburg-Landa type. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 4, 866–868, 887. (G. W. Hedstron **52** #3762 35Q99

(*with* Čuban′, V. D.; Ševčenko, Ju. A.) Some questions on the realization of th finite element method on an electronic computer. (Russian) *Programmirovanie* **1976**, *n* 6, 35–43, 79. (M. Zlámal) **56** #7258 65N30 (65–04)

Kudrjašov, S. N. (*with* Aksent′ev, L. A.) Some conditions for the univalence of the solutic of an inverse boundary value problem for a symmetric profile. (Russian) *Trudy Sen Kraev. Zadačam Vyp.* 6 (1969), 3–15. (Zbl **236** #76007) **58** #17113 30A88 (76.3

On the theory of univalence of the solution to an exterior inverse boundary valu problem. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 7 (1970), 193–197. (Zbl **209**, 11 **58** #17129 30A88

(*with* Avhadiev, F. G.) The number of solutions of an exterior inverse boundar value problem. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 8 (1971), 136–143. (Zbl **23** #30038) **58** #17130 (EA **58**) 30A88

Certain criteria for the univalence of analytic functions. (Russian) *Mat. Zametki* **1** (1973), 359–366. (E. Złotkiewicz) **47** #7022 30A36

Kudrjašov, V. V. Finite-dimensional algebras of integrals of motion for a centrally symmetic field. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 3 80–85, 141. (Author's summary) **56** #1984 81.22

The existence of tensor integrals of motion for a central field. (Russian) *Vescī Akad Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 6, 91–97, 143. (J. Ławrynowicz) **51** #239 70.53

Kudrjašova, L. V. (*with* Harlamova, E. I.; Mozalevskaja, G. V.) On the history of th formation of the equations of the dynamics of a rigid body. (Russian) *Meh. Tverd. Tel Vyp.* 7 (1974), 59–82. (J. S. Joel) **58** #26960 01A50

(*with* Harlamova, E. I.; Mozalevskaja, G. V.) On a paper of J. Liouville. (Russian) *Meh. Tverd. Tela Vyp.* 7 (1974), 82–86. (J. S. Joel) **58** #10104 01A55

See also **History and methodology of the natural sciences**, **50** #1807

Kudrjašova, N. F. (*with* Šneerson, M. S.) A certain oblique derivative problem for harmonic functions of three independent variables. (Russian) *Differencial′nye Uravnenija* **8** (1972), 1906–1908, 1916. (Ju. A. Šaškin) **47** #2083 31B20

Kudrjavcev, A. B. (*with* Spevakov, V. N.) Absolute summability of orthogonal series by the Euler method. (Russian) *Mat. Zametki* **21** (1977), *no.* 1, 51–56. (D. P. Gupta) **55** #13153 42A60

Kudrjavcev, B. A. (*with* Parton, V. Z.) The first fundamental problem of elasticity theory for a doubly periodic system of cuts. (Russian) *Continuum mechanics and related problems of analysis* (*on the occasion of the eightieth birthday of Academician N.I. Mushelišvili*) (*Russian*), *pp.* 251–258. *Izdat. "Nauka", Moscow*, 1972. (M. Mişicu) **51** #14696 73.30

(*with* Parton, V. Z.) Torsion and extension of a cylinder with an external annular slit. *Prikl. Mat. Meh.* **37** (1973), 316–325 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 297–306. (R. L. Fosdick) **50** #15521 73.35

(*with* Parton, V. Z.; Rakitin, V. I.) Fracture mechanics of piezoelectric materials. Rectilinear tunnel crack on the boundary with a conductor. *Prikl. Mat. Meh.* **39** (1975), *no.* 1, 149–159 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 1, 136–146. (M. Sokołowski) **52** #4789 73.45

Kudrjavcev, E. P. The action of plane waves on a long elastic rod floating on the surface of a liquid. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No.* 331 (1977), 112–118. (From the text) **58** #32238 73.35 (76.45)

Kudrjavcev, G. I. The convergence of sequences of linear operators to derivatives. (Russian) *Proceedings of the Central Regional Union of Mathematical Departments, No.* 1: *Functional Analysis and Function Theory* (*Russian*), *pp.* 122–136. *Kalinin. Gos. Ped. Inst., Kalinin*, 1970. (Chandler Davis) **45** #790 41A35

The order of approximation of derivatives by operators of class *M*. (Russian) *Proceedings of the Central Regional Association of Mathematics Departments, No. 2: Functional analysis and the theory of functions* (*Russian*), *pp*. 57–67. *Kalinin. Gos. Ped. Inst., Kalinin*, 1971. **55** #3628 41A35

Certain questions on the convergence of sequences of linear operators. (Russian) *A collection of articles on the constructive theory of functions and the extremal problems of functional analysis* (*Russian*), *pp*. 77–86. *Kalinin. Gos. Univ., Kalinin*, 1972. (V. A. Popov) **51** #13541 41A35

A generalization of a theorem of P. I. Romanovskiĭ. (Russian) *Application of functional analysis in approximation theory* (*Russian*), *pp*. 61–66, 155. *Kalinin. Gos. Univ., Kalinin*, 1977. (Editors) **58** #6887 42A40

Kudrjavcev, I. K. (*with* Šumovskiĭ, A. S.) The contribution of the spin-phonon interaction to the thermodynamics of a spin system. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 6, 1293–1295. (M. Lawrence Glasser) **56** #2064 81.47

Kudrjavcev, L. D. Solution of boundary value problems in unbounded domains in the case of a finite energy integral. (Russian) *Imbedding theorems and their applications* (*Proc. Sympos., Baku*, 1966) (*Russian*), *pp*. 131–137, 246. *Izdat. "Nauka" Moscow*, 1970. (D. P. Squier) **47** #9048 35J25 (46E35)

(*with* Besov, O. V.; Il′in, V. P.; Lizorkin, P. I.; Nikol′skiĭ, S. M.) The theory of the imbeddings of classes of differentiable functions of several variables. (Russian) *Partial differential equations* (*Proc. Sympos. dedicated to the 60th birthday of S. L. Sokolev*) (*Russian*), *pp*. 38–63. *Izdat. "Nauka", Moscow*, 1970. (H. Triebel) **47** #2339 46E35

Traces of functions of several variables, and direction fields that are regular at infinity for the Laplace operator. (Russian) Collection of articles dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, I. *Trudy Mat. Inst. Steklov.* **112** (1971), 256–270, 388. (H. Triebel) **48** #12035 46E35

Boundary properties of functions belonging to anisotropic weight classes, and polynomial traces. (Russian) *Application of functional methods to the boundary value problems of mathematical physics* (*Proc. Third Soviet-Czechoslovak Conf., Novosibirsk*, 1971) (*Russian*), *pp*. 122–126. *Inst. Mat. Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1972. (L. Cattabriga) **51** #11092 46E35

Properties of the boundary values of functions from weighted spaces, and their application to boundary value problems. (Russian) *Continuum mechanics and related problems of analysis* (*on the occasion of the eightieth birthday of Academician N. I. Mushelišvili*) (*Russian*), *pp*. 259–265. *Izdat. "Nauka", Moscow*, 1972. (Pavel Doktor) **57** #17258 46E35

Parametric inequalities for functions of several variables. (Russian) *Dokl. Akad. Nauk SSSR* **202** (1972), 1261–1264. (J. Albrycht) **45** #9126 46E35 (26A63)

Some properties of weight spaces and their applications. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 72–88 (1974). (A. Avantaggiati) **54** #8265 46E35

Polynomial traces and moduli of smoothness of functions of several variables. (Russian) Studies in the theory of differentiable functions of several variables and its applications, IV. *Trudy Mat. Inst. Steklov.* **117** (1972), 180–211, 344–345. (J. Musielak) **51** #13670 46E35

(*with* Lizorkin, P. I.; Nikol′skiĭ, S. M.; Sobolev, S. L.) Vladimir Iosifovič Kondrašov (obituary). (Russian) *Uspehi Mat. Nauk* **27** (1972), *no*. 2(164), 149–155 (1 *plate*). (Editors) **52** #5309 01A70

(*with* Evgrafov, M. A.; Markuševič, A. I.; Nikol′skiĭ, S. M.) Ibragim Ibiševič Ibragimov (on the occasion of his sixtieth birthday). (Russian) *Uspehi Mat. Nauk* **27** (1972), *no*. 5(167), 259–263. (1 *plate*) (Editors) **52** #5302 01A70

★Direct and inverse imbedding theorems. Applications to the solution of elliptic equations by variational methods. Translated from the Russian by S. Smith Translations of Mathematical Monographs, Vol. 42. *American Mathematical Society, Providence, R.I.*, 1974. iv+206 *pp*. (Editors) **49** #9618 46E35 (35A15, 35Jxx)

On properties of traces of functions belonging to weight spaces. *Functional analysis and its applications* (*Internat. Conf., Eleventh Anniversary of Matscience, Madras*, 1973; *dedicated to Alladi Ramakrishnan*), *pp*. 292–312. *Lecture Notes in Math., Vol.* 399, *Springer, Berlin*, 1974. (J. Albrycht) **52** #14981 46E35

Functions whose limit values are trigonometric polynomials. (Russian) *Differencial′nye Uravnenija* **10** (1974), 2223–2241, 2310–2311. (J. Musielak) **51** #10830 35B40 (46E35)

The space of functions whose limit values are trigonometric polynomials. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 491–494. (J. Musielak) **50** #2902 46E35 (42A04)

Certain properties of squares of natural numbers. (Russian) *Mat. Zametki* **16** (1974), 33–39. (A. I. Vinogradov) **50** #9822 10J05

The stabilization of functions at infinity to solutions of differential equations. (Russian) *Differencial′nye Uravnenija* **11** (1975), 332–357, 397. (A. Kufner) **52** #1290 46E35 (26A69)

The stabilization of functions at infinity and near a hyperplane. (Russian) Theory of functions and its applications (Collection of articles dedicated to Sergeĭ Mihaĭlovič Nikol′skiĭ on the occasion of his seventieth birthday). *Trudy Mat. Inst. Steklov.* **134** (1975), 124–141, 409. (J. Musielak) **58** #2231 46E35

(*with* Dzjadik, V. K.; Kolmogorov, A. N.) Sergeĭ Mihaĭlovič Nikol′skiĭ (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **30** (1975), *no*. 4 (184), 271–280. (1 *plate*) (Editors) **52** #7797 01A70

The stabilization of functions to trigonometric polynomials. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no*. 5, 1044–1047. (J. Musielak) **53** #13952 41A60 (46E30)

★Мысли о современной математике и ее изучении. (Russian) [Reflections on modern mathematics and its study] *Izdat. "Nauka", Moscow*, 1977. 111 *pp*. (H. Freudenthal) **58** #9972 00A25

Density of compactly supported functions in weighted spaces. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no*. 1, 46–49. (A. Kufner) **57** #17259 46E35

See also **Imbedding theorems and their applications**, **46** #9718; **Erugin, N. P.; et al.**, **47** #3136; **Collection: Vinogradov, I. M.**, **49** #7049; **Theory and applications of differentiable functions of several variables**, **50** #9472 *and* **Theory of functions and its applications**, **51** #13518

Kudrjavcev, O. A. (*with* Drač, V. A.) A radial nozzle. (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR Ser. Tehn. Nauk* **1977**, *no*. 8, 85–90, 159. (From the authors' introduction) **57** #11300 76.35

Kudrjavcev, P. S. Aristotle as a historian of science. (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp*. 3(44) (1973), 33–36. **55** #12406 01A20

See also **Nicolaus Copernicus. On the 500th anniversary of his birth**, **50** #12560 *and* **Questions on the history of the physical and mathematical sciences**, **57** #5558

Kudrjavcev, S. V. Ivan Semenovič Brovikov (on his 60th birthday). (Russian) *Mat. v Škole* **1977**, *no*. 1, 90–91. (Editors) **55** #52 01A70

Kudrjavcev, V. A. (*with* Čigarov, E. K.) Allocation of polygonal components of complex technological systems. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no*. 2, 120–126. (I. Gh. Ciobanu) **57** #5065 90B99

Kudrjavcev, V. B. The coverings of precomplete classes of *k*-valued logic. (Russian) *Diskret. Analiz No*. 17 (1970), 32–44. (M. Stojaković) **45** #1730 02C05

(*with* Birjukova, L. A.) The completeness of functions with delays. (Russian) *Problemy Kibernet. No*. 23 (1970), 5–25, 303. (E. Mendelson) **45** #39 02J05

The properties of *S*-systems of functions of *k*-valued logic. (Russian) *Diskret. Analiz No*. 19 (1971), 15–47. (G. Wechsung) **46** #5102 02C05 (94A30)

(*with* Blohina, G. N.) Basis groups in *k*-valued logics. (Russian) *Dokl. Akad. Nauk SSSR* **201** (1971), 9–11. (Janos Demetrovics) **52** #5349 02C05

(*with* Burosch, Gustav) Das Problem der Vollständigkeit für Boolesche Funktionen über zwei Dualmengen. *Math. Nachr.* **54** (1972), 105–125. (A. Tauts) **47** #6436 02C05

(*with* Blohina, G. N.; Burosch, Gustav) Über gewisse Eigenschaften des Systems **P**. *Math. Nachr.* **54** (1972), 355–378. (A. Tauts) **47** #6437 (E **51** #2866) 02C05

The function system $\mathcal{P}\Sigma$. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 521–522. (F. Gécseg) **48** #3645 94A30 (02E10)

The properties of *S*-systems of functions of *k*-valued logic. (Russian. German and English summaries) *Elektron. Informationsverarbeit. Kybernetik* **9** (1973), 81–105. (A. Salomaa) **50** #12648 02C05

(*with* Burosch, Gustav; Blohina, G. N.) Vollständigkeitsbedingungen für zwei Algebren vom Postschen Typ. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth. *Math. Balkanica* **3** (1973), 281–296. (A. Tauts) **51** #12477 02C05

The functional properties of logical nets. (Russian) *Math. Nachr.* **55** (1973), 187–211. (A. D. Koršunov) **47** #10157 94A25

(*with* Blohina, G. N.; Burosch, Gustav) Ein Vollständigkeitskriterium bis auf eine gewisse Äquivalenzrelation für eine verallgemeinerte Postsche Algebra. *Publ. Math. Debrecen* **20** (1973), 141–152. (L. Bukovský) **50** #51 02C05 (02G20, 02J05)

(*with* Blohina, G. N.; Burosch, Gustav) Das Problem der Vollständigkeit für Boolesche Funktionen über zwei Dualmengen mit nichtleerem Durchschnitt. I. *Z. Math. Logik Grundlagen Math.* **19** (1973), 163–180. (I. G. Rosenberg) **49** #8848 02G20 (02F05)

(*with* Birjukova, L. A.) Some problems of completeness for functions with delays. (Russian) *Operations research* (*models, systems, solutions*), *No*. 4 (*Russian*), *pp*. 88–102, 238. *Vyčisl. Centr, Akad. Nauk SSSR, Moscow*, 1974. (Authors' summary) **58** #33538 94A20

(*with* Blohina, G. N.) A criterion for the basis property of groups in *k*-valued logic. (Russian) *Operations research* (*models, systems, solutions*), *No*. 4 (*Russian*), *pp*. 103–110, 238. *Vyčisl. Centr, Akad. Nauk SSSR, Moscow*, 1974. (Authors' summary) **58** #27302 02C05

(*with* Blohina, G. N.; Burosch, Gustav) Das Problem der Vollständigkeit für Boolesche Funktionen über zwei Dualmengen mit nichtleerem Durchschnitt. II. *Z. Math. Logik Grundlagen Math.* **20** (1974), 79–96. (I. G. Rosenberg) **51** #7819 02C05

Concerning the functional system $\mathcal{P}_\Sigma$. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 198–208, 269. (Igor Lavrov) **49** #2369 02H99 (02B25)

(*with* Blohina, G. N.; Burosch, Gustav) Ergänzung zu unserer Arbeit: "Über gewisse Eigenschaften des Systems *P*" (Math. Nachr. **54** (1972), 355–378). *Math. Nachr.* **65** (1975), 163. (A. Tauts) **51** #2866 02C05

Über einige allgemeine Eigenschaften des Funktionalsystems P_Σ. (Russian, English and French summaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no*. 6, 719–720. (Author's summary) **58** #5195 02J05

(*with* Blohina, G. N.; Burosch, G.) Criterion of completeness with respect to a certain equivalence for a generalized Post algebra. (Russian) *Operations research* (*models, systems, solutions*), *No*. 5 (*Russian*), *pp*. 36–48, 181. *Vyčisl. Centr, Akad. Nauk SSSR, Moscow*, 1976. (From the summary and text) **58** #27471 02J05

(*with* Konstantinov, R. M.; Koroleva, Z. E.) A combinatory logic approach to problems of predicting ore yields. (Russian) Third All-Union Conference on Problems of Theoretical Cybernetics (Novosibirsk, 1974). *Problemy Kibernet. No*. 31 (1976), 5–33, 237. (A. A. Mullin) **55** #4809 68A45

Kudrjavcev, V. N. *See* **Cybernetics—in the service of Communism**, **48** #10432

Kudrjavcev, Valeriĭ B. *See* **Kudrjavcev, V. B.**

Kudrjavcev, W. B. *See* **Kudrjavcev, V. B.**

Kudrjavceva, I. V. The decrease of solutions for a second order parabolic equation. (Russian) *Ufim. Aviacion. Inst. Trudy. Vyp*. 43 (1972), 31–37. **56** #12598 35K10

The decrease of solutions for a parabolic equation on a layer over a cone. (Russian) *Ufim. Aviacion. Inst. Trudy. Vyp*. 43 (1972), 38–40. **56** #12604 35K25

Kudrjavceva, S. P. (*with* Gergély, T.; Dovgjallo, A. M.) Theoretical foundations for the design of an automatic system for the solution of problems of transforming homogeneous information files. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no*. 2, 113–123. (P. Vondráček) **53** #12125 68A99

See also **Mathematical and informational models of science control**, **49** #12117

Kudryavtsev, L. D. *See* **Kudrjavcev, L. D.**

Kudryts'kyy, V. D. *See* **Kudric'kiĭ, V. D.**

Kudva, Prabhakar (*with* Narendra, Kumpati S.) Synthesis of an adaptive observer using Lyapunov's direct method. *Internat. J. Control* **18** (1973), *no*. 6, 1201–1210. (Authors' summary) **53** #15456 93B30 (93D10)

(*with* Narendra, Kumpati S.) The discrete adaptive observer. *Proceedings of the 1974 IEEE Conference on Decision and Control including 13th Symposium on Adaptive*

Processes (*Phoenix, Ariz.*, 1974), *pp.* 307–312. *Inst. Electrical Electron. Engrs., New York,* 1974. (Authors' summary) **56** #17975 93B30 (93D05)

(*with* Narendra, Kumpati S.) An identification procedure for discrete multivariable systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 549–552. (Ivar Gustavsson) **55** #12202 93B30

(*with* Narendra, Kumpati S.) Stable adaptive schemes for system identification and control. I, II. *IEEE Trans. Systems, Man Cybernet.* **SMC-4** (1974), 542–551; *ibid.* **SMC-4** (1974), 552–560. (Kunihiko Ichikawa) **52** #12905 93C40

(*with* Gourishankar, V.; Ramar, K.) Reduced-order observers for multivariable systems with inaccessible disturbance inputs. *Internat. J. Control* **25** (1977), *no.* 2, 311–319. (S. P. Bingulac) **56** #2498 93B05

(*with* Gourishankar, V.) Optimal observers for the state regulation of linear discrete-time plants. *Internat. J. Control* **26** (1977), *no.* 3, 359–368. (B. Wittenmark) **57** #5292 93C55 (93C05)

(*with* Gourishankar, V.) Observers for linear discrete multivariable systems with inaccessible inputs. *Internat. J. Control* **27** (1978), *no.* 4, 539–546. (Joseph D. Cole) **58** #26243 93B05

(*with* Kim, C. G.; Gourishankar, V.) An optimal observer design for discrete linear systems. *Internat. J. Control* **27** (1978), *no.* 6, 879–884. (M. Pachter) **58** #15376 93B05

Kudžma, R. A. Optimal stopping of semistable diffusion processes. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **12** (1972), *no.* 4, 99–112, 237. (M. E. Thompson) **48** #1330 60G40

Optimal stopping of semistable Markov processes. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 3, 113–117, 233. (Petr Mandl) **48** #12653 60J25 (60G40)

An invariance principle in optimal stopping problems. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **13** (1973), *no.* 4, 125–130, 221. (K. Wickwire) **50** #8871 62L15 (60J25)

(*with* Surgailis, D.) Adjoint Brownian motions with oblique reflection. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **14** (1974), *no.* 2, 71–77, 251. (J. L. Doob) **52** #4439 60J65

Kudžmauskas, Š. (*with* Narušis, J.) Calculation of the energy transfer probability of electronic excitation in complex couplings. (Russian. Lithuanian and English summaries) *Litovsk. Fiz. Sb.* **17** (1977), *no.* 4, 469–479, 538. (K. Kumar) **56** #17625 81.60

Kuebler, R. R. (*with* Greenberg, B. G.; Abernathy, J. R.; Horvitz, D. G.) Respondent hazards in the unrelated question randomized response model. *J. Stat. Plann. Inference* **1** (1977), *no.* 1, 53–60. (Claes-M. Cassel) **58** #18820 62D05

Kuebler, Robin (*with* Reid, James D.) On a paper of F. Richman and E. A. Walker (Math. Z. **89** (1965), 77–81). *Rocky Mountain J. Math.* **5** (1975), *no.* 4, 585–592. (Charles W. Curtis) **53** #3150 20K10

Kuehl, H. H. (*with* Ko, K.) Korteweg-de Vries soliton in a slowly varying medium. *Phys. Rev. Lett.* **40** (1978), *no.* 4, 233–236. (Authors' summary) **58** #14579 81.35

Kuehner, Donald (*with* Kowalski, Robert) Linear resolution with selection function. *Artificial Intelligence* **2** (1971), 227–260. (From the authors' summary) **55** #9618 68A40

Kueker, David W. Löwenheim-Skolem and interpolation theorems in infinitary languages. *Bull. Amer. Math. Soc.* **78** (1972), 211–215. (Stephen J. Garland) **45** #36 02B25

(*with* Baldwin, John T.; Blass, Andreas; Glass, A. M. W.) A "natural" theory without a prime model. *Algebra Universalis* **3** (1973), 152–155. (G. Fuhrken) **50** #86 02H05

A note on the elementary theory of finite abelian groups. *Algebra Universalis* **3** (1973), 156–159. (G. Fuhrken) **50** #87 02H05

Back-and-forth arguments and infinitary logics. *Infinitary logic: in memoriam Carol Karp, pp.* 17–71. *Lecture Notes in Math., Vol.* 492, *Springer, Berlin,* 1975. (Fred Halpern) **57** #2905 02H10 (02B25)

Core structures for theories. *Fund. Math.* **89** (1975), *no.* 2, 155–171. (S. Feferman) **52** #13368 02H05

Countable approximations and Löwenheim-Skolem theorems. *Ann. Math. Logic* **11** (1977), *no.* 1, 57–103. (Fred Halpern) **56** #15406 02H10 (02B25)

See also **Infinitary logic: in memoriam Carol Karp, 52** #7837

Kuelbs, James D. (*with* Mandrekar, Vidyadhar) Harmonic analysis on certain vector spaces. *Trans. Amer. Math. Soc.* **149** (1970), 213–231. (S. R. Harasymiv) **46** #320 28A40 (43A35, 46G99, 60B05)

(*with* Mandrekar, Vidyadhar) The Wiener closure theorems for abstract Wiener spaces. *Proc. Amer. Math. Soc.* **32** (1972), 169–178. (J. A. Beekman) **45** #2132 28A40 (46G99)

(*with* Larkin, F. M.; Williamson, John A.) Weak probability distributions on reproducing kernel Hilbert spaces. *Rocky Mountain J. Math.* **2** (1972), *no.* 3, 369–378. (K. Jacobs) **45** #8796 28A40 (46A15, 60B05)

(*with* Mandrekar, Vidyadhar) Harmonic analysis on *F*-spaces with a basis. *Trans. Amer. Math. Soc.* **169** (1972), 113–152. (S. R. Harasymiv) **49** #6292 60B05 (28A40)

Some results for probability measures on linear topological vector spaces with an application to Strassen's log log law. *J. Functional Analysis* **14** (1973), 28–43. (R. M. Dudley) **50** #8628 60B05

Positive definite symmetric functions on linear spaces. Collection of articles dedicated to Salomon Bochner. *J. Math. Anal. Appl.* **42** (1973), 413–426. (Rosalind Reichard) **47** #9284 46G99

The invariance principle for Banach space valued random variables. *J. Multivariate Anal.* **3** (1973), 161–172. (S. R. S. Varadhan) **48** #7328 60B10

Fourier analysis on linear metric spaces. *Trans. Amer. Math. Soc.* **181** (1973), 293–311. (J. Pickands, III) **48** #9788 60B10 (28A40, 43A35)

(*with* LePage, Raoul D.) The law of the iterated logarithm for Brownian motion in a Banach space. *Trans. Amer. Math. Soc.* **185** (1973), 253–265. (V. V. Buldigin) **51** #6951 60G15 (60B05)

A representation theorem for symmetric stable processes and stable measures on *H*. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **26** (1973), 259–271. (R. Jajte) **54** #8782 60B15 (60J30)

Strassen's law of the iterated logarithm. (French summary) Colloque International sur les Processus Gaussiens et les Distributions Aléatoires (Colloque Internat. du CN No. 222, Strasbourg, 1973). *Ann. Inst. Fourier* (*Grenoble*) **24** (1974), *no.* 2, vi, 169– (Raoul LePage) **53** #9356 60G15

(*with* Kurtz, Thomas G.) Berry-Esseen estimates in Hilbert space and an application to the law of the iterated logarithm. *Ann. Probability* **2** (1974), 387–407. Vervaat) **50** #14868 60B10 (60F15)

An inequality for the distribution of a sum of certain Banach space valued rand variables. *Bull. Amer. Math. Soc.* **80** (1974), 549–552. (V. V. Buldigin) **52** #1203 60B15 (60F05)

(*with* Mandrekar, Vidyadhar) Domains of attraction of stable measures o Hilbert space. *Studia Math.* **50** (1974), 149–162. (M. M. Rao) **49** #9894 60B05

An inequality for the distribution of a sum of certain Banach space valued rand variables. *Studia Math.* **52** (1974), 69–87. (A. D. de Acosta) **52** #4359 60B05

Sample path behavior for Brownian motion in Banach spaces. *Ann. Probabilit* (1975), 247–261. (N. C. Jain) **51** #9141 60B99

The law of the iterated logarithm in *C*[0,1]. *Z. Wahrscheinlichkeitstheorie und Ve Gebiete* **33** (1975/76), *no.* 4, 221–235. (Evarist Giné) **53** #4195 60F15 (60B10)

The law of the iterated logarithm and related strong convergence theorems Banach space valued random variables. *École d'Été de Probabilités de Saint-Flo V—1975, pp.* 224–314. *Lecture Notes in Math., Vol.* 539, *Springer, Berlin,* 1976. (Ra LePage) **57** #4277b 60B10 (60F15)

The law of the iterated logarithm for Banach space valued random variable *Probability in Banach spaces* (*Proc. First Internat. Conf., Oberwolfach,* 1975), *pp.* 131–142. *Lecture Notes in Math., Vol.* 526, *Springer, Berlin,* 1976. (Raoul LePa **57** #4277a 60B10 (60F15)

A counterexample for Banach space valued random variables. *Ann. Probability* (1976), *no.* 4, 684–689. (Michael Marcus) **56** #9613 60B10

A strong convergence theorem for Banach space valued random variables. *Am Probability* **4** (1976), *no.* 5, 744–771. (V. S. Mandrekar) **54** #8783 60B15 (60F15)

Some strong convergence theorems for Banach space valued random variable *Symposia Mathematica, Vol. XXI* (*Convegno sulle Misure su Gruppi e su Spazi Vettoria Convegno sui Gruppi e Anelli Ordinati, INDAM, Rome,* 1975), *pp.* 267–280. *Academ Press, London,* 1977. (W. A. Woyczyński) **57** #10756 60B10 (60F15)

Kolmogorov's law of the iterated logarithm for Banach space valued rando variables. *Illinois J. Math.* **21** (1977), *no.* 4, 784–800. (Shigeru Takahashi) **56** #13301 60B05 (60F15, 60B10)

(*with* Woyczyński, Wojbor A.) Lacunary series and exponential moments. *Pro Amer. Math. Soc.* **68** (1978), *no.* 3, 281–291. (Shigeru Takahashi) **57** #1009 42A (60F15)

Some exponential moments of sums of independent random variables. *Trans. Ame Math. Soc.* **240** (1978), 145–162. (V. J. Paulauskas) **58** #24440 60B05 (60F1 60G50)

Küenle, Christine (*with* Küenle, Heinz-Uwe) Durchschnittsoptimale Strategien in Markovschen Entscheidungsmodellen bei unbeschränkten Kosten. (English and Russia summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 4, 549–56 (M. Mañas) **57** #15479 90C40 (90B05)

Küenle, Heinz-Uwe Ein neuer Optimalitätsbeweis für (*s*, *S*)-Lagerhaltungsstrategien. *Math. Nachr.* **77** (1977), 55–64. (M. Rössler) **56** #4773 90B05

(*with* Küenle, Christine) Durchschnittsoptimale Strategien in Markovschen Entscheidungsmodellen bei unbeschränkten Kosten. (English and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 4, 549–564. (M. Mañas **57** #15479 90C40 (90B05)

Kuenne, Robert E. (*with* Soland, Richard M.) Exact and approximate solutions to th multisource Weber problem. *Math. Programming* **3** (1972), 193–209. (Authors' summary) **47** #1437 90B10

Kuerti, G. *See* **Glazman, I. M.; et al., 50** #7195

von Kues, Nikolaus *See* **Teltscher, Helga-Beate, 56** #11697

Kuester, Jeffrey A region whose prime ends all have the same impression. *Math. Z.* **13** (1974), 1–5. (G. Piranian) **58** #22565 30A72

Kufarev, B. P. A metrization of the space of all prime ends of the domains of the family *B* (Russian) *Mat. Zametki* **6** (1969), 607–618. (Author's summary) **55** #8363 30A72

Capacity of subsets of the Carathéodory boundary, and BL-homeomorphism (Russian) *Dokl. Akad. Nauk SSSR* **199** (1971), 273–274. (P. Caraman) **46** #3784 30A60

(*with* Peškičev, Ju. A.) Certain geometric properties of quasiconformal homeomorphisms. (Russian) *Sibirsk. Mat. Ž.* **12** (1971), 603–612. (See RŽMat **1971** #10 B131) 30A24

Estimates of Hausdorff measures in the case of W_p^1 type mappings. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 288–291. (L. C. Young) **47** #6977 28A10 (30A30)

Potentials and the correspondence of boundaries. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 255–258. (I. Netuka) **49** #3143 30A72

(*with* Peškičev, Ju. A.) Remarks on quasiconformal mappings. (Russian) *Trudy Tomsk. Gos. Univ.* **253** *Voprosy Mat. Vyp.* 5 (1974), 59–65. (*loose erratum*) (I. A. Volynec) **55** #3245 30A60

Potentials and boundary correspondence. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 2, 438–461, 479. (Author's summary) **58** #17152 31A20

(*with* Zjuz'kov, V. M.) On the problem of correspondence of boundaries. (Russian) *Mat. Zametki* **22** (1977), *no.* 1, 103–108. (V. M. Mikljukov) **56** #15933 30A72

Kufarev, P. P. The variational formula of G. M. Goluzin. (Russian) *Trudy Tomsk. Gos. Univ.* **163** (1963), 58–62. (J. S. Joel) **54** #5457 30A38

(*with* Prjažinskaja, V. G.) A certain system of integral equations in the theory of the motion of ground waters. (Russian) *Trudy Tomsk. Gos. Univ.* **163** (1963), 63–72. (F. Gahov (RŽMat **1964** #4 B361)) **54** #4318 76.45

Kufel, Wiesław Some theorems of elasticity of discretized multipolar bodies. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 659–665. (P. P. Teodorescu) **49** #1884 73.49

Linear problems in the elasticity theory of discretized bodies. (Polish. Russian and English summaries) *Mech. Teoret. Stos.* **11** (1973), 63–74. (J. L. Nowinski) **50** #6289 73.65

(*with* Pietras, Feliks) Estimation of the accuracy of the solutions of boundary value problems for discretized elastic bodies. (Polish. Russian and English summaries) *Rozprawy Inż.* **22** (1974), 427–434. (Raičo Lazarov) **50** #15556 73.65

Kufner, Alois Application of general weighted spaces to the solution of boundary value problems. (Russian) *Application of functional methods to the boundary value problems of mathematical physics* (*Proc. Third Soviet-Czechoslovak Conf., Novosibirsk*, 1971) (*Russian*), *pp.* 127–134. *Inst. Mat. Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1972. (Pavel Doktor) **51** #8626 35J40 (46E35)

(*with* Fučík, Svatopluk) Schauder bases and their applications. (Czech) *Pokroky Mat. Fyz. Astronom.* **19** (1974), 11–21. (Editors) **58** #7044 46B15

★Geometrie Hilbertova prostoru. (Czech) [The geometry of Hilbert space] Second edition. MS-Matematický Seminář SNTL, No. 4. [MS-Mathematics Seminar of the State Publishing House of Technical Literature, No. 4] *SNTL-Nakladatelství Technické Literatury, Prague*, 1975. 245 *pp.* (Editors) **55** #10988 46–01 (47–01)

(*with* John, Oldřich; Fučík, Svatopluk) ★Function spaces. Monographs and Textbooks on Mechanics of Solids and Fluids; Mechanics: Analysis. *Noordhoff International Publishing, Leyden*; *Academia, Prague*, 1977. xv + 454 *pp.* *ISBN* 90-286-0015-9 (Richard Bagby) **58** #2189 46Exx

See also **Dictionary: Czech-Russian**, **50** #4202; **Hardy, Godfrey Harold; et al.**, **52** #14796 *and* **Pełczyński, A.**, **58** #7043

Kuftarkov, Ju. M. (*with* Kosnyrev, V. K.; Fel'zenbaum, A. I.) Quasi-homogeneous layers in the theory of oceanic circulation. (Russian) *Dokl. Akad. Nauk SSSR* **235** (1977), *no.* 3, 560–563. (E. Zeidler) **57** #8970 86.35 (76.35)

Kufudaki, Olga Matrix-form solutions of nonuniform multilayer distributed networks. *TESLA Electronics* **5** (1972), 114–117. (J. Capon) **48** #3624 94A20

Kuga, Kiyoshi The factor-price equalization theorem. *Econometrica* **40** (1972), 723–736. (S. Krčevinac) **53** #10198 90A15

(*with* Murota, Takeshi) A note on definitions of elasticity of substitution in many input case. *Metroecon.* **24** (1972), 285–290. (From the authors' introduction) **50** #15869 90A15

More about joint production. *Internat. Econom. Rev.* **14** (1973), *no.* 1, 196–210. (A. L. Nagar) **52** #12725 90A15

(*with* Nagatani, Hiroaki) Voter antagonism and the paradox of voting. *Econometrica* **42** (1974), 1045–1067. (Authors' summary) **55** #14084 90A05 (92A20)

Brouwer's fixed-point theorem: an alternative proof. *SIAM J. Math. Anal.* **5** (1974), 893–897. (I. A. Rus) **51** #11468 54H25

General saddlepoint property of the steady state of a growth model with heterogeneous capital goods. *Internat. Econom. Rev.* **18** (1977), *no.* 1, 29–58. (Author's summary) **58** #4234 90A15

Kuga, Michio (*with* Sampson, J. H.) A coincidence formula for locally symmetric spaces. *Amer. J. Math.* **94** (1972), 486–500. (J. A. Wolf) **47** #6943 22E40 (53C35)

(*with* Hall, Rita) Algebraic cycles in a fiber variety. *Sci. Papers College Gen. Ed. Univ. Tokyo* **25** (1975), *no.* 1, 1–6. (Editors) **57** #9699 14C30 (14K22)

(*with* Ihara, Shin-ichiro) Family of families of abelian varieties. *Algebraic number theory* (*Kyoto Internat. Sympos., Res. Inst. Math. Sci., Univ. Kyoto, Kyoto*, 1976), *pp.* 129–142. *Japan Soc. Promotion Sci., Tokyo*, 1977. (T. Ono) **57** #16319 14K15 (14K10)

Kugel, Peter Induction, pure and simple. *Information and Control* **35** (1977), *no.* 4, 276–336. (George Tourlakis) **57** #16030 02F50 (02A05, 68A99)

Kugler, M. *See* **Developments in high energy physics**, **48** #3376

Kugler, Werner Über die Einfachheit gewisser verallgemeinerter L^1-Algebren. *Arch. Math.* (*Basel*) **26** (1975), 82–88. (Pierre Eymard) **52** #6326 43A20

Kugo, Taichiro (*with* Fukuda, Reijiro) Dynamical theory of the Yang-Mills field. I. Instability of the vacuum and singlet pair condensation. *Progr. Theoret. Phys.* **60** (1978), *no.* 2, 565–583. (Authors' summary) **58** #25556 81.45

Kugurakov, V. S. (*with* Sokolov, O. B.) Sets of the lengths of cycles of one-to-one affine mappings of the space $V^n(GF(p))$ onto itself. (Russian) *Kazan. Gos. Univ. Učen. Zap.* **129** (1969), *no.* 4, 74–79. (C. Reischer) **45** #8661 15A03

The redundancy of linear codes with orthogonal and λ-connected tests. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 1, 36–41. (G. M. Tenengol'c) **50** #12440 94A10

Linear cyclic codes with λ-connected tests and certain other tests. (Russian) *Problemy Peredači Informacii* **11** (1975), *no.* 4, 29–38. (Author's summary) **58** #9770 94A10

Kugurakova, N. K. Generalization of Beale's method for an arbitrary convex function. (Russian) *Numerical methods in problems of technology and economics* (*Russian*), *pp.* 99–112. *Izdat. Kazan. Univ., Kazan*, 1971. (Author's introduction) **55** #2148 90C30

Kugušev, E. I. The maximum principle in problems of optimal control of systems with non-smooth right-hand side. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 3, 107–113. (Stanislav K. Myškov) **49** #5989 49B10

Optimal control problems with constraints on the pulses. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 4, 73–78. (Russell D. Rupp) **48** #12216 49B35

Necessary conditions for optimality for systems that are described by equations with a discontinuous right hand side. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 2, 83–90. (L. Mikołajczyk) **49** #9708 49B10

Kuh, Edwin (*with* Welsch, Roy E.) The variances of regression coefficient estimates using aggregate data. *Econometrica* **44** (1976), *no.* 2, 353–363. (H. Toutenburg) **56** #9839 62J05 (62P20)

Kuh, Ernest S. (*with* Fujisawa, Toshio) Some results on existence and uniqueness of solutions of nonlinear networks. *IEEE Trans. Circuit Theory* **CT-18** (1971), 501–506. (P. R. Bryant) **45** #9479 65H10 (26A57)

(*with* Hajj, Ibrahim N.) Nonlinear circuit theory: resistive networks. *Proc. IEEE* **59** (1971), 340–355. (Authors' summary) **56** #11589 94A20 (58C15)

(*with* Fujisawa, Toshio; Ohtsuki, Tatsuo) A sparse matrix method for analysis of piecewise-linear resistive networks. *IEEE Trans. Circuit Theory* **CT-19** (1972), 571–584. (George E. Trapp) **53** #7627 94A20

(*with* Fujisawa, Toshio) Piecewise-linear theory of nonlinear networks. *SIAM J. Appl. Math.* **22** (1972), 307–328. (Authors' summary) **56** #11564 94A20

(*with* Fujisawa, Toshio; Ohtsuki, Tatsuo) A sparce matrix method for analysis of piecewise-linear resistive networks. *NEC Res. Development No.* 30 (1973), 9–21. (I. T. Frisch) **49** #10452 94A20 (90C05)

(*with* Cheung, Lap Kit) The bordered triangular matrix and minimum essential sets of a digraph. *IEEE Trans. Circuits and Systems* **CAS-21** (1974), 633–639. (Da-Lun Wang) **52** #10480 05C20

(*with* Ting, Benjamin S.; Shirakawa, Isao) The multilayer routing problem: algorithms and necessary and sufficient conditions for the single-row single-layer case. Special issue on large-scale networks and systems. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no.* 12, 768–778. (Authors' summary) **57** #5488 94A20

(*with* Chien, Ming Jeh) Solving nonlinear resistive networks using piecewise-linear analysis and simplicial subdivision. *IEEE Trans. Circuits and Systems* **CAS-24** (1977), *no.* 6, 305–317. (András Recski) **56** #11552 94A20

See also **Nonlinear networks: theory and analysis**, **52** #5178

Kuhar, R. B. An estimate of the complexity of some algorithms for the parallelization of a given collection of problems. (Ukrainian) *Mathematical economics methods for industrial control and efficiency* (*Ukrainian*), *pp.* 29–35. *Akad. Nauk Ukraïn. RSR L'viv. Vīddīlennja, Kiev*, 1974. (From the text) **58** #32057 68A20

Kuharčuk, G. V. Cauchy type integrals on a countable set of parallel lines. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1974**, *no.* 3, 17–22, 92. (S. A. Tersenov) **50** #10278 30A86

A homogeneous Riemann boundary value problem on a countable set of parallel lines. (Russian) *Vestnik Beloruss. Gos. Univ. Ser. I* **1975**, *no.* 1, 3–6, 88. (From the introduction) **58** #11438 30A88 (45E05)

(*with* ToloČko, M. È.) A theorem of Phragmén-Lindelöf type for a certain class of infinitely connected domains. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 1, 50–54, 141. (H.-J. Rossberg) **56** #600 30A42

Kuharenko, N. V. (*with* Semenov, A. M.) A quadratic functional and the solvability of problems of synthesizing linear regulators. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 6, 168–170, 223 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 6, 139–142. (Authors' summary) **56** #18023 93D99

Kuhfittig, Peter K. F. Fixed points of several classes of nonlinear mappings in Banach space. *Proc. Amer. Math. Soc.* **44** (1974), 300–306. (Kok-keong Tan) **49** #11332 47H10

An alternative to the Laplace transform. *Delta* (*Waukesha*) **6** (1976), *no.* 1, 29–33. (E. Gesztelyi) **54** #13490 44A40

Fixed points of locally contractive and nonexpansive set-valued mappings. *Pacific J. Math.* **65** (1976), *no.* 2, 399–403. (R. C. O'Brien) **54** #13889 54H25

Fixed-point theorems for mappings with non-convex domain and range. *Rocky Mountain J. Math.* **7** (1977), *no.* 1, 141–145. (I. A. Rus) **55** #9062 54H25

★Introduction to the Laplace transform. Mathematical Concepts and Methods in Science and Engineering, Vol. 8. *Plenum Press, New York-London*, 1978. x + 205 *pp.* *ISBN* 0-306-31060-0 (R. S. Dahiya) **58** #2044 44A10

Kühl, B. Ein adaptives Wahrscheinlichkeitsdichte-Approximationsverfahren mit Momenten. (English summary) *Regelungstech. Prozeß-Datenverarbeit.* **20** (1972), *no.* 8, 346–352. (Author's summary) **52** #6961 62E20

Kühlbrandt, Harold Halbdrehungsebenen und Fortsetzung von Ordnungsfunktionen auf punktiert-affine Inzidenzgruppen. *Abh. Math. Sem. Univ. Hamburg* **45** (1976), 68–81. (Irene Pieper) **55** #6298 50C15

Über Halbdrehungsebenen, in denen der Höhenschnittpunktsatz gilt. *Beiträge zur geometrischen Algebra* (*Proc. Sympos., Duisburg*, 1976), *pp.* 209–218. *Lehrbücher u. Monographien aus dem Gebiete der Exakt. Wiss., Math. Reihe, Band* 21, *Birkhäuser, Basel*, 1977. (F. Bachmann) **58** #12693 50D10

Eine gruppentheoretische Kennzeichnung ebener kommutativer punktiert-affiner Inzidenzgruppen. (English summary) *J. Geometry* **9** (1977), *no.* 1-2, 79–81. (B. Orbán) **57** #1249 50A20

Kuhler, Ronald J. (*with* Yeh, Hsi Han) Additional properties of an extended maximum principle. *Internat. J. Control* (1) **17** (1973), 1281–1286. (D. F. Lawden) **48** #9501 49B15

(*with* Yeh, Hsi Han) Optimization of a class of pulse-frequency-modulated systems. *J. Optimization Theory Appl.* **18** (1976), *no.* 2, 259–270. (J. E. Rubio) **57** #3942 49B15 (93C55)

Kuhlmann, Norbert Komplexe Basen zu quasieigentlichen holomorphen Abbildungen. *Comment. Math. Helv.* **48** (1973), 340–353. (Gerd Fischer) **50** #10315 32C20

Über holomorphe Abbildungen mit Projektiven Fasern. *Math. Z.* **135** (1973/74), 43–54. (M. Schneider) **48** #11583 32L05 (32H99)

Sur la cohérence des images directes. *Fonctions de plusieurs variables complexes* (*Sém. François Norguet*, 1970-1973; *à la mémoire d'André Martineau*), *pp.* 347–356. *Lecture Notes in Math., Vol.* 409, *Springer, Berlin*, 1974. (Andrew Markoe) **51** #8456 (E **52** #14362) 32C35

Erratum: "Sur la cohérence des images directes" (Fonctions de plusieurs variables complexes (Sém. Francois Norguet, 1970–1973; à la mémoire d'André Martineau), pp. 347–356. Lecture Notes in Math., Vol. 409, Springer, Berlin, 1974). *Fonctions de plusieurs variables complexes, II* (*Sém. François Norguet*, 1974–1975), *p.* 367. *Lecture Notes in Math., Vol.* 482, *Springer, Berlin*, 1975. (Andrew Markoe) **52** #14362 32C35

Ein Satz über Regelflächen vom Geschlecht $\geqslant 2$. *Arch. Math.* (*Basel*) **29** (1977), *no.* 6, 619–620. (M. Schneider) **58** #11527 32J99 (32G99)

Bemerkungen über eigentliche holomorphe Abbildungen. *Math. Ann.* **226** (1977), *no.* 2, 171–181. (M. Schneider) **55** #3331 32H99

Kühn, Erich ★Über die Funktionentheorie und das Ähnlichkeitsprinzip einer Klasse elliptischer Differential gleichungssysteme in der Ebene. Dissertation zur Erlangung des Grades eines Doktors der Naturwissenschaften der Universität Dortmund. *Universität Dortmund, Dortmund*, 1974. iii + 51 *pp.* **57** #870 35J45

Kuhn, G. (*with* Matczyński, M.) Beitrag zum gemischten Randwertproblem am Streifen. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Munich, 1973). *Z. Angew. Math. Mech.* **54** (1974), T88–T91. (Radu Bădescu) **50** #6261 73.35

(*with* Matczyński, M.) Elastic strip with a crack under periodic loading. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **27** (1975), *no.* 3, 459–472. (M. Mişicu) **52** #7271 73.45

(*with* Matczyński, M.) Analytische Ermittlung des Spannungsintensitätsfaktors eines ebenen Rissproblems unter periodischer Belastung. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Bochum, 1974). *Z. Angew. Math. Mech.* **55** (1975), *no.* 4, *T*99–*T*102. (J. Murzewski) **54** #1808 73.45

Kuhn, Harald Über Polynome mit nur reellen Nullstellen der Ableitung. III. *Arch. Math.* (*Basel*) **26** (1975), 166–169. (F. Herzog) **51** #13161 26A78

Kuhn, Harold W. Simplicial approximation of fixed points. *Proc. Nat. Acad. Sci. U.S.A.* **61** (1968), 1238–1242. (Zbl **191** #549) **58** #7589 54H25 (05C30)

Duality in mathematical programming. *Mathematical systems theory and economics. I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp.* 67–91. *Lecture Notes in Oper. Res. and Math. Econom., Vols.* 11, 12, *Springer, Berlin*, 1969. (R. W. Cottle) **47** #10055 90C05

Algorithms for Sperner's lemma by systematic search. (French summary) *OR* 69 (*Proc. Fifth Internat. Conf. Operational Research, Venice*, 1969), *pp.* cii, 465–471. *Tavistock Publications, London*, 1970. (Daniel I. A. Cohen) **51** #15018 90C99

A note on Fermat's problem. *Math. Programming* **4** (1973), 98–107. (J. Falk) **47** #4650 90C30

"Steiner's" problem revisited. *Studies in optimization*, *pp.* 52–70. *Studies in Math., Vol.* 10, *Math. Assoc. Amer., Washington, D.C.*, 1974. (Csaba Fabian) **57** #18835 90C30

A new proof of the fundamental theorem of algebra. Pivoting and extensions. *Math. Programming Stud. No.* 1 (1974), 148–158. (Ky Fan) **55** #2861 12E99 (90C05, 05A15)

(*with* Hart, Oliver D.) A proof of the existence of equilibrium without the free disposal assumption. *J. Math. Econom.* **2** (1975), *no.* 3, 335–343. (William A. Brock) **52** #16543 90A15

(*with* MacKinnon, James G.) Sandwich method for finding fixed points. *J. Optimization Theory Appl.* **17** (1975), *no.* 3/4, 189–204. (Charles R. Johnson) **52** #12326 65K05 (90C99)

How to compute economic equilibria by pivotal methods. *Computing equilibria: how and why* (*Proc. Internat. Conf., Comput. Centre, Polish Acad. Sci., Toruń*, 1974), *pp.* 21–38. *North-Holland, Amsterdam*, 1976. (Romesh Saigal) **56** #2246 90A15 (90C99)

Nonlinear programming: a historical view. *Nonlinear programming* (*Proc. Sympos., New York*, 1975), *pp.* 1–26. *SIAM-AMS Proc., Vol. IX, Amer. Math. Soc., Providence, R. I.*, 1976. (K. G. Murty) **53** #7485 90C30

Finding roots of polynomials by pivoting. *Fixed points: algorithms and applications* (*Proc. First Internat. Conf., Clemson Univ., Clemson, S.C.*, 1974), *pp.* 11–39. *Academic Press, New York*, 1977. (Author's summary) **57** #14403 65H05

Pathfix: an algorithm for computing traffic equilibria. *Proceedings of the* 1977 *IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 831–834. *Inst. Electrical Electron. Engrs., New York*, 1977. (Author's summary) **58** #20358 90B20 (90B10)

See also **Mathematical systems theory and economics**, **47** #6279 *and* **Proceedings: Princeton Symposium on Mathematical Programming**. **48** #5639

Kuhn, Heinrich On commuting nilpotent matrices. *Bol. Soc. Brasil. Mat.* **8** (1977), *no.* 2, 117–119. (From the introduction) **58** #28038 15A27 (15A57)

Kühn, J. (*with* Seiler, Erhard) Light cone expansion and four point function. *Comm. Math. Phys.* **33** (1973), 253–257. (W. Güttinger) **48** #7833 81.46

On the photon spectral function. (Italian and Russian summaries) *Nuovo Cimento A* (11) **14** (1973), 52–64. (S. Aramaki) **52** #2474 81.47

On the connection between singularity structure of casual distributions and behaviour in the Bjorken limit. (Italian and Russian summaries) *Nuovo Cimento A* (11) **23** (1974), 420–430. (Wolfgang Lücke) **53** #4800 81.46

Kühn, Oda Differentialgleichungen in Jordantripelsystemen. (English summary) *Manuscripta Math.* **17** (1975), *no.* 4, 363–381. (O. Loos) **54** #370 17C50

Construction of Jordan pairs by the quasi-inverse. *J. Algebra* **50** (1978), *no.* 2, 265–273. (O. Loos) **57** #9775 17C05

Kühn, Paul On a combinded delay and loss system with different queue disciplines. *Transactions of the Sixth Prague Conference on Information Theory, Statistical Decision Functions, Random Processes* (*Tech. Univ., Prague*, 1971; *dedicated to the memory of Antonín Špaček*), *pp.* 501–528. *Academia, Prague*, 1973. (Izhak Rubin) **51** #4461 60K25

Kuhn, Stephen (*with* Schneider, Victor P.) The Whyburn construction and fiber bundles. *General Topology and Appl.* **7** (1977), *no.* 1, 129–138. (Richard R. Patterson) **55** #6427 55F10

Kühn, T. (*with* Liese, Friedrich) A short proof of the Hájek-Feldman theorem. (Russian summary) *Teor. Verojatnost. i Primenen.* **23** (1978), *no.* 2, 448–450. (S. G. Kalandarišvili) **58** #7825 60G30

Kuhn, Thomas S. Theory-change as structure-change: comments on the Sneed formalism. *Historical and philosophical dimensions of logic, methodology and philosophy of science* (*Proc. Fifth Internat. Congr. Logic, Methodology and Philos. of Sci., Part IV, Univ. Western Ontario, London, Ont.*, 1975), *pp.* 289–309. *Univ. Western Ontario Sci. Philos. Sci., Vol.* 12, *Reidel, Dordrecht*, 1977. (Editors) **58** #20964 00A25 (02A05)

See also **Philosophers and machines**, **52** #5275; **Structure of scientific theories**, **52** #13085 *and* **Mehrtens, Herbert**, **58** #4919

Kuhn, William W. Graph isomorphism using vertex adjacency matrices. *Proceedings of the Twenty-Fifth Summer Meeting of the Canadian Mathematical Congress* (*Lakehead Univ., Thunder Bay, Ont.*, 1971), *pp.* 471–476. *Lakehead Univ., Thunder Bay, Ont.*, 1971. (M. Doob) **49** #7187 05C99

A random graph generator. *Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory, and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1972), *pp.* 311–313. *Florida Atlantic Univ., Boca Raton, Fla.*, 1972. (Jean W. Butler) **50** #191 05C99

Inverse line graphs and Hamiltonian circuits. *Proceedings of the Fourth Southeastern Conference on Combinatorics, Graph Theory and Computing* (*Florida Atlantic Univ., Boca Raton, Fla.*, 1973), *pp.* 403–411. *Utilitas Math., Winnipeg, Man.*, 1973. (G. Chartrand) **52** #187 05C35

Kuhnau, Reiner Koeffizientenbedingungen bei quasikonformen Abbildungen. (Polish and Russian summaries) Proceedings of the Fifth Conference on Analytic Functions (Univ. Mariae Curie=Skłodowska, Lublin, 1970). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **22-24** (1968/70), 105–111 (1972). (E. Reich) **49** #7441 30A60

Eine Bemerkung zu zwei Arbeiten von Herrn O. Dvořák. (Czech summary) *Časis Pěst. Mat.* **96** (1971), 268–269, 301. (Editors) **45** #533 30A34

Eine funktionentheoretische Randwertaufgabe in der Theorie der quasikonform Abbildungen. *Indiana Univ. Math. J.* **21** (1971/72), 1–10. (G. Schober) **45** #53 30A60

Verzerrungssätze und Koeffizientenbedingungen vom Grunskyschen Typ für quasikonforme Abbildungen. *Math. Nachr.* **48** (1971), 77–105. (K. Strebel) **45** #535 30A60

Eine Bemerkung zu zwei Arbeiten von O. Dvořák. *Math. Nachr.* **48** (19 225–226. (W. K. Hayman) **45** #532b 30A34

Über zwei Klassen schlichter konformer Abbildungen. *Math. Nachr.* **49** (19 173–185. (G. Schober) **48** #4300 30A38

Über vier Klassen schlichter Funktionen. *Math. Nachr.* **50** (1971), 17–26. Clunie) **46** #9315 30A30

Weitere elementare Bemerkungen zur Theorie der konformen und quasikonform Abbildungen. *Math. Nachr.* **51** (1971), 377–382. (G. D. Anderson) **47** #3657 30A30 (30A60)

Anwendung einer Golusinschen Funktionalgleichung auf eine quasikonforme Normalabbildung. *Math. Nachr.* **51** (1971), 383–388. (G. D. Anderson) **47** #367 30A60

Darstellung quasikonformer Abbildungen durch Fouriersche Reihen. *Publ. Ma Debrecen* **18** (1971), 119–127 (1972). (K. Strebel) **47** #3675 30A60

Koeffizientenbedingungen für schlicht abbildende Laurentsche Reihen. (Engl and Russian summaries) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* (1972), 7–10. (J. Clunie) **48** #6397 30A34

Ein Iterationsverfahren in der Theorie der quasikonformen Abbildungen. *Ma Nachr.* **54** (1972), 99–104. (G. D. Anderson) **48** #2381 30A60 (30A24)

Zum Koeffizientenproblem bei den quasikonform fortsetzbaren schlichten konformen Abbildungen. *Math. Nachr.* **55** (1973), 225–231. (J. G. Krzyż) **48** #522 30A34

Über drehstreckungssymmetrische Potentiale. *Math. Nachr.* **56** (1973), 201–205. (B. Kelman) **49** #11035 35J05 (30A94)

★Geometrie der konformen Abbildung auf der hyperbolischen und der elliptisch Ebene. Mathematische Forschungsberichte, No. 28. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1974. 123 *pp.* (See Zbl **278** #30022) 30A30

Zur quasikonformen Fortsetzbarkeit schlichter konformer Abbildungen. (Poli summary) *Bull. Soc. Sci. Lettres Łódź* **24** (1974), *no.* 6, 4 *pp.* (1975). (Jochen Becke **55** #12910 30A60

Zur Abschätzung der Schwarzschen Ableitung bei schlichten Funktionen. *Ma Nachr.* **59** (1974), 195–198. (Ch. Pommerenke) **50** #594 30A36

Eine Klasse nichtschlichter konformer Abbildungen mit einer schlichten quasikonformen Fortsetzung. *Math. Nachr.* **59** (1974), 261–263. (W. E. Kirwan) **49** #7442 30A60

Zur analytischen Darstellung gewisser Extremalfunktionen der quasikonforme Abbildung. *Math. Nachr.* **60** (1974), 53–62. (G. D. Anderson) **50** #13509 30A60

Eine Verschärfung des Koebeschen Viertelsatzes für quasikonform fortsetzba Abbildungen. *Ann. Acad. Sci. Fenn. Ser. A I Math.* **1** (1975), *no.* 1, 77–83. (K. Strebe **53** #11055 30A60

Zur Methode der Randintegration bei quasikonformen Abbildungen. *Ann. Polo Math.* **31** (1975/76), *no.* 3, 269–289. (H. Renggli) **55** #10677 30A60

(*with* Dittmar, Bodo) Einige Folgerungen aus den Koeffizientenbedingungen vo Grunskyschen Typ für schlichte quasikonform fortsetzbare Abbildungen. *Math. Nach* **66** (1975), 5–16. (H. Renelt) **56** #3279 30A34

Extremalprobleme bei quasikonformen Abbildungen mit kreisringweise konstante Dilatationsbeschränkung. *Math. Nachr.* **66** (1975), 269–282. (K. Strebel) **53** #803 30A60

Identitäten bei quasikonformen Normalabbildungen und eine hiermit zusammenhängende Kernfunktion. *Math. Nachr.* **73** (1976), 73–106. (G. D. Anderson **55** #8347 30A60

Die Spanne von Gebieten bei quasikonformen Abbildungen. *Arch. Rational Mech Anal.* **65** (1977), *no.* 3, 299–303. (E. Reich) **56** #610 30A60

Eine Integralgleichung in der Theorie der quasikonformen Abbildungen. *Math Nachr.* **76** (1977), 139–152. (E. Reich) **57** #9964 30A60

(*with* Niske, Wolfgang) Abschätzung des dritten Koeffizienten bei den quasikonform fortsetzbaren schlichten Funktionen der Klasse *S*. *Math. Nachr.* **78** (1977), 185–192. (J. Ławrynowicz) **57** #9965 30A60

(*with* Thüring, Bernd) Berechnung eine quasikonformen Extremalfunktion. *Math. Nachr.* **79** (1977), 99–113. (Jukka Sarvas) **57** #6420 30A60

(*with* Renelt, Heinrich) Ein Existenzbeweis für schlichte Lösungen linearer elliptischer Differentialgleichungssysteme durch eine Integralgleichung. *Math. Nachr.* **79** (1977), 225–232. (S. A. Tersenov) **57** #12840 30A36 (35J99)

Ein Extremalprinzip der Elektrostatik und Verzerrungsaussagen bei quasikonformen Abbildungen mit ortsabhängiger Dilatationsbeschränkung. *Proceedings of the First Finnish-Polish Summer School in Complex Analysis* (*Podlesice*, 1977), *Part II*, *pp.* 65–67. *Univ. Łódź, Łódź*, 1978. (See Zbl **382** #30012; MR **57** #6376) 30A60

Verzerrungsaussagen bei quasikonformen Abbildungen mit ortsabhängiger Dilatationsbeschränkung und ein Extremalprinzip der Elektrostatik in inhomogenen Medien. *Comment. Math. Helv.* **53** (1978), *no.* 3, 408–428. (M. M. Schiffer) **58** #11386 30A60

Kühne, Anton ★Ein Jacobi-Verfahren für normale Matrizen. Abhandlung zur Erlangung des Titels eines Doktors der Mathematik der Eidgenössischen Technischen Hochschule Zürich, Zurich, 1974. Diss. No. 5199. *Eidgenössische Technische Hochschule, Zurich*, 1974. iv+91 *pp.* (Ludwig Elsner) **55** #9507 65F15

Kühne, Hans *See* **Borovkov, A. A.**, **53** #14561

Kühne, R. Fixpunkte positiver Operatoren in *KB*-Räumen. *Math. Nachr.* **65** (1975), 259–280. (J. V. Ryff) **54** #3492 47B55

Kühne, Rolf (*with* Ebersberger, Helmut; Gillert, Heinz; Grammlich, Lothar; Maibaum, Gert; Neumann, Peter; Nollau, Volker; Schmidt, Franz; Storm, Regina; Winkler, Wolfgang) ★Wahrscheinlichkeitsrechnung und mathematische Statistik: Lexikon.

Herausgegeben von P. H. Müller. *Akademie-Verlag, Berlin*, 1970. x+278 *pp*. (Editors) **50** #11539 62–XX (60–XX)

(*with* Reineker, P.) Exact derivation of a generalized master equation for the motion of excitons. (German summary) *Phys. Status Solidi* (*B*) **89** (1978), *no*. 1, 131–141. (K. S. Viswanathan) **58** #25669 82.35

(*with* Reineker, P.) Nakajima-Zwanzig's generalized master equation: evaluation of the kernel of the integro-differential equation. *Z. Phys. B* **31** (1978), *no*.1, 105–110. (Authors' summary) **58** #20084 82.45

See also **Kantorovič, L. V.; et al.**, **56** #16402

Kühnel, Adolf *See* **Landau, L. D.; et al.**, **49** #11970; **Beresteckiĭ, V. B.; et al.**, **52** #9847; **Beresteckiĭ, V. B.; et al.**, **52** #9848; **Lifšic, E. M.; et al.**, **52** #9850 *and* **Beresteckiĭ, V. B.; et al.**, **58** #32467

Kühnel, Wolfgang (*with* Ehrig, Hartmut; Kiermeier, K.-D.; Kreowski, Hans-Jörg) ★Universal theory of automata. A categorical approach. Teubner Studienbücher: Informatik. *B. G. Teubner, Stuttgart*, 1974. 240 *pp*. (E. G. Manes) **52** #3271 18B20

(*with* Ehrig, Hartmut) ★Topological automata. Bericht No. 74-26. *Technische Universität Berlin, Berlin*, 1974. 26 *pp*. (E. G. Manes) **55** #14445 94A30 (18B20)

(*with* Ehrig, Hartmut) Topological automata. (Loose French summary) *Rev. Française Automat. Informat. Recherche Opérationnelle Sér. Rouge* **8** (1974), *no*. R-3, 73–91. (E. G. Manes) **50** #13186 18B20 (94A30)

(*with* Ehrig, Hartmut; Pfender, Michael) Diagram-characterization of recursion. *Category theory applied to computation and control* (*Proc. First Internat. Sympos., San Francisco, Calif*., 1974), *pp*. 137–143. *Lecture Notes in Comput. Sci., Vol*. 25, *Springer, Berlin*, 1975. (John P. Helm) **53** #1999 68A05 (02F20, 18B20)

Ein Produktsatz für die zweite Totalkrümmung. (English summary) *J. London Math. Soc*. (2) **14** (1976), *no*. 2, 357–363. (T. J. Willmore) **54** #13795 53C40

(*with* Meseguer Guaita, José; Pfender, Michael; Sols, Ignacio) Primitive recursive algebraic theories and program schemes. *Bull. Austral. Math. Soc*. **17** (1977), *no*. 2, 207–233. (From the authors' summary) **57** #6138 18C10

Total curvature of manifolds with boundary in E^n. *J. London Math. Soc*. (2) **15** (1977), *no*. 1, 173–182. (T. Banchoff) **58** #18298 53C45 (57D40)

Kühner, Ernst (*with* Lesky, Peter) ★Grundlagen der Funktionalanalysis und Approximationstheorie. Moderne Mathematik in Elementarer Darstellung, No. 17. *Vandenhoeck & Ruprecht, Göttingen*, 1977. 216 *pp*. (*loose errata*) *ISBN* 3-525-40539-1 (Hans-Jürgen Albrand) **57** #6946 41–01 (46–01)

Kühner, J. Über Separabilität und Automorphismengruppen kommutativer Ringe. *Arch. Math*. (*Basel*) **28** (1977), *no*. 3, 238–252. (M. Orzech) **55** #12714 13B10

Kuhnert, Frieder Beziehungen zwischen den Verfahren von Ritz und Bazley. (English summary) Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys*. **15** (1974), *no*. 1-2, 79–80. (L. Collatz) **54** #14359 65J05 (49G20)

Über die Realisierung von iterativen Verfahren zur Eingenwerthestimmung. *Beiträge Numer. Math*. **4** (1975), 141–145. (M. Lotkin) **55** #13756 65F15 (65F10)

★Vorlesungen über lineare Algebra. Studienbücherei. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1976. 255 *pp*. (H. Ratschek) **55** #2948 15–01

★Pseudoinverse Matrizen und die Methode der Regularisierung. Mit Englischen und Russischen Zusammenfassungen. Teubner-Texte zur Mathematik. *Teubner, Leipzig*, 1976. 88 *pp*. (A. S. Householder) **57** #1852 65F20

See also **Mihlin, S. G.**, **50** #733 *and* **Mihlin, S. G.**, **54** #11882

Kuhnert, K. (*with* Liedl, R.) A universal property of the lattice of all topologies (Boolean-valued topologies). *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp*. 461–475. *Colloq. Math. Soc. János Bolyai, Vol*. 8, *North-Holland, Amsterdam*, 1974. (Roland E. Larson) **50** #11114 54A99

Kuhnert, Kristian Die Konvergenz des Pilgerschrittverfahrens für unipotente und auflösbare lineare Gruppen. *Iterationsprobleme* (*Graz*, 1977), *Ber. No*. 87, 14 *pp*. *Math.-Statist. Sektion, Forschungszentrum Graz, Graz*, 1978. (J. Dieudonné) **58** #16956 22E05 (34A20)

Kühnrich, Martin Ein Beweis der wesentlichen Nichtdefinierbarkeit. *Monatsb. Deutsch. Akad. Wiss. Berlin* **13** (1971), 255–257. (A. Máté) **47** #3174 02K15

Eine Mengentheorie mit Superklassen. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), *pp*. 333–353. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (E. Mendelson) **50** #104 02K15 (18A15)

Ein assoziatives Produkt und ein assoziatives und kommutatives Coprodukt in der Kategorie der Mengen. *Math. Nachr*. **54** (1972), 379–384. (D. Kurepa) **49** #10551 04A05 (18A30)

Das Yoneda-Lemma in der Zermelo-Fraenkelschen Mengentheorie. *Z. Math. Logik Grundlagen Math*. **23** (1977), *no*. 5, 443–446. (M. M. Richter) **58** #16818 18A15 (02K15)

Kuhr, Dieter ★Optimale Filter für eine Klasse von linearen Systemen mit verteilten Parametern. Zur Erlangung des akademischen Grades eines Doktor-Ingenieurs von der Fakultät für Maschinenbau der Universität Karlsruhe (TH) genehmigte Dissertation. *Universität Karlsruhe* (*TH*), *Karlsruhe*, 1971. 113 *pp*. (V. M. Popov) **51** #9893 93C20

Optimal filtering for systems described by linear partial differential equations. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and non-linear systems, Identification, differential games, discrete and stochastic systems, Paper No*. 36.5, 12 *pp*. *Internat. Fed. Automat. Control, Düsseldorf*, 1971 (1972). (V. N. Igolkin) **53** #12713 93E10

Kuhrt, R. Über Sprungfunktionen unter dem Aspekt praktischer Anwendung. (Russian, English and French summaries) *Nachrichtentech. Elektronik* **25** (1975), *no*. 7, A, B, C, 253–257. (Gerald G. Bilodeau) **55** #998 44A45

Kuhta, K. Ja. (*with* Kravčenko, V. P.) Finding the eigenvalues of boundary value problems of the theory of oscillations of supporting surfaces by means of numerical methods. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 589–594, 667. (V. Komkov) **46** #8441 65N25

(*with* Kravčenko, V. P.) Reduction of certain boundary value problems of the theory of oscillations to integral equations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 1067–1072, 1148. (V. Komkov) **46** #7720 73.35

A certain method of solution of the problem of the forced oscillations of a weighted string. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 988–992, 1054. (Author's summary) **54** #6608 70.35

The solution of an inhomogeneous boundary value problem with piece-wise discrete parameters under discrete perturbations. (Russian) *Ukrain. Mat. Ž*. **24** (1972), 829–831, 863. (V. Komkov) **47** #643 35L05

A certain method of solution of an inhomogeneous boundary value problem with continuous-discrete parameters under a continuous-discrete perturbation. (Russian) *Ukrain. Mat. Ž*. **25** (1973), 815–819, 862. (V. Komkov) **48** #7627 65N30

(*with* Kravčenko, V. P.) A certain method for the numerical solution of one-dimensional boundary value problems with discrete-continuous parameters under discrete excitations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 499–503, 573. (G. Maess) **50** #3615 65N99 (70.35)

(*with* Kravčenko, V. P.) A certain method for reducing the differential equations of wing flutter to integral equations. (Russian) *Mixed boundary value problems and questions of mathematical simulation* (*Russian*), *pp*. 187–197. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. (N. D. Kopačevskiĭ) **53** #12193 76.35

(*with* Kravčenko, V. P.) A certain nonlinear boundary value problem of the oscillations of a heavy string. (Russian) *Ukrain. Mat. Ž*. **27** (1975), 107–110, 143. (Authors' summary) **57** #14769 73.41

(*with* Kravčenko, V. P.) ★Непрерывно-дискретные граничные задачи теории колебаний. (Russian) [Continuous-discrete boundary value problems of the theory of oscillations] *Izdat. "Naukova Dumka", Kiev*, 1976. 255 *pp*. (G. Bojadžiev) **57** #14695 73.00

(*with* Kravčenko, V. P.) Finding the critical rate of flutter in the case of nonstationary flow around an elastic wing. (Russian) *Analytic, numerical and analogue methods in heat conduction problems* (*Russian*), *pp*. 166–173, 239. *Izdat. "Naukova Dumka", Kiev*, 1977. (Authors' summary) **58** #3924 76.35

See also **Nonlinear boundary value problems of mathematical physics**, **50** #1797; **Linear boundary value problems of mathematical physics**, **50** #6719 *and* **Nonlinear oscillations and stability of motion**, **57** #12950

Kuhta, T. K. (*with* Švab, N. D.) A system with a variable number of channels. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1975**, *no*. 2, 146–148. (H. T. Tašmanov) **54** #3879 60K25

An analysis of the queueing system *GI/M/m* by the method of imbedded semi-Markov processes. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1977**, *no*. 5, 132–134. (R. H. Rodine) **58** #3110 60K25

Kuhtenko, O. I. (*with* Dmitriev, A. N.; Krug, G. K.; Kuzin, L. T.; Kurakin, K. I.; Matveev, P. S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. V.; Topčeev, Ju. I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Теория автоматического регулирования. Книга 2: Анализ и синтез линейных непрерывных и дискретных систем автоматического регулирования. (Russian) [Theory of automatic guidance. Book 2: Analysis and synthesis of continuous and discrete automatic guidance systems] Edited by V. V. Solodovnikov. *Izdat. "Mašinostroenie", Moscow*, 1967. 679 *pp*. (RŽKibernet **1968** #3 G89) **50** #6559 93–02

The problem of multidimensionality in the theory of complex systems. (Russian) *Cybernetics and computer technology, No*. 1: *Complex control systems* (*Russian*), *pp*. 6–35. *Naukova Dumka, Kiev*, 1969. (Editors) **45** #9734 93A10

(*with* Dmitriev, A. N.; Krug, G. K.; Kuzin, L. T.; Kurakin, K. I.; Matveev, P. S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. V.; Topčeev, Ju. I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Grundlagen automatischer Regelsysteme. Band 2: Analyse und Synthese linearer Systeme. Gesamtredaktion der Originalausgabe von W. W. Solodownikow. Aus dem Russischen übersetzt von Klaus Franke, Ludmilla Heckendorff, Volker Langguth, Werner Otto Mertins und Uwe Riedel. Deutsche Bearbeitung unter Manfred Peschel. *VEB Verlag Technik, Berlin*, 1971. 620 *pp*. (1 *foldout*) (RŽKibernet **1968** #10 G7K) **50** #6560 93–02

(*with* Udilov, V. V.) Application of the theory of group representations to the solution of problems of stabilization of elastic cosmic objects. (Russian) *Cybernetics and Computer Technology No*. 8: *Complex Control Systems* (*Russian*), *pp*. 4–17. *"Naukova Dumka", Kiev*, 1971. (D. P. Rašković) **47** #6370 93D99

(*with* Gudymenko, B. A.) The stabilization of linear stationary systems when the degree of observability is incomplete. (Russian) *Complex control systems* (*Russian*), *pp*. 3–17. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (Ljubomir Lilov) **48** #13363 93C05

(*with* Semenov, V. N.; Udilov, V. V.) Abstract systems theory. Its present state and trends in development. (Russian) *Cybernetics and computer technology. No*. 15: *Complex control systems* (*Russian*), *pp*. 4–22, 149. *"Naukova Dumka", Kiev*, 1972. (Authors' summary) **48** #1741 93A05

(*with* Gudymenko, B. A.) Synthesis of linear control systems on the basis of asymptotic estimation of the state. (Russian) *Cybernetics and computer technology, No*. 23: *Complex control systems* (*Russian*), *pp*. 3–12, 155. *"Naukova Dumka", Kiev*, 1974. (Vladimír Kučera) **53** #2478 93D15 (93C05)

(*with* Semenov, V. N.; Udilov, V. V.) Geometric and abstract algebraic methods in automatic control theory. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp*. 27 (1975), 3–20, 157. (Editors) **58** #13067 57D25 (58E15, 93B05)

The axiomatic construction of the mathematical theory of systems. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp*. 31 (1976), 3–25, 103. (J. S. Joel) **58** #15332 93A05 (08A25, 58F15)

See also **Cybernetics encyclopedia**, **54** #9919; **Cybernetics encyclopedia**, **54** #9920; **Autonomous control systems**, **56** #11111; **Adaptive control systems**, **57** #11849; **Complex control systems**, **57** #15583; **Complex control systems**, **58** #33178 *and* **Complex control systems**, **58** #33214

Kuhtenko, V. I. (*with* Mitjurina, V. E.; Pokrovskaja, S. A.) An approximate algorithm of analytic design of adaptive systems. *Avtomat. i Telemeh*. **1976**, *no*. 3, 90–101 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no*. 3, *part* 2, 393–403. (B. Wittenmark) **55** #7541 93E10 (93C40)

Kuich, Werner Enumeration problems and context-free languages. *Combinatorial theory and its applications, II* (*Proc. Colloq., Balatonfüred*, 1969), *pp*. 729–735. *North-Holland, Amsterdam*, 1970. (D. A. Klarner) **46** #3321 05A15 (68A30)

(*with* Maurer, Hermann A.) On the inherent ambiguity of simple tuple languages. (German summary) *Computing* (*Arch. Elektron. Rechnen*) 7 (1971), 194–203. (Ronald V.

Book) **45** #4917 68A30

(*with* Maurer, Hermann A.) The structure generating function and entropy of tuple languages. *Information and Control* **19** (1971), 195–203. (Ivan Havel) **48** #1527 68A30

The complexity of skewlinear tuple languages and *o*-regular languages. *Information and Control* **19** (1971), 353–367. (M. Novotný) **48** #7670 68A30

Entropy of transformed finite-state automata and associated languages. *Graph theory and computing*, *pp.* 77–86. *Academic Press, New York*, 1972. (A. Ja. Dikovskiĭ) **52** #12408 . 68A25

(*with* Shyamasundar, R. K.) The structure generating function of some families of languages. *Information and Control* **32** (1976), *no.* 1, 85–92. (Etsuro Moriya) **54** #1724 68A30

Kuiken, H. K. Heat or mass transfer from an open cavity. *J. Engrg. Math.* **12** (1978), *no.* 2, 129–155. (A. Pozzi) **57** #18452 76.35

van Kuilenburg, M. A. Algebras of holomorphic functions and their maximal ideal spaces. *Nederl. Akad. Wetensch. Proc. Ser. A* **78** = *Indag. Math.* **37** (1975), 175–182. (E. L. Stout) **51** #931 32E25 (32E10)

Kuiper, Gerard P. *See* **Copernicus and modern dynamical astronomy**, **48** #10246

Kuiper, Hendrik J. On positive solutions of nonlinear elliptic eigenvalue problems. *Rend. Circ. Mat. Palermo* (2) **20** (1971), 113–138 (1972). (Norman Dancer) **48** #6680 35J60

Eigenvalue problems for noncontinuous operators associated with quasilinear elliptic equations. *Arch. Rational Mech. Anal.* **53** (1973/1974), 178–186. (J. B. McLeod) **49** #11047 35J60

(*with* Turner, Robert E. L.) Sturm-Liouville problems with prescribed nonlinearities. *Quart. J. Math. Oxford Ser.* (2) **26** (1975), *no.* 104, 491–505. (Jean Mawhin) **53** #5981 34B15

(*with* Derrick, William R.) Nonlinear ordinary and functional Sturm-Liouville problems. *Indiana Univ. Math. J.* **25** (1976), *no.* 2, 179–190. (Russel C. Thompson) **52** #15150 47H15 (34B25)

Some nonlinear boundary value problems. *SIAM J. Math. Anal.* **7** (1976), *no.* 4, 551–564. (Ju. V. Kostarčuk) **54** #726 35J65

Existence and comparison theorems for nonlinear diffusion systems. *J. Math. Anal. Appl.* **60** (1977), *no.* 1, 166–181. (C. V. Pao) **56** #860 35K40

Kuiper, Nicolaas H. ★Varietés hilbertiennes: aspects géométriques. Suivi de deux textes de Dan Burghelea. Séminaire de Mathématiques Supérieures, No. 38 (Été, 1969). *Les Presses de l'Université de Montréal, Montreal, Que.*, 1971. 153 *pp.* (N. Desolneux-Moulis) **51** #9109 58B05 (57A20)

The differential topology of separable Banach manifolds. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 85–90. *Gauthier-Villars, Paris*, 1971. (N. Desolneux-Moulis) **56** #13251 58B10

Morse relations for curvature and tightness. *Proceedings of Liverpool Singularities Symposium, II* (1969/1970), *pp.* 77–89. *Lecture Notes in Math., Vol.* 209, *Springer, Berlin*, 1971. (H. B. Griffiths) **49** #8039 57D70 (53C70)

Tight topological embeddings of the Moebius band. *J. Differential Geometry* **6** (1971/72), 271–283. (T. Banchoff) **47** #2609 57A35

Connection and convexity. (Dutch) *Nederl. Akad. Wetensch. Verslag Afd. Natuurk.* **80** (1971), 39–40. (T. Banchoff) **45** #5929 53C45

C^1-equivalence of functions near isolated critical points. *Symposium on Infinite-Dimensional Topology* (*Louisiana State Univ., Baton Rouge, La.*, 1967), *pp.* 199–218. *Ann. of Math. Studies, No.* 69, *Princeton Univ. Press, Princeton, N. J.*, 1972. (Martin Golubitsky) **54** #1282 58C25 (57D45)

Sur les variétés riemanniennes très pincées. *Séminaire Bourbaki*, $24^{\text{ème}}$ *année* (1971/1972), *Exp. No.* 410, *pp.* 201–218. *Lecture Notes in Math., Vol.* 317, *Springer, Berlin*, 1973. (Midori Goto) **54** #6024 53C20

(*with* Robbin, J. W.) Topological classification of linear endomorphisms. *Invent. Math.* **19** (1973), 83–106. (M. Eisenberg) **47** #8567 15A21 (54H10)

A generalisation of convexity; open problems. *Proceedings of the International Conference on Prospects in Mathematics* (*Taniguchi Internat. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto*, 1973), *pp.* 37–42. *Res. Inst. Math. Sci., Kyoto Univ., Kyoto*, 1974. (Editors) **57** #17571 53C45 (57C35)

The quotient space of $CP(2)$ by complex conjugation is the 4-sphere. *Math. Ann.* **208** (1974), 175–177. (K. W. Kwun) **49** #11541 57D40 (57E30)

The topology of the solutions of a linear differential equation on R^n. *Manifolds—Tokyo* 1973 (*Proc. Internat. Conf., Tokyo*, 1973), *pp.* 195–203. *Univ. Tokyo Press, Tokyo*, 1975. (J. W. Robbin) **51** #14163 58F99 (34C30)

Stable surfaces in euclidean three space. Collection of articles dedicated to Werner Fenchel on his 70th birthday. *Math. Scand.* **36** (1975), 83–96. (M. L. Gromov) **51** #11542 57D40 (53C45)

(*with* Camacho, César; Palis, Jacob, Jr.) La topologie du feuilletage d'un champ de vecteurs holomorphes près d'une singularité. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **282** (1976), *no.* 17 Ai, A959–A961. (J. W. Robbin) **54** #1301 58F10 (57D30)

Topological conjugacy of real projective transformations. *Topology* **15** (1976), *no.* 1, 13–22. (Robert L. Devaney) **53** #9301 58F20

(*with* Pohl, William F.) Tight topological embeddings of the real projective plane in E^5. *Invent. Math.* **42** (1977), 177–199. (T. Banchoff) **58** #13052 57A35

See also **Colloque: Analyse et la Topologie Différentielle**, **48** #9724; **Differential geometry**, **51** #6863 *and* **Dynamical systems**, **52** #11994

Kuipers, L. An irrational sum. *Southeast Asian Bull. Math.* **1** (1977), *no.* 2, 20–21. (David Lee Hilliker) **56** #11915 10F35

Kuipers, Lauwerens The Weyl theory of uniform distribution modulo 1. *Math. Colloq. Univ. Cape Town* **6** (1970/71), 1–7. (H. G. Meijer) **54** #12680 10F40

On a general form of the Weyl criterion in the theory of asymptotic distribution. *Math. Colloq. Univ. Cape Town* **6** (1970/71), 8–14. (H. G. Meijer) **54** #12697 10K05

Uniform distribution of sequences of integers. *Math. Colloq. Univ. Cape Town* **6** (1970/71), 15–19. (H. G. Meijer) **55** #291 10F40

Uniform distribution of sequences of polynomials in GF[p^r, x]. *Math. Colloq. Univ. Cape Town* **6** (1970/71), 20–25. (H. G. Meijer) **55** #292 10F40

(*with* Shiue, Jau Shyong) On the distribution modulo M of sequences of generali Fibonacci numbers. *Tamkang J. Math.* **2** (1971), *no.* 2, 181–186. (H. G. Mei **46** #5231 10A40

A remark on the functions $P^{m,n_k(z)}$ and $P^k_m n(z)$. *Z. Angew. Math. Mech.* **51** (197 490–491. (R. A. Askey) **45** #7133 33A45

(*with* Shiue, Jau Shyong) Asymptotic distribution modulo m of sequences of integers and the notion of independence. (Italian summary) *Atti Accad. Naz. Lin Mem. Cl. Sci. Fis. Mat. Natur. Sez. Ia* (8) **11** (1972/73), 63–90. (J. Kubilius) **51** #31 10K20 (10K05)

(*with* Shiue, Jau Shyong) A distribution property of a linear recurrence of second order. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Nat* (8) **52** (1972), 6–10. (Calvin T. Long) **48** #3862 10A35

(*with* Shiue, Jau Shyong) A distribution property of the sequence of Lucas numbe *Elem. Math.* **27** (1972), 10–11. (B. M. Stewart) **46** #144 10F40 (10A40)

(*with* Shiue, Jau Shyong) A distribution property of the sequence of Fibona numbers. *Fibonacci Quart.* **10** (1972), *no.* 4, 375–376, 392. (R. D. Stalley) **47** #3302 10A35

A remark on a theorem of L. Carlitz. *Mat. Vesnik* **9(24)** (1972), 113–116. (Carlitz) **48** #250 10F40

(*with* Shiue, Jau Shyong) Remark on a paper by Duncan and Brown on sequence of logarithms of certain recursive sequences. *Fibonacci Quart.* **11** (1973), *no.* 292–294. (I. Niven) **48** #11025 10K05

A remark on asymptotic distribution in GF[p^r, x]. *Rev. Roumaine Math. Pur Appl.* **18** (1973), 1217–1221. (John H. Hodges) **50** #9824 10K05 (12C15)

Commentary on a paper by T. S. Motzkin and J. L. Walsh. *Simon Stevin* (1973/74), 49–54. (M. Marden) **49** #10863 30A08 (31A05)

(*with* Niederreiter, Harald) ★Uniform distribution of sequences. Pure and Applied Mathematics. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1974. xiv + 390 *pp.* (P. Gerl) **54** #7415 10K05 (22D99)

An extension of a theorem of Eisenstein. *Proc. Amer. Math. Soc.* **43** (1974), 69–7 (R. G. Stoneham) **48** #8368 10A30

(*with* Niederreiter, Harald) Asymptotic distribution mod m and independence sequences of integers. I, II. *Proc. Japan Acad.* **50** (1974), 256–260; *ibid* **50** (1974 261–265. (H. G. Meijer) **51** #404 10K05

A simple proof of the "Eisenstein" theorem. *Tamkang J. Math.* **5** (1974), *no.* 1, 5– (Bruce C. Berndt) **51** #10206 12A20

(*with* Niederreiter, Harald; Shiue, Jau Shyong) Uniform distribution of sequence in the ring of Gaussian integers. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 2, 311–32 (I. Niven) **54** #2612 10K05 (10L10)

(*with* Shiue, Jau Shyong) Ein Gleichverteilungskriterium. *Elem. Math.* **31** (1976 *no.* 6, 137–139. (Marthe Grandet) **55** #12651 10F40

Generalized Fibonacci numbers and uniform distribution mod 1. *Fibonacci Quar* **14** (1976), *no.* 3, 214, 253, 276, 281. (Jau Shyong Shiue) **57** #12367 10A35

(*with* Burke, John R.) Asymptotic distribution and independence of sequences Gaussian integers. *Simon Stevin* **50** (1976/77), *no.* 1, 3–21. (Jau Shyong Shiue) **54** #5131 10F40

(*with* Shiue, Jau Shyong) Ein Kriterium für die *C*-Gleichverteilung mod 1. (Englis summary) *Z. Angew. Math. Phys.* **27** (1976), *no.* 6, 883–884. (R. C. Buck) **56** #292 10K05

See also **Zahlentheorie**, **50** #12875

Kuipers, Theo A. F. A generalization of Carnap's inductive logic. *Synthese* **25** (1973) 334–336. (Author's introduction) **57** #15992 02C99 (60A05)

A two-dimensional continuum of a priori probability distributions on constituents. *Formal methods in the methodology of empirical sciences* (*Proc. Conf., Warsaw*, 1974), *pp* 82–92. *Synthese Library*, 103. *Reidel, Dordrecht*, 1976. (From the text) **58** #27430 02G99

nguen Kuĭ Zi *See* **Nguen Kuĭ Zi**

Kujala, Robert O. On algebraic divisors in $\mathbf{C}^k$. *Symposium on Several Complex Variables* (*Park City, Utah*, 1970), *pp.* 223–230. *Lecture Notes in Math., Vol.* 184, *Springer, Berlin*, 1971. (J. Kajiwara (Zbl **222** #32004)) **50** #10300 32A15 (32B15)

Generalized Blaschke conditions on the unit ball in $\mathbf{C}^p$. *Value distribution theory* (*Proc. Tulane Univ. Program, Tulane Univ., New Orleans, La.*, 1972–1973), *Part A*, *pp.* 249–261. *Dekker, New York*, 1974. (E. L. Stout) **50** #7564 32A10

See also **Value-distribution theory**, **49** #9247 *and* **Value-distribution theory**, **49** #9248

Kujawski, A. (*with* Przeździecki, S.) Necessary condition for the splitting of electromagnetic fields into TE and TM constituents in a class of anisotropic media. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 955–962. (W. H. Schoendorf) **48** #10316 78.35

(*with* Przeździecki, S.) Potentials and equations for TE and TM fields in γ-uniaxially anisotropic media. *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 963–970. (W. H. Schoendorf) **48** #10317 78.35

Kujawski, E. (*with* Mihailović, M. V.; Lesjak, J.) Projection of angular momentum and the generator coordinate method for light nuclei. *Nuclear Phys.* **A161** (1971), 252–262. (L. M. Garrido) **45** #1514 81.46

Kujumdžiev, Hr. The integration of the differential equation of a thin elastic plate in a rectangular domain by means of a rapidly converging double trigonometric series. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Priložna Meh.* **4** (1968), *no.* 1, 101–116 (1969). (J. H. Giese) **45** #2971 73.65 (65N99)

Kuk, Ju. V. On the question of the integral representation of estimators of the regression coefficients of a random process with a correlation function that depends on the difference of the arguments. (Russian) *Questions of statistics and of the control of random processes* (*Russian*), *pp.* 183–192. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (From the text of the paper) **55** #1673 62M10

(*with* Petunīn, Ju. Ī.) Observable linear estimates of the mathematical expectation of a random process. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 37–39. (G. Tusnády) **48** #5297 62M10

(*with* Petunīn, Ju. Ī.) Asymptotic behavior of the variance of the best unbiased linear estimate of the unknown mathematical expectation of a stationary random process, obtained by the uniform partitioning of the interval of observation. (Russian)

Ukrain. Mat. Ž. **25** (1973), 214–227, 285. (J. Hájek) **48** #7513 62M15

(*with* Petunīn, Ju. Ī.) Conditions for the positive definiteness of functions of two variables, and best linear estimates of the unknown mathematical expectation for nonstationary random processes. (Russian. English summary) *Vyčisl. Prikl. Mat. (Kiev) No.* 24 (1974), 82–96, 159. (H. Salehi) **51** #2216 62M10

(*with* Petunīn, Ju. Ī.) Optimal statistical tests. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 4, 298–300, 383. (A. L. Ruhin) **54** #1446 62F05

(*with* Petunīn, Ju. Ī.) A new method for constructing estimates of linear regression coefficients. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 2, 237–243, 286. (József Pergel) **54** #9013 62M10

(*with* Petunīn, Ju. Ī.) Estimation of the parameters in a linear regression scheme in the presence of constraints on the linear regression coefficients. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 4, 463–472, 573. (Steffen Lauritzen) **56** #1629 62M10

Kukanov, A. B. (*with* Thai Quang) A certain singular solution of the Klein-Gordon equation in the presence of parallel, constant, and homogeneous fields. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **26** (1971), *no.* 6, 739–741. **45** #8170 81.35

(*with* Naumov, N. D.) Certain singular solutions of the Pauli equation. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1974**, *no.* 11, 53–58. (Authors' summary) **58** #25530 81.35

Kukarkin, A. B. (*with* Žileĭkin, Ja. M.) The calculation of integrals of rapidly oscillating functions. (Russian) *Vyčisl. Metody i Programmirovanie Vyp.* 26 (1977), 57–67. (Gh. Adam) **57** #14351 65D30

(*with* Žileĭkin, Ja. M.) Optimal calculation of integrals of rapidly oscillating functions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no.* 2, 294–301, 523. (Authors' summary) **58** #8177 65D30

Kukharenko, N. V. *See* **Kuharenko, N. V.**

Kukhtenko, V. I. *See* **Kuhtenko, V. I.**

Kuki, Hirondo Complex gamma function with error control. *Comm. ACM* **15** (1972), 262–267. (L. Fox) **47** #1249 65D20

(*with* Cody, W. J.) A statistical study of the accuracy of floating point number systems. *Comm. ACM* **16** (1973), 223–230. (I. Kaufmann) **51** #2344 68A20 (65G05)

Kukin, G. P. Subalgebras of the free Lie sum of Lie algebras with a joint subalgebra. (Russian) *Algebra i Logika* **11** (1972), 59–86, 121. (P. M. Cohn) **46** #9133 17B05

Subalgebras of free Lie *p*-algebras. (Russian) *Algebra i Logika* **11** (1972), 535–550, 614. (P. M. Cohn) **47** #6798 17B50

Lie algebras. (Russian) *Rings, I (Russian), pp.* 19–30. *Inst. Mat. Sibirsk. Otdel. Akad. Nauk SSSR, Novosibirsk*, 1973. (J. S. Joel) **55** #8124 17Bxx

Free products of bounded Lie algebras. (Russian) *Mat. Sb. (N.S.)* **95(137)** (1974), 53–83, 159. (Juri A. Bahturin) **51** #3240 17B05

Imbedding of solvable Lie algebras of countable rank into solvable Lie algebras with two generators. (Russian) *Algebra i Logika* **14** (1975), *no.* 4, 414–421. (L. Bokut') **53** #10882 17B30

Intersection of subalgebras of a free Lie algebra. (Russian) *Algebra i Logika* **16** (1977), *no.* 5, 577–587, 624. (B. Hartley) **58** #28103 17B65

The work problem for Lie algebras. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 5, 1194–1197, 1208. (Juri A. Bahturin) **56** #15721 17B65 (02F47)

Kukles, I. S. (*with* Akčurina, R. Ju.) Problems of distinguishing for integral curves near a singular point, on the plane and in three-dimensional space. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1966**, *no.* 8, 3–6. (L. Reiziņš (RŽMat **1967** #3 B263)) **45** #7213 34C35

(*with* Kurbanova, Z. N.) Qualitative investigation of the behavior of the characteristics of a certain differential equation in the Poincaré circle. (Russian) *Trudy Samarkand. Gos. Univ. (N.S.) No.* 181 (1970), 61–74. (Wolfdietrich Müller) **45** #5468 34C05

(*with* Rozet, I. G.) Certain cases of nonlocal generation of a limit cycle for a certain differential equation. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1971**, *no.* 2, 3–5. (L. Reiziņš) **47** #7117 34C05

(*with* Persidskaja, L. B.) Those characteristics of a system of three differential equations that tend to the origin along a spiral and have infinite order of curvature. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 10(113), 42–46. (M. Ráb) **45** #7170 34C05

(*with* Putilova, R. I.) The behavior of integral curves in three-dimensional space in the neighborhood of closed curves. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1972**, *no.* 8, 6–8. (Wolfdietrich Müller) **47** #7118 34C05

(*with* Putilova, R. I.) The characteristics that enter the origin with semisingular orders of curvatures. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 8(123), 70–80. (L. Pintér) **48** #4404 34C05

(*with* Putilova, R. I.) Behavior of the integral curves of a system of differential equations in three-dimensional space in the neighborhood of closed curves. (Russian) *Trudy Samarkand. Gos. Univ. (N.S.) Vyp.* 224 *Voprosy Kačestven. Teorii Differencial. Uravnenii* (1972), 16–24. (Editors) **57** #6652 34C30

(*with* Putilova, R. I.) Some methods for the construction of a periodic solution of a Riccati equation. (Russian) *Trudy Samarkand. Gos. Univ. (N.S.) Vyp.* 224 *Voprosy Kačestven. Teorii Differencial. Uravnenii* (1972), 24–33. (Editors) **57** #6637 34C25

(*with* Kajumov, D. H.) A certain case of the nonlocal generation of limit cycles of a quadratic-fractional differential equation. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **17** (1973), *no.* 4, 23–28, 97. (L. Reiziņš) **55** #3412 (EA **55/56**) 34C05

(*with* Hasanova, M.) Behavior of the characteristics of a differential equation. (Russian) *Mathematics and the methodology of its teaching, Part I (Russian), pp.* 108–115. *Tadžik. Gos. Univ., Dushanbe*, 1974. (Editors) **58** #28831 34C05

(*with* Toporovskaja, B. I.) Some tests for the existence of 0-characteristics in three-dimensional space with zero, finite and infinite orders of curvature. (Russian. Uzbek summary) *Dokl. Akad. Nauk UzSSR* **1974**, *no.* 5, 6–9. (Z. Nehari) **53** #5995 34C05

(*with* Rabinkov, G. A.) Movable singular points of the solutions of certain nonautonomous systems. (Russian) *Dokl. Akad. Nauk UzSSR* **1976**, *no.* 12, 8–10. (M. Bertolino) **56** #6012 34C05

(*with* Rozet, I. G.) Two-dimensional integral orientable manifolds in a three-dimensional dynamical system. (Russian) *Dokl. Akad. Nauk UzSSR* **1977**, *no.* 7, 12–14. (From the text) **58** #13183 58F10

See also **Proceedings: International Conference on Nonlinear Oscillations, 47** #8969; **Abstracts: Conference of the Faculties on Advances in Research, 48** #3665; **Questions on differential equations, 52** #7762; **Obituary: Kukles, I. S., 57** #12143 *and* **Erugin, N. P.; et al., 58** #16023

Kukleva, Adelina L. (*with* Danev, Božidar V.) A procedure for computing the gradients in an adaptive system with a reference model. (Bulgarian. Russian and English summaries) *Problemi Tehn. Kibernet.* 5 (1977), 13–20. (Authors' summary) **56** #18001 93C40

Kuklewski, Julian (*with* Dornfeld, Engelbert; Knap, K.) Quadrifocals in two-dimensional Minkowski space. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **14** *Zastos. Mat.* (1973), 103–112. (V. Medek) **54** #13711 50C25

(*with* Sarna, Ryszard) Invariants of curves in the space ${}^{1}E_3$. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **14** *Zastos. Mat.* (1973), 113–119. (W. Wrona) **55** #8974 53A40

(*with* Śliż, Franciszek) Pseudo-Euclidean rotations of frames in E_4^1. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **16** *Geometria Różniczkowa* (1973), 7–10. (R. I. Pimenov) **54** #1114 53B30

(*with* Dornfeld, Engelbert) The Frenet frame of a two-dimensional isotropic surface in Minkowski space. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **16** *Geometria Różniczkowa* (1973), 33–40. (R. I. Pimenov) **53** #11523 53B30

Comparison of local times in a Schwarzschild-Friedmann space-time. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **17** *Zastos. Mat.* (1974), 23–33. (Author's summary) **55** #2039 83.53

(*with* Krawczyk, Jerzy) The radial-angular motion of particles in Schwarzschild's gravitational field. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **18** *Zastos. Mat.* (1975), 21–27. (Authors' summary) **56** #17678 83.53

(*with* Krawczyk, Jerzy) Friedmann's pseudospherical space-time. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **18** *Zastos. Mat.* (1975), 29–42. (Authors' summary) **56** #17679 83.53

(*with* Krawczyk, Jerzy) Stitching together the metric of Schwarzschild's space-time with the metric of Friedmann's space-time. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **18** *Zastos. Mat.* (1975), 43–53. (Authors' summary) **56** #17680 83.53

(*with* Garncarek, Zbigniew) Some combinatorial lemmas. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **19 Logika Mat.** (1976), 287–296. (Authors' summary) **56** #139 05A10

(*with* Garncarek, Zbigniew) The coefficients of the polynomial $W_k(1/\kappa)=\sum_{m_1,\cdots,m_k} m_1^k P^n_{m_1,\cdots,m_k} \sum_{i=1}^{\kappa} m_i=n$). (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **19 Logika Mat.** (1976), 297–311. (Authors' summary) **56** #140 05A10

(*with* Garncarek, Zbigniew) A connection between the coefficients of the polynomial $W_k(1/\kappa)$ and the Stirling numbers of the first and second kind. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **19 Logika Mat.** (1976), 313–322. (Authors' summary) **56** #141 05A10

(*with* Garncarek, Zbigniew) The influence of change of nets on the value of the index of the concentration of population distribution and its descriptive parameters. (Polish. English summary) *Zeszyty Nauk. Wyż. Szkoły Ped. w Opolu Mat.* **20** *Algebra, Zastos. Mat.* (1978), 153–167. **58** #20605 92A15

Kuklin, G. N. (*with* Vittih, V. A.; Tominkov, G. N.; Tsybatov, V. A.) Topological optimization of data acquisition systems. Translated from the Russian. *Problems Control Inform. Theory / Problemy Upravlen. Teor. Inform.* **7** (1978), *no.* 1, 21–36. (Authors' summary) **58** #20882 94A20

Kuklin, Ju. I. Two-sided probabilistic automata. (Russian) *Avtomat. i Vyčisl. Tehn. (Riga)* **1973**, *no.* 5, 35–36. (A. D. Koršunov) **48** #13531 94A35

Kukoz, F. I. (*with* Gončarov, V. I.; Gladun, K. K.) Diffusion when there is a single pulse of matter flow. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Tehn. Nauk* **1976**, *no.* 1, 80–83, 117. (From the authors' summary) **56** #10461 80.35

Kukral, Dean K. (*with* Gilbert, Robert Pertsch) Function theoretic methods for elliptic equations with more than four variables. (Italian summary) *Rend. Sem. Mat. Univ. e Politec. Torino* **31** (1971/73), 275–285 (1974). (E. Kreyszig) **51** #10838 35C15

(*with* Gilbert, Robert Pertsch) Function theoretic methods for higher order, elliptic equations in three independent variables. *Bull. Amer. Math. Soc.* **79** (1973), 96–99. (E. Kreyszig) **46** #9508 35C15 (35J30)

On a Bergman-Whittaker type operator in five or more variables. *Proc. Amer. Math. Soc.* **39** (1973), 122–124. (Manfred W. Kracht) **47** #617 35C15 (35J05)

(*with* Gilbert, Robert Pertsch) A function-theoretic method for $D_3u+F(x_1, x_2)u=0$. *J. Indian Math. Soc. (N.S.)* **38** (1974), *no.* 1, 2, 3, 4, 227–231 (1975). (V. R. Fridlender) **53** #991 35C15

(*with* Gilbert, Robert Pertsch) A function theoretic method for $\Delta_4^2u+Q(x)u=0$. *Ann. Mat. Pura Appl.* (4) **104** (1975), 31–42. (D. L. Colton) **51** #10836 35C15 (35J30)

(*with* Gilbert, Robert Pertsch) A function theoretic method for $\Delta_3^2u+Q(x)u=0$. *Math. Nachr.* **67** (1975), 199–212. (D. L. Colton) **51** #10837 35C15

Kukreja, S. N. (*with* Chen, I Ngo) Combinational and sequential cellular structures. *IEEE Trans. Computers* **C-22** (1973), 813–823. (W.-K. Chen) **50** #12468 94A20

Kuks, J. (*with* Ol'man, V.) Linear minimax estimation of regression coefficients. II. (Russian) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **20** (1971), 480–482. (G. Manija) **47** #7842 62C07 (62J05)

(*with* Ol'man, V.) Linear minimax estimation of regression coefficients. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **21** (1972), 66–72. (*errata insert*) (G. Manija) **47** #7841 62C07 (62J05)

Minimax estimation of regression coefficients. (Russian. Estonian and English summaries) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **21** (1972), 73–78. (*errata insert*) (G. Manija) **47** #7840 62C07 (62J05)

A lower bound for the minimax risk. (Russian) *Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* **21** (1972), 303–306. (H. Toutenburg) **49** #1660 62F10

Kuks, L. M. A Sturm type comparison theorem for systems of fourth order ordinary differential equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 751–754, 768. (A. D. Ziebur) **49** #720 34C10

A certain variant of an identity of Picone type, and Sturm's theorems for higher order ordinary differential equations (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 4, 758–759, 775–776. (D. Izjumova) **54** #640 34C10

Unboundedness of the solutions and a comparison theorem of Sturm type for higher order parabolic systems on the plane. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 5, 878–884, 957. (V.-V. Olariu) **58** #17444 35B05 (35K40)

Kuksa, A. I. (*with* Šor, N. Z.) The method of estimating the number of conditionally optimal trajectories of discrete separable dynamic programming. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 6, 37–44. (S. Krčevinac) **48** #1463 65K05

(*with* Ivanin, V. M.) Computation of the mathematical expectation of the number of feasible subsets in an acyclic directed graph with random arcs. (Russian) *Theory of optimal solutions* (*Russian*), *pp.* 41–45. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1977. (Editors) **58** #9184 90B15

See also **Theory of optimal decisions**, **58** #32848

Kuksenko, V. I. (*with* Voĭčišin, K. S.; Dragan, Ja. P.; Mihaĭlovs'kiĭ, V. M.) The detection of periodicities in the structure of natural stochastic processes. (Russian) *Otbor i Peredača Informacii No.* 30 (1971), 3–16. (G. Tusnády) **45** #9433 62M10

Kuksin, S. B. Analytic dependence on the initial conditions of the solutions of some monotone parabolic equations. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1978**, *no.* 1, 23–29. (M. A. Atahodžaev) **57** #16905 34K05

Kuku, Aderemi O. Sets, relations and fundamental algebraic structures. *Abacus* **7/8/9** (1970), *no.* 1, 179–191. (J. Kárasek) **55** #7882 08–01

Whitehead group of orders in p-adic semi-simple algebras. *J. Algebra* **25** (1973), 415–418. (H. H. Storrer) **47** #8603 16A40

Some algebraic K-theoretic applications of the LF and NF functors. *Proc. Amer. Math. Soc.* **37** (1973), 363–365. (J.-P. Jouanolou) **47** #3376 13D15 (18F30)

SK_n of orders and G_n of finite rings. *Algebraic K-theory* (*Proc. Conf., Northwestern Univ., Evanston, Ill.*, 1976), *pp.* 60–68. *Lecture Notes in Math., Vol.* 551, *Springer, Berlin*, 1976. (K.-J. Bäckström) **58** #28071 16A54

Some finiteness theorems in the K-theory of orders in p-adic algebras. *J. London Math. Soc.* (2) **13** (1976), *no.* 1, 122–128. (Keith Dennis) **53** #8196 18F25

Kukudžanov, V. N. On wave propagation in a coupled thermo-elastic-plastic medium. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **29** (1977), *no.* 2, 325–338. (J. Bejda) **55** #13922 73.35

Kukulin, V. I. (*with* Neudačin, V. G.; Pomerancev, V. N.) Elimination of occupied states in the Faddeev equations for three composite particles. *Jadernaja Fiz.* **24** (1976), *no.* 2, 298–307 (*Russian*); *translated as Soviet J. Nuclear Phys.* **24** (1977), *no.* 2, 155–160. (Mayer Humi) **55** #11844 81.35

(*with* Pomerancev, V. N.) The orthogonal projection method in scattering theory. *Ann. Physics* **111** (1978), *no.* 2, 330–363. (Authors' summary) **58** #14582 81.35 (35P99)

Kukuš, O. G. A theorem about a monotonic sequence in a finite-dimensional space. (Ukrainian. English and Russian summaries) *Vīsnik Kiīv. Unīv. Ser. Mat. Meh. No.* 18 (1976), 35–40, 141. (Author's summary) **58** #12274 46A40

Kukuškin, N. S. The role of mutual information exchange in two-person games with nonconflicting interests. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1029–1034, 1087. (L. A. Petrosjan) **47** #6327 90D05

(*with* Kononenko, A. F.) Mixed strategies in games with a fixed sequence of moves. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 1274–1277. (E. G. Gol'šteĭn) **48** #3507 90D05

A certain game with incomplete information. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 210–216, 271. (M. Vlach) **47** #3015 90D05

(*with* Vatel', I. A.) Optimal conduct of a player having the right to the first move when his knowledge of partner's interests is inaccurate. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 303–310, 530. (V. F. Dem'janov) **51** #2658 90D05

Equilibrium points in meta-games. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 312–320, 531. (M. Mañas) **50** #3961 90D12

Kula, K. Finite solvable primitive subgroups of GL(n, C). (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 303–305. (W. J. Wong) **47** #5136 20G20

Kula, Mieczysław Ordered fields and quadratic forms over Pythagorean fields. (Polish summary) *Uniw. Śląski w Katowicach Prace Naukowe No.* 158 *Prace Mat. No.* 7 (1977), 13–21. (Ron Brown) **58** #16507 10C05 (12J15)

Kulaeva, L. I. (*with* Dovnar-Zapol'skaja, N. M.; Koroleva, N. S.; Lupandina, D. S.; Nemilova, T. K.) ★**Немецко-русский механико-математический словарь.** (Russian) [German-Russian dictionary of mechanics and mathematics] Edited by Ju. A. Ostrovskiĭ. *Izdat. Moskov. Univ., Moscow*, 1960. 238 *pp.* (Editors) **50** #6738 00A20

Kulagin, Ju. A. A certain particular case of the model K_{ee}. (Russian) *Volž. Mat. Sb. No.* 8 (1971), 127–131. (L. Guggenbuhl) **45** #4302 53A25

A mapping of the space P_3 onto K_{ee}. (Russian) *Volž. Mat. Sb. No.* 9 (1971), 106–112. (*loose errata*) (Froim Marcus) **46** #4391 53A20

Metric determinacy of the plane model of three-dimensional projective space that comes from a pair of algebraic linear congruences. (Russian) *Moskov. Aviacion. Inst. Ordžonikidze Trudy No.* 250 *Geometr. Preobrazovan. i Tehn. Priloženija* (1972), 5–11. (Not reviewed) 50D20

Kulagin, N. V. (*with* Zolotarev, G. N.) The linear density of a sequence of elements in a normed linear space. (Russian) Logic, algebra and numerical analysis, Vol. 2, no. 1. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **123** (1973), 4–11. (M. M. Day) **56** #16338 46B15

Kulagina, M. F. Characteristic singular equations in the case of a countable set of contours with several condensation points. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 11 (1974), 138–143. (N. K. Karapetjanc) **57** #3774 45E05

(*with* Čibrikova, L. I.) A certain representation of a meromorphic function, and its application. (Russian) *Dokl. Akad. Nauk SSSR* **224** (1975), *no.* 2, 293–296. (D. A. Brannan) **54** #2966 30A68

Characteristic singular equations in the case of a countable set of contours. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 8(171), 32–41. (R. V. Dudučava) **56** #16291 45E05

(*with* Salehova, I. G.) The Riemann problem in the case of a countable se f contours that are periodically spaced in the right half-plane. (Russian) *Trudy* s. *Kraev. Zadačam Vyp.* 13 (1976), 175–183. **58** #22587 30A88

The solvability of the inhomogeneous Riemann problem in the case of a count e set of contours. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 2(1), 131–134. (From the text) **58** #28529 30A88

Kulagina, O. S. Certain questions of the transformation of dependency trees in mac e translation. (Russian) *Problemy Kibernet. No.* 24 (1971), 161–190. (R. See) **45** #80 68A30 (94A20)

A. A. Ljapunov's role in the development of experiments in machine translatio n the USSR. (Russian) Issue dedicated to the memory of Alekseĭ Andreevič Ljapu . *Problemy Kibernet. No.* 32 (1977), 59–70, 246. (Editors) **57** #9434 01A70 (68A

See also **Collection: All-Union Conference on Problems of Theoretical Cyberne**, **49** #4

Kulahmetova, Š. A. The first boundary value problem of the heat equation with discontinuous coefficients for the disc. (Russian. Kazakh summary) *Izv. Akad. N k Kazah. SSR Ser. Fiz.-Mat.* **1975**, *no.* 3, 59–66, 92. (Author's summary) **57** #169 35K05

Solution of boundary value problems for a heat equation with discontin s coefficients in a domain bounded by a curve of Ljapunov type when the curv f discontinuity of the coefficient passes the boundary. (Russian. Kazakh summary) *Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1977**, *no.* 1, 76–79, 93. (RŽMat **1977** #8 B) **58** #23061 35K05

Kulakov, A. F. (*with* Timofeev, B. B.; Kozlik, G. A.; Mart'janov, A. J.) ★**Algorithmierung in automatisierten Leitungssystemen.** Herausgegeben von Hart t Schultze. Übersetzt aus dem Russischen von W. Heidrich. Elektronisches Rechnen d Regeln, Sonderband 22. *Akademie-Verlag, Berlin*, 1976. x + 248 *pp.* (Editors) **57** #11 8 93 04

Kulakov, F. M. *See* **Control in space**, **48** #8041

Kulakova, A. N. The disconjugacy of the solutions of the equation $\varepsilon x + p(t)x + q(t) = 0$ a function $p(t)$ that changes sign. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 2 (19 , 51–56. (J. W. Macki) **57** #3511 34C10

Kulakova, V. G. Positive projection operators in L^1 spaces. (Russian. English summa *Vestnik Leningrad. Univ. No.* 7 *Mat. Meh. Astronom. Vyp.* 2 (1973), 154–155, 165. (Lazar) **48** #9372 46E30

Positive projection operators and conditional mathematical expectation. (Russ English summary) Investigation on linear operators and the theory of functions, V. 2 *Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **47** (1974), 172–174, 189, (F. H. Szafraniec) **52** #4021 47B55

The regularity of conditional probabilities. (Russian. English summary) *Ves Leningrad. Univ.* **1976**, *no.* 1 *Mat. Meh. Astronom. vyp.* 1, 16–20, 159. (T. Neubru) **54** #14029 60A10

Kulakovskaja, T. E. Necessary and sufficient conditions for the kernel and the solutio coincide in a classical cooperative game. *Dokl. Akad. Nauk SSSR* **199** (1971), 1015–1017 (*Russian*); *translated as Soviet Math. Dokl.* **12** (1971), 1231–1234. (Edit) **45** #8285 90D12

Sufficient conditions for the existence of a kernel-solution in a cooperative ga (Russian) *Operations research and statistical modeling, No.* 1 (*Russian*), *pp.* 106– *Izdat. Leningrad. Univ., Leningrad*, 1972. (Constantin Vîrsan) **52** #7566 90D12

Coincidence of the core and the solution for games with an arbitrary set of play (Russian. English summary) *Advances in game theory* (*Proc. Second All-Union Co Vilnius*, 1971) (*Russian*), *pp.* 139–142. *Izdat. "Mintis", Vilnius*, 1973. (Author's summa **50** #6522 90D12

The core is the solution for games in partition function form. (Russian) *Operati research and statistical simulation, No.* 2 (*Russian*), *pp.* 67–74, 150. *Izdat. Leningr Univ., Leningrad*, 1974. (Nigel Howard) **52** #5073 90D40

(*with* Vilkov, V. B.) The core solution in cooperative games without side payme (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom.* 3, (1975), 14–18, 149. (D. Marc Kilgour) **52** #12822 90D12

Classical optimality principles for infinite cooperative games. (Russian. Eng summary) *Current trends in game theory* (*Russian*), *pp.* 94–108. *Izdat. "Moksl Vilnius*, 1976. (O. N. Bondareva) **56** #17883 90D99

Kulakow, A. F. *See* **Kulakov, A. F.**

Kulanov, N. V. Certain problems of the analysis and synthesis of statistically opti bounded control. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 1: *Optimal and adap systems* (*Russian*), *pp.* 112–124, 307. *Izdat. "Nauka", Moscow*, 1972. **48** #807 93E20

See also **Proceedings: All-Union Symposium on Statistical Problems in Engineer Cybernetics**, **47** #4666 (EA **47**)

Kulathungam, Lyman C. D. Reductio-ad-absurdum: a family feud between Copi a Scherer. *Notre Dame J. Formal Logic* **16** (1975), 245–254. (K. Inoue) **51** #779 02–01 (02A05)

Kul'ba, V. V. (*with* Cvirkun, A. D.) Some problems of optimal redundancy of informat files. *Avtomat. i Telemeh.* **1971**, *no.* 6, 92–98 (*Russian. English summary*); *translated Automat. Remote Control* **32** (1971), *no.* 6, *part* 2, 937–942. (A. Bensoussan) **48** #13 90B99

Kul'backiĭ, Ju. I. (*with* Malyšev, N. G.; Bujanov, B. Ja.) The use of probabilistic autom for the representation of production plants. (Russian) *Izv. Severo-Kavkaz. Nau Centra Vysš. Školy Ser. Tehn. Nauk.* **1976**, *no.* 3, 18–20, 115. (Authors' summa **58** #33614 94A35 (90B99)

Kul'čickiĭ, O. Ju. (*with* Katkovnik, V. Ja.) Convergence of a class of random sea algorithms. *Avtomat. i Telemeh.* **1972**, *no.* 8, 81–87 (*Russian*); *translated as Autom Remote Control* **1972**, *no.* 8, *part* 1, 1321–1326. (Ar. Leonte) **55** #2147 90C30

(*with* Katkovnik, V. Ja.) Random search methods for the solution of a problem optimal control of a discrete system. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1972**, 5, 49–55. (V. N. Igolkin) **47** #9829 65K05

A non-gradient random search method for an extremum in a Hilbert space. *Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 5, 27–34 (*Russian*); *translated as Eng*

Cybernetics **10** (1972), *no.* 5, 773–780. (E. Baiada) **48** #12829 65K05 (49D45)

(*with* Katkovnik, V. Ja.) Identification of linear dynamical systems with random perturbation. (Russian) *Cybernetics and computer technology*, *No.* 24: *Discrete control systems* (*Russian*), *pp.* 19–22, 123. *Izdat.* "*Naukova Dumka*", *Kiev*, 1974. (V. N. Igolkin) **52** #7669 93E10

(*with* Šimelevič, L. I.) The problem of finding the initial approximation for Newton's method. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 1016–1018, 1077. (J. W. Schmidt) **50** #15324 65H10

(*with* Katkovnik, V. Ja.) Parametric statistical estimates in many-extremal optimization problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 6, 25–30, 219 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 6, 24–27. (Authors' summary) **58** #26438 93E10

(*with* Katkovnik, V. Ja.) The identification of linear discrete dynamic systems with a random perturbation in the case of incomplete observability of the state vector. (Russian) *Kibernet. i Vyčisl. Tehn. No.* 28 (1975), 18–22, 126. (Authors' summary) **57** #18934 93B30

(*with* Katkovnik, V. Ja.) Applicability of stochastic approximation methods for adaptive stabilization of discrete linear dynamical systems. *Avtomat. i Telemeh.* **1976**, *no.* 9, 113–123 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 9, *part* 2, 1392–1401 (1977). (Authors' summary) **58** #26463 93E15

A random search algorithm for an extremum in a functional space under partial uncertainty. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1976**, *no.* 5, 135–141. (Editors) **58** #24941 65K05 (90C40)

Kul'čickiĭ, V. L. (*with* Barkovskiĭ, V. V.) Generalized solutions of certain mixed problems for the Schrödinger equation. (Russian) *Linear and nonlinear boundary value problems* (*Russian*), *pp.* 22–30. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Genowefa Majcher) **52** #11302 35J10

The smoothness of the generalized solutions of certain mixed boundary value problems for the Schrödinger equation. (Russian) *Linear and nonlinear boundary value problems* (*Russian*), *pp.* 160–167. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (J. Kačur) **54** #13318 35K20

(*with* Mītropol's'kiĭ, Ju. O.) The asymptotic integration of a nonlinear mixed partial differential boundary value problem. (Russian) *Ukrain. Mat. Ž.* **23** (1971), 543–547. (L. E. Bobisud) **47** #2172 35B25 (34G05)

Mathematical formulation and qualitative investigation of the problem of induction heating. (Russian. English summary) *Nonlinear boundary value problems of mathematical physics* (*Russian*), *pp.* 60–68. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Victor I. Levin) **50** #15615 80.35

Integration of a nonlinear mixed partial differential boundary value problem. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 382–386, 431. (Genowefa Majcher) **49** #7603 35K05

See also **Questions in applied mathematics**, **48** #5448

adamus-Kulczycka, A. *See* **Adamus-Kulczycka, A.**

Kulczycki, Stefan ★Z dziejów matematyki greckiej. (Polish) [From the history of Greek mathematics] Compiled from the authors' notes by Zdzisław Opial. *Państwowe Wydawnictwo Naukowe, Warsaw*, 1973. 330 *pp.* (Not reviewed) 01A20

Kulebakin, V. S. (*with* Linkovskiĭ, Ž. B.) A method of analytic linearization of continuous nonlinear systems of automatic control. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1966**, *no.* 8, 807–812. (P. C. Das) **47** #4682 93C10

Kulebjakin, A. Z. (*with* Pisklov, V. V.) A method of quasistationary Fourier analysis based on the mean values of the required functions. (Russian. English summary) *Teoret. Èlektrotehn. No.* 15 (1973), 58–63, 177. (From the authors' introduction) **50** #9421 94A20

Kuleeva, L. M. (*with* Gadeeva, L. K.) Detection of singular points of differential equations on an electronic computer. (Russian) *Numerical methods in problems of technology and economics* (*Russian*), *pp.* 113–121. *Izdat. Kazan. Univ., Kazan*, 1971. (Editors) **55** #742 34–04

On the question of limit cycles. (Russian) Collection of articles dedicated to the memory of Mazit Ifatovič Al'muhamedov. *Volž. Mat. Sb. No.* 16 (1973), 173–179. (R. S. Levitin) **51** #3604 34C05

Isochronism of the center of a certain dynamical system. (Russian) Collection of articles dedicated to the memory of Mazit Ifatovič Al'muhamedov. *Volž. Mat. Sb. No.* 16 (1973), 180–183. (R. S. Levitin) **51** #3606 34C05

The construction of ε-approximations of curves. (Russian) Collection of articles dedicated to the memory of Mazit Ifatovič Al'muhamedov. *Volž. Mat. Sb. No.* 16 (1973), 184–187. (R. S. Levitin) **51** #3605 34C05

Kulesko, N. A. (*with* Gurariĭ, V. P.; Macaev, V. I.; Palant, Ju. A.) Completeness of the system of Floquet solutions of linear first order differential equations with delays that are multiples of the period of the coefficients. (Russian) *Vestnik Har'kov. Gos. Univ. No.* 67 (1971), 3–10. (G. B. Gustafson) **45** #5511 34K99

(*with* Levin, B. Ja.) The completeness of the Floquet solutions for second order differential equations with deviating argument. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 2, 321–326, 478. (Ju. I. Ljubič) **56** #12501 34K15

Kulešov, A. A. Fundamental solutions of pseudodifferential operators. (Russian) *Dokl. Akad. Nauk BSSR* **16** (1972), 887–890, 967. (V. S. Rabinovič) **49** #1233 47G05 (35S05)

Systems of pseudodifferential equations in $\mathbf{R}^n$. (Russian) *Differencial'nye Uravnenija* **9** (1973), 747–750, 786. (Monty Strauss) **47** #4069 35S05 (47G05)

Pseudodifferential operators in $\mathbf{R}^n$. I. (Russian) *Differencial'nye Uravnenija* **9** (1973), 890–900, 977. (Monty Strauss) **48** #9459 47G05 (35S05)

Pseudodifferential operators in $\mathbf{R}^n$. II. (Russian) *Differencial'nye Uravnenija* **9** (1973), 1099–1108, 1165. (Monty Strauss) **48** #9460 47G05 (35S05)

Solvability of pseudodifferential equations in R^n. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 105–108, 189. (V. S. Rabinovič) **49** #1234 47G05 (35S05)

Solvability of systems of pseudodifferential equations in R^n. (Russian) *Dokl. Akad. Nauk BSSR* **17** (1973), 881–884, 969. (Ja. A. Roĭtberg) **49** #9686 47G05 (35S05)

The fundamental solution of quadratic systems of pseudodifferential equations. (Russian) *Differencial'nye Uravnenija* **10** (1974), 1905–1907, 1920. (V. S. Rabinovič) **50** #7863 35S05 (47G05)

Perturbations by compact operators of pseudodifferential equations in spaces of the type $B_{p,k}(R^n)$. (Russian) *Differencial'nye Uravnenija* **11** (1975), 382–384, 399. (V. S. Rabinovič) **51** #8893 47G05 (35S05)

A certain class of linear integral operators. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 4, 760–762, 776. (V. S. Rabinovič) **54** #1026 47G05 (35S05)

Linear integral equations of the first kind in spaces of the type $H_s(R^n)$. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 6, 1125–1128, 1143. (N. K. Karapetjanc) **54** #11000 45A05 (47G05)

The composition of linear operators. (Russian) *Dokl. Akad. Nauk BSSR* **20** (1976), *no.* 2, 101–103, 187. (K. Veselić) **53** #11402 47A50

Estimates for a class of pseudodifferential operators. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 2, 366–368, 390–391. (Ju. V. Egorov) **58** #23205 35S05 (47G05)

Kulešov, N. I. Finite completely π-factorizable groups. (Russian) *Dokl. Akad. Nauk BSSR* **21** (1977), *no.* 5, 393–394, 475. (D. I. Zaĭcev) **58** #11111 20D20

Kulešov, S. P. (*with* Matveev, V. A.; Sisakjan, A. N.; Smondyrev, M. A.) Approximate methods in quantum field theory, and the concept of rectilinear paths at high energies. (Russian. English summary) *Bulgar. J. Phys.* **1** (1974), *no.* 3, 223–232. (Authors' summary) **54** #9455a (E **54** #9455b) 81.47

(*with* Matveev, V. A.; Sisakjan, A. N.; Smondyrev, M. A.; Tavhelidze, A. N.) Straight-line path approximation in quantum field theory. (Russian. English summary) *Fiz. Èlementar. Častic. i Atom. Jadra* **5** (1974), 3–62. (Authors' summary) **57** #2298 81.46

(*with* Matveev, V. A.; Sisakjan, A. N.; Smondyrev, M. A.; Tavhelidze, A. N.) Method of straight-line paths and the eikonal problem. (Russian. English summary) *Teoret. Mat. Fiz.* **18** (1974), 147–160. (Authors' summary) **57** #8640 81.41

(*with* Matveev, V. A.; Sisakjan, A. N.; Smondyrev, M. A.) Errata to "Approximate methods in quantum field theory, and the concept of rectilinear paths at high energies" (Russian) (Bulgar. J. Phys. **1** (1974), no. 3, 223–232). *Bulgar. J. Phys.* **2** (1975), *no.* 1, 86. (Authors' summary) **54** #9455b 81.47

(*with* Goloskokov, S. V.; Matveev, V. A.; Smondyrev, M. A.) Scattering at large angles on the analytical quasipotentials. (Russian. English summary) *Teoret. Mat. Fiz.* **24** (1975), *no.* 1, 24–33. (Authors' summary) **58** #14575 81.35

(*with* Smondyrev, M. A.) Quantum fluctuations and the structure of particles in a field theory model. (Russian. English summary) *Teoret. Mat. Fiz.* **34** (1978), *no.* 3, 291–302. (Authors' summary) **58** #20013 81.47

Kulesza, Jan On the separation constant of the Schrödinger equation in ellipsoidal coordinates. (Polish summary) *Bull. Soc. Sci. Lettres Łódź* **24** (1974), *no.* 14, 4 *pp.* (1975). (Author's summary) **55** #14004 81.35

Kulesza, R. The conjunction of a particular form of majority logic functions and some of its properties. (Polish and Russian summaries) *Zastos. Mat.* **11** (1969/70), 299–312. (Author's summary) **52** #10259 94A20 (90B25)

Kulev, N. V. (*with* Savov, T. P.) A certain method for the study of curves of degree two. (Bulgarian. Russian and German summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **9** (1973), *no.* 3, 99–110 (1974). (L. Bal) **54** #8425 50B10

Kulhanek, J. D. Poynting's theorem for the Einstein system. *Lett. Nuovo Cimento* (2) **11** (1974), 691–696. **56** #7740 83.53

Kulibanov, V. N. Synthesis of a certain class of optimal systems of automatic control. (Russian) *Theory and methods of construction of multivariate control systems* (*Russian*), *pp.* 132–143, 336. *Izdat.* "*Nauka*", *Moscow*, 1973. (P. Brunovský) **52** #11714 49E05

On the problem of controllability of non-linear differential equations. (Russian) *Sb. Trudov Inst. Problem Upravlen. Vyp.* 3 *Issled. i Optimizacija Složn. Mnogosvjaz. Sistem* (1973), 14–20, 144. (Editors) **57** #6709 34H05 (93B05)

(*with* Fleĭšman, I. V.) Necessary optimality conditions for a problem of hydrodynamics. (Russian) *Sb. Trudov Inst. Problem Upravlen. Vyp.* 3 *Issled. i Optimizacija Složn. Mnogosvjaz. Sistem* (1973), 41–45, 145. (Editors) **57** #8433 76.49

(*with* Vseljubskiĭ, B. S.) A method for solving a two-point boundary value problem for nonlinear differential equations. (Russian) *Control of multivariable systems* (*Russian*), *pp.* 71–78, 134. *Izdat.* "*Nauka*", *Moscow*, 1975. (See RŽMat **1976** #5 B998; MR **54** #2375) 65L10

Kulič, N. V. The computation of certain Cauchy type integrals and singular integrals with logarithmic singularities. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 1, 90–94, 140. (J. Kofroň) **50** #3543 65D30

Interpolational quadrature formulae for Cauchy type integrals and singular integrals with logarithmic singularities. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 6, 58–62, 142. (J. Segethová) **52** #9573 65D30

(*with* Pyhteev, G. N.) Approximate calculation of Cauchy type integrals and singular integrals over the real line by means of polylogarithms. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1977**, *no.* 2, 113–116, 144. (Authors' summary) **58** #13643 65D30

Kuliev, A. U. Solutions in generalized functions of ordinary differential equations with polynomial coefficients that have singularities. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1973**, *no.* 1, 99–105. (Z. Zieleźny) **52** #854 34A30 (46F10)

Solutions in generalized functions of second order ordinary differential equations with singularities. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1974**, *no.* 2, 40–45. (Stefan Balint) **50** #7641 34A99

Kuliev, Dž. P. Derivative and integral of pseudoanalytic functions of several variables. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no.* 4, 8–12. (R. A. Kordzadze) **52** #769 30A93

Pseudoanalytic functions of several variables. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1972**, *no.* 1, 59–64. (G. Wildenhain) **52** #3578 32A30 (30A93)

The regular global power of several variables. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1972**, *no.* 3, 46–51. (From the text) **58** #22631 32A05

Pseudoanalytic functions of several variables. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **29** (1973), *no.* 9, 3–7. (I. I. Bavrin) **49** #5372 30A93 (32A30)

Conjugate radii of convergence of a power series. (Russian) *Izv. Akad. Nauk*

Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk **1974**, *no*. 2, 77–83. (I. I. Bavrin) **50** #7568 32A30 (30A93)

An interpolation process for pseudoanalytic functions with a triangular table. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap.* **1977**, *no*. 2, 57–67. (Editors) **58** #13618 65D05 (30A93, 65F05)

The similarity principle in a class of quasisummable functions of several variables. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no*. 1, 73–80. (Wolfgang Tutschke) **58** #17173 32A10

Kuliev, M. A. A certain inverse problem for a second order hyperbolic equation. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no*. 2, 144–148. (M. Kopáčková) **45** #3939 35L10

A certain inverse problem for an equation of mixed type with discontinuous coefficients. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no*. 11-12, 3–6. (A. M. Nahušev) **49** #878 35M05

A certain inverse problem for an equation of mixed type with discontinuous coefficients. (Russian) *Numerical mathematics* (*Russian*), *pp*. 49–55. *Izdat.* "*Èlm*", *Baku*, 1973. (V. M. Isakov) **52** #14679 35M05

(*with* Namazov, G. K.) Classical solution of the inverse problem for a hyperbolic equation. I. (Russian. Azerbaijani summary) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1976**, *no*. 5, 3–9. (From the introduction) **57** #17045 35R30 (35L20)

Kuliev, T. K. A certain integral operator with a fixed singularity. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no*. 4, 16–21. (D. Przeworska-Rolewicz) **47** #9358 47G05

A scale of multidimensional singular operators in spaces of continuous functions. (Russian) *Azerbaĭdžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk* **1976**, *no*. 3, 20–26. (Author's summary) **58** #17700 44A25 (47G05)

Kuliev, V. D. (*with* Čerepanov, G. P.) Solution of a certain dynamical problem of elasticity theory. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz. -Tehn. Mat. Nauk* **1972**, *no*. 4, 3–9. (P. P. Teodorescu) **50** #11939 73.44

Stationary motion of a crack in a strip. *Prikl. Mat. Meh.* **37** (1973), 572–576 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 553–556 (1974). (M. Sokołowski) **49** #4385 73.45

(*with* Čerepanov, G. P.) On the theory of "hot" cracks. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1974**, *no*. 2, 103–109. (Authors' summary) **56** #7415 73.35

Kuliev, V. Ju. (*with* Dadašev, L. A.) Scattering operator for interactions with strong cut-offs. (Russian. English summary) *Teoret. Mat. Fiz.* **27** (1976), *no*. 3, 297–306. (Authors' summary) **56** #14300 81.47

(*with* Dadašev, L. A.) A canonical form for bilinear Hamiltonians. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1977**, *no*. 4, 3–8. (K. Kumar) **57** #15060 81.47

Kuliev, Z. Ja. (*with* Kadymov, Ja. B.; Aliyev, V. B.) Optimum control of transients in complex systems, including links with distributed parameters. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 15.4, 7 *pp. IFAC, Düsseldorf*, 1975. (From the summary) **58** #33317 93C20

(*with* Voropaev, P. V.) A representation of distributed parameter complex systems in a state space. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **32** (1976), *no*. 3, 13–16. (D. Obradović) **55** #12203 93B30 (94A20)

(*with* Voropaev, P. V.) A mathematical interpretation of the state of electrical circuits with distributed parameters in the automation of the design. (Russian. English summary) *Teoret. Elektrotehn. Vyp.* 21 (1976), 116–121, 142. (Authors' summary) **56** #11590 94A20

Kulig, Czesława A numerical treatment of a boundary-value problem for third-order differential equations. *Zeszyty Nauk. Uniw. Jagiello. Prace Mat. No.* 15 (1971), 83–89. (F. Perrin) **48** #8930 34B05

Kulijev, E. Ja. *See* **Proceedings: IFAC World Congress, 50** #12338

Kulik, Jakub Philip *See* **Nový, Luboš, 57** #12074

Kulik, L. *See* **Bieńkowska-Lipińska, Krystyna; et al., 52** #7771

Kulik, L. A. Einführung in die Algebra der Strukturzahlen. *Z. Elek. Informations- und Energietech.* **5** (1975), *no*. 1, 1–10. (Jaroslav Nešetřil) **53** #12772 94A20

Kulik, M. N. (*with* Borkovskiĭ, B. A.; Vollerner, A. N.; Katkov, A. F.; Romancov, V. P.; Tjutin, A. A.) ★Моделируюшие математические машины с переменной структурой. (Russian) [Simulating mathematical machines with variable structure] Edited by G. È. Puhov. *Izdat.* "*Naukova Dumka*", *Kiev*, 1970. 248 *pp*. (Table of contents) **47** #4501 68A55

Conditions for the convergence of the solution of systems of linear algebraic equations on hybrid media with a guarantee of high accuracy. (Russian) *Èlektronika i Modelirovanie Vyp*. 9 (1975), 83–86, 145. (F. Szidarovszky) **58** #3354 65F10

A certain class of iteration algorithms for the hybrid solution of systems of nonlinear differential equations. (Russian) *Èlektronika i Modelirovanie Vyp*. 10 (1975), 34–36, 145. (Author's summary) **57** #18125 65L99

(*with* Križanivs'ka, A. O.) A method for the hybrid solution of systems of algebraic equations. (Russian) *Èlektronika i Modelirovanie Vyp*. 12 (1976), 54–57, 106. (Authors' summary) **57** #18067 65H10

See also **Mathematical simulation and the theory of electrical circuits, 48** #3287

Kulik, V. L. (*with* Golec', B. Ī.; Golec', V. L.) On the question of the existence of solutions that tend to zero at infinity for systems of linear differential equations with variable coefficients. (Russian) *Asymptotic and qualitative methods in the theory of nonlinear oscillations* (*Russian*), *pp*. 19–26. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (T. Čanturija) **53** #13728 34C10

(*with* Golec', B. Ī.) On the question of dichotomy for the solutions of systems of linear differential equations. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 528–531, 574. (P. Talpalaru) **46** #9467 34D20

Some questions on the conservation of an invariant torus under a perturbation. (Russian) *Nonlinear oscillations and stability of motion* (*Russian*), *pp*. 171–179. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (Editors) **58** #1406 34C30

On the question of the preservation of an invariant torus under a perturbation. (Russian) *The method of integral manifolds in nonlinear differential equations* (*Russian*), *pp*. 121–135. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1973. (M. Bertol **51** #8560 34C35 (34D10)

Necessary and sufficient conditions for the existence of a Green's function for problem of the invariant torus. (Russian) *Analytic methods for the study of the solu of nonlinear differential quations* (*Russian*), *pp*. 63–72. *Izdanie Inst. Mat. Akad. N Ukrain. SSR, Kiev*, 1975. (G. Bojadžiev) **54** #5548 34C30

(*with* Dvorak, O. V.) Some questions on the theory of invariant manifolds. (Russian) *Analytic methods for the study of the solutions of nonlinear differential equat* (*Russian*), *pp*. 73–82. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. Bojadžiev) **54** #5549 34C30

(*with* Samoĭlenko, A. M.) On the question of the existence of the Green's func for the invariant torus problem. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no*. 3, 348– 430. (L. Reiziņš) **51** #13367 34C20

(*with* Krivošeja, S. A.) An application of asymptotic methods to the solution of problem of the motion of a fluid in an elastic conduit. (Russian) *Ukrain. Mat. Ž* (1977), *no*. 1, 58–66, 142. (L. Dragoş) **57** #8418 76.41

Kulik, V. T. Generalized recurrence formulae for adaptive filtering, prediction, seque regression and factor analysis. (Russian) *Algorithmization of industrial processes* (*P Sem., Kiev*, 1969), *No*. 1 (*Russian*), *pp*. 3–8. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. Pristavka (RŽMat **1970** #6 V191)) **46** #2801 62M20

A K-list description of the structure of complex systems. (Russian) *Complex co systems* (*Proc. Sem., Kiev*, 1969), *No*. 1 (*Russian*), *pp*. 53–63. *Akad. Nauk Ukrain. S Kiev*, 1969. (È. Vagner (RŽMat **1970** #8 V566)) **46** #1382 93A10

$\sigma\circ\rho^{-1}$-stable and $\rho\circ\sigma$-stable classes of universal algebras. (Russian) *Work young scientists: mathematics and mechanics*, *No*. 2 (*Russian*), *pp*. 53–58. *Izdat. Sara Univ., Saratov*, 1969. (L. Klukovits) **50** #6983 08A20

The largest strong congruence relations of partial universal algebras. (Russi *Studies in algebra*, *No*. 2 (*Russian*), *pp*. 40–46. *Izdat. Saratov. Univ., Saratov*, 1 (Kazimierz Głazek) **54** #12606 08A25

The compact elements of the lattice of all strong congruence relations of a pa universal algebra. (Russian) *Ordered sets and lattices*, *No*. 1 (*Russian*), *pp*. 43–48. *Iz Saratov. Univ., Saratov*, 1971. (S. P. Bandyopadhyay) **51** #8002 08A25

(*with* Badrak, S. A.) Fuzzy control of fuzzy systems. (Russian) *Mathemat models of complex systems* (*Russian*), *pp*. 3–9. *Akad. Nauk Ukrain. SSR Inst. Kiber Kiev*, 1974. (See RŽMat **1975** #8 A66; MR **57** #17741) 93A99

The semigroups of closure operations. (Russian) *Mathematical models of comp systems* (*Russian*), *pp*. 95–98. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1974. (RŽMat **1975** #8 A213; MR **57** #17741) 20M99

See also **General systems theory, 48** #1845; **Systems analysis and algorithmiza of production processes, 49** #7064; **Mathematical modeling of complex systems, 56** #2712 *and* **Mathematical models of complex systems, 57** #17741

Kulikov, A. N. A mathematical problem of the theory of oscillatory chemical reactions homogeneous medium. (Russian) *Vestnik Jaroslav. Univ. Vyp*. 5 (1973), 94–104. (Joel) **58** #32434 80.34 (34C15, 92A05)

Integral manifolds of hyperbolic equations in the near critical case of a pair of p imaginary roots. (Russian) *Vestnik Jaroslav. Univ. Vyp*. 13 (1975), 94–117. (Ju. Gliklih) **57** #3583 35B99 (34G05, 58F99)

(*with* Liberman, B. D.) A new approach to the study of nonlinear "panel flut problems. (Russian) *Vestnik Jaroslav. Univ. Vyp*. 13 (1975), 118–139. (Authors' summary) **58** #25258 73.35 (35Lxx, 70.35)

Smooth invariant manifolds of a semigroup of nonlinear operators in a Ban space. (Russian) *Studies in stability and the theory of oscillations* (*Russian*), *pp*. 114–1 *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (S. Kreĭn (RŽMat **1977** #1 B893)) **58** #2384 47H99 (58D99)

Kulikov, Anatoliĭ (*with* Švitra, Donatas) Bifurcation of the small periodic solutions differential equations with lag of neutral type. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optim Upravlenija I Sekcija Vyp*. 16 (1976), 41–59, 100. (M. I. Kamenskiĭ) **58** #1179 34K15

Kulikov, È. L. (*with* Kinikstul', E. I.; Timčenko, L. P.) Estimate of error in the solution interior problems of microwave electrodynamics. *Radiotehn. i Èlektron.* **17** (19 1793–1798 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **17** (1972), 1427–14 (A. Nikodémusz) **51** #4860 78.49

Estimating errors in the approximate solution of boundary value problems electrodynamics by the variational method. *Radiotehn. i Èlektron.* **18** (1973), 670– (*Russian*); *translated as Radio Engrg. Electron. Phys.* **18** (1973), 926–929. (L. F **54** #6517 65N15

Kulikov, I. M. (*with* Gudovič, I. S.; Kreĭn, S. G.) Boundary value problems for Maxwell equations. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 321–324. Sánchez Palencia) **47** #5440 35J55 (78.35)

See also **Collection: Papers by postgraduates in mathematics and mechanics, 47** #4748

Kulikov, L. Ja. Conditions under which the group of abelian extensions is zero. (Russia Algebra and number theory. *Moskov. Gos. Ped. Inst. Učen. Zap. No*. 375 (1971), 41– (G. Pic) **48** #6284 20K35

(*with* Marčuk, G. I.; Kargapolov, M. I.; Taĭmanov, A. D.; Plotkin, B. I.; Kemhadze, Š. S.; Andrunakievič, V. A.; Eršov, Ju. L.; Janovskiĭ, R. G.; Širšov, A. From speeches at the opening of the Tenth All-Union Algebra Colloquium dedicated the memory of Academician A. I. Mal'cev. (Russian) *Selected questions of algebra logic* (*collection dedicated to the memory of A. I. Mal'cev*) (*Russian*), *pp*. 300–314. *Iza* "*Nauka*" *Sibirsk. Otdel., Novosibirsk*, 1973. (Editors) **58** #21310 01A70

See also **Fuchs, László, 56** #15738

Kulikov, N. K. (*with* Kajupov, A. K.) A method for the solution of certain integral Volte equations. (Russian) *Differential equations and their application* (*Russian*), *pp*. 100–1 213. *Izdat.* "*Nauka*" *Kazah. SSR, Alma-Ata*, 1970. (A Corduneanu) **51** #9551 65R05

The solution and investigation of ordinary differential equations. (Russian) *Soluti and investigation of ordinary differential equations on the basis of functions with flexi structure* (*Russian*), *pp*. 3–171. *Moskov. Tehnolog. Inst. Pišč. Promyšl., Moscow*, 19 (From the introduction) **58** #22712 34Axx (26A24, 65Lxx, 94A30) (*with* Cesnokov, A. S.) A generalized formula for representation of functions of one complex variable. (Russian) *Solution and investigation of ordinary differential equations on the basis of functions with flexible structure* (*Russian*), *pp*. 184–187. *Moskov. Tehnolog. Inst. Pišč. Promyšl., Moscow*, 1974. **58** #22493 30A16

See also **Solution and investigation of ordinary differential equations on the basis of functions with flexible structure**, **57** #745

Kulikov, N. P. The Cauchy problem for hyperbolic equations with degeneracy of type on the initial line. (Russian) *Differencial'nye Uravnenija* **11** (1975), 512–522, 589. (A. M. Nahušev) **52** #1026 35L15

(*with* Ankudinov, A. L.) The Cauchy problem for quasilinear hyperbolic equations with degeneracy of the order. (Russian) *Kuban. Gos. Univ. Naučn. Trudy Vyp*. 222 *Prikl. Voprosy Mat. i Meh.* (1976), 13–21, 156. (J. Kisyński) **58** #1684 35L60

Kulikov, O. A. (*with* Gusev, V. B.; Dranev, Ja. N.; Zuev, G. M.; Markov, Ju. I.; Fatkin, Ju. M.) ★Методы определения оптимального управления в иерархических структурах. (Russian) [Methods for determining optimal control in hierarchic structures] *Inst. Problem Upravlenija, Moscow*, 1974. 76 *pp*. (V. Komkov) **56** #14977 93C99 (93A15)

Kulikov, V. A. Linear operators that act in L_p spaces with mixed norm. (Russian) Differential equations. *Trudy Rjazan. Radiotehn. Inst. No*. 20 (1969), 39–60. (See RŽMat **1970** #10 B571; MR **52** #13071) 47B37

Kulikov, V. S. Degeneration of elliptic curves, and resolution of one- and two-model singularities. (Russian) *Funkcional. Anal. i Priložen*. **9** (1975), *no*. 1, 72–73. (J. S. Joel) **57** #3439 32C40

Degenerations of elliptic curves, and pseudotaut singularities. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no*. 2(182), 215–216. (J. S. Joel) **57** #3440 32C40 (14B05)

Kulikov, Vik. S. Degenerations of $K3$ surfaces and Enriques surfaces. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat*. **41** (1977), *no*. 5, 1008–1042, 1199. (I. Dolgachev) **58** #22087b 14J25

Degenerations of $K3$ surfaces and Enriques surfaces. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no*. 3(195), 167–168. (I. V. Dolgachev) **58** #22087a 14J25

Surjectivity of the period mapping for $K3$ surfaces. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no*. 4(196), 257–258. (Jayant M. Shah) **58** #688 14J10 (14J25)

Kulikova, V. A. Matrices whose inverses are Toeplitz matrices. (Russian) *Moskov. Oblast. Ped. Inst. Sb. Trudov* **15** (1972), *no*. 2 *Teor. Funkciĭ Funkcional. Anal. i Priložen.*, 232–243 (1973). (See RŽMat **1974** #2 B789) 15A57

Generalization of a result of Pólya. (Russian) *Moskov. Oblast. Ped. Inst. Sb. Trudov* **15** (1972), *no*. 2 *Teor. Funkciĭ Funkcional. Anal. i Priložen.*, 244–251 (1973). (See RŽMat **1974** #2 B109) 30A10

Kulikovskaja, E. S. (*with* Fedunov, B. E.) Determination of the random instant of appearance of a useful signal. *Izv. Akad. Nauk SSSR Tehn. Kibernet*. **1975**, *no*. 4, 148–154 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no*. 4, 120–127. (Authors' summary) **58** #20760 94A05

(*with* Fedunov, B. E.) An algorithm for determining a threshold function in the problem of estimating the moment of occurrence of a useful signal. (Russian) *Ucen. Zap. CAGI* 7 (1976), *no*. 2, 88–94. (J. Černý) **57** #19055 94A05

Kulikovskiĭ, A. G. On the stability of steady flows independent of a spatial coordinate. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 3, *pp*. 131–135. *Gauthier-Villars, Paris*, 1971. (Wei Lai) **54** #9313 76.35

Kulikowski, J. L. (*with* Seidler, Jerzy; Nowakowski, Jerzy; Kroszczyński, J.; Szyszkiewicz, J.; Oszywa, W.) ★Współczesne metody optymalizacji systemów telekomunikacyjnych. (Polish) [Modern optimization methods for telecommunication systems] Biblioteka Problemów Telekomunikacji, No. 8. [Library on Telecommunication Problems, No. 8] *Wydawnictwa Komunikacji i Łączności, Warsaw*, 1965. 255 *pp*. (*errata insert*) (Editors) **52** #12955 94A05

Notes on the value of information transmitted through a communication channel. *Second International Symposium on Information Theory* (*Tsahkadsor*, 1971), *pp*. 61–71. *Akadémiai Kiadó, Budapest*, 1973. (From the author's introduction) **52** #12983 94A15

Logical and algebraical models of the networks of activities. *Mathematical systems theory* (*Proc. Internat. Sympos., Internat. Centre Mech. Sci., Udine*, 1975), *pp*. 375–392. *Lecture Notes in Econom. and Math. Systems*, 131. *Springer, Berlin*, 1976. (Editors) **58** #33225 93A99 (02C10, 05C99)

Kulikowski, Juliusz L. An application of a tense-logic system to formal planning. (Polish and Russian summaries) *Control Cybernet*. **2** (1973), *no*. 3–4, 43–52. (Author's summary) **57** #18897 93A05 (02C10, 90B99)

Kulikowski, Roman Optimum control of aggregated multi-level systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol*. 1, *p*. 76, *Paper 40A*, 9 *pp*. *Inst. Mech. Engrs., London*, 1967. (S. Krčevinac) **53** #10379 93A15 (93C25)

Optimum control and synthesis of organizational structure of large scale systems. *Mathematical systems theory and economics, I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp*. 441–456. *Lecture Notes in Operations Research and Mathematical Economics, Vols*. 11, 12, *Springer, Berlin*, 1969. **47** #6351 93A15

Optimization of large-scale enviroment control systems. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **18** (1970), 753–759. (G. D. Allen) **47** #9391 49B35 (93A15)

Decomposition of complex environment control problems. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **18** (1970), 761–764. (G. D. Allen) **48** #8028 93A15

Optimum control of environment development system. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 3: *Ecology and systems engineering, Large scale sensitivity optimization and adaptation theory*, *Paper No*. 30.1, 9 *pp*. *Internat. Fed. Automat. Control, Düsseldorf*, 1971 [1972]. (N. U. Ahmed) **50** #15962 92A05 (90A99)

Optimization of cooperation in the development system. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **19** (1971), 699–704. (A. L. Nagar) **48** #1661 90A15

★Optimale und adaptive Prozesse in Regelungssystemen. Band I. Systeme, Operatoren und Funktionale. Mit Ergänzungen von Gerhard Wunsch. Übersetzt aus dem Polnischen von Marian Miller. Theoretische Grundlagen der Technischen Kybernetik. *VEB Verlag Technik, Berlin*, 1973. 179 *pp*. (Editors) **57** #5208 93–01

Optimum control of environment development system. (French, German and Russian summaries) *Automatica–J. IFAC* **9** (1973), *no*. 3, 357–365. (Nancy L. Schwartz) **53** #10214 90A99

Optimum allocation of resources in nonlinear dynamic production system. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **21** (1973), 239–245. (P. Fortunati) **49** #8629 90B30

Optimization of a decentralized regional supply and delivery model. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **21** (1973), 327–334. (G. Berman) **48** #13214 90B10

Optimization of the decentralized large-scale pollution control model. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **21** (1973), 413–420. (J. S. Kowalik) **48** #10486 90B99

Modelling and optimum control of complex environment systems. (Polish and Russian summaries) *Control Cybernet*. **2** (1973), *no*. 1-2, 15–47. (M. Rössler) **53** #2307 90A15 (93A10)

★Optimale und adaptive Prozesse in Regelungssystemen. Band 2. Optimalkriterien, Extremaleigenschaften, Variationsprobleme. Übersetzt aus dem Polnischen von Marian Miller. Theoretische Grundlagen der technischen Kybernetik. *VEB Verlag Technik, Berlin*, 1974. 152 *pp*. (Editors) **58** #9438 93–01

Optimization of complex investment and production processes. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **22** (1974), 71–80. (P. Fortunati) **50** #12211 90B30

Modelling and optimization of complex development. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **23** (1975), 67–79. (Author's summary) **58** #26228 93A99

Optimum allocation of resources in decentralized macro-economic model. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech*. **23** (1975), *no*. 12, 1039–1045. (Author's summary) **56** #10823 90A15 (90B30)

Decentralized management and optimization of development in large production organizations. (Polish and Russian summaries) *Control Cybernet*. **4** (1975), *no*. 1, 5–18. (V. D. Dimitrov) **53** #7426 90B30 (90A15)

Modelling of production, utility structure, process and technological change. (Polish and Russian summaries) *Control Cybernet*. **4** (1975), *no*. 2, 47–70. (Author's summary) **55** #11953 90A10 (90A15)

Decentralized management and optimization of development. *Directions in large-scale systems, many-person optimization and decentralized control* (*Proc. Sympos., Wakefield, Mass.*, 1975), *pp*. 265–277. *Plenum, New York*, 1976. (Tamer Basar) **56** #10824 90A15 (90C50)

Toward a global model. A methodology for construction and linkage of long-range normative development models. (Polish and Russian summaries) *Control Cybernet*. **5** (1976), *no*. 2, 5–32. (Author's summary) **56** #10825 90A15

(*with* Korcelli, Piotr) On modelling and planning of optimum long-range regional development. (Polish and Russian summaries) *Control Cybernet*. **5** (1976), *no*. 4, 5–28. (Authors' summary) **56** #7844 90A15

Optimization of demographic policy in socio-economic growth model. (Polish and Russian summaries) *Control Cybernet*. **6** (1977), *no*. 1, 23–35. (Author's summary) **56** #7845 90A15 (92A15)

On optimization of demographic and migration policies in socio-economic growth model. (Polish and Russian summaries) *Control Cybernet*. **6** (1977), *no*. 3–4, 37–55. (Author's summary) **57** #11677 90A15 (92A20)

See also **Proceedings: International Congress of the International Federation of Automatic Control (IFAC)**, **51** #12360c

Kulinič, G. L. The limit behavior of the solution of a system of stochastic differential equations without aftereffect. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. No*. 7 (1972), 85–96, 164. (Petr Mandl) **48** #1314 60H10

On the asymptotic behavior of the distributions of functionals of type $\int_0^t g(\xi(s))\,ds$, of diffusion processes. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 8 (1973), 99–105, 177. (A. D. Wentzell) **54** #14125 60J60

Certain limit theorem for stochastic differential equations that depend on a parameter. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 9 (1973), 119–130, 176. (A. Friedman) **53** #11746 60H10

Limit distributions for functionals of integral type of nonstable diffusion processes. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 11 (1974), 81–85, 180. (Ĭ. M. Stojanov) **53** #4257 60J60 (60F05)

The existence and uniqueness of the solution of a stochastic differential equation with martingale differential. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **19** (1974), 169–173. (Ĭ. M. Stojanov) **49** #9948 60H10

Asymptotic behavior of the unstable solutions of systems of stochastic diffusion equations. (Russian) *Proceedings of the School-Seminar on the Theory of Random Processes* (*Druskininkai*, 1974), *Part I* (*Russian*), *pp*. 169–201. *Inst. Fiz. i Mat. Akad. Nauk Litovsk. SSR, Vilnius*, 1975. (Editors) **58** #18724 60H10 (60J60)

Certain limit theorems for a sequence of Markov chains. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 12 (1975), 77–89, 172. (J. H. Kučkarov) **53** #1691 60F05 (60J10)

The estimation of the drift parameter of a stochastic diffusion equation. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **20** (1975), *no*. 2, 393–397. (J. L. Denny) **51** #14477 62M05

On the limit behavior of functionals of the type $\int_0^t g(s, \xi(s))\,ds$ of diffusion processes. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 14 (1976), 74–79, 155–156. (A. D. Wentzell) **54** #6294 60J60

Limit theorems for one-dimensional stochastic differential equations under irregular dependence of the coefficients of a parameter. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp*. 15 (1976), 99–114, 156. (D. Surgailis) **54** #3850 60H10

(*with* Babčuk, V. G.) Invariant sets of a system of second order linear Itô stochastic differential equations. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No*. 18 (1976), 136–139, 146. (Authors' summary) **58** #13348 60H10

(*with* Koval'čuk, O. P.) The asymptotic behavior of the distributions of functionals of the argument of the solution of a two-dimensional system of linear stochastic diffusion equations. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A*

1977, *no.* 8, 689–693, 764. (H. Salehi) **58** #3072 60J60

See also **Selected translations in mathematical statistics and probability**, **49** #4728

Kulinič, V. V. (*with* Morozov, S. F.) The convergence and stability of a certain difference scheme for solving the nonstationary kinetic equation. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1973**, *no.* 4(131), 36–44. (I. Šelihova (RŽMat **1973** #9 B944)) **51** #12254 82.65

(*with* Morozov, S. F.) A nonlinear integro-differential system of transport equations. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 3, 512–521, 574. (V. V. Ivanov) **57** #13420 45J05 (82.45)

Kuliš, E. N. (*with* Sinica, M. A.; Tarasov, B. P.) Optimization of the accuracy and reliability of the functional elements of automated control systems. (Russian) *Točn. i Nadežn. Kibernet. Sistem No.* 1 (1973), 104–107, 136. **50** #4049 93C99

(*with* Baĭdak, G. I.) The search for a solution in the domain of possible placements. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 32 *Razmeščenie Geom. Ob'ekt. i Voprosy Optimal. Proektir.* (1977), 7–11. (N. B. Lebedinskaja) **58** #30757 52A45 (65K05, 90C30)

Kuliš, P. P. (*with* Aref'eva, I. Ja.) Representations of the canonical commutation relations in the limit of infinite volume. (Russian. English summary) *Teoret. Mat. Fiz.* **17** (1973), 3–18. (Authors' summary) **57** #8540 81.22

(*with* Damaskinskiĭ, E. V.) The current group of the Thirring model and its representations. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1975**, *no.* 11, 57–62. (Authors' summary) **58** #25472 81.22

Factorization of the classical and the quantum *S*-matrix, and conservation laws. (Russian. English summary) *Teoret. Mat. Fiz.* **26** (1976), *no.* 2, 198–205. (J. S. Joel) **57** #8732 81.58

(*with* Manakov, S. V.; Faddeev, L. D.) Comparison of the exact quantum and quasiclassical results for the nonlinear Schrödinger equation. (Russian. English summary) *Teoret. Mat. Fiz.* **28** (1976), *no.* 1, 38–45. (Authors' summary) **57** #2274 81.35

(*with* Nisimov, E. R.) Anomalies of quantum currents in exactly solvable models. (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no.* 2, 161–170. (Authors' summary) **56** #7600 81.46

Conservation laws for a string in a static field. (Russian. English summary) *Teoret. Mat. Fiz.* 33 (1977), *no.* 2, 272–275. (Author's summary) **56** #14359 81.53

Kulisch, Ulrich (*with* Heinhold, Josef) ★Analogrechnen. Eine Einführung. Informatik, 168/168a*. *Bibliographisches Institut, Mannheim-Zurich*, 1969. 241 *pp.*+i. (Editors) **52** #4684 68–02 (65–02)

Grundzüge der Intervallrechnung. *Überblicke Mathematik, Band* 2, *pp.* 51–98. *B.I.-Hochschultaschenbücher, No.* 232/232a, *Bibliographisches Inst., Mannheim*, 1969. (Siegfried Filippi) **52** #12311 65G05

An axiomatic approach to rounded computations. *Numer. Math.* **18** (1971/72), 1–17. (R. P. Brent) **45** #4696 . 65G05

On the concept of a screen. (German and Russian summaries) *Z. Angew. Math. Mech.* 53 (1973), *no.* 2, 115–119. (Hartmut Hőft) **53** #10666 06A23

Formalization and implementation of floating-point arithmetics. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 328–369. *Greek Math. Soc., Athens*, 1974. (R. H. Bartels) **57** #14392 65G05

Über die Arithmetik von Rechenanlagen. *Jahrbuch Überblicke Mathematik*, 1975, *pp.* 69–108. *Bibliografisches Inst., Mannheim*, 1975. (Jozef Mikloško) **53** #4515 65G05

Formalization and implementation of floating-point arithmetics. (German summary) *Computing* **14** (1975), *no.* 4, 323–348. (A. D. Booth) **53** #14897 65G05 (68A10)

★Grundlagen des numerischen Rechnens. Mathematische Begründung der Rechnerarithmetik. Reihe Informatik, Band 19. *Bibliographisches Institut, Mannheim-Vienna-Zurich*, 1976. 467 *pp.* (H. Ratschek) **54** #14346 65G05 (68–XX)

(*with* Bohlender, Gerd) Formalization and implementation of floating-point matrix operations. (German summary) *Computing* **16** (1976), *no.* 3, 239–261. (F. Szidarovszky) **53** #7010 65G05 (68A10)

Mathematical foundation of computer arithmetic. *IEEE Trans. Computers* **C-26** (1977), *no.* 7, 610–621. (I. Kaufmann) **57** #8233 68A99 (65G05)

See also **Jahrbuch Überblicke Mathematik**, **52** #7757; **Jahrbuch Überblicke Mathematik**, **52** #13072; **Jahrbuch Überblicke Mathematik**, **55** #7656 *and* **Grundlagen der Computer-Arithmetik**, **56** #10087

Kulisiewicz, Maciej Identification of non-linearity of vibrations in structures defined by a dynamic system with a finite number of degrees of freedom. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 5, 385–390. (Author's summary) **56** #13862 70.34

Kuliyev, Z. Ya. *See* **Kuliev, Z. Ja.**

Kuljabko, P. P. *See* **Questions of systems programming**, **58** #31990

Kul'janov, E. G. The optimization of a certain class of recognition algorithms. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **14** (1974), 756–767, 814. (H. Weber) **51** #4752 68A45

Kulkarni, A. D. (*with* Sahasrabudhe, S. C.) On solving Fredholm integral equations of the first kind. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 4, 624–629. (Authors' summary) **58** #24951 65R05

Kulkarni, Ashok V. (*with* Kanal, Laveen N.) An optimization approach to hierarchical classifier design. *Proceedings of the Third International Joint Conference on Pattern Recognition* (*Coronado, Calif.*, 1976), *pp.* 459–466. *IEEE Comput. Soc., Long Beach, Calif.*, 1976. (Michael Bauer) **57** #1993 68A45 (90D35)

On the mean accuracy of hierarchical classifiers. *IEEE Trans. Comput.* **27** (1978), *no.* 8, 771–776. (Author's summary) **58** #14005 68A45

Kulkarni, K. H. (*with* Sampathkumar, E.) Transitive digraphs and topologies on a set. *J. Karnatak Univ. Sci.* **18** (1973), 266–273. (Paul C. Kainen) **50** #12793 05C20

Kulkarni, R. G. Properties of a Fibonacci associated sequence. *Math. Education* **9** (1975), *no.* 4, A103–A104. (F. T. Howard) **53** #5457 10A35

Kulkarni, R. M. (*with* Ladde, Gangaram S.) Stochastic perturbations of nonlinear systems of differential equations. *J. Mathematical and Physical Sci.* **10** (1976), *no.* 1, 33–45. (Ludwig Arnold) **53** #6041 34F05 (60H10)

Kulkarni, Ravindra S. Curvature structures. *Differentialgeometrie im Großen* (*Tagung, Math. Forschungsinst., Oberwolfach*, 1969), *pp.* 235–239. *Ber. Math. Forschungsinst. Oberwolfach, Heft* 4, *Bibliographisches Inst., Mannheim*, 1971. (Editors) **50** #8371 53C20

Curvature averaging theorem. *J. Indian Math. Soc.* (*N.S.*) **35** (1971), 163- 0 (1972). (Ph. Tondeur) **46** #4436 53C20

On spin representations. *J. Indian Math. Soc.* (*N.S.*) **36** (1972), 229–242 (1973) D. G. James) **48** #6147 15A66

On the Bianchi Identities. *Math. Ann.* **199** (1972), 175–204. (K. Nomizu) **49** # 7 53C20

Conformally flat manifolds. *Proc. Nat. Acad. Sci. U.S.A.* **69** (1972), 2675–2676 I. Wu) **46** #6234 53C20

Congruence of hypersurfaces. *J. Differential Geometry* **8** (1973), 95–102. (Bang n Chen) **50** #11102 53C45

Equivalence of Kähler manifolds and other equivalence problems. *J. Differe l Geometry* **9** (1974), 401–408. (A. L. Vitter, III) **49** #11442 53C55

★Index theorems of Atiyah-Bott-Patodi and curvature invariants. With a pre e by Raoul Bott. Séminaire de Mathématiques Supérieures, No. 49 (Été 1972). *Les Pr es de l'Université de Montréal, Montreal, Que.*, 1975. 86 *pp.* (Józef Dodziuk) **55** #135 58G10

Conformal geometry in higher dimensions. I. *Bull. Amer. Math. Soc.* **81** (1), 736–738. (Editors) **54** #6025 53C20

A finite version of Schur's theorem. *Proc. Amer. Math. Soc.* **53** (1975), *n* 2, 440–442. (Dominic S. P. Leung) **52** #4176 53C20

On complexifications of real manifolds. *Proc. Nat. Acad. Sci. U.S.A.* **72** (1975) . 11, 4210. (Editors) **58** #6325 32C05

Maps of manifolds with indefinite metrics preserving certain geometrical enti . *Internat. J. Math. Sci.* **1** (1978), *no.* 1, 137–140. (B. Smyth) **58** #12864 53 0 (83.53)

On complexifications of differentiable manifolds. *Invent. Math.* **44** (1978), *n*, 46–64. (A. L. Oniščik) **57** #724 32J25 (32E10)

Fundamental groups of homogeneous space forms. *Math. Ann.* **234** (1978), *n*, 51–60. (O. Kowalski) **58** #2664 53C50 (53C30)

Kulkarni, S. R. (*with* Bhat, B. R.) Optimal asymptotic tests of composite hypotheses stochastic processes. *J. Karnatak Univ. Sci.* **17** (1972), 73–89. (Reinhard Mi) **50** #11595 62F05

Relative asymptotic efficiency of Wilcoxon to normal scores test in gross e models. *Sankhyā Ser. B* **34** (1972), 357–359. (E. S. Keeping) **48** #12721 62G2

On tests of hypotheses about treatment effects and treatment × places interacti , in two heteroscedastic experiments. *Ann. Inst. Statist. Math.* **25** (1973), 187–203. (. Buehler) **48** #12743 62J10

Kulkarni, S. V. (*with* Singh, I. P.; Aggarwal, N. N.) A complex system with preemp e priority repairs and failure priority. *Pure Appl. Math. Sci.* **7** (1978), *no.* 1-2, 43 . (Author's summary) **57** #2515 90B25

Kulkarni, V. N. (*with* Singh, S. K.) Characteristic function of a meromorphic function d its derivative. *Ann. Polon. Math.* **28** (1973), 123–133. (Fred Gross) **48** #4315 30 0

(*with* Swamy, S. R.) On the univalence of some analytic functions. *Indian J. e Appl. Math.* **9** (1978), *no.* 5, 467–480. (S. M. Shah) **57** #16562 30A32

Kul'ko, I. P. (*with* Kul'ko, V. F.) A practical method of solution of partial differe l equations, and its application to the solution of problems of electrical enginee . (Russian) *Otbor i Peredača Informacii No.* 24 (1970), 3–13. (J. E. Rosenthal) **45** # 5 35Q99 (73.35, 78.35)

(*with* Kul'ko, V. F.) Method of representing in an ordinary form the solution differential equations obtained in operator form. (Russian) *Otbor i Peredača Inform No.* 27 (1971), 34–41. (K. Moszyński) **45** #8017 65D99

(*with* Kul'ko, V. F.) On the question of conversion into ordinary form of solution of partial differential equations obtained in operator form. (Russian) *Otb Peredača Informacii No.* 28 (1971), 16–22. (K. Moszyński) **46** #493 35A22 (65)

(*with* Kul'ko, V. F.) Peculiarities in the behavior of Hankel functions. (Russi *Otbor i Peredača Informacii No.* 34 (1972), 34–41, 116. (C. Tanaka) **47** #893 33A40

(*with* Kul'ko, V. F.) On the development of the operator method of solution problems in electrical and radio engineering. (Russian) *Otbor i Peredača Informacii* . 36 (1973), 31–38, 118. (J. E. Rosenthal) **49** #811 35C99

(*with* Kul'ko, V. F.) Fourier integral transforms in the complex plane, and their for computations of diffraction fields. (Russian) *Otbor i Peredača Informacii No.* (1973), 26–30, 113. (C. Tanaka) **49** #993 42A76

(*with* Kul'ko, V. F.) New integral representation formulas for special functi . (Russian) *Otbor i Peredača Informacii Vyp.* 41 (1974), 24–28, 100. (D. P. Gu) **55** #5927 33A65

(*with* Kul'ko, V. F.) An electrostatic field of a point charge above a boun curvilinear surface of a complex form of a halfspace. (Russian) *Otbor i Perea Informacii No.* 46 (1975), 23–30, 112. (Authors' summary) **58** #25401 78.35 (45B)

(*with* Kul'ko, V. F.) An electrostatic field of a conducting body of a complex fc with assigned jump in potential on its surface. (Russian) *Otbor i Peredača Inform No.* 46 (1975), 30–35, 113. (Authors' summary) **58** #32421 78.45

Kul'ko, V. F. (*with* Kul'ko, I. P.) A practical method of solution of partial differer equations, and its application to the solution of problems of electrical engineer . (Russian) *Otbor i Peredača Informacii No.* 24 (1970), 3–13. (J. E. Rosenthal) **45** #9 35Q99 (73.35, 78.35)

(*with* Kul'ko, I. P.) Method of representing in an ordinary form the solutions differential equations obtained in operator form. (Russian) *Otbor i Peredača Inform No.* 27 (1971), 34–41. (K. Moszyński) **45** #8017 65D99

(*with* Kul'ko, I. P.) On the question of conversion into ordinary form of the solut of partial differential equations obtained in operator form. (Russian) *Otbor i Pered Informacii No.* 28 (1971), 16–22. (K. Moszyński) **46** #493 35A22 (65P05)

(*with* Kul'ko, I. P.) Peculiarities in the behavior of Hankel functions. (Russia *Otbor i Peredača Informacii No.* 34 (1972), 34–41, 116. (C. Tanaka) **47** #893 33A40

(*with* Kul'ko, I. P.) On the development of the operator method of solution problems in electrical and radio engineering. (Russian) *Otbor i Peredača Informacii* 36 (1973), 31–38, 118. (J. E. Rosenthal) **49** #811 35C99

(*with* Kul'ko, I. P.) Fourier integral transforms in the complex plane, and their for computations of diffraction fields. (Russian) *Otbor i Peredača Informacii No.*

(1973), 26–30, 113. (C. Tanaka) **49** #993 42A76

(*with* Kul'ko, I. P.) New integral representation formulas for special functions. (Russian) *Otbor i Peredača Informacii Vyp*. 41 (1974), 24–28, 100. (D. P. Gupta) **55** #5927 33A65

(*with* Kul'ko, I. P.) An electrostatic field of a point charge above a bounded curvilinear surface of a complex form of a halfspace. (Russian) *Otbor i Peredača Informacii No*. 46 (1975), 23–30, 112. (Authors' summary) **58** #25401 78.35 (45B05)

(*with* Kul'ko, I. P.) An electrostatic field of a conducting body of a complex form with assigned jump in potential on its surface. (Russian) *Otbor i Peredača Informacii No*. 46 (1975), 30–35, 113. (Authors' summary) **58** #32421 78.45

A new form of differential equations that describe wave processes. (Russian) *Otbor i Peredača Informacii No*. 54 (1978), 41–47, 122. (V. V. Sokolov) **58** #17468 35C99

Kull, I. A certain class of psychometric models. (Russian. Estonian and English summaries) *Tartu Riikl. Ül. Toimetised No*. 337 (1974), 29–46. (Jiří Anděl) **52** #7065 62P15 (92A25)

Kullback, Joseph (*with* Stalford, Harold L.) Identifying an unknown process by utilizing randomly chosen inputs. *Information and Control* **23** (1973), 393–406. (S. P. Bingulac) **49** #2151 93B30

Kullback, S. Marginal homogeneity of multidimensional contingency tables. *Ann. Math. Statist*. **42** (1971), 594–606. (M. A. Hamdan) **45** #6142 62D05

Estimating and testing linear hypotheses on parameters in the log-linear model. (German summary) *Biometrische Z*. **15** (1973), 371–388. (M. Iosifescu) **49** #6507 62J05

(*with* Melnick, Edward L.) An application of the minimum discrimination information estimate to compute log-likelihood ratios. *J. Appl. Probability* **10** (1973), 469–474. (O. Gulyás) **50** #8883 62M10 (62B10, 62H30)

(*with* Fisher, Marian) Partitioning second-order interaction in three-way contingency tables. *J. Roy. Statist. Soc. Ser. C Appl. Statist*. **22** (1973), *no*. 2, 172–184. (Authors' summary) **53** #4383 62H30

(*with* Reeves, P. N.) Analysis of interactions between categorical variables. (German summary) *Biometrische Z*. **17** (1975), 3–12. (M. A. Hamdan) **52** #7022 62H30

(*with* Fisher, Marian) On "multivariate logit analysis". (German summary) *Biometrische Z*. **17** (1975), *no*. 3, 139–146. (From the authors' introduction) **52** #2043 62H20

(*with* Thall, Peter F.) An information theoretic proof of the integral representation theorem. *J. Combinatorics Information Syst. Sci*. **2** (1977), *no*. 2-3, 97–103. (I. Vajda) **57** #2743 94A15

Kulldorff, Gunnar Errata: "On the optimum spacing of sample quantiles from a normal distribution." II. (Skand. Aktuarietidskr. **1964**, 71–87 (1965)). *Skand. Aktuarietidskr*. **1972**, 107 (1973). (Editors) **49** #11715 62G30 (62F10)

A note on the optimum spacing of sample quantiles from the six extreme value distributions. *Ann. Statist*. **1** (1973), 562–567. (H. L. Seal) **50** #8809 62F10

Kulle, Rolf-Dieter Über die Messung des spezifischen Flächeninhalts. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1971**, 209–215. (W. Maak) **46** #6258 53C65 (28A75)

Holomorphe Abbildungen beschränkter symmetrischer Gebiete. *Nachr. Akad. Wiss Göttingen Math.-Phys. Kl. II* **1973** 191–196. (P. Lelong) **50** #10313 32C15 (32C25)

(*with* Reich, A.) Flächenmessung mit gleichverteilten Folgen. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1973**, 217–225. (J. E. Brothers) **50** #13457 28A75 (53C65, 60D05)

Eigentliche, holomorphe Abbildungen der Kugel in sich. *Abh. Math. Sem. Univ. Hamburg* **41** (1974), 5–16. (P. Lelong) **50** #10314 32C15 (32H15)

Über die Nenner von Fourierkoeffizienten. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1977**, *no*. 2, 19–26. (R. A. Rankin) **58** #27773 10D05

Kuller, Robert G. (*with* Hsu, Ih Ching) Convexity of vector-valued functions. *Proc. Amer. Math. Soc*. **46** (1974), 363–366. (S. Dubuc) **54** #11059 46G99 (26A51)

Kulli, Veerabhadra R. Some relations between block graphs and interchange graphs. *J. Karnatak Univ. Sci*. **16** (1971), 59–62. (H. V. Kronk) **50** #9652 05C05

Interchange graphs and block graphs. *J. Karnatak Univ. Sci*. **16** (1971), 63–68. (H. V. Kronk) **50** #9653 05C05

(*with* Sampathkumar, E.) On the interchange graph of a finite planar graph. *J. Indian Math. Soc*. (*N.S.*) **37** (1973), 339–341 (1974). (L. W. Beineke) **51** #7920 05C10

On block-cutvertex trees, interchange graphs and block graphs. *J. Karnatak Univ. Sci*. **18** (1973), 315–320. (Geert C. E. Prins) **50** #6926 05C99

On common edge graphs. *J. Karnatak Univ. Sci*. **18** (1973), 321–324. (M. Behzad) **50** #9706 05C99

A theorem on graphs. *Math. Education* **7** (1973), A43–A44. (Author's summary) **49** #4865 05C99

A criterion for maximal outerplanarity of the total graph of a graph. *J. Karnatak Univ. Sci*. **19** (1974), 289–292. (M. Behzad) **52** #5491 05C99

Minimally nonouterplanar graph and its complement. *J. Mathematical and Physical Sci*. **9** (1975), 77–81. (D. P. Geller) **51** #7921 05C10

A characterization of paths. *Math. Ed*. **9** (1975), A1–A2. (F. Harary) **51** #10158 05C35

Maximal outerplanar graphs. *Math. Student* **43** (1975), 84–88 (1976). (Author's summary) **58** #21813 05C35

On minimally nonouterplanar graphs. *Proc. Indian Nat. Sci. Acad. Part A* **41** (1975), *no*. 3, 275–280. (D. P. Geller) **58** #21814 05C35

On maximal minimally nonouterplanar graphs. *Progr. Math*. (*Allahabad*) **9** (1975), *no*. 1, 43–48. (Author's summary) **52** #10492 05C35

The block-point tree of a graph. *Indian J. Pure Appl. Math*. **7** (1976), *no*. 6, 620–624. (Author's summary) **58** #21741 05C05

The semitotal-block graph and the total-block graph of a graph. *Indian J. Pure Appl. Math*. 7 (1976), *no*. 6, 625–630. (Author's summary) **58** #27650 05C99

(*with* Akka, D. G.) Forbidden subgraphs for minimally nonouterplanar line graphs. *J. Karnatak Univ. Sci*. **21** (1976), 94–102. (R. L. Hemminger) **58** #5404 05C99

(*with* Patil, H. P.) Minimally nonouterplanar graphs and some graph valued functions. *J. Karnatak Univ. Sci*. **21** (1976), 123–129. (R. L. Hemminger) **58** #5405 05C99

(*with* Akka, D. G.) Traversability and planarity of total-block graphs. *J. Mathematical and Physical Sci*. **11** (1977), *no*. 4, 365–375. (K. R. Parthasarathy) **58** #5373 05C35 (05C10)

(*with* Akka, D. G.) Traversability and planarity of semitotal-block graphs. *J. Math. Phys. Sci*. **12** (1978), *no*. 2, 177–178. (R. C. Entringer) **58** #10615 05C99

Kullman, David *See* **Notes and comments from Math. Mag., 54** #12422

mażbic-Kulma, Barbara *See* **Mażbic-Kulma, Barbara**

Kul'man, N. K. (*with* Zaĭcev, V. V.) Optimum interpolation of continuous Markov random signals. *Radiotehn. i Èlektron*. **15** (1970), 2385–2387 (*Russian*); *translated as Radio Engrg. Electron. Phys*. **1970**, 2097–2100. (K. S. Miller) **48** #8094 94A05

(*with* Zaĭcev, V. V.) Interpolation and extrapolation of multidimensional continuous Markov sequences. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 5(156), 96–99. (T. Tobias) **53** #6718 60G25 (93E10)

See also **Maslov, V. P., 58** #23653

Kulmatov, Dž. G. (*with* Šaripov, Š. R.) A sufficient condition for the existence of regular 0-curves in a nonautonomous multidimensional differential system. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no*. 2, 36–41, 93. (L Reiziņš) **49** #5465 34C05

The asymptotic behavior of the solutions of a nonautonomous system of ordinary differential equations. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no*. 3, 31–36, 90. (M. Ráb) **54** #3081 34C05

(*with* Šaripov, Š. R.) The compatible existence of the singular points of a differential system of special form. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1976**, *no*. 5, 34–40, 84. (L. Reiziņš) **55** #3413 34C05

Kulokari, Hannu *See* **Hoem, Jan M., 55** #6757

Kulpa, Władysław A note on the dimension Dind. *Colloq. Math*. **24** (1971/72), 181–183. (J. M. Aarts) **47** #4232 54F45

On a generalization of uniformities. *Colloq. Math*. **25** (1972), 227–240. (Anthony D'Aristotle) **49** #6171 54E15

On the existence of maps having graphs connected and dense. *Fund. Math*. **76** (1972), *no*. 3, 207–211. (F. Brooks) **47** #9519 54C10

Maps and inverse systems of metric spaces. *Fund. Math*. **80** (1973), *no*. 2, 141–147. (Anne K. Steiner) **48** #7213 54E15

(*with* Kucia, Anna) Spaces having uniformities with linearly ordered bases. (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat*. **3** (1973), 45–50. (A. H. Stone) **48** #5015 54E15 (54F45)

Remark on product of proximities. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp*. 455–458. *Colloq. Math. Soc. János Bolyai, Vol*. 8, *North-Holland, Amsterdam*, 1974. (William Lindgren) **50** #8449 54E05

(*with* Szymański, Andrzej) Accumulation points of nowhere dense sets. *Colloq. Math*. **32** (1974), 69–70, 150. (Anthony D'Aristotle) **51** #4132 54A20 (54D25)

(*with* Lorek, U.) A remark on Jones' proof of Arhangelskiĭ theorem. *Comment. Math. Prace Mat*. **18** (1974/75), *no*. 2, 213–216. (F. Burton Jones) **52** #9150 54A25

On a generalization of Dugundji extension theorem. *Colloq. Math*. **34** (1975/76), *no*. 2, 219–222. (S. Swaminathan) **53** #1507 54C20

Proximity classes of uniformities. *Fund. Math*. **86** (1975), *no*. 3, 201–206. (S. A. Naimpally) **52** #11840 54E05 (54E15)

Homeomorphisms of inverse limits of metric spaces. *Fund. Math*. **86** (1975), *no*. 3, 233–235. (G. R. Gordh, Jr.) **53** #14384 54B25

Uniform completeness of topological spaces. *Colloq. Math*. **36** (1976), *no*. 2, 209–213. (H. Buchwalter) **57** #7538 54E15

A minimalization of 0-dimensional metric spaces. *Colloq. Math*. **36** (1976), *no*. 2, 215–216. (J. M. Aarts) **56** #16591 54F45 (54D25)

Another proof of a Hurewicz theorem. *Comment. Math. Prace Mat*. **19** (1976), *no*. 1, 85–87. (Joel M. Cohen) **55** #4134 55B05

(*with* Szymański, Andrzej) Decompositions into nowhere dense sets. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys*. **25** (1977), *no*. 1, 37–39. (Stojan Nedev) **55** #11192 54B15

(*with* Emeryk, A.) The Sorgenfrey line has no connected compactification. *Comment. Math. Univ. Carolinae* **18** (1977), *no*. 3, 483–487. (Roman Duda) **57** #1422 54D35

Kulpa, Zenon (*with* Michalski, Ryszard S.) A system of programs for the synthesis of switching circuits using the method of disjoint stars. *Information processing* 71 (*Proc. IFIP Congress, Ljubljana*, 1971), *Vol*. 1: *Foundations and systems*, *pp*. 61–65. *North-Holland, Amsterdam*, 1972. (W.-K. Chen) **53** #2538 94A20 (68A10)

Planar grammars, parallel picture processing algorithms and their equivalence. (Polish and Russian summaries) *Control Cybernet*. **6** (1977), *no*. 2, 5–16. (Author's summary) **58** #25165 68A45

See also **Structure and methodological recommendations for the creation of systems of automated design of discrete devices, 50** #16067

Kulpińska, J. Mathematicians employed in the national economy. (Polish) With the collaboration of J. Borowiec. *Wiadom. Mat*. (2) **14** (1972), 1–12. (Editors) **56** #11711 01A65

Kulshreshtha, A. C. (*with* Dey, A.) A new weighing design. *Austral. J. Statist*. **12** (1970), 166–168. (I. M. Chakravarti) **45** #9421 62K10

(*with* Saha, G. M.; Dey, A.) On circular designs. *Ann. Inst. Statist. Math*. **23** (1971), 491–497. (Authors' summary) **47** #1211 62K05

(*with* Dey, A.; Saha, G. M.) Three symbol partially balanced arrays. *Ann. Inst. Statist. Math*. **24** (1972), 525–528. (Authors' summary) **48** #3199 62K10

(*with* Dey, A.; Saha, G. M.) Balanced designs with unequal replications and unequal block sizes. *Ann. Math. Statist*. **43** (1972), 1342–1345. (I. M. Chakravarti) **47** #7868 62K10

(*with* Saha, G. M.; Dey, A.) On a new type of *m*-class cyclic association scheme and designs based on the scheme. *Ann. Statist*. **1** (1973), 985–990. (Noboru Hamada) **55** #6727 62K10

Kulshreshtha, S. K. A theorem on Laplace transform. *Univ. Rajasthan Studies Math*. **1965**, 39–47. (S. D. Bajpai) **48** #2676 44A10

On generalized Laplace transform. *Proc. Nat. Acad. Sci. India Sect. A* **36** (1966), 547–556. (V. M. Bhise) **47** #7344 44A10 (33A30)

(*with* Gupta, P. M.) Functions of four variables which satisfy both the heat equation and the Laplace equation in three variables. II. *Portugal. Math.* **29** (1970), 213–219. (Editors) **49** #3324 35K05

(*with* Arora, K. L.) Double contour integrals involving associated Legendre functions and Meijer's G-function. *Mathematica (Cluj)* **17(40)** (1975), *no.* 2, 145–152. (H. E. Fettis) **57** #6541 33A45 (33A35, 44A10)

Kulshrestha, Devendra K. Reliability of a repairable multicomponent system with redundancy in parallel. *IEEE Trans. Reliab.* **R-19** (1970), *no.* 2, 50–52. (C. Mohan) **53** #6951 62N05

Application of discrete transforms in reliability of a parallel redundant system. *Metrika* **18** (1971/72), 145–153. (Andre Laurent) **52** #9543 62N05

Reliability with preventive maintenance. *Metrika* **19** (1972), 216–226. (C. Mohan) **52** #2560 90B25

Kulshrestha, Prem K. (*with* Puri, P.) Coupled thermoelastic problem for an elastic half-space with an embedded spherical cavity. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech.Stos.*) **23** (1971), 249–263. (D. Ieşan) **45** #8099 73.35

Generalized convexity in conformal mappings. *J. Math. Anal. Appl.* **43** (1973), 441–449. (E. Netanyahu) **49** #9182 30A32

Distortion of spiral-like mappings. *Proc. Roy. Irish Acad. Sect. A* **73**, 1–5 (1973). (M. S. Robertson) **47** #7016 30A32

Asymptotic behavior of a class of integrals. *Rend. Mat.* (6) **6** (1973), 361–379. (C. Avramescu) **49** #958 41A60

(*with* Puri, P.) Rotating flow of non-Newtonian fluids. Collection of articles dedicated to Nikolai Ivanovich Muskhelishvili. *Applicable Anal.* **4** (1974/75), 131–140. (R. K. Gupta) **53** #4725 76.35

Coefficient problem for alpha-convex univalent functions. *Arch. Rational Mech. Anal.* **54** (1974), 205–211. (Louis Brickman) **51** #878 (**EA 51**) 30A34

Coefficients for alpha-convex univalent functions. *Bull. Amer. Math. Soc.* **80** (1974), 341–342. (Harry B. Coonce) **49** #7434 30A34

Coefficient problem for a class of Mocanu-Bazilevič functions. *Ann. Polon. Math.* **31** (1975/76), *no.* 3, 291–299. (Louis Brickman) **52** #14266 30A34

Bounded Robertson functions. (French summary) *Rend. Mat.* (6) **9** (1976), *no.* 1, 137–150. (M. S. Robertson) **53** #11037 30A32

Kulsrud, Russell M. (*with* Cohn, Haldan) The stellar distribution around a black hole: numerical integration of the Fokker-Planck equation. *Astrophys. J.* **226** (1978), *no.* 3, *part* 1, 1087–1108. (Authors' summary) **58** #25646 81.65

Kultyšev, P. S. The dissipativity of a system of two differential equations. (Russian) *Trudy Rjazan. Radiotehn. Inst. No.* 28 (*Differencial'nye Uravnenija*) (1971), 61–76. (Wolfdietrich Müller) **51** #13384 34D20

See also **Differential equations, 52** #13071

Kultyšev, S. Ju. (*with* Tonkov, E. L.) Controllability of a linear nonstationary system. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 7, 1206–1216, 1348. (J. Jarník) **51** #13832 49E15 (93B05)

The controllability of linear functional-differential systems. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 8, 1355–1360, 1529. (A. Halanay) **52** #1485 (EA **52**) 49E15

Kultze, Rolf Über die Cohomologie von komplexen Stiefel-Mannigfaltigkeiten. *Collect. Math.* **22** (1971), 3–4. (Csaba Hatvany) **47** #7765 57F15

Über die Cohomologie von BSO$(2k+1)$ und $V_{n,2}$. (English summary) *Manuscripta Math.* **5** (1971), 241–249. (C. M. Naylor) **45** #9354 55F45

Über eine Transformation von Conner und Floyd. *Math. Z.* **120** (1971), 355–358. (K. Lamotke) **45** #1175 57D90

Cobordismenoperationen in $U^*(-;Z_p)$. *Collect. Math.* **27** (1976), *no.* 1, 11–15. (Vincent Giambalvo) **53** #9212 55G25

Der Cohomologiering von komplexen Quadriken. (English summary) *Manuscripta Math.* **19** (1976), *no.* 1, 15–18. (Konrad Drechsler) **53** #13249 14M20 (14F25, 57D20)

Die 1/2-Lokalisierung des Spektrums MSO. (English summary) *Manuscripta Math.* **22** (1977), *no.* 4, 359–364. (T. tom Dieck) **57** #7624 57D75

Kul'vecas, L. L. One aspect of the development of the concept "weight" in classical mechanics. (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp.* 3(44) (1973), 25–30. (Editors) **58** #15795 01A05 (01A45, 01A50, 01A55, 01A60)

Two dates in the history of the development of the metric system of measures. (Russian) *Problems in the history of mathematics and mechanics* (*Russian*), *pp.* 109–115, 133. *Inst. Mat., Akad. Nauk Ukrain. SSR, Kiev,* 1977. (Author's summary) **58** #27020 01A55

Kumagai, Michikazu On the reliability of standby redundant systems with repair. *J. Operations Res. Soc. Japan* **16** (1973), 226–245. (See Zbl **277** #90031) 62N05 (90B25)

Reliability analysis of an n-spare system with a single repair facility. *Operational Res. Quart.* **26** (1975), *no.* 3, *part* 2, 629–640. (D. Hochstädter) **52** #4974 90B25

Kumagai, Nobuaki (*with* Morishita, Katsumi) Unified approach to the derivation of variational expression for electromagnetic fields. *IEEE Trans. Microwave Theory Tech.* **MTT-25** (1977), *no.* 1, 34–40. (Authors' summary) **56** #10451 78.49

Kumagai, S. (*with* Ohtsuki, Tatsuo; Fujisawa, Toshio) Existence theorems and a solution algorithm for piecewise-linear resistor networks. *SIAM J. Math. Anal.* **8** (1977), *no.* 1, 69–99. (I. T. Frisch) **55** #7615 94A20

Kumagai, Yukio The automorphism group and the uniform decomposition of an autonomous automation. (Japanese. English summary) *Mem. Muroran Inst. Tech.* **7** (1970/72), 669–678. (Kenji Onaga) **50** #4159 94A30 (20B25)

Considerations on a formula for a closed-circuit associative memory. (Japanese. English summary) *Mem. Muroran Inst. Tech.* **8** (1973/76), *no.* 3, 799–812. (Author's summary) **56** #13794 68A25

(*with* Sano, Katsuhiro) Automata representation in one-dimensional nerve net of homogeneous structure. (Japanese. English summary) *Mem. Muroran Inst. Tech.* **9** (1976), *no.* 1, 363–379. (Tadashige Ishihara) **56** #15237 94A30 (92A05)

Kumahara, Keisaku (*with* Okamoto, Kiyosato) An analogue of the Paley-Wiener theorem for the euclidean motion group. *Proc. Japan Acad.* **47** (1971), 485–490. (R. A. Gangolli) **46** #9243 22E70 (43A80)

An analogue of the Paley-Wiener theorem for the Heisenberg group. *Proc. Japan Acad.* **47** (1971), 491–494. (R. A. Gangolli) **46** #9244 22E70 (43A80)

(*with* Okamoto, Kiyosato) An analogue of the Paley-Wiener theorem for the euclidean motion group. *Osaka J. Math.* **10** (1973), 77–91. (Kenneth Johnson) **49** # 22E30

Fourier transforms on the Cartan motion group. *Proc. Japan Acad.* **50** (19 433–435. (Pierre Eymard) **51** #3354 22E30

Fourier transforms on the motion groups. *J. Math. Soc. Japan* **28** (1976), *nc* 18–32. (Pierre Eymard) **52** #14858 43A30

Kumamaru, Kousuke (*with* Tsuji, Setsuzo) System identifications by a nonlinear fil *Pattern recognition and machine learning* (*Proc. Japan-U.S. Sem. Learning Proces Control Systems, Nagoya*, 1970), *pp.* 121–137. *Plenum Press, New York*, 1971. (Aruna Bagchi) **55** #14378 93E10

Kumamoto, Hiromitsu (*with* Akashi, Hajime) State estimation for systems under measurement noise with Markov dependent statistical property—an algorithm base random sampling. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambri Mass.*, 1975), *Part* 1, *Paper No.* 29.2, 7 *pp. IFAC, Düsseldorf*, 1975. (Authors' summ **58** #33407 93E10

(*with* Akashi, Hajime; Nose, Kazuo) Application of Monte Carlo method to optimal control for linear systems under measurement noise with Markov depen statistical property. *Internat. J. Control* **22** (1975), *no.* 6, 821–836. (Ulrich Rie **54** #9777 93C55 (93E10)

(*with* Akashi, Hajime) Construction of a discrete-time nonlinear filter using Monte Carlo method accompanied by variance-reducing techniques. (Japanese. Eng summary) *Systems and Control* **19** (1975), *no.* 4, 211–221. (Seihaku Higuchi) **53** #1 93E10

(*with* Akashi, Hajime) State estimation of linear systems with Markov-depen statistical properties of the noise in observations (an algorithm based on ranc sampling). (Japanese. English summary) *Systems and Control* **19** (1975), *no.* 9, 489– (Seihaku Higuchi) **53** #12706 93E10

(*with* Akashi, Hajime; Nose, Kazuo) The Monte Carlo approach to state estima for linear dynamical systems with state-dependent measurement noise. *Mem.* *Engrg. Kyoto Univ.* **38** (1976), *no.* 2, 74–87. (V. N. Igolkin) **58** #4552 93E10

(*with* Tanaka, Kazuo; Inoue, Koichi) Efficient evaluation of system reliability Monte Carlo method. *IEEE Trans. Reliab.* **R-26** (1977), *no.* 5, 311–315. (Auth summary) **56** #13486 62N05 (94A20, 65C05)

Kumaniecka, A. (*with* Gaszyński, J.) Consolidation of the visco-elastic half-space at mi conditions of permeability of the boundary. (Polish and Russian summaries) *Rozpr* *Inż.* **25** (1977), *no.* 4, 541–558. (From the authors' summary) **57** #11259 73.35

Kumano-go, Hitoshi Pseudo differential operators and the uniqueness of the Cau problem. *Comm. Pure Appl. Math.* **22** (1968), 73–129. (See Zbl **157**, 169) 47G05

Remarks on pseudo-differential operators. *J. Math. Soc. Japan* **21** (1969), 413– (See Zbl **179**, 422) 47G05

Algebras of pseudo-differential operators. *J. Fac. Sci. Univ. Tokyo Sect. I* (1970), 31–50. (H. Goldschmidt) **45** #984 47G05 (35S99)

(*with* Nagase, Michihiro) L^p-theory of pseudo-differential operators. *Proc. Ja* *Acad.* **46** (1970), 138–142. (J. S. Joel) **55** #11107 47G05 (35S05)

(*with* Hayakawa, Kantaro) Complex powers of a system of pseudo-differer operators. *Proc. Japan Acad.* **47** (1971), 359–364. (R. D. Moyer) **46** #2497 47 (35S05)

On an algebra of pseudodifferential operators with an inhomogeneous sym (Japanese) *Sûgaku* **23** (1971), *no.* 1, 1–17. (Author's review) **58** #30511 47G05

On the index of hypoelliptic pseudo-differential operators on R^n. *Proc. Japan A* **48** (1972), 402–407. (J. Unterberger) **47** #4070 47G05 (35S05, 58G10)

(*with* Iwasaki, Chisato Tsutsumi) Complex powers of hypoelliptic pseudo-differential operators with applications. *Osaka J. Math.* **10** (1973), 147– (Rémi Vaillancourt) **48** #6734 35S05 (47G05)

(*with* Taniguchi, Kazuo) Oscillatory integrals of symbols of pseudo-differen operators on R^n and operators of Fredholm type. *Proc. Japan Acad.* **49** (1973), 397– (Rémi Vaillancourt) **50** #8167 47G05 (35S05)

Pseudo-differential operators of multiple symbol and the Calderón-Vaillanc theorem. *J. Math. Soc. Japan* **27** (1975), 113–120. (Rémi Vaillancourt) **50** #1437 47G05 (35S05)

A calculus of Fourier integral operators on R^n and the fundamental solution for operator of hyperbolic type. *Comm. Partial Differential Equations* **1** (1976), *no.* 1, 1– (Toader Jucan) **53** #1341 47G05 (35S05)

(*with* Koshiba, Zen'ichirô) A family of pseudo-differential operators and a stabi theorem for the Friedrichs scheme. *Proc. Japan Acad.* **52** (1976), *no.* 5, 211–214. (R Vaillancourt) **54** #1025 47G05 (35S05)

Factorizations and fundamental solutions for differential operators of elliptic-hyperbolic type. *Proc. Japan Acad.* **52** (1976), *no.* 9, 480–483. (RŽMat **1977** B543) **58** #1710 35M05

Fundamental solutions for operators of regularly hyperbolic type. *J. Math. S* *Japan* **29** (1977), *no.* 3, 399–406. (Author's introduction) **58** #6725 35L45

(*with* Taniguchi, Kazuo; Tozaki, Yoshiharu) Multi-products of phase functions Fourier integral operators with an application. *Comm. Partial Differential Equation* (1978), *no.* 4, 349–380. (A. S. Dynin) **58** #12049 35S05 (47G05, 58G15)

Kumar, Amod Expectation of product of quadratic forms. *Sankhyā Ser. B* **35** (1973), *no* 359–362. (Somesh Das Gupta) **53** #11880 62H10

(*with* Pathak, Pramod K.) Some recent dimension free characterizations of normal law. *Colloq. Math.* **35** (1976), *no.* 1, 119–140. (C. G. Khatri) **53** #1478 62H05 (60B05)

Kumar, Anil (*with* Gupta, Santosh K.; Mohan, Ratan) The effect of chain length on mean value of the end-to-end distance of a random-flight polymer chain adsorbed o surface. *Chem. Phys. Lett.* **52** (1977), *no.* 3, 463–468. (Authors' summary) **56** #10471 80.60

Kumar, Arun Absolute summability of a series associated with Fourier series. *J. Ma* (*Jabalpur*) (*N.S.*) **1** (1973), 19–26. (F. C. Hsiang) **53** #6213 42A28

(*with* Dikshit, Hanuman P.) Absolute total-effectiveness of (N,p_n) means. I. *Ma* *Proc. Cambridge Philos. Soc.* **77** (1975), 103–108. (D. C. Russell) **51** #10982 42A

(*with* Dikshit, Hanuman P.) Absolute summability of Fourier series with facto *Pacific J. Math.* **61** (1975), *no.* 1, 59–69. (S. Baron) **53** #8768 42A28

Necessary and sufficient type theorem for absolute Nörlund summability of conjugate series. *Proc. Amer. Math. Soc.* **67** (1977), *no.* 1, 77–83. (Prem Chandra) **58** #23324 42A28 (40D15, 40F05)

Kumar, Arunod (*with* Mandrekar, Vidyadhar) Stable probability measures on Banach spaces. *Studia Math.* **42** (1972), 133–144. (*loose errata*) (S. R. S. Varadhan) **46** #4582 60E05 (60B05)

A note on the convergence of stable and class L probability measures on Banach spaces. *Ann. Probability* **1** (1973), 716–718. (Robert L. Taylor) **54** #3787 60B10

Semi-stable probability measures on Hilbert spaces. *J. Multivariate Anal.* **6** (1976), *no.* 2, 309–318. (R. Jajte) **54** #8774 60B05

(*with* Schreiber, Bertram M.) Characterization of subclasses of class L probability distributions. *Ann. Probability* **6** (1978), *no.* 2, 279–293. (V. M. Kruglov) **57** #10764 60E05 (60F05)

Kumar, Arvind (*with* Iyer, B. R.) Green's functions for spin half field theory in Rindler space. *Pramāna* **9** (1977), *no.* 5, 441–456. (Authors' summary) **57** #4957 83.35

Kumar, Ashok (*with* Choudhary, B.) An extension of M. Riesz's mean value theorem for infinite integrals. *Canad. J. Math.* **26** (1974), 1016–1024. (E. F. Beckenbach) **49** #10836 26A86

On functional methods. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **9(29)** (1974), 95–104. (J. P. King) **50** #2737 (E **53** #8715) 40D25

(*with* Choudhary, B.) A note on generalised Fekete methods. *J. Indian Math. Soc. (N.S.)* **38** (1974), *no.* 1-4, 241–254 (1975). (W. Beekmann) **52** #14730 40C05

Corrigendum: "On functional methods" (Glasnik Mat. Ser. III **9(29)** (1974), 95–104). *Glasnik Mat. Ser. III* **10(30)** (1975), *no.* 2, 377. (J. P. King) **53** #8715 40D25

Optimum detection of failures in an n-component system. *Z. Angew. Math. Mech.* **55** (1975), *no.* 11, 679–680. (Erol Gelenbe) **53** #7414 90B25

Generalised strong Nörlund summability. *Demonstratio Math.* **9** (1976), *no.* 3, 451–468. (Kazuo Ishiguro) **54** #13366 40D25

On some methods of summability. *Kyungpook Math. J.* **16** (1976), *no.* 1, 85–93. (Gokulananda Das) **55** #3597 40D25

Heat transfer by fluctuating flow of a non-Newtonian fluid past a porous flat plate with time dependent suction. *Acta Ci. Indica* **3**, *no.* 3, 269–273 (1977). (P. D. S. Verma) **57** #2113 76.35

(*with* Unny, T. E.) Application of Runge-Kutta method for the solution of non-linear partial differential equations. *Appl. Math. Modelling* **1** (1977), *no.* 4, 199–204. (Murli M. Gupta) **56** #10037 65M20

(*with* Singh, Raj Kishor) Multiplication operators and composition operators with closed ranges. *Bull. Austral. Math. Soc.* **16** (1977), *no.* 2, 247–252. (Authors' summary) **58** #12495 47B37

On expected profit in a two-unit standby system with switch failure. *Internat. J. Systems Sci.* **8** (1977), *no.* 2, 145–151. (Masanori Kodama) **56** #10896 90B25

Stochastic behaviour of a 2-unit standby redundant system with two switching failure modes. (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 4, 571–580. (Z. Khalil) **57** #17874 60K20

(*with* Pathak, Pramod K.) Two applications of Basu's lemma. *Scand. J. Statist.* **4** (1977), *no.* 1, 37–38. (Lionel Weiss) **55** #4449 62B05

(*with* Pathak, Pramod K.) Sufficiency and tests of goodness of fit. *Scand. J. Statist.* **4** (1977), *no.* 1, 39–43. (Lionel Weiss) **55** #4504 62G10 (62B05)

Behaviour of steady-state profit in a 2-unit cold standby redundant system. *Z. Angew. Math. Mech.* **57** (1977), *no.* 2, 124–127. (Andor Dobó) **56** #2302 90B25

Kumar, Awdhesh (*with* Pande, H. D.) The effect of conformal change over some entities in Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **53** (1972), 60–70 (1973). (Editors) **49** #1385 53B40

(*with* Pande, H. D.) Bianchi and Veblen identities for the special pseudo-projective curvature tensor fields. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **53** (1972), 384–388 (1973). (J. R. Vanstone) **49** #1361 53B10

(*with* Pande, H. D.) Cartan's covariant derivative with projective connection parameter. C. N. Srinivasiengar dedication volume, II. *Progr. Math. (Allahabad)* **6** (1972), *no.* 2, 51–57. (J. K. Beem) **50** #1157 53B40

(*with* Pande, H. D.) Pseudo-projective curvature identities in Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **55** (1973), 676–679 (1974). (Authors' summary) **58** #30884 53B40

(*with* Pande, H. D.) Special curvature collineation and projective symmetry in Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 1-2, 75–79 (1975). (Yoshihiro Ichijyō) **52** #15297 53B40

(*with* Pande, H. D.) Special infinitesimal projective transformation in a Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **57** (1974), *no.* 3-4, 190–193 (1975). (H. Rund) **52** #11778 53B40

(*with* Pande, H. D.) Conformal motion in a recurrent Finsler space. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **39** (1974), 63–67 (1975). (See Zbl **323** #53019) 53B40

(*with* Pande, H. D.; Khan, T. A.) Curvature collineations in a Finsler space. *Acta Ci. Indica* **1**, *no.* 4, 357–360 (1975), (R. B. Misra) **52** #15296 53B40

On special projective tensor fields. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 2, 184–189. (Hassan Akbar-Zadeh) **54** #3611 53B40

(*with* Dubey, G. C.) General decomposition of pseudo-projective curvature tensor field in recurrent Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 5, 708–712. (Yoshihiro Ichijyō) **54** #13766 53B40

(*with* Pande, H. D.) Special conformal motion in a special projective symmetric Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 5, 713–717. (R. B. Misra) **57** #7440 53B40

Decomposition of pseudo-projective tensor fields in a second order recurrent Finsler space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **59** (1975), *no.* 1-2, 77–82 (1976). (Makota Matsumoto) **57** #13762 53B40

(*with* Pande, H. D.) Generalisation of Gauss Codazzi equations for the curvature tensor $M^i_{hik}(x, \dot{x})$ in a hypersurface of a Finsler space. *Progr. Math. (Allahabad)* **9** (1975), *no.* 2, 1–8. (R. B. Misra) **58** #24102 53B40

(*with* Pande, H. D.) Generalisation of Gauss-Codazzi equations for Berwald's curvature tensor in a hypersurface of a Finsler space. *Publ. Math. Debrecen* **22** (1975), *no.* 3-4, 263–267. (M. Yoshida) **52** #6600 53B40

(*with* Pande, H. D.) Infinitesimal special projective transformation in Finsler space. *Pure Appl. Math. Sci.* **2** (1975), *no.* 1, 11–15. (R. B. Misra) **52** #15298 53B40

(*with* Schreiber, Bertram M.) Self-decomposable probability measures on Banach spaces. *Studia Math.* **53** (1975), *no.* 1, 55–71. (R. Jajte) **52** #6808 60B05

(*with* Pande, H. D.) On infinitesimal special projective transformation in a Finsler space. *Acta Ci. Indica* **2** *no.* 2, 169–172 (1976). (Yoshihiro Ichijyō) **54** #1119 53B40

Some theorems in projective recurrent Finsler space of second order. *Acta Ci. Indica* **2**, *no.* 3, 275–277 (1976). (Hassan Akbar-Zadeh) **57** #13761 53B40

On W-generalised 2-recurrent Finsler space. *Acta Ci. Indica* **2**, *no.* 4, 393–396 (1976). (R. B. Misra) **57** #4035 53B40

On a special recurrent Finsler space of second order. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **61** (1976), *no.* 5, 432–437 (1977). (R. Miron) **57** #13763 53B40

On a generalised 2-projective recurrent Finsler space. *Bull. Acad. Serbe Sci. Arts Cl. Sci. Math. Natur.* **55** (1976), *no.* 9, 49–54. (S. Kawaguchi) **54** #8505 53B40

(*with* Pande, H. D.) Generalized Gauss-Codazzi equations for the curvature tensors $R^i_{jhk}(x, \dot{x})$ in a hypersurface of a Finsler space. *Jñānabha Sect. A* **6** (1976), 53–58. (Authors' summary) **58** #30885 53B40

(*with* Pande, H. D.) Projective curvature collineation in a Finsler space. *Jñānabha Sect. A* **6** (1976), 103–107. (H. Rund) **58** #30886 53B40

Decomposition of projective recurrent tensor field of second order. *Acta Ci. Indica* **3**, *no.* 1, 89–92 (1977). (R. B. Misra) **57** #7436 53B40

On a projective recurrent Finsler space. *Acta Ci. Indica* **3**, *no.* 2, 177–180 (1977). (Samuel I. Goldberg) **57** #7437 53B40

On the existence of projective affine motion in a projective recurrent Finsler space. *Acta Ci. Indica* **3**, *no.* 3, 243–249 (1977). (Makoto Matsumoto) **57** #1331 53B40

On the existence of special projective affine motion in a recurrent Finsler space. II. *Acta Ci. Indica* **3** (1977), *no.* 4, 372–377. (From the text) **58** #30881 53B40

On recurrence vectors in a F_n^*-space. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **62** (1977), *no.* 4, 463–470. (Hassan Akbar-Zadeh) **58** #18235 53B40

On the existence of affine motion in a recurrent Finsler space. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 7, 791–800. (Aristide Sanini) **57** #1332 53B40

(*with* Chatterji, L. D.) Some theorems on recurrence vector in Finsler space. *J. Mathematical and Physical Sci.* **11** (1977), *no.* 5, 461–469. (Yung-Chow Wong) **57** #10632 53B40

(*with* Pande, H. D.) General decomposition of projective entities in a recurrent Finsler space. *Progr. Math. (Allahabad)* **11** (1977), *no.* 1–2, 63–70. (H. W. Guggenheimer) **57** #4037 53B40

A remark on S-PRF$_n$-space of the first kind. *J. Math. Phys. Sci.* **12** (1978), *no.* 3, 287–295. (Y. Mutô) **58** #12806 53B40 (83.53)

Kumar, G. R. V. (*with* Sage, Andrew P.) Error analysis algorithms for distributed parameter filtering. (French, German and Russian summaries) *Automatica—J. IFAC* **8** (1972), 363–366. (Peter Stavroulakis) **48** #13407 93E10

(*with* Sage, Andrew P.) The innovations approach to space-time filtering and smoothing. *Information Sci.* **4** (1972), 193–215. (Yaakov Yavin) **46** #5027 94A05

Kumar, I. J. On the asymptotic solution of a nonlinear Volterra integral equation. *Proc. Roy. Soc. London Ser. A* **324** (1971), 45–61. (K. K. Sen) **49** #4448 80.45

Modern analytical methods in heat transfer. *Inž-Fiz. Ž.* **19** (1970), 578–593 (*Russian*); *translated as J. Engrg. Phys.* **19** (1973), 1207–1215. (Djordje Djukic) **48** #7792 80.35

(*with* Trivedi, V. K.) On a Mellin transform technique for the asymptotic solution of a nonlinear Volterra integral equation. *Proc. Roy. Soc. London Ser. A* **352** (1977), *no.* 1670, 339–349. (Jorgen Frederiksen) **55** #8713 45D05

surendra Kumar, K. *See* **Surendra Kumar, K.**

Kumar, K. S. P. (*with* Griffith, E. W.) On the observability of nonlinear systems. I. *J. Math. Anal. Appl.* **35** (1971), 135–147. (F. M. Kirillova) **52** #10115 93B05

(*with* Lamont, Gary B.) State estimation in distributed parameter systems via least squares and invariant embedding. *J. Math. Anal. Appl.* **38** (1972), 588–606. (See Zbl **305** #93044) 93E10

(*with* Mahesh, J. K.) Determination of the optimal constant output feedback gains for linear discrete systems. *Appl. Math. Comput.* **1** (1975), *no.* 3, 243–252. (M. J. Davies) **51** #15077 93C05

(*with* Lin, D.; Kinney, L. L.) Platoon modeling for traffic control. *Proceedings of the 1977 IEEE Conference on Decision and Control (New Orleans, La., 1977), Vol. 1, pp.* 998–1003. *Inst. Electrical Electron. Engrs., New York*, 1977. (Authors' summary) **58** #20359 90B20

(*with* Yam, T. H.) Discrete observer in the design of sampled-data control systems. *Appl. Math. Comput.* **3** (1977), *no.* 2, 137–154. (Kunihiko Ichikawa) **55** #12229 93C55

Kumar, Kailash Solution of eight-vertex lattice model without elliptic functions. *Austral. J. Phys.* **27** (1974), 433–456. (Author's summary) **53** #10051 82.15

(*with* Mehta, M. L.) On an integral representation of the function $\operatorname{Tr}[\exp(A-\lambda B)]$. *J. Phys. A* **9** (1976), *no.* 2, 197–206. (Georges Bessis) **55** #2954 15A15

Kumar, Kiran Homotopy and tensor product. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 4, 347–355. (Götz Brunner) **55** #13426 55J15

Extension of groups. *Indian J. Pure Appl. Math.* **6** (1975), *no.* 4, 356–366. (From the author's introduction) **55** #10577 20J05

Extension of groups. *Proc. Nat. Acad. Sci. India Sect. A* **45** (1975), *no.* 2, 143–145. (Author's summary) **55** #5741 20D35

Para spectral sequence. *Proc. Nat. Acad. Sci. India Sect. A* **45** (1975), *no.* 3, 199–204. (M. Barr) **55** #463 18G99

A note on complex. *Proc. Nat. Acad. Sci. India Sect. A* **45** (1975), *no.* 3, 210–214. (M. Barr) **55** #462 18G99

Extensions of groups. *Proc. Nat. Acad. Sci. India Sect. A* **46** (1976), *no.* 1, 41–53. (From the summary) **58** #28217 20J10

Structure of groups. *Proc. Nat. Acad. Sci. India Sect. A* **46** (1976), *no.* 1, 57–58. (Author's summary) **58** #28192 20F25 (20J05)

Structure of groups. *Proc. Nat. Acad. Sci. India Sect. A* **46** (1976), *no.* 2, 94–102. (I. D. Macdonald) **58** #16893 20F25

On group structure. *Proc. Nat. Acad. Sci. India Sect. A* **46** (1976), *no.* 2, 111–112. (I. D. Macdonald) **58** #16894 20F25

On group structure. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 2, 250–252. (J. D. Dixon) **56** #12120 20D99

Kumar, Kuldip On the geometric means of products of integral functions. *Riv. Mat. Univ. Parma* (2) **12** (1971), 57–71. (D. Drasin) **50** #13522 30A64

(*with* Bose, S. K.) On a class of entire Dirichlet series over C^2. *Ann. Soc. Sci. Bruxelles Sér. I* **89** (1975), *no.* 4, 509–521. (A. K. Agarwal) **52** #6010 32A15

A note on entire functions of exponential type over $\mathbf{C}^n$. *Jñānabha Sect. A* **5** (1975), 59–62. (A. K. Agarwal) **58** #1220 32A15

A note on the geometric means of an integral function. *Gaṇita* **27** (1976), *no.* 1-2, 57–61. (S. M. Shah) **58** #11405 30A66

Kumar, M. (*with* Srivastava, K. N.) On three part mixed boundary value problems of elastostatics for an isotropic cylinder containing two strip cracks opened by internal pressure. *Indian J. Pure Appl. Math.* **1** (1970), *no.* 4, 625–639. (Authors' summary) **53** #4693 73.45

(*with* Srivastava, K. N.) On distribution of stress in an infinite solid containing a cylindrical cavity and two strip cracks. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 5, 830–839. (Authors' summary) **53** #4694 73.45

(*with* Srivastava, K. N.; Nath, Baij) Thermal stresses in an infinite solid containing a cylindrical cavity and two strip cracks. *Jñānabha Sect. A* **2** (1972), 117–142. (D. Ieşan) **51** #2423 73.45

(*with* Srivastava, K. N.; Nath, Baij) Thermal stresses in an infinite cylinder containing two strip cracks. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 2, 201–222. (P. M. Gupta) **53** #4695 73.45

(*with* Jha, A. C.) Unsymmetrical cruciform crack in a thin circular elastic plate. *Defence Sci. J.* **26** (1976), *no.* 3, 143–152. (F. Erdogan) **57** #4776 73.45

(*with* Srivastava, K. N.; Jha, A. C.) An edge crack in a thin semi-circular plate. *Indian J. Pure Appl. Math.* **8** (1977), *no.* 1, 72–83. (M. Sokołowski) **57** #11270 73.45

(*with* Srivastava, K. N.; Jha, A. C.) Stress distribution in a thin circular elastic plate containing a Griffith crack embedded in an infinite elastic medium. *Defence Sci. J.* **28** (1978), *no.* 1, 15–24. (Authors' summary) **58** #25284 73.45

(*with* Srivastava, R. K.) Some applications of triple integral equations involving inverse Mellin transforms. *Indian J. Pure Appl. Math.* **9** (1978), *no.* 1, 87–100. (Authors' summary) **58** #14176 73.45 (45F10)

Kumar, M. M. Discontinuity of first derivatives of metric tensor and Mach's principle. *Progr. Theoret. Phys.* **44** (1970), 243–253. (G. Bandyopadhyay) **47** #2966 83.53

mohan Kumar, N. *See* **Mohan Kumar, N.**

Kumar, Ram Propagation of small disturbances in viscous liquids. *Gaṇita* **21** (1970), *no.* 1, 17–34. (W. P. Graebel) **45** #9588 76.44

(*with* Dwivedi, A. P.) On a boundary value problem of mixed type. *Gaṇita* **24** (1973), *no.* 1, 15–19. (T. W. Kao) **50** #15580 76.45

Kumar, Ravinder Modules over *PP* rings. *J. Indian Math. Soc.* (*N.S.*) **34** (1970), 53–60 (1971). (T. Cheatham) **45** #3459 16A64

(*with* Singh, Surjeet) Rings in which each principal ideal is power of a prime ideal. *Aligarh Bull. Math.* **1** (1971), 13–24. (*errata insert*) (J. L. Mott) **47** #1790 13A99

(*with* Singh, Surjeet) (KE)-domains and their generalizations. *Arch. Math.* (*Basel*) **23** (1972), 390–397. (J. L. Mott) **47** #8505 13A15

(*with* Manaktala, Kanchan) A note on a class of Noetherian rings. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **19(33)** (1975), 83–87. (Johnny A. Johnson) **53** #400 13E05

Kumar, Ravindra Certain Gaussian quadratures. *J. Inst. Math. Appl.* **14** (1974), 175–182. (Author's summary) **50** #8922 65D30 (41A55)

(*with* Jain, M. K.) Quadrature formulas for semi-infinite integrals. *Math. Comp.* **28** (1974), 499–503. (Jozef Mikloško) **49** #8290 65D30

A class of quadrature formulas. *Math. Comp.* **28** (1974), 769–778. (Christopher T. H. Baker) **51** #9441 65D30

Kumar, S. (*with* Pandey, R. N.) Differentiation formulae for the generalized polynomial $R_n(x,y)$. *Progr. Math.* (*Allahabad*) **6** (1972), *no.* 2, 7–14. (A. E. Danese) **50** #10372 33A65

(*with* Pandey, R. N.) Asymptotic behaviour of the generalized polynomial $R_n(x,y)$. C. N. Srinivasiengar dedication volume, II. *Progr. Math.* (*Allahabad*) **6** (1972), *no.* 2, 33–40. (A. E. Danese) **50** #10373 33A65

(*with* Pandey, R. N.) Integral representation for the generalized polynomial $R_n(x,y)$. *Progr. Math.* (*Allahabad*) **7** (1973), *no.* 2, 21–28. (T. Erber) **50** #2574 33A30

Kumar, Santosh (*with* Bansal, S. P.) Optimal tour with multiple job facilities at each station. *Indian J. Math.* **13** (1971), 45–49. (Ion Dobre) **49** #4552 90B35

See also **Kapur, P. K.; et al.**, **53** #2335 *and* **Kapur, P. K.; et al.**, **53** #15325

Kumar, Satindar (*with* Sobel, Milton; Blumenthal, Saul) Symmetric binomial group-testing with three outcomes. *Statistical decision theory and related topics* (*Proc. Sympos., Purdue Univ., Lafayette, Ind.*, 1970), *pp.* 119–160. *Academic Press, New York*, 1971. (Benjamin Epstein) **48** #7442 62F07 (62N10)

(*with* Sobel, Milton) Finding a single defective in binomial group-testing. *J. Amer. Statist. Assoc.* **66** (1971), 824–828. (Authors' summary) **47** #1218 62L05

(*with* Patel, H. I.) A test for the comparison of two exponential distributions. *Technometrics* **13** (1971), 183–189. (Authors' summary) **46** #2781 62F05

Trinomial group-testing with an unknown proportion of units in the three categories. *Ann. Inst. Statist. Math.* **24** (1972), 171–181. (A. F. Ifram) **50** #15099 62F10

(*with* Sobel, Milton) An asymptotically optimal Bayes solution for group-testing. *A survey of statistical design and linear models* (*Proc. Internat. Sympos., Colorado State Univ., Ft. Collins, Colo.*, 1973), *pp.* 367–381. *North-Holland, Amsterdam*, 1975. (V. Susarla) **52** #2011 62F15

(*with* Susarla, V.) Estimation of partial derivatives of the average of densities belonging to a family of densities. *J. Austral. Math. Soc.* **20** (1975), *part* 2, 230–241. (G. Manija) **51** #14394 62G05

Kumar, Sheo (*with* Kowalik, J. S.) Fast Givens transformations applied to the homogeneous optimization method. *Appl. Math. Comput.* **4** (1978), *no.* 3, 239–252. (Authors' summary) **57** #18094 65K05

(*with* Chawla, M. M.) Convergence of Fejer type quadrature formulas for Cau principal value integrals. *J. Math. Phys. Sci.* **12** (1978), *no.* 1, 49–59. (R. Fra **58** #6854 41A55

(*with* Chawla, M. M.) Chebyshev series approximate solutions of Fredholm inte equations with Cauchy type singular kernels. *J. Math. Phys. Sci.* **12** (1978), *no* 149–158. (Authors' summary) **58** #19268 65R05

Kumar, V. Krishna *See* **Krishna Kumar, V.**

Kumar, Vinod On the largest Hausdorff compactification of a Hausdorff converge space. *Bull. Austral. Math. Soc.* **16** (1977), *no.* 2, 189–197. (D. C. Kent) **56** #949 54D35 (54A05)

Kumar, Virendra (*with* Mathur, K. K.) On the rapidity of convergence of a quasi-Hermite-Fejér interpolation polynomial. *Studia Sci. Math. Hungar.* **9** (1974), 3-4, 313–319 (1975). (J. Prasad) **53** #13925 41A05

Convergence of Hermite-Fejér interpolation polynomial on the extended nod *Publ. Math. Debrecen* **24** (1977), *no.* 1-2, 31–37. (T. J. Rivlin) **58** #12084 41A05

(*with* Agrawal, B. M.) Conversion of extreme geometrical theorem ${}_4F_3$. (Hi English summary) *Vijnana Parishad Anusandhan Patrika* **20** (1977), *no.* 2, 105– (Authors' summary) **57** #734 33A30

(*with* Agrawal, B. M.) Some identities related to the hypergeometric series (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **20** (1977), *no.* 207–210. (Authors' summary) **56** #16006 33A30

See also **Bogoljubov, N. N.; et al.**, **53** #11156; **Štokalo, Ĭ. Z.**, **55** #13178; **Progr in mathematical physics**, **57** #14672; **Skornjakov, L. A.**, **58** #21871 *and* **Štokalo, Ĭ.** **58** #29868

Kumaraswamy, S. (*with* Subramanian, Ramachandran) A stochastic model for linear viscoelastic substances. (Czech summary) *Apl. Mat.* **18** (1973), 141–145. (J. Murzews **47** #9925 73.60

(*with* Srinivasan, S. K.) Two simple models for Gaussian noise. *J. Mathemati and Physical Sci.* **11** (1977), *no.* 3, 199–207. (A. Mukherjea) **58** #7817 60G (60J25)

Kumari, Sulaxana Strong Cesàro summability of Fourier series. *J. Math. Anal. Appl.* (1971), 352–370. (B. N. Sahney) **47** #5510 42A24

On the strong Cesàro summability of Fourier series. *Indian J. Math.* **14** (197 181–206. (H. P. Dikshit) **51** #1249 42A24

Absolute logarithmic summability of the Fourier series. *J. Math. Anal. Appl.* (1973), 738–747. (S. Izumi) **48** #9235 42A28

nirmala Kumari Amma, K. *See* **Nirmala Kumari Amma, K.**

Kumbhat, R. K. (*with* Saxena, Ram Kishore) Fractional integration operators of t variables. *Proc. Indian Acad. Sci. Sect. A* **78** (1973), 177–186. (C. Fox) **48** #9286 44A15 (26A33)

(*with* Saxena, Ram Kishore) A generalization of Kober operators. (Hindi. Engli summary) *Vijnana Parishad Anusandhan Patrika* **16** (1973), 31–36. (N. C. Jain) **49** #484 26A33

(*with* Saxena, Ram Kishore) Integral operators involving H-function. *Indian Pure Appl. Math.* **5** (1974), 1–6. (S. L. Kalla) **52** #1188 44A15

(*with* Saxena, Ram Kishore) Dual integral equations associated with H-function *Proc. Nat. Acad. Sci. India Sect. A* **44** (1974), 106–112. (S. L. Kalla) **52** #1213 45F10

(*with* Saxena, Ram Kishore) A formal solution of certain triple integral equatio involving H-functions. *Proc. Nat. Acad. Sci. India Sect. A* **44** (1974), 153–159. (S. Kalla) **52** #1212 45F10

(*with* Saxena, Ram Kishore) Theorems connecting L, L^{-1} and fractional integration operators. *Proc. Nat. Acad. Sci. India Sect. A* **45** (1975), *no.* 3, 205–209. (C. Jain) **56** #16272 44A10 (26A33)

(*with* Saxena, Ram Kishore) Some properties of generalized Kober operato (Hindi. English summary) *Vijnana Parishad Anusandhan Patrika* **18** (1975), *no.* 139–150. (S. D. Bajpai) **52** #6335 44A05

An inversion formula for an integral transform. *Indian J. Pure Appl. Math.* **7** (1976 *no.* 4, 368–375. (Author's summary) **58** #2055 44A20

Kume, Hitoshi On the significance test of the difference of two regression relations. *Re Statist. Appl. Res. Un. Japan. Sci. Engrs.* **18** (1971), *no.* 4, 11–20. (A. Hedaya **47** #9781 62J05

Kume, Shigeru (*with* Watanabe, Kimio) On certain rational double points in dimensio >2. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **13**, *no.* 366-382, 173–180 (1977). (Jonathan M. Wahl) **56** #11998 14B05 (32C40)

Kumei, Sukeyuki (*with* Anderson, Robert L.; Wulfman, Carl E.) Generalization of th concept of invariance of differential equations. Results of applications to some Schrödinger equations. *Phys. Rev. Lett.* **28** (1972), *no.* 15, 988–991. (Authors' summary **53** #2162 81.22

(*with* Anderson, Robert L.; Wulfman, Carl E.) Invariants of the equations of wav mechanics. I. (Spanish summary) *Rev. Mexicana Fís.* **21** (1972), *no.* 1, 1–33. (Authors summary) **56** #17573 81.35

(*with* Anderson, Robert L.; Wulfman, Carl E.) Invariants of the equations of wav mechanics. II. One-particle Schroedinger equations. (Spanish summary) *Rev. Mexican Fís.* **21** (1972), *no.* 1, 35–57. (Authors' summary) **56** #17574 81.35

(*with* Anderson, Robert L.; Wulfman, Carl E.) Invariants of the equations of wav mechanics: rigid rotator and symmetric top. *J. Mathematical Phys.* **14** (1973), 1527–1531. (M. Drăganu) **53** #2163 81.22

Atomic radial integrals and a use of $O(2,1)$ transformation. *Phys. Rev. A* (3) (1974), 2306–2311. (Author's summary) **53** #9932 81.33

Invariance transformations, invariance group transformations, and invariance groups of the sine-Gordon equations. *J. Mathematical Phys.* **16** (1975), *no.* 12, 2461–2468. (J. Smoller) **52** #6221 35Q99 (35A30)

Group theoretic aspects of conservation laws of nonlinear time evolution equations: the KdV equation and the cubic Schrödinger equation. *Group theoretical methods in physics* (*Proc. Fifth Internat. Colloq., Univ. Montréal, Montreal, Que.*, 1976), *pp.* 577–584. *Academic Press, New York*, 1977. (Stanly L. Steinberg) **57** #14037 58F05 (35Q99, 81.35)

Group theoretic aspects of conservation laws of nonlinear dispersive waves: KdV type equations and nonlinear Schrödinger equations. *J. Mathematical Phys.* **18** (1977), *no.* 2, 256–264. (Akira Takeshita) **55** #11305 58F05 (35Q99, 35A30)

Kumičák, J. The weak second law of thermodynamics for classical gas in rectangular box. *Czechoslovak J. Phys.* **27B** (1977), *no.* 9, 967–979. (G. S. Agarwal) **58** #19884 80.60

Kumin, Hillel On characterizing the extrema of a function of two variables, one of which is discrete. *Management Sci.* **20** (1973/74), 126–129. (Ulrich Rieder) **48** #13280 (E **50** #1737) 90C99

Erratum: "On characterizing the extrema of a function of two variables, one of which is discrete" (Management Sci. **20** (1973/74), 126–129). *Management Sci.* **20** (1973/74), 899. (Ulrich Rieder) **50** #1737 90C99

Kumin, Hillel J. (*with* Ewbank, James B.; Foote, Bob L.) A method for the solution of the distribution problem of stochastic linear programming. *SIAM J. Appl. Math.* **26** (1974), 225–238. (M. Stoica) **58** #4322 90C15

Kummer, Bernd Antagonistische Terminalspiele. (English and Czech summaries) *Ekonom.-Mat. Obzor* **12** (1976), *no.* 2, 117–127. (Author's summary) **56** #8029 90D10

Global stability of optimization problems. (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 3, 367–383. (Claude Carasso) **57** #18095 65K05

Globale Stabilität quadratischer Optimierungsprobleme. (Russian, English and French summaries) *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **26** (1977), *no.* 5, 565–569. (Klaus Glashoff) **58** #32947 90C20

(*with* Straube, Bernd) Eine Einführung in die Theorie unscharfer Mengen. *Wiss. Z. Techn. Univ. Dresden* **26** (1977), *no.* 2, 363–369. (W. Wechler) **56** #5096 94A99

Kummer, Ernst Eduard ★Collected papers. Volume I: Contributions to number theory. Edited and with an introduction by André Weil. *Springer-Verlag, Berlin-New York*, 1975. viii + 955 *pp.* (Editors) **57** #5650a 01A75 (10–03)

★Collected papers. Volume II: Function theory, geometry and miscellaneous. Edited and with a foreward by André Weil. *Springer-Verlag, Berlin-New York*, 1975. xi + 877 *pp.* (Editors) **57** #5650b 01A75 (10–03)

See also **Grundlagen der modernen Mathematik**, **50** #6716; **Edwards, Harold M.**, **57** #12066a *and* **Edwards, Harold M.**, **57** #12066b

Kummer, Hans (*with* Giles, Robin) A matrix representation of a pair of projections in a Hilbert space. *Canad. Math. Bull.* **14** (1971), 35–44. (J. B. Deeds) **45** #912 46L05 (47B99)

(*with* Giles, Robin) A non-commutative generalization of topology. *Indiana Univ. Math. J.* **21** (1971/72), 91–102. (B. Russo) **45** #2485 46L05 (54A99)

(*with* Absar, I.; Coleman, A. J.) Some aspects of the N-representability problem in finite dimensions. I. Operator endomorphisms which induce necessary conditions. *J. Mathematical Phys.* **18** (1977), *no.* 2, 329–334. (Adriaan Tip) **55** #13980a 81.22

(*with* Absar, I.) Some aspects of the N-representability problem in finite dimensions. II. Operator endomorphisms which induce sufficient conditions. *J. Mathematical Phys.* **18** (1977), *no.* 2, 335–341. (Adriaan Tip) **55** #13980b 81.22

Kummer, Martin On subdynamics in quantum mechanics. *Physica* **65** (1973), 469–484. (Author's summary) **55** #1986 81.47

An interaction of three resonant modes in a nonlinear lattice. *J. Math. Anal. Appl.* **52** (1975), *no.* 1, 64–104. (Djorde Djukic) **54** #11890 70.34

On resonant non linearly coupled oscillators with two equal frequencies. *Comm. Math. Phys.* **48** (1976), *no.* 1, 53–79. (N. Fenichel) **54** #7965 34C35 (58F05)

On resonant classical Hamiltonians with two equal frequencies. *Comm. Math. Phys.* **58** (1978), *no.* 1, 85–112. (N. Fenichel) **58** #2878 58F05 (34C35, 70.58)

Kummer, Renate (*with* Renschuch, Bodo) Potenzproduktideale. I. *Publ. Math. Debrecen* **17** (1970), 81–98 (1971). (N. Sankaran) **46** #3495 13A15

(*with* Renschuch, Bodo) Potenzproduktideale. II. *Publ. Math. Debrecen* **18** (1971), 273–288 (1972). (N. Sankaran) **47** #8524 13F20

Über Schreiersche Erweiterungen von universalen Algebren. I. *Wiss. Beiträge Martin-Luther-Univ. Halle-Wittenberg* **M3** (1971), 201–219. (I. Gy. Maurer) **52** #235 08A15

See also **Studien zur Algebra und ihre Anwendungen**, **48** #8172

Kummer, Wolf *See* **Quantoren-Modalitäten-Paradoxien**, **56** #2775

Kummer, Wolfgang Ghost-free nonabelian gauge theory. Collection of articles dedicated to Paul Urban on the occasion of his seventieth birthday, I. *Acta Phys. Austriaca* **41** (1975), 315–334. (R. Delbourgo) **51** #9706 81.47

(*with* Dirschmid, Hansjörg; Schweda, Manfred) ★Einführung in die mathematischen Methoden der theoretischen Physik. *Vieweg, Braunschweig*, 1976. vii + 212 *pp.* (H. S. P. Grässer) **56** #8249 00A05 (69.00)

Renormalization of nonabelian gauge fields. *Current problems in elementary particle and mathematical physics* (*Proc. XV. Internat. Universitätswochen Kernphysik, Univ. Graz, Schladming*, 1976), *pp.* 423–473. *Acta Phys. Austriaca, Suppl. XV, Springer, Vienna*, 1976. (From the introduction) **58** #25592 81.47

See also **Concepts in hadron physics**, **48** #1596 *and* **Developments in high energy physics**, **48** #3376

Kümmerer, Burkhard A non-commutative individual ergodic theorem. *Invent. Math.* **46** (1978), *no.* 2, 139–145. (László Zsidó) **58** #2336 46L10 (47A35)

Kümmich, Frieder Topologisch quasihamiltonsche Gruppen. *Arch. Math.* (*Basel*) **29** (1977), *no.* 4, 392–397. (L. Greenberg) **57** #3298 22A05

Kumpel, P. G., Jr. On p-equivalences of mod p H-spaces. *Quart. J. Math. Oxford Ser.* (2) **23** (1972), 173–178. (D. W. Anderson) **45** #9321 55D45

Kumpera, Antonio (*with* Spencer, Donald C.) ★Lie equations. Vol. I: General theory. Annals of Mathematics Studies, No. 73. *Princeton University Press, Princeton, N.J.*; *University of Tokyo Press, Tokyo*, 1972. xv + 293 *pp.* (H. Goldschmidt) **52** #1805 58H05

Differential systems that are invariant under a pseudogroup of transformations. (Spanish) *Acta Ci. Compostelana* **10** (1973), 127–135. (Alexandre M. Rodrigues) **51** #1884 58H05

(*with* Spencer, Donald C.) ★Systems of linear partial differential equations and deformation of pseudogroup structures. Séminaire de Mathématiques Supérieures, No. 41 (Été 1969). *Les Presses de l'Université de Montréal, Montreal, Que.*, 1974. 100 *pp.* (H. Goldschmidt) **52** #1806 58H05

Invariants différentiels d'un pseudogroupe de Lie. *Géométrie différentielle* (*Colloq., Univ. Santiago de Compostela, Santiago de Compostela*, 1972), *pp.* 121–162. *Lecture Notes in Math., Vol.* 392, *Springer, Berlin*, 1974. (H. H. Johnson) **53** #11680a 58H05

Remarques sur l'équivalence locale des structures de contact: méthodes de Lie. *Symposia Mathematica, Vol. XIV* (*Convegno di Geometria Simplettica e Fisica Matematica, INDAM, Rome*, 1973), *pp.* 207–217. *Academic Press, London*, 1974. (O. Kowalski) **52** #12015 58H05

Invariants différentiels d'un pseudogroupe de Lie. I. *J. Differential Geometry* **10** (1975), *no.* 2, 289–345. (H. H. Johnson) **53** #11680b 58H05

Invariants différentiels d'un pseudogroupe de Lie. II. *J. Differential Geometry* **10** (1975), *no.* 3, 347–416. (H. H. Johnson) **53** #11680c 58H05

Kumsiašvili, G. P. (*with* Kartvelišvili, N. A.) Flow stability and criteria for assessing it. *Izv. Vsesojuz. Naučn.-Issled. Inst. Gidrotehniki im. Vedeneeva* **99** (1972), 48–55; *translated in Fluid Mechanics–Soviet Res.* **4** (1975), *no.* 3, 1–10. (R. M. Gundersen) **53** #4719 76.35

Kumsiašvili, V. A. On the problem of the optimization of the control of a system when there is incomplete information. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **86** (1977), *no.* 1, 61–63. (Editors) **58** #9717 93E20

Kumykova, S. K. (*with* Karasev, I. M.) On the question of the integration in K' of differential equations with a generalized Čebyšev operator. (Russian) *Differencial'nye Uravnenija* **8** (1972), 2080–2081, 2114. (W. Słowikowski) **47** #3726 34A05 (46F10)

A boundary value problem for the Bicadze-Lavrent'ev equation. (Russian) *Differential and integral equations, No.* 1 (*Russian*), *pp.* 95–101. *Kabardino-Balkarsk. Gos. Univ., Nal'chik*, 1973. (Editors) **58** #29378 35M05

Certain boundary value problems with a shift for the Lavrent'ev-Bicadze equation. (Russian) All-Union Symposium on Selected Questions of Partial Differential Equations (Prièlbrus, 1972). *Differencial'nye Uravnenija* **9** (1973), 106–114, 195. (H. G. Bzihatlov) **49** #5594 35M05

A certain problem with nonlocal boundary conditions on the characteristics for an equation of mixed type. (Russian) *Differencial'nye Uravnenija* **10** (1974), 78–88, 180. (T. Kal'menov) **49** #7619 35M05

A certain boundary value problem with shift for the equation sign y $|y|^m u_{xx} + u_{yy} = 0$. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 1, 79–88, 188. (V. V. Kovrižkin) **53** #8673 35M05

(*with* Nahuševa, F. B.) A boundary value problem for a hyperbolic equation that degenerates inside the domain. (Russian) *Differenical'nye Uravnenija* **14** (1978), *no.* 1, 50–65, 188. (Rémi Vaillancourt) **57** #6855 35L20 (35M05)

Kun, István Geometrical proofs in the theory of systems of linear inequalities. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **1** (1975), *no.* 3–4, 391–396. (Author's summary) **57** #10614 52A40 (90C99)

A central limit theorem for Markovian queuing systems. (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 3, 411–418. (Douglas P. Kennedy) **57** #14180 60K25

On the discounted cost of Markovian queuing systems. (German and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optimization* **8** (1977), *no.* 4, 565–569. (Richard F. Serfozo) **57** #14181 60K25

Kun, L. A. (*with* Pronozin, Ju. F.) Differential games. III. *Avtomat. i Telemeh.* **1971**, *no.* 9, 16–22 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 9, *part* 1, 1358–1363. (Authors' summary) **56** #11031 90D25

(*with* Pronozin, Ju. F.) Reduction of a differential game to an optimal control problem. *Avtomat. i Telemeh.* **1971**, *no.* 12, 5–11 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 12, *part* 1, 1865–1870 (1972). (I. V. Beiko) **51** #2665 90D25 (49A10)

(*with* Pronozin, Ju. F.) Differential games. I. *Avtomat. i Telemeh.* **1971**, *no.* 5, 22–30 (*Russian. English summary*); *translated as Automat. Remote Control* **1971**, *no.* 5, *part* 1, 705–713. (J. H. Case) **55** #12151a 90D25

(*with* Pronozin, Ju. F.) Differential games. II. *Avtomat. i Telemeh.* **1971**, *no.* 7, 35–41 (*Russian. English summary*); *translated as Automat. Remote Control* **1971**, *no.* 7, *part* 1, 1041–1046. (J. H. Case) **55** #12151b 90D25

(*with* Pronozin, Ju. F.) Global controllability of linear systems. *Avtomat. i Telemeh.* **1972**, *no.* 3, 155–156 (*Russian. English summary*); *translated as Automat. Remote Control* **33** (1972), *no.* 3, *part* 2, 456–457. (I. H. Mufti) **53** #12678 93C05 (90D25)

(*with* Pronozin, Ju. F.) Sufficient conditions for smoothness of the Bellman function in linear time-optimal problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 1, 9–16 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 1, 6–11. (Authors' summary) **56** #14942 93C15

(*with* Pronozin, Ju. F.) Regularization of the method of dynamic programming in linear time-optimal problems. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 2, 3–7 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 2, 179–182. (Y. C. Ho) **48** #7079 49C99

Connection between local and global controllability of a linear plant. *Avtomat. i Telemeh.* **1977**, *no.* 10, 12–15 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 10, *part* 1, *pp.* 1437–1439 (1978). (I. H. Mufti) **58** #9488 93B05

A certain class of nonlinear time-optimality problems. *Avtomat. i Telemeh.* **1974**, *no.* 5, 31–37 (*Russian*); *translated as Automat. Remote Control* **1978**, *no.* 5, *part* 1, 720–725. (Theodore Guinn) **54** #3541 49B10

Kunaev, A. M. 250th anniversary of the Academy of Sciences of the USSR, and the development of science in Kazakhstan. (Russian) *Vestnik Akad. Nauk Kazah. SSR* **1974**, *no.* 5, 3–12. (Editors) **56** #15310 01A65

al-Fārābī and the development of the science and culture of the Orient. (Russian) al-Fārābī and the development of the science and culture of the Orient (Internat. Conf., Alma-Ata, 1975). *Vestnik Akad. Nauk Kazah. SSR* **1975**, *no.* 10, 14–26. (Editors) **58** #15847 01A30

The great thinker and encyclopedist of the Middle Ages—al-Fārābī. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1975**, *no.* 3(52), 43–47, 102 (1976). (E. S. Kennedy) **56** #8267 01A30

See also **al-Fārābī, Abū Naṣr Muḥammad ibn Muḥammad ibn Tarkhān**, **57** #5573

Kunakova, I. V. (*with* Mirzo-zade, D. I.) Biquaternion projective geometry. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1975**, *no.* 2(56), 13–19, 118. (D. B. Persic) **54** #11169 50D35 (*with* Rozenfel′d, B. A.) Hyperbolic spaces of fractional index, and quasi-elliptic spaces of fractional defect. (Russian) *Trudy Geom. Sem. Kazan. Univ. Vyp.* 9 (1976), 88–104. (M. C. Chaki) **58** #18094 50C20

Kunce, Jurgen *See* **Kunze, Jürgen**

Kuncevič, I. M. (*with* Olehnovič, N. M.; Šeleg, A. U.) ★Таблицы тригонометрических функций для подсчета распределения электронной плотности в кристаллах. (Russian) [Tables of trigonometric functions for the computation of the distribution of electron density in crystals] *Izdat.* "*Nauka i Tehnika*", *Minsk*, 1967. 219 *pp.* ((RŽFiz **1968** #4 E295K)) **50** #6097 65A05

(*with* Olehnovič, N. M.; Šeleg, A. U.) ★Tables of trigonometric functions for the numerical computation of electron density in crystals. Translated from the Russian by the IPST staff. *Israel Program for Scientific Translations*, *Jerusalem*, 1971. ii+218 *pp.* (Editors) **50** #6098 65A05

Kuncevič, V. M. Stationary forced conditions in control systems with frequency impulse modulation and the analysis of their stability. (Russian) *Cybernetics and computer technology*, *No.* 2: *Discrete control systems* (*Russian*), *pp.* 80–95. *Naukova Dumka*, *Kiev*, 1969. **45** #9755 93D99

(*with* Padčenko, I. F.; Čehovii̇, Ju. M.) An investigation of the stability of frequency impulse systems with discrete correction. (Russian) *Cybernetics and computer technology*, *No.* 6: *Discrete control systems* (*Russian*), *pp.* 61–67. *Naukova Dumka*, *Kiev*, 1970. (Authors' summary) **45** #4854 93D05

Investigation of tracking regimes in control systems with frequency impulse modulation of the second kind. (Russian) *Cybernetics and computer technology No.* 6: *Discrete control systems* (*Russian*), *pp.* 67–80. *Naukova Dumka*, *Kiev*, 1970. (Author's summary) **45** #4855 93D99

(*with* Letov, A. M.; Naumov, B. N.; Nelepin, R. A.; Petrov, B. N.; Platov, V. Ja.; Popov, E. P.; Pospelov, G. S.; Rozenvasser, E. N.; Šamrikov, B. M.; Šelenkov, V. M.; Jusupov, R. M.) ★Точные методы исследования нелинейных систем автоматического управления. (Russian) [Exact methods for investigating nonlinear automatic control systems] Edited by R. A. Nelepin. Nonlinear Automatic Control Systems, Vol. 4. *Izdat.* "*Mašinostroenie*", *Moscow*, 1971. 323 *pp.* (Ljubomir Lilov) **50** #4040 93C10

(*with* Čehovii̇, Ju. M.) Asymptotic stability on the whole of one class of pulse-frequency systems of the second type. *Avtomat. i Telemeh.* **1971**, *no.* 3, 47–56 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 3, *part* 1, 389–397. (Authors' summary) **46** #1421 93D99

(*with* Čehovii̇, Ju. M.) Fundamentals of non-linear control systems with pulse-frequency and pulse-width modulation. (French, German and Russian summaries) *Automatica—J. IFAC* 7 (1971), 73–81. (Authors' summary) **50** #4039 93C10

(*with* Čehovii̇, Ju. M.) Foundations of the theory of nonlinear control systems with frequency and amplitude impulse modulation. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 116–126, 477. *Izdat.* "*Nauka*", *Moscow*, 1972. (Bojan Popovič) **48** #10585 93D05

(*with* Lyčak, M. M.) Synthesis of suboptimal nonlinear discrete systems for the control of deterministic and stochastic objects. (Russian) *Cybernetics and computer technology*, *No.* 20: *Discrete control systems* (*Russian*), *pp.* 22–27, 126. "*Naukova Dumka*", *Kiev*, 1973. (Stanislav K. Myškov) **48** #13370 93C10

(*with* Lyčak, M. M.) Synthesis of optimal and suboptimal discrete control systems by means of regulators with variable parameters using the Ljapunov functions. (Russian) *Discrete control systems* (*Russian*), *pp.* 3–14. *Akad. Nauk Ukrain. SSR Inst. Kibernet.*, *Kiev*, 1973. (See RŽMat **1974** #7 V343; MR **58** #4530) 93D05

The synthesis of optimal discrete servomechanism control systems. (Russian) *Cybernetics and computer technology*, *No.* 24: *Discrete control systems* (*Russian*), *pp.* 3–10, 123. *Izdat.* "*Naukova Dumka*", *Kiev*, 1974. (Vladímir Kučera) **53** #2453 93C05

(*with* Bakan, G. M.; Volodīn, V. P.; Dolja, V. I.) The optimal control of the basic production of a petroleum refinery. (Russian) *Cybernetics and computer technology*, *No.* 24: *Discrete control systems* (*Russian*), *pp.* 91–100, 125. *Izdat.* "*Naukova Dumka*", *Kiev*, 1974. (Editors) **52** #4975 90B30

(*with* Volosov, V. V.) Stability and dissipativity of a class of nonlinear pulsed control systems. *Avtomat. i Telemeh.* **1974**, *no.* 1, 50–61 (*Russian*); *translated as Automat. Remote Control* **35** (1974), *no.* 1, *part* 1, 43–53. **56** #15012 93D99

(*with* Lyčak, M. M.) Nonlinear transformations of variables in stability analysis of nonlinear discrete systems. *Avtomat. i Telemeh.* **1975**, *no.* 6, 73–78 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 6, *part* 1, 941–946. (Authors' summary) **56** #15003 93D99 (93C10, 93C55)

(*with* Lyčak, M. M.) Game problem of control and synthesis of suboptimal discrete control systems of a class of nonlinear plants. *Avtomat. i Telemeh.* **1975**, *no.* 11, 45–51 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 1, 1786–1791 (1976). (Authors' summary) **55** #10107 93C10

(*with* Adamenko, S. V.) The synthesis of suboptimal discrete servomechanism control systems in the presence of constant disturbances. (Russian) *Kibernet. i Vyčisl. Tehn. No.* 28 (1975), 3–13, 126. (Authors' summary) **58** #9594 93C55

(*with* Volosov, V. V.) On stability and dissipativity of one class of nonlinear sampled-data control systems. (French summary) *Transformations ponctuelles et leurs applications* (*Colloq. Internat. CNRS*, *No.* 229, *Toulouse*, 1973), *pp.* 445–461. *Éditions Centre Nat. Recherche Sci.*, *Paris*, 1976. (Author's summary) **58** #4540 93D05

(*with* Lyčak, M. M.) ★Синтез систем автоматического управления с помощью функций Ляпунова. (Russian) [Synthesis of automatic control systems with the aid of Ljapunov functions] Теоретические Основы Технической Кибернетики. [Series in Theoretical Foundations of Engineering Cybernetics] *Izdat.* "*Nauka*", *Moscow*, 1977. 400 *pp.* (Vadim Komkov) **58** #20716 93C99

(*with* Lyčak, M. M.) Synthesis of asymptotically stable discrete control systems by means of Ljapunov functions. (Russian) *Kibernet. i Vyčisl. Tehn. Vyp.* 38 (1977), 42–50, 113. (P. Brunovský) **58** #15508 93D05

(*with* Lyčak, M. M.) Synthesis of optimal nonlinear discrete control systems. (Russian) *Kibernet. i Vyčisl. Tehn. No.* 40 (1978), 18–26, 114. (Authors' summary) **58** #26354 93C55 (93C10)

See also **Cybernetics and computer technology**, **48** #1737; **Cybernetics encyclopedia**, **54** #9919; **Cybernetics encyclopedia**, **54** #9920; **Discrete control systems**, **58** #4530 *and* **Discrete control systems**, **58** #33336a

Kuncevskiĭ, P. G. (*with* Kononenko, G. N.; Voznjuk, L. F.) Hydrodynamical studie systems for extracting heat from the crust of the earth. (Russian) *Modelling of nonstationary processes* (*Russian*), *pp.* 103–109. *Izdanie Inst. Mat. Akad. Nauk Ukr SSR*, *Kiev*, 1977. (Vadim Komkov) **58** #20270 86.35

Kunde, Harald (*with* Heise, Werner) On the number of derangements of a sharply *k*- transitive set of permutations. *Aequationes Math.* **15** (1977), *no.* 1, 107–108. (S. B Morris) **57** #134 05A15

Kunder, R. Finding the nonnegative solutions of a linear Diophantine equation. (Russ Estonian and English summaries) *Tartu Riikl. Ül. Toimetised Vih.* 366 (1975), 234– (K. Szymiczek) **53** #272 10B05

Kundert, Esayas George On the algebra structure of the *s*-*d*-ring over $\mathbf{Z}_p$. I, II. (Ital summaries) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **51** (19 466–471 (1972); *ibid.* (8) **52** (1972), 1–5. (D. Kirby) **49** #2693 13B10

The inteal structure in the *s*-*d*-ring over the integers. *Rend. Mat.* (6) **4** (19 533–546. (D. Kirby) **47** #3366 13B10 (13F15)

Products of arbitrary inteals in the *s*-*d*-ring over the integers. *Ann. Mat. Pura A* (4) **98** (1974), 311–317. (Peter Blum) **49** #7249 13A15

Linear operators on certain completions of the *s*-*d*-ring over the integers. I. (Ital summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no* 271–276. (D. Kirby) **54** #5210a 13B10 (12H05)

Linear operators on certain completion of the *s*-*d*-rings over the integers. II. (Ital summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no* 487–493. (D. Kirby) **54** #5210b 13B10 (12H05)

Kundrát, Vojtěch (*with* Alda, Václav; Lokajíček, Miloš Václav) Exponential decay and irreversibility of decay and collision processes. (Czech summary) *Apl. Mat.* (1974), 307–315. (L. S. Schulman) **50** #12061 81.47

Kundt, Wolfgang Global theory of spacetime. *Proceedings of the Thirteenth Bienn Seminar of the Canadian Mathematical Congress* (*Dalhousie Univ.*, *Halifax*, *N.S.*, 197 *Vol.* 1, *pp.* 93–133. *Canad. Math. Congr.*, *Montreal*, *Que.*, 1972. (Editors) **58** #32787 83.53

(*with* Krotscheck, Eckhard) Causality criteria. *Comm. Math. Phys.* **60** (1978), *no.* 171–180. **58** #14878 83.34

See also **General relativity and cosmology**, **49** #8567

Kundu, M. C. (*with* Basu, N. K.) Polynomial approximation and the quadrature proble over a semi-infinite interval. (Czech summary) *Apl. Mat.* **20** (1975), 216–221. (Christopher T. H. Baker) **51** #7244 65D30

(*with* Basu, N. K.) Some methods of numerical integration over a semi-infin interval. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 4, 237–243. (Keast) **55** #11573 65D30

Approximate integration near a simple pole using Chebyshev points of the seco kind. *Bull. Math. Soc. Sci. Math. R. S. Roumanie* (*N.S.*) **21(69)** (1977), *no.* 3-4, 323–3 (L. Fox) **57** #14345 65D30

Kundu, N. K. On uniform symmetric derivatives. *Colloq. Math.* **24** (1971/72), 259–269. (M. Bruckner) **46** #1976 26A24

On approximate symmetric derivative. *Colloq. Math.* **28** (1973), 275–285. (A. M Bruckner) **48** #6333 26A24

Symmetric derivatives and approximate symmetric derivatives of continuous functions. *Rev. Roumaine Math. Pures Appl.* **18** (1973), 689–697. (A. M. Bruckne **47** #8780 26A24

Denjoy theorem for symmetric derivatives. *Rev. Roumaine Math. Pures Appl.* 1 (1973), 699–700. (A. M. Bruckner) **47** #8781 26A24

On some properties of symmetric derivatives. *Ann. Polon. Math.* **30** (1974), 9–1 (R. S. Booth) **49** #10828 26A24

On symmetric derivatives and on properties of Zahorski. *Czechoslovak Math.* **26(101)** (1976), *no.* 1, 154–160. (Peter Bullen) **53** #3221 26A24

Kundu, S. K. A note on restricted measurability in a lattice. *Indian J. Math.* **14** (1972 173–180. (H. F. J. Lowig) **51** #3392 28A60

On measures in a lattice. *Indian J. Mech. Math.* **10** (1972), 92–95. (Đ. Kurepa **50** #2443 28A60

Measures in a Boolean algebra with values in a lattice-ordered group. Collection c articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* 4 (1972), 301–310 (1974). (V. S. Krishnan) **52** #14230 28A55

Kundu, Sukhamay (*with* Lawler, Eugene L.) A matroid generalization of a theorem o Mendelsohn and Dulmage. *Discrete Math.* **4** (1973), 159–163. (D. J. A. Welsh) **47** #5 05B35

The *k*-factor conjecture is true. *Discrete Math.* **6** (1973), 367–376. (Moshe Rosenfeld) **49** #152 05C99

A graphical realization problem. *Graphs and combinatorics* (*Proc. Capital Conf. George Washington Univ.*, *Washington*, *D.C.*, 1973), *pp.* 314–318. *Lecture Notes in Math.*, *Vol.* 406, *Springer*, *Berlin*, 1974. (F. Harary) **50** #12820 05C99

A factorization theorem for a certain class of graphs. *Discrete Math.* **8** (1974) 41–47. (W. T. Tutte) **49** #139 05C35

Generalizations of the *k*-factor theorem. *Discrete Math.* **9** (1974), 173–179. (D. J Kleitman) **49** #10605 05C99

Bounds on the number of disjoint spanning trees. *J. Combinatorial Theory Ser. B* **1** (1974), 199–203. (J. Sedláček) **51** #5353 05C05

Disjoint representation of tree realizable sequences. *SIAM J. Appl. Math.* **26** (1974) 103–107. (L. W. Beineke) **51** #10138 05C05

Existence of graphs with three spanning trees and given degree sequence. *SIAM J Comput.* 3 (1974), 296–298. (D. J. Kleitman) **57** #5823 05C35

Disjoint representation of three tree realizable sequences. I. *SIAM J. Appl. Math.* **28** (1975), 290–302. (D. J. Kleitman) **54** #2504 05C05

A linear algorithm for the Hamiltonian completion number of a tree. *Information Processing Lett.* **5** (1976), *no.* 2, 55–57. (Guy Chaty) **55** #10320 05C35 (68A10)

(*with* Sampathkumar, E.; Bhave, V. N.) Reconstruction of a tree from its homomorphic images and other related transforms. *J. Combinatorial Theory Ser. B* **20** (1976), *no.* 2, 117–123. (B. Manvel) **54** #5025 05C05

Sorting tree, nestling tree and inverse permutation. *Information Processing Lett.* **6** (1977), *no.* 3, 94–96. (Itsuo Takanami) **56** #4221 68A05

The Chartrand-Schuster conjecture: graphs with unique distance trees are regular. *J. Combinatorial Theory Ser. B* **22** (1977), *no.* 3, 233–245. (Seymour Schuster) **57** #12276 05C05 (05C10)

(*with* Misra, Jayadev) A linear tree partitioning algorithm. *SIAM J. Comput.* **6** (1977), *no.* 1, 151–154. (Stephen Soule) **55** #6935 68A10

Kuneikaitė, B. I. Solution of an ill-posed problem for a linear equation with an unbounded symmetric linear operator in Hilbert space. (Russian. Lithuanian and German summaries) *Litovsk. Mat. Sb.* **11** (1971), 275–279. (S.-F. Sburlan) **45** #2506 47A50 (65J05)

Kunen, Kenneth (*with* Barwise, K. Jon) Hanf numbers for fragments of $L_{\infty\omega}$. *Israel J. Math* **10** (1971), 306–320. (M. Makkai) **47** #4758 02B25

Elementary embeddings and infinitary combinatorics. *J. Symbolic Logic* **36** (1971), 407–413. (James D. Halpern) **47** #40 02K35 (04A20)

(*with* Prikry, Karel) On descendingly incomplete ultrafilters. *J. Symbolic Logic* **36** (1971), 650–652. (A. Máté) **46** #1585 02J05 (02K35)

Ultrafilters and independent sets. *Trans. Amer. Math. Soc.* **172** (1972), 299–306. (U. Felgner) **47** #3170 02J05 (02H13)

A model for the negation of the axiom of choice. *Cambridge Summer School in Mathematical Logic* (*Cambridge*, 1971), *pp.* 489–494. *Lecture Notes in Math. Vol.* 337, *Springer, Berlin*, 1973. (John K. Truss) **49** #2372 02K05 (02K35)

(*with* Juhász, István) On the weight of Hausdorff spaces. *General Topology and Appl.* **3** (1973), 47–49. (E. P. Rozycki) **48** #1137 54A25

Some comments on box products. *Infinite and finite sets* (*Colloq., Keszthely*, 1973; *dedicated to P. Erdős on his 60th birthday*), *Vol. II, pp.* 1011–1016. *Colloq. Math. Soc. János Bolyai, Vol.* 10, *North-Holland, Amsterdam*, 1975. (Mary Powderly) **52** #15339 54B10 (54A25, 04A15)

(*with* Juhász, István; Rudin, Mary Ellen) Two more hereditarily separable non-Lindelöf spaces. *Canad. J. Math.* **28** (1976), *no.* 5, 998–1005. (R. Hodel) **55** #1270 54A25 (54D15)

Some points in βN. *Math. Proc. Cambridge Philos. Soc.* **80** (1976), *no.* 3, 385–398. (W. W. Comfort) **55** #106 04A15 (54G05, 54D35, 54A25, 02K05)

Strong S and L spaces under MA. *Set-theoretic topology* (*Papers, Inst. Medicine and Math., Ohio Univ., Athens, Ohio*, 1975-1976), *pp.* 265–268. *Academic Press, New York*, 1977. (Eric K. van Douwen) **55** #13362 54A25 (54D20, 02K05)

Luzin spaces. *Topology Proceedings, Vol. I* (*Conf., Auburn Univ., Auburn, Ala.*, 1976), *pp.* 191–199. *Math. Dept., Auburn Univ., Auburn, Ala.*, 1977. (Eric K. van Douwen) **56** #8362 02K05 (54G99, 02K25)

(*with* Roitman, Judith) Attaining the spread at cardinals of cofinality ω. *Pacific J. Math.* **70** (1977), *no.* 1, 199–205. (Thomas J. Jech) **57** #2914 02K30

Paracompactness of box products of compact spaces. *Trans. Amer. Math. Soc.* **240** (1978), 307–316. (C. J. Knight) **58** #24165 54B10 (02K25, 54D20)

See also **Handbook: Mathematical logic**, **56** #15351 *and* **Handbook: Mathematical logic**, **58** #27475

Kunert, Rainer (*with* Gackstatter, Fritz) Konstruktion vollständiger Minimalflächen von endlicher Gesamtkrümmung. *Arch. Rational Mech. Anal.* **65** (1977), *no.* 3, 289–297. (R. N. Abdulaev) **56** #6573 53C45 (49F10)

Kunes, Laurence E. (*with* de Korvin, André) Some non-weak integrals defined by linear functionals. *Quart. J. Math. Oxford Ser.* (2) **24** (1973), 289–299. (Neil E. Gretsky) **50** #13435 28A45 (46G10)

(*with* Alò, Richard A.; de Korvin, André) Topological aspects of q-regular measures. *Studia Math.* **48** (1973), 49–60. (L. Ja. Savel′ev) **49** #515 28A45 (46E40)

(*with* Alò, Richard A.; de Korvin, André) Topologies generated by some vector measures. *Topics in topology* (*Proc. Colloq., Keszthely*, 1972), *pp.* 41–52. *Colloq. Math. Soc. János Bolyai, Vol.* 8, *North-Holland, Amsterdam*, 1974. (L. Ja. Savl′ev) **50** #13431 28A45

Kung, C. F. (*with* O'Malley, Robert E., Jr.) On the matrix Riccati approach to a singularly perturbed regulator problem. *J. Differential Equations* **16** (1974), *no.* 3, 413–427. (Mark D. Ardema) **54** #8405 49D99 (34E15)

(*with* O'Malley, Robert E., Jr.) The singularly perturbed linear state regulator problem. II. *SIAM J. Control* **13** (1975), 327–337. (E. O. Roxin) **52** #8603 34H05

Singular perturbation of an infinite interval linear state regulator problem in optimal control. *J. Math. Anal. Appl.* **55** (1976), *no.* 2, 365–374. (Mark D. Ardema) **54** #4767 93C45 (49–XX)

Kung, George C. T. Oscillation and nonoscillation of differential equations with a time lag. *SIAM J. Appl. Math.* **21** (1971), 207–213. (H. C. Howard) **46** #9489 34K15

A comparison theorem and applications. *Delay and functional differential equations and their applications* (*Proc. Conf., Park City, Utah*, 1972), *pp.* 353–354. *Academic Press, New York*, 1972. (Stanley B. Eliason) **52** #6144 34K15

Küng, Guido Prologue-functors. With discussion. *Problems in logic and ontology* (*Colloq., Inst. Wissenschaftstheorie, Salzburg*, 1973), *pp.* 75–88, 260–266. *Akademische Druck- und Verlagsanstalt, Graz*, 1977. (David W. Miller) **58** #27236 02A05

The meaning of the quantifiers in the logic of Leśniewski. On Leśniewski's systems (Proc. XXII Conf. Hist. Logic, Kraków, 1976). *Studia Logica* **36** (1977/78), *no.* 4, 309–322. (F. G. Asenjo) **58** #10339 02C99

Kung, H. T. The computational complexity of algebraic numbers. *Fifth Annual ACM Symposium on Theory of Computing* (*Austin, Tex.*, 1973), *pp.* 152–159. *Assoc. Comput. Mach., New York*, 1973. (I. Gerst) **54** #9152 68A20 (12A99, 10F25)

A new upper bound on the complexity of derivative evaluation. *Information Processing Lett.* **2** (1973), 146–147. (Jean-Pierré Duport) **49** #11855 68A10

A bound on the multiplicative efficiency of iteration. Fourth Annual ACM Symposium on the Theory of Computing (Denver, Colo., 1972). *J. Comput. System Sci.* **7** (1973), 334–342. (J. E. Dennis, Jr.) **48** #5417 68A20

On the computational complexity of finding the maxima of a set of vectors. *15th Annual Symposium on Switching and Automata Theory* (1974), *pp.* 117–121. *IEEE Comput. Soc., Long Beach, Calif.*, 1974. (George I. Davida) **54** #6553 68A20

(*with* Traub, J. F.) Computational complexity of one-point and multi-point iteration. *Complexity of computation* (*Proc. Sympos., New York*, 1973), *pp.* 149–160. *SIAM-AMS Proc., Vol. VII, Amer. Math. Soc., Providence, R.I.*, 1974. (James Howland) **51** #2345 68A20

New algorithms and lower bounds for the parallel evaluation of certain rational expressions. *Sixth Annual ACM Symposium on Theory of Computing* (*Seattle, Wash.*, 1974), *pp.* 323–333. *Assoc. Comput. Mach., New York*, 1974. (Claude Benzaken) **56** #10124 68A10

(*with* Traub, J. F.) Optimal order of one-point and multipoint iteration. *J. Assoc. Comput. Mach.* **21** (1974), 643–651. (Ian Gladwell) **50** #6140 65H05

On computing reciprocals of power series. *Numer. Math.* **22** (1974), 341–348. (J. E. Dennis, Jr.) **50** #3536 65D20

Complexity of numerical computation. *International Computing Symposium* (*Antibes*, 1975), *pp.* 247–252. *North-Holland, Amsterdam*, 1975. (Author's summary) **57** #4622 68A20

(*with* Hyafil, Laurent) The complexity of parallel evaluation of linear recurrence. *Seventh Annual ACM Symposium on Theory of Computing* (*Albuquerque, N. M.*, 1975), *pp.* 12–22. *Assoc. Comput. Mach., New York*, 1975. (Jo Ann Howell) **55** #4775 68A20 (68A10)

(*with* Hyafil, Laurent) Bounds on the speed-ups of parallel evaluation of recurrences. *2nd USA-Japan Computer Conference Proceedings* (*Tokyo*, 1975), *pp.* 178–182. *AFIPS Press, Montvale, N.J.*, 1975. (Ahmed H. Sameh) **57** #14598 68A20 (68A10)

(*with* Luccio, Fabrizio; Preparata, Franco P.) On finding the maxima of a set of vectors. *J. Assoc. Comput. Mach.* **22** (1975), *no.* 4, 469–476. (Robert Wagner) **52** #2276 68A10 (68A20)

The computational complexity of algebraic numbers. *SIAM J. Numer. Anal.* **12** (1975), 89–96. (Claude Benzaken) **50** #15433 68A20

Synchronized and asynchronous parallel algorithms for multiprocessors. *Algorithms and complexity* (*Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1976), *pp.* 153–200. *Academic Press, New York*, 1976. (Richard A. DeMillo) **58** #19331 68A10

The complexity of obtaining starting points for solving operator equations by Newton's method. *Analytic computational complexity* (*Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1975), *pp.* 35–57. *Academic Press, New York*, 1976. (From the summary) **58** #3411 65J05 (68A20)

(*with* Brent, Richard P.) $O((n \log n)^{3/2})$ algorithms for composition and reversion of power series. *Analytic computational complexity* (*Proc. Sympos., Carnegie-Mellon Univ., Pittsburgh, Pa.*, 1975), *pp.* 217–225. *Academic Press, New York*, 1976. (David Dobkin) **55** #1699 65B99 (68A20)

(*with* Thompson, C. D.) Sorting on a mesh-connected parallel computer. *Eighth Annual ACM Symposium on Theory of Computing* (*Hershey, Pa.*, 1976), *pp.* 58–64. *Assoc. Comput. Mach., New York*, 1976. (Jozef Mikloško) **55** #11692 68A10

New algorithms and lower bounds for the parallel evaluation of certain rational expressions and recurrences. *J. Assoc. Comput. Mach.* **23** (1976), *no.* 2, 252–261. (Ian Munro) **53** #2021 68A20 (12–04)

(*with* Traub, J. F.) Optimal order and efficiency for iterations with two evaluations. *SIAM J. Numer. Anal.* **13** (1976), *no.* 1, 84–99. (R. P. Brent) **54** #1583 65H05 (68A20)

(*with* Song, S. W.) An efficient parallel garbage collection system and its correctness proof. *18th Annual Symposium on Foundations of Computer Science* (*Providence, R.I.*, 1977), *pp.* 120–131. *IEEE Comput. Sci., Long Beach, Calif.*, 1977. (R. K. Shyamasundar) **58** #13859 68A05 (68A10)

(*with* Thompson, C. D.) Sorting on a mesh-connected parallel computer. *Comm. ACM* **20** (1977), *no.* 4, 263–271. (Jo Ann Howell) **55** #11693 68A10 (68A20)

(*with* Hyafil, Laurent) The complexity of parallel evaluation of linear recurrences. *J. Assoc. Comput. Mach.* **24** (1977), *no.* 3, 513–521. (Jo Ann Howell) **55** #11705 68A20

(*with* Tong, D. M.) Fast algorithms for partial fraction decomposition. *SIAM J. Comput.* **6** (1977), *no.* 3, 582–593. (R. P. Brent) **58** #13919 68A20 (68A10)

(*with* Brent, Richard P.) Fast algorithms for manipulating formal power series. *J. Assoc. Comput. Mach.* **25** (1978), *no.* 4, 581–595. (David Dobkin) **58** #25090 68A10

See also **Proceedings: Annual ACM Symposium on the Theory of Computing**, **50** #1553

Kung, Joan Aristotle on essence and explanation. *Philos. Studies* **31** (1977), *no.* 6, 361–383. (From the introduction) **58** #21398 02A05

Kung, Joseph P. S. The core extraction axiom for combinatorial geometries. *Discrete Math.* **19** (1977), *no.* 2, 167–175. (Thomas Brylawski) **58** #5283 05B25

(*with* Désarménien, J.; Rota, Gian-Carlo) Invariant theory, Young bitableaux, and combinatorics. *Advances in Math.* **27** (1978), *no.* 1, 63–92. (A.-A. A. Jucys) **58** #5737 15A72 (14M15)

The alpha function of a matroid. I. Transversal matroids. *Studies in Appl. Math.* **58** (1978), *no.* 3, 263–275. (R. A. Brualdi) **58** #10531 05B35

Kung, S. Y. (*with* Kailath, Thomas; Morf, Martin) A generalized resultant matrix for polynomial matrices. *Proceedings of the IEEE Conference on Decision and Control and the 15th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 892–895. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #17960 93B15

(*with* Lévy, Bernard C.; Morf, Martin; Kailath, Thomas) A unification of system equivalence definitions. *Proceedings of the* 1977 *IEEE Conference on Decision and Control* (*New Orleans, La.*, 1977), *Vol.* 1, *pp.* 795–800. *Inst. Electrical Electron. Engrs., New York*, 1977. (Authors' summary) **58** #20645 93A05

Kuni, F. M. (*with* Novožilova, T. Ju.; Adžemjan, L. C.) Mori's memory function formalism in nonlinear statistical hydrodynamics. *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **19** (1973), 375–386 (1974). (R. Kubo) **50** #9162 76.60

(*with* Adžemjan, L. C.; Novožilova, T. Ju.) A nonlinear generalization of Mori's method of projection operators. (Russian. English summary) *Teoret. Mat. Fiz.* **18** (1974), 383–392. (Authors' summary) **57** #8773 82.47

(*with* Adžemjan, L. C.; Novožilova, T. Ju.) The method of the Bogoljubov kinetic equation in nonlinear statistical hydrodynamics. (Russian. English summary) *Teoret. Mat. Fiz.* **19** (1974), 125–136. (Authors' summary) **57** #8774 82.47

Statistical theory of viscoelastic properties of fluids. (Russian. English summary) *Teoret. Mat. Fiz.* **21** (1974), *no.* 2, 233–246. (Author's summary) **57** #14904 76.60 (73.60)

(*with* Novožilova, T. Ju.; Adžemjan, L. C.) A statistical hydrodynamics that is nonlinear and nonlocal in time and space. (Russian. English summary) *Vestnik Leningrad. Univ. No. 10 Fiz. Him. Vyp.* 2 (1974), 14–19, 154. (Authors' summary)

57 #11569 82.62

Functional methods in asymptotic problems of statistical physics. (Russian) *Problems of theoretical physics, II, Theory of the atom. Functional methods in quantum field theory and statistical physics. Mathematical physics, pp.* 72–88, 181–182. *Izdat. Leningrad. Univ., Leningrad,* 1975. (V. A. Malyšev) **56** #14449 82.46

(*with* Adžemjan, L. C.) Noncumulant projection and exclusion of time derivatives from the nonequilibrium distribution function. (Russian. English summary) *Teoret. Mat. Fiz.* **24** (1975), *no.* 3, 368–381. (Authors' summary) **58** #14319 76.47

Kunica, V. A. The remainder term of a trigonometric interpolation formula for equidistant nodes in spectral form. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1970**, *no.* 5, 62–71. (G. Maess) **45** #2884 65D05 (42A12)

The mean quadratic deviation of a trigonometric interpolation polynomial from interpolating functions in the case of equidistant nodes. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1970**, *no.* 6, 113–121. (H. Weber) **45** #7367 42A12 (65D05)

Remainder terms of Newton-Cotes formulas in spectral form. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 6, 112–120. (J. Kofroň) **48** #1437 65D30

Spectral-analytic analysis of the estimates of correlation functions with account taken of their linear filtering and discretization. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1974**, *no.* 3, 52–62. (M. A. Mirzahmedov) **53** #10462 94A05

Kunicyn, A. L. Stability in the critical case of three pairs of pure imaginary roots in the presence of internal resonance. *Prikl. Mat. Meh.* **35** (1971), 164–167 (*Russian*); *translated as J. Appl. Math. Mech.* **35** (1971), 132–135. (C. Carton-Lebrun) **46** #467 34D99

On the stability of Laplace's solutions of the unrestricted three body problem. *Celestial Mech.* **9** (1974), 471–481. (Robert Faure) **54** #9207 70.34

On the problem of the stability of Lagrange's solutions of the unrestricted three-body problem. (Russian) *Problems in analytical mechanics, stability and control theories* (*Second Četaev Conf., Kazan,* 1973) (*Russian*), *pp.* 175–179, 339. *Izdat. "Nauka", Moscow,* 1975. (B. D. Jovanović) **58** #14057 70.34

On the stability of periodic motions under resonance. *Prikl. Mat. Meh.* **39** (1975), *no.* 1, 36–44 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 1, 31–38. (A. C. Garibaldi) **53** #3427 34C25

(*with* Gol′cer, Ja. M.) On stability of autonomous systems with internal resonance. *Prikl. Mat. Meh.* **39** (1975), *no.* 6, 974–984 (*Russian*); *translated as J. Appl. Math. Mech.* **39** (1975), *no.* 6, 939–948 (1976). (Authors' summary) **57** #8243 70.34 (34D20)

(*with* Krasil′nikov, P. S.) On the stabilization of the collinear libration points of the restricted circular three-body problem. *Celestial Mech.* **15** (1977), *no.* 1, 41–51. (Manfred Andrié) **57** #8248 70.34

(*with* Medvedev, S. V.) On stability in the presence of several resonances. *Prikl. Mat. Meh.* **41** (1977), *no.* 3, 422–429 (*Russian*); *translated as J. Appl. Math. Mech.* **41** (1977), *no.* 3, 419–426 (1978). (W. Skrapek) **58** #1424 34D20

See also **Kamenkov, G. V., 57** #9445

Kunike, M. (*with* Demkov, Ju. N.) Hypergeometric models for the two state approximation in collision theory. (Russian. English summary) *Vestnik Leningrad. Univ.* **24** (1969), *no.* 16, 39–45. (D. Judge) **46** #10318 81.34

Kunin, I. A. ★Теория упругих сред с микроструктурой: нелокальная теория упругости. (Russian) [Theory of elastic media with microstructure: a nonlocal theory of elasticity] *Izdat. "Nauka", Moscow,* 1975. 415 *pp.* (E. Goldhagen) **54** #14508 73.35

Kuņins, P. J. (*with* Zapol′, B. P.; Taksars, I. M.) The method of the effective potential for the calculation of quantum systems. II. Nonrelativistic wave functions and eigenvalues. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1971**, *no.* 6, 20–25. (Z. Janković) **45** #8168 81.34 (33A60)

(*with* Zapol′, B. P.; Taksars, I. M.; Fabrikant, I. I.) The method of the effective potential for the calculation of quantum systems. III. Relativistic wave functions and eigenvalues. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1972**, *no.* 1, 3–12. (Z. Janković) **46** #3019 81.35

Kunio, T. *See* **Applied mechanics, 50** #11914

Kunisawa, K. *See* **Advances in information theory, 58** #33483

Kunisch, Karl Neutrale Funktional-Differentialgleichungen und Halbgruppentheorie. Dissertation, Universität Graz, Graz, 1977. *Ber. Math.-Statist. Sekt. Forsch. Graz No.* 81 (1977), 101 *pp.* (Zbl **371** #34045) **58** #28986 34K05 (47D05)

Kunita, Hiroshi Asymptotic behavior of the nonlinear filtering errors of Markov processes. *J. Multivariate Anal.* **1** (1971), 365–393. (Author's summary) **46** #967 60J99

(*with* Fujisaki, Masatoshi; Kallianpur, G.) Stochastic differential equations for the non linear filtering problem. *Osaka J. Math.* **9** (1972), 19–40. (L. I. Galčuk) **49** #1574 60G35 (93E10)

(*with* Ichihara, Kanji) A classification of the second order degenerate elliptic operators and its probabilistic characterization. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **30** (1974), 235–254. (D. W. Stroock) **52** #1904 (E **58** #7877) 60J35 (35J15, 60J60)

Absolute continuity of Markov processes. *Séminaire de Probabilités, X* (*Première partie, Univ. Strasbourg, Strasbourg, année universitaire* 1974/1975), *pp.* 44–77. *Lecture Notes in Math., Vol.* 511, *Springer, Berlin,* 1976. (S. Orey) **55** #11400 60J40

(*with* Ichihara, Kanji) Supplements and corrections to the paper: "A classification of the second order degenerate elliptic operators and its probabilistic characterization" (Z. Wahrscheinlichkeitstheorie und Verw. Gebiete **30** (1974), 235–254). *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **39** (1977), *no.* 1, 81–84. (Erik Jørgensen) **58** #7877 60J60

Kunitsugu, Taro On a trace mapping for the space $H^M(R^n)$. *Bull. Fukuoka Univ. Ed. III* **20** (1970), 19–30. (M. Itano) **46** #6013 46E35 (46F10)

Kunitsyn, A. L. *See* **Kunicyn, A. L.**

Kunitzsch, Paul New light on al-Battānī's Zīj. *Centaurus* **18** (1973/74), 270–274. **58** #26790 01A30

See also **Abū l-Futūḥ Aḥmad ibn Muḥammad ibn as-Sarī, 58** #26786

Kunjavskiĭ, B. È. Tori with a biquadratic splitting field. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **42** (1978), *no.* 3, 580–587. (V. L. Popov) **58** #16515 10C30 (12A35, 14G05)

Kunjavskiĭ, M. S. (*with* Zareckiĭ, M. V.; Jasniskiĭ, Ju. M.) A production efficiency test in economic equilibrium models. (Russian) *Èkonom. i Mat. Metody* **10** (1974), *no.* 1003–1006. (RŽMat **1975** #1 V813) **57** #9035 90B30

Kun Kuti, Márton The applications of the determinant K_n. (Hungarian. German summar *Mat. Lapok* **23** (1972), 337–348 (1974). (Agneta Vescan) **51** #540 15A15

Kunle, H. *See* **Fundamentals of mathematics, 49** #8787 *and* **Grundzüge der Mathema** **49** #8789

Künneth, Hermann (*with* Haupt, Otto) Über sogenannte entartete Mengen bei Juelsch Problemen in der Ebene. *Manuscripta Math.* **3** (1970), 391–412. (G. Ewald) **45** #76 53C70 (52A40)

(*with* Haupt, Otto) Ordnungstreue Erweiterung ebener Bogen und Kurven v schwachen Ordnungswert Drei. *Akad. Wiss. Lit. Mainz Abh. Math.-Natur. Kl.* **1972**, 4, 37 *pp.* (H. Salzmann) **47** #9508 53C75

(*with* Haupt, Otto) Über einen 2*n*-Scheitelsatz. *Bayer. Akad. Wiss. Math.-Nat Kl. S.-B.* **1974**, 59–72 (1975). (P. Scherk) **52** #15327a 53C75

(*with* Haupt, Otto) Über den 2*n*-Scheitelsatz von Herrn S. B. Jackson. *Bay Akad. Wiss. Math.-Natur. Kl. S.-B.* **1974**, 145–166 (1975). (P. Scherk) **52** #15327b 53C75

(*with* Haupt, Otto) Bestimmung der Bogen dritter Ordnung, insbesondere ordnungstreu erweiterbaren, in topologisch projektiven Ebenen. *J. Reine Angew. Ma* **274/275** (1975), 391–406. (H. Salzmann) **51** #13960 53C75

See also **Haupt, Otto, 54** #7177

Kunofsky, Judith Holomorphic versions of the Fabrey-Glimm representations of the canonical commutation relations. *Comm. Math. Phys.* **43** (1975), 17–32. (J. Glim **51** #9695 81.46

Kunreuther, Howard C. (*with* Morton, Thomas E.) Planning horizons for producti smoothing with deterministic demands. I. All demand met from regular productio *Management Sci.* **20** (1973/74), 110–125. (I. Gh. Ciobanu) **49** #8630 90B30

(*with* Blackburn, Joseph D.) Planning horizons for the dynamic lot size model wi backlogging. *Management Sci.* **21** (1974/75), *no.* 3, 251–255. (Authors' summar **55** #12025 90B30

Kunstatter, G. (*with* Moffat, J. W.) Maximal extension of a nonsingular solution in generalized theory of gravitation. *Phys. Rev. D* (3) **17** (1978), *no.* 2, 396–403. (Author summary) **57** #2435 83.53

Kunte, Sudhakar (*with* Gleser, Leon Jay) On asymptotically optimal sequential Bay interval estimation procedures. *Ann. Statist.* **4** (1976), *no.* 4, 685–711. (Jerrold Forbe **54** #14267 62L12

The multinomial distribution, Dirichlet integrals and Bose-Einstein statistics. *Sankhyā Ser. A* **39** (1977), *no.* 3, 305–308. (Bernard Harris) **58** #2968 60E05 (60C05)

Kuntsevich, I. M. *See* **Kuncevič, I. M.**

Kuntsevich, V. M. *See* **Kuncevič, V. M.**

Kuntz, Amy J. Groups of transformations without finite invariant measures have stron generators of size 2^1. *Ann. Probability* **2** (1974), 143–146. (M. M. Rao) **50** #7481 28A65

Kuntz, Richard A. Associated prime divisors in the sense of Krull. *Canad. J. Math.* **2** (1972), 808–818. (J. L. Mott) **47** #1788 13A15

Associated prime divisors in the sense of Noether. *Bol. Soc. Mat. Mexicana* (2) **1** (1973), 82–88. (J. L. Mott) **51** #3134 13A15

Kuntzmann, Jean ★Systeme von Differentialgleichungen. Übersetzung aus dem Französischen von F. Cap. Wissenschaftliche Taschenbücher, Band 71. *Akademie-Verlag, Berlin; Pergamon Press, Oxford; Vieweg + Sohn, Braunschweig,* 197 208 *pp.* (Editors) **50** #2583 34–01

Sur les idempotents d'un monoïde. *Bull. Math. Soc. Sci. Math. R. S. Roumani* (*N.S.*) **14(62)** (1970), 181–188 (1971). (M. Gould) **48** #458 20M99

★Unendliche Reihen. Übersetzung aus dem Frazösischen von F. Cap. Wissenschaftliche Taschenbücher, Band 69. *Akademie-Verlag, Berlin; Pergamon Press Oxford; Vieweg + Sohn, Braunschweig,* 1971. 212 *pp.* (Editors) **50** #3680 69.00

★Théorie des réseaux (graphes). *Dunod, Paris,* 1972. xxiv + 288 *pp.* (Hervé Raynaud) **52** #2965 05C99 (94A20)

★Apport de l'informatique à l'enseignement mathématique. Collection Formatio des Maitres en Mathematique. *CEDIC, Paris,* 1974. 293 *pp.* (Author's review) **57** #11984 00A05 (94–01)

See also **Kaufmann, A.; et al., 56** #17190a *and* **Kaufmann, A.; et al., 56** #17190b

Kunugi, Shinichi The existence theorems of fixed points of partially contractive mappings in metric spaces. *Bull. Fac. Ed. Utsunomiya Univ. Sect.* 2 *No.* 24 (1974), 7–14. (L. F Guseman, Jr.) **53** #14462 54H25

Kunysz, Kornel Discrete Walsh transformation applied to the analysis of random sequences. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **17** (1972), 31–37. (A. I. Ponomarenko) **46** #4665 62M99

Kunz, Ernst Beispiel: Die kanonische Idealklasse eines eindimensionalen Cohen-Macaulay-Rings. *Der kanonische Modul eines Cohen-Macaulay-Rings* (*Sem. Lokale Kohomologietheorie von Grothendieck, Univ. Regensburg, Regensburg,* 1970/1971), *pp.* 17–24, 103. *Lecture Notes in Math., Vol.* 238, *Springer, Berlin,* 1971. (J. S. Joel) **57** #16285 13H10

Komplementärmodul und kanonischer Modul. *Der kanonische Modul eines Cohen-Macaulay-Rings* (*Sem. Lokale Kohomologietheorie von Grothendieck, Univ. Regensburg, Regensburg,* 1970/1971), *pp.* 85–102, 103. *Lecture Notes in Math., Vol.* 238, *Springer, Berlin,* 1971. (J. S. Joel) **57** #16276 13C05

(*with* Herzog, Jürgen) Die Wertehalbgruppe eines lokalen Rings der Dimension 1. *S.-B. Heidelberger Akad. Wiss. Math. Natur. Kl.* **1971**, 27–67. (W. Heinzer) **45** #243 13A15

(*with* Herzog, Jürgen) On the deviation and the type of a Cohen-Macaulay ring. *Manuscripta Math.* **9** (1973), 383–388. (Melvin Hochster) **48** #8493 13H10

Almost complete intersections are not Gorenstein rings. *J. Algebra* **28** (1974), 111–115. (H. S. Butts) **48** #8496 13H10

Holomorphe Differentialformen auf algebraischen Varietäten mit Singularitäten. I. (English summary) *Manuscripta Math.* **15** (1975), 91–108. (Manfred Herrmann) **52** #5674 14F10

★Ebene Geometrie. Axiomatische Begründung der euklidischen und nichteuklidischen Geometrie. Mathematik Grundkurs. *Rowohlt Taschenbuch Verlag*

GmbH, Reinbek bei Hamburg; *Verlag Vieweg, Braunschweig*, 1976. viii + 147 *pp*. (Libuše Marková) **57** #13656 50–01 (50A05)

On Noetherian rings of characteristic *p*. *Amer. J. Math.* **98** (1976), *no.* 4, 999–1013. (Hamet Seydi) **55** #5612 13E05 (14E15)

(*with* Muschik, W.; Brunk, G.) Zusammenhang der Dissipationsungleichungen von Clausius-Duhem und Keller-Meixner mit der Relaxationstheorie. Vorträge der Wissenschaftlichen Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik (Göttingen, 1975). *Z. Angew. Math. Mech.* **56** (1976), *no.* 3, T134–T136. (H. Parkus) **53** #12236 80.49

(*with* Ruppert, Walter) Quasihomogene Singularitäten algebraischer Kurven. (English summary) *Manuscripta Math.* **22** (1977), *no.* 1, 47–61. (R. F. Lax) **57** #3138 14H20

Residuen von Differentialformen auf Cohen-Macaulay-Varietäten. *Math. Z.* **152** (1977), *no.* 2, 165–189. (Richard Draper) **58** #676 14F10 (14B15, 14M05)

See also **Der kanonische Modul eines Cohen-Macaulay-Rings**, **54** #304

Kunz, Hervé (*with* Gruber, Christian) General properties of polymer systems. *Comm. Math. Phys.* **22** (1971), 133–161. (H. S. Green) **47** #10006 82.62

(*with* Brascamp, Herm Jan) Analyticity properties of the Ising model in the antiferromagnetic phase. *Comm. Math. Phys.* **32** (1973), 93–106. (C. A. Hurst) **49** #6855 82.45

The one-dimensional classical electron gas. *Ann. Physics* **85** (1974), 303–335. (Paul F. Zweifel) **54** #14679 82.47

(*with* Pfister, Charles) First order phase transition in the plane rotator ferromagnetic model in two dimensions. *Comm. Math. Phys.* **46** (1976), *no.* 3, 245–251. (Nicolae Angelescu) **55** #9787 82.47

(*with* Pfister, Charles; Vuillermot, Pierre-A.) Inequalities for some classical spin vector models. *J. Phys. A* **9** (1976), *no.* 10, 1673–1683. (Derek W. Robinson) **57** #8791 82.47

(*with* Abraham, Douglas B.) Ornstein-Zernike theory of classical fluids at low density. *Phys. Rev. Lett.* **39** (1977), *no.* 16, 1011–1014. (Authors' summary) **56** #10397 76.45

Analyticity and clustering properties of unbounded spin systems. *Comm. Math. Phys.* **59** (1978), *no.* 1, 53–69. (J. Fritz) **57** #18681 82.60

(*with* Souillard, Bernard) Essential singularity in percolation problems and asymptotic behavior of cluster size distribution. *J. Statist. Phys.* **19** (1978), *no.* 1, 77–106. (Authors' summary) **58** #14852 82.60

Kunz, K. S. Application of an algebraic technique to the solution of Laplace's equation in three dimensions. *SIAM J. Appl. Math.* **21** (1971), 425–441. (Kenneth O. Leland) **47** #615 35C10 (35J05, 46J99)

Kunze, Jürgen Versuch eines objektivierten Grammatikmodells. I, II. *Z. Phonetik Sprachwiss. Kommunikat.* **20** (1967), 415–448; *ibid.* **21** (1968), 421–466. (M. Novotný) **58** #32103a 68A30

Some new achievements in algebraic linguistics. (Bulgarian) *Fiz.-Mat. Spis. B″lgar. Akad. Nauk.* **13(46)** (1970), 47–50. (Editors) **58** #32104 68A30

(*with* Priess, Walter) Versuch eines objektivierten Grammatikmodells. III. *Z. Phonetik Sprachwiss. Kommunikat.* **23** (1970), 347–378. (M. Novotný) **58** #32103b 68A30

See also **Algebraische Theorie abstrakter Automaten, formaler Sprachen und Halbgruppen**, **49** #10487

Kunze, Ray A. Lectures on intertwining operators and uniformly bounded representations. *Summer School on Representations of Lie Groups* (*Namur*, 1969), *pp.* 241–282. *Math. Dept., Univ of Brussels, Brussels*, 1969. (Editors) **57** #539 22E45

Seminar: Induced representations without quasi invariant measures. *Summer School on Representations of Lie Groups* (*Namur*, 1969), *pp.* 283–289. *Math. Dept., Univ. of Brussels, Brussels*, 1969. (Jonathan M. Rosenberg) **57** #9904 22D30 (28A70, 43A05)

(*with* Gross, Kenneth I.) Fourier Bessel transforms and holomorphic discrete series. *Conference on Harmonic Analysis* (*Univ. Maryland, College Park, Md.*, 1971), *pp.* 79–122. *Lecture Notes in Math., Vol.* 266, *Springer, Berlin*, 1972. (Authors' introduction) **58** #6075 22E45

(*with* Gross, Kenneth I.) Fourier decompositions of certain representations. *Symmetric spaces* (*Short Courses, Washington Univ., St. Louis, Mo.*, 1969–1970), *pp.* 119–139. *Pure and Appl. Math., Vol.* 8, *Dekker, New York*, 1972. (J. Gil del Lamadrid) **55** #572 22E45

(*with* Gross, Kenneth I.) Generalized Bessel transforms and unitary representations. *Harmonic analysis on homogeneous spaces* (*Proc. Sympos. Pure Math., Vol. XXVI, Williams Coll., Williamstown, Mass.*, 1972), *pp.* 347–350. *Amer. Math. Soc., Providence, R.I.*, 1973. (C. Teleman) **49** #9120 22E45 (33A75)

(*with* Stein, Elias M.) Uniformly bounded representations. IV. Analytic continuation of the principle series for complex classical groups of types B_n, C_n, D_n. *Advances in Math.* **11** (1973), 1–71. (P. C. Trombi) **48** #4204 22E45 (22E30)

On the Frobenius reciprocity theorem for square-integrable representations. *Pacific J. Math.* **53** (1974), 465–471. (B. Schreiber) **51** #10530 22D10

(*with* Gross, Kenneth I.) Bessel functions and representation theory. I. *J. Functional Analysis* **22** (1976), *no.* 2, 73–105. (E. A. Thieleker) **54** #3305 43A65 (33A75)

(*with* Gross, Kenneth I.) Analysis on matrix space and certain Siegel domains. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 2, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 283–290. *Amer. Math. Soc., Providence, R. I.*, 1977. (S. G. Gindikin) **56** #5793 22E45 (22E30, 43A85)

(*with* Gross, Kenneth I.) A Poisson integral for Stiefel harmonics. *Symposia Mathematica, Vol. XXII* (*Covegno sull'Analisi Armonica e Spazi di Funzioni su Gruppi Localmente Compatti, INDAM, Rome*, 1976), *pp.* 353–362. *Academic Press, London*, 1977. (Editors) **58** #29859 22E30 (43A85)

(*with* Gross, Kenneth I.; Holman, Wayne J., III) The generalized gamma function, new Hardy spaces, and representations of holomorphic type for the conformal group. *Bull. Amer. Math. Soc.* **83** (1977), *no.* 3, 412–415. (Mitsuo Sugiura) **55** #8250 22E30 (33A75, 43A80, 22E45)

(*with* Gross, Kenneth I.) Bessel functions and representation theory. II. Holomorphic discrete series and metaplectic representations. *J. Functional Analysis* **25** (1977), *no.* 1, 1–49. (E. A. Thieleker) **56** #12181 22E45

(*with* Segal, Irving Ezra) ★Integrals and operators. Second revised and enlarged edition. Grundlehren der Mathematischen Wissenschaften, Band 228. *Springer-Verlag, Berlin-New York*, 1978. xiv + 371 *pp. ISBN* 3-540-08323-5 (S. K. Berberian) **58** #6126 28–01 (47–01)

Kunze, S. (*with* Stachel, Hellmuth) Über ein sechsgliedriges räumliches Getriebe. *Elem. Math.* **29** (1974), 25–32. (J. Hoschek) **49** #1854 70.53

Kunze, Werner (*with* Kämpfe, Hansgerd; Kliemt, Manfred) Probleme der mathematischen Modellierung arbeitsteiliger Prozesse. *Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt* **18** (1976), *no.* 2, 225–233. (G. Tintner) **55** #9867 90A15

Künzi, Hans Paul (*with* Beckmann, Martin J.) ★Mathematik für Ökonomen. I. Heidelberger Taschenbücher, Band 56. *Springer-Verlag, Berlin-New York*, 1969. xv + 227 *pp*. (H. Breny (Zbl **184**, #450)) **53** #10171 90–01

(*with* Tzschach, Hans; Zehnder, C. A.) ★Numerical methods of mathematical optimization, with ALGOL and FORTRAN programs. Translated from the German by Werner C. Rheinboldt and Cornelie J. Rheinboldt. Corrected and augmented edition. Computer Science and Applied Mathematics. *Academic Press* [*A subsidiary of Harcourt Brace Jovanovich, Publishers*], *New York-London*, 1971. viii + 219 *pp*. (Editors) **50** #15336 65K05 (90Cxx)

(*with* Beckmann, Martin J.) ★Mathematik für Ökonomen. II. Lineare Algebra. Unter Mitwirkung von R. Landtwing. Heidelberger Taschenbücher, Band 117. *Springer-Verlag, Berlin-New York*, 1973. xii + 160 *pp*. (H. Breny (Zbl **264** #9001)) **53** #10172 90–01

See also **Oberwolfach-Tagung: Operations Research**, **48** #3448; **Oberwolfach-Tagung: Operations Research**, **48** #3450; **Oberwolfach-Tagung: Operations Research**, **48** #3452; **Oberwolfach-Tagung: Operations Research**, **48** #3454; **Oberwolfach-Tagung: Operations Research**, **48** #3455; **Oberwolfach-Tagung: Operations Research**, **50** #9309; **Oberwolfach-Tagung: Operations Research**, **50** #9310; **Oberwolfach-Tagung: Operations Research**, **54** #4604; **Oberwolfach-Tagung: Operations Research**, **54** #6892; **Oberwolfach-Tagung: Operations Research**, **54** #6893 *and* **Oberwolfach-Tagung: Operations Research**, **58** #32840

Künzle, Hans P. On the spherical symmetry of a static perfect fluid. *Methods of local and global differential geometry in general relativity* (*Proc. Regional Conf. on Relativity, Univ. Pittsburgh, Pittsburgh, Pa.*, 1970), *pp.* 157–164. *Lecture Notes in Physics, Vol.* 14, *Springer, Berlin*, 1972. (Kishin Mariwalla) **54** #9578 83.53

Galilei and Lorentz structures on space-time: comparison of the corresponding geometry and physics. (French summary) *Ann. Inst. H. Poincaré Sect. A* (*N.S.*) **17** (1972), 337–362. (H. Rund) **48** #13149 83.53

Dynamics of a rigid test body in curved space-time. *Comm. Math. Phys.* **27** (1972), 23–36. (H. Rund) **46** #3040 83.53

Canonical dynamics of spinning particles in gravitational and electromagnetic fields. *J. Mathematical Phys.* **13** (1972), 739–744. (J. K. Beem) **45** #8188 81.53

Galilei and Lorentz invariance of classical particle interactions. *Symposia Mathematica, Vol. XIV* (*Convegno di Geometria Simplettica e Fisica Matematica, INDAM, Rome*, 1973), *pp.* 53–84. *Academic Press, London*, 1974. (Hans Tilgner) **52** #6783 58F05

A relativistic analogue of the Kepler problem. *Internat. J. Theoret. Phys.* **11** (1974), 395–417. (Author's summary) **54** #9551 83.35

Hamiltonian description of relativistically interacting two-particle systems. *J. Mathematical Phys.* **15** (1974), 1033–1044. (R. Arens) **49** #12045 83.58

Poincaré invariant Hamiltonian two-particle systems and the relativistic Kepler problem. (French summary) *Géométrie symplectique et physique mathématique* (*Colloq. Internat. C.N.R.S., Aix-en-Provence*, 1974), *pp.* 125–136. *Éditions Centre Nat. Recherche Sci., Paris*, 1975. (Michael P. Ryan, Jr.) **56** #10723 83.58 (58F05)

Covariant Newtonian limit of Lorentz space-times. *General Relativity and Gravitation* **7** (1976), *no.* 5, 445–457. (Andrew King) **57** #4969 83.53

(*with* Duval, Christian) Sur les connexions newtoniennes et l'extension non triviale du groupe de Galilée. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **285** (1977), *no.* 12, A813–A816. (Authors' summary) **57** #4042 53C05 (83.53)

(*with* Savage, James R.) Un système elliptique sur les variétés de dimension deux. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **287** (1978), *no.* 4, A249–A250. (Authors' summary) **58** #24399 58G10

Advanced-retarded polarization for relativistic Hamiltonian *n*-particle systems. (Italian and Russian summaries) *Nuovo Cimento B* (11) **43** (1978), *no.* 1, 87–109. (Author's summary) **58** #14702 81.49 (58F05, 70.35)

Kuo, Benjamin C. (*with* Tabak, Daniel) ★Optimal control by mathematical programming. *Prentice-Hall, Englewood Cliffs, N. J.*, 1971. xiii + 237 *pp*. (Editors) **53** #2432 93–02 (90Cxx)

(*with* Melzer, S. M.) Optimal regulation of systems described by a countably infinite number of objects. (French, German and Russian summaries) *Automatica—J. IFAC* **7** (1971), 359–366. (D. F. Lawden) **48** #2869 49B35

(*with* Melzer, S. M.) Sampling period sensitivity of the optimal sampled data linear regulator. (French, German and Russian summaries) *Automatica—J. IFAC* **7** (1971), 367–370. (E. Parzen) **48** #3559 93C45

(*with* Tabak, Daniel) ★Оптимальное управление и математическое программирование. (Russian) [Optimal control, and mathematical programming] Translated from the English by L. A. Meerovič. Edited by Ja. Z. Cypkin. Серия "Теоретические Основы Технической Кибернетики". [Theoretical Foundations of Engineering Cybernetics Series] *Izdat. "Nauka", Moscow*, 1975. 279 *pp*. (Editors) **53** #2433 93–02 (90Cxx)

Kuo, Chu Shui On the boundary values of the derivatives of splines of degree three. (Chinese) *Acta Math. Sinica* **17** (1974), *no.* 4, 234–241. (Charles K. Chui) **56** #3511 41A15

Lacunary interpolation using splines. (Chinese) *Acta Math. Sinica* **18** (1975), *no.* 4, 247–253. (Charles K. Chui) **56** #930 41A15

Kuo, F. F. *See* **Computer communication networks**, **52** #16826

Kuo, Fun Pay A note on convergence of spaces of all bounded linear operators in a Hilbert space. *Tamkang J. Math.* **5** (1974), *no.* 1, 25–30. (Lawrence Fialkow) **50** #5541 47C99

Kuo, Hideo (*with* Mitarai, Hajime) ROM micro-reduction techniques. *2nd USA-Japan Computer Conference Proceedings* (*Tokyo*, 1975), *pp.* 126–130. *AFIPS Press, Montvale, N.J.*, 1975. (Authors' summary) **57** #5468 94A20

Kuo, Hui Hsiung Integration theory on infinite-dimensional manifolds. *Trans. Amer. Math. Soc.* **159** (1971), 57–78. (J. Eells) **45** #4459 58B15 (28A40)

Stochastic integrals in abstract Wiener space. *Pacific J. Math.* **41** (1972), 469–483. (J. A. Beekman) **46** #5561 28A40 (60H05)

Diffusion and Brownian motion on infinite-dimensional manifolds. *Trans. Amer. Math. Soc.* **169** (1972), 439–459. (J. A. Beekman) **46** #8316 60J60 (58B99)

Absolute continuity of measures corresponding to diffusion processes in Banach space. *Ann. Probability* **1** (1973), 513–518. (D. W. Stroock) **50** #5953 60J60 (28A40, 60G30)

On operator-valued stochastic integrals. *Bull. Amer. Math. Soc.* **79** (1973), 207–210. (T.-C. Sun) **47** #5952 60H05

(*with* Piech, M. Ann) Stochastic integrals and parabolic equations in abstract Wiener space. *Bull. Amer. Math. Soc.* **79** (1973), 478–482. (D. W. Stroock) **49** #6353 60H05

Differential and stochastic equations in abstract Wiener space. *J. Functional Analysis* **12** (1973), 246–256. (R. S. Freeman) **50** #4877 28A40 (35K40, 60J65)

On the stochastic maximum principle in Banach space. *J. Functional Analysis* **14** (1973), 146–161. (Albert B. Schwarzkopf III) **50** #16056 93E20

Stochastic integrals in abstract Wiener space. II. Regularity properties. *Nagoya Math. J.* **50** (1973), 89–116. (J. A. Beekman) **47** #8806 28A40 (60H05)

The Morse-Palais lemma on Banach spaces. *Bull. Amer. Math. Soc.* **80** (1974), 363–365. (R. S. Palais) **48** #12593 58E05 (47H99)

Differentiable measures. *Chinese J. Math.* **2** (1974), *no.* 2, 189–199. (Stanley L. Boylan) **53** #8901 46G99 (28A40, 60J65, 46F10)

Integration by parts for abstract Wiener measures. *Duke Math. J.* **41** (1974), 373–379. (M. Schilder) **49** #5835 46G10 (28A40)

★Gaussian measures in Banach spaces. Lecture Notes in Mathematics, Vol. 463. *Springer-Verlag, Berlin-New York*, 1975. vi + 224 *pp.* (Albert Tortrat) **57** #1628 60G15 (28A40, 60B05)

Ito's lemma for Banach spaces. *Bull. Inst. Math. Acad. Sinica* **3** (1975), *no.* 1, 71–79. (Ta-Feng Lin) **54** #3846 60H05

On Gross differentiation on Banach spaces. *Pacific J. Math.* **59** (1975), *no.* 1, 135–145. (J. Eells) **54** #5424 28A40 (60J65, 58D15)

On a conjecture of Gross. *Proc. Amer. Math. Soc.* **50** (1975), 379–382. (V. S. Mandrekar) **51** #6982 60H05 (28A40)

Distribution theory on Banach space. *Probability in Banach spaces* (*Proc. First Internat. Conf., Oberwolfach*, 1975), *pp.* 143–156. *Lecture Notes in Math., Vol.* 526, *Springer, Berlin*, 1976. (Constance Elson) **56** #12213 28A40 (60J65, 46F99, 46G99, 58C99)

Potential theory associated with Uhlenbeck-Ornstein process. *J. Functional Analysis* **21** (1976), *no.* 1, 63–75. (D. W. Stroock) **52** #12106 60J65

Kuo, I Wen A note on factorizations of singular M-matrices. *Linear Algebra and Appl.* **16** (1977), *no.* 3, 217–220. (T. L. Markham) **57** #9730 15A57

The Moore-Penrose inverses of singular M-matrices. *Linear Algebra and Appl.* **17** (1977), *no.* 1, 1–14. (Thomas L. Boullion) **57** #12548 15A09 (15A48)

Kuo, M. C. Y. Duality in distributed parameter systems. *J. Engrg. Math.* **6** (1972), 243–255. (M. M. Cvetanov) **51** #8919 49B25

(*with* Burbank, H. M.) Class of stochastic optimal-control problems under conflict of interest. *Proc. Inst. Elec. Engrs.* **123** (1976), *no.* 5, 453–456. (Ludwig Arnold) **53** #5116 93E05

Kuo, Ming Hsien Studies on the multiple-scale perturbation theory and its application to the anharmonic oscillator. *J. Nat. Chiao Tung Univ.* **2** (1976), 233–237. (B. B. Lieberman) **57** #2028 70.41

Kuo, P. K. (*with* Favro, L. D.) Macroscopic quantum electrodynamics. *Phys. Rev. A* (3) **13** (1976), *no.* 3, 1104–1114. (J. G. Taylor) **53** #9996 81.47

Kuo, Pên Yü *See* **Guo, Ben Yu**

Kuo, Reed (*with* Tsai, Wan Tswan) Large deformations of a cantilever beam. *Tamkang J. Math.* **6** (1975), *no.* 2, 161–171. (Z. Kączkowski) **54** #6654 73.65

Kuo, T. K. Some properties of a Hamiltonian model of broken $SU_3 \times SU_3$ symmetry. *Lett. Nuovo Cimento* (1) **3** (1970), 803–807. (J.-P. Antoine) **47** #6213 81.22

Some properties of a Hamiltonian model of broken SU(3) × SU(3) symmetry. II. *Phys. Rev. D* (3) **2** (1970), 342–349. (R. Delbourgo) **49** #1953 81.22

(*with* Gavrielides, A.; Lee, S. Y.) A generalized gauge principle. *Lett. Nuovo Cimento* (2) **16** (1976), *no.* 2, 55–58. (From the authors' text) **56** #4551 81.53

(*with* Gavrielides, A.; Lee, S. Y.) Ghost problem of quantum field theories with higher derivatives. *Phys. Rev. D* (3) **13** (1976), *no.* 10, 2912–2914. (K. Kumar) **56** #4525 81.47

Kuo, Te Son On the transformation of a system to canonical forms. *IEEE Trans. Systems, Man, and Cybernet.* SMC-3 (1973), 292–294. (S. P. Bingulac) **51** #2694 93B10

K'uo, Ts'ang Hai Projections in the spaces of bounded linear operations. *Pacific J. Math.* **52** (1974), 475–480. (M. M. Day) **50** #5425 46B05 (47D15)

Weak convergence of vector measures on F-spaces. *Math. Z.* **143** (1975), *no.* 2, 175–180. (J. Diestel) **51** #11106 46G10 (28A45)

On conjugate Banach spaces with the Radon-Nikodým property. *Pacific J. Math.* **59** (1975), *no.* 2, 497–503. (Robert E. Huff) **52** #14938 46B10 (28A45)

On quasi-complemented subspace of Grothendieck spaces. *J. Nat. Chiao Tung Univ.* **1** (1976), 167–173. (B. Yood) **54** #11038 46B10

Extensions of operators and vector measures. *J. Nat. Chiao Tung Univ.* **2** (1976), 131–132. (Bernard B. Morrel) **57** #17348 47B05 (46G10)

Weak compactness of operators on Grothendieck spaces. *J. Nat. Chiao Tung Univ.* **2** (1976), 133–137. (Z. Semadeni) **55** #11084 47B05

Kuo, Tzee-Char (*with* Bochnak, Jacek) Different realizations of a non sufficient jet. *Nederl. Akad. Wetensch. Proc. Ser. A* **75** = *Indag. Math.* **34** (1972), 24–31. (J. Leslie) **46** #6387 58A20

(*with* Bochnak, Jacek) Rigid and finitely V-determined germs of C^∞-mappings. *Canad. J. Math.* **25** (1973), 727–732. (I. Vaisman) **49** #4020 58C25 (26A93)

Computation of Lojasiewicz exponent of $f(x,y)$. *Comment. Math. Helv.* **49** (1974), 201–213. (J. G. Timourian) **50** #5842 58C25 (57D45)

(*with* Lu, Yung Chen) On analytic function germs of two complex variabl *Topology* **16** (1977), *no.* 4, 299–310. (Peter Giblin) **57** #704 32C40 (14H20, 55A

On Thom-Whitney stratification theory. *Math. Ann.* **234** (1978), *no.* 2, 97–107. (Röhrl) **58** #6333 32C40 (57D45)

Kuo, W. C. (*with* Mei, K. K.) Numerical approximations of the Sommerfeld integral fast convergence. *Radio Sci.* **13** (1978), *no.* 3, 407–415. (Authors' summary) **58** #19 78.65

Kuo, W. H. (*with* Brockwell, P. J.) Labelling experiments and phase-age distributions multiphase branching processes. *J. Appl. Probability* **10** (1973), 739–747. (P. Tau **51** #1990 60J85 (92A05)

Kuo, Wang Yüeh Ngo Some results on special types of matrices. *Tamkang J. Math* (1971), *no.* 2, 123–130. (H. Schwerdtfeger) **46** #1820 15A69

Some properties of tensor products of matrices. *Linear Algebra and Appl.* **7** (197 63–70. (D. B. Hunter) **47** #1839 15A69

A note on properties of operations on ideals. *Tamkang J. Math.* **4** (1973), 49–51. T. Arnold) **48** #8470 13A15

(*with* Wu, Po Hsiung) A mathematical method to solve an aircraft routing probler Collection of articles dedicated to Professor Tsing Houa Teng on the occasion of 70th birthday. *Tamkang J. Math.* **4** (1973), *no.* 2, 23–40. (J. Falk) **49** #12060 90B

Interrrelations of selected mathematical operations. *Tamkang J. Math.* **5** (197 221–230. (I. Kaufmann) **52** #2281 68A25

The use of tensor products for solving matrix equations. *Matrix Tensor Quart.* (1975/76), *no.* 4, 148–151. (Pl. Kannappan) **54** #7501 15A24

Some properties of a generalized Hadamard product of matrices. (Chinese summary) Collection of articles in commemoration of the 75th anniversary of t founding of Soochow University. *Soochow J. Math. Natur. Sci.* **1** (1975), 73–77. (Thom L. Boullion) **53** #5636 15A57

Tensor products of special classes of matrices. *Tamkang J. Math.* **6** (1975), 33–3 (R. Merris) **51** #5634 15A69

Algebraic structure of selected mathematical operations. *Tamkang J. Math.* (1975), *no.* 2, 219–228. (I. Kaufmann) **56** #10222 68A99

An extended Kronecker product of matrices. *J. Math. Anal. Appl.* **56** (1976), *no.* 346–350. (B. Levinger) **54** #5277 15A69

A note on tensor products of linear programs. *Soochow J. Math. Natur. Sci.* (1976), 47–50. (From the author's introduction) **56** #10931 90C05

A generalized Hadamard product of partitioned matrices. *Tamkang J. Math.* (1976), *no.* 2, 181–186. (Emillie V. Haynsworth) **56** #15677 15A30

Kuo, Way (*with* Tillman, Frank A.; Hwang, Ching Lai) Optimization techniques f system reliability with redundancy—a review. *IEEE Trans. Reliab.* **R-26** (1977), *no.* 148–155. (D. Hochstädter) **57** #11708 90B25

Kuo, Y. *See also* **Kuo, Wang Yüeh Ngo**

Kuo, Ying Yan (*with* Tachibana, Shun-ichi) On the distribution appeared in conta 3-structure. *Taita J. Math.* **2** (1970), 17–24. (G. D. Ludden) **46** #8115 53C15

Kuo, Yueh Er *See* **Kuo, Wang Yüeh Ngo**

vu Kuok Fong *See* **Vu Kuok Fong**

nguen Kuok Thi *See* **Nguen Kuok Thi**

nguen Kuok Zan *See* **Nguen Kuok Zan**

Kuo Lo, Tzee-nan On groups of finite cohomological dimension. *J. Algebra* **24** (1973 460–464. (U. Stammbach) **47** #359 20J05

Kupatadze, O. V. The gradient method for minimizing non-smooth functions on analo computers. (Russian) *Proceedings of the Fourth All-Union Conference on Automati Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 1: *Optimal and adaptive system* (*Russian*), *pp.* 134–140, 307. *Izdat. "Nauka", Moscow*, 1972. (V. F. Dem'janov) **48** #12830 65K05 (90C99)

Kupavcev, V. V. (*with* Kljušnikov, V. D.) Two-sided estimates of critical loadings o nonuniformly compressed rods. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 3 561–564. (J. L. Nowinski) **58** #8694 73.49

Kupcov, L. P. The fundamental solutions of a certain class of elliptic-parabolic secon order equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1649–1660, 1716. (T Styś) **47** #3839 35K10

A mean value theorem and a maximum principle for a Kolmogorov equation (Russian) *Mat. Zametki* **15** (1974), 479–489. (V.-V. Olariu) **50** #5185 35K10

(*with* Serov, S. S.) The search for the complete optimal solution in an integer linea programming problem. (Russian) *Control problems in technology, economics and biology* (*Russian*), *pp.* 109–121, 225. *Nauka, Moscow*, 1976. (Josef Kaška) **58** #32933 90C1

Kupcov, N. P. Certain estimates for the solutions of a system of homogeneous second order linear differential equations. (Russian) *Ordinary differential equations and expansions in Fourier series, No.* 1 (*Russian*), *pp.* 3–28. *Izdat. Saratov. Univ., Saratov*, 1968. (F. Neuman) **50** #13688 34A30

Linearly independent systems for which Jackson's inequality holds. (Russian) *Studies in differential equations and the theory of functions, No.* 3 (*Russian*), *pp.* 32–52. *Izdat. Saratov. Univ., Saratov*, 1971. (J. Szabados) **52** #14833 42A64 (41A10)

Kolmogorov estimates for derivatives in $L_2[0,\infty)$. (Russian) Approximation of functions and operators. *Trudy Mat. Inst. Steklov.* **138** (1975), 94–117, 199. (J. Albrycht) **52** #14198 26A84 (46E30)

See also **Differential equations and numerical analysis, 48** #3660; **Studies in differential equations and the theory of functions, 48** #3663; **Differential and integral equations, 48** #8168; **Computing methods and programming for the electronic computers "URAL-2", "URAL-4", 50** #12517; **Computing methods and programming, 50** #12518; **Computing methods and programming, 50** #12519; **Studies in differential equations and the theory of functions, 52** #7766 *and* **Studies in differential equations and the theory of functions, 58** #20948

Kupcov, V. I. (*with* Šurškova, E. G.) The convergence of a modified Newton method. (Russian) *Computing Methods and Programming, XIV* (*Russian*), *pp.* 157–165. *Izdat. Moskov. Univ., Moscow*, 1970. (I. Šelihova (RŽMat **1971** #2 B896)) **51** #7277 65H10

Kupczyński, M. Is the Hilbert space language too rich? *Internat. J. Theoret. Phys.* **10** (1974), 297–316. (Author's summary) **54** #9431 81.46

Unitarity without the optical theorem. *Lett. Nuovo Cimento* (2) **9** (1974), 134–136.

(Editors) **56** #7627 81.47

On some important statistical tests. *Riv. Nuovo Cimento* (2) **7** (1977), *no.* 2, 215–228. (W. J. Conover) **56** #6942 62–01

Kupenova, T. (*with* Nedjalkov, I. P.) On the nonuniqueness of the determination of the singularity of the scattering amplitude. (Bulgarian. Russian and English summaries) *Godišnik Visš. Učebn. Zaved. Tehn. Fiz.* **12** (1975), *no.* 1, 19–26 (1977). (Authors' summary) **58** #32413 78.35

Kuper, Charles G. (*with* Kreuzer, H. J.) A statistical theory of $\hat{C}\hat{P}$ violation. *Collect. Phenom.* **2** (1975/76), *no.* 3, 131–139. (Authors' summary) **56** #10666 82.47

(*with* Kreuzer, H. J.) On the approach to equilibrium in a Gibbs ensemble. *Collect. Phenom.* **2** (1975/76), *no.* 3, 141–147. (Authors' summary) **56** #10667 82.47

See also **Statistical physics—"STATPHYS 13", 58** #25654a *and* **Statistical physics—"STATPHYS 13", 58** #25654b

Kuperberg, Krystyna An isomorphism theorem of the Hurewicz-type in Borsuk's theory of shape. *Fund. Math.* **77** (1972), *no.* 1, 21–32. (J. Dugundji) **48** #3042 55E05

Two Vietoris-type isomorphism theorems in Borsuk's theory of shape, concerning the Vietoris-Cech homology and Borsuk's fundamental groups. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 285–313. *Academic Press, New York*, 1975. (S. Mardešić) **52** #4279 55D99 (54C56)

A note on the Hurewicz isomorphism theorem in Borsuk's theory of shape. *Fund. Math.* **90** (1975/76), *no.* 2, 173–175. (S. A. Bogatyĭ) **52** #15449 55E05 (54C56)

Kuperberg, Włodzimierz Homotopically labile points of locally compact metric spaces. *Proceedings of the University of Houston Point Set Topology Conference* (*Houston, Tex.*, 1971), *pp.* 11–16. *Univ. Houston, Houston, Tex.*, 1971. (Editors) **52** #11820 54C15

Homotopically labile points of locally compact metric spaces. *Fund. Math.* **73** (1971/72), *no.* 2, 133–136. (J. D. Baum) **45** #7693 54H20

On certain homological properties of finite-dimensional compacta. Carriers, minimal carriers and bubbles. *Fund. Math.* **83** (1973), *no.* 1, 7–23. (Y. Kodama) **48** #7257 55B05

Mapping arcwise connected continua onto cyclic continua. *Colloq. Math.* **31** (1974), 199–202, 318. (J. J. Charatonik) **51** #4187 54F20

Uniformly pathwise connected continua. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* 315–324. *Academic Press, New York*, 1975. (Donald E. Bennett) **50** #14696 54F20

(*with* Cook, Howard; Feuerbacher, G.) Shapes of finite dimensional continua have shape stable representatives. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **24** (1976), *no.* 5, 331–334. (Thomas J. Sanders) **53** #11567 54C56 (54F20)

(*with* Lelek, Andrew) Homotopy properties of pathwise connected continua. *Fund. Math.* **92** (1976), *no.* 1, 29–41. (J. J. Charatonik) **54** #8587 54F20 (54C05, 54F50)

(*with* Olędzki, Juliusz) On certain types of movability of the approximatively *k*-connected compacta. (Russian summmary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 11, 1171–1173. (D. R. McMillan, Jr.) **58** #2829 57A65 (55D99)

(*with* Holsztyński, Włodzimierz; Mycielski, Jan) On compact families of nowhere dense subsets of R^n. *Houston J. Math.* **3** (1977), *no.* 4, 475–476. (G. L. Cain, Jr.) **57** #1418 54D30

See also **Proceedings: Topology, 56** #1246

Kupershtokh, V. L. *See* **Kuperštoh, V. L.**

Kuperšmidt, B. A. The geometry of jet manifolds. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 5(185), 211–212. (O. Kowalski) **53** #9271 58A20 (58H05)

Lagrangian formalism in the calculus of variations. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 2, 77–78. (Demeter Krupka) **53** #14537 58E99 (49F99)

(*with* Vinogradov, A. M.) The structure of Hamiltonian mechanics. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 4(196), 175–236, 288. (J. Śniatycki) **58** #18573 58F05

Kuperštoh, V. L. (*with* Mirkin, B. G.) Ordering of interrelated objects. II. *Avtomat. i Telemeh.* **1971**, *no.* 7, 91–97 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 7, *part* 2, 1093–1098. (B. Pondělíček) **48** #3537 93A05

(*with* Mirkin, B. G.) Ordering of interrelated objects. I. *Avtomat. i Telemeh.* **1971**, *no.* 6, 77–83 (*Russian. English summary*); *translated as Automat. Remote Control* **1971**, *no.* 6, *part* 1, 924–929. (B. Pondělíček) **46** #3137 93A99

A certain generalization of the Ford-Fulkerson theorem on multipole networks. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1971**, *no.* 3, 87–93. (D. Simovici) **47** #4727 94A20

(*with* Trofimov, V. A.) Algorithm for the analysis of the structure of connection matrices. *Avtomat. i Telemeh.* **1975**, *no.* 11, 170–180 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 11, *part* 2, 1906–1916. (Authors' summary) **55** #10060 92A10

(*with* Mirkin, B. G.; Trofimov, V. A.) The sum of internal couplings as an index of classification quality. *Avtomat. i Telemeh.* **1976**, *no.* 3, 133–141 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 3, *part* 2, 433–440. (William D. Ray) **55** #1626 62H30

Kupešev, B. (*with* Datkaev, A. M.) Inversion of integral operator polynomials. (Russian) *Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* **2** (1971), 158–163, 346–347. (From the authors' summary) **56** #12776 44A05 (45J05, 47G05)

Asymptotic representation of rational-fractional Э*-operator expressions. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no.* 1, 41–45, 93. (W. Kecs) **51** #9622 73.44

(*with* Datkaev, A. M.) A certain class of kernels of the integral equations of the theory of visco-elasticity. (Russian) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1974**, *no.* 3, 83–84, 94. (L. Jentsch) **50** #15537 73.45

Asymptotic representation of a generalized operator for the description of the behavior of elasto-hereditary media. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1978**, *no.* 3, 37–42, 92. (S. Drobot) **58** #14169 73.41 (41A60)

Kupiainen, A. (*with* Byckling, E.) On the uniqueness of monopole solution. *Phys. Lett. B* **67** (1977), *no.* 1, 80. (Authors' summary) **55** #7178 81.35

Kupisch, Herbert Quasi-Frobenius-Algebren von endlichem Modul-Typ. *Proceedings of the International Conference on Representations of Algebra* (*Carleton Univ., Ottawa, Ont.*, 1974), *Paper No.* 17, 16 *pp. Carleton Math. Lecture Notes, No. 9, Carleton Univ., Ottawa, Ont.*, 1974. (Z. Papp) **51** #3212 16A36

Moduln über einreihigen Ringen. *Math. Z.* **137** (1974), 151–153. (Z. Papp) **50** #409 16A64

Über eine Klasse von Artin-Ringen. II. *Arch. Math.* (*Basel*) **26** (1975), 23–35. (Z. Papp) **51** #3218 16A46

Einreihige Algebren über einem perfekten Körper. *J. Algebra* **33** (1975), 68–74. (G. Michler) **50** #7249 16A46

See also **Representations of algebras, 52** #3207

Kupka, I. A. K. (*with* Osher, Stanley) On the wave equation in a multi-dimensional corner. *Comm. Pure Appl. Math.* **24** (1971), 381–393. (From the authors' introduction) **54** #738 35L05

Kupka, Ingbert *See* **Jahrestagung: Gesellschaft für Informatik, 48** #1502; **Fachtagung: Gesellschaft für Informatik, Programmiersprachen, 48** #10176 *and* **Collatz, Lothar; et al., 50** #6242

Kupka, Ivan On two notions of structural stability. *J. Differential Geometry* **9** (1974), 639–644. (J. W. Robbin) **50** #11320 58F10

(*with* Ngô Van Quê) Formes différentielles fermées non singulières. *Differential topology and geometry* (*Proc. Colloq., Dijon*, 1974), *pp.* 239–256. *Lecture Notes in Math., Vol.* 484, *Springer, Berlin*, 1975. (Robert Roussarie) **52** #11942 57D30

Kupka, Joseph Radon-Nikodym theorems for vector valued measures. *Trans. Amer. Math. Soc.* **169** (1972), 197–217. (J. J. Uhl, Jr.) **47** #433 28A45 (28A15, 46G10)

A short proof and generalization of a measure theoretic disjointization lemma. *Proc. Amer. Math. Soc.* **45** (1974), 70–72. (J. P. R. Christensen) **49** #7411 28A10 (46B99)

The Carathéodory extension theorem for vector valued measures. *Proc. Amer. Math. Soc.* **72** (1978), *no.* 1, 57–61. (J. Diestel) **58** #12355 46G10 (28A45, 60H05)

Kuppannasastry, T. S. The main characteristics of Hindu astronomy in the period corresponding to pre-Copernican European astronomy. Proceedings of the Symposium on Copernicus and Astronomy (New Delhi, 1973). *Indian J. History Sci.* **9** (1974), *no.* 1, 31–44 (1975). (Editors) **58** #26739 01A25

Kupper, Lawrence L. (*with* Kleinbaum, David G.) On testing hypotheses concerning standardized mortality ratios. *Theoret. Population Biology* **2** (1971), 290–298. (D. A. Sprott) **48** #5667 92A15

Some further remarks "on testing hypotheses concerning standardized mortality ratios". *Theoret. Population Biology* **2** (1971), 431–436. (D. A. Sprott) **48** #5666 92A15

Fourier series and spherical harmonics regression. *J. Roy. Statist. Soc. Ser. C Appl. Statist.* **21** (1972), 121–130. (E. J. Hannan) **46** #6544 62J05

(*with* Meydrech, Edward F.) A new approach to mean squared error estimation of response surfaces. *Biometrika* **60** (1973), 573–579. (D. V. Chopra) **49** #4169 62J05

Some further comments on mean square error estimation. (German summary) *Biometrische Z.* **15** (1973), 343–344. (David Bellhouse) **50** #15100 62F10 (62J05)

(*with* Lachenbruch, Peter A.) Discriminant analysis when one population is a mixture of normals. (German summary) *Biometrische Z.* **15** (1973), *no.* 3, 191–197. (Akio Kudô) **55** #1627 62H30 (62P10)

A note on the admissibility of a response surface design. *J. Roy. Statist Soc. Ser. B* **35** (1973), 28–32. (H. Bandemer) **48** #12746 62K05

Minimax designs for Fourier series and spherical harmonics regressions: a characterization of rotatable arrangements. *J. Roy. Statist. Soc. Ser. B* **35** (1973), 493–500. (Author's summary) **54** #3990 62K05

(*with* Meydrech, Edward F.) Experimental design considerations based on a new approach to mean square error estimation of response surfaces. *J. Amer. Statist. Assoc.* **69** (1974), 461–463. (M. J. Karson) **52** #2065 62K05

(*with* Meydrech, Edward F.) On quadratic approximation of a cubic response. *Comm. Statist.—Theory Methods* **A5** (1976), *no.* 13, 1205–1213. (D. V. Chopra) **57** #10925 62J05

See also **Proceedings: Session of the International Statistical Institute, 49** #8145

Küpper, Tassilo Einschliessungsaussagen für gewöhnliche Differentialoperatoren. (English summary) *Numer. Math.* **25** (1975/76), *no.* 2, 201–214. (F. H. Szafraniec) **54** #4116 65L10 (34A45)

Pointwise error bounds for the eigenfunctions of one-dimensional Schrödinger operators. *Ordinary and partial differential equations* (*Proc. Fourth Conf., Univ. Dundee, Dundee*, 1976), *pp.* 309–315. *Lecture Notes in Math., Vol.* 564, *Springer, Berlin*, 1976. (Editors) **58** #28812 34B25 (65L99)

Pointwise lower and upper bounds for eigenfunctions of ordinary differential operators. *Numer. Math.* **27** (1976/77), *no.* 1, 111–119. (Francesco G. Lerda) **55** #6872 65L15

A singular bifurcation problem. *J. Math. Anal. Appl.* **60** (1977), *no.* 1, 292–300. (Piero Bassanini) **56** #8948 34B15 (58F10)

Kupperman, Robert H. (*with* Smith, Harvey A.) The role of population defense in mutual deterrence. *SIAM Rev.* **19** (1977), *no.* 2, 297–318. (G. S. Davies) **55** #7367 90B99 (92A15, 92A25)

Kuppermann, Aron (*with* Schatz, George C.; Baer, M.) Quantum mechanical reactive scattering for planar atom plus diatom systems. I. Theory. *J. Chem. Phys.* **65** (1976), *no.* 11, 4596–4623. (Authors' summary) **56** #10542 81.35

(*with* Schatz, George C.) Quantum mechanical reactive scattering for three-dimensional atom plus diatom systems. I. Theory. *J. Chem. Phys.* **65** (1976), *no.* 11, 4642–4667. (Authors' summary) **56** #10543 81.35

Kuppuswamy Rao, K. (*with* Iyengar, V.) Electromagnetic field in decomposable space-time. (Turkish summary) *İstanbul Üniv. Fen Fak. Mecm. Ser. A* **33** (1968), 39–43 (1971). (Cecil B. Mast) **46** #10364 83.53

(*with* Narayana Rao, M. L.) A class of non-Desargusian planes. *J. Combinatorial Theory Ser. A* **19** (1975), *no.* 3, 247–255. (Robert A. Liebler) **52** #9073 50D35

(*with* Narayana Rao, M. L.) A new flag transitive affine plane of order 27. *Proc. Amer. Math. Soc.* **59** (1976), *no.* 2, 337–345. (D. A. Foulser) **54** #8441 50D35 (05B25)

(*with* Narayana Rao, M. L.) A flag transitive affine plane of order 125. *Proc. Nat. Acad. Sci. India Sect. A* **46** (1976), *no.* 1, 65–67. (Authors' summary) **58** #30730 50D30 (05B25)

Kupradze, V. D. (*with* Burčuladze, T. V.) On dynamic problems of the theory of elasticity. *Trends in elasticity and thermoelasticity*, *pp*. 135–149. *Wolters-Noordhoff*, *Groningen*, 1971. (Cornelius O. Horgan) **57** #14740 73.35

(*with* Burčuladze, T. V.) A proof of the existence and computation of the solutions of the fundamental mixed problems of the dynamics of a three-dimensional elastic body of arbitrary form. (Russian. Georgian summary) *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **39** (1971), 23–42. (C. I. Borş) **45** #8100 73.35

On the solution of a three-dimensional mixed boundary value problem of elasticity theory. (Russian) *Continuum mechanics and related problems of analysis* (*on the occasion of the eightieth birthday of Academician N. I. Mushelišvili*) (*Russian*), *pp*. 267–271. *Izdat.* "*Nauka*", *Moscow*, 1972. (A. Radu) **52** #12479 73.35

★Лекции по современным проблемам математической теории упругости. (Russian) [Lectures on contemporary problems of the mathematical theory of elasticity] *Izdat. Tbilis. Univ.*, *Tbilisi*, 1974. 116 *pp*. (Not reviewed) 73.00

(*with* Gegelia, T. G.; Bašeleĭšvili, M. O.; Burčuladze, T. V.) ★Трехмерные задачи математической теории упругости и термоупругости. (Russian) [Three-dimensional problems of the mathematical theory of elasticity and thermoelasticity] Классическая и микрополярная теория. Статика, гармонические колебания, динамика. Основы и методы решения. [Classical and micropolar theory. Statics, harmonic oscillations, dynamics. Foundations and methods of solution] Second edition, revised and supplemented. Edited by V. D. Kupradze. *Izdat.* "*Nauka*", *Moscow*, 1976. 663 *pp*. (Editors) **54** #9233 73.00

Über die Lösung einiger nichtklassischer Probleme der Elastizitätstheorie. *Function theoretic methods for partial differential equations* (*Proc. Internat. Sympos.*, *Darmstadt*, 1976), *pp*. 68–72. *Lecture Notes in Math.*, *Vol.* 561, *Springer*, *Berlin*, 1976. (F. V. Pohle) **57** #4762 73.35

(*with* Allahverdiev, Dž. È.; Babaev, A. A.; Vekua, N. P.; Maksudov, F. G.; Tihonov, A. N.) Ašraf Iskenderovič Guseĭnev (on the occasion of his seventieth birthday). (Russian) *Uspehi Mat. Nauk* **33** (1978), *no*. 1(199), 235–238. (Editors) **58** #16010 01A70

See also **Bicadze, A. V.; et al.**, **48** #3676; **Collection: Kupradze, V. D.**, **52** #10302; **Birthday: Kupradze, V. D.**, **52** #13258; **Avazašvili, D.; et al.**, **53** #2586 *and* **Avazašvili, D.; et al.**, **53** #2587

Kuprienko, V. D. Functions that are conjugate to summable functions. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no*. 9(160), 99–100. (J. Marshall Ash) **54** #5719 42A40

Kuprijanov, V. V. (*with* Marasanov, V. V.; Marčukov, B. A.; Suvorov, B. V.) ★Современные методы анализа и синтеза автоматических систем. (Russian) [Modern methods for analysis and synthesis of automatic systems] *Izdat.* "*Štiinca*", *Kishinev*, 1976. 126 *pp*. (V. Komkov) **57** #2651 93–01

Kuprikov, A. V. (*with* Južakov, A. P.) The logarithmic residue in **C**^{n}. (Russian) *Properties of holomorphic functions of several complex variables* (*Russian*), *pp*. 181–191, 239. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR*, *Krasnoyarsk*, 1973. (L. I. Ronkin) **58** #1223 32A25

The Lagrange series for a multivariable inverse mapping in **C**. (Russian) *Combinatorial and asymptotic analysis* (*Russian*), *pp*. 163–167. *Krasnojarsk. Gos. Univ.*, *Krasnoyarsk*, 1975. (From the text) **58** #28634 32A30

(*with* Egoryčev, G. P.) Integral representation, classification and the asymptotic behavior of types of combinatorial sums. (Russian) *Asymptotic and enumeration problems of combinatorial analysis* (*Russian*), *pp*. 89–101. *Krasnojarsk. Gos. Univ.*, *Krasnoyarsk*, 1976. (Editors) **58** #27512 05A10 (05A15, 32A25)

Some lacunary sums of polynomial coefficients. (Russian) *Combinatorial and asymptotic analysis*, *No*. 2 (*Russian*), *pp*. 132–135. *Krasnojarsk. Gos. Univ.*, *Krasnoyarsk*, 1977. (From the text) **58** #27513 05A10 (32A25)

Kuprin, V. A. Some properties of Faber polynomials and Faber series in the case of a special weight. (Russian) *Application of functional analysis in approximation theory* (*Russian*), *pp*. 67–78, 155. *Kalinin. Gos. Univ.*, *Kalinin*, 1977. (Editors) **58** #6190 30A16 (41A10)

Kupść, W. *See* **Stark, A. E.**, **58** #9405

Kupsch, J. (*with* Stamatescu, I. O.) Impact-parameter amplitudes. (Italian and Russian summaries) *Nuovo Cimento A* (11) **20** (1974), 317–353. (Evangelos Ifantis) **53** #2174 81.30

(*with* Rühl, W.; Yunn, B. C.) Conformal invariance of quantum fields in two-dimensional space-time. *Ann. Physics* **89** (1975), 115–148. (J. Rosen) **56** #7535 81.22

On the existence of crossing symmetric and unitary scattering amplitudes with Regge poles. *Comm. Math. Phys.* **57** (1977), *no*. 3, 219–233. (S. Aramaki) **58** #32516 81.30

Kur, Friedrich *See* **Waismann, Friedrich**, **50** #9483

Kurabayashi, Yoshimasa (*with* Yatsuka, Atsuo) Redistribution of income and measures of income inequality. *Resource allocation and division of space* (*Proc. Internat. Sympos.*, *Toba*, 1975), *pp*. 47–59. *Lecture Notes in Econom. and Math. Systems*, *Vol*. 147, *Springer*, *Berlin*, 1977. (E. Vilkas) **57** #18769 90A15

Kuračenko, Ju. A. (*with* Dorofeev, A. A.; Dubinin, A. A.; Žuravlev, V. I.; Fedorov, Ju. G.) The ravine method in problems with linear constraints (program CROV-II). (Russian) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No*. 115 (1977), 41 *pp*. (Authors' summary) **58** #13706 65K05 (65–04)

Kuraev, È. A. (*with* Lipatov, L. N.; Fadin, V. S.) The Pomeranchuk singularity in nonabelian gauge theories. *Ž. Èksper. Teoret. Fiz.* **72** (1977), *no*. 2, 377–389 (*Russian. English summary*); *translated as Soviet Physics JETP* **45** (1977), *no*. 2, 199–204. (Authors' summary) **56** #14242 81.30

Kuraev, G. N. The problem of stationary free convection with nonlinear boundary conditions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **18** (1978), *no*. 3, 784–789, 816. (Author's summary) **58** #17602 35Q99 (76.35)

Kurak, E. M. (*with* Davison, Edward J.) A computational method for determining quadratic Lyapunov functions for non-linear systems. (French, German and Russian summaries) *Automatica—J. IFAC* 7 (1971), 627–636. (R. Leonard Brown) **52** #16779 93D05

Kurak, V. (*with* Berg, B.; Karowski, M.; Weisz, P.) Factorized U(n) symmetric S-matrices in two dimensions. *Nuclear Phys. B* **134** (1978), *no*. 1, 125–132. (Authors' summary) **58** #19917 81.22

Kurakin, K. I. (*with* Dmitriev, A. N.; Krug, G. K.; Kuzin, L. T.; Kuhtenko, O. Matveev, P. S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. Topčeev, Ju. I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Теория автоматического регулирования. Книга 2: Анализ и синтез линейных непрерывных и дискретн систем автоматического регулирования. (Russian) [Theory of automatic guidan Book 2: Analysis and synthesis of continuous and discrete automatic guidance system Edited by V. V. Solodovnikov. *Izdat.* "*Mašinostroenie*", *Moscow*, 1967. 679 *pp*. (RŽKibernet **1968** #3 G89) **50** #6559 93–02

(*with* Dmitriev, A. N.; Krug, G. K.; Kuzin, L. T.; Kuhtenko, O. I.; Matveev, S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. V.; Topčeev, I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Grundlagen automatischer Regelsysteme. Ba 2: Analyse und Synthese linearer Systeme. Gesamtredaktion der Originalausgabe v W. W. Solodownikow. Aus dem Russischen übersetzt von Klaus Franke, Ludmi Heckendorff, Volker Langguth, Werner Otto Mertins und Uwe Riedel. Deutsche Bearbeitung unter Manfred Peschel. *VEB Verlag Technik*, *Berlin*, 1971. 620 *pp*. *foldout*) (RŽKibernet **1968** #10 G7K) **50** #6560 93–02

Kurakina, I. M. *See* **Theory of languages and methods of construction of programmi systems**, **48** #7682

Kurakina, I. V. *See* **Random processes and statistical inference**, **48** #9782 (EA 49)

Kuramochi, Zenjiro On minimal points of Riemann surfaces. I. *Hokkaido Math. J.* (1972), 178–196. (Y. Kusunoki) **50** #13499 30A48

On minimal points of Riemann surfaces. II. *Hokkaido Math. J.* **2** (1973), 139–1 (Y. Kusunoki) **51** #8408 30A50

Analytic functions in a lacunary end of a Riemann surface. (French summary Collection of articles dedicated to Marcel Brelot on the occasion of his 70th birthda *Ann. Inst. Fourier* (*Grenoble*) **25** (1975), *no*. 3–4, xvii, 353–379. (Author's summar **55** #5854 30A50

Analytic functions in a neighbourhood of boundary. *Proc. Japan Acad.* **51** (197 320–324. (M. Nakai) **51** #8409 30A50

Analytic functions in a neighbourhood of irregular boundary points. *Hokkai Math. J.* **5** (1976), *no*. 1, 97–119. (Tatsuo Fuji'i'e) **53** #8428 30A72 (30A50)

On analytic functions in a neighbourhood of boundary points of Riemann surface *Kōdai Math. Sem. Rep.* **27** (1976), *no*. 1-2, 62–83. (Tadashi Kuroda) **53** #5854 30A50

Kuramoto, Yoshiki Self-entrainment of a population of coupled non-linear oscillator *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Uni Kyoto*, 1975), *pp*. 420–422. *Lecture Notes in Phys.*, 39. *Springer*, *Berlin*, 1975. (Edito **58** #32705 82.60 (34C25)

(*with* Yamada, Tomoji) Pattern formation in oscillatory chemical reactions. *Pro Theoret. Phys.* **56** (1976), *no*. 3, 724–740. (Authors' summary) **57** #11380 80. (92A05)

Chemical waves and chemical turbulence. *Synergetics* (*Proc. Internat. Worksh Garmisch-Partenkirchen*, 1977), *pp*. 164–173. *Springer*, *Berlin*, 1977. (J. S. Joel) **58** #25670 82.35 (92A05)

Kuramoto, Yoshio Wigner crystal, electron chain, and charge density wave in stro magnetic fields. *J. Phys. Soc. Japan* **44** (1978), *no*. 5, 1572–1582. (Author's summar **58** #20072 82.35

Kuran, Ü. Harmonic majorizations in half-balls and half-spaces. *Proc. London Math. S* (3) **21** (1970), 614–636. (W. Schneider) **47** #3697 31B05

A criterion of harmonic majorization in half-spaces. *Bull. London Math. Soc.* (1971), 21–22. (John W. Green) **47** #3698 31B05

On norms of higher gradients of harmonic functions. *J. London Math. Soc.* (2) (1971), 761–766. (W. Schneider) **45** #2194 31B05

On Brelot-Choquet axial polynomials. *J. London Math. Soc.* (2) **4** (1971), 15–2 (John W. Green) **45** #2195 31B05

On the mean-value property of harmonic functions. *Bull. London Math. Soc.* (1972), 311–312. (W. H. Ow) **47** #8887 31B20

On measures associated to superharmonic functions. *Proc. Amer. Math. Soc.* (1972), 179–186. (K.-N. Chow) **47** #5276 31B05

Dirichlet resolutivity and surface-area integrability. *Proc. London Math. Soc.* (3) (1973), 339–358. (J. Veselý) **47** #3702 31B20

Two results on means of harmonic functions. *Proceedings of the Symposium Complex Analysis* (*Univ. Kent*, *Canterbury*, 1973), *pp*. 101–104. *London Math. So Lecture Note Ser.*, *No*. 12, *Cambridge Univ. Press*, *London*, 1974. (Editors) **52** #8464 31C05

Subharmonic behaviour of $|h|^p$ ($p>0$, h harmonic). *J. London Math. Soc.* (2) (1974), 529–538. (M. Brelot) **50** #4993 31C05

Quasi-bounded functions and a result on potentials. *J. Math. Anal. Appl* **55** (1976 *no*. 1, 159–169. (M. Brelot) **54** #7815 31B25

(*with* Brannan, D. A.; Fuchs, Wolfgang H. J.; Hayman, W. K.) A characterizatio of harmonic polynomials in the plane. *Proc. London Math. Soc.* (3) **32** (1976), *no*. 213–229. (J. Lelong-Ferrand) **53** #833 31A05 (30A66)

Kuranishi, Masatake ★Deformations of compact complex manifolds. Séminaire de Mathématiques Supérieures, No. 39 (Été 1969). *Les Presses de l'Université de Montréa Montreal*, *Que*., 1971. 99 *pp*. (H. Kerner) **50** #7588 32G05

Convexity conditions related to 1/2 estimate on elliptic complexes. *Actes Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp*. 231–235. *Gauthier-Villars*, *Paris*, 1971. (Akira Asada) **54** #8738 58G05

Convexity conditions related with 1/2 estimate in boundary problems with simpl characteristics. I. Collection of articles dedicated to S. S. Chern and D. C. Spencer o their sixtieth birthday. *J. Differential Geometry* **6** (1972), 421–436. (V. Guillemi **49** #11575a 58G05 (32F15, 35N15)

Convexity conditions related with 1/2 estimate in boundary problems with simpl characteristics. II. *J. Differential Geometry* **7** (1972), 97–115. (V. Guillemin) **49** #11575b 58G05 (32F15, 35N15)

On a generalization of $\bar{\partial}_b$. *J. Math. Kyoto Univ.* **13** (1973), 143–148. (G. Trautmann **48** #5125 58G05 (35N15)

On the complexes on the boundary induced by elliptic complexes of differentia operators. *Contributions to analysis* (*a collection of papers dedicated to Lipman Bers*), *pp*

215–240. *Academic Press, New York*, 1974. (J. Eells) **50** #11331 58G05 (35N15)

A new proof for regularity of solutions of elliptic differential operators. *Global analysis and its applications, Vol. II* (*Lectures, Internat. Sem. Course, Internat. Centre Theoret. Phys., Trieste*, 1972), *pp.* 355–361. *Internat. Atomic Energy Agency, Vienna*, 1974. (R. D. Moyer) **55** #4297 58G99 (35J99)

Differential systems, equivalence problem, and infinite Lie groups. *Élie Cartan*, 1869–1951 (*hommage de l'Acad. République Socialiste de Roumanie à l'occasion du centenaire de sa naissance*), *pp.* 33–37. *Editura Acad. R.S.R., Bucharest*, 1975. (Editors) **52** #13211 01A70 (53–03, 58–03)

Application of $\bar{\partial}_b$ to deformation of isolated singularities. Various problems in algebraic analysis (Proc. Sympos., Res. Inst. Math. Sci., Kyoto Univ., Kyoto, 1975). *Sûrikaisekikenkyûsho Kôkyûroku No.* 266 (1976), 275–298. (C. Bănică) **57** #16703 32G05

The integrability condition of deformations of CR structures. *Contributions to algebra* (*collection of papers dedicated to Ellis Kolchin*), *pp.* 267–278. *Academic Press, New York*, 1977. (Ngo Van Que) **58** #1264 32G05 (32C05, 53C99)

Application of $\bar{\partial}_b$ to deformation of isolated singularities. *Several complex variables* (*Proc. Sympos. Pure Math., Vol. XXX, Part* 1, *Williams Coll., Williamstown, Mass.*, 1975), *pp.* 97–106. *Amer. Math. Soc., Providence, R.I.*, 1977. (Hans W. Schuster) **56** #12323 32G10 (32F15, 32C40)

Kurano, Masami (*with* Kobayashi, Y.; Fujikawa, H.) On efficiency of inferences of transition probabilities to Markovian decision processes. *Bull. Math. Statist.* **15** (1972/73), *no.* 3-4, 113–122. (H. Bandemer) **48** #10435 90A05

Discrete-time Markovian decision processes with an unknown parameter. Average return criterion. *J. Operations Res. Soc. Japan* **15** (1972), 67–76. (E. Çinlar) **49** #8682 90D35

On the existence of an optimal stationary *I*-policy in non-discounted Markovian decision processes with incomplete state information. *Bull. Math. Statist.* **17** (1976/77), *no.* 3-4, 75–81. (H. Taylor) **57** #5118 90C40

Kurant, Rihard *See* **Courant, Richard**

Kurashov, V. N. *See* **Kurašov, V. N.**

Kurašin, V. N. A problem of optimal stabilization. (Russian) *Trudy Rjazan. Radiotehn. Inst. No.* 69 *Differencial'nye Uravnenija* (1975), 36–39, 166. (Author's summary) **58** #26412 93D99

Kurašov, V. N. (*with* Derjugin, I. A.; Višenskiĭ, A. A.) Phase operator properties in quantum optics. *Izv. Vysš. Učebn. Zaved. Fizika* **1972**, *no.* 12, 44–48 (*Russian*); *translated as Soviet Physics J.* **15** (1972), 1726–1729 (1974). (Corneliu Eftimiu) **54** #1979 81.47

Kurata, Masahiro Immersions of topological manifolds. *J. Fac. Sci. Hokkaido Univ. Ser. I* **21** (1970/71), 237–247. (S. S. Cairns) **45** #9336 57A35

Homotopy groups of s.s. complexes of embeddings. *Hokkaido Math. J.* **5** (1976), *no.* 1, 55–66. (R. C. Kirby) **53** #1612 57E05 (57A35)

On maximal hyperbolic sets. *Hokkaido Math. J.* **6** (1977), *no.* 2, 345–349. (D. K. Arrowsmith) **56** #16694 58F15 (58F20)

Hartman's theorem for hyperbolic sets. *Nagoya Math. J.* **67** (1977), 41–52. (M. C. Irwin) **56** #6745 58F10

Kurata, Sumiko A note on a generalization of prime ideals. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 2, 29–31. (G. Eisenreich) **57** #6105 16A66

Kurata, Yoshiki On an *n*-fold torsion theory in the category ${}_R\mathbf{M}$. *J. Algebra* **22** (1972), 559–572. (M. Teply) **46** #1848 16A64

(*with* Katayama, Hisao; Kutami, Mamoru) Projective modules and 3-fold torsion theories. *Proc. Japan Acad.* **50** (1974), 593–597. (M. Teply) **51** #8169 16A50 (18E40)

(*with* Katayama, Hisao) On a generalization of *QF*-3′ rings. *Osaka J. Math.* **13** (1976), *no.* 2, 407–418. (Maureen H. Fenrick) **53** #13298 16A36

Kurato, A. The lifting of vector-valued functions. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 5(179), 228. (J. Benkö) **53** #3356 32E25 (46H15, 58C10)

(*with* Kac, M. P.) Theorems on lifting vector-valued functions. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 4, 911–925. (Editors) **58** #7018a (E **58** #7018b) 46A30 (46M99, 47A99)

(*with* Kac, M. P.) Corrections to the paper by A. Kurato and M. P. Kac: "Theorems on lifting vector-valued functions" (Izv. Akad. Nauk SSSR Ser. Mat. **39** (1975), 911–925). (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 3, 706–708. (Editors) **58** #7018b 46A30 (46M99, 47A99)

(*with* Kac, M. P.) A sufficient condition for the differentiability of vector-valued functions. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 4, 44–51. (G. Marinescu) **55** #1377 58C20 (46G05)

Kuratowski, Kazimierz ★Introduction to calculus. With an appendix "Additional exercise" by W. Kołodziej. Second English edition. Translated from the Polish by Julian Musielak. International Series of Monographs in Pure and Applied Mathematics, Vol. 17. *Pergamon Press, Oxford-Edinburgh-New York*; *PWN—Polish Scientific Publishers, Warsaw*, 1969. 336 *pp.* (Editors) **50** #2411 26–02

Applications of set-valued mappings to various spaces of continuous functions. *General Topology and Appl.* **1** (1971), *no.* 2, 155–161. (V. J. Mancuso) **45** #1105 54C60

Address presented on September 3, 1969 at the inauguration of the Jubilee of the Polish Mathematical Society. (Polish) Ninth Congress of Polish Mathematicians (Krakow, 1969).. *Wiadom. Mat.* (2) **12**, *no.* 2, 208–214 (1971). (Editors) **53** #7681 01A65 (00A10)

★Introduction to set theory and topology. Containing a Supplement on 'Elements of algebraic topology' by Ryszard Engelking. Completely revised second English edition. First edition translated from the Polish by Leo F. Boron. International Series of Monographs in Pure and Applied Mathematics, Vol. 101. *Pergamon Press, Oxford-New York-Toronto, Ont.*; *PWN—Polish Scientific Publishers, Warsaw*, 1972. 352 *pp.* (*errata insert*) (Editors) **49** #11449 54–01 (02–01, 55–01)

A general approach to the theory of set-valued mappings. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 271–280. *Academia, Prague*, 1972. (C. J. Himmelberg) **54** #1161 54C60

On set-valued *B*-measurable mappings and a theorem of Hausdorff. *Theory of sets and topology* (*in honour of Felix Hausdorff*, 1868–1942), *pp.* 355–362. *VEB Deutsch. Verlag Wissensch., Berlin*, 1972. (F. S. Van Vleck) **50** #5733 54C60

Wacław Sierpiński (1882–1969). *Acta Arith.* **21** (1972), 1–5. (1 *plate, errata insert*) (Editors) **46** #9a 01A70

★Rachunek różniczkowy i całkowy. Funkcje jednej zmiennej. (Polish) [Differential and integral calculus. Functions of one variable] With a supplement "Additional exercises" written by W. Kołodziej. Sixth edition. Biblioteka Matematyczna, Tom 22. *Państwowe Wydawnictwo Naukowe, Warsaw*, 1973. 255 *pp.* (Editors) **50** #2412 26–02

Applications of the Baire-category method to the problem of independent sets. Collection of articles dedicated to Andrzej Mostowski on the occasion of his sixtieth birthday, I. *Fund. Math.* **81** (1973), *no.* 1, 65–72. (S. H. Hechler) **49** #3855 54E50

On partitions of complete spaces which do not admit analytic selectors and on some consequences of a theorem of Gödel. *Symposia Mathematica, Vol. XVI* (*Convegno sulla Topologia Insiemistica e Generale, INDAM, Roma, Marzo*, 1973), *pp.* 67–74. *Academic Press, London*, 1974. (Bhamidi V. Rao) **53** #5308 04A15 (54H05, 54C65)

On the concept of strongly transitive systems in topology. *Ann. Mat. Pura Appl.* (4) **98** (1974), 357–363. (J. C. Oxtoby) **49** #9824 54H15 (54F20)

(*with* Maitra, Ashok) Some theorems on selectors and their applications to semi-continuous decompositions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 877–881. (Bhamidi V. Rao) **52** #15359 54C65 (04A15, 28A05)

Birth of the Polish school of Mathematics. *Studies in topology* (*Proc. Conf., Univ. North Carolina, Charlotte, N.C.*, 1974; *dedicated to Math. Sect. Polish Acad. Sci.*), *pp.* xix-xxii. *Academic Press, New York*, 1975. (Editors) **50** #12572 01A60

On the selector problems for the partitions of Polish spaces and for the compact-valued mappings. Collection of articles dedicated to the memory of Tadeusz Ważewski, IV. *Ann. Polon. Math.* **29** (1975), *no.* 4, 421–427. (F. S. Van Vleck) **53** #11569 54C65

The σ-algebra generated by Souslin sets and its applications to set-valued mappings and to selector problems. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 285–298. (C. J. Himmelberg) **54** #3651 54C65

Selectors in topology and measure theory. (Polish) *Wiadom. Mat.* (2) **19**, *no.* 1, 3–9 (1975). (T. Maćkowiak) **57** #4080 54C65 (28A05)

(*with* Sierpiński, Wacław) ★Oeuvres choisies. Tome III. Théorie des ensembles et ses applications, travaux des années 1930–1966. Publié par les soins de Stanisław Hartman, Kazimierz Kuratowski, Edward Marczewski, Andrzej Mostowski et Andrzej Schinzel. Comité de rédaction: Stanisław Hartman, Kazimierz Kuratowski, Edward Marczewski, Andrzej Mostowski, Andrzej Schinzel, Roman Sikorski et Marceli Stark. *PWN-Éditions Scientifiques de Pologne, Warsaw*, 1976. 688 *pp.* (1 *plate*; *errata insert*) (Editors) **54** #2407 01A75

(*with* Mostowski, Andrzej) ★Set theory. With an introduction to descriptive set theory. Translated from the 1966 Polish original. Second, completely revised edition. Studies in Logic and the Foundations of Mathematics, Vol. 86. *North-Holland Publishing Co., Amsterdam-New York-Oxford*; *PWN—Polish Scientific Publishers, Warsaw*, 1976. xiv+514 *pp.* (D. W. Bressler) **58** #5230 04–01

My personal recollections connected with the research on some topological problems. (Italian summary) *Colloquio Internazionale sulle Teorie Combinatorie* (*Roma*, 1973), *Tomo I*, *pp.* 43–47. *Atti dei Convegni Lincei, No.* 17, *Accad. Naz. Lincei, Rome*, 1976. (S. F. Kapoor) **55** #5357 01A70 (54H25, 55C20, 05C10)

A certain theorem on ideals, and its applications to the Baire property of Polish spaces. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 5 (191), 108–111. (A. V. Ostrovskiĭ) **57** #1452 54H05 (54E99, 04A15)

★Introduction to set theory and topology. Containing a supplement, "Elements of algebraic topology" by Ryszard Engelking. Translated from the Polish by Leo F. Boroń. International Series of Monographs in Pure and Applied Mathematics, 101. *PWN—Polish Scientific Publishers, Warsaw*; *Pergamon Press, Oxford-New York-Toronto, Ont.*, 1977. 352 *pp.* (Editors) **58** #30948a 54–01 (04–01)

★Wstęp do teorii mnogości i topologii. (Polish) [Introduction to the theory of sets and topology] Together with a supplement, "Elements of algebraic topology" by Ryszard Engelking. Seventh edition, augmented. Biblioteka Matematyczna, Tom 9. [Mathematics Library, Vol. 9] *Państwowe Wydawnictwo Naukowe, Warsaw*, 1977. 356 *pp.* (Editors) **58** #30948b 54–01 (04–01)

See also **Topics in topology**, **49** #3802; **Sierpiński, Wacław**, **54** #2405 *and* **Sierpiński, Wacław**, **54** #2406

Kuratsubo, Shigehiko (*with* Igari, Satoru) A sufficient condition for L^p-multipliers. *Pacific J. Math.* **38** (1971), 85–88. (J. H. Hedlund) **46** #5915 42A18

Kurażkovskaja, V. S. (*with* Smirnova, N. L.; Belov, N. V.) Belov's symmetry subclasses for homologous series of structural block bases. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 5, 1094–1096. **58** #28212 20H15

Kurbanov, A. A. Direct theorems on the approximation of functions of several complex variables in polycylindrical domains. (Russian. Azerbaijani and English summaries) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **30** (1974), *no.* 3, 3–8. (P. M. Tamrazov) **51** #3531 32E30

Kurbanov, Ī. (*with* Berezovs'kiĭ, A. A.) Transverse oscillations of rods with allowance for nonlinear elastic heredity. (Russian) *Analytic methods for the study of the solutions of nonlinear differential equations* (*Russian*), *pp.* 27–32. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. **53** #15043 73.35

Nonlinear oscillations of axisymmetrically deformed circular plates. (Russian) *Analytic methods for the study of the solutions of nonlinear differential equaaions* (*Russian*), *pp.* 83–88. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. **53** #15049 73.35

Multifrequency oscillations of systems with distributed parameters with allowance for nonlinear elastic heredity. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 6, 803–809, 862. (M. O. Bašeleĭšvili) **53** #9818 73.45

(*with* Berezovs'kiĭ, A. A.) Time periodic plane electromagnetic fields in a half-space with general material equations. (Russian. English summary) *Boundary value problems of the electrodynamics of conducting media* (*Russian*), *pp.* 37–57. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1976. (Ll. G. Chambers) **56** #4428 78.35

(*with* Mītropol's'kiĭ, Ju. O.; Berezovs'kiĭ, A. A.) Longitudinal-transversal oscillations of viscoelastic rods with allowance for physical and geometric nonlinearities. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 5, 629–638, 717. (E. Goldhagen) **55** #4857 73.35

Longitudinal-transversal oscillations of flexible rods with allowance for nonlinear heredity. (Russian) *Analytic and qualitative methods for the study of differential and differential-difference equations* (*Russian*), *pp.* 108–120. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev,* 1977. (Editors) **58** #14148 73.35

(*with* Gordinskiĭ, L. D.) Existence of solutions of a problem of bending of a viscoelastic rod taking into account a physical nonlinearity. (Russian) *Nonlinear differential equations in applied problems* (*Russian*), *pp.* 89–94, 214. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev,* 1977. (Editors) **58** #8648 73.35

Kurbanov, K. O. Uniformly normal meromorphic functions. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 6, 18–20. (W. K. Hayman) **49** #5355 30A74

Certain classes of meromorphic functions that may be characterized by a spherical derivative. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 1305–1308. (W. H. J. Fuchs) **50** #4950 30A68

A certain classification of meromorphic functions that are defined in the finite plane. (Russian) *Mat. Zametki* **15** (1974), 865–874. (W. K. Hayman) **50** #7526 30A68

Functions meromorphic in the unit disc with a prescribed growth of the spherical derivative. (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 6(180), 173–174. (C. Tanaka) **53** #818 30A72

A remark on a theorem of F. Bagemihl. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **30** (1975), *no.* 3, 45–46. (D. Mitrović) **52** #3535 30A72

(*with* Gavrilov, V. I.) Julia directions for functions that are exceptional in the sense of Julia. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 1, 86–89. (I. N. Baker) **56** #5890 30A74 (30A72)

Kurbanov, N. A canonical transversal system of surfaces. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1971**, *no.* 2, 13–19. (C. Simionescu) **45** #4288 53A05

Systems of congruences with a transversal system of surfaces. (Russian) *Ukrain. Geometr. Sb. No.* 12 (1972), 78–94, 168. (I. Kolář) **48** #4931 53A25

Integral-free representations of certain systems of ruled surfaces. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1974**, *no.* 2, 12–19. (Josef Vala) **50** #1140 53A25

Curves of constant width. (Russian. Tajiki summary) *Izv. Akad. Nauk Turkmen. SSR. Ser. Fiz.-Tehn.Him. Geol. Nauk* **1975**, *no.* 6, 3–8. (V. Volenec) **54** #3580 50A10

Quadratic line complexes that have second order contact with a given pair of complexes. (Russian) *Ukrain. Geometr. Sb. Vyp.* 18 (1975), 84–90, iii. (M. C. Chaki) **53** #3924 53A25

Kurbanov, P. (*with* Hekimov, K.) A study of Mathieu's equation in the presence of damping. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 23 (1974), 82–89, 224. (E. S. Čičkin) **57** #6608 34B30

(*with* Èšmatov, H.) Resonance conditions in the parametric oscillations of viscoelastic rods. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 24 (1974), 185–200, 238. (Authors' summary) **58** #19604 73.41

A study of asymptotic methods of the oscillations of elastoviscous rods with quasiperiodic excitations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent*) *Vyp.* 34 (1975), 175–187, 202. (V. Komkov) **56** #10304 73.41

An averaging theorem for integrodifferential equations that contain slow and fast variables. (Russian. Uzbek summary) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **1977**, *no.* 1, 8–11, 97. (S. D. Miluševa) **57** #7072 45J05

Kurbanova, Z. N. (*with* Kukles, I. S.) Qualitative investigation of the behavior of the characteristics of a certain differential equation in the Poincaré circle. (Russian) *Trudy Samarkand. Gos. Univ.* (*N.S.*) *No.* 181 (1970), 61–74. (Wolfdietrich Müller) **45** #5468 34C05

The behavior of the characteristics of a certain differential equation in the Poincaré disk. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1971**, *no.* 4, 12–17. (C. E. Langenhop) **45** #2246 34C05

Critical cases of a certain differential equation. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz. Tehn. Him. Geol. Nauk* **1972**, *no.* 1, 3–6. (M. Bertolino) **45** #8924 34C05

The points at infinity of a certain differential equation. (Russian. Turkmen and English summaries) *Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk* **1972**, *no.* 3, 3–9. (C. E. Langenhop) **46** #5730 34C05

See also **Abstracts: Conference of the Faculties on Advances in Research, 48** #3665

Kurbatkin, G. P. (*with* Islamov, K. A.; Karimov, A. U.) Solution of equations of baroclinic atmosphere dynamics by means of spherical functions. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), *no.* 2, 80–106. (RŽMat **1976** #3 B1034) **58** #32837 86.35 (35C99)

(*with* Alekseev, A. S.; Eršov, A. P.; Penenko, V. V.) Guriĭ Ivanovič Marčuk (on the occasion of his fiftieth birthday). (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 3, 427–431. (Editors) **51** #7779 01A70

Kurbatov, A. F. Zeros of the scattering amplitude. (Russian. English summary) *Teoret. Mat. Fiz.* **33** (1977), *no.* 3, 354–363. (V. D. Košmanenko) **57** #4872 81.30

Kurbatov, A. M. (*with* Lapuškin, S. S.) Certain questions on the study of model Hamiltonians of statistical physics. I. Fundamental theorems for free energy. (Russian. English summary) *Teoret. Mat. Fiz.* **21** (1974), 103–110. (Authors' summary) **57** #8792 82.47

See also **Preston, Christopher J., 57** #14194b

Kurbatov, V. A. (*with* Novogrudskaja, A. N.) Solvable equations of degree P^n. (Russian) *Sverdlovsk. Gos. Ped. Inst. Učen. Zap.* **78** (1969), 58–71. (R. A. Good) **45** #6794 12A55

A certain peculiarity of the roots of polynomials of prime degree. (Russian) *Sverdlovsk. Gos. Ped. Inst. Učen. Zap. Sb.* 125 *Mat. No.* 4 (1971), 44–49. (W. Narkiewicz) **52** #10699 12E05

A certain property of an equation relative to the squares of differences. (Russian) *Sverdlovsk. Gos. Ped. Inst. Naučn. Trudy No.* 219 *Algebra i Mat. Anal.* (1974), 36–4 (D.-M. Popescu) **52** #354 12E10 (12F10)

Galois extensions of prime degree and their primitive elements. (Russian) *Izv. Vys Učebn. Zaved. Matematika* **1977**, *no.* 1(176), 61–66. (W. Narkiewicz) **56** #2974 12F10

See also **Proceedings: Interuniversity Scientific Conference of the Mathematic Faculties of Pedagogical Institutes of the Ural Region, 46** #1532

Kurbatov, V. G. The spectral radii and Fredholm radii of certain linear operators on th space of functions continuous and bounded on the real line. (Russian) *Collection papers by postgraduates, Vol.* 2 (*Russian*), *pp.* 47–52. *Voronež. Gos. Univ., Voronezh,* 197 (See RŽMat **1974** #6 B797; MR **57** #9376) 47B37 (34K05)

The estimation of the spectral radii of retarded operators in the space of functio continuous and bounded on the real line. (Russian) *Funkcional. Anal. i Priložen.* (1975), *no.* 3, 56–60. (Author's introduction) **58** #11775 34K05 (47A10)

Linear functional-differential equations of neutral type, and the retarded spectru (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 3, 538–550, 644. (J. K. Hale) **53** #6047 34K05

Dichotomy of solutions of equations of neutral type. (Russian) *Studies in stabili and the theory of oscillations* (*Russian*), *pp.* 156–166. *Jaroslav. Gos. Univ., Yarosla* 1977. (From the introduction) **58** #22908 34K05

The spectrum of an operator with commensurable deviations of the argument an with constant coefficients. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 1 1770–1775, 1906. (M. I. Kamenskiĭ) **58** #11776 34K05

Kurčanov, P. F. Elliptic curves of finite rank over Γ-extensions. (Russian) *Mat. Sb.* (*N.S* **90(132)** (1973), 320–324, 327. (J. W. S. Cassels) **48** #6117 14G05 (12A65, 14K15)

The rank of elliptic curves over Γ-extensions. (Russian) *Mat. Sb.* (*N.S.*) **93(13** (1974), 460–466, 488. (Michiel Hazewinkel) **49** #8995 14K15 (14G05, 14G25)

The zeta-function of elliptic curves over certain abelian extensions of imaginar quadratic fields. (Russian) *Mat. Sb.* (*N.S.*) **102(144)** (1977), *no.* 1, 56–70, 151. (Ne Koblitz) **58** #16519 10D05 (14G10, 14K15)

Dirichlet series associated with Jacquet-Langlands cusp forms. (Russian) *Uspe Mat. Nauk* **32** (1977), *no.* 2(194), 215–216. (Helaman R. P. Ferguson) **58** #10786 10H10 (10D15, 22E55)

Kurčatov, V. A. A certain linear interpolation method for solving functional equation (Russian) *Dokl. Akad. Nauk SSSR* **198** (1971), 524–526. (B. Choczewski) **45** #6211 65Q05 (41A05)

Approximate solution of nonlinear functional equations by the method of iteratio with a variable iteration operator. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1143–1151 1182. (C. Ilioi) **50** #8956 65H05

The conditions for the convergence of an iteration process of order $(k+1)$ for th solution of nonlinear functional equations in the case of structurally stable initial dat (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 4(155), 37–41. (Boro Döring **54** #1591 65J05

Conditions for the applicability of a certain linear interpolation method of solvin functional equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 8(159 55–63. (B. Choczewski) **55** #6835 65J05 (47H15)

Solution of functional equations with operators that have singular points. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 9(160), 101–104. (Ja. I. Al'ber) **55** #4659 65J05 (47H15)

A relaxation method for the linearization of the approximate solution of functiona equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 4(167), 130–133 (From the introduction) **58** #3412 65J05 (47H15)

A third order iterative method for the solution of nonlinear functional equations (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 12(175), 51–56. (From the introduction) **58** #8234 65J05 (47H15)

The efficiency of the method of symmetric difference linearization for the solutio of functional equations. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no* 10(185), 86–99. (J. Mikliček) **58** #19112 65J05

A formula for sharpening the approximations of an iteration process. (Russian) *Izv Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 11(186), 46–49. (From the text) **58** #31819 65J05 (39A40)

A class of linearization methods. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no.* 2(189), 45–53. (From the text) **58** #19113 65J05 (47H15)

A way of accelerating the convergence of iteration processes. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1978**, *no.* 3(190), 43–47. (R. S. Anderssen) **58** #13689 65J05

Kurčeeva, I. V. Periodic solutions of the restricted three-body problem that are an analytic continuation of Keplerian rectilinear periodic motions. (Russian. English summary) *Bjull. Inst. Teoret. Astronom.* **13**, *no.* 6(149), 365–378 (1973). (J. A. Morrison) **49** #4352 70.34

Closed collision trajectories in the three-dimensional circular restricted three-body problem. (Russian. English summary) *Vestnik Leningrad. Univ. No.* 13 *Mat. Meh. Astronom. Vyp.* 3 (1973), 108–113, 173. (J. A. Morrison) **48** #7708 70.34

Kustaanheimo-Stiefel regularization and nonclassical canonical transformations. *Celestial Mech.* **15** (1977), *no.* 3, 353–365. (André Deprit) **56** #7396 70.53

Kurčenko, O. O. (*with* Bondar, Ju. V.) The quadratic variation of a random field. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv. Ser. Mat. Meh. No.* 16 (1974), 160–164, 178. (Authors' summary) **56** #1434 60G17

Certain limit theorems for random fields. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 6, 493–497, 570. (M. I. Jadrenko) **52** #15620 60F15 (60G15)

Conditions for the singularity of measures generated by random fields. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1975**, *no.* 8, 681–683, 763. (M. I. Jadrenko) **52** #15650 60G30

A certain limit theorem for random fields. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 12 (1975), 90–97, 172. (I. G. Žurbenko) **53** #1692 60F05 (60G15)

Some limit theorems for random operators. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 13 (1975), 83–91, 163. (R. M. Dudley) **54** #1365 (EA **54**) 60G17

An approach to the proof of theorems of Baxter type for Gaussian random fields. (Russian) *Studies in the theory of random processes* (*Russian*), *pp.* 77–84. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1976. (R. M. Dudley) **56** #1429 60G15

(*with* Docenko, B. I.; Jadrenko, M. Ĭ.) A problem of nonlinear filtering of a random process. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 28 (1976), 100–107, 154. (Z. A. Piranašvili) **56** #9667 60G35

(*with* Docenko, B. I.; Jadrenko, M. Ĭ.) A nonlinear filtering problem for a random process. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 29 (1976), 123–129, 155. (Authors' summary) **56** #13346 60G35

Kurčenko, T. S. (*with* Svetal'skaja, L. V.) Some nonstationary versions of Seidel's method for the solution of nonlinear operator equations. (Russian) *Methods of approximate solution of differential and integral equations* (*Russian*), *pp.* 97–105. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (Editors) **58** #3387 65H05 (47H15)

(*with* Vakulenko, L. V.) Monotone sequences of approximations of an inverse linear operator. (Russian) *The method of integral manifolds in nonlinear differential equations* (*Russian*), *pp.* 136–145. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (M. Altman) **51** #11147 47A50 (65J05)

(*with* Kc'ondz, N. A.) Construction of two-sided approximations for the solution of nonlinear operator equations by a nonstationary iterative method. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 545–550, 576. (G. Vainikko) **50** #3565 65J05 (47H15)

(*with* Sergienko, N. P.) Monotonicity questions in certain generalizations of the Čebyšev method. (Ukrainian. Russian summary) *Projective-iterative methods for the solution of differential and integral equations* (*Ukrainian*), *pp.* 93–99, 201. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1974. (Authors' summary) **57** #13601 47H15 (65J05)

(*with* Kurpel', M. S.) ★Двусторонние методы решения систем уравнений. (Russian) [Two-sided methods for the solution of systems of equations] "*Naukova Dumka*", *Kiev*, 1975. 184 *pp.* (B. Jankó) **54** #1586 65H10

(*with* Svītal's'ka, L. V.) Solution of linear operator equations by the method of nonstationary approximation of the inverse operator. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 4, 534–540, 575. (C. Ilioi) **52** #4615 65J05 (65R05)

(*with* Sergienko, N. P.) The convergence of certain modifications of the Čebyšev method. (Russian) *Mathematics collection* (*Russian*), *pp.* 95–98. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (Editors) **58** #19114 65J05 (47H15)

A study of nonstationary iteration methods for the solution of operator equations. (Russian) *Mathematics collection* (*Russian*), *pp.* 98–101. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. (Editors) **58** #19115 65J05 (47H15)

(*with* Kolosov, A. I.) Solution of a boundary value problem on the half line by the nonstationary method. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 11, 1967–1970, 2107. (M. Tvrdý) **55** #12987 34B15

Kurčenkova, G. I. (*with* Lebedev, V. I.; Capelkin, E. S.) Galerkin's method for diffusion equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 4, 957–965, 1088. (N. N. Janenko) **52** #9650 65P05

Kurcevič, K. A. (*with* Kravcov, M. K.) A method for lowering the dimension of the transportation problem of linear programming. (Russian) *Mathematical methods in economic research* (*Russian*), *pp.* 32–38. *Izdat.* "*Nauka*", *Moscow*, 1974. (I. Maruşciac) **53** #7456 90C05

Kurcheeva, I. V. *See* **Kurčeeva, I. V.**

Kurčidis, V. A. (*with* Mamatov, Ju. A.) The effective use of superoperative memories in the structures of specialized computers. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1973**, *no.* 5, 66–72. (Author's summary) **48** #10197 68A20

Kurcius, Eryk (*with* Lorens, Michał) Some remarks on divergence. *Uniw. Śląski w Katowicach—Prace Mat.* **4** (1973), 45–49. (*loose errata*) (H. S. Park) **48** #12334 53A45

(*with* Lorens, Michał) Note on gradient and rotation. (Polish summary) *Uniw. Śląski w Katowicach—Prace Mat.* **4** (1973), 51–56. (H. S. Park) **49** #7932 53A45

(*with* Kasparek, Erwin) Covariant derivative of the second order of scalars. (Polish summary) *Uniw. Śląski w Katowicach Prace Naukowe No.* 158 *Prace Mat. No.* 7 (1977), 7–11. (Leo Boček) **55** #3997 53A55

Kurcveil', Ja. *See* **Kurzweil, Jaroslav**

Kurcyusz, Stanisław Application of the Ljapunov function to the investigation of the convergence of methods of minimization without constraints. (Polish. Russian and English summaries) *Arch. Automat. i Telemech.* **18** (1973), 55–70. (J. S. Kowalik) **47** #7564 49D30

A local maximum principle for operator constraints and its application to systems with time lags. (Polish and Russian summaries) *Control Cybernet.* **2** (1973), *no.* 1-2, 99–125. (G. M. Ewing) **52** #11702 49B30 (93C25)

On the existence of Lagrange multipliers for infinite dimensional extremal problems. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 799–802. (Author's summary) **54** #13680 49B30

(*with* Wierzbicki, Andrzej P.) Projection on a cone and generalized penalty functionals for problems with constraints in Hilbert space. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **22** (1974), 983–988. (Zbl **298** #90052) **58** #30668 49D30

(*with* Dolecki, Szymon) Convexité généralisée et optimisation. (English summary) *C. R. Acad. Sci. Paris Sér. A-B* **283** (1976), *no.* 3, Aii, *A*91–*A*94. (A. D. Ioffe) **54** #12209 90C30 (58C05)

On the existence and non-existence of Langrange multipliers in Banach spaces. *J. Optimization Theory Appl.* **20** (1976), *no.* 1, 81–110. (Bruce D. Craven) **54** #12214 90C30

(*with* Olbrot, Andrzej W.) On the closure in W_1^q of the attainable subspace of linear time lag systems. *J. Differential Equations* **24** (1977), *no.* 1, 29–50. (G. M. Ewing) **55** #1204 49E15 (93C25)

(*with* Wierzbicki, Andrzej P.) Projection on a cone, penalty functionals and duality theory for problems with inequaltity constraints in Hilbert space. *SIAM J. Control Optimization* **15** (1977), *no.* 1, 25–56. (Werner Krabs) **55** #11628 65K05 (49B30)

On Φ-subgradients and a penalty functional technique. *Wiss. Z. Techn. Hochsch. Ilmenau* **23** (1977), *no.* 4, 93–102. (Zbl **359** #90072) **58** #7314 49D05

(*with* Dolecki, Szymon) On Φ-convexity in extremal problems. *SIAM J. Control Optimization* **16** (1978), *no.* 2, 277–300. (Jean-Pierre Crouzeix) **57** #18824 90C25

Kürcz, A. (*with* Großmann, Christian; Schöniger, G.) Genauigkeitsschranken bei gemischter Anwendung von Barriere- und Strafmethoden in der konvexen Optimierung. (English and Russian summaries) *Z. Angew. Math. Mech.* **56** (1976), *no.* 4, 161–165. (Joachim Hirche) **55** #2145 90C30

Kurdačenko, L. A. Certain generalizations of layer-finite groups. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 213–216, 285. (A. I. Moskalenko) **49** #9085 20E25

Nonperiodic groups with bounds for the layers of the elements. (Russian) *Ukrain Mat. Ž.* **26** (1974), 386–389, 430. (A. I. Moskalenko) **50** #4754 20E25

FC-groups with a layer-finite periodic part. (Russian) *Some questions in group theory* (*Russian*), *pp.* 160–172, 225. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1975. (M. J. Tomkinson) **55** #510 20E25

FC-groups for which the set of orders of the elements of the periodic part is bounded. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 6, 1205–1213, 1370. (F. Haimo) **52** #14072 20F35

FC-groups whose periodic part is imbedded in a direct product of finite groups. (Russian) *Mat. Zametki* **21** (1977), *no.* 1, 9–20. (J. Wiegold) **56** #12133 20F15

Kurdanov, H. Ju. An upper estimate for the solutions of a nonlinear first order equation of lagging type. (Russian) *Differencial'nye Uravnenija* **7** (1971), 2283–2284. (L. J. Grimm) **45** #2288 34K05

Kurdevanidze, G. D. A theorem on the existence of periodic solutions of systems with small lag in the critical case. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **77** (1975), 29–32. (M. M. Konstantinov) **51** #8583 34K15

Kurdgelaidze, D. F. (*with* Pljusnin, L. N.) Construction of spinor-field equations in cosmological space. *Izv. Vysš. Učebn. Zaved. Fizika* **1972**, *no.* 10, 16–19 (*Russian*); *translated as Soviet Physics J.* **15** (1972), 1399–1403. (Kotik K. Lee) **52** #7451 83.53

Spinorial geometry. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1977**, *no.* 2, 7–12. (Author's summary) **57** #15230 83.53

Kurdjukov, A. P. (*with* Bel'giĭ, V. V.; Novak, G. A.) The problem of finding representatives of the cycles in the expansion of a complete system of residues with respect to an arbitrary modulus. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 4, 47–50. (Authors' summary) **57** #9642 10A30

Determining cyclic representatives of cyclic codes. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 4, 107–108. (Ezio M. Biglieri) **58** #9771 94A10

Kurdjumov, G. L. A certain class of immune sets. (Russian) *Moskov. Inst. Èlektron. Mašinostroenija–Trudy MIÈM Vyp.* 30 *Mat. Anal. i Priložen.* (1974), 3–18. (A. N. Dëgtev) **53** #12916 02F40

An algorithm-theoretic method in studying homogeneous random networks. *Locally interacting systems and their application in biology* (*Proc. School-Sem. Markov Interaction Processes in Biology*, *Pushchino*, 1976), *pp.* 37–55. *Lecture Notes in Math.*, *Vol.* 653, *Springer*, *Berlin*, 1978. (R. G. Buharaev) **58** #20904 94A30

An example of a nonergodic one-dimensional homogeneous random medium with positive transition probabilities. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 6, 1287–1290. (Jiří Sústal) **58** #9938 94A35

Kurdjumov, I. V. (*with* Smirnov, Ju. F.; Šitikova, K. V.; El' Samarai, S. X.) Translationally invariant shell model. *Nuclear Phys.* **A145** (1970), 593–612. (A. Corciovei) **47** #1389 81.22

(*with* Baril', A. D.; Danilevič, A. A.) Estimation of the efficiency characteristics of a complex system with supervision. (Russian) *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 4, 72–76, 221. (Bojan Popović) **52** #2557 90B25 (60K25)

Kurdjumov, S. P. (*with* Samarskiĭ, A. A.; Zmitrenko, N. V.; Mihaĭlov, A. P.) ★Нелинейные процессы в плотной плазме и особенности термодинамики режимов обострения. (Russian) [Nonlinear processes in dense plasma and singularities of the thermodynamics of aggravation regimes] Preprint IPM-1976, No. 109. *Inst. Prikl. Mat. Akad. Nauk SSSR*, *Moscow*, 1976. 35 *pp.* **58** #32459 80.60

(*with* Mihaĭlov, A. P.; Plohotnikov, K. È.) ★Локализация тепла в многомерных задачах нелинейной теплопроводности. Тепловой "кристалл". (Russian) [Heat localization in multidimensional problems of nonlinear heat conduction. The heat "crystal"] Preprint No. 22 (1977). *Inst. Prikl. Mat. Akad. Nauk SSSR*, *Moscow*, 1977. 50 *pp.* (V. P. Kalašnikov) **57** #18505 80.35 (35K99)

(*with* Volosevič, P. P.; Gordeziani, D. G.; Lacabidze, G. S.; Levanov, E. I.; Meladze, G. V.; Okroašvili, T. G.; Popov, Ju. P.; Shirtladze, N. M.) Problems in fluid dynamics and in magnetic fluid dynamics with account taken of the sources (sinks) of mass, pulse and energy. (Russian. English summary) *Akad. Nauk SSSR Inst. Prikl. Mat. Preprint No.* 45 (1978), 35 *pp.* (Authors' summary) **58** #19755 76.35 (76.65)

Kurdjumov, V. N. *See* **Computer techniques in electrodynamics**, **57** #2212

Kurdjumov, V. P. Integral operators with a discontinuous kernel. (Russian) *Studies in differential equations and the theory of functions* (*Russian*), *pp.* 104–111, 115. *Saratov. Univ.*, *Saratov*, 1974. (Author's summary) **58** #29765 42A20

Whether the root vectors of an integral operator with a kernel of the type of a Green function form a Riesz basis. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 2, 25–43, 167. (Author's summary) **58** #30512 47G05

Kurdjumova, A. I. The extraordinary Cauchy integrals. (Russian) *Istor.-Mat. Issled. Vyp.* 22 (1977), 82–84, 302. (Esther R. Phillips) **58** #21217 01A55 (33-03)

Kurdova, E. V. (*with* Veržbinskaja, Ju. S.; Dem'janovič, Ju. K.; Smirnov, V. I.) A method for the numerical solution of the Navier-Stokes equations. (Russian) *Metody Vyčisl.* **10** (1976), 130–136, 188. (Authors' summary) **57** #11351 76.65

Kurdyumov, G. L. *See* **Kurdjumov, G. L.**

Kurdyumov, I. V. *See* **Kurdjumov, I. V.**

Kureĭ, A. I. (*with* Geče, F. Ĭ.) The entire solutions of linear partial differential equations of infinite order. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **8** (1973), *no.* 2, 123–143, 177. (H. Tornehave) **49** #3297 35A20 (32A15)

Kureĭčik, V. M. (*with* Melihov, A. N.; Celjankin, V. V.; Tiščenko, V. A.) The number of intersections of edges of an arbitrary graph. (Russian) *Vyčisl. Sistemy No.* 41 (1971), 13–24. (W. Imrich) **46** #3372 05C35

(*with* Melihov, A. N.; Lisjak, V. V.) A certain method of arranging a graph in the plane. (Russian) *Vyčisl. Sistemy No.* 41 (1971), 25–31. (W. Imrich) **46** #3373 05C35

(*with* Melihov, A. N.; Tiščenko, V. A.) Minimization of the number of intersections of the edges of a graph. (Russian) *Vyčisl. Sistemy No.* 47 (1971), 32–40. (W. Imrich) **47** #8359 05C99 (68A10)

(*with* Melihov, A. N.; Berštein, L. S.; Lisjak, V. V.) Partition of a graph into plane subgraphs. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 6, 166–170 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 6, 1087–1090. (Gary Haggard) **54** #125 05C10 (94A20)

(*with* Melihov, A. N.; Karelin, V. P.) Dissection of graphs into subgraphs. (Russian) *Mathematical simulation and the theory of electrical circuits, No.* 10 (*Proc. Sem.*) (*Russian*), *pp.* 70–75, 203. *Izdat.* "*Naukova Dumka*", *Kiev*, 1973. (Jaroslav Nešetřil) **51** #5412 05C99

(*with* Melihov, A. N.; Berštein, L. S.; Lisjak, V. V.) Estimates of the number of internally stable subsets of the set of vertices of a graph. (Russian) *Vyčisl. Sistemy No.* 54 (1973), 13–20, 153. (W. Mader) **50** #4380 05C35

(*with* Melihov, A. N.; Berštein, L. S.) ★Применение графов для проектирования дискретных устройств. (Russian) [Application of graphs to the designing of discrete devices] *Izdat.* "*Nauka*", *Moscow*, 1974. 303 *pp.* (A. D. Koršunov) **50** #6660 94A20

(*with* Korolev, A. G.) A method of recognizing an isomorphism of graphs. (Russian. English summary) *Kibernetika* (*Kiev*) **1977**, *no.* 2, 82–87. (Authors' summary) **58** #10616 05C99 (68A10)

Kurek, Jan Construction of an object of center-projective connection. (Polish and Russian summaries) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **27** (1973), 49–54 (1975). (J. J. Etayo) **52** #11764 53B10

Kurematsu, Y. (*with* Kitamura, Shinzo; Dohnomoto, T.) Construction of a Lyapunov function by the perturbation method and its application to the transient stability problem of power systems with non-negligible transfer conductances. *Internat. J. Control* **26** (1977), *no.* 3, 405–420. (James A. Heiner) **58** #33375 93D05

Kurenbin, O. I. The discrete spectrum of the Dirac and Pauli operators. (Russian) *Problems of mathematical physics, No.* 3: *Spectral theory* (*Russian*), *pp.* 49–58. *Izdat. Leningrad. Univ., Leningrad*, 1968. (H. Flaschka) **51** #3970 47F05 (81.47)

See also **Spectral theory**, **49** #10505

Kurepa, Đuro Factorials and the general continuum hypothesis. *General topology and its relations to modern analysis and algebra, III* (*Proc. Third Prague Topological Sympos.*, 1971), *pp.* 281–282. *Academia, Prague*, 1972. (J. E. Rubin) **50** #9595 04A30 (04A25)

Waclaw Sierpiński (14.03.1882–21.10.1969). (Serbo-Croatian) *Mat. Vesnik* **9(24)** (1972), 313–321. (Editors) **48** #37 01A70

On factorisation of quadratic matrices. *Math. Balkanica* **2** (1972), 94–101. (B. N. Moyls) **48** #11150 15A21

Some fixed point theorems. *Math. Balkanica* **2** (1972), 102–108. (S. Swaminathan) **47** #9599 54H25 (47H10)

Some cases in the fixed point theory. *Proceedings of the International Symposium on Topology and its Applications* (*Budva*, 1972), *pp.* 148–156. *Savez Društava Mat. Fiz. i Astronom., Belgrade*, 1973. (S. P. Singh) **49** #3881 54H25

Left factorial function in complex domain. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* **3** (1973), 297–307. (R. N. Jain) **50** #10336 33A15

Right and left factorials. Conferenze tenuti in occasione del cinquantenario dell'Unione Matematica Italiana (1972). *Boll. Un. Mat. Ital* (4) **9** (1974), *suppl. fasc.* 2, 171–189. (E. C. Milner) **54** #12529 04A20 (10A20)

Sur une suite de nombres naturels. *C. R. Acad. Sci. Paris Sér. A* **278** (1974), 467–469. (L. Carlitz) **49** #2414 05A10 (10A35)

On trees or ramifications. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 371–382. (E. Harzheim) **52** #5424 04A15 (04A30)

On some new left factorial propositions. Papers presented at the Fifth Balkan Mathematical Congress (Belgrade, 1974). *Math. Balkanica* **4** (1974), 383–386. (S. P. Mohanty) **58** #10716 10A99

Prof. Maurice Fréchet (1878–1973). (Esperanto) *Sci. Rev.* **25** (1974), 175–176. **58** #27157 01A70

Fixpoints of decreasing mappings of ordered sets. *Publ. Inst. Math.* (*N.S.*) **18(32)** (1975), 111–116. (R. E. Smithson) **51** #5424 06A10

On the system of all maximal chains (antichains) of a graph. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **20(34)** (1976), 161–167. (D. Bollman) **58** #21872 06A10 (05C05)

Monotone mappings and cellularity of ordered sets. *General topology and its relations to modern analysis and algebra, IV* (*Proc. Fourth Prague Topological Sympos., Prague*, 1976), *Part B*, *pp.* 247–253. *Soc. Czechoslovak Mathematicians and Physicists, Prague*, 1977. (O. Kopecek) **58** #16433 06A10

On some hypotheses concerning trees. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **21(35)** (1977), 99–108. (Keith Devlin) **57** #2919 04A20 (02K05)

Ramified sets or pseudotrees. *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **22(36)** (1977), 149–163. (From the introduction) **58** #16311 04A20 (06A10)

See also **Proceedings: International Symposium on Topology and its Applications**, **48** #7188; **Fundamentals of mathematics**, **49** #8788; **Papić, Pavle**, **58** #91; **Papić, Pavle**, **58** #92 *and* **Set theory, Foundations of mathematics**, **58** #16083

Kurepa, Svetozar ★Uvod u matematiku. (Serbo-Croatian) [Introduction to mathematics] Skupovi-strukture-brojevi. [Sets-structures-numbers] *Tehnička Knjiga, Zagreb*, 1970. 252 *pp.* (Editors) **50** #12503 00A05

(*with* Kraljević, Hrvoje) Semigroups on Banach spaces. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **5(25)** (1970), 109–117. (G. Da Prato) **45** #9190 47D05

(*with* Kannappan, Pl.) Some relations between additive functions. II. *Aequationes Math.* **6** (1971), 46–58. (M. Kuczma) **45** #2353 39A15

Quadratic functionals conditioned on an algebraic basic set. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **6(26)** (1971), 265–275. (H. Gross) **46** #7278 15A63 (39A25)

Remarks on operators that leave one function invariant. *Math. Balkanica* **1** (1971), 154–160. (A. M. Sinclair) **45** #7508 47A65

(*with* Jou, S. S.) Some properties of almost open sets in topological groups and application. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1972), 189–200. (J. Gil de Lamadrid) **48** #6312 22A10

Uniformly bounded cosine function in a Banach space. *Math. Balkanica* **2** (1972 109–115. (J. A. Goldstein) **47** #9352 47D10 (43A07)

On bimorphisms and quadratic forms on groups. *Aequationes Math.* **9** (1973 30–45. (M. Hosszú) **48** #4565 39A40 (20F99)

A weakly measurable selfadjoint cosine function. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **8(28)** (1973), 73–79. (S. Kantorovitz) **48** #12147 47D05

Decomposition of weakly measurable semigroups and cosine operator function (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **11(31)** (1976), *no.* 1, 91–95. (J. Lagnese) **53** #11431 47D05

Remark on similarity of operators. (Serbo-Croatian summary) *Glas. Mat. Ser. I* **13(33)** (1978), *no.* 1, 75–80. (John Daughtry) **58** #7174 47B15

See also **Functional equations and inequalities**, **58** #23210

Kurepanov, Ju. M. The computation of the moment acting on a harmonically oscillatin inclined plate. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1975**, *no.* 1(152), 41–5 (Jakub Siemek) **52** #9791 76.35

Kureychik, V. M. *See* **Kureičik, V. M.**

Kurgaev, A. F. (*with* Pisarskiĭ, A. V.; Palagin, A. V.) On the question of the convergenc of the "digit by digit" methods of computing the elementary functions. *Kibernetik* (*Kiev*) **1974**, *no.* 4, 147–149. (V. V. Ivanov) **53** #1915 65D20

Kurgaev, O. F. Use of Newton's interpolation polynomial with variable step for piecewis approximation of analytic functions. *Avtomatika* **1975**, *no.* 1, 78–82 (*Ukrainian. Russia and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 1, 67–71. (N. Abdelmalek) **52** #4576 65D05

Kurganov, T. K. The construction of higher order approximations for a class of secon order integro-differential equations. (Russian) *Voprosy Vyčisl. i Prikl. Mat.* (*Tashkent Vyp.* 35 (1975), 26–32, 212. (Author's summary) **56** #17169 65R05

The construction of asymptotic solutions of nonlinear integro-differential equations subject to an exciting force, that are time-dependent. (Russian) *Voprosy Vyčisl. i Prik Mat.* (*Tashkent*) *No.* 44 (1976), 30–39, 186. (RŽMat **1977** #6 B379) **58** #29952 45J05

Kurganskaja, M. Ja. A boundary value problem for two concentric annuli. (Russian English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 31 (1977), 61–67, 156–157. (Author summary) **58** #11439 30A88

Kurganskiĭ, M. V. (*with* Dikiĭ, L. A.) Integral conservation law for perturbations of zona flow, and its application to stability studies. *Izv. Akad. Nauk SSSR Ser. Fiz. Atmosfer. Okeana* 7 (1971), *no.* 9, 939–945 (*Russian*); *translated as Izv. Acad. Sci. USSR Atmospher. Ocean. Phys.* 7 (1971), *no.* 9, 623–626. (Authors' summary) **58** #8776 76.49

Kurgayev, O. F. *See* **Kurgaev, O. F.**

Kuribayashi, Akikazu (*with* Moriya, Ryōji; Yoshida, Katsuaki) On a family of non-hyperelliptic compact Riemann surfaces of genus 3. *Bull. Fac. Sci. Engrg. Chu Univ.* **19** (1976), 1–21. (R. F. Lax) **55** #10467 14H15 (14H30)

On the equations of compact Riemann surfaces of genus 3 and the generalize Teichmüller spaces. *J. Math. Soc. Japan* **28** (1976), *no.* 4, 712–736. (R. F. Lax **54** #5243 14H15 (30A46, 32G15)

On the generalized Teichmüller spaces and differential equations. *Nagoya Math. J* **64** (1976), 97–115. (Toshiyuki Maebashi) **54** #13141 32G15 (32G20, 14H15)

(*with* Moriya, Ryōji; Yoshida, Katsuaki) On Weierstrass points. *Bull. Fac. Sci Engrg. Chuo Univ.* **20** (1977), 1–29. (R. F. Lax) **58** #685 14H45 (30A48)

(*with* Komiya, Kaname) On Weierstrass points of non-hyperelliptic compact Riemann surfaces of genus three. *Hiroshima Math. J.* 7 (1977), *no.* 3, 743–768. (H. M Farkas) **57** #12521 14H15 (14K25, 30A46)

Kuričkin, V. M. *See* **Symbol information processing**, **56** #4213

Kuricyn, Ju. G. (*with* Petunīn, Ju. Ī.; Semenov, E. M.) Čebyšev type inequalities in symmetric spaces. (Russian) *Mat. Zametki* **10** (1971), 195–205. (J. Peetre) **45** #7461 46E30

Systems of sphero-symmetric random variables. (Russian) *Voronež. Gos. Univ. Trudy Mat. Fak. Vyp.* 6 (1972), 52–58. (S. Maloševskiĭ (RŽMat **1973** #4 V25)) **56** #13310 60E05

(*with* Afanas'eva, L. G.) The existence of a linear unbiased estimator for a parameter in a Gaussian distribution. (Russian. English summary) *Teor. Verojatnost. i Mat. Statist. Vyp.* 8 (1973), 14–23, 173. (A. I. Ponomarenko) **54** #14273 62M10

Kuridze, M. V. *See* **Problems of pattern recognition and graph theory**, **48** #3318

Kurihara, Mitsunobu On an asymptotic behavior of solutions of differential-difference equations. *Japan-United States Seminar on Ordinary Differential and Functional Equations* (*Kyoto*, 1971), *pp.* 258–261. *Lecture Notes in Math., Vol.* 243, *Springer, Berlin*, 1971. (C. H. Anderson) **55** #5983 34K20

On the existence of an approximate solution in Chebyshev series of a nonlinear integral equation of Fredholm type. *Mem. Numer. Math. No.* 3 (1976), 49–67. (W. J. Kotzé) **56** #1757 65R05

On approximate solutions of nonlinear Volterra integrodifferential equations in Chebyshev series. *Mem. Numer. Math. No.* 5 (1978), 33–72. (P. M. Anselone) **58** #13823 65R05

Kurihara, Toshihiko (*with* Hitaka, Toru) On the uniqueness of the solution of the simultaneous equations related to context-free language. *Systems-Computers-Controls* **2** (1971), *no.* 6, 41–49. (A. Tauts) **49** #6688 68A30

(*with* Hitaka, Toru) On the general solution of the simultaneous equations related to context-free language. *Systems-Computers-Controls* **4** (1973), *no.* 4, 7–14. (S. Ginsburg) **50** #6216 68A30

Kuriki, Shinji Une identité introduite par le dénumérant. *TRU Math.* **13** (1977), *no.* 1, 53–54. (Louis Comtet) **58** #16331 05A19

Kurilenkov, V. I. (*with* Komlik, V. I.) The structure of a set of non-improvable decisions. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1976**, *no.* 4, 132–133, 144. (B. T. Poljak) **56** #4734 90A05 (90D35)

Kurilov, A. E. (*with* Irikov, V. A.) Estimation of the complexity of realization of dialogue procedures for determination of priorities. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1974**, *no.* 1, 12–21, 234 (*Russian*); *translated as Engrg. Cybernetics* **12** (1974), 8–17. (P. Pratali) **52** #12762 90B99

Kurilov, B. M. Recursive modulation analysis of functions. (Russian) *Vyčisl. Sistemy No.*

44 (1971), 49–59. (F. Ustina) **46** #593 42A16

Kurina, G. A. Necessary conditions for the time-optimality problem for a linear differential equation with a singular matrix multiplying the derivative. (Russian) *Collection of articles on applications of functional analysis* (*Russian*), *pp.* 90–96. *Voronež. Tehnolog. Inst., Voronezh*, 1975. (Editors) **56** #9391 49B30

Asymptotic solution of a certain classical singularly perturbed optimal control problem. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 3, 532–535. (I. Muntean) **55** #13311 49A10

A degenerate optimal control problem, and singular perturbations. (Russian) *Dokl. Akad. Nauk SSSR* **237** (1977), *no.* 3, 517–520. (G. Zatiašvili) **57** #7309 49B10

Kurinnoĭ, G. Č. A new proof of a theorem of Dilworth. (Russian) *Vestnik Har′kov. Gos. Univ. No.* 93 *Mat. Vyp.* 38 (1973), 11–15, 1. (L. Beran) **49** #161 06A30

A condition for the isomorphism of finite modular lattices. (Russian) *Vestnik Har′kov. Gos. Univ. No.* 119 *Mat. i Meh. Vyp.* 40 (1975), 45–47, ii. (E. T. Schmidt) **53** #13054 06A30

Extensions of finite modular lattices. (Russian) *Vestnik Har′kov. Gos. Univ. No.* 119 *Mat. i Meh. Vyp.* 40 (1975), 47–55, ii. (E. T. Schmidt) **53** #13055 06A30

The lattice of submodules of a module with three free generators over a completely primary uniserial ring. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 6, 491–492, 572. (L. A. Koifman) **57** #6087 16A36

A remark on the evolution spectrum of genetic algebras. (Russian) *Vestnik Har′kov. Gos. Univ. No.* 134 *Mat. i Meh. Vyp.* 41 (1977), 89–95, 3. (Author's summary) **57** #18881 92A15 (17E05, 92A10)

Kuriškin, V. V. Some problems of quantum mechanics possessing a non-negative phase-space distribution function. *Internat. J. Theoret. Phys.* 7 (1973), 451–466. (Author's summary) **50** #15750 81.60

Kurisu, Tadashi Two-machine sequencing problem with exponential processing times. *Tech. Rep. Osaka Univ.* **23** (1973), 1–8. (George Weiss) **51** #2630 90B35

Maximizing the payoff level in the random payoff game. *Tech. Rep. Osaka Univ.* **24** (1974), 389–401. (Bert Fristedt) **52** #5049 90D05

Two-machine scheduling under required precedence among jobs. *J. Operations Res. Soc. Japan* **19** (1976), *no.* 1, 1–13. (Santosh Kumar) **53** #10253 90B35

On random payoff games. *Tech. Rep. Osaka Univ.* **26** (1976), *no.* 1276-1307, 1–12. (Author's summary) **56** #2422 90D05 (90D15)

Two-person zero-sum games with random payoffs. *J. Operations Res. Soc. Japan* **20** (1977), *no.* 1, 42–58. (T. Parthasarathy) **57** #5125 90D05

Two-machine scheduling under arbitrary precedence constraints. *J. Operations Res. Soc. Japan* **20** (1977), *no.* 2, 113–131. (Richard N. Burns) **56** #7930 90B35

Three-machine scheduling problem with precedence constraints. *J. Operations Res. Soc. Japan* **20** (1977), *no.* 3, 231–242. (Richard N. Burns) **56** #10907 90B35

Kuriyama, Atsushi A semi-microscopic derivation of coupling between rotational and intrinsic motions. I. *Progr. Theoret. Phys.* **56** (1976), *no.* 6, 1786–1801. (Author's summary) **55** #7200 81.47

Kuriyama, Ken On invariant subspaces of *J*-involutive algebras. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **29** (1975), *no.* 2, 243–248. (Mohammed Akkar) **52** #11616 46L15 (47B50)

On left Hilbert algebras with respect to Minkowski forms. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **30** (1976), *no.* 1, 103–111. (From the author's introduction) **55** #8807 46K15

Remarks on left Hilbert algebras with respect to Minkowsky forms. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 2, 173–175. (P. Saworotnow) **58** #17861a 46K15

Crossed products of left Hilbert algebras with respect to Minkowsky forms. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 2, 177–181. (P. Saworotnow) **58** #17861b 46K15

(*with* Inoue, Atsushi) Weakly unbounded operator algebras. *Mem. Fac. Sci. Kyushu Univ. Ser. A* **31** (1977), *no.* 2, 267–284. (Shinzō Kawamura) **58** #30322 46L15

Kuriyama, Sennosuke (*with* Shimosakon, Takio; Nose, Toyokazu; Nakagiri, Daiju) An application of Markov processes to inventory management (the optimal inventory policy for obsolete commodities). (Japanese. English summary) *Mem. Osaka Inst. Tech. Ser. A* **19** (1974/75), *no.* 1, 7–18. (Masafumi Sasaki) **55** #2090 90B05

(*with* Nomura, Shigenobu; Ui, Tetsuo) A study of a sequencing problem that takes into account the switch-over time. (Japanese. English summary) *Mem. Osaka Inst. Tech. Ser. A.* **19** (1974/75), *no.* 1, 31–41. (Tadashi Kurisu) **55** #7364 90B35

(*with* Shimosakon, Takio; Yoshimura, Koichi) A study of decison making under ignorance (a consideration of generalized maximum from pay-off matrix). (Japanese. English summary) *Mem. Osaka Inst. Tech. Ser. A* **20** (1975/76), *no.* 1, 19–27. (Authors' summary) **58** #9348 90D35 (90A05)

(*with* Shimosakon, Takio; Okumura, Takeshi; Minatoguchi, Mamoru) Studies of joint ordering policy for multi-item inventory management system. (Japanese. English summary) *Mem. Osaka Inst. Tech. Ser. A* **20** (1975/76), *no.* 1, 69–77. (Authors' summary) **58** #9167 90B05

(*with* Shimosakon, Takio; Okumura, Takeshi) Economic ordering policy for multi-items jointly replenished. *Mem. Osaka Inst. Tech. Ser. A* **20** (1975/76), *no.* 1, 91–97. (Authors' summary) **58** #9168 90B05

(*with* Shimosakon, Takio; Nose, Toyokazu; Tokioka, Hidekazu) An application of dynamic programming to obtain an optimal inventory transportation system for seasonal goods (an *N*-station inventory transshipment model). (Japanese. English summary) *Mem. Osaka Inst. Tech. Ser. A* **20** (1975/76), *no.* 2, 191–220. (Authors' summary) **56** #14617 90B05 (90C40)

(*with* Shimosakon, Takio; Nose, Toyokazu) A multi-commodity inventory system with substitutional property. *Mem. Osaka Inst. Tech. Ser. A* **21** (1976), *no.* 1, 29–43. (C. B. Garcia) **55** #7339 90B05

Kuriyan, Mary (*with* Hunter, G.) Asymptotic expansions of Mathieu functions in wave mechanics. *J. Computational Phys.* **21** (1976), *no.* 3, 319–325. (John P. Coleman) **54** #9502 81.65

Kurižev, Ju. A. The representation of natural numbers by adding to quasiprime numbers the values of polynomials at numbers with small prime factors. (Russian) *Izv. Severo-Kavkaz. Naučn. Centra Vysš. Školy Ser. Estestv. Nauk* **1974**, *no.* 4, 104–107, 139. (Ekkehard Krätzel) **55** #294 10H25

Kur′janov, A. I. (*with* Laričeva, V. V.) Asymptotic solution of a second order linear differential system. (Russian) *Problems in applied mathematics and mechanics* (*dedicated to A. A. Dorodnicyn on his sixtieth birthday*) (*Russian*), *pp.* 86–97, 280. *Izdat. "Nauka", Moscow*, 1971. (Editors) **58** #17368 34E05

Kůrka, Petr The Heyting doctrines. *Comment. Math. Univ. Carolinae* **13** (1972), 643–657. (H. Gonshor) **47** #3480 18A15 (02C15, 18A40)

Applicability of a production in a categorical grammar. *Fundamentals of computation theory* (*Proc. Internat. Conf., Poznań-Kórnik*, 1977), *pp.* 287–293. *Lecture Notes in Comput. Sci., Vol.* 56, *Springer, Berlin*, 1977. (V. Ju Meĭtus) **58** #8529 68A30 (18B20)

Kurke, Herbert Castelnuovo's criterion of rationality. (Russian) *Mat. Zametki* **11** (1972), 27–32. (J. Browkin) **46** #5330 14J25 (14M20)

(*with* Pfister, Gerhard; Roczen, Marko) ★Henselsche Ringe und algebraische Geometrie. Mathematische Monographien, Band II. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1975. 223 *pp.* (J. S. Joel) **58** #10899 14D15 (13J15)

(*with* Fitzner, Heinz-Jörg; Kleinert, Werner; Pfister, Gerhard; Roczen, Marko; Zink, Thomas) Modulprobleme in der algebraischen Geometrie. I. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M* **6** *Beitr. Algebra Geom.* **4** (1975), 93–150. (J. S. Joel) **58** #10900 14D20

(*with* Fitzner, Heinz-Jörg; Kleinert, Werner; Pfister, Gerhard; Roczen, Marko; Zink, Thomas) Modulprobleme in der algebraischen Geometrie. II. *Wiss. Beitr. Martin-Luther-Univ. Halle-Wittenberg Reihe M Math.* 7 (1976), 75–130. (J. S. Joel) **58** #22056 14–02 (14D20)

(*with* Pfister, Gerhard; Popescu, Dorin; Roczen, Marko; Mostowski, Tadeusz) ★Die Approximationseigenschaft lokaler Ringe. Lecture Notes in Mathematics, Vol. 634. *Springer-Verlag, Berlin-New York*, 1978. iv+204 *pp. ISBN* 3-540-08656-0 (Mary Schaps) **58** #5653 13H99 (13J15, 14D15)

See also **Dieudonné, Jean A.**, **57** #14004d

Kurki-Suonio, R. (*with* Eve, J.) On computing the transitive closure of a relation. *Acta Informat.* **8** (1977), *no.* 4, 303–314. (Michael Bauer) **57** #4595 68A10

Kurkjian, B. M. (*with* Inselmann, E. H.) Availability, re-visited. *Transactions of the Eighteenth Conference of Army Mathematicians* (*Feltman Res. Lab. Picatinny Arsenal, Dover, N.J.*, 1972), *pp.* 611–622. *U.S. Army Res. Office* (*Durham, N.C.*), *Report No.* 73-1, *U.S. Army Res. Office-Durham, Durham, N.C.*, 1973. (C. Mohan) **50** #15885 90B25

Kůrková-Pohlová, Věra (*with* Adámek, Jiří; Koubek, Václav) The colimits in the generalized algebraic categories. *Acta Univ. Carolinae—Math. et Phys.* **13** (1972), *no.* 2, 29–40. (V. Topenčarov) **52** #10837 18A30

Factorization and non-algebraic categories. *Comment. Math. Univ. Carolinae* **14** (1973), 241–262. (V. Căzănescu) **49** #376 18B99

On sums in generalized algebraic categories. *Czechoslovak Math. J.* **23(98)** (1973), 235–257. (H. Gonshor) **47** #3277 08A10 (18A30)

(*with* Koubek, Václav) When a generalized algebraic category is monadic. *Comment. Math. Univ. Carolinae* **15** (1974), 577–587. (H. Gonshor) **50** #13190 18C15

Fine and simply fine uniform spaces. *Seminar Uniform Spaces* (*Prague*, 1973–1974), *pp.* 127–137. *Mat. Ústav Československé Akad. Věd, Prague*, 1975. (Michael D. Rice) **53** #14427 54E15

Concerning products of proximally fine uniform spaces. *Seminar Uniform Spaces* (*Prague*, 1973-1974), *pp.* 159–171. *Mat. Ústav Československé Akad, Věd, Prague*, 1975. (J. R. Isbell) **52** #11843 54E15

Kurland, H. (*with* Robbin, J. W.) Infinite codimension and transversality. *Dynamical systems—Warwick* 1974 (*Proc. Sympos. Appl. Topology and Dynamical Systems, Univ. Warwick, Coventry*, 1973/1974; *presented to E. C. Zeeman on his fiftieth birthday*), *pp.* 135–150. *Lecture Notes in Math., Vol.* 468, *Springer, Berlin*, 1975. (D. B. Gauld (Zbl **317** #58011)) **58** #31186 58C99

Kurlandzka, Zofia T. Derivation of the linear shell theory from the theory of Cosserat medium. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 789–794. (J. Ignaczak) **52** #9764 73.35

An anisotropic linear Cosserat surface and linear shell theory. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 613–620. (J. W. Craggs) **51** #7433 73.35

A crack problem in elastic dielectric. I. The statement of the problem and diffraction of electromagnetic wave. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 4, 255–263. (Author's summary) **58** #19833a 78.35 (73.35)

The power of fracture for the deformable dielectric. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 6, 439–445. (Author's summary) **57** #8339 73.53

A crack problem in elastic dielectric. II. Influence of electromagnetic wave on the displacement field. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 7, 525–531. (Author's summary) **58** #19833b 78.35 (73.35)

Kurlandzki, Jerzy Initial-boundary problem for hyperbolic equation with an elliptic part. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **18** (1970), 347–353. (V. Rosa) **47** #5457 35L99

Perturbations of the variational description of continuous media. Statical case. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 503–510. (W. Kecs) **50** #11952 73.49

Perturbations of the variational description of continuous media. Dynamical case. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **19** (1971), 511–519. (W. Kecs) **50** #6278 73.49

Approximations of the models of nonlinear continuous media. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 161–165. (Author's summary) **50** #15544 73.49

(*with* Rogula, Dominik) Causality in the relativistic theory of elastic media in the three-dimensional case. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **20** (1972), 355–360. (A. Nikodémusz) **47** #6176 73.35

Dynamic boundary problem. (Polish and Russian summaries) *Arch. Mech.* (*Arch. Mech. Stos.*) **25** (1973), 27–41. (From the introduction) **58** #23102 35L35

Lagrangian formalism in distribution spaces. I. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 4, 297–306. (Franklin E. Schroeck, Jr.)

57 #18350a 70.49 (49C15, 81.49)

Lagrangian formalism in distribution spaces. II. Distributions of finite order. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 5, 375–380. (Franklin E. Schroeck, Jr.) **57** #18350b 70.49 (49C15, 81.49)

Lagrangian formalism in distribution spaces. III. Domains with the boundary. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 5, 381–383. (Franklin E. Schroeck, Jr.) **57** #18350c 70.49 (49C15, 81.49)

Canonical formalism in distribution spaces. I. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 6, 460–464. (W. Kecs) **53** #12164 73.46

Lagrangian formalism in distribution spaces and conservation laws. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **23** (1975), *no.* 7, 541–550. (Franklin E. Schroeck, Jr.) **57** #18350d 70.49 (49C15, 81.49)

The action functional in distribution spaces. I. The generalized Parseval equation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 9, 731–743. (Oscar Montaldo) **58** #3826a 70.46

The action functional in distribution spaces. II. The generalized Fourier transformation. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 9, 745–749. (Oscar Montaldo) **58** #3826b 70.46

The action functional in distribution spaces. III. The generalized solution of the Euler-Lagrange equations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 9, 751–758. (Oscar Montaldo) **58** #3826c 70.46

The action functional in distribution spaces. IV. The extension of the action principle. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **25** (1977), *no.* 9, 759–764. (Oscar Montaldo) **58** #3826d 70.46

Kurljandčik, Ja. M. The logarithmic asymptotic behavior of the length of the maximal cycle of the scattering of $r > 2$. (Russian) *Diskret. Analiz No.* 19 (1971), 48–55. (B. Zelinka) **46** #2554 52A40 (94A10)

The separation of coverings. (Russian) *Diskret. Analiz No.* 21 (1972), 26–30, 96. (Pavol Hell) **48** #10823 05A05

Kurmakaev, Z. H. Orbital periods in the restricted two-body problem of general relativity, including the cosmological constant. *Astronom. Ž.* **48** (1971), 1056–1060 (*Russian*); *translated as Soviet Astronom. A J* **15** (1971), 836–839 (1972). (Alan Barnes) **48** #5582 83.34

Kurman, K. J. Comments on: "On the design of single-loop single-input-output feedback control systems in the complex-frequency domain" (IEEE Trans. Automatic Control AC-22 (1977), no. 3, 416–423) by J. J. Bongiorno, Jr. and D. C. Youla. With authors' reply. *IEEE Trans. Automat. Control* **23** (1978), *no.* 5, 963–964. (Kunihiko Ichikawa) **58** #26398 93D15

Kurman, M. V. *See* **Soviet statistics in half a century (1917–1967), 50** #15017

Kurmanalin, M. H. (*with* Bektasov, A. Ž.) A problem on the isomorphism of graphs. (Russian) *Optimization and simulation of complex systems* (*Russian*), *pp.* 156–157, 171. *Izdat.* "*Nauka*" *Kazah. SSR, Alma-Ata,* 1976. (Cristina Zamfirescu) **58** #21829 05C99

Kurmanov, B. I. (*with* Podvidz, G. L.; Stepanov, G. Ju.) Computation of a two-dimensional gas flow on a turbine grill using the method of integral equations. (Russian) *Izv. Akad. Nauk SSSR Meh. Židk. Gaza* **1977**, *no.* 4, 90–97. (From the summary) **58** #25365 76.45 (76.35)

Kurmītis, A. Tests for recognition of faults of a finite automata with a given detail. (Russian) *Avtomat. i Vyčisl. Tehn.* **1969**, *no.* 1, 28–32. (Author's summary) **45** #9845 94A30

Selfadjusting inverse automata. (Russian) *Avtomat. i Vyčisl. Tehn.* **1970**, *no.* 3, 1–9. (D. Simovici) **45** #4908 94A30

On the question of the enumerability and representability of sets of words by means of finite automata. (Russian) *Avtomat. i Vyčisl. Tehn.* **1972**, *no.* 3, 10–17. (G. Wechsung) **47** #3148 02F10 (68A25, 94A30)

★Автоматы без потери информации конечного порядка. (Russian) [Information-lossless automata of finite order] *Izdat.* "*Zinatne*", *Riga*, 1972. 266 *pp.* (R. N. Goss) **53** #10521 94A30

★Information-lossless automata of finite order. Translated from Russian by D. Louvish. A Halsted Press book. *John Wiley & Sons, New York-Toronto, Ont.*; *Israel Program for Scientific Translations, Jerusalem-London*, 1974. x + 186 *pp.* (Editors) **54** #2363 94A30

(*with* Jakubaĭtis, È. A.; Vasjukevič, V. O.; Gobzemis, A. Ju.; Zaznova, N. E.; Lorenc, A. A.; Petrenko, A. F.; Čapenko, V. P.) Automata theory. (Russian) *Probability theory. Mathematical statistics. Theoretical cybernetics, Vol.* 13 (*Russian*), *pp.* 109–188, 299. (*loose erratum*), *Itogi Nauki i Tehniki, Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow,* 1976. (I. Meznik) **55** #10161 94A30 (02F10)

Successive decomposition of finite automata when a given automaton is identified as the initial one. (Russian) *Avtomat. i Vyčisl. Tehn.* (*Riga*) **1977**, *no.* 3, 1–5, 92. (M. Tetruašvili) **58** #9911 94A30

Possibilities of using information-lossless automata in the construction of coding systems. (Russian) *Teor. Konečn. Avtomatov i Priložen. Vyp.* 8 (1977), 121–139, 155. (A. D. Koršunov) **57** #11968 94A30 (94A10)

Kurnickaja, I. S. *See* **Probabilistic automata and their application, 48** #5745

Kurnik, Zdravko (*with* Volenec, Vladimir) Über die begleitenden Dreibeine der Raumkurve. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **6(26)** (1971), 129–142. (K. Strubecker) **45** #7621 53A05

(*with* Volenec, Vladimir) Einige analytische Formeln des Raumes E^n. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **7(27)** (1972), 255–268. (E. Morgantini) **48** #1018 50B10

Zwei Grenzwerte für Ebene Kurven. (Serbo-Croatian summary) *Glasnik Mat. Ser. III* **8(28)** (1973), 113–119. (K. Strubecker) **47** #7608 53A05

Kurniš, A. V. The stability of the solutions of Hill's equation with several parameters. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1977**, *no.* 5, 400–404, 480. (Author's summary) **58** #11708 34D10

Kuročkin, A. S. (*with* Bašmakov, M. I.) The Selmer groups of the elliptic curve $X_0(32)$. (Russian) *Modern algebra, No.* 4 (*Russian*), *pp.* 3–10. *Leningrad. Gos. Ped. Inst., Leningrad,* 1976. (J. W. S. Cassels) **56** #5564 14G25 (10D05, 14K15)

(*with* Bašmakov, M. I.) Rational points on a certain modular curve in a cyclotomic 2-extension. (Russian) Modules in representation theory and algebraic geometry. *Zap. Naucn. Sem. Leningrad. Otdel Mat. Inst. Steklov.* (*LOMI*) **57** (1976), 5–7, 176. (J. W. Cassels) **56** #8577 14G25 (10D05, 14G05)

Kuročkin, Ju. A. (*with* Boguš, A. A.) The vector-parameter of the Lorentz group, an kinematic singularities of helicity scattering amplitudes. (Russian) *Vescī Akad. Navu BSSR Ser. Fīz.-Mat. Navuk* **1974**, *no.* 5, 75–84, 142. (M. Martinis) **51** #7497 81.2

(*with* Boguš, A. A.; Lapkovs′kiĭ, A. K.; Fedorov, F. I.) Vectorial parametrizatio of the complex Lorentz group, and quaternions. (Russian) *Vescī Akad. Navuk BSS Ser. Fīz.-Mat. Navuk* **1976**, *no.* 1, 69–75, 140–141. (J. S. Joel) **58** #1017 22E4 (81.22)

(*with* Boguš, A. A.; Fedorov, F. I.) Lobačevskiĭ space vectors and relativisti kinematics. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 1, 58–60. (A. K. Guc **57** #15177 83.22

Kuročkin, V. M. *See* **Aho, Alfred V.; et al., 58** #25134

Kuroda, Eizo (*with* Fujii, Katsuhiko) State attainability set of a linear time-invarian system with a certain state inequality constraint. *Systems and Control* **17** (1973 640–648. (Authors' summary) **56** #11207 93C05 (93C45)

(*with* Fujii, Katsuhiko) State attainability set of a control system with state inequality constraint. *Tech. Rep. Osaka Univ.* **23** (1973), 503–513. (S. E. Dreyfus **49** #4611 93C05

Kuroda, Kohmei (*with* Kasai, Tamotsu) Number of Hamiltonian circuits containing specified edges in an incomplete graph and its application to multigraphs. *Bull. Univ Osaka Prefecture Ser. A* **24** (1975), *no.* 1, 87–100. (R. W. Robinson) **55** #12564 05C30

Kuroda, Koji Equivalence of thermodynamic pressure and kinetic pressure for one-dimensional hard rod system. *Sci. Rep. Tokyo Kyoiku Daigaku Sect. A* **13** *no* 366-382, 269–275 (1977). (R. A. Minlos) **56** #7721 82.62

Kuroda, Mitsuru (*with* Muramatsu, Rintaro) Effect of system factors on the work congestion at a multi-model assembly line. (Japanese. English summary) *Bull. Sci Engrg. Res. Lab. Waseda Univ. No.* 51 (1971), 54–71. (S. Senju) **46** #8651 90B35

Kuroda, S. T. Some remarks on scattering for Schrödinger operators. *J. Fac. Sci. Univ Tokyo Sect. I* **17** (1970), 315–329. (From the author's introduction) **54** #757 35P2 (35J10)

Spectral representations and the scattering theory for Schrödinger operators. *Actes du Congrès International des Mathématiciens* (*Nice*, 1970), *Tome* 2, *pp.* 441–445. *Gauthier-Villars, Paris,* 1971. (Woodford W. Zachary) **54** #13340 35P25 (35J10)

Scattering theory for differential operators. III. Exterior problems. *Spectral theory and differential equations* (*Proc. Sympos., Dundee,* 1974; *dedicated to Konrad Jörgens*), *pp* 227–241. *Lecture Notes in Math., Vol.* 448, *Springer, Berlin,* 1975. (Teruo Ikebe) **54** #5645 35P25 (35J40)

Kuroda, S.-Y. On structural similarity of phrase-structure languages. *Automata, languages and programming* (*Proc. Sympos., Rocquencourt,* 1972), *pp.* 467–474. *North Holland, Amsterdam,* 1973. (Richard A. DeMillo) **51** #9584 68A30

A topological study of phrase-structure languages. *Information and Control* **30** (1976), *no.* 4, 307–379. (Author's summary) **57** #18254 68A30

See also **Cybernetics collection, 50** #1765

Kuroda, Shige Toshi (*with* Kato, Tosio) Theory of simple scattering and eigenfunction expansions. *Functional analysis and related fields* (*Proc. Conf. for M. Stone, Univ. Chicago, Chicago, Ill.,* 1968), *pp.* 99–131. *Springer, New York,* 1970. (C. L. Dolph) **52** #6464a 47A40

(*with* Kato, Tosio) The abstract theory of scattering. *Rocky Mountain J. Math.* **1** (1971), *no.* 1, 127–171. (C. L. Dolph) **52** #6464b 47A40

Scattering theory for differential operators. I. Operator theory. *J. Math. Soc. Japan* **25** (1973), 75–104. (Teruo Ikebe) **48** #4779 47A40

Scattering theory for differential operators. II. Self-adjoint elliptic operators. *J. Math. Soc. Japan* **25** (1973), 222–234. (Teruo Ikebe) **48** #4780 47A40 (35P25)

On the essential spectrum of Schrödinger operators with vector potentials. *Sci. Papers College Gen. Ed. Univ. Tokyo* **23** (1973), 87–91. (Yoshimi Saitō) **48** #11752 35J10 (35P05)

Abstract approaches to spectral and scattering theory, contributions from Japan. *International Symposium on Mathematical Problems in Theoretical Physics* (*Kyoto Univ., Kyoto,* 1975), *pp.* 472–475. *Lecture Notes in Phys.,* 39. *Springer, Berlin,* 1975. (M. Thompson (Zbl **326** #47010)) **58** #32589 81.47 (47A40)

(*with* Morita, Hiroshi) An estimate for solutions of Schrödinger equations with time-dependent potentials and associated scattering theory. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **24** (1977), *no.* 2, 459–475. (Richard B. Lavine) **58** #23171 35P25 (35J10, 81.35)

Kuroda, Sige-Nobu Über den allgemeinen Spiegelungssatz für Galoissche Zahlkörper. (English summary) *J. Number Theory* **2** (1970), 282–297. (G. Whaples) **47** #186 12A65

Kapitulation von Idealklassen in einer Γ-Erweiterung. *Seminar on Modern Methods in Number Theory* (*Inst. Statist. Math., Tokyo,* 1971), *Paper No.* 23, 4 *pp. Inst. Statist. Math., Tokyo,* 1971. (Yasumasa Akagawa) **51** #12782 12A35

Über eine Klasse von L-funktionen algebraischer Zahlkörper. *Nagoya Math. J.* **55** (1974), 151–159. (Stephen Haris) **50** #9843 12A70 (10H10)

Kuroda, Sigekatu *See* **Leopoldt, H. W., 50** #12594 *and* **Collected papers: Takagi, Teiji, 51** #2850

Kuroda, Tadashi (*with* Chen, Lu San; Kusano, Takaŝi) Some parabolic equations with unbounded coefficients. *Funkcial. Ekvac.* **16** (1973), 1–28. (R. Guenther) **50** #13884 35K15

(*with* Kusano, Takaŝi; Chen, Lu San) Weakly coupled parabolic systems with unbounded coefficients. *Hiroshima Math. J.* **3** (1973), 1–14. (C. V. Pao) **51** #10831 35B40

Kuroda, Y. (*with* Makino, A.) Some problem arising in distributed parameter reactor systems. *New trends in systems analysis* (*Proc. Internat. Sympos., Versailles,* 1976), *pp.* 93–101. *Lecture Notes in Control and Informatation Sci., Vol.* 2, *Springer, Berlin,* 1977. (Authors' summary) **58** #20700 93C20

Kurodo, Akira (*with* Suzuki, Masuo; Miyashita, Seiji) Monte Carlo simulation of quantum spin systems. I. *Progr. Theoret. Phys.* **58** (1977), *no.* 5, 1377–1387. (Authors' summary) **56** #10628 81.60

Kuroe, Yasuaki (*with* Nakagiri, Shin'ichi; Kitamura, Shinzo) Identifiability of spatially varying parameters for distributed parameter systems of parabolic type. *Math. Sem. Notes Kobe Univ.* **5** (1977), *no.* 2, 285–288. (Guy Jumarie) **58** #26269 93B30 (93C20)

Kurogi, Tetsunori Notes on microbundle. *Tamkang J. Math.* **2** (1971), *no.* 1, 51–57. (N. Moulis) **46** #6390 58B10 (55F60)

A remark on microbundle. *Tamkang J. Math.* **2** (1971), *no.* 2, 95–100. (D. E. Sanderson) **46** #9982 55F60

Riemannian manifolds admitting some geodesic. *Proc. Japan Acad.* **50** (1974), 124–126. (G. R. Jensen) **51** #4105 53C20

Riemannian manifolds admitting some geodesic. II. *Proc. Japan Acad.* **52** (1976), *no.* 1, 7–9. (G. R. Jensen) **53** #3943 53C20

Kurokawa, Nobushige On the meromorphy of Euler products. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 6, 163–166. (B. Z. Moroz) **58** #22021 12A70 (12A65)

On Linnik's problem. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 6, 167–169. (B. Z. Moroz) **58** #22022 12A70 (12A65)

Kurokawa, Takahide (*with* Mizuta, Yoshihiro) On the existence of boundary values of *p*-precise functions. *Hiroshima Math. J.* **7** (1977), *no.* 1, 153–160. (Gottfried Anger) **56** #3322 31B25

Balayage, capacity and a duality theorem in Dirichlet spaces. *Hiroshima Math. J.* **7** (1977), *no.* 2, 583–596. (Gottfried Anger) **57** #672 31C25

Kurokawa, Toshiko (*with* Matsumoto, Kikuji) On totally ramified values. *Tôhoku Math. J.* (2) **28** (1976), *no.* 2, 245–256. (L. R. Sons) **53** #13569 30A70

Kuroki, Nobuaki Note on congruences on the tensor product of archimedean commutative semigroups. *Comment. Math. Univ. St. Paul.* **20** (1971/72), 93–96. (T. Tamura) **45** #5249 20M10

On semigroups whose ideals are all globally idempotent. *Proc. Japan Acad.* **47** (1971), 143–146. (S. Lajos) **45** #419 20M10

On the minimal group congruence on the tensor product of archimedean commutative semigroups. *Proc. Japan Acad.* **47** (1971), 305–308. (D. R. LaTorre) **45** #135 06A50 (20M10)

Note on simple semigroups. *Proc. Japan Acad.* **47** (1971), 447–448. (B. Pondělíček) **45** #5259 20M10

On power semigroups. *Proc. Japan Acad.* **47** (1971), 449–451. (T. Saitô) **45** #6713 06A50

Note on purity of ideals on semigroups. *Comment. Math. Univ. St. Paul.* **22** (1973), *no.* 1, 13–17. (O. Steinfeld) **49** #2992 20M10

Certain fundamental congruences on the tensor product of commutative inverse semigroups. *Czechoslovak Math. J.* **23(98)** (1973), 252–256. (S. Lajos) **47** #3577 20M10

Another criterion for Neumann regularity of normal semigroups. *Comment. Math. Univ. St. Paul.* **23** (1974/75), *no.* 1, 23–28. (D. B. McAlister) **51** #758 20M10

Note on purity of bi-ideals on semigroups. *Comment. Math. Univ. St. Paul.* **23** (1974/75), *no.* 2, 127–133. (S. Lajos) **51** #3332 20M10

(*with* Head, Tom) Greatest regular images of tensor products of commutative semigroups. *Kōdai Math. Sem. Rep.* **26** (1974/75), 132–136. (H. B. Hamilton) **51** #13092 20M10

Note on pure subsystems. *Proc. Japan Acad.* **50** (1974), 683–687. (O. Steinfeld) **52** #3384 20M10

A characterization of regular monoids. *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ.* **16** (1975), *no.* 1, 58–64. (S. Lajos) **50** #10127 20M10

Archimidean semigroups. (Russian. Japanese summary) *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ.* **17** (1975), *no.* 3, 30–31. (G. Pollák) **51** #757 20M10

Two-sided purity on regular semigroups. *Comment. Math. Univ. St. Paul.* **24** (1975/76), *no.* 1, 21–26. (R. B. Hora) **52** #10923 20M10

Bi-normal semigroups. *Comment. Math. Univ. St. Paul.* **24** (1975/76), *no.* 2, 107–112. (W. Wiley Williams) **53** #665 20M10

On semigroups that are semilattices of left groups. *Math. Balkanica* **5** (1975), 178–180. (P. R. Jones) **58** #16919 20M10

On 2-commutative semigroups. (Japanese summary) *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ. No.* 19 (1976), 30–33. (T. Tamura) **57** #9880 20M10

On bi-centric semigroups. (Japanese summary) *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ. No.* 20 (1976), 13–17. (T. Tamura) **57** #9881 20M10

T^*-pure twin semigroups. *Comment. Math. Univ. St. Paul.* **25** (1976/77), *no.* 2, 107–114. (R. B. Hora) **55** #3119 20M10

On semilattices of groups. (Japanese summary) *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ. No.* 21 (1977), 63–65. (T. S. Blyth) **57** #5844 06A20 (20M20)

On semigroups that are semilattices of left groups. *Comment. Math. Univ. St. Paul.* **26** (1977/78), *no.* 2, 125–130. (S. Lajos) **57** #12737 20M10

On normal semigroups. *Czechoslovak Math. J.* **27(102)** (1977), *no.* 1, 43–53. (S. Lajos) **58** #6009 20M10

Kuropatenko, V. F. (*with* Gadžieva, V. V.) Certain explicit difference schemes for the equations of hydrodynamics. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1603–1605. (I. O. Bohachevsky) **45** #8132 76.65

Kuroš, A. G. ★Общая алгебра. (Russian) [General algebra] Lectures for the academic year 1969–1970. Department of Mathematics and Mechanics. *Moskov. Gosudarstv. Univ., Moscow*, 1970. 125 *pp.* (Editors) **52** #13568 08–02

Free decompositions in certain varieties of multioperator groups. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 3(106), 50–54. (P. M. Cohn) **45** #5063 08A25 (20E10)

Free sums of multi-operator linear near-algebras. (Russian) *Mat. Issled.* **6** (1971), *no.* 1(19), 83–87. (V. Dlab) **45** #149 08A10

★Gruppentheorie. II. Aus dem Russischen übersetzt von Reinhard Strecker und Heidemarie Strecker. Herausgegeben von Reinhard Strecker. Zweite, überarbeitete und erweiterte Auflage. Mathematische Lehrbücher und Monographien, I. Abteilung, Mathematische Lehrbücher, Band III/II. *Akademie-Verlag, Berlin*, 1972. xiv+358 *pp.* (Editors) **50** #2314 20–02

Radicals in the theory of groups. Translated from the Russian original. *Rings, modules and radicals* (*Proc. Colloq., Keszthely*, 1971), *pp.* 271–296. *Colloq. Math. Soc. János Bolyai, Vol.* 6, *North-Holland, Amsterdam*, 1973. (Editors) **49** #10723 16A21 (20F99)

Radicals of rings and algebras. Translated from the Russian original. *Rings, modules and radicals* (*Proc. Colloq., Keszthely*, 1971), *pp.* 297–314. *Colloq. Math. Soc. János Bolyai, Vol.* 6, *North-Holland, Amsterdam*, 1973. (Editors) **49** #10724 16A21

★Общая алгебра. (Russian) [General algebra] Lectures for the academic year 1969–1970. Edited by T. M. Baranovič. *Izdat. "Nauka", Moscow*, 1974. 159 *pp.* (Editors) **52** #13569 08–02

★Curso de álgebra superior. (Spanish) [A course in higher algebra] Second edition. Translated from the ninth Russian edition by Emiliano Aparacio Bernardo. *Editorial Mir, Moscow*, 1975. 442 *pp.* (Editors) **51** #9997 00A05

★Алгебраические уравнения произвольных степеней. (Russian) [Algebraic equations of arbitrary degress] Second edition. Популярные Лекции по Математике, Вып. 7. [Popular Lectures in Mathematics, No. 7] *Izdat. "Nauka", Moscow*, 1975. 32 *pp.* (Editors) **51** #12449 00A05

★Higher algebra. Translated from the tenth Russian edition by George Yankovsky [Jankovskiĭ, G.]. Second printing, 1975. *Mir Publishers, Moscow*, 1975. 428 *pp.* (Editors) **52** #5240 00A05

★Ecuaciones algebraicas de grados arbitrarios. (Spanish) [Algebraic equations of arbitrary degrees] Translated from the Russian by Silvia de Sepulveda. Lecciones Populares de Matemáticas, No. 7. [Popular Lectures in Mathematics, No. 7] *Editorial Mir, Moscow*, 1976. 38 *pp.* (Editors) **55** #5602 12Exx

★Algebraic equations of arbitrary degrees. Translated from the Russian by V. Kisin. Little Mathematics Library. *Mir Publishers, Moscow*, 1977. 36 *pp.* (Editors) **56** #11888 10Bxx

See also **Kořínek, Vladimír**, **46** #3257; **Collection: Kuroš, A. G.**, **48** #20; **Golovin, O. N.**, **51** #7786; **Andrunakievič, V. A.; et al.**, **51** #7787; **Aleksandrov, P. S.; et al.**, **52** #5281; **Transactions of the Moscow Mathematical Society**, **52** #10313; **Collection: Reviews on algebra for the years 1941/1946**, **52** #10315 (EA 53) ; **Collection: Reviews on algebra for the years 1941/1946**, **52** #10316 *and* **Dočev, Kiril Gečov**, **53** #47

Kurosaka, M. Cumulative nonlinear distortion of an acoustic wave propagating through non-uniform flow. *J. Fluid Mech.* **83** (1977), *no.* 4, 751–773. (E. G. Broadbent) **57** #2198 78.41

Kurosaki, Itaru (*with* Miyatake, Osamu) Properties of an oscillating function. *Math. Japon.* **22** (1977), *no.* 1, 39–48. (J. Lukes) **56** #3208 26A27

(*with* Miyatake, Osamu; Shimoida, Hiroo) Randomization of arithmetic random numbers. *Math. Japon.* **22** (1977), *no.* 1, 117–129. (Artenio De Matteis) **56** #7107 65C10 (10A30)

Kurosaki, Kiichi (*with* Tanaka, Mitsuru; Michiwaki, Yoshimasa; Hamada, Toshio; Ōyama, Makoto) Ptolemy's theorem appeared in wasan (as Shūju Yamaji's "Center"). (Japanese) *Sûgakushi Kenkyû No.* 63 (1974), 9–18. **58** #26770 01A25

Kurosawa, Hideo (*with* Ohnari, Ichio) Analyticity of one-electron eigenstates under spin scattering. (Japanese) *Rep. Fac. Tech. Kanagawa Univ. No.* 12 (1974), 11–13. (Authors' summary) **56** #17578 81.35

Kurosch, A. G. *See* **Kuroš, A. G.**

Kurotschka, Viktor (*with* Bell, C. B.) Einige Prinzipien zur Behandlung Nichtparametrischer-Hypothesen. (Italian summary) *Studi di probabilità, statistica e ricerca operativa in onore di Giuseppe Pompilj*, *pp.* 164–186. *Edizioni Oderisi, Gubbio*, 1971. (Z. Šidák) **51** #4530 62G10

★Optimale Versuchsplanung bei Modellen der Varianzanalyse. Eingereicht als Habilitationsschrift an der Math.-Nat.-Fakultät der Georg-August-Universität. *Georg-August-Universität, Göttingen*, 1972. iii+78 *pp.* (J. Wolfowitz) **50** #11656 62K05

Classes of optimal incomplete designs of ANOVA-settings. *Symmetric functions in statistics* (*Proc. Sympos. in Honor of Paul S. Dwyer, Univ. Windsor, Windsor, Ont.*, 1971), *pp.* 183–195. *Univ. Windsor, Windsor, Ont.*, 1972. (J. Wolfowitz) **50** #3478 62K05

(*with* Dwyer, Paul S.) Optimal design of three way layouts without interactions. (German and French summaries) *Math. Operationsforsch. Statist.* **5** (1974), *no.* 2, 131–145. (Robin Sibson) **52** #2066 62K05

On a general characterization of all and construction of best distribution-free tests. *Recent developments in statistics* (*Proc. European Meeting Statisticians, Grenoble*, 1976), *pp.* 507–514. *North-Holland, Amsterdam*, 1977. (W. J. Conover) **56** #16912 62G10

Kurov, V. F. A reduction of the equations of the transition processes of a complex energy control sytem to a Cauchy form. (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR* **1971**, *no.* 3, 79–94. (D. Obradović) **46** #1407 93C20

Matrix methods of forming equations for the calculation of transition processes of a complex energy system in different idealizations. (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR* **1971**, *no.* 8, 46–60. (D. Obradović) **46** #1408 93C20

Kurovskiĭ, A. B. (*with* Smirnov, Ju. M.) The dimension Ind, defined by means of retracts. (Russian) *Czechoslovak Math. J.* **26(101)** (1976), *no.* 1, 30–36. (N. Hadziivanov) **58** #2754 54F45

Kurowski, G. J. (*with* Banks, D. O.) Computation of eigenvalues for vibrating beams by use of a Prüfer transformation. *SIAM J. Numer. Anal.* **10** (1973), 918–932. (J. Hersch) **49** #8374 65L15

(*with* Banks, D. O.) A Prüfer transformation for the equation of the vibrating beam. *Trans. Amer. Math. Soc.* **199** (1974), 203–222. (H. A. DeKleine) **50** #2604 34C10

(*with* Banks, D. O.) A Prüfer transformation for the equation of a vibrating beam subject to axial forces. *J. Differential Equations* **24** (1977), *no.* 1, 57–74. (C. E. Billigheimer) **56** #16038 34B25 (34C10)

Kurozawa, Toshiro (*with* Mori, Kenichi) A regression method based on weighted moving average. I. One-dimensional regression function. *Bull. Univ. Osaka Prefecture Ser. A* **21** (1972), *no.* 1, 97–106. (P. H. Diananda) **49** #6509 62J05 (62M10)

Kurpa, L. V. (*with* Rvačov, V. L.; Sklepus, N. G.; Učišvili, L. A.) ★Метод *R*-функций в задачах об изгибе и колебаниях пластин сложной формы. (Russian) [The method of *R*-functions in problems of the bending and oscillations of plates of irregular shape] *"Naukova Dumka", Kiev*, 1973. 121 *pp.* (Editors) **54** #4256 73.35

Kurpel′, M. S. Certain generalizations and modifications of the method of S. A. Čaplygin. (Russian) *Approximate and qualitative methods of the theory of differential and integral equations* (*Russian*), *pp.* 51–72. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971.

(B. Jankó) **51** #1513 47H15 (65J05)

(*with* Športjuk, G. A.) A certain nonstationary projection-iteration method. (Russian) *Approximate and qualitative methods of the theory of differential and integral equations* (*Russian*), *pp*. 73–84. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1971. (B. Jankó) **51** #14571 65J05 (47H15)

(*with* Športjuk, G. A.) A certain projection-iteration method for an eigenvalue problem. (Russian) *Approximate and qualitative methods of the theory of differential and integral equations* (*Russian*), *pp*. 85–92. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1971. (B. V. Loginov) **50** #10870 47A50 (65J05)

An error estimate of a certain projection method for nonlinear operator equations. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 970–973, 1051. (Author's summary) **58** #23820 47H15 (65J05)

(*with* Cīdilo, K. V.) Bilateral approximations to periodic solutions of systems of differential equations with retarded argument. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1972**, 515–520, 573. (L. J. Grimm) **47** #3793 34K15

(*with* Migovič, F. M.) Certain projection-iteration methods for the solutions of operator equations. (Russian) *Methods of approximate solution of differential and integral equations* (*Russian*), *pp*. 111–123. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (Editors) **58** #3413 65J05 (47H15)

(*with* Ohrončuk, V. Ī.) Differential inequalities in Banach spaces. (Russian) *Methods of approximate solution of differential and integral equations* (*Russian*), *pp*. 124–129. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (Editors) **58** #1454 34G05

(*with* Športjuk, G. A.) The two-sided method for solving operator equations. (Russian. English summary) *Nonlinear boundary value problems of mathematical physics* (*Russian*), *pp*. 255–263. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (B. Jankó) **51** #1512 47H15 (65J05)

(*with* Šuvar, B. A.) Two-sided operator inequalities for equations of Volterra type. (Russian. English summary) *Nonlinear boundary value problems of mathematical physics* (*Russian*), *pp*. 264–282. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1973. (B. Jankó) **51** #1523 47H99

(*with* Športjuk, G. A.) The approximate computation of the eigenvalues and eigenvectors of operators of Hilbert-Schmidt type. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 24–27, 92. (S. Fučík) **47** #5675 47H15 (65J05)

(*with* Grečko, V. Ī.) Certain modifications of the S. A. Čaplygin method for equations in partially ordered spaces. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 39–46, 141. (B. Jankó) **48** #979 47H15 (65J05)

(*with* Šuvar, B. A.) Operator and integral inequalities. (Russian) *Ukrain. Mat. Ž.* **25** (1973), 386–390, 431. (Victor I. Levin) **48** #7051 47H99 (45D05)

(*with* Šuvar, B. A.) A certain class of operator equations, and two-sided operator inequalities. (Ukrainian. Russian summary) *Projective-iterative methods for the solution of differential and integral equations* (*Ukrainian*), *pp*. 86–92, 201. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR*, *Kiev*, 1974. (Authors' summary) **57** #13602 47H15

(*with* Kurčenko, T. S.) ★Двусторонние методы решения систем уравнений. (Russian) [Two-sided methods for the solution of systems of equations] "*Naukova Dumka*", *Kiev*, 1975. 184 *pp*. (B. Jankó) **54** #1586 65H10

(*with* Maĭboroda, Ī. M.) Differential inequalities for boundary value problems for second order nonlinear parabolic systems. (Russian) *Methods for the quantitative and qualitative study of differential and integral equations* (*Russian*), *pp*. 71–83. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Keiv*, 1975. (Todor G. Genčev) **54** #5625 35K50

(*with* Tivončuk, V. I.) A certain two-sided method for the approximate solution of the Cauchy problem for ordinary differential equations. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no*. 4, 528–534, 575. (J. W. Schmidt) **52** #16032 65L05

★Projection-iterative methods for solution of operator equations. Translated from the Russian. Translations of Mathematical Monographs, Vol. 46. *American Mathematical Society*, *Providence*, *R. I.*, 1976. iv + 196 *pp*. (Editors) **53** #8935 47A50 (65J05, 47H15)

(*with* Maĭboroda, Ī. M.) A way of constructing two-sided approximations to the solution of operator equations. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no*. 5, 603–611, 716. (C. Ilioi) **55** #6836 65J05 (47H15)

(*with* Mītropol's'kiĭ, Ju. O.; Lučka, A. Ju.; Ševelo, V. M.) Juriĭ Dmitrievič Sokolov (on the occasion of his eightieth birthday). (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no*. 6, 856. (Editors) **54** #7178 01A70

The existence, uniqueness and continuous dependence on a parameter of bounded solutions of functional-differential equations. (Russian) *Qualitative methods in the theory of differential equations with deviating argument* (*Russian*), *pp*. 45–49. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1977. (S. D. Miluševa) **58** #22928 34K15 (34A10, 34G05)

(*with* Ohrončuk, V. Ī.) Two-sided estimates of the solutions of integro-differential equations with deviating argument. (Russian) *Qualitative methods in the theory of differential equations with deviating argument* (*Russian*), *pp*. 50–56. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR*, *Kiev*, 1977. (Nicolae Luca) **58** #23433 45J05 (34K15)

(*with* Tivončuk, V. I.) The construction of monotone successive approximation processes by means of modifications of M. Picone's algorithm. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no*. 6(181), 126–130. (Authors' introduction) **58** #8235 65J05 (65R05)

See also **Proceedings: International Conference on Nonlinear Oscillations**, **47** #8968

Kürschák, József (*with* Neukomm, G.; Hajós, György; Surányi, János) ★Венгерские математические олимпиады. (Russian) [The Hungarian Mathematical Olympiads] Translated from the Hungarian by Ju. A. Danilov. Edited and with a foreword by V. M. Alekseev. *Izdat.* "*Mir*", *Moscow*, 1976. 544 *pp*. (From the publisher's description) **55** #2420 00A05

Kürschner, Peter ★Numerische Lösung der Vlasov-Gleichung mit finiten Elementen. Zur Erlangung des akademischen Grades eines Doktors der Naturwissenschaften von der Fakultät für Mathematik der Universität Karlsruhe genehmigte Dissertation. *Universität Karlsruhe*, *Karlsruhe*, 1977. 76 *pp*. (Not reviewed) 65N30

Kuršev, V. N. (*with* Sirazetdinov, T. K.) Optimal control of one-dimensional stochastic processes with distributed parameters. *Avtomat. i Telemeh.* **1972**, *no*. 1, 41–45 (*Russian*); *translated as Automat. Remote Control* **33** (1972), *no*. 1, *part* 1, 33–37. (Vaclav E. Beneš **51** #9940 93E20

The optimization of discontinuous systems with random parameters. (Russian) *Izv. Vysš. Učebn. Zaved. Aviacion. Tehn.* **1972**, *no*. 1, 14–22. (Mike Sablatash) **47** #4695 93E20

Kurshan, Robert P. (*with* Brandenburg, L. H.; Gopinath, B.) On the addressing problem of loop switching. *Bell. System Tech. J.* **51** (1972), 1445–1469. (From the authors introduction) **50** #4091 94A05 (68A50)

(*with* Sloane, Neil J. A.) Coset analysis of Reed Muller codes via translates of finite vector spaces. *Information and Control* **20** (1972), 410–414. (R. C. Mullin) **51** #7713 94A10

(*with* Gopinath, B.) Recursively generated periodic sequences. *Canad. J. Math.* **26** (1974), 1356–1371. (R. J. McEliece) **52** #8020 10A35

(*with* Gopinath, B.) Digital single-tone generator-detectors. *Bell System Tech. J.* **55** (1976), *no*. 4, 469–496. (M. C. Cheng) **54** #2320 94A05

(*with* Gopinath, B.) Periodic sequence generators using ordinary arithmetic. *IEEE Trans. Circuits and Systems* **CAS-23** (1976), *no*. 11, 677–683. (Authors' summary) **56** #15137 94A10 (94A20)

(*with* Gopinath, B.) Embedding an arbitrary function into a Tchebycheff space. *J. Approximation Theory* **21** (1977), *no*. 2, 126–142. (C. Dierieck) **58** #1897 41A50

(*with* Gopinath, B.) The existence in *T*-spaces of functions with prescribed alternations. *J. Approximation Theory* **21** (1977), *no*. 2, 143–150. (C. Dierieck) **58** #1898 41A50

(*with* Gopinath, B.) The oscillation theorem for Tchebycheff spaces of bounded functions, and a converse. *J. Approximation Theory* **21** (1977), *no*. 2, 151–173. (C. Dierieck) **58** #1899 41A50

Kurshev, V. N. *See* **Kuršev, V. N.**

Kuršin, L. M. (*with* Suzdal'nickiĭ, I. D.) On the representation of solutions for a cylindrical shell that is weakened by perforations. *Dokl. Akad. Nauk SSSR* **219** (1974), 832–835. (J. Mazumdar) **53** #9819 73.45

On the problem of determining the shape of the cross-section of a rod of maximal torsional rigidity. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no*. 3, 585–588. (G. Rieder) **52** #7279 73.49

(*with* Onoprienko, P. N.) Determination of the shapes of doubly-connected bar sections of maximum torsional stiffness. *Prikl. Mat. Meh.* **40** (1976), *no*. 6, 1078–1084 (*Russian*); *translated as J. Appl. Math. Mech.* **40** (1976), *no*. 6, 1020–1026 (1977). (Radu Bădescu) **57** #17446 49A30 (34K10, 73.30)

Kurss, Herbert A heat-equation approach to mixed ray and modal representations of Green's functions for $\nabla^2 + k^2$. *Radio Sci.* **5** (1973), 1085–1090. (Y. Hayashi) **48** #5512 78.35

Kürsten, K. D. Certain questions of A. Pietsch. I. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. Vyp*. 28 (1977), 45–51, ii. (A. Pietsch) **56** #3665 47B10

Certain questions of A. Pietsch. II. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No*. 29 (1978), 61–73, iii. (A. Pietsch) **58** #2185 46B99 (46L20, 47B10)

Kurşunoğlu, Behram Gravitation and magnetic charge. *Phys. Rev. D* (3) **9** (1974), 2723–2745. (Author's summary) **53** #10102 83.35

Velocity of light in generalized theory of gravitation. *Phys. Rev. D* (3) **14** (1976), *no*. 6, 1518–1523. (C. B. Collins) **54** #12112 83.35

Kurt, R. *See* **Kurth, R.**

Kurtakov, K. Š. (*with* Stecenko, V. Ja.) Estimation of the spectrum of quasipositive operators. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **15** (1972), *no*. 11, 10–13. (I. K. Marek) **48** #12140 47B55

Certain spectral properties of quasipositive operators. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no*. 4, 12–15. (I. K. Marek) **49** #1213 47B55

The comparison of the positive eigenvalues and spectral radii of quasipositive operators. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **16** (1973), *no*. 7, 6–9. (J. Nieto) **50** #1047 47B55 (47A10)

Spectral properties of indecomposable homogeneous operators of order s ($o < s < 1$). (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **20** (1977), *no*. 6, 3–6. (E. R. Cekanovs'kiĭ) **57** #1208 47H05

Kurtaran, Bension (*with* Sivan, Raphael) Linear-quadratic-Gaussian control with one-step-delay sharing pattern. *IEEE Trans. Automatic Control* **AC-19** (1974), 571–574. (William D. Ray) **55** #2319 93E20

(*with* Sidar, Menahem) Analysis of cost sensitivity for linear-quadratic stochastic problems with instantaneous output feedback. *IEEE Trans. Automatic Control* **AC-19** (1974), 589–590. (H. J. Kushner) **55** #7551 93E20

(*with* Sidar, Menahem) Optimization of the state-output relationships for linear stochastic systems. *IEEE Trans. Automatic Control* **AC-19** (1974), 590–592. (Agostino Villa) **55** #5258 93B20

(*with* Sidar, Menahem) Optimal instantaneous ouput-feedback controllers for linear stochastic systems. *Internat. J. Control* **19** (1974), 797–816. (Tohru Katayama) **49** #10420 93E15

A concise derivation of the LQG one-step-delay sharing problem solution. *IEEE Trans. Automatic Control* **AC-20** (1975), *no*. 6, 808–810. (Jean-Michel Bismut) **52** #16816 93E20

(*with* Sidar, Menahem) Optimal low-order controllers for linear stochastic systems. *Internat. J. Control* **22** (1975), *no*. 3, 377–387. (Huibert Kwakernaak) **53** #5138 93E20

Dynamic two-person two-objective control problems with delayed sharing information pattern. *IEEE Trans. Automatic Control* **AC-22** (1977), *no*. 4, 659–661. (Tamer Başar) **57** #9234 93E05

Kurth, Carl F. Steady-state analysis of sinusoidal time-variant networks applied to equivalent circuits for transmission networks. *IEEE Trans. Circuits and Systems* **CAS-24** (1977), *no*. 11, 610–624. (I. T. Frisch) **57** #15758 94A20

Kurth, R. Autonomous system of two ordinary differential equations with homogeneous right-hand sides. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **49** (1970), 34–38 (1971). (H. K. Wilson) **45** #3814 34A05

Set-theoretical aspects of the restricted problem of three bodies. *Arch. Rational Mech. Anal.* **41** (1971), 108–120. (J. E. Marsden) **52** #4757 70.34

Formal first integrals of ordinary differential equations. *Rend. Circ. Mat. Palermo* (2) **20** (1971), 43–52. (Robert M. Bullock) **48** #4381 34A25

★Dimensional analysis and group theory in astrophysics. *Pergamon Press, Oxford-New York-Toronto, Ont.*, 1972. xiv+235 *pp.* (D. ter Haar) **53** #12505 85.00

A generalization of (Bendixson's) negative criterion. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **54** (1973), 533–535 (1974). (J. W. Heidel) **50** #7678 34C25

Some remarks concerning the minimal attractors of continuous mappings. *Mathematica* (*Cluj*) **15(38)** (1973), 79–82. (Roger C. McCann) **50** #11203 54H20

★Анализ размерностей в астрофизике. (Russian) [Dimensional analysis in astrophysics] Translated from the English by Ju. A. Danilov and A. G. Doroškevič. With a foreword by S. A. Kaplan. *Izdat. "Mir", Moscow*, 1975. 229 *pp.* (D. ter Haar) **53** #12506 85.00

Erweiterungen der ersten Integrale analytischer Differentialgleichungen. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 2, 127–136. (J. Nikolaus) **54** #10717 34A20 (32A30)

Some remarks on Poincaré's recurrence theorem. *Rend. Circ. Mat. Palermo* (2) **24** (1975), *no.* 3, 251–254. (Roger C. McCann) **56** #5835 28A65 (54H20)

★Elements of analytical dynamics. International Series in Pure and Applied Mathematics, Vol. 105. *Pergamon Press, Oxford-New York-Toronto, Ont.*, 1976. vii+181 *pp.* (E. C. G. Sudarshan) **57** #18301 70.00 (58Fxx)

Kurtišvili, A. G. *See* **Questions on mathematical and engineering cybernetics, 53** #2574

Kurtjakov, S. U. A solution of problems of distinction in the investigation of a singular point of a differential equation by the Frommer method. (Russian. Tajiki summary) *Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk* **1970**, *no.* 4(38), 3–9. (J. M. Skowroński) **45** #7171 34C05

(*with* Islamov, A. I.) Analytic solutions of a differential equation in the neighborhood of a singular point. (Russian) *Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk* **18** (1974), *no.* 1, 61–63. (A. A. Reinfelds) **49** #5464 34C05

Kurtz, David C. A note on concavity properties of triangular arrays of numbers. *J. Combinatorial Theory Ser. A* **13** (1972), 135–139. (L. H. Harper) **46** #3431 10A35

(*with* Carlitz, Leonard; Scoville, Richard; Stackelberg, Olaf P.) Asymptotic properties of Eulerian numbers. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **23** (1972), 47–54. (J. Riordan) **46** #8961 10A40 (05Axx, 60C05)

Asymptotic properties of triangular arrays of numbers. *Discrete Math.* **4** (1973), 165–169. (H. J. Kanold) **46** #8844 05A10 (10A40)

Kurtz, Douglas S. Weighted norm inequalities for the Hardy-Littlewood maximal function for one parameter rectangles. *Studia Math.* **53** (1975), *no.* 1, 39–54. (M. de Guzmán) **52** #14821 42A40 (28A15)

Kurtz, J. C. (*with* Sledd, W. T.) Uniform summability of power series. *Proc. Cambridge Philos. Soc.* **71** (1972), 335–341. (H. P. Dikshit) **45** #4005 40C15

Multipliers on some sequence spaces. *Proc. Cambridge Philos. Soc.* **72** (1972), 393–401. (B. E. Rhoades) **47** #2223 40D15 (46A45)

Almost convergence in Banach spaces. *Tôhoku Math. J.* (2) **24** (1972), 389–399. (D. Leviatan) **47** #7275 40H05

Uniform summability and Töplitz bases. *Proc. Cambridge Philos. Soc.* **73** (1973), 73–81. (G. U. Brauer) **46** #9588 40C05

Kurtz, Lawrence A. (*with* Weinman, David G.; Cline, Alan K.) The solution of a fourth-order partial differential equation using the method of lines. *Applicable Anal.* **5** (1975/76), *no.* 3, 201–206. (L. Fox) **53** #12039 65N35

Properties of a semi-discrete approximation to a two-dimensional partial differential equation. *Indust. Math.* **25** (1975), *no.* 1, 1–8. (O. Widlund) **52** #2255 65P05

Derivation and numerical solution of a free surface problem in fluid mechanics. *Indust. Math.* **26** (1976), *no.* 1, 33–47. (R. K. Jain) **54** #14566 76.65

(*with* Smith, R. E.; Parks, C. L.; Boney, L. R.) A comparison of the method of lines to finite difference techniques in solving time-dependent partial differential equations. *Comput. & Fluids* **6** (1978), *no.* 2, 49–70. (C. Taylor) **58** #8390 65P05 (65M20, 76.35)

Kurtz, Lynn C. Unique Hahn-Banach extensions and Korovkin's theorem. *Proc. Amer. Math. Soc.* **47** (1975), 413–416. (D. J. Patil) **52** #8887 46B05 (41A65)

Kurtz, Thomas G. Inequalities for the law of large numbers. *Ann. Math. Statist.* **43** (1972), 1874–1883. (V. K. Rohatgi) **51** #14214 60G50

A random Trotter product formula. *Proc. Amer. Math. Soc.* **35** (1972), 147–154. (J. A. Goldstein) **46** #2484 47D05 (60J35)

(*with* Athreya, Krishna B.) A generalization of Dynkin's identity and some applications. *Ann. Probability* **1** (1973), 570–579. (H. P. McKean, Jr.) **50** #1342 60J25 (60G40)

(*with* Wainger, Stephen) The nonexistence of the Yaglom limit for an age dependent subcritical branching process. *Ann. Probability* **1** (1973), 857–861. (K. B. Athreya) **50** #5956 60J80

A limit theorem for perturbed operator semigroups with applications to random evolutions. *J. Functional Analysis* **12** (1973), 55–67. (Richard Griego) **51** #1477 47D05 (60J35)

Convergence of sequences of semigroups of nonlinear operators with an application to gas kinetics. *Trans. Amer. Math. Soc.* **186** (1973), 259–272 (1974). (J. A. Goldstein) **49** #1256 (E **51** #11222) 47H15

(*with* Kuelbs, James D.) Berry-Esseen estimates in Hilbert space and an application to the law of the iterated logarithm. *Ann. Probability* **2** (1974), 387–407. (W. Vervaat) **50** #14868 60B10 (60F15)

Point processes and completely monotone set functions. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **31** (1974/75), 57–67. (Olav Kallenberg) **50** #14921 60G55

Semigroups of conditioned shifts and approximation of Markov processes. *Ann. Probability* **3** (1975), *no.* 4, 618–642. (T. M. Liggett) **52** #4425 60J35 (60B10)

Erratum to: "Convergence of sequences of semigroups of nonlinear operators with an application to gas kinetics" (Trans. Amer. Math. Soc. **186** (1973), 259–272, 1974). *Trans. Amer. Math. Soc.* **209** (1975), 442. (J. A. Goldstein) **51** #11222 47H99

An abstract averaging theorem. *J. Functional Analysis* **23** (1976), *no.* 2, 135–144. (John W. Spellman) **54** #13628 47D05 (34G05)

Limit theorems and diffusion approximations for density dependent Markov chains. Stochastic systems: modeling, identification and optimization, I (Proc. Sympos., Univ. Kentucky, Lexington, Ky., 1975). *Math. Programming Stud. No.* 5 (1976), 67–78. (Andrew D. Barbour) **56** #3962 60J70

Applications of an abstract perturbation theorem to ordinary differential equations. *Houston J. Math.* **3** (1977), *no.* 1, 67–82. (R. E. O'Malley, Jr.) **54** #13245 34G05 (47D05)

(*with* Certain, Melinda W.) Landau-Kolmogorov inequalities for semigroups and groups. *Proc. Amer. Math. Soc.* **63** (1977), *no.* 2, 226–230. (Z. Ditzian) **56** #16445 47D05

Strong approximation theorems for density dependent Markov chains. *Stochastic Processes Appl.* **6** (1977/78), *no.* 3, 223–240. (Andrew D. Barbour) **57** #4344 60J70 (92A15)

See also **Hersh, Reuben, 52** #15676

Kurtzberg, Jerome M. (*with* Hanan, Maurice) A review of the placement and quadratic assignment problems. *SIAM Rev.* **14** (1972), 324–342. (A. D. Booth) **46** #4774 68A10

On the memory conflict problem in multiprocessor systems. *IEEE Trans. Computers* **C-23** (1974), 286–293. (Jürgen Guddat) **51** #2377 68A50 (90C50)

Kurus', Z. S. *See* **Proceedings: Republican Conference of Belorussian Mathematicians, 48** #3669

Kuryshkin, V. V. *See* **Kuriškin, V. V.**

Kuryškin, V. V. Singular solutions of the Schrödinger equation. (Russian. English summary) *Trudy Univ. Družby Narod.* **44** (1969), *no.* 4, 113–117. ((RŽFiz **1969** #12 B49)) **45** #8171 81.35

Positive definite quantum distribution functions. (Russian. English summary) *Trudy Univ. Družby Narod.* **70** (1974), *no.* 8, 78–85. (Author's summary) **57** #2299 81.46

(*with* Terleckiĭ, Ja. P.) Perspectives in the development of quantum mechanics with nonnegative quantum distribution function. (Russian) *Trudy Univ. Družby Narod.* **80** (1976), *no.* 9 *Problemy Statist. Fiz. i Teor. Polja*, 70–96. (Authors' summary) **58** #25565 81.46

(*with* Zaparovannyĭ, Ju. I.) On the problem of a harmonic oscillator in quantum mechanics with nonnegative quantum distribution function. (Russian) *Trudy Univ. Družby Narod.* **80** (1976), *no.* 9 *Problemy Statist. Fiz. i Teor. Polja*, 97–101. (Authors' introduction) **58** #32523 81.34

Kurz, Andreas Uniformisierung analytischer Mengen und eine Anwendung bei der Massfortsetzung. *Arch. Math.* (*Basel*) **29** (1977), *no.* 2, 204–207. (Zbl **366** #28001) **58** #22446 28A05

Kurz, B. (*with* Stuller, John A.) Two-dimensional Markov representations of sampled images. *IEEE Trans. Comm.* **COM-24** (1976), *no.* 10, 1148–1152. (Authors' summary) **57** #5428 94A15 (68A45)

Kurz, Ludwik (*with* Ching, Yau Chau) Lower bounds in the capacity of permutation channels. *IEEE Trans. Information Theory* **IT-17** (1971), 134–140. (E. A. Haroutunian) **46** #3201 94A15

(*with* Kersten, Paul) Bivariate *m*-interval classifiers with application to edge detection. *Information and Control* **34** (1977), *no.* 2, 152–168. (S. Csibi) **56** #5035 94A05 (62G10)

(*with* Dwyer, Roger F.) Sequential partition detectors. *J. Cybernet.* **8** (1978), *no.* 2, 133–157. (Authors' summary) **57** #19049 94A05 (62G99)

Kurz, Mordecai On the inverse optimal problem. *Mathematical systems theory and economics, I, II* (*Proc. Internat. Summer School, Varenna*, 1967), *pp.* 189–201. *Lecture Notes in Oper. Res. and Math. Econom., Vols.* 11, 12, *Springer, Berlin*, 1969. (L. D. Berkovitz) **48** #1656 90A10

(*with* Arrow, Kenneth J.) Optimal consumer allocation over an infinite horizon. *J. Econom. Theory* **1** (1969), 68–91 (1970). (From the authors' introduction) **55** #7331 90A99 (90B99)

(*with* Arrow, Kenneth J.) Optimal public investment policy and controllability with fixed private savings ratio. *J. Econom. Theory* **1** (1969), 141–177 (1970). (Theodore Guinn) **54** #6902 90A15

Tightness and substitution in the theory of capital. *J. Econom. Theory* **1** (1969), 244–272 (1970). (G. Tintner) **52** #16550 90A99

Equilibrium in a finite sequence of markets with transaction cost. *Econometrica* **42** (1974), 1–20. (Author's summary) **54** #2152 90A15

Arrow-Debreu equilibrium of an exchange economy with transaction cost. *Internat. Econom. Rev.* **15** (1974), 699–717. (G. Tintner) **50** #6439 90A15

(*with* Aumann, Robert J.) Power and taxes. *Econometrica* **45** (1977), *no.* 5, 1137–1161. (B. W. Stuck) **57** #15317 90A15

(*with* Aumann, Robert J.) Power and taxes in a multi-commodity economy. *Israel J. Math.* **27** (1977), *no.* 3-4, 185–234. (Authors' introduction) **58** #25873 90A15

Distortion of preferences, income distribution, and the case for a linear income tax. *J. Econom. Theory* **14** (1977), *no.* 2, 291–298. (James W. Friedman) **56** #4871 90D13

Kuržanskiĭ, A. B. (*with* Osipov, Ju. S.) On control problems with restricted coordinates. *Prikl. Mat. Meh.* **33** (1969), 705–719 (*Russian*); *translated as J. Appl. Math. Mech.* **33** (1969), 682–695 (1970). (Authors' introduction) **58** #9542 93C05

(*with* Kac, I. Ja.) Certain problems in observation and control under random circumstances. *Avtomat. i Telemeh.* **1970**, *no.* 12, 15–25 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 12, 1913–1923. (L. D. Berkovitz) **46** #3181 93E20

(*with* Osipov, Ju. S.) A control problem with restricted coordinates. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1970**, *no.* 5, 22–28 (*Russian*); *translated as Engrg. Cybernetics* **8** (1970), *no.* 5, 841–847. (Authors' summary) **55** #14314 93C05

(*with* Kac, I. Ja.) The duality of statistical problems of optimal control and observation. (Russian. English summary) *Avtomat. i Telemeh.* **1971**, *no.* 3, 12–21. (R. Lipcer (RŽMat **1971** #10 V109)) **51** #5138 93E20

Differential approach games in systems with lag. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1398–1409, 1539–1540. (R. Petrović) **45** #6466 90D25

(*with* Gusev, M. I.) On the optimization of control systems in the presence of constraints. I, II. (Russian) *Differencial'nye Uravnenija* **7** (1971), 1591–1602; *ibid.* **7** (1971), 1789–1800. (H. A. Antosiewicz) **46** #9829 49A10

(*with* Osipov, Ju. S.) Optimal control under constraints on the phase coordinates of the system. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 1: *Optimal and adaptive systems* (*Russian*), *pp.* 124–133, 307. *Izdat.* "*Nauka*", *Moscow*, 1972. (M. M. Konstantinov) **50** #3061 49B15

Differential observation games. (Russian) *Dokl. Akad. Nauk SSSR* **207** (1972), 527–530. (L. A. Petrosjan) **47** #6334 90D25

On the theory of positional observation. General relationships. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 5, 20–31 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 5, 731–742. (Author's summary) **58** #4490 93B05

(*with* Kac, I. Ja.) On the optimal observation problems. *Prikl. Mat. Meh.* **37** (1973), 771–786 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 733–747 (1974). (H. Taylor) **49** #12133 93E05

Programmed control from incomplete data. (Russian) *Differencial'nye Uravnenija* **10** (1974), 2162–2172, 2308–2309. (M. Vlach) **52** #15180 49B40

Optimal systems of a combination of control and observation. *Prikl. Mat. Meh.* **38** (1974), 12–24 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 1–13. (Thomas S. Angell) **52** #10194 93E20

Observation problems and differential games. (Russian) *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR No.* 8 *Èkstremal. Strategii v Pozicion. Differencial. Igrah* (1974), 138–188, 276 (*loose errata*). (RŽMat **1974** #10 B504) **58** #33251 93B05 (90D25)

(*with* Osipov, Ju. S.) Minimax control and estimation problems in systems with distributed parameters. *Proceedings of the IFAC 6th World Congress* (*Boston/Cambridge, Mass.*, 1975), *Part* 1, *Paper No.* 15.5, 11 *pp. IFAC, Düsseldorf*, 1975. (Editors) **58** #33425 93E10

(*with* Kac, I. Ja.) Minimax estimation in multistep systems. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 3, 535–538. (Bojan Popović) **51** #15111 93E10

On minimax control and estimation strategies under incomplete information. (Russian summary) *Problems of Control and Information Theory/Problemy Upravlenija i Teorii Informacii* **4** (1975), *no.* 3, 205–218. (Ivar Gustavsson) **55** #5294 93E20

Optimal systems with sampled-data controls. (Russian) Differential Games and Control Problems. *Trudy Inst. Mat. i Meh. Ural. Naučn. Centr Akad. Nauk SSSR Vyp.* 15 (1975), 131–156, 266. (A. A. Melikjan) **58** #23896 49B10

(*with* Piščulina, I. Ja.) Minimax filtering under quadratic constraints. I. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 8, 1434–1446, 1525. (I. Muntean) **55** #12247a 93E10

(*with* Piščulina, I. Ja.) Minimax filtering under quadratic constraints. II. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 9, 1568–1579, 1724. (I. Muntean) **55** #12247b 93E10

(*with* Piščulina, I. Ja.) Minimax filtering in the case of quadratic constraints. III. (Russian) *Differencial'nye Uravnenija* **12** (1976), *no.* 12, 2149–2158, 2298–2299. (I. Muntean) **55** #12247c 93E10

(*with* Gusev, M. I.) Equilibrium situations in multicriterion game problems. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 6, 1295–1298. (Mohamed El-Hodiri) **54** #4700 90D25

★Управление и наблюдение в условиях неопределенности. (Russian) [Control and observation under conditions of indeterminacy] *Izdat.* "*Nauka*", *Moscow*, 1977. 392 *pp.* (V. Komkov) **56** #9423 49Exx (93Cxx)

Informational sets of control systems. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 11, 1957–1965, 2107. (L. Mikołajczyk) **58** #15393 93B15

Information sets of a control system. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 1, 14–17. (Kenneth Wickwire) **58** #9674 93E10

See also **Proceedings: Republican Conference of Belorussian Mathematicians**, **48** #3669 *and* **Differential games and control problems**, **56** #9347

Kurzenev, V. A. (*with* Gorškov, I. S.; Perov, V. P.) Multidimensional filtering of nonstationary random processes by a generalized criterion based on a Kalman-Bucy filter. *Avtomat. i Telemeh.* **1976**, *no.* 6, 33–37 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 6, *part* 1, 839–843. (Authors' summary) **56** #15032 93E10

Kuržhanskiĭ, A. B. *See* **Kuržanskiĭ, A. B.**

Kurzweil, Hans Eine Verallgemeinerung von fixpunktfreien Automorphismen endlicher Gruppen. *Arch. Math.* (*Basel*) **22** (1971), 136–145. (Fletcher Gross) **45** #6915 20D99

Gruppen mit 2-lokalen Untergruppen der 2-Länge 1. *J. Algebra* **32** (1974), 26–30. (Arthur Reifart) **55** #8168 20D20

★Endliche Gruppen. Eine Einführung in die Theorie der endlichen Gruppen. Hochschultext. *Springer-Verlag, Berlin-New York*, 1977. ix + 187 *pp.* *ISBN* 3-540-08454-1 (U. Schoenwaelder) **58** #5860 20–01

Minimal einfache Gruppen als fixpunktfreie Automorphismengruppen. *Comm. Algebra* **5** (1977), *no.* 4, 397–442. (Fletcher Gross) **58** #16883 20D45

Kurzweil, Jaroslav Invariant manifolds of differential systems. *Proceedings of the Fourth Conference on Nonlinear Oscillations* (*Prague*, 1967), *pp.* 41–49. *Academia, Prague*, 1968. (U. D'Ambrosio) **49** #9342 34C30

Global solutions of functional differential equations. *Seminar on Differential Equations and Dynamical Systems, II* (*Univ. Maryland, College Park, Md.*, 1969), *pp.* 134–139. *Lecture Notes in Math., Vol.* 144, *Springer, Berlin*, 1970. (Editors) **55** #3474 34K15

Invariant manifolds. I. *Comment. Math. Univ. Carolinae* **11** (1970), 309–336. (R. J. Milgram) **45** #6022 57D40 (34C35)

On solutions of nonautonomous linear delayed differential equations, which are defined and exponentially bounded for $t\to-\infty$. (Czech summary) *Časopis Pěst. Mat.* **96** (1971), 229–238, 300. (S. Leela) **45** #7216 34K05

On submultiplicative nonnegative functionals on linear maps of linear finitedimensional normed spaces. *Czechoslovak Math. J.* **22(97)** (1972), 454–461. (M. V. Subbarao) **50** #957 46B99 (15A60)

On a system of operator equations. *J. Differential Equations* **11** (1972), 364–375. (R. M. Cooper) **46** #9490 34K15 (47B99)

Solutions of linear nonautonomous functional differential equations which are exponentially bounded for $t\to-\infty$. *J. Differential Equations* **11** (1972), 376–384. (R. M. Cooper) **46** #9496 34K20

On Fubini theorem for general Perron integral. *Czechoslovak Math. J.* **23(98)** (1973), 286–297. (J. Mařík) **48** #11411 26A39

On multiplication of Perron-integrable functions. *Czechoslovak Math. J.* **23(98)** (1973), 542–566. (W. D. L. Appling) **49** #485 26A39

On the maximum value of a class of determinants. *Mat. Časopis Sloven. Akad. Vied* **23** (1973), 40–42. (Editors) **48** #2157 15A15

On the life and work of Corresponding Member of the Czechoslovak Academy of Sciences Professor Vladimír Knichal. (Czech) *Apl. Mat.* **20** (1975), 306–310. (Editors) **51** #2836 01A70

(*with* Jarník, Jiří) Ryabov's special solutions of functional differential equations. (Italian summary) Collection of articles dedicated to Giovanni Sansone on the occasion of his eighty-fifth birthday. *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 3, *suppl.*, 198–208. (R. D. Driver) **56** #12515 34K20

On the life and work of corresponding member of the Czechoslovak Academy of Sciences Professor Vladimír Knichal. (Czech) *Časopis Pěst. Mat.* **100** (1975), *no.* 3, 314–324. (Editors) **52** #5310 01A70

In memoriam Professor Vladimír Knichal. *Czechoslovak Math. J.* **25(100)** (1975), *no.* 3, 503–509. (Editors) **51** #5238 01A70

(*with* Jarník, Jiří) On Ryabov's special solutions of functional differential equations. *Differential equations* (*Colloq., Keszthely*, 1974), *pp.* 303–308. *Colloq. Math. Soc. János Bolyai, Vol.* 15, *North-Holland, Amsterdam*, 1977. (D. Ramakrishna Rao) **58** #17420 34K15

On differential relations and on Filippov's concept of differential equations. *Differential equations* (*Proc. Internat. Conf., Uppsala*, 1977), *pp.* 109–113. *Sympos. Univ. Upsaliensis Ann. Quingentesimum Celebrantis, No.* 7, *Amlqvist & Wiksell, Stockholm*, 1977. (R. F. Matlak) **58** #17282 34A99

Special solutions of functional-differential equations. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp.* 185–187, 304. *Izdat.* "*Naukova Dumka*", *Kiev*, 1977. (Author's summary) **57** #13072 34K05

(*with* Jarník, Jiří) Right-hand sides of differential inclusions which cannot be reduced. (Russian summary) *Problems of the asymptotic theory of nonlinear oscillations* (*Russian*), *pp.* 122–132, 277. *Naukova Dumka, Kiev*, 1977. (Authors' summary) **58** #28773 34A99

Invariant manifolds in the theory of functional differential equations. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Teil* 1, *pp.* 467–476. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (Hans-Otto Walther) **58** #22929 34K15

(*with* Jarník, Jiří) Reducing differential inclusions. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Teil* 1, *pp.* 477–479. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (Hans-Otto Walther) **58** #22736 34A99

(*with* Jarník, Jiří) On conditions on right hand sides of differential relations. (Czech and loose Russian summaries) *Časopis Pěst. Mat.* **102** (1977), *no.* 4, 334–349, 426. (David Berlinski) **57** #6579 34A99 (34K05)

On the sixtieth birthday of Ju. A. Mitropol's'kiĭ. (Czech) *Pokroky Mat. Fyz. Astronom.* **22** (1977), *no.* 1, 40–41. (Editors) **58** #10187 01A70

Kusaba, Ikuro (*with* Kamio, Makoto) Approach for more fitted multiple regression modeling. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **21** (1969), 475–480. (C. Hayashi) **46** #4655 62J05

Kusaba, Toshio On Hilbert's tenth problem (affirmative cases). (Japanese) *Sûgaku* **25** (1973), *no.* 1, 10–19. (Editors) **58** #27751 10B15 (02F25, 10B35, 10N05)

Kusakin, I. A. The principle of majorants and the Newton-Kantorovič method with nondifferentiable operators. (Russian) *Voronež. Gos. Univ. Trudy Sem. Funkcional. Anal. Vyp.* 10, 31–43 (1968). (B. Jankó) **54** #4092 65J05 (47H15)

The majorant principle and the generalized Newton-Kantorovič method with nondifferentiable functionals. (Russian. Azerbaijani summary) *Akad. Nauk Azerbaĭdžan. SSR Dokl.* **28** (1972), *no.* 5, 3–6. (H. Schwetlick) **48** #7583 65H05

Kusama, Tokitake (*with* Yamada, Sakutarō) On compactness of the statistical structure and sufficiency. *Osaka J. Math.* **9** (1972), 11–18. (D. R. Truax) **46** #10100 62B05

On approximate sufficiency. *Osaka J. Math.* **13** (1976), *no.* 3, 661–669. (Author's summary) **58** #13430 62B05

Kusano, Shinako Stochastic approximation in separable Hilbert spaces. (Japanese) *Sûgaku* **28** (1976), *no.* 4, 358–359. (Katsuji Uosaki) **57** #17984 62L20

(*with* Onose, Hiroshi) Nonlinear oscillation of second order functional differential equations with advanced argument. *J. Math. Soc. Japan* **29** (1977), *no.* 3, 541–559. (J. K. Hale) **55** #13043 34K15

Kusano, Takaŝi (*with* Onose, Hiroshi) Oscillation of solutions of nonlinear differential delay equations of arbitrary order. *Hiroshima Math. J.* **2** (1972), 1–13. (J. S. Papadakis) **48** #2527 34K15

(*with* Onose, Hiroshi) Oscillation theorems for delay equations of arbitrary order. *Hiroshima Math. J.* **2** (1972), 263–270. (J. S. Papadakis) **48** #2528 34K15

(*with* Chen, Lu San; Kuroda, Tadashi) Some parabolic equations with unbounded coefficients. *Funkcial. Ekvac.* **16** (1973), 1–28. (R. Guenther) **50** #13884 35K15

(*with* Kuroda, Tadashi; Chen, Lu San) Weakly coupled parabolic systems with unbounded coefficients. *Hiroshima Math. J.* **3** (1973), 1–14. (C. V. Pao) **51** #10831 35B40

(*with* Onose, Hiroshi) Nonlinear oscillation of a sublinear delay equation of arbitrary order. *Proc. Amer. Math. Soc.* **40** (1973), 219–224. (H. E. Gollwitzer) **48** #2529 34K15

Oscillatory behavior of solutions of higher-order retarded differential equations. *Proceedings of the C. Carathéodory International Symposium* (*Athens*, 1973), *pp.* 370–389. *Greek Math. Soc., Athens*, 1974. (From the introduction) **58** #6611 34K15

(*with* Onose, Hiroshi) Oscillatory and asymptotic behavior of sublinear retarded differential equations. *Hiroshima Math. J.* **4** (1974), 343–355. (M. M. Konstantinov) **50** #2647 34K15

(*with* Onose, Hiroshi; Tobe, Hiroyuki) On the oscillation of second order nonlinear ordinary differential equations. *Hiroshima Math. J.* **4** (1974), 491–499. (G. J. Butler)

51 #13356 34C10

(*with* Onose, Hiroshi) Oscillations of functional differential equations with retarded argument. *J. Differential Equations* **15** (1974), 269–277. (V. Staikos) **48** #11723 34K15

(*with* Onose, Hiroshi) Oscillation theorems for second order differential equations with retarded argument. *Proc. Japan Acad.* **50** (1974), 342–346. (J. S. Papadakis) **52** #6145 34K15

(*with* Onose, Hiroshi) An oscillation theorem for differential equations with deviating argument. *Proc. Japan Acad.* **50** (1974), 809–811. (Bhagat Singh) **52** #958 34K15

(*with* Naito, Manabu) Nonlinear oscillation of second order differential equations with retarded argument. *Ann. Mat. Pura Appl.* (4) **106** (1975), 171–185. (J. S. Bradley) **54** #3129 34K15

(*with* Yoshida, Norio) Comparison and nonoscillation theorems for fourth order elliptic systems. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 3, 328–337. (W. Allegretto) **54** #13275 35B05

(*with* Yoshida, Norio) Picone's identity for ordinary differential operators of even order. (Italian summary) *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **58** (1975), *no.* 4, 524–530. (K. Kreith) **54** #7955 34C10

(*with* Yoshida, Norio) Nonoscillation criteria for strongly elliptic systems. (Italian summary) *Boll. Un. Mat. Ital.* (4) **11** (1975), *no.* 1, 166–173. (E. S. Noussair) **53** #983 35B05

(*with* Onose, Hiroshi) Asymptotic behavior of nonoscillatory solutions of second order functional differential equations. *Bull. Austral. Math. Soc.* **13** (1975), *no.* 2, 291–299. (Bhagat Singh) **53** #974 34K15

(*with* Onose, Hiroshi) Nonoscillatory solutions of differential equations with retarded arguments. *Bull. Fac. Sci. Ibaraki Univ. Ser. A No.* 7 (1975), 1–11. (D. Ramakrishna Rao) **51** #6088 34K15

(*with* Onose, Hiroshi) A nonoscillation theorem for a second order sublinear retarded differential equation. *Bull. Austral. Math. Soc.* **15** (1976), *no.* 3, 401–406. (M. I. Kamenskiĭ) **55** #10803 34K15

(*with* Naito, Manabu) Nonlinear oscillation of fourth order differential equations. *Canad. J. Math.* **28** (1976), *no.* 4, 840–852. (Z. Nehari) **55** #3420 34C10

(*with* Onose, Hiroshi) Remarks on the oscillatory behavior of solutions of functional differential equations with deviating argument. *Hiroshima Math. J.* **6** (1976), *no.* 1, 183–189. (Jerry Ridenhour) **53** #3462 34K15

(*with* Onose, Hiroshi) On the oscillation of solutions of nonlinear functional differential equations. *Hiroshima Math. J.* **6** (1976), *no.* 3, 635–645. (Yiannis Sficas) **54** #13260 34K15

(*with* Naito, Manabu) On fourth-order non-linear oscillations. *J. London Math. Soc.* (2) **14** (1976), *no.* 1, 91–105. (G. A. Bogar) **56** #6016 34C10

(*with* Onose, Hiroshi) Asymptotic behaviour of non-oscillatory solutions of functional differential equations of arbitrary order. *J. London Math. Soc.* (2) **14** (1976), *no.* 1, 106–112. (V. Staikos) **54** #10804 34K15

(*with* Onose, Hiroshi) Nonoscillation theorems for differential equations with deviating argument. *Pacific J. Math.* **63** (1976), *no.* 1, 185–192. (Bhagat Singh) **54** #5586 34K15

(*with* Onose, Hiroshi) Asymptotic behavior of nonoscillatory solutions of nonlinear differential equations with forcing term. (Italian summary) *Ann. Mat. Pura Appl.* (4) **112** (1977), 231–239. (Mark A. Aĭzerman) **55** #10804 34K15

(*with* Narita, Mamoru) Unboundedness of solutions of parabolic differential inequalities. *J. Math. Anal. Appl.* **57** (1977), *no.* 1, 68–75. (R. Guenther) **54** #13276 35B05 (35K25)

(*with* Onose, Hiroshi) Asymptotic decay of oscillatory solutions of second order differential equations with forcing term. *Proc. Amer. Math. Soc.* **66** (1977), *no.* 2, 251–257. (Bhagat Singh) **56** #16105 34K15

(*with* Onose, Hiroshi) Nonoscillation theorems for second order differential equations with forcing term. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 110, 191–200. (J. S. W. Wong) **56** #746 34C10

(*with* Kitamura, Yuichi) Asymptotic properties of solutions of two-dimensional differential systems with deviating argument. *Hiroshima Math. J.* **8** (1978), *no.* 2, 305–326. (Bhagat Singh) **58** #11813 34K20

(*with* Kitamura, Yuichi; Naito, Manabu) Asymptotic properties of solutions of *n*-th order differential equations with deviating argument. *Proc. Japan Acad. Ser. A Math. Sci.* **54** (1978), *no.* 1, 13–16. (Archibald Brown) **57** #13102 34K20

Kuščer, Ivan (*with* Klinc, Tomaž) Effect of lateral leakage on neutron waves. *Transport Theory Statist. Phys.* **1** (1971), *no.* 1, 41–58. (Madhoo Kanal) **55** #9777 82.45

(*with* Zweifel, Paul F.) 100 years Boltzmann equation: a meeting report. *Transport Theory Statist. Phys.* **2** (1972), *no.* 4, 365–372. (Editors) **53** #10528 01A60 (82.01)

(*with* Aronson, Raphael; Vidav, Ivan) Application of the matrix Riemann problem to the linear Boltzmann equation. Collection of articles dedicated to the memory of the Balkan mathematicians Constantin Carathéodory, Josip Plemelj, Dimitrie Pompeiu and Gheorghe Ţiţeica in connection with the first centenary of their birth (Proc. Internat. Conf. on Integral, Differential and Functional Equations (Bled, 1973) in connection with the first centenary of the birth of Josip Plemelj). *Math. Balkanica* 3 (1973), 9–22. (L. Finkelstein) **51** #2551 82.45

On the concept of the transport mean path in kinetic theory. *Confer. Sem. Mat. Univ. Bari No.* 134 (1974), 13 *pp.* (Hans Kaper) **52** #4903 82.45

On boundary conditions in the kinetic theory of gases. *Confer. Sem. Mat. Univ. Bari No.* 135 (1974), 15 *pp.* (Marvin Shinbrot) **52** #7411 82.47

(*with* Vidav, Ivan) Properties of surface scattering operators. (German summary) *Z. Angew. Math. Phys.* **26** (1975), 165–170. (S. Harris) **51** #7550 82.47

(*with* Velkovrh, Ciril) France Ahlin, 24.9. 1905–2.2. 1977. (Slovenian) *Obzornik Mat. Fiz.* **24** (1977), *no.* 2, 58–59. (Editors) **57** #12123 01A70

(*with* Zweifel, Paul F.) Mathematical methods in transport theory. Conference held at Oberwolfach, Germany, October 31-November 5, 1976. *Transport Theory Statist. Phys.* **6** (1977), *no.* 2-3, 151–158. (Editors) **56** #14445 82.45

(*with* Vidav, Ivan; Boley, Charles D.) Role of the Wiener-Khinchin theorem in statistical mechanics. (German summary) *Z. Angew. Math. Phys.* **29** (1978), *no.* 1, 23–34. (Etang Chen) **58** #8966 81.60

See also **Publications: Department of Mathematics**, **51** #15; **Publications: Department of Mathematics**, **51** #16 *and* **Publications: Department of Mathematics**, **51** #17

Kuščev, A. B. Some tests for the existence of bounded or periodic solutions of second order differential equations or equations with retarded argument. (Russian) *Vestnik Jaroslav. Univ. Vyp.* 8 (1974), 108–121. (G. B. Gustafson) **58** #6612 34K15

Nonzero periodic solutions for a class of second order differential equations. (Russian) *Qualitative and approximate methods for the investigation of operator equations, No.* 1 *(Russian), pp.* 109–126. *Jaroslav. Gos. Univ., Yaroslavl*, 1976. (From the introduction) **58** #29010 34K15 (34C25)

Kuščev, B. I. (*with* Veĭssenberg, A. N.) On the question of the stability of motion in the critical case with an even number of zero roots. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 2(141), 24–28. (J. K. Hale) **51** #1041 34D20

Kuschel, Horst *See* **Taschenbuch Elektrotechnik in sechs Bänden**, **52** #13100

Kuschnerow, Horst Über Multiplikatorensysteme und Poincarésche Reihen zur Gruppe der ganzen Modulsubstitutionen zweiten Grades. *J. Reine Angew. Math.* **299/300** (1978), 201–219. (H. Klingen) **58** #27793 10D20

Kušel′man, M. S. Construction of homotopy 4-spheres that are branched over two-dimensional knots. (Russian. Azerbaijani summary) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1971**, *no.* 2, 78–82. (I. Pop) **45** #4420 55A25 (55C05)

(*with* Vinogradov, A. M.) The generalized Smith conjecture in dimension four. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 52–62. (L. Górniewicz) **45** #7700 55C35

Duality for the Reidemeister torsion of nonacyclic complexes. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no.* 6(186), 177. (Allen E. Hatcher) **53** #6573 57C10

See also **Algebraic topology: an introduction**, **55** #6407

Kushimoto, Shigeru Converse duality theorem for pseudo-convex programming in complex space. *Math. Japon.* **18** (1973), 79–86. (G. Owen) **50** #3076 49D45

Pseudo-convex programming in complex space. *Math. Japon.* **19** (1974), *no.* 3, 177–182. (R. N. Kaul) **53** #10304 90C25

Self-duality for mathematical programming in complex space. *Sci. Rep. Niigata Univ. Ser. A No.* 11 (1974), 13–20. (J. Abrham) **49** #8663 90C25

Duality for quadratic programs in complex space. *Math. Japon.* **20** (1975), *no.* 4, 285–292 (1976). (Robert A. Abrams) **54** #2201 90C20

Positive definite programming in complex space. *Math. Japon.* **21** (1976), *no.* 3, 303–309. (Robert A. Abrams) **55** #7414 90C30

Kushner, Harold J. On the convergence of Lion's identification method with random inputs. *IEEE Trans. Automatic Control* **AC-15** (1970), 652–654. (Author's summary) **56** #11384 93E10

Probability limit theorems and the convergence of finite difference approximations of partial differential equations. *J. Math. Anal. Appl.* **32** (1970), 77–103; *erratum and addendum, ibid.* **34** (1971), 233. (A. Ventcel′ (RŽMat **1971** #6 V85)) **45** #1256 60J60 (35J25)

(*with* Kleinman, A. J.) Mathematical programming and the control of Markov chains. *Internat. J. Control* (1) **13** (1971), 801–820. (D. S. Adorno) **46** #8732 93E20 (90C05)

Necessary conditions for discrete parameter stochastic optimization problems. *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability* (*Univ. California, Berkeley, Calif.*, 1970/1971), *Vol. III*: *Probability theory, pp.* 667–685. *Univ. California Press, Berkeley, Calif.*, 1972. (D. D. Sworder) **53** #2490 93E20 (90C15)

Stochastic stability. *Stability of stochastic dynamical systems* (*Proc. Internat. Sympos., Univ. Warwick, Coventry*, 1972), *pp.* 97–124. *Lecture Notes in Math., Vol.* 294, *Springer, Berlin*, 1972. (Jürgen Groh) **53** #10443 93E15

Stochastic approximation algorithms for the local optimization of functions with nonunique stationary points. *IEEE Trans. Automatic Control* **AC-17** (1972), *no.* 5, 646–654. (Author's summary) **55** #14387 93E20

Stability and existence of diffusions with discontinuous or rapidly growing drift terms. *J. Differential Equations* **11** (1972), 156–168. (R. Rishel) **45** #7842 60H10

Necessary conditions for continuous parameter stochastic optimization problems. *SIAM J. Control* **10** (1972), 550–565. (N. U. Ahmed) **47** #3086 93E20

(*with* Gavin, Tom) Extensions of Kesten's adaptive stochastic approximation method. *Ann. Statist.* **1** (1973), 851–861. (C. P. Tsokos) **51** #14473 62L20 (90C40)

(*with* Gavin, Tom) A versatile method for the Monte Carlo optimization of stochastic systems. *Internat. J. Control* (1) **18** (1973), 963–975. (A. Bensoussan) **48** #13408 93E10

(*with* Yu, Chen Fu) Probability methods for the convergence of finite difference approximations to partial differential equations. *J. Math. Anal. Appl.* **43** (1973), 603–625. (G. Papanicolaou) **48** #1483 65M10 (93E20)

On the weak convergence of interpolated Markov chains to a diffusion. *Ann. Probability* **2** (1974), 40–50. (Douglas P. Kennedy) **50** #14869 60B10

Stochastic approximation algorithms for constrained optimization problems. *Ann. Statist.* **2** (1974), 713–723. (P. K. Sen) **51** #2207 62L20 (90C15)

(*with* Gavin, Tom) Stochastic approximation type methods for constrained systems: algorithms and numerical results. *IEEE Trans. Automatic Control* **AC-19** (1974), 349–357. (V. N. Igolkin) **54** #9822 93E25

(*with* Chen, Hing Hui) Decomposition of systems governed by Markov chains. *IEEE Trans. Automatic Control* **AC-19** (1974), 501–507. (Jürgen Groh) **55** #7555 93E25

(*with* Yu, Chen Fu) Probability methods for the convergence of finite difference approximations to partial differential-integral equations. II. *J. Math. Anal. Appl.* **45** (1974), 54–72. (G. Papanicolaou) **48** #10138 65M10 (93E20)

(*with* Yu, Chen Fu) Approximations, existence, and numerical procedures for optimal stochastic controls. *J. Math. Anal. Appl.* **45** (1974), 563–587. (Peter Stavroulakis) **48** #13423 93E20

(*with* Sanvicente, E.) Penalty function methods for constrainted stochastic approximation. *J. Math. Anal. Appl.* **46** (1974), 499–512. (J. Galambos) **49** #8247 62L20 (65C05)

Approximations to and local properties of diffusions with discontinuous controls. *J. Optimization Theory Appl.* **14** (1974), 131–150. (R. Rishel) **51** #5139 93E20

Finite difference methods for the weak solutions of the Kolmogorov equations for the density of diffusions and conditional diffusions. *Control theory, numerical methods and computer systems modelling* (*Internat. Sympos., IRIA LABORIA, Rocquencourt,* 1974), *pp.* 336–349. *Lecture Notes in Econom. and Math. Systems, Vol.* 107, *Springer, Berlin,* 1975. (Mark Pinsky) **51** #9504 65M05

A finite difference method for computing optimal stochastic controls and costs. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.,* 1974), *Vol.* 2, *pp.* 349–353. *Canad. Math. Congress, Montreal, Que.,* 1975. (Robert B. Asher) **54** #9818 93E20

(*with* Sanvicente, E.) Stochastic approximation of constrained systems with system and constraint noise. *Automatica—J. IFAC* **11** (1975), *no.* 4, 375–380. (I. M. Stancu-Minasian) **53** #15516 93E10

(*with* Yu, Chen Fu) The approximate calculation of invariant measures of diffusions via finite difference approximations to degenerate elliptic partial differential equations. *J. Math. Anal. Appl.* **51** (1975), *no.* 2, 359–367. (S. R. S. Varadhan) **51** #14290 60J60

Existence results for optimal stochastic controls. Existence theory in the calculus of variations and optimal control. *J. Optimization Theory Appl.* **15** (1975), 347–359. (François Brodeau) **52** #7676 93E20

General convergence results for constrained and unconstrained stochastic approximations. *Proceedings of the IEEE Conference on Decision and Control and the* 15*th Symposium on Adaptive Processes* (*Clearwater, Fla.,* 1976), *pp.* 698–704. *Inst. Electr. Electron. Engrs., New York,* 1976. (V. Fabian) **56** #16958 62L20

Approximations and computational methods for optimal stopping and stochastic impulsive control problems. *Appl. Math. Optim.* **3** (1976/77), *no.* 2/3, 81–99. (T. Tobias) **56** #5019 93E20

Finite difference methods for the weak solutions of the Kolmogorov equations for the density of both diffusion and conditional diffusion processes. *J. Math. Anal. Appl.* **53** (1976), *no.* 2, 251–265. (S. R. S. Varadhan) **57** #1668 60J60

Probabilistic methods for finite difference approximations to degenerate elliptic and parabolic equations with Neumann and Dirichlet boundary conditions. *J. Math. Anal. Appl.* **53** (1976), *no.* 3, 644–668. (G. Papanicolaou) **53** #4258 60J60 (65N10)

Discrete approximations for stochastic control problems with control acting continuously and impulsively. Stochastic systems: modeling, identification and optimization, II (Proc. Sympos., Univ. Kentucky, Lexington, Ky., 1975). *Math. Programming Stud. No.* 6 (1976), 73–96. (Kenneth Wickwire) **56** #11435 93E20

(*with* Kelmanson, Milton L.) Stochastic approximation algorithms of the multiplier type for the sequential Monte Carlo optimization of stochastic systems. *SIAM J. Control Optimization* **14** (1976), *no.* 5, 827–842. (Authors' summary) **55** #10134 93E25 (90C15)

A survey of some applications of probability and stochastic control theory to finite difference methods for degenerate elliptic and parabolic equations. *SIAM Rev.* **18** (1976), *no.* 4, 545–577. (D. L. Iglehart) **55** #4325 60B10 (65N10)

★Probability methods for approximations in stochastic control and for elliptic equations. Mathematics in Science and Engineering, Vol. 129. *Academic Press* [*Harcourt Brace Jovanovich, Publishers*], *New York-London,* 1977. xvii + 243 *pp.* (Jean-Michel Bismut) **57** #9258 93E25 (65N10, 60J60)

(*with* Lakshmivarahan, S.) Numerical studies of stochastic approximation procedures for constrained problems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 428–439. (Authors' summary) **58** #26495 93E25

Convergence of recursive adaptive and identification procedures via weak convergence theory. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 6, 921–930. (Lennart Ljung) **58** #4561 93E10

General convergence results for stochastic approximations via weak convergence theory. *J. Math. Anal. Appl.* **61** (1977), *no.* 2, 490–503. (G. Niculescu) **56** #16959 62L20 (93E20)

(*with* Di Masi, Giovanni) Approximations for functionals and optimal control problems on jump diffusion processes. *J. Math. Anal. Appl.* **63** (1978), *no.* 3, 772–800. (Jean-Michel Bismut) **58** #26477 93E20

Optimality conditions for the average cost per unit time problem with a diffusion model. *SIAM J. Control Optimization* **16** (1978), *no.* 2, 330–346. (Jean-Michel Bismut) **58** #9718 93E20

Kushnir, A. F. *See* **Kušnir, A. F.**

Kushnir, M. I. *See* **Kušnir, M. I.**

Kushwaha, R. D. S. (*with* Mishra, R. S.) On almost product manifolds: Nijenhuis tensor. *Gaṇita* **21** (1970), *no.* 1, 1–7. (K. Yano) **45** #7658 53C15

(*with* Mishra, R. S.) On conformal * curvature tensor of a Kahler manifold. *Gaṇita* **22** (1971), *no.* 1, 1–5. (R. Miron) **45** #4333 53B35

(*with* Mishra, R. S.) On almost complex manifolds. *J. Sci. Res. Banaras Hindu Univ.* **22** (1971/72), *no.* 2, 11–15. (A. Kawaguchi) **55** #4031 53C15

(*with* Mishra, R. S.) On sub-manifolds of a locally decomposable Riemannian manifold. Volume dedicated to the memory of V. Ramaswami Aiyar. *Math. Student* **39** (1971), 346–350 (1972). (M. Okumura) **48** #12361 53B25

(*with* Mishra, R. S.) Vector fields in generalized Kahlerian manifold. *Gaṇita* **23** (1972), *no.* 1, 37–42. (K. T. Hahn) **48** #7145 53B35

(*with* Mishra, R. S.) On almost product and almost decomposable manifolds. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 4, 632–636. (W. Waliszewski) **47** #5770 53C15

(*with* Mishra, R. S.) On almost complex manifolds. *Indian J. Pure Appl. Math.* **3** (1972), *no.* 5, 735–738. (David Blair) **49** #3755 53C15

(*with* Mishra, R. S.) On almost complex manifolds. *Tensor* (*N.S.*) **23** (1972), 110–114. (Y. Tashiro) **47** #7636 53B35

On almost contact manifolds with a specified affine connexion. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 3, 246–253. (Virgil Obădeanu) **51** #13913 53C15

On almost contact manifolds: Nijenhuis tensor. *Indian J. Pure Appl. Math.* **5** (1974), *no.* 8, 695–700. (R. Miron) **55** #1247 53C15

See also **Pendse, C. G.**, **58** #26758 *and* **Ghosh, Samir Kumar**, **58** #26844

Kushwaha, R. S. (*with* Kalla, S. L.) Production of heat in an infinite cylinder. *Acta Mexicana Ci. Tecn.* **4** (1970), 89–93. (B. R. Bhonsle) **48** #1595 80.35 (35K05)

(*with* Kalla, S. L.) Production of heat in an infinite cylinder and Meijer's *G*-function. *Notas Ci. Ser. M: Mat.* **8** (1970), *no.* 1, 7–15. (V. M. Bhise) **53** #14032 44A20 (33A35, 80.35)

(*with* Saxena, Ram Kishore) Applications of Jacobi polynomials to non-linear oscillations. *Proc. Nat. Acad. Sci. India Sect. A* **40** (1970), 65–72. (J. W. Heidel) **45** #8938 34C15

(*with* Saxena, Ram Kishore) Applications of Jacobi polynomials to non-linear differential equation associated with confluent hypergeometric function. *Proc. Nat. Acad. Sci. India Sect. A* **40** (1970), 281–288. (Brij Mohan) **46** #3864 33A65

(*with* Saxena, Ram Kishore) Applications of Jacobi polynomials to non-linear differential equation associated with generalized hypergeometric function. *J. Mathematical and Physical Sci.* **6** (1972), 341–350. (P. Anandani) **48** #2464 34A25 (33A30)

(*with* Saxena, Ram Kishore) An integral transform associated with a kernel of Fox. Collection of articles dedicated to Professor P. L. Bhatnagar on his sixtieth birthday. *Math. Student* **40** (1972), 201–206 (1974). (C. Fox) **52** #14882 45H05 (44A15)

(*with* Saxena, Ram Kishore) Certain dual integral equations associated with a kernel of Fox. *Proc. Nat. Acad. Sci. India Sect. A* **42** (1972), 39–45. (R. G. Buschman) **49** #1037 45F10

(*with* Munot, P. C.; Mathur, B. L.) On generating functions for classical polynomials. *Proc. Nat. Acad. Sci. India Sect. A* **45** (1975), *no.* 3, 187–192. (H. L. Manocha) **55** #5929 33A65

Kusic, G. L. (*with* Cooper, Keith) Formulation of stable difference schemes for systems of initial-value partial differential equations. *J. Franklin Inst.* **296** (1973), 33–45. (P. Laasonen) **49** #6631 65M05

Kušic'kiĭ, Ja. S. L_p-stabilization. (Ukrainian. English and Russian summaries) *Dopovidi Akad. Nauk Ukraïn. RSR Ser. A* **1971**, 691–695, 763. (A. M. Abasov) **46** #2230 35K20

Stabilization of the solutions of boundary value problems in noncylindrical domains. (Russian) *Ukrain. Mat. Ž.* **24** (1972), 495–504, 573. (V. Djurikovič) **46** #9532 35K35

Kusjurin, M. N. *See* **Kuzurin, M. N.**

Kuškov, N. N. The boundedness of the solutions of a certain multidimensional system in the critical case of one zero root. I. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 6, 1026–1037, 1155–1156. (J. W. Macki) **58** #17315a 34C10 (34D05)

The boundedness of the solutions of a certain multidimensional system in the critical case of one zero root. II. (Russian) *Differencial'nye Uravnenija* **13** (1977), *no.* 9, 1598–1605, 1732. (J. W. Macki) **58** #17315b 34C10 (34D05)

The boundedness of the solutions of a certain multidimensional system in the critical case of one zero root and two pure imaginary roots. I. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 4, 613–623, 763–764. (E. S. Čičkin) **58** #1382a 34C10

The boundedness of the solutions of a certain multidimensional system in the critical case of one zero root and two pure imaginary roots. II. (Russian) *Differencial'nye Uravnenija* **14** (1978), *no.* 5, 843–852, 956–957. (E. S. Čičkin) **58** #1382b 34C10

Kuskova, T. V. (*with* Poležaev, V. I.) Numerical investigation of the movement of a nonisothermic viscous fluid containing a bubble, under lowered gravity conditions. (Russian) *Vyčisl. Metody i Programmirovanie No.* 23 (1974), 54–75. (From the text) **58** #25385 76.65

(*with* Varžanskaja, T. S.; Poležaev, V. I.) Calculation of the natural and thermocapillary convection in a spherical vessel that contains a gas bubble at large Rayleigh and Marangoni numbers. (Russian) *Vyčisl. Metody i Programmirovanie No.* 27 (1977), 52–64. (J. F. Heyda) **58** #25439 80.65

Kuskovskiĭ, L. N. An analogue of Pompeiu's formulas, and functions that are monogenic in the sense of V. S. Fedorov. (Russian) Logic, algebra and numerical analysis, Vol. 2, no. 1. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **123** (1973), 12–16. (C. R. Deeter) **58** #11444 30A92 (30A86)

An anolague of the areolar equations. (Russian) Logic, algebra and numerical analysis, Vol. 2, no. 2. *Ivanov. Gos. Ped. Inst. Učen. Zap.* **125** (1973), 73–83. (RŽMat **1974** #8 B184) **58** #1177 30A88 (30A94)

A certain hypercomplex differential system. (Russian) Logic, algebra and numerical analysis, Vol. 3, no. 1. *Ivanov. Gos. Univ. Učen. Zap.* **130** (1974), 62–72. (Editors) **58** #1184 30A97

On a boundary value problem of Riemann-Hilbert type. (Russian) *Differencial'nye Uravnenija* **11** (1975), 523–532, 589–590. (G. Wildenhain) **52** #3547 30A88 (35J55)

A generalization of the theory of areolar derivatives. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 5(168), 112–115. (L. G. Mihaĭlov) **56** #8866 30A92

Kuškulejs, A. Finitely stable representations of nilpotent groups. (Russian. Latvian summary) *Latvian mathematical yearbook,* 16 (*Russian*), *pp.* 39–45, 271. *Izdat. "Zinatne", Riga,* 1975. (I. D. Macdonald) **53** #3114 20E15

Some quasivarieties that are connected with group representations. (Russian) *Latviĭsk. Mat. Ežegodnik Vyp.* 18 (1976), 110–112, 222. (V. A. Artamonov) **57** #3231 20C20 (20E10)

A property of varieties of group representations. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 6 (198), 259–260. (S. M. Vovsi) **57** #12668 20C20

Kuśmierz, Grażyna (*with* Janda, Ryszard) A method for the application of the program-generator of an arbitrary language written in Backus normal form as an acceptor of that language. (Polish. Russian and English summaries) *Algorytmy* **11**, *no.* 20, 85–135 (1974). (Andrzej Blikle) **52** #4725 68A30

Kusmin, R. O. *See* **Kuz'min, R. O.**

šabanov-Kušnarenko, Ju. P. *See* **Šabanov-Kušnarenko, Ju. P.**

Kušner, B. A. Some examples of quasidense but not dense sets of duplexes. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **8** (1968), 95–102. (I. D. Zaslavskiĭ) **46** #1570 02E99

A remark on the domains of definition of constructive functions. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **8** (1968), 103–106. (R. A. DiPaola) **45** #61 02E15

★Лекции по конструктивному математическому анализу. (Russian) [Lectures on constructive mathematical analysis] Monographs in Mathematical Logic and Foundations of Mathematics. *Izdat. "Nauka", Moscow,* 1973. 447 *pp.* (E. Mendelson) **52** #53 02E99 (26–02, 54E35)

Coverings of separable sets. (Russian) *Studies in the theory of algorithms and mathematical logic, Vol. I* (*Russian*), *pp.* 235–246. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1973. (E. Mendelson) **49** #2303 02E99 (54D20)

Two theorems on Riemann-integrable constructive functions. (Russian) *Studies in the theory of algorithms and mathematical logic, Vol. I* (*Russian*), *pp.* 247–256. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1973. (Vladimir Lifšic) **49** #490 26A42 (02E05)

A certain problem of Mostowski. (Russian) *Studies in the theory of algorithms and mathematical logic, Vol. I* (*Russian*), *pp.* 257–261. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1973. (Vladimir Lifšic) **49** #28 02E15

Continuity theorems for certain types of computable operators. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 1031–1034. (Vladimir Lifšic) **51** #7839 02E10

Computationally complex real numbers. (Russian) *Z. Math. Logik Grundlagen Math.* **19** (1973), 447–452. (Max I. Kanovič) **49** #4764 02E10 (68A20)

A constructive version of König's theorem; functions that are computable in the sense of Markov, Grzegorczyk and Lacombe. (Russian) *Theory of algorithms, and mathematical logic* (*dedicated to A. A. Markov on the occasion of his seventieth birthday*) (*Russian*), *pp.* 87–111, 215. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1974. (Max I. Kanovič) **53** #10562 02E15 (02F20)

A certain type of computable real functions. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 259–262. (E. Mendelson) **49** #2301 02E15

(*with* Kanovič, Max I.) Complexity of algorithms, and Specker sequences. (Russian) *Studies in the theory of algorithms and mathematical logic, Vol.* 2 (*Russian*), *pp.* 73–83, 160. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1976. (Authors' summary) **58** #16203 02E10 (68A20)

On Grzegorczyk's theorem on the computability of an isolated extremum. (Russian) *Studies in the theory of algorithms and mathematical logic, Vol.* 2 (*Russian*), *pp.* 112–121, 158. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1976. (Author's summary) **58** #16209 02E15 (02F27)

The computation of isolated roots of constructive functions. (Russian) *Z. Math. Logik Grundlagen Math.* **22** (1976), *no.* 4, 311–332. (Zbl **356** #02032) **58** #21514 02E15

(*with* Kučera, Antonin) A type of recursive isomorphism of certain concepts of constructive analysis. (Russian) *Comment. Math. Univ. Carolinae* **19** (1978), *no.* 1, 97–105. (Cristian Calude) **58** #173 02E15 (02F20)

See also **Studies in constructive mathematics and mathematical logic**, 46 #8817; **Studies in constructive mathematics and mathematical logic**, 46 #8818; **Problems in the constructive trend in mathematics**, 49 #4761; **Theory of algorithms and mathematical logic**, 52 #7873; **Studies in the theory of algorithms and mathematical logic**, 56 #74 *and* **Kleene, Stephen Cole; et al.**, 58 #16196

Kušner, G. F. The compactification of noncompact symmetric Riemannian spaces. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **16** (1972), 99–152. (A. Morimoto) **56** #8754 22E45 (32J10)

Classification of certain semigroups of irreducible representations of a noncompact semisimple Lie algebra. (Russian) *Trudy Sem. Vektor. Tenzor. Anal.* **17** (1974), 228–242. (Rolf Sulanke) **50** #13173 17B10 (17B20)

Kušnerev, N. T. *See* **Proceedings: Republican Conference of Belorussian Mathematicians**, 48 #3669

Kusnezov, V. E. *See* **Theoretische Kybernetik und mathematische Logik**, 52 #13307

Kušnir, A. F. (*with* Levin, B. R.) Optimal rank algorithms for detecting signals in noise. *Problemy Peredači Informacii* **4** (1968), *no.* 3, 3–18 (*Russian*); *translated as Problems of Information Transmission* **4** (1968), *no.* 3, 1–12 (1971). (K. S. Miller) **50** #4069 93E10

(*with* Levin, B. R.; Pinskiĭ, A. I.) Asymptotically optimal algorithms for detection and discrimination of signals immersed in correlated noise. *Radiotehn. i Èlektron.* **16** (1971), 743–754 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **16** (1971), 784–793. (E. C. Posner) **48** #5717 94A05

(*with* Pinskiĭ, A. I.) Asymptotic optimal criteria for the testing of hypotheses under a dependent sample of observations. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **16** (1971), 280–291. (O. Gulyás) **45** #2851 62F05

(*with* Levin, B. R.) Adaptation methods in nonparametric signal detection and discrimination problems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 170–179, 477. *Izdat. "Nauka", Moscow*, 1972. (Editors) **48** #10622 94A05

(*with* Baronkin, V. M.; Pinskiĭ, A. I.) Asymptotically similar criteria for testing a composite hypothesis against a nonstationary alternative. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 4, 65–78. (Authors' summary) **58** #3159 62F10

Kušnīr, Ē. A. Historical development of methods for solving nonlinear difference equations and partial difference equations. (Ukrainian. Russian summary) *Visnik Kiïv. Univ. Ser. Mat. Meh. No.* 3 (1961), *vyp.* 1, 106–120. (RŽMat **1962** #6 A18) **58** #25031 65Q05 (01A50, 01A55, 65P05)

The initial period of development of the theory of linear difference equations with variable coefficients. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. No.* 13 (1971), 57–62, 125. (N. Flaĭšer (RŽMat **1971** #11 A18)) **58** #27021 01A55

Hypergeometric series in the history of the development of ordinary difference equations. (Ukrainian) *Narisi Īstor. Prirodoznav. ī Tehn. Vyp.* 14 (1971), 36–39, 103. (Editors) **57** #12071 01A55

(*with* Koroljuk, L. G.) On the history of the application of difference and differential-difference equations in mechanics. (Ukrainian. Russian summary) *Narisi Īstor. Prirodoznav. ī Tehn. No.* 24 (1978), 11–15, 118. (Editors) **58** #15957 01A55 (34–03)

Kušnir, M. I. Quotient divisible groups of finite rank. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27** (1972), *no.* 2, 48–55. (L. Bican) **45** #8724 20K15

Completely decomposable groups. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1974**, *no.* 8(147), 38–46. (L. Procházka) **50** #13316 20K15

(*with* Gorovoĭ, V. R.) The synthesis of discrete devices with account taken of the convenience of checking their technical state. *Avtomat. i Telemeh.* **1975**, *no.* 5, 179–181 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 5, *part* 2, 864–866. (Authors' summary) **56** #8230 94A30

Kušnīrčuk, Ī. F. (*with* Nagnībida, M. Ī.) The connection of certain bases in an analytic space. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 889–894, 912. (N. K. Nikol'skiĭ) **50** #5442 46E10

(*with* Ibragimov, I. I.) The equivalence of the Bessel and Euler operators in spaces of functions analytic in a disc. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 33–36. (J. Rovnyak) **57** #10484 47B37 (30A82, 41A65)

(*with* Ibragimov, I. I.) The completeness, in analytic spaces, of systems of cylindrical functions. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 758–760. (C. Tanaka) **49** #5318 30A18

The completeness in analytic spaces of a system of associated spherical functions. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A.* **1974**, 400–404, 476. (G. M. Fel'dman) **50** #13660 33A45

Expansion of entire functions in series of hypergeometric polynomials. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 503–507, 573. (G. M. Fel'dman) **50** #10288 30A98 (46E10)

(*with* Nagnībida, M. Ī.; Fišman, K. M.) Equivalence of differential operators with a regular singular point. (Russian) *Funkcional. Anal. i Priložen.* **8** (1974), *no.* 2, 83–84. (Boris Pavlov) **50** #962 46E10 (47E05)

(*with* Oliĭnyk, N. P.) The completeness in analytic spaces of systems of degenerate hypergeometric functions. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 250–253, 286. (J. Rovnyak) **57** #10483 47B37 (30A82, 41A65)

(*with* Nagnībida, M. Ī.) The completeness, in analytic spaces in the disc, of the systems of eigenfunctions of linear ordinary differential operators. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 5, 924–927, 951. (V. P. Havin) **51** #13765 47E05 (46E10)

(*with* Nagnībida, M. Ī.) Completeness, and the property of being a basis, of the solutions of a certain differential equation in analytic spaces. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 7, 1217–1224, 1349. (Boris Pavlov) **51** #13660 46E10 (34A20, 47E05)

(*with* Ibragimov, I. I.) The completeness of the system of eigenfunctions of a certain class of partial differential operators. (Russian) *Dokl. Akad. Nauk SSSR* **222** (1975), *no.* 5, 1020–1023. (Boris Pavlov) **52** #3753 35P10 (47F05)

(*with* Fišman, K. M.) On the question of the similarity of quasitriangular matrices in the space of analytic functions in the disc. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 8(171), 42–51. (Authors' review (RŽMat **1977** #4 B147)) **58** #23696 47A65 (47B37)

Necessary and sufficient conditions for the equivalence of differential operators with a regular singular point. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 2, 340–347, 478. (M. Ī. Nagnibīda) **56** #6470 47E05

Kušnirenko, A. G. (*with* Alekseev, V. M.; Katok, A. B.) Smooth dynamical systems. (Russian) *Ninth Mathematical Summer School* (*Kaciveli*, 1971) (*Russian*), *pp.* 50–51. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (Editors) **52** #11993 58Fxx

Problems of the general theory of dynamical systems on a manifold. (Russian) Three papers on smooth dynamical systems. *Ninth Mathematical Summer School* (*Kaciveli*, 1971) (*Russian*), *pp.* 52–124. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1972. (D. Newton) **52** #1789 58F15

Spectral properties of certain dynamical systems with polynomial dispersal. (Russian. English summary) Collection of articles dedicated to the memory of Ivan Georgievič Petrovskiĭ. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 1, 101–108. (W. Szlenk) **50** #5853 58F15 (28A65)

The Newton polygon, and Milnor numbers. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 1, 74–75. (A. H. Wallace) **53** #863 32C40 (14D05)

(*with* Gabrièlov, A. M.) Description of deformations with constant Milnor number for homogeneous functions. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 4, 67–68. (J. S. Joel) **54** #13126 32C40

Newton polyhedra and Bezout's theorem. (Russian) *Funkcional. Anal. i Priložen.* **10** (1976), *no.* 3, 82–83. (Helmut Hamm) **54** #10263 14E15

Polyèdres de Newton et nombres de Milnor. *Invent. Math.* **32** (1976), *no.* 1, 1–31. (H. B. Laufer) **54** #7454 14B05

(*with* Bernšteĭn, D. N.; Hovanskiĭ, A. G.) Newton polyhedra. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 3(189), 201–202. (Helmut Hamm) **58** #11500 32C40 (14B05)

A criterion for the existence of a nondegenerate quasihomogeneous function with given weights. (Russian) *Uspehi Mat. Nauk* **32** (1977), *no.* 3 (195), 169–170. (P. Orlik) **57** #313 14B05 (32C40)

See also **Mather, John N.**, 52 #9289; **Moser, Jürgen K.**, 54 #11400; **Malgrange, Bernard**, 56 #3342 *and* **Golubitsky, M.; et al.**, 57 #7652

Kušnirov, V. A. *See* **Software of electronic digital computers**, 50 #11832

Kušnirskiĭ, F. I. (*with* Primak, M. E.) Regression with nonnegative coefficients. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1973**, *no.* 1, 151–152. (H. Toutenburg) **48** #3193 62J05

A method of extending the input-output balance to make it a closed plan for production computations. (Russian) *Èkonom. i Mat. Metody* **12** (1976), *no.* 5, 887–898. (B. L. Ovsievič) **57** #15336 90A15

Kusolitsch, N. (*with* Österreicher, Ferdinand) On least favourable tuples for a decision model. *Topics in information theory* (*Second Colloq., Keszthely*, 1975), *pp.* 479–492. *Colloq. Math. Soc. János Bolyai, Vol.* 16, *North-Holland, Amsterdam*, 1977. (Volker Baumann and W. Hummitzsch) **58** #31494 62B10 (62C05)

Kusovkov, N. G. (*with* Aĭzerman, M. A.; Bendrikov, G. A.; Hramoĭ, A. V.; Krasovskiĭ, A. A.; Lerner, A. Ja.; Letov, A. M.; Petrov, B. N.; Petrov, V. V.; Šaripov, D. S.; Šatalov, A. S.; Solodovnikov, V. V.; Teodorčik, K. F.; Topčeev, Ju. I.; Uderman, E. G.; Voronov, A. A.; Cypkin, Ja. Z.) ★Теория автоматического регулирования. Книга 1: Математическое описание, анализ устойчивости и качества систем автоматического регулирования. (Russian) [Theory of automatic control. Book 1: Mathematical description, analysis of stability and quality of automatic control systems] Edited by V. V. Solodovnikov. *Izdat. "Mašinostroenie", Moscow*, 1967. 768 *pp.* (Editors) **50** #6557 93–02

(*with* Aĭzerman, M. A.; Bendrikov, G. A.; Hramoĭ, A. V.; Krasovskiĭ, A. A.; Lerner, A. Ja.; Letov, A. M.; Petrov, B. N.; Petrov, V. V.; Šaripov, D. S.; Šatalov, A. S.; Solodovnikov, V. V.; Teodorčik, K. F.; Topčeev, Ju. I.; Uderman, E. G.; Voronov, A. A.; Cypkin, Ja. Z.) ★Grundlagen automatischer Regelsysteme. Band 1:

Stetige lineare Systeme. Gesamtredaktion der Originalausgabe von W. W. Solodownikow. Aus dem Russischen übersetzt von Klaus Biener, Klaus Franke, Manfred Krauß, Helmut Otto, Edmund Suschke und Bernd Weber. Deutsche Bearbeitung unter Manfred Peschel. *VEB Verlag Technik*, *Berlin*, 1971. 744 *pp*. (3 *foldouts*) (W. Oppelt (Zbl **229** #93002)) **50** #6558 93–02

Kusovskiĭ, B. I. *See* **Cybernetics and computer technology**, **48** #1737

Kusowkow, N. G. *See* **Kusovkov, N. G.**

Kuspanov, U. K. Quasivarieties of ordered semigroups. (Russian) *Ural. Gos. Univ. Mat. Zap*. **9**, *tetrad'* 1, 30–39, 141 (1974). (T. Saitô) **53** #5404 06A50

On the classes of orderable semigroups in varieties. *Semigroup Forum* **16** (1978), *no*. 2, 117–131. (M. Gould) **58** #5996 20M05 (06A50, 08A15)

Kušpeleva, R. A. An application of the theory of residues to the solution of integrodifferential equations with constant coefficients. (Russian) *Studies in integro-differential equations in Kirgizia*, *No*. 8 (*Russian*), *pp*. 256–267, 336. *Izdat*. "*Ilim*", *Frunze*, 1971. (Author's summary) **58** #2095 45J05

Kusraev, A. G. The Archimedean principle in ordered quotient lineals. (Russian) *Optimizacija Vyp*. 14(31) (1974), 165–167, 185. (Ju. A. Abramovič) **53** #14076 46A40

Kuss, Lonnie J. A conformal group on an *n*-dimensional Euclidean space. *Pi Mu Epsilon J*. **6**, *no*. 3, 144–152 (1975). (Editors) **53** #1454 53A45

Kuss, Uwe Contributions to maximum probability estimators. *Z. Wahrscheinlichkeitstheorie und Verw. Gebiete* **24** (1972), 123–133. (Lionel Weiss) **47** #9762 62F10

Maximum probability estimators in the case of exponential distribution. *Metrika* **22** (1975), *no*. 3, 129–146. (Ramesh Korwar) **54** #8964 62F10

Kussl, V. *See* **Fachtagung: Gesellschaft für Informatik, Programmiersprachen**, **48** #10176

Kussmaul, A. U. ★Stochastic integration and generalized martingales. Research Notes in Mathematics, No. 11. *Pitman Publishing*, *London-San Francisco*, *Calif.-Melbourne*, 1977. v + 163 *pp*. (M. Métivier) **58** #7841 60H05 (60G45)

Kussmaul, R. Clenshaw-Curtis quadrature with a weighting function. (German summary) *Computing* (*Arch. Elektron. Rechnen*) **9** (1972), 159–164. (Author's summary) **47** #2797 65D30

Kussová, B. Trajectories and natural numbers. *Acta Univ. Carolinae—Math. et Phys*. **12** (1971), *no*. 2, 3–20 (1972). (K. A. Bowen) **49** #45 02K15 (02K10)

Kustaanheimo, Paul Edwin Basic concepts of the kinematics of motor mechanics. (Esperanto. English summary) *Sci. Rev*. **22** (1971), 173–188. (Author's summary) **57** #15173 83.00

Motor integrals of a generalized Kepler motion. *Celestial Mech*. **6** (1972), 52–59. (J. Hoschek) **48** #1602 81.22

Une linéarisation spinorielle relativiste du mouvement képlérien. *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 675–677. (Author's summary) **50** #11909 70.53

Relativistic spinor regularization of the astrodynamical problem of two bodies. *Soc. Sci. Fenn. Comment. Phys.-Math*. **44** (1974), 1–5. (William B. Heard) **49** #6717 70.53

Über die Geometrie der relativistischen Motoren. *Abh. Math. Sem. Univ. Hamburg* **44** (1975), 110–121 (1976). (D. Lovelock) **54** #2099 83.53

Relativistic spinor linearization of the Kepler motion. (German summary) *Astronom. Nachr*. **296** (1975), *no*. 4, 163–170. (Manfred Andrié) **55** #4834 70.53

(*with* Nevanlinna, R.) ★Grundlagen der Geometrie. Lehrbücher und Monographien aus dem Gebiete der exakten Wissenschaften, Mathematische Reihe, Band 43. *Birkhäuser Verlag*, *Basel-Stuttgart*, 1976. 135 *pp*. (A. Barlotti) **58** #12660 50–01

Kustarov, S. N. An estimate of the sector of absolute stability of a certain third order nonlinear equation. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1892–1893, 1914. (F. Szidarovszky) **47** #3779 34D99

The stability in the large of nonlinear control systems in critical cases. (Russian) *Differencial'nye Uravnenija* **8** (1972), 2093–2095, 2115. (J. Jarník) **47** #2163 34H05 (34D99)

Certain necessary conditions for absolute stability in critical cases. (Russian. English summary) *Vestnik Leningrad. Univ. No*. 1 *Mat. Meh. Astronom. Vyp*. 1 (1973), 148–150, 158. (F. Brauer) **48** #5701 93D15

Kusterer, R. Ein Seitenalgorithmus zur Lösung linearer Optimierungsprobleme. (English and Russian summaries) *Math. Operationsforsch. Statist. Ser. Optim*. **9** (1978), *no*. 1, 69–78. (Author's summary) **58** #20408 90C05

Küstner, H. *See* **Kleine Enzyklopädie: Mathematik**, **51** #7768; **Mathematics at a glance**, **51** #7769 *and* **Kleine Enzyklopädie: Mathematik**, **56** #28

Küstner, Herbert Algebren endlicher stochastischer Automaten und ihrer Verhaltensfunktionen. I. (English and Russian summaries) *Elektron. Informationsverarbeit. Kybernetik* **11** (1975), *no*. 1-2, 61–116. (E. Ikaunieks) **51** #15248a 94A30

Algebren endlicher stochastischer Automaten und ihrer Verhaltensfunktionen. II. (English summary) *Elektron. Informationsverarbeit. Kybernetik* **11** (1975), *no*. 3, 165–186. (E. Ikaunieks) **51** #15248b 94A30

Kustov, E. F. (*with* Mladenova, N.) Calculation of energy matrices for the ions of a group of rare earths. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp*. 170 (1974), 38–49. (A. A. Maradudin) **53** #15220 82.20

Kusumoti, Kumaichi Necessary and sufficient condition for the reducibility of association schemes. *J. Japan Statist. Soc*. **5** (1974/75), *no*. 2, 57–64. (Author's summary) **58** #3237 62K10 (05B05)

Kusumoto, Sho-Ichiro Extensions of the Le Chatelier-Samuelson principle and their application to analytical economics–constraints and economic analysis. *Econometrica* **44** (1976), *no*. 3, 509–535. (Author's summary) **55** #9871 90A15

Global characterization of the weak Le Chatelier-Samuelson principles and its applications to economic behavior, preferences, and utility—"embedding" theorems. *Econometrica* **45** (1977), *no*. 8, 1925–1955. (From the summary) **58** #15053 90A15

Kusuno, S. (*with* Hara K.) A study on the rotation-particle coupling. *Nuclear Phys. A* **245** (1975), 147–165. (Panayotis Tsilimigras) **53** #2200 81.47

Kusunoki, Yukio On some boundary properties of harmonic Dirichlet functions. *Proc. Japan Acad*. **46** (1970), 277–282. (M. Glasner) **45** #3695 30A52

Beiträge zur Theorie der analytischen Differentiale und Funktionen. *Kōdai Math. Sem. Rep*. **26** (1975), *no*. 4, 446–453. (V. Ganapathy Iyer) **52** #3514 30A52

See also **Number theory, algebraic geometry and commutative algebra, in honor of Yasuo Akizuki**, **48** #10743

Kusuoka, Shigeo On a conjecture of L. Solomon. *J. Fac. Sci. Univ. Tokyo Sect. IA Math*. **24** (1977), *no*. 3, 645–655. (R. Steinberg) **58** #5946 20G15

Kuszta, B. (*with* Sinha, Naresh K.) Optimum input signals for parameter identification. *Internat. J. Systems Sci*. 7 (1976), *no*. 8, 935–941. (B. Wittenmark) **56** #2525 93B30

(*with* Sinha, Naresh K.) Optimal *m*-sequence input signal for system identification. *Internat. J. Systems Sci*. **8** (1977), *no*. 10, 1097–1103. (S. P. Bingulac) **58** #4502 93B30

(*with* Sinha, Naresh K.) Design of optimal input signals for the identification of distributed parameter systems. *Internat. J. Systems Sci*. **9** (1978), *no*. 1, 1–7. (Claudia Simionescu) **57** #5284 93C20 (93B30)

al-Kutaibi, S. H. *See* **Al-Kutaibi, S. H.**

Kutami, Mamoru (*with* Kurata, Yoshiki; Katayama, Hisao) Projective modules and 3-fold torsion theories. *Proc. Japan Acad*. **50** (1974), 593–597. (M. Teply) **51** #8169 16A50 (18E40)

Kutanov, A. An application of the method of characteristics to the solution of the Goursat problem for an integrodifferential equation with deviating argument. (Russian) *Collection of candidates' works of Kirgiz State University* (*physico-mathematical and natural sciences*), *No. III* (*Russian*), *pp*. 13–18. *Kirgiz. Gos. Univ*., *Frunze*, 1969. (L. E. Bobisud) **53** #12043 65R05 (35R10, 45K05)

A certain approximate method of solving the Goursat problem for a partial differential equation with deviating arguments. (Russian) *Collection of candidates' works of Kirgiz State University* (*physico-mathematical and natural sciences*), *No. III* (*Russian*), *pp*. 18–23. *Kirgiz. Gos. Univ*., *Frunze*, 1969. (L. E. Bobisud) **53** #12031 65N05 (35R10)

(*with* Krivošeĭn, L. E.; Leung, Kin Vinh; Oğuztöreli, Mehmet Namık; Salaudi, D.) Systèmes différentiels possédant la structure complexe. Problèmes à la frontière pour certaines classes d'équations intégro-différentielles non linéaires de Mangeron. (Romanian summary) *Bul. Inst. Politehn. Iaşi* (*N.S.*) **20(24)** (1974), *no*. 1-2, *part I*, 111–115. (Stefan Balint) **50** #2849 45K05

Approximate solution of a certain class of integro-partial differential equations with deviating arguments. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No*. 9 (1974), 69–75. (See RŽMat **1974** #9 B1209) 45K05

(*with* Krivošeĭn, L. E.; Leung, Kin Vinh; Oğuztöreli, Mehmet Namık) Systèmes différentiels possédant la structure complexe. Problèmes à la frontière aux conditions initiales fonctionnelles pour une classe d'équations intégrodifférentielles de Mangeron aux intégrales d'Urysohn. (English summary) *Bull. Soc. Math. Belg*. **27** (1975), *no*. 2, 157–165. (Authors' summary) **58** #23432 45J05

Approximate solution of the Goursat integral problem for nonlinear integro-differential equations with retarded arguments. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk Vyp*. 12 (1976), 40–43. (RŽMat **1977** #8 B343) **57** #10393 45K05

Solution of an integro-partial differential equation with autoregulation. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk Vyp*. 12 (1976), 44–48. (RŽMat **1977** #8 B344) **57** #10394 45K05

(*with* Krivošeĭn, L. E.; Mangeron, Dumitru Ion; Oğuztöreli, Mehmet Namık) A study of nonlinear integro-differential systems, with automatic control inside the limits of integration, that generalize mathematical models of the dynamics of a bifilar hoist. (Russian) *Ukrain. Mat. Ž*. **29** (1977), *no*. 3, 392–397, 429. (Authors' summary) **58** #23446 45K05

Kutanov, A. T. Use of the orthogonalization method in solving a linear programming problem. *Avtomat. i Telemeh*. **1973**, *no*. 8, 104–112 (*Russian. English summary*); *translated as Automat. Remote Control* **34** (1973), *no*. 8, *part* 2, 1291–1298 (1974). (Author's introduction) **56** #17799 90C05

Kutateladze, S. S. (*with* Rubinov, A. M.) Problems of isoperimetric type in a space of convex bodies. (Russian) *Optimal. Planirovanie No*. 14 (1969), 61–79. (M. Vlach) **46** #796 52A40 (49A25)

Positive linear functionals over convex surfaces. (Russian) *Optimal. Planirovanie No*. 14 (1969), 80–87. (M. Vlach) **46** #2390 46A40 (52A20)

(*with* Rubinov, A. M.) On the theory of lattice duality of functions and sets. (Russian) *Optimal. Planirovanie No*. 17 (1970), 96–144. (M. Vlach) **52** #15230 52A05

An example for decomposition. (Russian) *Optimal. Planirovanie No*. 17 (1970), 145–148. (M. Vlach) **52** #15235 52A20

Constraints of inclusion type in problems of isoperimetric type. (Russian) Collection of articles dedicated to L. V. Kantorovič on the occasion of his sixtieth birthday. *Optimizacija No*. 3(20) (1971), 103–110. (V. Zizler) **49** #5976 49–02

Operations over Minkowski balls. (Russian) Collection of articles dedicated to L. V. Kantorovič on the occasion of his sixtieth birthday. *Optimizacija No*. 3(20) (1971), 111–119. (V. Zizler) **50** #3114 52A20

(*with* Rubinov, A. M.) Supremal generators, and convergence of sequences of operators. (Russian) Collection of articles dedicated to L. V. Kantorovič on the occasion of his sixtieth birthday. *Optimizacija No*. 3(20) (1971), 120–153. (Harold H. McFaden) **51** #1336 46A40 (47B55)

Weak *H*-convexity. (Russian) *Optimizacija No*. 4(21) (1971), 21–27. (Harold McFaden) **49** #1083 46E05

(*with* Rubinov, A. M.) A certain method for the representation of the solutions of differential equations. (Russian) *Differencial'nye Uravnenija* **8** (1972), 731–733. (J. Švejda) **46** #7605 34A10 (49C05)

The dual methods for prescribing convex functions. (Russian) *Optimizacija No*. 5(22) (1972), 106–120, 160. (Harold McFaden) **49** #1061 46A40 (52A05)

Supremal generators with respect to operators. (Russian) *Optimizacija No*. 8(25) (1972), 23–41, 126. (M. Vlach) **50** #5537 47B55 (46A40)

A remark on the connection between selectors and generators. (Russian) *Optimizacija No*. 8(25) (1972), 42–47, 126. (M. Vlach) **50** #5538 47B55

Convergence to the Dirac measure and to the identity operator. (Russian) *Sibirsk. Mat. Ž*. **13** (1972), 464–466. (E. R. Deal) **45** #5728 46E15 (28A20)

(*with* Rubinov, A. M.) Minkowski duality, and its applications. (Russian) *Uspehi*

Mat. Nauk **27** (1972), *no.* 3(165), 127–176. (Harold H. McFaden) **52** #14922 46A99 (52A05)

Certain theorems on the convergence of operators. (Russian) *Dokl. Akad. Nauk SSSR* **208** (1973), 771–774. (P. Saworotnow) **48** #945 47B55

Supremal generators and convergence of nonexpansive operators. (Russian) *Mat. Zametki* **13** (1973), 55–65. (A. J. Lazar) **47** #7506 47B55

The Blaschke structure in the programming of isoperimetric problems. (Russian) *Mat. Zametki* **14** (1973), 745–754. (W. J. Firey) **49** #1323 52A40 (53C45)

(*with* Kantorovič, L. V.; Makarov, V. L.; Romanovskiĭ, I. V.; Kaplan, A. A.) Rubinšteĭn, Gennadiĭ Solomonovič (Šlemovič) (on the occasion of his fiftieth birthday). (Russian) *Optimizacija Vyp*. 9(26) (1973), 5–12. **58** #21304 01A70

A remark on selectors of convex sets. (Russian) Collection of articles dedicated to B. Z. Vulih on the occasion of his sixtieth birthday. *Optimizacija Vyp*. 12(29) (1973), 86–89, 155. (E. Hertel) **54** #1085 52A20

Certain theorems of operator Choquet theory. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 1045–1047. (Harold H. McFaden) **50** #938 46A40 (47B55)

Kernels of maximal operators, and simplicial cones. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 1219–1221. (Alexander M. Rubinov) **50** #10894 47B55 (46A99)

(*with* Rubinšteĭn, G. Š.) Studies in convex analysis and the theory of extremal problems. (Russian) *Optimizacija Vyp*. 13(30) (1974), 100–113, 168. (A. D. Ioffe) **54** #12161 90–02 (90C50)

(*with* Agranovskiĭ, M. L.; Akilov, G. P.; Vuvunikjan, Ju. M.) Works in the domain of functional analysis. (Russian) *Optimizacija Vyp*. 13(30) (1974), 114–132, 169. (Harold H. McFaden) **54** #879 46–02 (47–02)

Continuous barycentric coordinates, and the *CE*-property. (Russian) *Optimizacija Vyp*. 14(31) (1974), 124–129, 184. (Harold H. McFaden) **54** #3357 46A40 (52A05)

Convexity relative to a cone, and its applications. (Russian) *Optimizacija* **15(32)** (1974), 115–125, 185. (Harold H. McFaden) **53** #8852 46A40 (52A05)

(*with* Djatlov, V. N.) The Choquet boundary for nonexpansive operators. (Russian) *Optimizacija* **15(32)** (1974), 126–132, 185. (Harold H. McFaden) **53** #6278 46A40 (47B55)

Maximal operators, and the Choquet component. (Russian) *Sibirsk. Mat. Ž*. **15** (1974), 882–891, 959. (Alexander M. Rubinov) **50** #7996 46A40

Simplicial cones and Dirichlet operators in *K*-spaces. (Russian) *Sibirsk. Mat. Ž*. **16** (1975), *no*. 4, 745–754, 884. (Harold H. McFaden) **52** #3916 46A40 (47B55)

Choquet boundaries in *K*-spaces. (Russian) *Uspehi Mat. Nauk* **30** (1975), *no*. 4(184), 107–146. (Harold H. McFaden) **53** #6277 46A40 (46E05)

(*with* Rubinov, A. M.) ★Двойственность Минковского и ее приложения. (Russian) [Minkowski duality and its applications] *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1976. 254 *pp*. (*errata insert*) (RŽMat **1977** #9 B524K) **58** #30048 46A99 (46G99, 52A20)

Support sets of sublinear operators. (Russian) *Dokl. Akad. Nauk SSSR* **230** (1976), *no*. 5, 1029–1032. (Harold H. McFaden) **54** #8225 46A40 (47B55)

(*with* Fel′dman, M. M.) Lagrange multipliers in vector optimization problems. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no*. 1, 28–31. (W. W. Breckner) **58** #7304 49B99 (90C25)

Symmetry measures. (Russian) *Mat. Zametki* **19** (1976), *no*. 4, 615–622. (Z. Nádeník) **53** #11491 52A05

Changes of variables in the Young transform. (Russian) *Dokl. Akad. Nauk SSR* **233** (1977), *no*. 6, 1039–1041. (Vladimir L. Levin) **56** #13013 47H99 (49B30)

Formulas for the computation of subdifferentials. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no*. 4, 770–772. (Vladimir L. Levin) **56** #9260 46G05 (58C20)

Extremal operators. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no*. 2, 291–293. (Harold H. McFaden) **56** #3673 (EA **58**) 47B55

Subdifferentials of convex operators. (Russian) *Sibirsk. Mat. Ž*. **18** (1977), *no*. 5, 1057–1064, 1206. (Alexander M. Rubinov) **57** #1219 47H99

Boundary behavior of extremal operators. (Russian) *Sibirsk. Mat. Ž*. **18** (1977), *no*. 6, 1333–1341, 1436. (From the text) **58** #17782 46A99 (47B55)

See also **Birthday: Kutateladze, S. S.,** **52** #10341 *and* **Wave processes in two-phase systems**, **56** #17451

Kutepov, V. P. (*with* Šigin, A. G.) The formal transformations of microprograms. (Russian) *Questions of the theory of electronic digital mathematical machines* (*Proc. Sem., Kiev*, 1968), *No*. 3 (*Russian*), *pp*. 10–33. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (V. D′jačenko (RŽMat **1970** #2 V581)) **45** #8064 68A30 (94A30)

(*with* Korablin, Ju. P.; Fal′k, V. N.) A calculus of functional schemes. (Russian) *Digital computer technology and programming, No*. 8 (*Russian*), *pp*. 8–15, 188. *Sovetskoe Radio, Moscow*, 1974. (R. N. Goss) **51** #9566 68A10

(*with* Percov, E. E.) Estimation of the probability and mean time for the set of paths of a probability graph in terms of regular expressions. (Russian) *Digital computer technology and programming, No*. 8 (*Russian*), *pp*. 16–20, 188. *Sovetskoe Radio, Moscow*, 1974. (A. D. Koršunov) **52** #2781 94A35 (94A20)

(*with* Hentja, T.) Heuristic methods for compiling schedules for a certain class of parallel algorithms. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. No*. 183 (1974), 62–72. (Not reviewed) 68A10

Computations of functional schemes, and parallel algorithms. (Russian) *Programmirovanie* **1975**, *no*. 4, 3–11, 94. (Author's summary) **58** #8449 68A05 (68A10)

The calculus of functional schemata, and parallel algorithms. (Russian) *Programmirovanie* **1976**, *no*. 6, 3–15, 79. (Author's summary) **58** #3627 68A05

Kutev, Nikolaĭ D. (*with* Petkov, Vesselin M.) First order regularly hyperbolic systems. (Russian. French summary) *Annuaire Univ. Sofia Fac. Math. Méc*. **67** (1972/73), 375–389 (1976). (V. Durikovič) **55** #876 35L45

Kuti, J. (*with* Hasenfratz, P.) The quark bag model. *Phys. Rep*. **40C** (1978), *no*. 2, 75–179. (V. N. Suško) **58** #8897 81.35

kun Kuti, Márton *See* **Kun Kuti, Márton**

Kutikov, L. M. Decomposition of block problems of linear programming with weakly connected blocks. (Russian) *Èkonom. i Mat. Metody* **9** (1973), 739–743. (K. Zimmermann) **51** #7612 90C05

Kutin, V. A. The convergence of the random search method for the solution of a system of linear algebraic equations. (Russian) *Perm. Gos. Univ. Učen. Zap. No*. 271 (1973), 84–93. (L. Bal) **52** #9577 65F10

A certain formula for the inversion of a probability integral. (Russian) *Perm. Gos. Univ. Učen. Zap. No*. 309 *Mat.—Problemy Nelineĭn. Anal*. (1974), 99–101. (B. A. Bondarenko) **52** #2147 65D20

Kutirkov, Georgi A. (*with* Čimev, Kiril N.) The first order variables of the functions of many-valued logic. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat*. **5** (1968/69), *no*. 3, 111–118 (1970). (G. E. Minc) **45** #3168 02C05

(*with* Čimev, Kiril N.) Certain discrete functions. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat*. **6** (1970), *no*. 2, 63–72 (1972). (M. Stojaković) **48** #10763 02C05

(*with* Čimev, Kiril N.) The minimal number of separable pairs of functions of the algebra of logic that depend essentially on not more than fifteen variables. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat*. **8** (1972), *no*. 4, 155–162 (1973). (A. Tauts) **54** #55 02B05

Kutler, Paul (*with* Warming, R. F.; Lomax, Harvard) Second- and third-order noncentered difference schemes for nonlinear hyperbolic equations. *AIAA J*. **11** (1973), 189–196. (J. Ll. Morris) **48** #7617 65M05

(*with* Steger, Joseph L.) Implicit finite-difference procedures for the computation of vortex wakes. *AIAA J*. **15** (1977), *no*. 4, 581–590. (Ph. Mathieu) **56** #10435 76.65

Kutmanov, Z. Semiquaternionic hyperbolic space. (Russian) *Collection of candidates' works of Kirgiz State University* (*physico-mathematical and natural sciences*), *No. III* (*Russian*), *pp*. 24–39. *Kirgiz. Gos. Univ., Frunze*, 1969. (D. B. Persic) **54** #11162 50C25

A semiquaternion quasielliptic space. (Russian) *Trudy Kirgiz. Gos. Univ. Ser. Mat. Nauk No*. 10 (1974), 86–91. (Not reviewed) 53A05

Kutmatov, Š. (*with* Kabulov, R.) Analytic continuability with respect to a parameter of the solution of the Cauchy problem. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp*. 3–10. *Samarkand. Gos. Univ., Samarkand*, 1972. (M. Ráb) **54** #10785 34G05

(*with* Kabulov, R.) Fractional power continuability of the solution of the Cauchy problem with respect to a parameter. (Russian) *Proceedings of the Sixth Scientific Conference of the Professorial and Teaching Staff of the Faculty of Mathematics and Physics of the Samarkand State Pedagogical Institute* (*Samarkand*, 1972) (*Russian*), *pp*. 10–17. *Samarkand. Gos. Univ., Samarkand*, 1972. (M. Ráb) **54** #10786 34G05

Kutmatov, Š. K. A study of the branching of the solution of a certain kind of integral equation. *Taškent. Gos. Ped. Inst. Sb. Naučn. Trudov* **166** *Nekotorye Voprosy Fiz. Kristal. i Differencial. Uravneniĭ* (1976), 38–47, 90. (Editors) **57** #17153 45G99

Kutner, Michael H. (*with* Frome, Edward L.; Beauchamp, John J.) Regression analysis of Poisson-distributed data. *J. Amer. Statist. Assoc*. **68** (1973), 935–940. (S. John) **50** #15174 62J05 (62F10)

(*with* Hocking, R. R.) Some analytical and numerical comparisons of estimators for the mixed A.O.V. model. (French summary) *Biometrics* **31** (1975), 19–28. (Arthur Cohen) **51** #7173 62J10

Kutojanc, Ju. A. Local asymptotic normality for processes of diffusion type. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat*. **10** (1975), *no*. 2, 103–112, 187. (A. Ja. Dorogovcev) **52** #6872 60H10

A certain problem of hypothesis testing, and the asymptotic normality of stochastic integrals. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **20** (1975), *no*. 2, 385–393. (W. Hoeffding) **52** #2090 62M05 (62E20, 62F05)

On the asymptotic theory of signal detection. *Radiotehn. i Èlektron*. **21** (1976), *no*. 7, 1458–1466 (*Russian*); *translated as Radio Engrg. Electron. Phys*. **21** (1976), *no*. 7, 74–81. (S. Csibi) **56** #11488 94A05

A property of an estimate of the parameter of a drift coefficient. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat*. **12** (1977), *no*. 4, 245–251, 326. (Ju. M. Ryžov) **58** #24786 62M05

Estimation of a signal parameter in a Gaussian noise. (Russian) *Problemy Peredači Informacii* **13** (1977), *no*. 4, 29–36. (Author's summary) **58** #33528 94A15

Estimation of the drift parameter of a diffusion process in the smooth case. (Russian. English summary) *Teor. Verojatnost. i Primenen*. **22** (1977), *no*. 2, 409–415. (M. Arató) **58** #3246 62M05

Kutovii, V. O. The spectrum of a Sturm-Liouville equation with an unbounded operator-valued coefficient. (Russian) *Ukrain. Mat. Ž*. **28** (1976), *no*. 4, 473–482, 574. (H. Baumgärtel) **54** #13633 47E05 (34G05)

(*with* Gorbačuk, M. L.) Resolvent comparability of boundary value problems for an operator Sturm-Liouville equation. (Russian) *Funkcional. Anal. i Priložen*. **12** (1978), *no*. 1, 68–69. (Jan Bochenek) **58** #12517 47E05 (34G05)

The spectrum of the third boundary value problem for the Laplace equation in the half-plane. (Russian) *Ukrain. Mat. Ž*. **30** (1978), *no*. 3, 371–378, 429. (J. Kopáček) **58** #11991 35P05

Kutoyants, Yu. A. *See* **Kutojanc, Ju. A.**

von Kutschera, Franz Indicative conditionals. *Theoret. Linguist*. **1** (1974), *no*. 3, 257–269. (Author's summary) **58** #21475 02C10

Intensional semantics for natural language. ⊧ *ISILC Logic Conference* (*Proc. Internat. Summer Inst. and Logic Colloq., Kiel*, 1974), *pp*. 445–459. *Lecture Notes in Math., Vol*. 499, *Springer, Berlin*, 1975. (Dov M. Gabbay) **53** #7731 02C10

Conventions of language and intensional semantics. Translated from the German by A. Hurkmans. *Theoret. Linguist*. **2** (1975), *no*. 3, 255–283. (N. B. Cocchiarella) **55** #2474 02A05

Freges Begründung der Analysis. *Studien zu Frege, Band I, pp*. 301–312. *Problemata, No*. 42, *Frommann-Holzboog, Stuttgart*, 1976. (Editors) **58** #27237 02A05 (04–03)

Kutschke, Karl-Heinz Hinreichende Bedingungen für Stabilität und Instabilität mit Hilfe der direkten Methoden bei Trägersystemen mit Dämpfungstermen. (Russian, English and French summaries) *Wiss. Z. Univ. Rostock Math.-Naturwiss. Reihe* **20** (1971), *no*. 5/6, 321–324. (William Margulies) **53** #2109 73.35

See also **Beiträge: Digitalgraphik**, **52** #10270

Kutsuna, Masakazu On the fundamental units of real quadratic fields. *Proc. Japan Acad*. **50** (1974), 580–583. (H. Yokoi) **51** #12778 12A25 (12A45)

Kutsuwa, Toshiro (*with* Morita, Kenichi; Kosako, Hideo; Kojima, Yoshiaki) Generations of random probability-vectors. *Bull. Univ. Osaka Prefecture Ser. A* **21** (1972), *no.* 1, 75–84. (J. Pickands, III) **48** #1428 65C10

Kutt, H. R. The numerical evaluation of principal value integrals by finite-part integration. *Numer. Math.* **24** (1975), *no.* 3, 205–210. (Henning Esser) **51** #14534 65D30

Kuttler, James R. A fourth-order finite-difference approximation for the fixed membrane eigenproblem. *Math. Comp.* **25** (1971), 237–256. (Stephen Hilbert) **46** #1109 65N25

A finite-difference approximation for the eigenvalues of the clamped plate. *Numer. Math.* **17** (1971), 230–238. (Author's summary) **45** #1377 65N25

Remarks on a Stekloff eigenvalue problem. *SIAM J. Numer. Anal.* **9** (1972), 1–5. (Author's summary) **46** #2896 65N25

A note on a paper of Sperb. *Z. Angew. Math. Phys.* **24** (1973), 431–434. (L. E. Payne) **48** #6719 35P15

Direct methods for computing eigenvalues of the finite-difference Laplacian. *SIAM J. Numer. Anal.* **11** (1974), 732–740. (W. C. Rheinboldt) **50** #11805 65N25

A remark on the paper: "A maximum principle for fourth order ordinary differential equations" (J. Differential Equations **14** (1973), 101–105) by S. N. Chow, D. R. Dunninger and A. Lasota. *J. Differential Equations* **17** (1975), 44–45. (C. Avramescu) **50** #13695 34B15 (34A40)

(*with* Sigillito, Vincent G.) Bounding eigenvalues of elliptic operators. *SIAM J. Math. Anal.* **9** (1978), *no.* 4, 768–778. (L. E. Payne) **58** #11996 35P15 (49G05)

Kuttner, Brian Mercerian theorems involving Cesàro or Hölder means of any positive order. *J. Indian Math. Soc.* **34** (1970), *no.* 3-4, 151–158 (1971). (W. Beekmann) **58** #12077 40G05

On translative summability methods. II. *J. London Math. Soc.* (2) **4** (1971), 88–90. (D. L. Prullage) **45** #2366 40C05

(*with* Thorpe, Brian) On strong Nörlund summability fields. *Canad. J. Math.* **24** (1972), 390–399. (W. Beekmann) **45** #5618 40D20

On de la Vallée Poussin and Abel summability. *J. London Math. Soc.* (2) **5** (1972), 303–309. (L. Hoischen) **47** #7270 40D25

(*with* Sahney, Badri N.) On the absolute matrix summability of Fourier series. *Pacific J. Math.* **43** (1972), 407–419. (S. Izumi) **47** #9147 42A28

On Riemann summability of functions. *Proc. Cambridge Philos. Soc.* **75** (1974), 83–94. (D. C. Russell) **51** #6216 40G99

Some theorems on strong regularity of Nörlund methods. *Proc. Cambridge Philos. Soc.* **76** (1974), 195–209. (W. Beekmann) **49** #9472 40F05

On the 'second theorem of consistency' for absolute Riesz summability. *Proc. London Math. Soc.* (3) **29** (1974), 17–32. (B. L. R. Shawyer) **50** #5270 40F05

On iterated Riesz transforms of order 1. *Proc. London Math. Soc.* (3) **29** (1974), 272–288. (G. U. Brauer) **50** #5266 40D25

Some quasi-Hausdorff transformations. *Tôhoku Math. J.* (2) **26** (1974), 11–24. (L. Hoischen) **49** #5635 40G05

(*with* Thorpe, Brian) Matrix transformations of strongly summable series. *J. London Math. Soc.* (2) **11** (1975), *no.* 2, 195–206. (I. J. Maddox) **52** #14736 40G05

Cesàro iterations of Hausdorff matrices. *Math. Proc. Cambridge Philos. Soc.* **77** (1975), 109–118. (H.-H. Körle) **52** #8715 40C05

A Tauberian theorem for Cesàro summability. *Compositio Math.* **35** (1977), *no.* 1, 49–56. (F. W. Hartmann) **56** #9132 40E05 (40G05)

(*with* Lawrence, L. H.) On Mercerian sets. *J. London Math. Soc.* (2) **16** (1977), *no.* 1, 96–98. (W. Beekmann) **57** #951 40D25

Note on a scale of Abel-type summability methods. *J. Reine Angew. Math.* **298** (1978), 218–220. (Paul Schaefer) **58** #6820 40G10

A counter-example in summability theory. *Math. Proc. Cambridge Philos. Soc.* **83** (1978), *no.* 3, 353–355. (Kazuo Ishiguro) **57** #6941 40E05

(*with* Sahney, Badri N.) On non-uniqueness of the order of saturation. *Math. Proc. Cambridge Philos. Soc.* **84** (1978), *no.* 1, 113–116. (G. Sunouchi) **57** #13342 42A08

Sequences summable by some Riesz mean. *Tôhoku Math. J.* (2) **30** (1978), *no.* 2, 211–221. (F. Götze) **58** #1819 40G05

Kutty, K. K. (*with* Quinn, J. P.) Some characterizations of the projection property in Archimedean Riesz spaces. *Canad. J. Math.* **24** (1972), 306–311. (D. H. Fremlin) **49** #7728 46A40 (06A65)

Kutukova, L. T. *See* **Qualitative theory of differential equations, 52** #11191

Kutyga, G. N. Equivalence of certain families of sets in topological spaces of uncountable weight. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1971**, *no.* 12(115), 86–90. (Leo F. Boron) **45** #2645 54D20

Kutyła, L. *See* **Bieńkowska-Lipińska, Krystyna; et al., 52** #7771

Kutz, Ronald E. Cohen-Macaulay rings and ideal theory in rings of invariants of algebraic groups. *Trans. Amer. Math. Soc.* **194** (1974), 115–129. (Melvin Hochster) **50** #4570 13C15 (13H10, 14M15, 15A72, 20G15)

Kutzko, Philip C. The characters of the binary modular congruence group. *Bull. Amer. Math. Soc.* **79** (1973), 702–704. (J. Spilker) **47** #8709 20G05

The cyclotomy of finite commutative P.I.R.'s. *Illinois J. Math.* **19** (1975), 1–17. (J. Knopfmacher) **51** #12802 12C20 (13F10)

On groups of finite weight. *Proc. Amer. Math. Soc.* **55** (1976), *no.* 2, 279–280. (D. E. Cohen) **53** #3123 20F15

Mackey's theorem for nonunitary representations. *Proc. Amer. Math. Soc.* **64** (1977), *no.* 1, 173–175. (A. Kleppner) **56** #533 22D30 (22E50)

On the supercuspidal representations of Gl_2. *Amer. J. Math.* **100** (1978), *no.* 1, 43–60. (Allan J. Silberger) **58** #22411a 22E50

On the supercuspidal representations of Gl_2. II. *Amer. J. Math.* **100** (1978), *no.* 4, 705–716. (Allan J. Silberger) **58** #22411b 22E50

Kutzler, Kurt (*with* Binz, Ernst) Über metrische Räume und $\mathcal{C}_c(X)$. *Ann. Scuola Norm. Sup. Pisa.* (3) **26** (1972), 197–223. (J. Sonner) **51** #6706 54C35 (54E35)

(*with* Binz, Ernst; Butzmann, Heinz-Peter) Bemerkungen über eine Klasse von R-Algebrentopologien auf $\mathcal{C}(X)$. *Arch. Math.* (*Basel*) **23** (1972), 80–82. (D. R. Wilken) **46** #6034 46J10 (54C40)

Bemerkungen über unendlichdimensionale, separierte Limesvektorräume und Limesgruppen. *J. Reine Angew. Math.* **253** (1972), 98–116. (H. Jarchow) **46** #637 46A15

(*with* Binz, Ernst; Butzmann, Heinz-Peter; Feldman, William A.; Schroder, M.) On ω-admissible vector space topologies on $C(X)$. *Math. Ann.* **196** (1972), 39–47. (N Noble) **46** #8163 54C35

(*with* Binz, Ernst; Butzmann, Heinz-Peter) Über den c-Dual eines topologische Vektorraumes. *Math. Z.* **127** (1972), 70–74. (Ky Fan) **46** #7841 46A20 (46A25)

Über einige Limitierungen auf $\mathcal{C}(X)$ und den Satz von Dini. *Math. Nachr.* 6 (1974), 149–170. (W. A. Feldman) **50** #14646 54C40 (54A05)

Eine Charakterisierung von Lindelöf-Räumen. *Arch. Math.* (*Basel*) **26** (1975), 214–221. (S. Warner) **51** #13977 54C35 (54A20, 54D20)

Kutzner, J. On the phase space representation for spin systems. *Phys. Lett.* **41A** (1972) 475–476. (P. Achuthan) **48** #10376 81.47

Eine Phasenraumdarstellung für Spinsysteme. (English summary) *Z. Physik* **25** (1973), *no.* 2, 177–188. (Adriaan Tip) **53** #4822 81.47

Kuusalo, Tapani Generalized conformal capacity and quasiconformal metrics. *Proceeding of the Romanian-Finnish Seminar on Teichmüller Spaces and Quasiconformal Mapping* (*Braşov*, 1969), *pp.* 193–202. *Publ. House of the Acad. of the Socialist Republic o Romania, Bucharest*, 1971. (S. B. Agard) **46** #2047 30A60

Boundary mappings of geometric isomorphisms of Fuchsian groups. *Ann. Acad Sci. Fenn. Ser. A I No.* 545 (1973), 7 *pp.* (C. Earle) **49** #7437 30A58

On the Beurling-Ahlfors functional inequality. *Fund. Math.* **90** (1975), *no.* 1, 17–22 (A. Császár) **52** #14192 26A48

Kuusk, Piret (*with* Unt, Väino) A new method for calculating wave generation an propagation in a curved space-time. (Estonian and Russian summaries) *Eesti NS Tead. Akad. Toimetised Füüs.-Mat.* **25** (1976), *no.* 3, 234–244. (Ilija Lukačević) **58** #9047 83.35

(*with* Unt, Väino) Approximate radiative solutions of the Einstein equations. *General Relativity and Gravitation* 7 (1976), *no.* 5, 399–417. (R. A. d'Inverno) **57** #895 83.65

Kuvšinov, V. I. Renormalization of the mass in a unified field theory in scalar electrodynamics. (Russian) *Vescī Akad. Navuk BSSR Ser. Fīz.-Mat. Navuk* **1973**, *no.* 2, 79–83, 137. (W. M. Tulczyjew) **50** #12114 83.46

Kuwabara, Hideo On Shingen Takeda, Fuku Fukuda and Izumi Fukuda. (Japanese) *Sûgakushi Kenkyû No.* 44 (1970), 44–48. (Joong Fang) **58** #26740 01A25

Kuwabara, Ruishi On the symmetry algebra of the Schrödinger wave equation. *Math. Japon.* **22** (1977), *no.* 2, 243–251. (Mineo Ikeda) **56** #14373 81.58 (58H05)

Kuwada, Masahide (*with* Yamamoto, Sumiyasu; Shirakura, Teruhiro) Balanced arrays of strength 21 and balanced fractional 2^m factorial designs. *Ann. Inst. Statist. Math.* **27** (1975), 143–157. (D. V. Chopra) **51** #11868 62K15

(*with* Shirakura, Teruhiro) Note on balanced fractional 2^m factorial designs of resolution $2l+1$. *Ann. Inst. Statist. Math.* **27** (1975), *no.* 2, 377–386. (M. N. Das) **52** #15891 62K15

Kuwahara, Michigoshi (*with* Hatada, Minoru) A new circle criterion for the stability of nonlinear control system. *Mem. Fac. Engrg. Kyoto Univ.* **34** (1972), 221–233. (S. Beljavskiĭ (RŽMat **1973** #3 B306)) **50** #721 34H05 (93D10)

(*with* Hatada, Minoru) The asymptotic stability of the linear systems with periodic coefficients. I. Continuous systems. (Japanese. English summary) *Systems and Control* **17** (1973), 223–231. (Authors' summary) **47** #3076 93D99

(*with* Kotera, Yoshikazu; Tsukamoto, Junichiro) Sensitivity analysis of discontinuous control systems. (Japanese. English summary) *Systems and Control* **17** (1973), 324–328. (Authors' summary) **47** #4677 93B35

(*with* Koyame, Kenji; Minato, Kotaro; Eiho, Shigeru) A method for solving multivariable quadratic programming problems having special properties. (Japanese) *Systems and Control* **19** (1975), *no.* 7, 402–404. (Nobuo Sannomiya) **54** #4654 90C20

(*with* Mori, Takehiro) Stability of composite systems with time-varying couplings. (Japanese. English summary) *Systems and Control* **19** (1975), *no.* 8, 439–445. (Katsutoshi Tamura) **54** #14839 93D05

(*with* Hatada, Minoru) The asymptotic stability of linear control systems with periodic coefficients. II. Second order and third order discrete systems. (Japanese. English summary) *Systems and Control* **19** (1975), *no.* 11, 605–611. (Yuzo Yamane) **53** #10416 93D99

(*with* Mori, Takehiro) Stability of composite systems that have periodic interconnections. (Japanese) *Systems and Control* **20** (1976), *no.* 5, 277–279. (Katsutoshi Tamura) **54** #14843 93D99

(*with* Mori, Takehiro) Definiteness conditions for a class of rational matrices. (Japanese) *Systems and Control* **22** (1978), *no.* 4, 240–241. (K. Ichikawa) **57** #19008 93D99

Kuwano, Horoshi Probability limit theorems and approximations of certain functions associated with diffusion processes. *Bull. Fukuoka Univ. Ed. III* **21** (1971), 15–22. (S. R. S. Varadhan) **46** #2752 60J60

A note on the existence of the diffusion processes associated with the elliptic differential operators degenerating at the boundary. *Bull. Fukuoka Univ. Ed. III* **25** (1975), 47–49. (M. Fukushima) **56** #9705 60J35

Kuyk, Willem Generic construction of non-cyclic division algebras. *J. Pure Appl. Algebra* **2** (1972), *no.* 2, 121–130. (G. Renault) **46** #1832 16A40

(*with* Bogo, J.; van Oystaeyen, Freddy M. J.) The graded algebras generated by the modular forms for the Hecke groups $G(\lambda)$, $1<\lambda<2$. *Bull. Soc. Math. Belg.* **26** (1974), *no.* 4, 371–382. (Author's review) **58** #22324 20G20 (10D05)

(*with* Lenstra, Hendrik W., Jr.) Abelian extensions of arbitrary fields. *Math. Ann.* **216** (1975), *no.* 2, 99–104. (G. H. Wenzel) **54** #12730 12F10

(*with* Bogo, J.) The Hecke correspondences for $G(q^{1/2})$; q prime; Eisenstein series and modular invariants. *J. Algebra* **43** (1976), *no.* 2, 585–605. (K. Wohlfahrt) **55** #2756 10D15

★Complementarity in mathematics. A first introduction to the foundations of mathematics and its history. Mathematics and its Applications, Vol. 1. *D. Reidel Publishing Co., Dordrecht-Boston, Mass.*, 1977. 186 *pp.* *ISBN* 90-277-0814-2 (R. H. Atkin) **57** #5654 02–01 (01A05)

See also **Modular functions of one variable, 48** #2079; **Modular functions of one variable, 48** #2080; **Modular functions of one variable, 48** #8389; **Modular functions of one variable, 51** #12708 *and* **Shimura, Goro, 58** #16532a (E **58** #16532b)

Kuykendall, D. P. Irreducibility and indecomposability in inverse limits. *Fund. Math.* **80**

(1973), *no.* 3, 265–270. (C. E. Burgess) **48** #5027 54F20 (54B25)

e munter-Kuyl, Lucie *See* **De Munter-Kuyl, Lucie**

prinkhuizen-Kuyper, Ida *See* **Sprinkhuizen-Kuyper, Ida**

uzakov, V. K. ★Очерки развития естественнонаучных и технических представлений на Руси в X–XVII вв. (Russian) [Essays on the development of ideas in natural science and technology in Russia from the tenth to seventeenth centuries] *Izdat.* "*Nauka*", *Moscow*, 1976. 316 *pp.* (J. S. Joel) **58** #4827 01A35

uzanek, Jerry F. Existence and uniqueness of solutions to a fourth order nonlinear eigenvalue problem. *SIAM J. Appl. Math.* **27** (1974), 341–354. (Catherine Bandle) **51** #1572 49G05 (34B25)

An isoperimetric problem with a nonlinear side condition for sloshing in a symmetric shallow canal. (German summary) *Z. Angew. Math. Phys.* **25** (1974), 753–763. (T. W. Ting) **52** #2397 73.49

Kužel′, O. V. ★Розвиток поняття про число. Ознаки подільності. Досконалі числа. (Ukrainian) [Development of the concept of number. Divisibility criteria. Perfect numbers] *Vidavniče Ob′ēdnannja* "*Višča Škola*", *Kiev*, 1974. 80 *pp.* (D. H. Lehmer) **57** #215 10–03 (01A05)

An analogue of the Sz.-Nagy-Foiaş theorem for dissipative operators. (Russian) *Dokl. Akad. Nauk SSSR* **215** (1974), 253–254. (F. H. Szafraniec) **50** #1024 47A15

Kuzemko, A. M. (*with* Kuzemko, N. I.) The solvability of the integral equations of the theory of shells. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 17 (1972), 134–139. (J. P. Guiraud) **46** #8517 73.45

(*with* Čmyr′, G. I.) A study of the convergence of the method of computing the flow around lattices in a layer of variable thickness. (Russian) *Prikl. Meh.* **14** (1978), *no.* 2, 108–114, 143. (Authors' summary) **58** #25324 76.35 (65P05)

Kuzemko, N. I. (*with* Kuzemko, A. M.) The solvability of the integral equations of the theory of shells. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *No.* 17 (1972), 134–139. (J. P. Guiraud) **46** #8517 73.45

A study of the convergence of the successive approximation method in the solution of nonlinear problems of the theory of shallow shells. (Russian. English summary) *Vyčisl. Prikl. Mat.* (*Kiev*) *Vyp.* 26 (1975), 124–127, 180. (Author's summary) **56** #7426 73.41

Reduction to regular integral equations of boundary value problems of the theory of shallow shells. (Russian) *Mathematics collection* (*Russian*), *pp.* 146–149. *Izdat.* "*Naukova Dumka*", *Kiev*, 1976. **58** #32224 73.35

Kuzemskiĭ, A. L. (*with* Paškevič, T.) Derivation of the kinetic equation for magnons by the nonequilibrium statistical operator method. (Russian. English summary) *Acta Phys. Polon. A* **40** (1971), 205–212. (K. Kumar) **45** #1512 81.46

Kuzenko, V. F. Push-down transducers, and the syntactic analysis of certain classes of certain grammars. (Russian. English summary) *Dokl. Akad. Nauk Ukrain. SSR Ser. A* **1976**, *no.* 1, 73–75, 96. (M. Novotný) **54** #6570 68A30

Kuzennii̮, N. F. Certain relations in the holomorphs of groups of orders p^2 and p^3. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1973**, 1079–1083, 1150. (È. M. Pal′čik) **49** #5164 20D15

Biprimary nondispersive groups whose order is divisible by not more than the cube of a prime. (Ukrainian. English and Russian summaries) *Dopovīdī Akad. Nauk Ukraïn. RSR Ser. A* **1974**, 973–977, 1051. (È. M. Pal′čik) **50** #10070 20D25

The isomorphism of semidirect products. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 663–669, 717. (Sergei A. Syskin) **50** #4746 20D40

Finite elementary nondispersive groups. (Russian) *Ukrain. Mat. Ž.* **26** (1974), 818–820, 863. (Sergei A. Syskin) **50** #10062 20D15

(*with* Levīščenko, S. S.) Solvable nondispersive groups with finite Sylow subgroups whose orders cannot be divided by more than the cube of a prime. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 3, 329–336, 430. (Sergei A. Syskin) **51** #13039 20F15

(*with* Levīščenko, S. S.) Finite solvable minimal nondispersive groups. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 4, 526–528, 574. (Sergei A. Syskin) **52** #563 20D10

(*with* Pilaēv, V. V.) Finite groups that have a cyclic maximal subgroup. (Russian) *Ukrain. Mat. Ž.* **28** (1976), *no.* 5, 646–654, 717. (Sergei A. Syskin) **55** #497 20D25

(*with* Levīščenko, S. S.) Finite nondispersive groups. (Russian) *Akad. Nauk Ukrain. SSR Inst. Mat. Preprint No.* 7 (1978), 48 *pp.* (N. D. Podufalov) **58** #22285 20D20

Kuzičev, A. S. Solution of certain problems of mathematical logic by means of Venn diagrams. (Russian) *Studies in systems of logic* (*dedicated to the memory of S. A. Janovskaja*) (*Russian*), *pp.* 282–331. *Izdat.* "*Nauka*", *Moscow*, 1970. (H. B. Curry) **47** #8236 02B05

F^n-systems of combinatory logic. A generalized arithmetical operator. (Russian) *Dokl. Akad. Nauk SSSR* **198** (1971), 759–761. (F. Vandamme) **47** #1579 02C20

Certain properties of Schönfinkel-Curry combinators. (Russian) *Kombinatornyĭ Anal. No.* 1 (1971), 105–119. (A. A. Mullin) **45** #8529 02C20

(*with* Nikogosov, S. L.) Implicative systems of combinatory logic with a universal quantifier. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), *no.* 4, 69–74. (G. E. Minc) **45** #3210 02C20

The operator of functionality in implicative systems of combinatory logic. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **27** (1972), *no.* 1, 37–43. (G. E. Minc) **45** #69 02C20

The subject and the methods of combinatory logic. (Russian) *History and methodology of the natural sciences, No. XIV: Mathematics, mechanics* (*Russian*), *pp.* 131–141. *Izdat. Moskov. Univ.*, *Moscow*, 1973. (G. E. Minc (Zbl **272** #02043)) **58** #21488 02C20 (02–02)

A deductive-combinatorial construction of the theory of functionalities. (Russian) *Dokl. Akad. Nauk SSSR* **209** (1973), 541–543. (H. B. Curry) **48** #1890 02C20

A λ-conversion system with a deductive operator of formal implication. (Russian) *Dokl. Akad. Nauk SSSR* **212** (1973), 1290–1292. (H. B. Curry) **49** #2275 02C20

Consistent extensions of pure combinatory logic. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 3, 76–81. (H. B. Curry) **49** #2274 02C20

Deductive operators of combinatory logic. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 3, 13–21. (H. B. Curry) **49** #8820 (EA **50**) 02C20

The expressive potentialities of deductive systems of λ-conversion and combinatory logic. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **29** (1974), *no.* 6, 19–26. (H. B. Curry) **51** #5267 02C20

Substitution operation in systems with the unrestricted principle of combinatorial completeness. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 5, 56–62. (H. B. Curry) **54** #12489 02C20

Combinatorily complete systems with the operators Ξ, F, Q, Π, $\exists$, P, $\neg$, $\&$, V, $\equiv$. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), *no.* 6, 52–59. (H. B. Curry) **57** #15982a 02C20 (02D99)

A λ-conversion system with logical operators and an equality operator. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 4, 796–799. (H. B. Curry) **57** #15983 02C20

Formal arithmetic in an $\mathcal{Q}$-system of λ-conversions. (Russian) *Dokl. Akad. Nauk SSSR* **236** (1977), *no.* 5, 1072–1075. (H. B. Curry) **58** #5082 02C20

A cut-theorem for $\mathfrak{R}$-theories in combinatorially complete systems. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1977**, *no.* 1, 62–67. (H. B. Curry) **57** #15982b 02C20 (02D99)

A theorem on the consistency of formal arithmetic. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 2, 269–272. (H. B. Curry) **58** #10335 02C20 (02D99)

Kuzin, B. I. (*with* Tjutjukin, V. K.) The generalized "traveling salesman problem", its algorithm and application to the determination of the starting order of commodities on lines with variable flows. (Russian) *Primenen. Mat. Èkonom. No.* 5 (1969), 56–67. **45** #6393 90B35

(*with* Richter, Knut) A decomposition method for a discrete problem of production and inventory control. (Russian) *Primenen. Mat. Èkonom. No.* 11 (1976), 69–77, 140–141. (Author's review (K. R.)) **58** #9169 90B05 (90B30)

Kuzin, L. T. (*with* Dmitriev, A. N.; Krug, G. K.; Kurakin, K. I.; Kuhtenko, O. I.; Matveev, P. S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. V.; Topčeev, Ju. I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Теория автоматического регулирования. Книга 2: Анализ и синтез линейных непрерывных и дискретных систем автоматического регулирования. (Russian) [Theory of automatic guidance. Book 2: Analysis and synthesis of continuous and discrete automatic guidance systems] Edited by V. V. Solodovnikov. *Izdat.* "*Mašinostroenie*", *Moscow*, 1967. 679 *pp.* (RŽKibernet **1968** #3 G89) **50** #6559 93–02

(*with* Dmitriev, A. N.; Krug, G. K.; Kurakin, K. I.; Kuhtenko, O. I.; Matveev, P. S.; Mihaĭlov, F. A.; Petrov, B. N.; Sinicyn, A. S.; Solodovnikov, V. V.; Topčeev, Ju. I.; Ulanov, G. M.; Cypkin, Ja. Z.) ★Grundlagen automatischer Regelsysteme. Band 2: Analyse und Synthese linearer Systeme. Gesamtredaktion der Originalausgabe von W. W. Solodownikow. Aus dem Russischen übersetzt von Klaus Franke, Ludmilla Heckendorff, Volker Langguth, Werner Otto Mertins und Uwe Riedel. Deutsche Bearbeitung unter Manfred Peschel. *VEB Verlag Technik*, *Berlin*, 1971. 620 *pp.* (1 *foldout*) (RŽKibernet **1968** #10 G7K) **50** #6560 93–02

(*with* Krysanov, A. I.; Letunov, Ju. P.) Synthesis of Markov chains with minimum number of nonzero transition probabilities. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 4, 142–146 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 4, 714–722 (1972). **46** #8314 60J20 (94A35)

(*with* Krysanov, A. I.; Letunov, Ju. P.) Some asymptotic estimates of the convergence of discrete Markov chains. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1971**, *no.* 6, 143–150 (*Russian*); *translated as Engrg. Cybernetics* **9** (1971), *no.* 6, 1095–1101 (1972). (E. Seneta) **49** #1592 60J10

Kuzin, R. E. (*with* Gol′dfarb, L. S.; Baltruševič, A. V.; Krug, G. K.; Netušil, A. V.; Pasternak, E. B.; Aleksandrovskiĭ, N. M.; Burljaev, V. V.) ★Теория автоматического управления. Часть 1. (Russian) [Theory of automatic control. Part 1] *Izdat.* "*Vysš. Škola*", *Moscow*, 1968. 424 *pp.* ((RŽKibernet **1968** #10 G7K)) **50** #6561 93–02

(*with* Gol′dfarb, L. S.; Baltruševič, A. V.; Krug, G. K.; Netušil, A. V.; Pasternak, E. B.; Aleksandrovskiĭ, N. M.; Burljaev, V. V.) ★Теория автоматического управления. Часть 2. (Russian) [Theory of automatic control. Part 2] *Izdat.* "*Vysš. Škola*", *Moscow*, 1972. 432 *pp.* ((RŽKibernet **1972** #7 G4K)) **50** #6562 93–02

(*with* Gol′dfarb, L. S.; Baltruševič, A. V.; Krug, G. K.; Netušil, A. V.; Pasternak, E. B.; Aleksandrovskiĭ, N. M.; Burljaev, V. V.) ★Theory of automatic control. General editor: A. Netushil. Translated from the Russian by Aleksandr Parnakh. Translation editor Valery Sokolov. *Mir Publishers*, *Moscow*, 1973. 806 *pp.* (Editors) **50** #6563 93–02

Kuzin, V. A. (*with* Kudrin, V. D.; Synah, V. S.; Fage, M. K.) Some nonlinear problems of mathematical chemistry and physics. (Russian) *Some problems of numerical and applied mathematics* (*Russian*), *pp.* 154–163, 310. *Nauka Sibirsk. Otdel.*, *Novosibirsk*, 1975. (Authors' summary) **58** #32435 80.35 (49H05, 78.35)

See also **Problems of numerical and applied mathematics**, **58** #19015

Kuzina, Z. N. (*with* Aslanjan, A. G.; Lidskiĭ, V. B.; Tulovskiĭ, V. N.) Distribution of the natural frequencies of a thin elastic shell of arbitrary outline. *Prikl. Mat. Meh.* **37** (1973), 604–617 (*Russian*); *translated as J. Appl. Math. Mech.* **37** (1973), 571–584. (H. R. Aggarwal) **49** #11912 73.35

Kuzivanov, V. A. (*with* Aleksidze, M. A.; Lekišvili, N. L.) A method of solving M. S. Molodenskiy's boundary-value problem. *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli* **1971**, 55–58 (*Russian*); *translated as Izv. Acad. Sci. USSR Phys. Solid Earth* **1971**, 118–120. (W. Buchheim) **50** #1698 86.31

Kuzjakin, Ju. I. (*with* Gogina, M. A.; Kovalin, Ja. V.; Kononenko, I. A.) Certain algorithms of logical operations over Boolean sets. (Russian) *Vyčisl. Sistemy No.* 31 (1968), 72–81. **46** #5055 94A20

Kuzjuk, V. A. (*with* Rahmatulina, A. H.) Certain asymptotic problems of the theory of electron transport. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 5, 1248–1261, 1361. (Vladimir Šips) **52** #12657 82.45

Kuzjurin, N. N. (*with* Sapoženko, A. A.; Astratjan, A. S.) A survey of some results in covering problems. (Russian) *Diskret. Analiz No.* 30 *Metody Diskret. Anal. v Rešenii Kombinatornyh Zadač* (1977), 46–75, 78. (Authors' summary) **58** #27630 05C35 (05B35, 94A20)

Minimal coverings and maximal packings of $(k-1)$-subsets by k-subsets. (Russian) *Mat. Zametki* **21** (1977), *no.* 4, 565–571. (Author's summary) **58** #16320 05A05

Kuzjutin, V. F. On the question of optimal quadrature formulas. (Russian) *Methods and models of control, No.* 7 (*Russian*), *pp.* 52–57, 121. *Redakcionno-Izdat. Otdel Rižk. Politehn. Inst.*, *Riga*, 1974. (Walter Gautschi) **52** #2154 65D30

Errors in complex quadrature formulas of mean rectangles and trapezoids on some classes of functions. (Russian) *Metody i Modeli Upravlenija Vyp.* 9 (1975), 89–91, 210. (Gheorghe Coman) **57** #11004 65D30

Errors in Simpson's complex quadrature formulas and the rule of "three eighths" on some classes of functions. (Russian) *Metody i Modeli Upravlenija Vyp.* 9 (1975), 92–94, 210–211. (Author's summary) **58** #3336 65D30

Kuzmak, G. E. (*with* Černjavskaja, I. Ju.) The synthesis of a certain class of optimal discrete systems of trajectory correction of dynamical systems. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control—Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 2: *Theory of automatic control* (*Russian*), *pp.* 126–137, 477. *Izdat. "Nauka", Moscow*, 1972. (Editors) **48** #10582 93C55

Kuzmanov, L. N. The application of a certain theorem of Obreškov to ordinary differential equations. (Bulgarian. Russian and French summaries) *Godišnik Visš. Tehn. Učebn. Zaved. Mat.* **8** (1972), *no.* 3, 73–78 (1973). (M. Bertolino) **54** #7926 34A25

Kuzmanovich, James Localizations of Dedekind prime rings. *J. Algebra* **21** (1972), 378–393. (J. C. Robson) **47** #260 16A08 (16A14)

Localizations of HNP rings. *Trans. Amer. Math. Soc.* **173** (1972), 137–157. (J. C. Robson) **47** #261 16A08

(*with* Fuelberth, John D.; Shores, Thomas S.) Splitting torsion theories over commutative rings. *Bull. Austral. Math. Soc.* **13** (1975), *no.* 3, 457–464. (M. Teply) **52** #13789 13C05

(*with* Fuelberth, John D.) On the structure of splitting rings. *Comm. Algebra* **3** (1975), *no.* 10, 913–949. (M. Teply) **52** #3231 16A48

(*with* Fuelberth, John D.) The structure of semiprimary and Noetherian hereditary rings. *Trans. Amer. Math. Soc.* **212** (1975), 83–111. (V. C. Cateforis) **51** #12929 16A46

(*with* Fuelberth, John D.) Split subdirect products and piecewise domains. *Canad. J. Math.* **28** (1976), *no.* 2, 408–419. (V. C. Cateforis) **53** #3022 16A62

(*with* Fuelberth, John D.) Primary direct sum decomposition. *Comm. Algebra* **4** (1976), *no.* 3, 285–304. (C. R. Hajarnavis) **53** #2993 16A14

Kuz'menko, A. G. (*with* Fradlin, B. N.) On the history of applications of the dynamics of nonholonomic systems. (Ukrainian. Russian summary) *Narisi Ĭstor. Prirodoznav. ĭ Tehn. No.* 23 (1977), 42–47, 117. (Editors) **58** #21204 01A55 (01A60)

Kuz'menko, A. V. Representation of the wave function by means of a functional integral and quasiclassical approximation in the scattering problem. (Russian. English summary) *Teoret. Mat. Fiz.* **29** (1976), *no.* 1, 52–58. (Author's summary) **58** #25593 81.47

(*with* Vasil'ev, A. M.) Representation of the scattering amplitude by the functional integral, and quasiclassical asymptotic behavior in quantum mechanics. (Russian. English summary) *Teoret. Mat. Fiz.* **31** (1977), *no.* 3, 313–326. (Authors' summary) **57** #11428 81.28

Kuz'menko, R. I. *See* **Čuškin, P. I.**, **52** #10332

Kuz'menko, V. A. *See* **Kuz'menko, V. O.**

Kuz'menko, V. M. (*with* Kuz'min, I. V.; Samoĭlenko, N. I.) Determination of the minimal disjunctive normal form of logical functions of *k*-valued logic. (Russian) *Avtomat. Sistemy Upravlenija i Pribory Avtomat. Vyp.* 37 (1976), 3–6, 1. (M. Stojaković) **56** #15365 02C05 (94A20)

Kuz'menko, V. O. (*with* Homenko, M. P.) Structure of a certain class of graphs. (Russian. English summary) *Topological aspects of graph theory* (*Russian*), *pp.* 205–213, 305. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1971. (Pavol Hell) **52** #13489 05C35

(*with* Homenko, M. P.; Ostroverhiĭ, M. O.) Maximum genus of graphs. (Ukrainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), *pp.* 180–210, 366–367. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (A. Rosa) **54** #10057 05C10

(*with* Ostroverhiĭ, M. O.) Maximum genus of the Cartesian, the strong Cartesian and the lexicographic product of two graphs. (Ukrainian. Russian and English summaries) *ϕ-transformations of graphs* (*Ukrainian*), *pp.* 211–223, 367. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (A. Rosa) **54** #10058 05C10

(*with* Homenko, M. P.) The structure and genus of certain classes of graphs. (Ukrainian. Russian and English summaries) *φ-transformations of graphs* (*Ukrainian*), *pp.* 251–260, 369. *Vidannja Inst. Mat. Akad. Nauk Ukraïn. RSR, Kiev*, 1973. (D. Cvetković) **55** #156 05C10

Kuz'menkov, L. S. Certain questions of covariant statistics in a gravitational field. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **27** (1972), *no.* 1, 28–34. (C. A. Hurst) **47** #4572 82.62

The construction of hydrodynamics in gravitation theory on the basis of covariant statistical equations. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **27** (1972), *no.* 5, 614–616. (Ilija Lukačević) **54** #4538 83.53

The connections between the volume and surface properties of a system of particles in the neighborhood of a space-time point in a curved space. (Russian) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **28** (1973), *no.* 4, 493–496. (W. M. Tulczyjew) **50** #12123 83.53

(*with* Naumov, N. D.) On the question of the relativistic dynamics of particles in external gravitational fields. (Russian) *Izv. Vysš. Učebn. Zaved. Fizika* **1977**, *no.* 10, 56–61. (V. V. Sokolov) **58** #32748 83.49

Kuz'menkov, V. A. A finite moment problem for several variables. (Russian. English summary) *Vestnik Leningrad. Univ.* **1975**, *no.* 19 *Mat. Meh. Astronom. vyp.* 4, 26–31, 167. (Vladimir L. Levin) **53** #14042 44A50

The existence of cubature formulas with the least possible number of nodes. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 5, 1337–1339, 1375. (Anton Hut'a) **58** #19051 65D30

Kuz'mič, V. Ī. (*with* Gorbaĭčuk, V. I.) Certain properties of Hadamard compositions of functions regular in the disc. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 1, 74–81, 142. (V. M. Kokilašvili) **52** #11055 30A78

Kuz'mičev, V. E. (*with* Harčenko, V. F.) Integral equations for four identical particles. *Nuclear Phys.* **A183** (1972), 606–624. (Lindsay Dodd) **54** #1958 81.45

(*with* Harčenko, V. F.; Storoženko, S. A.) The Bateman method and algebraic solution of the three-nucleon integral equations. *Nuclear Phys.* **A188** (1972), 609–631. (Lindsay Dodd) **54** #1959 81.45

New multichannel equations of Lippmann-Schwinger type for three particles. (Russian. English summary) *Ukrain. Fiz. Ž.* **22** (1977), *no.* 8, 1238–1245, 1396. (From the author's text) **56** #17583 81.45

Kuz'min, A. D. (*with* Klimov, G. P.) Invariant estimators. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), *no.* 2, 309–331. (A. L. Ruhin) **52** #6930 62A05 (62Cxx)

Kuz'min, A. G. Boundary value problems for equations of mixed type with characteristics that cross the line of degeneracy twice. I. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 10, 1853–1861, 1910. (A. M. Nahušev) **54** #13330 35M05

Boundary value problems for equations of mixed type with characteristics that cross the line of degeneracy twice. II. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 12, 2273–2275, 2303. (A. M. Nahušev) **54** #13331 35M05

Kuz'min, È. A. (*with* Sitko, N. Ja.) Determination of Fourier coefficients by means of the Laplace transform. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1971**, *no.* 10, 1149–1151. (S. Aljančić) **45** #5646 42A16

Kuz'min, E. N. The connection between Mal'cev algebras and analytic Moufang loops. (Russian) *Algebra i Logika* **10** (1971), 3–22. (H. Heineken) **45** #6968 20N05

(*with* Širšov, A. I.; Kargapolov, M. I.; Bokut', L. A.; Slin'ko, A. M.; Šestakov, I. P.) Konstantin Aleksandrovič Ževlakov. (Russian) *Mat. Zametki* **12** (1972), 233–237. (Editors) **47** #3138 01A70 (17D05)

Levi's theorem for Mal'cev algebras. (Russian) *Algebra i Logika* **16** (1977), *no.* 4, 424–431, 493. (Harry F. Smith) **58** #28113 17E05

See also **Biography: Mal'cev, A. I.**, (Not reviewed); **Progress in mathematics**, **49** #4726; **Herstein, Israel Nathan**, **50** #4639; **Rings**, **55** #8117 *and* **Rings**, **55** #10492

Kuz'min, G. A. (*with* Patašinskiĭ, A. Z.) Representation of interaction in turbulence theory. (Russian) *Ž. Prikl. Meh. i Tehn. Fiz.* **1978**, *no.* 1, 62–72, 179. (A. A. Arsen'ev) **57** #18477 76.60

Kuz'min, G. S. Methods of analysis of statistical samples from a population with a truncated normal distribution. (Russian) *Nadežn. i Kontrol' Kačestva* **1975**, *no.* 2, 61–70, 76. (Author's summary) **56** #13488 62N99

Kuz'min, I. V. (*with* Aĭzenberg, Ja. È.; Fiĭpenko, I. G.; Suhorebriĭ, V. G.) Checking the "potential" operability of dynamic plants by a hybrid frequency-time method. *Avtomatika* **1973**, *no.* 1, 3–13 (*Ukrainian*); *translated as Soviet Automat. Control* **6** (1973), *no.* 1, 1–10. (T. Kaczorek) **50** #12383 93C99 (90B25)

(*with* Javna, A. A.; Ključko, V. I.) ★Элементы вероятностных моделей АСУ. (Russian) [Fundamentals of probabilistic models of automatic control systems] "*Sovetskoe Radio*", *Moscow*, 1975. 335 *pp.* (From the publisher's description) **55** #12376 94A35 (92A25)

(*with* Samoĭlenko, N. I.; Kuz'menko, V. M.) Determination of the minimal disjunctive normal form of logical functions of *k*-valued logic. (Russian) *Avtomat. Sistemy Upravlenija i Pribory Avtomat. Vyp.* 37 (1976), 3–6, 1. (M. Stojaković) **56** #15365 02C05 (94A20)

Kuz'min, Ju. V. Varieties of metabelian *D*-groups. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 765–788. (M. Greendlinger) **47** #6863 20E10

Representations of finite groups by automorphisms of nilpotent near spaces and by automorphisms of nilpotent groups. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 107–117. (R. S. Pierce) **51** #5738 20C99

Stable automorphisms of free polynilpotent groups. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 944–950. (Richard E. Phillips) **47** #329 20E05

Metabelian *D*-groups. (Russian) *Uspehi Mat. Nauk* **27** (1972), *no.* 1(163), 247–248. (Józef Pelikn) **53** #8257 20E10

Residual properties of metabelian groups. (Russian) *Algebra i Logika* **13** (1974), 300–310, 364. (Robert G. Burns) **51** #5770 20E25

Inner endomorphisms of metabelian groups. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 4, 736–744, 884. (J. Wiegold) **53** #8270 20F99

Free center-by-metabelian groups, Lie algebras and 𝔇-groups. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 1, 3–33, 231. (I. D. Macdonald) **58** #5974 20J05 (17B55, 20E35)

Kuz'min, K. S. (*with* Temko, K. V.; Temko, S. V.) A theorem of Gauss. (Russian) *Differencial'nye Uravnenija* **8** (1972), 1036–1047. (M. A. Atahodžaev) **46** #373 31B15

Kuz'min, L. V. The Tate module of algebraic number fields. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **36** (1972), 267–327. (E. Inaba) **46** #3488 12A65

Cohomological dimension of certain Galois groups. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 3, 487–495, 703. (Helmut Koch) **52** #342 12A50

Local extensions that are associated with *l*-extensions with given ramification. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **39** (1975), *no.* 4, 739–772. (Helmut Koch) **52** #13738 12A60 (12B10)

See also **Koch, Helmut**, **49** #10666

Kuz'min, M. K. Nets that are defined by distributions in Euclidean space E_n, and their generalizations. (Russian. English summary) *Problems in geometry*, *Vol.* 7 (*Russian*), *pp.* 215–229, 302. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (K. Radziszewski) **58** #7418 53A15

Canonical nets of distributions on surfaces of Euclidean space. (Russian. English summary) *Problems in geometry*, *Vol.* 7 (*Russian*), *pp.* 231–248, 502. *Akad. Nauk SSSR Vsesojuz. Inst. Naučn. i Tehn. Informacii, Moscow*, 1975. (K. Radziszewski) **58** #7419 53A15

Kuz'min, P. A. Finsler's theorem in problems on the stability of motion. (Russian) *Trudy Kazan. Aviacion. Inst. No.* 149 (1972), 15–21, 46. (Wolfdietrich Müller) **48** #6582 34D20

From the history of the native schools of stability of motion. (Russian) *Problems in analytical mechanics, stability and control theories* (*Second Četaev Conf., Kazan*, 1973) (*Russian*), *pp.* 3–11, 336. *Izdat. "Nauka", Moscow*, 1975. (J. S. Joel) **57** #12087 01A60

See also **Problems in analytical mechanics, stability and control theories**, **55** #7663 *and* **Problems of analytical mechanics, stability and control theories**, **57** #18302

Kuz'min, R. O. (*with* Gjunter, N. M.) ★Aufgabensammlung zur höheren Mathematik. Band I. Siebente Auflage. Übersetzung aus dem Russischen nach der 10.bis 12. Auflage: A. Beck, W. Dege, M. Heidler, H. Morgenroth, S. Polze, K. Rieck, R. Schubert, H. Schulze und A. Weigert. Hochschulbücher für Mathematik, Band 32. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1971. viii+507 *pp.* (Editors) **49** #10474 00A05 (*with* Gjunter, N. M.) ★Aufgabensammlung zur höheren Mathematik. Band II. Translated from the Russian 10th–12th edition. Sixth edition. Hochschulbücher für Mathematik, 33. *VEB Deutscher Verlag der Wissenschaften, Berlin*, 1976. 289 *pp*. (Editors) **58** #26628 00A05 (30–01, 35–01, 40–01, 41–01, 49–01, 60–01)

Kuz′min, S. K. *See* **Current problems in the exact sciences**, **58** #26643

Kuz′min, V. A. An estimate of the complexity of the realization of functions of the algebra of logic by the simplest forms of binary programs. (Russian) *Diskret. Analiz No.* 29 *Metody Diskret. Anal. v Teorii Kodov i Shem* (1976), 11–39, 101. (Author's summary) **58** #9852 94A20

Kuz′min, V. B. (*with* Ovčinnikov, S. V.) Measurements in ordered scales. *Avtomat. i Telemeh.* **1974**, *no.* 11, 106–112 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no.* 11, *part* 2, 1797–1802 (1975). (Authors' summary) **56** #13491 62P15 (92A25)

(*with* Ovčinnikov, S. V.) Geometry of preference spaces. *Avtomat. i Telemeh.* **1975**, *no.* 12, 140–145 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 12, *part* 2, 2059–2063. (From the summary) **58** #30761a 52A50 (90A10)

(*with* Ovčinnikov, S. V.) Geometry of preference spaces. II. *Avtomat. i Telemeh.* **1976**, *no.* 1, 2059–2063 (*Russian. English summary*); *translated as Automat. Remote Control* **37** (1976), *no.* 1, *part* 2, 110–113 (1976). (Authors' summary) **58** #30761b 52A50 (90A10)

See also **Pfanzagl, Johann**, **54** #5057

Kuz′min, V. I. (*with* Lebedev, B. D.; Čuev, Ju. V.) Means of perfecting analytic models of development. (Russian) *Problemy Kibernet. No.* 24 (1971), 5–14. (Ju. I. Petunin) **45** #8310 92A15

Kuz′min, V. L. The removal of divergencies in the problem of the scattering of a beam of particles by a medium. (Russian. English summary) *Teoret. Mat. Fiz.* **31** (1977), *no.* 3, 339--347. (Author's summary) **56** #7722 82.62

Kuz′min, V. N. (*with* Gorskiĭ, V. V.) An estimate of the accuracy of the approximation of the derivatives in the case of nonuniform partitioning of the domain of the definition of the function. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 1304–1307, 1366. (S. Măruşter) **47** #6068 65D25

Kuz′mina, A. L. The *l*-problem of moments in E_T. (Russian) *Theory of functions and functional analysis* (*Russian*), *pp*. 60–69. *Izdat. Kazan. Univ., Kazan*, 1976. (L. Janos) **57** #13453 46B99 (41A65)

An example of an unbounded function with prescribed principal parts in a domain of singular polar curves. (Russian) *Theory of functions and functional analysis* (*Russian*), *pp*. 69–72. *Izdat. Kazan. Univ., Kazan*, 1976. (I. N. Baker) **57** #3396 30A86

On the question of constructing a piecewise holomorphic function with a countable number of singular curves. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 2(165), 31–32. (P. Caraman (Zbl **355** #30031)) **57** #16622 30A88

Kuz′mina, G. M. Certain generalizations of Einstein Riemannian spaces. (Russian) *Mat. Zametki* **16** (1974), 619–622. (V. Oproiu) **51** #8988 53C25

Kuz′mina, G. V. The conformal modulus in families of doubly connected domains that do not contain a given system of points. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **24** (1972), 78–147. (R. Kühnau) **46** #9311 (EA **47**) 30A24

Estimation of the conformal modulus of a certain family of domains and covering theorems for univalent functions. (Russian) *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **24** (1972), 148–172. (R. Kühnau) **46** #9312 30A24

Certain geometric problems connected with hyperbolic capacity. (Russian) Extremal problems of the geometric theory of functions of a complex variable, II. *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov.* (*LOMI*) **44** (1974), 41–92, 186–187. (J. Ławrynowicz) **51** #10610 30A44

The maximum of the fourth diameter in the family of continua of a given capacity. (Russian. English summary) Boundary value problems of mathematical physics and related questions in the theory of functions, 9. *Zap. Naučn. Sem. Leningrad. Otdel Mat. Inst. Steklov.* (*LOMI*) **59** (1976), 60–80, 256. (I. A. Aleksandrov) **56** #3285 30A44

See also **Extremal problems of the geometric theory of functions of a complex variable**, **50** #581 *and* **Extremal problems of the geometric theory of functions of a complex variable**, **50** #13459

Kuz′mina, L. K. On the stability of gyroscopic stabilization systems. *Prikl. Mat. Meh.* **36** (1972), 732–736 (*Russian*); *translated as J. Appl. Math. Mech.* **36** (1972), 692–697 (1973). (K. Magnus) **48** #7709 70.34

Kuz′mina, L. V. (*with* Kalitkin, N. N.) Interpolation formulae for Fermi-Dirac functions. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 3, 768–771, 813. (Authors' summary) **51** #12223 81.65

Kuz′mina, M. G. General functional properties of the polarized radiation transfer equation. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 2, 314–317. (M. Lawrence Glasser) **57** #18500 78.45 (45H05)

The symmetry of the solutions of problems in the theory of polarized radiation transfer in media with two-dimensional geometry. (Russian) *Dokl. Akad. Nauk SSSR* **239** (1978), *no.* 2, 297–300. (A. S. Alekseev) **58** #19842 78.45

See also **Case, Kenneth M.; et al.**, **50** #3836

Kuz′mina, R. P. An upper bound for the number of central configurations in the plane *n*-body problem. (Russian) *Dokl. Akad. Nauk SSSR* **234** (1977), *no.* 5, 1016–1019. (J. S. Joel) **58** #13169 58F05 (58E05, 70.58)

Kuz′mina, T. I. *See* **Operations research and statistical simulation**, **48** #10430

Kuz′mina, V. V. (*with* Pinsker, A. G.) Characterization of convex sets of normed linear spaces. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1972**, *no.* 9(124), 90–94. (W. H. Ruckle) **47** #7391 46B99 (52A05)

(*with* Pinsker, A. G.) An intrinsic characterization of a convex set in a topological vector space. (Russian) Collection of articles dedicated to B. Z. Vulih on the occasion of his sixtieth birthday. *Optimizacija Vyp.* 12(29) (1973), 93–96, 155. (A. Sobczyk) **58** #18139 52A05 (46A99)

Kuz′minov, V. I. (*with* Švedov, I. A.) Homologies induced by cohomology functors. (Russian) *Dokl. Akad. Nauk SSSR* **200** (1971), 764–766. (G. Chogoshvili) **46** #884 55B35

(*with* Švedov, I. A.) The homology of the limit of a spectrum of bicompacta. (Russian) *Dokl. Akad. Nauk SSSR* **203** (1972), 756–757. (G. Chogoshvili) **46** #882 55B20

(*with* Čerevikin, A. Ju.) Semiabelian categories. (Russian) *Sibirsk. Mat. Ž.* **13** (1972), 1284–1294, 1420. (D.-M. Popescu) **48** #11251 (EA **51**) 18E10

(*with* Švedov, I. A.) Quasiexact sequences of complexes, and hyperhomology. (Russian) *Sibirsk. Mat. Ž.* **14** (1973), 791–805, 910. (H. Inassaridze) **49** #7335 18G99 (55J05)

(*with* Švedov, I. A.) Spectra of coverings in the cohomology and homology theories of topological spaces. (Russian) *Sibirsk. Mat. Ž.* **15** (1974), 1083–1102, 1181. (I. Pop) **50** #8501 55B20

(*with* Švedov, I. A.) The hyperhomology of the limit of a direct spectrum of complexes, and homology groups of topological spaces. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), 62–74, 196. (I. Pop) **51** #6781 55B05

(*with* Švedov, I. A.) The Bredon cohomological dimension of hereditarily paracompact spaces. (Russian) *Dokl. Akad. Nauk SSSR* **231** (1976), *no.* 1, 24–27. (I. Pop) **57** #4152 55B30

Groups of pure extensions of abelian groups. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 6, 1308–1320, 1438. (L. Fuchs) **56** #12146 20K35

See also **Proceedings: International Symposium on Topology and its Applications**, **48** #7188

Kuźmiński, Krzysztof Analysis of the dynamics of second order systems in which the damping is a function of the error. (Polish. English, German and Russian summaries) *Rozprawy Elektrotech.* **20** (1974), 69–81. (J. M. Skowroński) **58** #26315a 93C15

Analysis of the dynamics of second order systems in which the damping is a function of the error and its derivative. (Polish. English, German and Russian summaries) *Rozprawy Elektrotech.* **20** (1974), 83–93. (J. M. Skowroński) **58** #26315b 93C15

Analysis of the dynamics of a system in which the damping and the frequency of the eigen-oscillations are a function of the error and its derivative. (Polish. English, German and Russian summaries) *Rozprawy Elektrotech.* **20** (1974), 95–103. (J. M. Skowroński) **52** #7656 93D15

The synthesis of linear multivariable systems using constraint equations. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Tech.* **24** (1976), *no.* 7-8, 619–626. (Author's summary) **58** #15435 93C05

An application of the generalized method of modal analysis to the synthesis of a multivariable object control system with delays. (Polish. English and Russian summaries) *Podstawy Sterowania* **6** (1976), *no.* 2, 195–210. (Author's summary) **57** #11863 93B25 (93C05)

Kuz′minyh, A. V. An isoprojection property of the sphere. (Russian) *Dokl. Akad. Nauk SSSR* **210** (1973), 1280–1283. (W. W. Breckner) **48** #12489 54H15

A characterization of Lorentz transformations. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 6, 1260–1262. (H. W. Guggenheimer) **53** #1382 50A10

Affineness of convex-invariant mappings. (Russian) *Sibirsk. Mat. Ž.* **16** (1975), *no.* 6, 1198–1204, 1370. (Z. Nádeník) **53** #3886 52A20

A certain characteristic property of isometric mappings. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 1, 48–50. (A. V. Pogorelov) **54** #11250 53C45

(*with* Aleksandrov, A. D.; Kopylov, A. P.dekete 8492; Šaĭdenko, A. V.) Mappings of families of cones. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 4, 932–935. (W. J. Firey) **54** #13714 50D05 (53C45)

A minimal condition that determines a Lorentz transformation. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 6, 1321–1326, 1438. (W. J. Firey) **57** #7374 50D99 (83.50)

Mappings that preserve the convexity of cones. (Russian) *Sibirsk. Mat. Ž.* **17** (1976), *no.* 6, 1408–1411, 1440. (Bernd Kind) **55** #13341 52A20

Integer-valued distances. (Russian) *Dokl. Akad. Nauk SSSR* **232** (1977), *no.* 5, 1008–1010. (Z. Nádeník) **55** #2767 10E05

Kuznečihina, L. N. Application of nonclosed cubature formulas for the numerical solution of two-dimensional nonlinear integral equations of Volterra type. (Russian) *Differential and integral equations, No.* 3 (*Russian*), *pp*. 136–151, 300. *Irkutsk. Gos. Univ., Irkutsk*, 1975. (Author's summary) **58** #31972 65R05

(*with* Bel′tjukov, B. A.) A method of Runge-Kutta type for the solution of two-dimensional nonlinear integral equations of Volterra type. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 9, 1662–1668, 1726. (See RŽMat **1977** #3 B960) 65R05

Kuzneckiĭ, R. S. On the first integrals and on the asymptotics of the solutions of a system of three ordinary second order differential equations. (Russian) *Differential equations* (*Russian*), *pp*. 51–57, 167. *Kuĭbyšev. Gos. Univ., Kuybyshev*, 1976. (Author's summary) **58** #6562 34E10 (78.34)

Kuznecov, A. G. (*with* Černous′ko, F. L.) Optimal control that minimizes the extremum of a function of the phase coordinates. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1968**, *no.* 3, 50–55. (B. Poljak (RŽMat **1969** #4 B443)) **45** #8354 93C15

Kuznecov, A. I. *See* **Studies in elasticity and plasticity**, **48** #3334

Kuznecov, A. N. Differentiable solutions of degenerate systems of ordinary equations. (Russian) *Funkcional. Anal. i Priložen.* **6** (1972), *no.* 2, 41–51. (A. Morimoto) **47** #3738 34A99

Kuznecov, A. V. (*with* Kuznecova, D. S.) Solution of full algebraic equations of degree four by means of nomograms. (Russian) *Nomography collection, No.* 6 (*Russian*), *pp*. 39–46. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1969. (J. G. L. Michel) **45** #2948 65S05

See also **Nomography collection**, **50** #6198

Kuznecov, Aleksandr Vladimirovič (*with* Gerčiu, V. Ja.) The superintuitionistic logics and finitary approximability. (Russian) *Dokl. Akad. Nauk SSSR* **195** (1970), 1029–1032. (I. D. Zaslavskiĭ) **45** #4953 (EA **46**) 02C15

The functional expressibility in superintuitionistic logics. (Russian) *Mat. Issled.* **6** (1971), *no.* 4(22), 75–122. (G. E. Minc) **45** #28 02C15

On superintuitionistic logics. *Proceedings of the International Congress of Mathematicians* (*Vancouver, B. C.*, 1974), *Vol.* 1, *pp*. 243–249. *Canad. Math. Congress, Montreal, Que.*, 1975. (B. van Rootselaar) **55** #2509 02C15

Superintuitionistic logics. (Russian) *Mat. Issled.* **10** (1975), *no.* 2 (36), 150–158, 284–285. (V. P. Orevkov) **53** #7734 02C15 (02J99)

See also **All-Union Conference: Mathematical Logic**, **56** #15246

Kuznecov, Alexander V. (*with* Gerčiu, V. Ja.) The finitely axiomatizable superintuitionistic logics. (Russian) *Dokl. Akad. Nauk SSSR* **195** (1970), 1263-1266. (I. D. Zaslavskiĭ) **45** #4954 02C15

Information storage in a memory designed from unreliable elements. (Russian) *Problemy Peredači Informacii* **9** (1973), *no.* 3, 100–114. (C. Reischer) **48** #13474 94A15

(*with* Cybakov, B. S.) Coding in a memory with imperfect cells. (Russian) *Problemy Peredači Informacii* **10** (1974), *no.* 2, 52–60. (Authors' summary) **57** #14661 68A50 (94A10)

See also **Symposium: Information Theory**, **50** #9416 *and* **Proceedings: IEEE-USSR Joint Workshop on Information Theory**, **56** #8153

Kuznecov, Arkadiĭ Vasilevič ★Нестационарные возмущения течений жидкости со свободными границами. (Russian) [Unsteady perturbations of the flows of a fluid with free boundaries] *Izdat. Kazan. Univ., Kazan*, 1975. 144 *pp.* (Şt. I. Gheorghiţă) **55** #4889 76.00

Kuznecov, B. G. (*with* Kedrov, B. M.; Pogrebysskiĭ, I. B.; Juškevič, A. P.; Plotkin, S. Ja.) A. T. Grigor′jan zum 60. Geburtstag. *NTM Schr. Geschichte Naturwiss. Tech. Medizin* **7** (1970), *no.* 2, 68–70. (Editors) **56** #5175 01A70

Le problème de la théorie des champs au XIXe siècle et le rapport de la physique aux mathématiques. (Italian summary) *Physis—Riv. Internaz. Storia Sci.* **12** (1970), *no.* 4, 353–362. (M. Kline) **56** #8294 01A55

(*with* Šemjakin, E. I.; Konovalov, A. N.; Šokin, Ju. I.) Nikolaĭ Nikolaevič Janenko. (Russian) *Izv. Sibirsk. Otdel. Akad. Nauk SSSR* **1971**, *no.* 13, 123. (Editors) **45** #6563 01A70

(*with* Kedrov, B. M.; Plotkin, S. Ja.; Pogrebysskiĭ, I. B.; Fedorov, A. S.; Fedoseev, I. A.; Juškevič, A. P.) A. T. Grigor′jan (on the occasion of his sixtieth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn.* **1971**, *no.* 4(33), 62–63. (Editors) **58** #27116 01A70

(*with* Zuĭkov, Ju. P.) Calculation of a nonstationary cavity. (Russian) *Application of functional methods to the boundary value problems of mathematical physics* (*Proc. Third Soviet-Czechoslovak Conf., Novosibirsk*, 1971) (*Russian*), *pp.* 72–81. *Inst. Mat. Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1972. (I. O. Bohachevsky) **52** #12542 76.65

(*with* Bogoljubov, O. M.; Grigor′jan, A. T.; Štokalo, Ĭ. Z.; Juškevič, A. P.) I. B. Pogrebysskiĭ. (Russian) *Voprosy Istor. Estestvoznan. i Tehn.* **1972**, *no.* 1(38), 122–123. (Editors) **58** #27102 01A70

A certain method of approximation of the equations of the hydrodynamics of a viscous incompressible fluid. (Russian) *Dokl. Akad. Nauk SSSR* **213** (1973), 55–58. (J. W. Thomas) **50** #798 35Q10

(*with* Grigor′jan, A. T.; Kedrov, B. M.; Kosmodem′janskiĭ, A. A.) A. Ju. Išlinskiĭ (on the occasion of his sixtieth birthday). (Russian) *Voprosy Istor. Estestvoznan. i Tehn. Vyp.* 4 (45) (1973), 85–86. (Editors) **56** #5174 01A70

(*with* Smagulov, Š.) Difference schemes with a small parameter that approximate the Navier-Stokes equations. (Russian) *Proceedings of the Fifth All-Union Seminar on Numerical Methods in the Mechanics of a Viscous Fluid* (*Kaciveli*, 1974), *Part I* (*Russian*), *pp.* 109–122. *Vyčisl. Centr, Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1975. (From the text) **58** #31937 65N99

(*with* Smagulov, Š.) Approximation of the Navier-Stokes equations. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **6** (1975), *no.* 2, 70–79. (RŽMat **1976** #3 B1033) **58** #29435 35Q10

See also **Sergeev, N. P.; et al.**, **56** #15112; **History of mechanics from the end of the eighteenth century to the middle of the twentieth century**, **58** #21246; **Proceedings: All-Union Seminar on Numerical Methods in the Mechanics of a Viscous Fluid**, **58** #24839 *and* **Proceedings: All-Union Seminar on Numerical Methods in the Mechanics of a Viscous Fluid**, **58** #24840

Kuznecov, E. N. (*with* Mihaĭlov, A. V.) Stability of stationary waves in nonlinear weakly dispersive media. *Ž. Èksper. Teoret. Fiz.* **67** (1974), *no.* 5, 1717–1727 (*Russian. English summary*); *translated as Soviet Physics JETP* **40** (1974), *no.* 5, 855–859. (J. Smoller) **52** #8685 35Q99

A periodic fundamental mixed problem of elasticity theory for the half-plane. (Russian) *Prikl. Meh.* **12** (1976), *no.* 9, 89–97, 142. (V. Komkov) **56** #13889 73.30

(*with* Mihaĭlov, A. V.) The complete integrability of the two-dimensional classical Thirring model. (Russian. English summary) *Teoret. Mat. Fiz.* **30** (1977), *no.* 3, 303–314. (Klaus-Jürgen Eckardt) **55** #13488 58F05 (81.35, 35P25)

Kuznecov, G. I. (*with* Liberman, M. A.; Smorodinskiĭ, Ja. A.) Two-dimensional expansions of relativistic amplitudes. (Russian. English summary) *Problemy Fiz. Èlementar. Častic i Atom. Jadra* **2** (1971), 105–128. (Authors' summary) **57** #15008 81.33

Character of the singularities of certain single-loop nonrelativistic diagrams. *Jadernaja Fiz.* **13** (1971), 212–220 (*Russian*); *translated as Soviet J. Nuclear Phys.* **13** (1971), 119–122. (Mi-Soo Smith) **50** #12036 81.30

(*with* Kil′djušov, M. S.) Certain symmetry properties of the *t*-coefficients. *Jadernaja Fiz.* **17** (1973), 1330–1335 (*Russian*); *translated as Soviet J. Nuclear Phys.* **17** (1973), 693–695. (Authors' summary) **50** #15660 81.33

Coefficients of the vector addition of class II representations of the group SU(n). (Russian. English summary) *Teoret. Mat. Fiz.* **18** (1974), 367–373. (Author's summary) **57** #8564 81.22 (22E70)

(*with* Smorodinskiĭ, Ja. A.) On the theory of $3nj$ coefficients. *Jadernaja Fiz.* **21** (1975), *no.* 5, 1135–1143 (*Russian*); *translated as Soviet J. Nuclear Phys.* **21** (1975), *no.* 5, 585–588. (Daniel A. Akyeampong) **53** #2159 81.05 (81.22)

Kuznecov, I. N. Optimal distribution of resources in a hierarchical system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1970**, *no.* 4, 32–37 (*Russian*); *translated as Engrg. Cybernetics* **8** (1970), *no.* 4, 648–653 (1971). (M. J. Beckmann) **45** #3052 90B05

Optimization of the order of introduction of objects into a large system. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1972**, *no.* 5, 13–26 (*Russian*); *translated as Engrg. Cybernetics* **10** (1972), *no.* 5, 761–773. (H. Kramer) **51** #7635 90C35

Algorithms for optimization of coverings. *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1973**, *no.* 1, 11–16 (*Russian*); *translated as Engrg. Cybernetics* **11** (1973), *no.* 1, 7–12. (Author's summary) **56** #9993 65K05

Kuznecov, I. P. ★Кибернетические диалоговые системы. (Russian) [Cybernetic dialogue systems] *Izdat. "Nauka", Moscow*, 1976. 299 *pp.* (Wolfgang Feitscher) **57** #8210 68A45 (68A35, 92A25)

Logical mechanisms of learning operations of interactive systems. *Avtomat. i Telemeh.* **1976**, *no.* 12, 120–129 (*Russian. English summary*); *translated as Automat Remote Control* **37** (1976), *no.* 12, *part* 2, 1889–1897 (1977). (K. D. Günther) **55** #11746 68A45 (68A35)

The principles of operation of a certain class of active dialogue systems. (Russian English and German summaries) *Naučn.-Tehn. Informacija* (*VINITI*) *Ser.* 2. *Informacionnye Processy i Sistemy* **1976**, *no.* 11, 32–37, 40. (T. Rus) **55** #11747 68A45

Kuznecov, Ju. A. (*with* Marčuk, G. I.) Certain questions on the theory of multistage iteration processes. (Russian) *Numerical methods of linear algebra* (*Proc. First All-Union Conf., Novosibirsk*, 1969) (*Russian*), *pp.* 16–29. *Vyčisl. Centr Akad. Nauk SSSR Sibirsk Otdel., Novosibirsk*, 1969. (E. G. D′jakonov) **55** #4626 65F10

The symmetrization of iteration processes. (Russian) *Numerical methods of linear algebra* (*Proc. First All-Union Conf., Novosibirsk*, 1969) (*Russian*), *pp.* 30–40. *Vyčisl Centr Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1969. (E. G. D′jakonov) **55** #4624 65F10

(*with* Protasov, A. V.) A certain approach to the solution of the kinetic equation for a sphere. (Russian) *Numerical methods of linear algebra* (*Proc. First All-Union Conf., Novosibirsk*, 1969) (*Russian*), *pp.* 41–57. *Vyčisl. Centr Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1969. (Hans Kaper) **54** #4498 82.65

(*with* Marčuk, G. I.) ★Итерационные методы и квадратичные функционалы. (Russian) [Iteration methods and quadratic functionals] *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1972. 205 *pp.* (See RŽMat **1976** #3 B964) 65F10

Iteration methods for the solution of linear systems with singular matrices. (Russian) *Software of electronic digital computers* (*Proc. Second Math. School Optimization Organization Comput., Kaciveli*, 1971) (*Russian*), *pp.* 221–227. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1972. (Editors) **52** #2165 65F10

(*with* Morozov, S. F.) Well-posed formulation of a mixed problem for the nonstationary transport equation. (Russian) *Differencial′nye Uravnenija* **8** (1972), 1639–1648, 1715. (J. P. Guiraud) **47** #1413 82.45

A class of truncated sequential procedures equivalent, in terms of error probabilities, to the Neyman-Pearson test. *Radiotehn. i Elektron.* **17** (1972), 2601–2603 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **1972**, 2087–2090. (H. Chernoff) **50** #1432 62L10

(*with* Macokin, A. M.) An application of the method of bisections. (Russian) *Numerical methods of linear algebra* (*Proc. Third All-Union Conf., Novosibirsk*, 1973) (*Russian*), *pp.* 34–41. *Vyčisl. Centr Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1973. (A. Lee) **55** #4631 65F15

(*with* Marčuk, G. I.) Iteration methods for the solution of systems of linear equations with singular matrices. (Russian. English summary) Proceedings of the Third Conference on Basic Problems of Numerical Mathematics (Prague, 1973). *Acta Univ. Carolinae—Math. et Phys.* **15** (1974), *no.* 1-2, 87–95. (J. Segethová) **52** #9578 65F10

(*with* Morozov, S. F.) An integrodifferential system of equations of reactor kinetics. (Russian) *Differencial′nye Uravnenija* **10** (1974), 1491–1503, 1541. (Hans Kaper) **50** #9263 82.45

(*with* Morozov, S. F.) Mathematical problems of reactor kinetics. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 543–546. (Hans Kaper) **51** #12232 82.45

(*with* Morozov, S. F.) On necessary optimality conditions in problems of controlling transport processes. *Prikl. Mat. Meh.* **38** (1974), 290–300 (*Russian*); *translated as J. Appl. Math. Mech.* **38** (1974), 263–273. (Nicolae Angelescu) **53** #12432 82.49

(*with* Marčuk, G. I.) Iteration methods and quadratic functionals. (Russian) *Methods of numerical mathematics* (*Russian*), *pp.* 4–143, 279. *Izdat. "Nauka" Sibirsk. Otdel., Novosibirsk*, 1975. (Editors) **58** #31778 65F10

Iteration methods for the solution of incompatible systems of linear equations. (Russian) *Some problems of numerical and applied mathematics* (*Russian*), *pp.* 199–207, 311. *Nauka Sibirsk. Otdel., Novosibirsk*, 1975. (Author's summary) **58** #31777 65F10

(*with* Morozov, S. F.) The convergence and stability of Rothe's method for the solution of the nonstationary system of equations of reactor kinetics. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **15** (1975), *no.* 2, 404–411, 540. (Hans Kaper) **51** #12233 82.45

Iterative methods for solution of non-compatible systems of linear equations. *Computing methods in applied sciences and engineering* (*Second Internat. Sympos., Versailles*, 1975), *Part* 1, *pp.* 41–55. *Lecture Notes in Econom. and Math. Systems, Vol.* 134, *Springer, Berlin*, 1976. (From the author's introduction) **56** #17030 65F10

The method of two-sided approximations for the eigenvalues of operators. (Russian) *Variational-difference methods for the solution of problems of mathematical physics* (*Proc. Second All-Union Sem., Novosibirsk*, 1975) (*Russian*), *pp.* 145–151. *Vyčisl. Centr Sibirsk. Otdel. Akad. Nauk SSSR, Novisibirsk*, 1976. (J. Segethová) **57** #1849 65F15 (49G05)

(*with* Morozov, S. F.) Weak solutions of the system of equations of reactor kinetics. (Russian) *Differencial′nye Uravnenija* **12** (1976), *no.* 6, 1061–1072, 1142. (Hans Kaper) **54** #14667 82.45

(*with* Morozov, S. F.) Certain optimal problems of reactor kinetics. (Russian) *Dokl. Akad. Nauk SSSR* **226** (1976), *no.* 4, 791–794. (Janusz Mika) **54** #4479 82.49

(*with* Morozov, S. F.) Some optimal problems of reactor kinetics. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **41** (1977), *no.* 5, 1170–1198. (Nicolae Angelescu) **57** #11549 82.49

(*with* Sabaev, E. F.) Estimates of the solutions of nonlinear differential equations in a phase space, and the stability of invariant sets. (Russian) *Differencial′nye Uravnenija* **14** (1978), *no.* 2, 212–222, 385. (Wolfgang Hahn) **58** #1455 34G05 (58F10)

(*with* Sabaev, E. F.) The calculation of Ljapunov values for differential equations in a Banach space in certain critical cases. (Russian) *Dokl. Akad. Nauk SSSR* **240** (1978), *no.* 4, 778–781. (A. I. Kir′janen) **58** #22855 34D20 (34G05)

See also **Varga, Richard S.**, **50** #10623

Kuznecov, Ju. I. (*with* Slin′ko, M. G.; Fedotov, A. V.) Determination of the optimal boundary control for a process with variable activity of the catalyst. (Russian) *Diskret. Analiz No.* 13 (1968), 66–73. **45** #4869 49A99

(*with* Il′in, V. P.) Certain properties of Jacobi matrices, and their applications. (Russian) *Čisl. Metody Meh. Splošnoi Sredy* **3** (1972), *no.* 5, 40–51. (F. Szidarovszky) **50** #4627 15A42 (*with* Slin'ko, M. G.; Bykov, V. I.; Jablonskiĭ, G. S.; Matros, Ju. Š.; Fedotov, A. V.) Optimization of catalytic processes with variable activity. (Russian) *Problemy Kibernet. No.* 27 (1973), 153–178, 294. (J. S. Joel) **57** #14957 80.49

Kuznecov, Ju. V. The uniqueness of the solution of the fundamental problem of heat conduction in a boundary layer. (Russian) Approximate solution of boundary value problems and of functional equations. *Perm. Politehn. Inst. Sb. Naučn. Trudov No.* 152 (1974), 37–42. (E. Goldhagen) **53** #11228 35K05 (76.35)

Certain inequalities for fractional seminorms. (Russian) Studies in the theory of differentiable functions of several variables and its applications, V. *Trudy Mat. Inst. Steklov.* **131** (1974), 147–157, 246. (H. Triebel) **50** #977 46E35

Some properties of the spaces $W_{p,\theta}^r$ and $B_{p,\theta}^r$. (Russian) *Theory of cubature formulas and applications of functional analysis to some problems in mathematical physics* (*Russian*), *pp.* 89–93, 253. *Inst. Mat., Akad. Nauk SSSR Sibirsk. Otdel., Novosibirsk*, 1975. (Author's summary) **58** #30140 46E35

The extension of functions of class W_p^r outside of a domain with a minimally smooth boundary. (Russian) *Imbedding theorems and their applications* (*Proc. All-Union Sympos., Alma-Ata*, 1973) (*Russian*), *pp.* 71–74, 188. *Izdat. "Nauka" Kazah. SSR, Alma-Ata*, 1976. (Author's summary) **57** #17260 46E35

The pasting of functions belonging to the spaces $W_{p,\theta}^r$. (Russian) (Russian) Studies in the theory of differentiable functions of several variables and its applications, VI. *Trudy Mat. Inst. Steklov.* **140** (1976), 191–200, 288–289. (A. Kufner) **56** #12870 46E35

See also **Theory and applications of differentiable functions of several variables, 52** #14951

Kuznecov, M. I. (*with* Mihaĭlov, L. G.) Infinitesimal bendings of a certain class of convex surfaces with a conical point. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadžik. SSR* **15** (1972), *no.* 8, 11–14. (J. Szenthe) **49** #3789 53C45

Lie algebras with a subalgebra of codimension p. (Russian) *Izv. Akad. Nauk SSSR Ser. Mat.* **40** (1976), *no.* 6, 1224–1247, 1439. (G. P. Kukin) **56** #15715 17B05

Modular simple Lie algebras with a solvable maximal subalgebra. (Russian) *Mat. Sb.* (*N.S.*) **101(143)** (1976), *no.* 1, 77–86, 159. (G. P. Kukin) **54** #10356 17B20

Kuznecov, M. Ju. Finding the stationary distribution function for a screened semi-Markov process. (Russian) *Systems analysis by operations research and reliability theory methods* (*Russian*), *pp.* 23–48. *Inst. Kibernet., Akad. Nauk Ukrain. SSR, Kiev*, 1975. (Editors) **58** #31439 60K15

Necessary and sufficient conditions for the solvability of the state equations of a reservation system with renewal. (Russian) *Methods of operations research and reliability theory in systems analysis* (*Russian*), *pp.* 24–41. *Akad. Nauk Ukrain. SSR Inst. Kibernet., Kiev*, 1976. (M. V. Kartašov) **58** #24595 60K20

Kuznecov, N. A. (*with* Grigor'ev, F. N.; Kicul, P. I.) Control of observations made in the estimation of random processes. *Avtomat. i Telemeh.* **1974**, *no.* 10, 35–42 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no.* 10, *part* 1, 1569–1575 (1975). (Authors' summary) **56** #11371 93E10

(*with* Lubkov, V.) Adaptive filtering of components of Markov processes. *Avtomat. i Telemeh.* **1975**, *no.* 4, 49–55 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 4, *part* 1, 566–571. (Authors' summary) **56** #15046 93E10

(*with* Orlov, E. V.) Approximations of functions with bounded derivatives and their application to filtering problems. *Avtomat. i Telemeh.* **1975**, *no.* 8, 29–35 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 8, *part* 1, 1236–1241 (1976). (Authors' summary) **56** #5003 93E10

(*with* Grigor'ev, F. N.) Control of the observation process in continuous systems. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **6** (1977), *no.* 3, 181–201. (Ludwig Arnold) **56** #18071 93E20

Kuznecov, N. G. Hypoelliptic convolution equations and Gevrey classes. (Russian) *Funkcional. Anal. i Priložen.* **5** (1971), *no.* 3, 98–99. (W. C. Connett) **45** #9208 47G05 (35H05)

(*with* Maz'ja, V. G.) On the problem of the steady-state oscillations of a layer of fluid in the presence of an obstacle. (Russian) *Dokl. Akad. Nauk SSSR* **216** (1974), 759–762. (J. P. Guiraud) **50** #11978 76.35

Kuznecov, N. Ju. *See* **Kuznecov, M. Ju.**

Kuznecov, N. K. A nonlinear problem of the form $(F^+)^\alpha = G(F^-)^\alpha$ for an open contour. (Russian) Mathematical analysis, No. 2. *Kuban. Gos. Univ. Naučn. Trudy Vyp.* 180 (1974), 65–71a, 161. (P. Ju. Alekna) **53** #8443 30A88

A nonlinear problem of the form $(\Phi^+)^\alpha = G(\Phi^-)^\beta$ for an open contour. (Russian) Mathematical analysis, No. 2. *Kuban. Gos. Univ. Naučn. Trudy Vyp.* 180 (1974), 72–78, 161a. (P. Ju. Alekna) **55** #678 30A88

(*with* Govorov, N. V.) A certain nonlinear boundary value problem of conjugacy for an open contour. (Russian) *Teor. Funkciĭ Funkcional. Anal. i Priložen. No.* 20 (1974), 49–63, 174. (N. K. Karapetjanc) **51** #13245 30A88

A nonlinear conjugation problem for a plane with two cuts. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1977**, *no.* 11(186), 34–45. (V. Golubeva (RŽMat **1978** #9 B103)) **58** #28530 30A88 (45E05)

Kuznecov, N. N. Weakly stable finite difference approximations of differential equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1437–1452. (G. W. Hedstrom) **46** #1098 65M10

Difference schemes in spaces of network distributions. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 27–30. (V. Thomée) **46** #2285 39A12 (46F99, 65P05)

The asymptotic behavior of a noncommutative difference approximation of the wave equation. (Russian) *Dokl. Akad. Nauk SSSR* **204** (1972), 285–287. (V. Thomée) **46** #2286 39A10 (65Q05)

The stability of weak solutions of systems of quasilinear equations of hyperbolic type. (Russian) *Dokl. Akad. Nauk SSSR* **205** (1972), 281–283. (A. Pelczar) **46** #9549 35L60

The asymptotic behavior of the solutions of the finite difference Cauchy problem. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 334–351. (O. Horáček (Zbl **254** #35007)) **51** #4686 65M05

Application of the smoothing method to certain systems of quasilinear hyperbolic equations. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **13** (1973), 92–102, 268. (V. Rosa) **47** #5453 35L55 (76.35)

(*with* Sadkov, Ju. N.) Sharpening of gas-dynamical calculations with the aid of minimization of the entropy functional. (Russian) *Vyčisl. Metody i Programmirovanie No.* 23 (1974), 141–150. (From the text) **58** #32398 76.65 (35L65, 65P05)

Certain questions of the asymptotic theory of difference schemes. (Russian) *Questions on the theory of the method of nets* (*Russian*), *pp.* 87–115. *Nekotorye Primenen. Metoda Setok v Gazovoĭ Dinamike, Vyp.* 7. *Izdat. Moskov. Univ., Moscow*, 1975. (E. Schechter) **58** #8322 65M10

(*with* Tupčiev, V. A.) A certain generalization of a theorem of Glimm. (Russian) *Dokl. Akad. Nauk SSSR* **221** (1975), *no.* 2, 287–290. (N. D. Kazarinoff) **52** #6197 35L45

Stable methods for the solution of a first order quasilinear equation in a class of discontinuous functions. (Russian) *Dokl. Akad. Nauk SSSR* **225** (1975), *no.* 5, 1009–1012. (J. Chrastina) **56** #3448 35F25

(*with* Vološin, S. A.) Monotone difference approximations for a first order quasilinear equation. (Russian) *Dokl. Akad. Nauk SSSR* **229** (1976), *no.* 6, 1317–1320. (Ju. K. Dem'janovič) **54** #4126 65M05

The accuracy of certain approximate methods for the computation of weak solutions of a first order quasilinear equation. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **16** (1976), *no.* 6, 1489–1502, 1627. (Author's summary) **58** #3510 65M10 (35A35)

On stable methods for solving non-linear first order partial differential equations in the class of discontinuous functions. *Topics in numerical analysis, III* (*Proc. Roy. Irish Acad. Conf., Trinity Coll., Dublin*, 1976), *pp.* 183–197. *Academic Press, London*, 1977. (G. C. Barozzi) **58** #31874 65M10

A finite-difference method for the solution of the Cauchy problem for a first order quasilinear equation. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **17** (1977), *no.* 3, 676–689, 804. (Author's summary) **58** #13754 65M10

Kuznecov, N. V. A new class of identities for the Fourier coefficients of modular forms. (Russian) Collection of articles in memory of Juriĭ Vladimirovič Linnik. *Acta Arith.* **27** (1975), 505–519. (A. I. Vinogradov) **51** #3059 10D05

★Арифметическая форма формулы следа Сельберга и распределение норм примитивных гиперболических классов модулярной группы. (Russian) [Arithmetical form of the Selberg trace formula and the distribution of the norms of primitive hyperbolic classes of the modular group] Presented at the Far Eastern Mathematical School. *Akad. Nauk SSSR Dal'nevostoč. Naučn. Centr*; *Habarovsk. Kompleksn. Naučn.-Issled. Inst., Khabarovsk*, 1978. 44 *pp.* (Larry J. Goldstein) **58** #10748 10D15

★Асимптотические формулы для собственных значений оператора Лапласа на фундаментальной области модулярной группы. (Russian) [Asymptotic formulas for the eigenvalues of the Laplace operator on the fundamental domain of the modular group] Presented at the Far Eastern Mathematical School. *Akad. Nauk SSSR Dal'nevostoč. Naučn. Centr*; *Habarovsk. Kompleksn. Naučn.-Issled. Inst., Khabarovsk*, 1978. 42 *pp.* (O. M. Fomenko) **58** #10749 10D15 (35P20)

Distribution of the norms of primitive hyperbolic classes of a modular group, and asymptotic formulas for eigenvalues of the Laplace-Beltrami operator on the fundamental domain of the modular group. (Russian) *Dokl. Akad. Nauk SSSR* **242** (1978), *no.* 1, 40–43. (A. I. Vinogradov) **58** #21943 10D05

See also **Mathematical problems in the theory of wave propagation, 46** #9559

Kuznecov, O. P. The parallel decomposition of automata with separation of inputs. *Avtomat. i Telemeh.* **1969**, *no.* 3, 104–109 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 3, 403–407. **56** #11653 94A30

(*with* Gavrilov, M. A.; Hazackiĭ, V. E.) Description and analysis of switching circuits with large numbers of input variables. *Avtomat. i Telemeh.* **1969**, *no.* 10, 108–115 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 10, 1643–1650. **56** #11567 94A20

Orthogonal systems of Boolean functions and their application to the analysis and synthesis of logic circuits. *Avtomat. i Telemeh.* **1970**, *no.* 10, 117–128 (*Russian. English summary*); *translated as Automat. Remote Control* **1970**, *no.* 10, 1643–1653. (B. Hazeltine) **46** #3217 94A20

The complexity of computations in one-dimensional iterative structures. (Russian) *Proceedings of the Fourth All-Union Conference on Automatic Control–Engineering Cybernetics* (*Tbilisi*, 1968), *Vol.* 3: *Automata, hybrid and control machines* (*Russian*), *pp.* 24–32, 261. *Izdat. "Nauka", Moscow*, 1972. (Pavel Strnad) **55** #4776 68A20 (68A25, 02F15)

(*with* Makarevskiĭ, A. Ja.; Markovskiĭ, A. V.; Okudžava, V. Š.; Šipilina, L. B.) YARUS–a language for describing the operation of complex automata. I. *Avtomat. i Telemeh.* **1972**, *no.* 6, 80–89 (*Russian*); *translated as Automat. Remote Control* **33** (1972), *no.* 6, *part* 1, 956–963. (Authors' summary) **56** #10169 68A30

Graphs of logical automata and their transformations. *Avtomat. i Telemeh.* **1975**, *no.* 9, 149–158 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 9, *part* 2, 1517–1525 (1976). (Akira Nakamura) **53** #2537 94A20 (94A30)

(*with* Šipilina, L. B.) The works of A. Ja. Makarevskiĭ. (Russian) *Vyčisl. Sistemy Vyp.* **64** (1975), 173–178, 183. (Editors) **57** #12124 01A70

Program realization of logical functions and automata. I. Analysis and synthesis of binary programs. *Avtomat. i Telemeh.* **1977**, *no.* 7, 163–174 (*Russian. English summary*); *translated as Automat. Remote Control* **38** (1977), *no.* 7, *part* 2, 1077–1087. (David B. Benson) **56** #15188 94A20

See also **Miller, Raymond E., 53** #2540

Kuznecov, O. V. (*with* Bagdasarjan, V. V.; Maljutin, I. S.) The parametric resonance of a cylindrical shell, reinforced by linear edges. (Russian) *Questions of mathematical physics and theory of oscillations, No.* 3 (*Russian*), *pp.* 89–96. *Ivanov. Ènerget. Inst., Ivanovo*, 1975. (Editors) **58** #19536 73.35

Axially symmetric waves in cylinders of finite length. (Russian) *Questions of mathematical physics and theory of oscillations, No.* 3 (*Russian*), *pp.* 96–102. *Ivanov. Ènerget. Inst., Ivanovo*, 1975. (Editors) **58** #19574 73.35

Kuznecov, P. I. (*with* Pčelincev, L. A.) Fault detection problem. *Avtomat. i Telemeh.* **1969**, *no.* 3, 137–140 (*Russian. English summary*); *translated as Automat. Remote Control* **1969**, *no.* 3, 431–343. **56** #10897 90B25

Dmitriĭ Fedorovič Egorov (on the centenary of his birthday). (Russian) *Uspehi Mat. Nauk* **26** (1971), *no.* 5(161), 169–206. (1 *plate*) (Editors) **52** #5311 01A70

(*with* Judina, A. S.) Asymptotic representation of Lommel functions of two real variables. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **11** (1971), 1024–1026. (B. S. Popov)

45 #2224 33A40

(*with* Judina, A. S.) Integral representations and asymptotic expansions of an incomplete probability integral. (Russian) *Mat. Zametki* **12** (1972), 213–220. (B. I. Penkov) **48** #6781 41A60

(*with* Judina, A. S.) Certain properties of the zeros of cylindrical functions of two real variables. (Russian) *Ž. Vyčisl. Mat. i Mat. Fiz.* **12** (1972), 739–746. (E. Riekstiņš) **46** #5695 33A40

(*with* Judina, A. S.) Certain asymptotic expansions for an incomplete probability integral. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 367–371. (R. Cuppens) **47** #7851 62E20 (60E05)

(*with* Pčelincev, L. A.; Stepanov, A. V.) Diagnosis as a controllable random process. (Russian) *Dokl. Akad. Nauk SSSR* **218** (1974), 1036–1038. (Jana Zvárová) **51** #5140 93E20

Nikolaĭ Nikolaevič Luzin (on the ninetieth anniversary of his birth). (Russian) *Uspehi Mat. Nauk* **29** (1974), *no.* 5(179), 197–210. (Editors) **52** #7810 01A70

(*with* Alešin, B. V.) A case in the theory of the ε-invariance of differential equations. (Russian) *Dokl. Akad. Nauk SSSR* **238** (1978), *no.* 5, 1017–1020. (G. Bojadžiev) **58** #6434 34A30

See also **Egorov, D. F., 52** #5312; **Egorov, D. F., 52** #5313 *and* **Bol′šev, L. N.; et al., 53** #2588

Kuznecov, S. B. (*with* Lager′, V. A.) Elastic oscillations of rods in various approximations. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **7** (1976), *no.* 5, 107–117. (Raičo Lazarov) **56** #17383 73.65

Kuznecov, S. E. (*with* Natanzon, S. M.) A certain functional equation that has applications in game theory. (Russian) *Sibirsk. Mat. Ž.* **11** (1970), 128–136. (V. Polák) **46** #2292 39A40 (90D05)

(*with* Evstigneev, I. V.) Differential equations with random parameters. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **17** (1972), 188–194. (A. Ja. Dorogovcev) **45** #7840 60H10

Construction of Markov processes with random birth and death times. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **18** (1973), 596–601. (Petr Mandl) **49** #8118 60J35

Weakly optimal programs in models with changing technology. *Mathematical models in economics* (*Proc. Sympos. and Conf. on von Neumann Models, Warsaw*, 1972), *pp.* 259–269. *North-Holland, Amsterdam*, 1974. (S. K. Srinivasan) **53** #4922 90A15

(*with* Dynkin, E. B.) Defining functions for Markov processes, and the corresponding adjoint regular classes. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 25–28. (Petr Mandl) **49** #8119 60J35

The decomposition of excessive functions. (Russian) *Dokl. Akad. Nauk SSSR* **214** (1974), 276–278. (J. L. Doob) **49** #4101 60J45

Excessive functions that are connected with a regular split Markov process. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **20** (1975), 144–150. (J. L. Doob) **51** #4427 60J45

Construction of a regular split process. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **22** (1977), *no.* 4, 791–812. (Jürgen Groh) **58** #3061 60J25

Kuznecov, S. G. (*with* Golubev, G. A.; Vinogradov, V. N.) Approximate solution of nonlinear filtering problems (polynomial filtering). *Izv. Akad. Nauk SSSR Tehn. Kibernet.* **1975**, *no.* 5, 174–179 (*Russian*); *translated as Engrg. Cybernetics* **13** (1975), *no.* 5, 133–139. (Authors' summary) **58** #15563 93E10

Kuznecov, S. S. (*with* Birger, A. G.; Gurvič, E. T.) Checking multiple faults of combinational devices. *Avtomat. i Telemeh.* **1975**, *no.* 8, 113–121 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 8, *part* 2, 1309–1316 (1976). (Ju. D. Burtin) **53** #10486 94A20

Kuznecov, S. V. A class of codes with orthogonal tests for the rate $R = 1/2$. (Russian) *Information exchange in remotely controlled queueing systems* (*Rep. Sem. Cybernetics, No.* 32) (*Russian*), *pp.* 32–40. *Izdat. "Štiinca", Kishinev*, 1971. (J. Černý) **47** #10138 94A10

(*with* Geĭn, A. G.; Muhin, Ju. N.) Minimal nonnilpotent Lie algebras. (Russian) *Ural. Gos. Univ. Mat. Zap.* **8** (1972), *no.* 3, 18–27, 139 (1973). (Juri A. Bahturin) **48** #2198 17B05

Kuznecov, V. A. (*with* Taldykina, M. N.) Mapping of a space onto a plane by means of a ruled congruence with a singular cone and conic. (Russian) *Current problems in geometry and its applications, No.* 2 (*Russian*), *pp.* 50–62, 127. *Čuvaš. Gos. Univ., Cheboksary*, 1976. (Authors' summary) **58** #30718 50C25

A method for the solution of a transportation-production problem of a special form. (Russian) *Primenen. Mat. Èkonom. No.* 11 (1976), 13–23, 138. (Irinel Dragan) **58** #15145 90C10

Kuznecov, V. E. A certain stochastic algorithm for the computation of the information characteristics of tables by the method of tests. (Russian) A collection of articles dedicated to the memory of Vitaliĭ Konstantinovič Korobkov. *Diskret. Analiz No.* 23 (1973), 8–23, 72. (From the introduction) **50** #1572 68A45

(*with* Borodjuk, V. P.) The efficiency of the generalized method of least squares in identification problems. *Avtomat. i Telemeh.* **1974**, *no.* 7, 18–23 (*Russian*); *translated as Automat. Remote Control* **1974**, *no.* 7, *part* 1, 1053–1057. (Ivar Gustavsson) **54** #9755 93B30

(*with* Volodin, I. A.; Fomenko, A. T.) The problem of the algorithmic discrimination of the standard three-dimensional sphere. (Russian) Appendix by S. P. Novikov. *Uspehi Mat. Nauk* **29** (1974), *no.* 5(179), 71–168. (A. Černavskiĭ) **53** #9219 57A10

Kuznecov, V. F. (*with* Baranovskaja, G. G.) Problem of the optimal distribution of auxiliary loading and unloading with the goal of minimizing the maximal time of handling the incoming loads. (Russian) *Theory of optimal solutions* (*Proc. Sem., Kiev*, 1969), *No.* 2 (*Russian*), *pp.* 61–74. *Akad. Nauk Ukrain. SSR, Kiev*, 1969. (O. Fajans (RŽMat **1970** #7 V487)) **52** #10015 90B35 (90C50)

Allocation of resources for a given network topology. (Russian) *Mathematical methods in economic research* (*Russian*), *pp.* 61–69. *Izdat. "Nauka", Moscow*, 1974. (E. Ja. Gabovič) **53** #12546 90B05 (90C50)

Allocation of reallocatable resources with a specified network topology. *Avtomat. i Telemeh.* **1975**, *no.* 5, 97–105 (*Russian. English summary*); *translated as Automat. Remote Control* **36** (1975), *no.* 5, *part* 2, 787–795. (Author's summary) **56** #7900 90B10

Kuznecov, V. G. Integer solutions of systems of linear equations. (Russian) Group theory and some questions of algebra. *Perm. Gos. Univ. Učen. Zap. No.* 343 (1975), 85–88, 105. (D. H. Lehmer) **56** #5420 10B05

Kuznecov, V. I. The unity of socio-historical and objective factors in the development of science. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tehn.* **1975**, *no.* 1(50), 3–11, 103. (A. A. Mullin) **56** #11678 00A25

(*with* Petrov, B. N.; Gusev, Ju. M.; Il′jasov, B. G.; Kolpakova, N. P.) A criterion for estimating the stability of multiply connected automatic guidance systems in the space of variable parameters. (Russian) *Izv. Vysš. Učebn. Zaved. Èlektromehanika* **1977**, *no.* 5, 558–564, 611. (Authors' summary) **58** #15513 93D05

Kuznecov, V. M. (*with* Barabanov, A. T.; Šušljapin, E. A.) Necessary conditions for the optimal control of continuous-discrete systems. (Russian) *Adapt. Sistemy Avtomat. Upravlenija No.* 5 (1977), 27–32, ii. (Editors) **58** #7278 49B05

Kuznecov, V. N. The asymptotic behavior of the Shannon function for the cascade method of contact scheme synthesis. (Russian. English summary insert) *Kibernetika* (*Kiev*) **1972**, *no.* 1, 51–59. (R. Shirtladze) **46** #6951 94A20

(*with* Agahi, K. A.) The construction of material functions and a numerical method for the solution of boundary value problems of plasticity with account taken of the effect of hydrostatic pressure. (Russian. Azerbaijani and English summaries) *Izv. Akad. Nauk Azerbaĭdžan. SSR Ser. Fiz.-Tehn. Mat. Nauk* **1976**, *no.* 5, 97–104. **56** #4373 73.65

Z-functions of a certain class of Artin-Schreier coverings. (Russian) *Ural. Gos. Univ. Mat. Zap.* **10**, *no.* 1 *Issled. Sovremen. Algebre*, 24–36, 150 (1976). (J. W. S. Cassels) **57** #12519 14G25

Kuznecov, V. P. Bayes' approach and the optimization of the learning process. *Avtomat. i Telemeh.* **1971**, *no.* 4, 66–71 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 4, *part* 1, 578–583. (J. N. K. Rao) **46** #8350 62F15

Invariance of decisions with respect to disturbing parameters. *J. Cybernet.* **1** (1971), *no.* 4, 113–124. (Editors) **48** #8087 94A05

Invariance of solutions with respect to nuisance parameters. (Russian) *Problemy Peredači Informacii* **7** (1971), *no.* 4, 36–44. (O. Gulyás) **47** #5991 62A05 (62C05, 94A05)

The invariance of decisions by the maximum likelihood method in the presence of nuisance parameters. (Russian) *Problemy Peredači Informacii* **8** (1972), *no.* 3, 38–47. (O. Gulyás) **47** #5992 62A05 (94A05)

On the estimation of the solutions of a system of linear difference equations. (Russian) *Differencial′nye Uravnenija* **9** (1973), 2255–2256, 2301. (A. Halanay) **48** #11821 39A10

Free oscillations of linear discrete nonstationary systems upon random initial deviations. *Avtomat. i Telemeh.* **1974**, *no.* 10, 175–179 (*Russian. English summary*); *translated as Automat. Remote Control* **35** (1974), *no.* 10, *part* 2, 1698–1702 (1975). (Author's summary) **56** #15047 93E10

Influence of Coulomb friction on small oscillations of a pendulum with a vibrating point of suspension. (Russian) *Analytic methods for the study of the solutions of nonlinear differential equations* (*Russian*), *pp.* 59–62. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1975. **53** #15032 70.34

Dynamics of discrete systems with indeterminate parameters. (Russian) *Automation and computer science, No.* 5 (*Russian*), *pp.* 64–70, 4. *Izdat. "Vyšèĭšaja Škola", Minsk*, 1975. (Author's summary) **58** #33394 93D15

The stability of an invariant set for difference equations. (Russian) *Differencial′nye Uravnenija* **11** (1975), *no.* 12, 2271–2272, 2303. (I. M. Sheffer) **52** #14718 39A10

Sufficient conditions for stability of processes in linear discrete nonstationary second-order systems. *Avtomatika* **1975**, *no.* 3, 45–52 (*Ukrainian. Russian and English summaries*); *translated as Soviet Automat. Control* **8** (1975), *no.* 3, 36–42. (A. S. C. Sinha) **55** #14350 93D99

Partially averaged motion of a weakly nonlinear system with one degree of freedom under the influence of a quasipolynomial perturbation. (Russian) *Approximate methods for the study of nonlinear systems* (*Russian*), *pp.* 76–81. *Izdanie Inst. Mat. Akad. Nauk SSR, Kiev*, 1976. (G. V. Hmelevskaja Plotnikova) **58** #28872 34C30 (93A99)

Robust detection of an incompletely known signal. (Russian) *Problemy Peredači Informacii* **12** (1976), *no.* 2, 47–61. (Ezio M. Biglieri) **55** #7565 94A05 (62G35)

Synthesis of stable, small signal detectors. *Radiotehn. i Èlektron.* **21** (1976), *no.* 2, 250–259 (*Russian*); *translated as Radio Engrg. Electron. Phys.* **21** (1976), *no.* 2, 26–34. (Author's summary) **56** #11489 94A05

Partially averaged motion of a weakly nonlinear system with two degrees of freedom under the influence of a quasipolynomial perturbation. (Russian) *Analytic methods in the theory of differential equations* (*Russian*), *pp.* 45–50. *Izdanie Inst. Mat. Akad. Nauk Ukrain. SSR, Kiev*, 1977. (From the text) **58** #22825 34C30

See also **Nonlinear oscillations and stability of motion, 57** #12950

Kuznecov, V. S. Problem of constructing all combinations in order of nondecreasing weight. *Avtomat. i Telemeh.* **1971**, *no.* 6, 138–143 (*Russian. English summary*); *translated as Automat. Remote Control* **32** (1971), *no.* 6, *part* 2, 977–981. (O. Kopeček) **49** #6707 68A50

Kuznecov, V. V. *See* **Proceedings: Republican Conference of Belorussian Mathematicians, 48** #3669

Kuznecova, A. V. *See* **Linear boundary value problems of mathematical physics, 50** #6719

Kuznecova, B. G. *See* **Proceedings: All-Union Seminar on Numerical Methods in the Mechanics of a Viscous Fluid, 57** #8451

Kuznecova, D. S. (*with* Kuznecov, A. V.) Solution of full algebraic equations of degree four by means of nomograms. (Russian) *Nomography collection, No.* 6 (*Russian*), *pp.* 39–46. *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1969. (J. G. L. Michel) **45** #2948 65S05

See also **Nomography collection, 50** #6198

Kuznecova, E. V. *See* **Statistical analysis of economic time series and prediction, 50** #1446

Kuznecova, L. M. Periodic solutions of the differential system $\dot{x} = A(t)x + f(t, x)$ of $2n$ equations. (Russian) *Differencial′nye Uravnenija* (*Rjazan′*) *Vyp.* 7 (1976), 133–150. (L. Pinter) **57** #3519 34C25

Periodic solutions of a system in the case when the matrix of the system does not commute with its integral. (Russian) *Differencial′nye Uravnenija* (*Rjazan′*) *Vyp.* 7 (1976), 151–161. (L. Pinter) **57** #6638 34C25

A necessary condition for the existence of periodic solutions of a differential system of the form $\dot{x} = \psi(t)P(x) + Q(t)$. (Russian) *Differencial'nye Uravnenija (Rjazan') Vyp.* 7 (1976), 162–164. (L. Pinter) **57** #3520 34C25

The existence of periodic solutions of a system of higher order. (Russian) *Differencial'nye Uravnenija (Rjazan') Vyp.* 9 (1977), 68–81. (M. Ráb) **57** #10099 34C25

(*with* Makarov, I. P.) The existence of periodic solutions of a certain countable system of differential equations. (Russian) *Differencial'nye Uravnenija (Rjazan') Vyp.* 9 (1977), 82–94. (M. Ráb) **57** #10100 34C25 (34G05)

Kuznecova, L. N. (*with* Mel'nikova, L. P.) On the question of the generalization of the concept of the convexity of a curve (disproof of a conjecture of V. A. Efremovič). (Russian) *Geometry of homogeneous spaces (Russian), pp.* 64–65. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1973. (Z. Nádeník) **52** #6629 53C75

The uniqueness and stability of the solutions of inverse boundary value problems. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 11 (1974), 131–137. (J. G. Krzyż) **56** #15950 30A88

The stability of the solutions of inverse boundary value problems in the space C_k. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 12 (1975), 141–152. (J. G. Krzyż) **57** #654 30A88

Stability of the solutions of interior inverse boundary value problems. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 5(168), 43–53. (L. A. Aksent'ev) **57** #606 30A32

(*with* Mel'nikova, L. P.) A generalization of the notion of convex curve. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 6 (169), 66–69. (V. T. Fomenko) **58** #2661 53C45

The stability of the solution of the exterior inverse boundary value problem. (Russian) *Trudy Sem. Kraev. Zadačam Vyp.* 13 (1976), 167–174. (From the text) **58** #28531 30A88

Kuznecova, L. V. *See* **Gerasimenko, L. V.**

Kuznecova, N. G. An estimate of the area of a closed surface in Lobačevskiĭ space in terms of its extrinsic curvature and the diameter of the circumscribed sphere. (Russian) *Geometry and topology, No. 1 (Russian), pp.* 79–90. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (J. Szenthe) **54** #13803 53C45

Kuznecova, N. P. (*with* Kravčenko, T. P.; Mironova, N. V.; Agapova, L. I.; Baranov, M. N.; Petrov, V. P.) Calculation of the subgroup coefficients for the reduction from group R_3 to the crystallographic groups O and D_4. (Russian) *Trudy Moskov. Orden. Lenin. Ènerget. Inst. Vyp.* 170 (1974), 50–60. (A. A. Maradudin) **53** #15219 82.20

Kuznecova, O. A. (*with* Adel'son-Vel'skiĭ, G. M.; Levitina, I. G.) On the stability of implicit formulas for the approximate solution of systems of differential equations. (Russian) *Numerical analysis and mathematical physics, No. 2 (Russian), pp.* 95–106. *Moskov. Gos. Ped. Inst. im. Lenina, Moscow*, 1975. (See RŽMat **1976** #11 B1132; MR **56** #1654) 65L05

Kuznecova, O. I. Certain properties of polynomial operators of triangular form in the space of continuous periodic functions of two variables. (Russian) *Dokl. Akad. Nauk SSSR* **223** (1975), *no.* 6, 1304–1306. (R. L. Cooke) **52** #11464 42A92

Mean arithmetic triangular and rectangular partial sums of a double Fourier series. (Russian) *Metric questions of the theory of functions and mappings (Russian), pp.* 104–111, 167. *Naukova Dumka, Kiev*, 1977. (Author's summary) **58** #29819 42A92

The asymptotic behavior of the Lebesgue constants for a sequence of triangular partial sums of double Fourier series. (Russian) *Sibirsk. Mat. Ž.* **18** (1977), *no.* 3, 629–636, 719. (R. L. Cooke) **56** #3566 42A92

Kuznecova, S. G. *See* **Collection: Questions of mathematics and mechanics, 58** #17438

Kuznecova, T. A. Continuous mappings and bicompact extensions of topological spaces. (Russian. English summary) *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), *no.* 5, 48–53. (Roman Frič) **49** #1480 54D35

Stochastic differential equations with small lag. (Russian) *Mat. Zametki* **17** (1975), *no.* 5, 717–726. (A. T. Bharucha-Reid) **53** #1735 60H10 (34K05)

Bioctave geometries and their analogues. (Russian) *Ukrain. Geometr. Sb. No.* 17 (1975), 92–107, 147. (B. Rozenfel'd) **52** #1507 50C25

On the question of describing the subspaces of type B_σ in spaces with a basis. (Russian) *Differencial'nye Uravnenija i Vyčisl. Mat. Vyp.* 6 (1976), *part* 2, 140–151, 171. (Z. Čanturija) **58** #30079 46B15 (47D10)

Kuznecova, T. I. (*with* Hovanskiĭ, G. S.) A nomographic method of solving the fundamental problem of linear programming for the case of two variables. (Russian) *Nomography collection, No. 8 (Russian), pp.* 94–107. (*errata insert*) *Vyčisl. Centr Akad. Nauk SSSR, Moscow*, 1971. (L. Bal) **51** #4674 65K05

Nomographic methods for the solution of the fundamental problem of linear programming for three and more variables. (Russian) *Nomographic collection, No. 10 (Russian), pp.* 44–53. *Akad. Nauk SSSR Vyčisl. Centr, Moscow*, 1975. (Irinel Dragan) **55** #9588 65S05 (90C05)

See also **Nomography collection, 50** #6198

Kuznecova, T. M. *See* **Soviet statistics in half a century (1917–1967), 50** #15016

Kuznecova, V. A. On the question of the fundamental theorem of parallel axonometry in n-space. (Russian) *Jaroslav. Gos. Ped. Inst. Učen. Zap. No.* 61 *Geometrija* (1967), 65–69. (H. W. Guggenheimer) **51** #1591 50D15

Transformations of ρ-dimensional planes that are induced by an affine transformation of n-space. (Russian) *Jaroslav. Gos. Ped. Inst. Učen. Zap. No.* 61 *Geometrija* (1967), 70–75. (V. Medek) **51** #1592 50D15

(*with* Skopec, Zalman; Nosik, R. G.) On the question of the double lines of an affine transformation. (Russian) *Jaroslav. Gos. Ped. Inst. Učen. Zap. No.* 83 *Geometrija* (1971), 133–143. (J. C. Fisher) **52** #11723 50D05

(*with* Skopec, Zalman) A mapping of the straight lines of the space P_4 onto the plane into twice punctured conics with a fixed point. (Russian) *Geometry and topology, No. 1 (Russian), pp.* 119–125. *Leningrad. Gos. Ped. Inst. im. Gercena, Leningrad*, 1974. (W. Burau) **54** #327 14N05

Kuznetsov, A. V. *See* **Kuznecov, Aleksandr Vladimirovič**

Kuznetsov, E. A. *See* **Kuznecov, E. N.**

Kuznetsov, G. I. *See* **Kuznecov, G. I.**

Kuznetsov, I. N. *See* **Kuznecov, I. N.**

Kuznetsov, I. P. *See* **Kuznecov, I. P.**

Kuznetsov, Iu. A. *See* **Kuznecov, Ju. A.**

Kuznetsov, N. A. *See* **Kuznecov, N. A.**

Kuznetsov, N. N. *See* **Kuznecov, N. N.**

Kuznetsov, O. P. *See* **Kuznecov, O. P.**

Kuznetsov, P. I. *See* **Kuznecov, P. I.**

Kuznetsov, S. E. *See* **Kuznecov, S. E.**

Kuznetsov, S. G. *See* **Kuznecov, S. G.**

Kuznetsov, S. S. *See* **Kuznecov, S. S.**

Kuznetsov, V. E. *See* **Kuznecov, V. E.**

Kuznetsov, V. F. *See* **Kuznecov, V. F.**

Kuznetsov, V. P. *See* **Kuznecov, V. P.**

Kuznetsov, V. S. *See* **Kuznecov, V. S.**

Kuznetsov, Y. A. *See* **Kuznecov, Ju. A.**

Kuznetsov, Yu. A. *See* **Kuznecov, Ju. A.**

Kuzovkov, N. T. *See* **D'Angelo, Henry, 54** #4730

Kuzovkov, V. N. (*with* Rolov, B. N.) Kinetic equations in the theory of phase transitions. (Russian. English summary) *Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr.* **1977**, *no.* 6, 22–41. (R. A. Minlos) **57** #18694 82.62

Kuzovlev, Ju. E. (*with* Bočkov, G. N.) On the analysis and optimization of stochastic filters. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **16** (1973), *no.* 1, 45–53. (Authors' summary) **57** #5356 93E15

(*with* Bočkov, G. N.) On the analysis of signal transformation by stochastic systems. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **18** (1975), *no.* 2, 222–235. (Authors' summary) **57** #11899 93E15

(*with* Bočkov, G. N.) Operator methods for the analysis of stochastic non-Gaussian processes and systems. (Russian. English summary) *Izv. Vysš. Učebn. Zaved. Radiofizika* **20** (1977), *no.* 10, 1505–1515. (Authors' summary) **57** #11563 82.60

Kuzurin, M. N. ★Über minimale Überdeckungen auf einer n-elementigen Menge. (Russian, English and French summaries) Theoretische Kybernetik und mathematische Logik. *Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe* **24** (1975), *no.* 6, 729–730. (Author's summary) **58** #5299 05B40

Kvačev, V. G. (*with* Jakovenko, L. P.) Application of imitation modeling in the design of experimental data processing systems. (Russian) *Akad. Nauk Ukrain. SSR Inst. Kibernet. Preprint No.* 51 (1977), 33 *pp.* (Authors' summary) **58** #25078 68A05

Kvančilašvili, M. T. A generalization of the concept of metric space. (Russian) *Works of Young Scientists at Tbilisi State University, Physics, Mathematics and Natural Science Series, 2 (Russian), pp.* 3–8. *Izdat. Tbilis. Univ., Tbilisi*, 1974. (J. G. Ceder) **57** #4111 54E35

Normality and spectra. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **79** (1975), *no.* 2, 297–300. (E. Halfar) **53** #6498 54D15

Normality type of a complete space. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 3, 549–552. (Stojan Nedev) **53** #14385 54B25 (54C20)

Kvantaliani, K. I. The problem with equal endpoints for integrodifferential equations with small parameter. (Russian. Georgian summary) A collection of articles on the equations of mathematical physics. 4. *Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* **44** (1974), 125–132. (M. Tvrdý) **53** #14054 45J05

Kvapiš, M. *See* **Kwapisz, Marian**

Kvarachelija, V. V. Gaussian measures in certain Banach spaces. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **75** (1974), 533–536. (R. M. Dudley) **50** #14909 60G15

The convergence of series of Gaussian random elements. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **76** (1974), 41–44. (V. V. Buldigin) **51** #1899 60B10 (60G15)

(*with* Nguen Zuĭ Tien) The central limit theorem in spaces $l_p\{X\}$ $(1 < p < 2)$. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **81** (1976), *no.* 3, 533–536. (Zdzisław Rychlik) **53** #14574 60B10 (60F05)

(*with* Nguen Zuĭ Tien) The central limit theorem and the strong law of large numbers in the spaces $l_p\{X\}$, $1 \leq p < +\infty$. (Russian. English summary) *Teor. Verojatnost. i Primenen.* **21** (1976), *no.* 4, 802–812. (W. A. Woyczyński) **55** #4326 60B10

Kvaša, È. N. *See* **Mathematical physics, 48** #5769

Kvasnica, M. S. (*with* Zav'jalkin, F. M.) The influence of the fluctuation of the parameters of a medium on the error estimate of its characteristics with respect to a discrete pulse sequence. (Russian) *Avtometrija* **1974**, *no.* 2, 80–82. **50** #4102 94A05

Kvasnička, Vladimir Construction of model Hamiltonians in framework of Rayleigh-Schrödinger perturbation theory. *Czechoslovak J. Phys.* **24B** (1974), 605–615. **53** #12362 81.47

A diagrammatic interpretation of formal Rayleigh-Schrödinger perturbation theory. *Chem. Phys. Lett.* **32** (1975), 167–172. (From the author's summary) **56** #4528 81.47

(*with* Holubec, Alexej) Quasi-degenerate Rayleigh-Schrödinger perturbation theory with Hermitean model Hamiltonian. *Chem. Phys. Lett.* **32** (1975), 489–492. (From the authors' summary) **56** #4529 81.47

A diagrammatic construction of formal E-independent model Hamiltonian. *Czechoslovak J. Phys.* **27B** (1977), *no.* 6, 599–628. (Author's summary) **58** #25594 81.47

Kvasov, B. I. (*with* Janenko, N. N.) An iteration method for the construction of semicubical spline functions. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **1** (1970), *no.* 3, 84–89. (H. Zegeling) **49** #4212 65D15

The construction of L-splines. (Russian) *Čisl. Metody Meh. Splošnoĭ Sredy* **3** (1972), *no.* 3, 64–71. (V. A. Popov) **50** #11797 65N05 (41A15, 65L10)

Obtaining splines by averaging piecewise-constant functions. Splines with supplementary nodes. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **4** (1973), *no.* 1, 39–55. (RŽMat **1973** #9 B966) **58** #31735 65D15

(*with* Kobkov, V. V.) Splines with supplementary nodes. II. Their limits and certain properties. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **5** (1974), *no.* 4, 48–70. (RŽMat **1975** #6 B1322) **58** #31725 65D10

(*with* Kobkov, V. V.) Certain properties of cubic Hermitian splines with supplementary nodes. (Russian) *Dokl. Akad. Nauk SSSR* **217** (1974), 1007–1010. (H.

Zegeling) **51** #14517 65D05

Interpolation splines of first degree. (Russian) *Vyčisl. Sistemy Vyp.* 65 *Metody Splaĭn-Funkciĭ* (1975), 50–59, 161–162. (V. A. Popov) **58** #1865 41A15

Spline solution of a mixed Lagrange-Hermite problem. (Russian) *Čisl. Metody Meh. Splošn. Sredy* **8** (1977), *no.* 1 *Mat. Modelirovanie*, 59–82. (K. Moszyński) **57** #13298 41A15 (41A65)

See also **Laurent, Pierre-Jean**, (Not reviewed)

Kvasova, G. E. The behavior for large time of the solutions of a boundary value problem for a nonlinear equation of parabolic type. (Russian. Kazakh summary) *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1973**, *no.* 1, 37–40, 93. (V. S. Rabinovič) **50** #7767 35B40

On the question of the stability of the solutions of mixed problems for a nonlinear equation of parabolic type. (Russian) *Trudy Sem. Kaf. Teoret. Meh. i Vysš. Mat. No.* 5 (1973), 133–138. (See RŽMat **1974** #10 B346) 35K55

A stable solution of a nonlinear parabolic boundary value problem. (Russian) *Upravljaemye Sistemy No.* 11 (1973), 74–78, 116–117. (See RŽMat **1974** #4 B316) 35K60

On the question of the stability of the solutions of mixed nonlinear problems. (Russian) *Upravljaemye Sistemy No.* 11 (1973), 79–82, 117. (See RŽMat **1974** #4 B315) 35K60

Kvedaras, Bronius (*with* Sapagovas, Mifodijus) Results in the domain of the solution of differential and integral equations at the Computing Center of the Physics and Mathematics Institute of the Lithuanian Academy of Sciences. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 1 (1971), 11–37, 93. (P. C. Fife) **51** #1117 35J99 (65P05)

Methods for the solution of differential equations. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 3 (1973), 24–50, 101. (Editors) **52** #7183 68–06 (65Nxx)

Computation of an eigenvalue of a perturbed differential operator. (Russian. Lithuanian and French summaries) *Differencial'nye Uravnenija i Primenen—Trudy Sem. Processy Optimal. Upravlenija. I Sekcija No.* 10 (1974), 9–45, 115 (1975). (Not reviewed) 47A55 (34B25)

A proof for the convergence of the formal solution of a degenerate differential equation. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 13 (1975), 27–50, 85 (1976). (Author's summary) **58** #28952 34G05

(*with* Macionis, Jonas) The Cauchy problem for a degenerate differential equation. (Russian. Lithuanian and English summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 3, 121–131, 229. (Janusz Mika) **54** #7987 35G05

The solvability of a differential equation in a subspace. (Russian. Lithuanian and French summaries) *Litovsk. Mat. Sb.* **15** (1975), *no.* 4, 119–124, 243. (Leo F. Boron) **53** #8599 34G05 (47A15)

Construction of asymptotic series of perturbations for a two-point boundary value problem with a variable boundary. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 14 (1976), 41–57, 109. (K. Goebel) **57** #13054 34G05 (34E05)

(*with* Jurgaitis, Donatas) A solution of the Abel equation by the method of quasilinearization. (Russian. Lithuanian and English summaries) *Differencial'nye Uravnenija i Primenen.—Trudy Sem. Processy Optimal. Upravlenija I Sekcija Vyp.* 17 (1977), 33–41, 99. (E. S. Čičkin) **58** #8272 65L05

Properties of the solutions of a degenerate linear differential equation. (Russian. Lithuanian and French summaries) *Litovsk. Mat. Sb.* **17** (1977), *no.* 1, 115–125, 213. (Angelo Favini) **56** #12474 34G05

The asymptotic behavior of the formal solution of a degenerate differential equation at a singular point. (Russian. Lithuanian and French summaries) *Litovsk. Mat. Sb.* **18** (1978), *no.* 1, 123–130, 242. (N. G. Kazakova) **58** #11751 34G05

Kveselava, D. A. (*with* Samsonija, Z. V.) The conformal moduli of doubly connected domains close to each other. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **9** (1969), *no.* 1, 5–12. (S. Kas'janjuk (RŽMat **1970** #2 B181)) **46** #2026 30A30

(*with* Tlehugov, H. T.) The Dini-Schwarz formula for a circular annulus. (Russian) Questions of computational mathematics (A collection dedicated to the memory of M. B. Gagua). *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **12** (1973), *no.* 1, 214–217. (R. Kühnau) **49** #3155 30A86

(*with* Tlehugov, H. T.) Cisotti's formula for multiply connected circular domains. (Russian) *Sakharth. SSR Mecn. Akad. Gamothvl. Centr. Šrom.* **17** (1977), *no.* 1, *Vyčisl. Mat. i Programmirovanie*, 256–260. (L. A. Aksent'ev) **58** #6273 30A88

See also **Questions on mathematical and engineering cybernetics**, **53** #2574; **Questions on numerical mathematics and programming**, **53** #2575 *and* **Mathematical and engineering cybernetics**, **53** #5141

Kvinihidze, A. N. (*with* Sisakjan, A. N.; Slepčenko, L. A.; Tavhelidze, A. N.) Inclusive processes with large-scale transverse impulses in the treatment of composite particles. (Russian. English summary) *Fiz. Èlemtar. Častic. i Atom. Jadra* **8** (1977), *no.* 3, 478–543. (Authors' summary) **58** #8937 81.47

Kvinihidze, K. S. (*with* Čavčanidze, V. V.) A mathematical model for the description of amino acid replacement in polypeptides. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **66** (1972), 41–44. (E. Seneta) **46** #6852 92A05

Kvinikadze, G. P. Solution of certain boundary value problems of the bending of a plate. (Russian. Georgian summary) *Thbilis. Saḫelmc̣. Univ. Gamoqeneb. Math. Inst. Šrom.* **3** (1972), 115–126. (Author's introduction) **56** #7416 73.35

A certain new variant of the solution of generalized mixed problems of plane elasticity theory. (Russian. Georgian summary) *Thbilis. Univ. Šrom. A* **6-7(149-150)** (1973), 29–40. (A. Ja. Gorgidze (RŽMeh **1974** #1 V83)) **51** #12086 73.45

Kvirija, D. A. (*with* Ramišvili, G. S.) The realization of a certain method for the isolation of subclasses for pattern recognition. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **61** (1971), 409–412. (J. Morávek) **46** #6661 68A45

Kvist, H. K. (*with* Barndorff-Nielsen, Ole) Note on exponential families and M-ancillarity. *Scand. J. Statist.* **1** (1974), *no.* 1, 36–38. (D. A. Sprott) **53** #6820 62E10 (62P10)

Kvīt, Ī. D. Unimodal distributions. (Ukrainian. English and Russian summaries) *Vīsnik Kiïv. Unīv.* **1971**, *no.* 13, 80–93, 148. (M. I. Jadrenko) **46** #8277 60E05

Improvement of the inversion formula for the characteristic function of a random vector. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Univ. Ser. Meh.-Mat.* **1971**, *no.* 6, 9–18, 133. (M. I. Jadrenko) **47** #7778 60E05

Continual convolution. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1972**, *no.* 7, 10–18, 131. (M. Skalsky) **50** #11372 60E05

The transform of a random vector. (Ukrainian. Russian summary) *Vīsnik L'vīv Derž. Unīv. Ser. Meh.-Mat.* **1972**, *no.* 7, 79–85, 135. (M. Skalsky) **50** #11373 60E05

A stochastic continual convolution. (Ukrainian. Russian summary) *Vīsnik L'vīv Derž. Unīv. Ser. Meh.-Mat.* **1973**, *no.* 8, 20–29, 145. (Hans-Jürgen Glaeske) **53** #6252 44A35 (60E05)

Energy moments. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1974**, *no.* 9, 106–109, 137. (R. P. Boas, Jr.) **53** #1688 60E05 (42A68)

Singular strategies. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat. No.* 10 (1975), 46–52, 97. (Not reviewed) 90D12

Accelerated change of mapping. (Ukrainian. Russian summary) *Vīsnik L'vīv. Derž. Unīv. Ser. Meh.-Mat.* **1976**, *no.* 11, 52–57, 125. (Author's summary) **58** #31345 60E05

Kvitašvili, A. A. (*with* Džavahišvili, I. N.; Giorgobiani, Z. G.) Convergence of a process for the teaching of recognition when the stochastic approximation method is used. (Russian. Georgian and English summaries) *Sakharth. SSR Mecn. Akad. Moambe* **69** (1973), 561–564. (See Zbl **257** #68092) 68A35 (62L15)

(*with* Īvahnenko, O. G.; Vasil'ev, V. Ī.; Agababjan, K. G.; Zaĭčenko, Ju. P.; Reznik, A. M.; Dajan, S. V.; Rastrigin, L. A.; Glaz, A. B.; Othmezuri, G. L.) ★Перцептрон–система распознавания образов. (Russian) [The perceptron–a system of pattern recognition] Теория, моделирование, возможные улучшения и применения перцептронов. [Theory, simulation, possible improvements and applications of perceptrons] Edited by A. G. Ivahnenko. *Izdat. "Naukova Dumka", Kiev*, 1975. 431 *pp.* (V. A. Kovalevskiĭ) **54** #9189 68A45 (92A99)

Kvitašvili, A. I. *See* **Studies of equations of mathematical physics**, **50** #4197

Kvitko, A. N. An investigation of the trajectories of the motion of a material point of unit mass in a potential force field. (Russian. English summary) *Vestnik Leningrad. Univ.* **1971**, *no.* 19, 23–26. (J. A. Morrison) **45** #9565 70.34

Kvon, V. I. *See* **Hydromechanics**, **52** #2369

Kwack, Myung H. Mappings into hyperbolic spaces. *Bull. Amer. Math. Soc.* **79** (1973), 695–697. (J. Kajiwara) **47** #8908 32H20

A Schwarz lemma for canonical algebraic manifolds. *Proc. Amer. Math. Soc.* **41** (1973), 219–222. (K. T. Hahn) **48** #4354 32H20

Holomorphic mappings into complex space. *Indiana Univ. Math. J.* **24** (1974/75), 959–964. (J. Kajiwara) **52** #809 32H20

Some classical theorems for holomorphic mappings into hyperbolic manifolds. *Differential geometry* (*Proc. Sympos. Pure Math., Vol. XXVII, Stanford Univ., Stanford, Calif.*, 1973), *Part* 2, *pp.* 99–104. *Amer. Math. Soc., Providence, R.I.*, 1975. (Editors) **58** #6368 32H20

Kwak, B. M. (*with* Haug, Edward J., Jr.) Optimum design in the presence of parametric uncertainty. *J. Optimization Theory Appl.* **19** (1976), *no.* 4, 527–546. (Gerard G. L. Meyer) **55** #2160 90C50

(*with* Haug, Edward J., Jr.) Parametric optimal design. *J. Optimization Theory Appl.* **20** (1976), *no.* 1, 13–35. (Joachim Hirche) **55** #6849 65K05

Kwak, H. (*with* Horton, Wendell, Jr.; Estes, R.; Choi, Duk In) Initial value problem with non-Hermitian radial mode equations. *Phys. Fluids* **20** (1977), *no.* 9, 1476–1482. (Authors' summary) **57** #15122 82.35

Kwak, Hyo Chul A note on C^*-algebras. *J. Korean Math. Soc.* **12** (1975), *no.* 1, 5–11. (Béla Bollobás) **51** #8837 (EA **51**) 46L05

Kwak, Jin Ho Set-connected mappings. *Kyungpook Math. J.* **11** (1971), 169–172. (S. K. Kaul) **46** #2625 54C10

A note on k-semistratifiable spaces. *Kyungpook Math. J.* **12** (1972), 213–218. (D. J. Lutzer) **47** #9553 54E20

Perfect maps on the c-continuous fundamental group. *Kyungpook Math. J.* **15** (1975), *no.* 2, 153–158. (J. W. Jaworowski) **54** #3694 55E05 (54D99)

Kwakernaak, Huibert On-line dynamic optimization of stochastic control systems. *Automatic and remote control III* (*Proc. Third Congr. Internat. Federation Automat. Control* (*IFAC*), *London*, 1966), *Vol.* 1, *pp.* 56–57, *Paper* 29D, 7 *pp. Inst. Mech. Engrs., London*, 1967. (Author's summary) **51** #9941 93E20

The state of the art in linear systems. *Proceedings of the IFAC Fifth World Congress* (*Paris*, 1972), *Part* 4: *Education, feedback, regulators, linear and non-linear systems; Identification, differential games, discrete and stochastic systems, Paper No.* C-35, 10 *pp. Internat. Fed. Automat. Control, Düsseldorf*, 1971 [1972]. (Editors) **51** #15075 93C05

(*with* Sivan, Raphael) ★Linear optimal control systems. *Wiley-Interscience* [*John Wiley & Sons*], *New York-London-Sydney*, 1972. xxv + 575 *pp.* (Takashi Yahagi) **53** #10394 93C05

(*with* Sivan, Raphael) The maximally achievable accuracy of linear optimal regulators and linear optimal filters. *IEEE Trans. Automatic Control* **AC-17** (1972), 79–86. (F. M. Kirillova) **50** #4034 (E **50** #4035) 93C05 (93E10)

(*with* Strijbos, R. C. W.) Extremization of functions with equality constraints. *Math. Programming* **2** (1972), 279–295. (K. Swarup) **47** #1285 65K05

An extension of the stochastic linear regulator problem. *IEEE Trans. Automatic Control* **AC-19** (1974), 121–123. (Michel Valadier) **54** #14860 93E20

Filtering for systems excited by Poisson white noise. *Control theory, numerical methods and computer systems modelling* (*Internat. Sympos., IRIA LABORIA, Rocquencourt*, 1974), *pp.* 468–492. *Lecture Notes in Econom. and Math. Systems, Vol.* 107, *Springer, Berlin*, 1975. (Ludwig Arnold) **53** #10429 93E10

Periodic linear differential stochastic processes. *SIAM J. Control* **13** (1975), 400–413. (Ruth Curtain) **51** #15114 93E10 (60H10)

Asymptotic root loci of multivariable linear optimal regulators. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 3, 378–382. (Marcel Amouroux) **53** #15480 93C45

Application of control theory to population policy. *New trends in systems analysis*

(*Proc. Internat. Sympos., Versailles*, 1976), *pp.* 359–378. *Lecture Notes in Control and Information Sci., Vol.* 2, *Springer, Berlin*, 1977. (Author's summary) **58** #26168 92A15 (93C55)

(*with* Baas, Sjoerd M.) Rating and ranking of multiple-aspect alternatives using fuzzy sets. *Automatica—J. IFAC* **13** (1977), *no.* 1, 47–58. (V. D. Dimitrov) **55** #11927 90A05

(*with* Bagchi, Arunabha) A minimax property of the Kalman filter. *Internat. J. Control* **26** (1977), *no.* 3, 369–377. (Ivar Gustavsson) **57** #9238 93E10

See also **Godbole, S. S., 50** #4035; **Proceedings: International Congress of the International Federation of Automatic Control (IFAC), 51** #12360b *and* **System sensitivity analysis, 52** #12863

Kwan, Chao Chih *See* **Guan, Zhao Zhi**

Kwapień, Stanisław Sur l'intégrabilité de norme dans un espace de Banach. *Séminaire Goulaouic-Schwartz* 1970–1971: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 25, 2 *pp. Centre de Math., École Polytech., Paris*, 1971. (D. Dacunha-Castelle) **54** #8239 46B05

On operators factorizable through L_p space. *Actes du Colloque d'Analyse Fonctionnelle de Bordeaux* (*Univ. de Bordeaux*, 1971), *pp.* 215–225. *Bull. Soc. Math. France, Mém. No.* 31–32, *Soc. Math. France, Paris*, 1972. (A. Pietsch) **53** #1323 47B10 (46E30)

Isomorphic characterizations of inner product spaces by orthogonal series with vector valued coefficients. Collection of articles honoring the completion by Antoni Zygmund of 50 years of scientific activity, VI. *Studia Math.* **44** (1972), 583–595. (J. A. Van Casteren) **49** #5789 46C05 (46E30)

Comments to Enflo's construction of Banach space without the approximation property. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 9, 4 *pp. Centre de Math., École Polytech., Paris*, 1973. (From the author's intorduction) **53** #11346 46B15

On Enflo's example of a Banach space without the approximation property. *Séminaire Goulaouic-Schwartz* 1972–1973: *Équations aux dérivées partielles et analyse fonctionnelle, Exp. No.* 8, 9 *pp. Centre de Math., École Polytech., Paris*, 1973. (From the author's introduction) **53** #11342 46B05

Sums of independent Banach space valued random variables (after J. Hoffmann-Jørgensen). *Séminaire Maurey-Schwartz Année* 1972–1973: *Espaces L^p et applications radonifiantes, Exp. No.* 6, 6 *pp. Centre de Math., École Polytech., Paris*, 1973. (Robert L. Taylor) **55** #9193 60B05

Isomorphic characterizations of Hilbert spaces by orthogonal series with vector valued coefficients. *Séminare Maurey-Schwartz Année* 1972–1973: *Espaces L^p et applications radonifiantes, Exp. No.* 8, 7 *pp. Centre de Math., École Polytech., Paris*, 1973. (J. Hoffmann-Jørgensen) **53** #14095 46C05

On the form of a linear operator in the space of all measurable functions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 951–954. (N. T. Peck) **49** #1088 46E30 (47B37)

On Banach spaces containing c_0. A supplement to the paper by J. Hoffmann-Jørgensen: "Sums of independent Banach space valued random variables" (Studia Math. **52** (1974), 159–186). *Studia Math.* **52** (1974), 187–188. (Eberhard Siebert) **50** #8627 60B05 (46B99)

A theorem on the Rademacher series with vector valued coefficients. *Probability in Banach spaces* (*Proc. First Internat. Conf., Oberwolfach*, 1975), *pp.* 157–158. *Lecture Notes in Math., Vol.* 526, *Springer, Berlin*, 1976. (S. A. Čobanjan) **56** #9620 60B99 (42A56)

(*with* Pełczyński, A.) Some linear topological properties of the Hardy spaces H^p. *Compositio Math.* **33** (1976), *no.* 3, 261–288. (Y. Benyamini) **58** #23613 46J15 (46E15)

(*with* Figiel, T.; Pełczyński, A.) Sharp estimates for the constants of local unconditional structure of Minkowski spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 12, 1221–1226. (Yehoram Gordon) **58** #7035 46B05 (46A40)

(*with* Pełczyński, A.) Remarks on absolutely summing translation invariant operators from the disc algebra and its dual into a Hilbert space. *Michigan Math. J.* **25** (1978), *no.* 2, 173–181. (S. V. Kisljakov) **58** #12390 46J15 (47B10)

See also **Fisher, Michael J., 54** #8152

Kwapisz, Marian (*with* Jankowski, Tadeusz) On the existence and uniqueness of solutions of systems of differential equations with a deviated argument. *Ann. Polon. Math.* **26** (1972), 253–277. (*errata insert*) (M. Q. Jacobs) **46** #2189 34K05

(*with* Turo, J.) On the existence and uniqueness of solutions of the Darboux problem for partial differential-functional equations in a Banach space. Collection of articles dedicated to the memory of Tadeusz Ważewski, II. *Ann. Polon. Math.* **29** (1974), 89–118. (J. E. Lagnese) **50** #5232 35R20

(*with* Turo, J.) On some integral-function equations with an unknown function of n variables. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 1001–1009. (G. S. Ladde) **53** #8701 39A15 (47H15)

(*with* Turo, J.) On the existence and uniqueness of solutions of Darboux problem for partial differential-functional equations. *Colloq. Math.* **29** (1974), 279–302. (A. Pelczar) **51** #1172 35R10

(*with* Turo, J.) On the existence and convergence of successive approximations for some functional equations in a Banach space. *J. Differential Equations* **16** (1974), 298–318. (R. Kannan) **50** #10935 47H15 (39A15)

On the existence and uniqueness of solutions of a certain integral-functional equation. *Ann. Polon. Math.* **31** (1975), *no.* 1, 23–41. (I. Fenyő) **52** #1229 45N05

(*with* Turo, J.) Existence and uniqueness of solutions of non-linear functional equations of rth order. *Ann. Polon. Math.* **31** (1975), *no.* 2, 145–157. (M. Kuczma) **52** #8707 39A40

(*with* Turo, J.) Approximate iterations for a partial differential-functional equation of hyperbolic type in a Banach space. (Russian) *Differencial'nye Uravnenija* **11** (1975), *no.* 9, 1626–1640, 1716. (L. E. Bobisud) **52** #3764 35R10

(*with* Turo, J.) Some integral-functional equations. *Funkcial. Ekvac.* **18** (1975), *no.* 2, 107–162. (I. Fenyő) **53** #6377 47H15 (45J05, 39A40)

(*with* Bartoszewski, Z.) Remarks on the generalized contraction principle. (Russian) *Ukrain. Mat. Ž.* **27** (1975), *no.* 5, 633–635, 716. (Alfonso Vignoli) **52** #11669 47H10

(*with* Turo, J.) Existence, uniqueness and successive approximations for a class of integral-functional equations. *Aequationes Math.* **14** (1976), *no.* 3, 303–323. (R. D. Driver) **55** #10890 39A15

On the existence and uniqueness of L-integrable solutions of a certain integral-functional equation. *Funkcial. Ekvac.* **19** (1976), *no.* 2, 191–202. (John M. Bownds) **56** #6304 45D05

(*with* Jankowski, Tadeusz) On the existence and uniqueness of solutions of boundary-value problems for differential equations with parameter. *Math. Nachr.* **71** (1976), 237–247. (R. R. D. Kemp) **53** #8984 47H15 (34G05)

(*with* Kamont, Z.) On the Cauchy problem for differential-delay equations in a Banach space. *Math. Nachr.* **74** (1976), 173–190. (Russell C. Thompson) **54** #10787 34G05 (34K05)

(*with* Jankowski, Tadeusz) Convergence of approximate iterations for functional equations in a Banach space. *Rev. Roumaine Math. Pures Appl.* **21** (1976), *no.* 8, 1029–1048. (Karol Baron) **55** #6046 39A15 (45D05, 34K05)

The averaging method in the theory of the existence and uniqueness of the solutions of equations in function spaces. (Russian) *Differential equations with deviating argument* (*Proc. Fourth All-Union Conf., Kiev*, 1975) (*Russian*), *pp.* 148–158, 304. *Izdat. "Naukova Dumka", Kiev*, 1977. (Author's summary) **57** #17420 47H15 (39A15, 65J05)

A comparison theorem on the existence and uniqueness of the solutions of an integral-functional equation. *VII. Internationale Konferenz über Nichtlineare Schwingungen* (*Berlin*, 1975), *Band I, Teil* 1, *pp.* 481–487. *Abh. Akad. Wissensch. DDR, Abt. Math.-Naturwissensch.-Techn., No.* 3N, *Akademie-Verlag, Berlin*, 1977. (Peter J. Bushell) **58** #23821 47H15 (45J05)

On the existence and uniqueness of the solution of a non-linear functional equation of r-th order. *Ann. Polon. Math.* **34** (1977), *no.* 1, 35–38. (Pl. Kannappan) **55** #6050 39A40

(*with* Turo, J.) On some class of non-linear functional equations. *Ann. Polon. Math.* **34** (1977), *no.* 1, 85–95. (K. Lajkó) **55** #6049 39A40

Kwasik, Sławomir A Lefschetz-type fixed point theorem for absolute neighbourhood retracts. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 9, 885–889. (R. H. Rosen) **58** #18500 57E10 (55C30, 57C99)

Fixed points of symmetric product mappings of some nonmetrizable spaces. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), *no.* 12, 1271–1277. (W. Kuperberg) **58** #7611 55C20

Kwaśniewski, A. K. Zachariasen-Thirring model with arbitrary spin. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **22** (1974), 333–338. (Jean Michel Combes) **49** #11994 81.47

On the spectral formula for the product $\partial_{\mu_1}\cdots\partial_{\mu_n}\Delta+(x\,;a)\partial_{\nu_1}\cdots\partial_{\nu_m}\Delta^+(x\,;b)$. *Acta Phys. Polon. B* **7** (1976), *no.* 4, 247–253. (Author's summary) **57** #18586 81.46

Kwasowiec, W. Relational machines. (Loose Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **18** (1970), 545–549. (R. Kashef) **45** #3137 94A30

Operations on relational machines. (Loose Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **18** (1970), 765–768. (R. Kashef) **45** #3138 94A30

Investigations in machine instructions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **19** (1971), 1061–1064. (W. D. Maurer) **48** #3298 68A25

Data regions in computers. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 1153–1158. (W. D. Maurer) **49** #8416 (EA **49**) 68A05

Address computer properties concerned with data regions. (Russian summary) *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **21** (1973), 1159–1162. (W. D. Maurer) **49** #8417 68A05

Kwatinetz, M. K. (*with* Froda-Schechter, Micheline) Some remarks on a paper of R. C. Lyndon: "Properties preserved under homomorphism" (Pacific J. Math. **9** (1959), 143–154). *Mathematica* (*Cluj*) **16(39)** (1974), *no.* 2, 255–257 (1977). (Editors) **58** #27463 02H05 (02H13)

Kwatny, Harry G. Minimal order observers and certain singular problems of optimal estimation and control. *IEEE Trans. Automatic Control* **AC-19** (1974), 274–276. (B. P. Molinari) **55** #5289 93E10

(*with* Kalnitsky, K. C.) An eigenvalue characterization and computational algorithm for multivariable system zeroes. *Proceedings of the IEEE Conference on Decision and Control and the* 15*th Symposium on Adaptive Processes* (*Clearwater, Fla.*, 1976), *pp.* 369–373. *Inst. Electr. Electron. Engrs., New York*, 1976. (Authors' summary) **56** #17965 93B25

(*with* Kalnitsky, K. C.) An eigenvalue characterization of multivariable system zeros. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 2, 259–262. (Authors' summary) **58** #15427 93B99

Kwee, B. On generalized translated quasi-Cesàro summability. *Pacific J. Math.* **36** (1971), 731–740. (Author's summary) **45** #771 40G05

The summation of Fourier series by logarithmic means. *Proc. Cambridge Philos. Soc.* **70** (1971), 413–419. (S. Izumi) **45** #2402 42A24

On typical means of Fourier series of continuous functions. *J. Austral. Math. Soc.* **13** (1972), 71–75. (D. C. Russell) **46** #2339 42A24

The absolute Euler summability of Fourier series. *J. Austral. Math. Soc.* **13** (1972), 129–140. (B. D. Malviya) **45** #5658 42A28

A Tauberian theorem for the (J,p_n) method of summation. *J. London Math. Soc.* (2) **5** (1972), 139–142. (E. Reimers) **45** #7346 40E05

On $(R,\log n,\alpha)$ summation of Fourier series. *J. London Math. Soc.* (2) **5** (1972), 601–608. (B. N. Sahney) **47** #698 42A24

The product of two function-to-function transforms. *J. Math. Anal. Appl.* **38** (1972), 382–386. (C. Fox) **46** #2302 40C10

On absolute de la Vallée Poussin summability. *Pacific J. Math.* **42** (1972), 689–692. (H. P. Dikshit) **47** #7271 40D25

On a summation method of S. Verblunsky. *Proc. Cambridge Philos. Soc.* **71** (1972), 499–503. (U. C. Guha) **46** #5886 40D25

Two theorems on typical means. *J. London Math. Soc.* (2) **7** (1974), 421–426. (G. U. Brauer) **49** #9475 40G05

The Riesz summability of logarithmic type. *Proc. Amer. Math. Soc.* **45** (1974), 365–370. (W. Beekmann) **50** #824 40D25

Kwerel, Seymour M. Bounds on the probability of the union and intersection of m events. *Advances in Appl. Probability* **7** (1975), 431–448. (J. Galambos) **51** #4341 60C05

Most stringent bounds on aggregated probabilities of specified dependent probability systems. *J. Amer. Statist. Assoc.* **70** (1975), 472–479. (Herbert Ziezold) **52** #1821 60C05

Most stringent bounds on the probability of the union and intersection of m events for systems partially specified by $S_1, S_2, \cdots, S_k, 2 < k < m$. *J. Appl. Probability* **12** (1975), *no.* 3, 612–619. (Frank K. Hwang) **51** #14189 60C05

Kwiatek, Bogusław (*with* Zięba, Ryszard) A production process as an abstract automaton. (Polish. Russian and English summaries) *Przegląd Statyst.* **20** (1973), 91–97. (J. Morávek) **47** #10044 90B30

(*with* Zięba, Ryszard) Homomorphisms of stochastic and nondeterminate automata. (Russian summary) *Problems of Control and Information Theory / Problemy Upravlenija i Teorii Informacii* **3** (1974), *no.* 4, 277–284. (Yasuyoshi Inagaki) **53** #2029 68A25 (94A35)

(*with* Zięba, Ryszard) Warehouse capacity of a basic production process. (Polish. Russian and English summaries) *Przegląd Statyst.* **21** (1974), 189–193. (E. V. Bulinskaja) **51** #12304 90B05

Kwiatkowski, D. J. (*with* Kleitman, Daniel J.) A lower bound on the length of a sequence containing all permutations as subsequences. *J. Combinatorial Theory Ser. A* **21** (1976), *no.* 2, 129–136. (Stephen Tanny) **54** #4995 05A05

Kwiatkowski, Jan Unitary operators with discrete spectrum induced by measure preserving transformations. *Rep. Mathematical Phys.* **4** (1973), 203–210. (W. B. Arveson) **49** #5907 47B15 (28A65)

On invariant measures on the space of bilateral sequences. *Dynamical systems, Vol. II—Warsaw, pp.* 219–222. *Astérisque, No.* 50, *Soc. Math. France, Paris,* 1977. (U. Krengel) **58** #1086 28A65

(*with* Maniakowski, Feliks) On the transportation problem used in the definition of Ornstein's distance $\bar{d}$. *Dynamical systems, Vol. II—Warsaw, pp.* 223–238. *Astérisque, No.* 50, *Soc. Math. France, Paris,* 1977. (N. F. G. Martin) **58** #1087 28A65 (60G10)

Kwiatkowski, Tadeusz Le caractère et la structure de la science selon Tadeusz Czeżowski. *Organon No.* 8 (1971), 231–256. (Mario Bunge) **56** #5111 00A25 (02A05)

Kwiecień, Sabina Reduction of the equation $F(x_1, x_2, x_3, x_4) = 0$ to the form $f_1(x_1)f_2(x_2) + g_1(x_1)f_3(x_3) + h_1(x_1) + f_4(x_4) = 0$. *Demonstratio Math.* **9** (1976), *no.* 2, 191–201. (R. A. Rosenbaum) **54** #5660 39A25

Kwieciński, M. (*with* Winnicki, L.; Kleiber, M.) Finite element analysis of elastic-plastic plane stress problem. (Polish and Russian summaries) *Rozprawy Inż.* **23** (1975), *no.* 4, 609–624. (From the summary) **57** #8356 73.65

Kwieciński, Marek Wacław Olszak. (Polish) *Mech. Teoret. Stos.* **10** (1972), 179–188. (1 *plate*) (Editors) **45** #4936a 01A70

Kwoh, H. (*with* Soliman, J. I.) Absolute stability of a class of nonlinear sampled-data systems. *Proc. Inst. Elec. Engrs.* **116** (1969), 145–148. (E. Ar) **46** #5004 93D05

(*with* Soliman, J. I.) On the absolute stability of automatic control systems. *Proc. Inst. Elec. Engrs.* **117** (1970), 2306–2310. (Jochen Werner) **46** #8717 93D10

Kwok, C. K. *See* **Proceedings: IFAC World Congress, 50** #12338

Kwok, Chung Mo A characterization of $\mathrm{PSL}(2, 2^m)$. *J. Algebra* **34** (1975), 288–291. (Henry S. Leonard, Jr.) **51** #10456 20D05

Kwok, P. C. (*with* Schultz, T. D.) Linked cluster theorem for the Abrikosov pseuod-fermion representation of spin operators. *Phys. Lett.* **39A** (1972), 402–404. (H. J. Hilhorst) **53** #15198 81.47

Kwon, Jung Hwan *See* **Kwon, Young K.**

Kwon, W. H. (*with* Pearson, Allan E.) On the stabilization of a discrete constant linear system. *IEEE Trans. Automatic Control* **AC-20** (1975), *no.* 6, 800–801. (P. K. C. Wang) **52** #16780 93D10 (93C55)

(*with* Pearson, Allan E.) A minimum energy feedback regulator for linear systems subject to an average power constraint. *IEEE Trans. Automatic Control* **AC-21** (1976), *no.* 5, 757–761. (Stanislav K. Myšov) **54** #7033 93C05 (93D15)

(*with* Pearson, Allan E.) A note on the algebraic matrix Riccati equation. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 1, 143–144. (Authors' summary) **56** #2563 93D05

(*with* Pearson, Allan E.) A note on feedback stabilization of a differential-difference system. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 3, 468–470. (Authors' summary) **58** #15534 93D15

(*with* Pearson, Allan E.) A modified quadratic cost problem and feedback stabilization of a linear system. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 5, 838–842. (Authors' summary) **58** #26399 93D15

Kwon, Y. S. (*with* Reed, Irving S.; Truong, T. K.; Hall, Ernest L.) X-Ray reconstruction by finite field transforms. *Proceedings of the Third International Joint Conference on Pattern Recognition* (*Coronado, Calif.,* 1976), *pp.* 339–343. *IEEE Comput. Soc., Long Beach, Calif.,* 1976. (Gabor T. Herman) **58** #4396 92–04 (94A05)

Kwon, Young D. (*with* Evans, Lawrence B.) A coordinate-transformation method for the numerical solution of nonlinear minimum-time control problems. *AIChE J.* **21** (1975), *no.* 6, 1158–1164. (V. Komkov) **56** #9994 65K05

Kwon, Young K. (*with* Sario, Leo) A maximum principle for bounded harmonic functions on Riemannian spaces. *Canad. J. Math.* **22** (1970), 847–854. (M. Glasner) **54** #13780a 53C20 (31C99, 30A50)

(*with* Sario, Leo) A maximum principle for Direchlet-finite harmonic functions on Riemannian spaces. *Canad. J. Math.* **22** (1970), 855–862. (M. Glasner) **54** #13780b 53C20 (31C99, 30A50)

(*with* Sario, Leo; Walsh, B.) Behavior of biharmonic functions on Wiener's and Royden's compactifications. (French summary) *Ann. Inst. Fourier* (*Grenoble*) **21** (1971), *no.* 3, 217–226. (A. M. White) **49** #5385 31C05

(*with* Sario, Leo) Harmonic functions on a subregion of a Riemannian manifold. *J. Indian Math. Soc.* (*N.S.*) **35** (1971), 135–161 (1972). (H. Wu) **50** #2529 31B25 (53C20)

Royden compactifiction of harmonic spaces. *Kyungpook Math. J.* **11** (1971), 1–8. (Y. Kusunoki) **46** #5659 31D05

Bounded harmonic but no Dirichlet-finite harmonic. *Bull. Amer. Math. Soc.* **79** (1973), 491–492. (Author's summary) **54** #2998 31C05 (30A48)

(*with* Ki, U Hang) Submanifolds of codimension 2 with a complemented f-structure. *J. Korean Math. Soc.* **10** (1973), 53–65. (M. Okumura) **49** #9770 53B25

Note on submanifolds with (f, g, u, v, λ)-structure in an even-dimensional Euclidean space. *Kyungpook Math. J.* **13** (1973), 51–58. (G. D. Ludden) **48** #2948 53C40

Strict inclusion $0_{HB} < 0_{HD}$ for all dimensions. *Kyungpook Math. J.* **13** (1973), 229–234. (K.-N. Chow) **49** #6090 53C20 (31C05)

$\widetilde{HD}$-minimal but no HD-minimal. *Pacific J. Math.* **49** (1973), 171–176. (H. Wu) **49** #6091 53C20 (31B05)

A counterexample in the classification of open Riemann surfaces. *Proc. Amer. Math. Soc.* **42** (1973), 583–587. (K. V. Rajeswara Rao) **48** #8783 30A48

(*with* Schiff, Joel L.) Counterexamples for the space of minimal solutions of the equation $\Delta u = Pu$ on a Riemann surface. *Michigan Math. J.* **21** (1974), 353–354 (1975). (M. Glasner) **51** #8444 31C05

Bounded solutions of the equation $\Delta u = pu$ on a Riemannian manifold. *Proc. Amer. Math. Soc.* **45** (1974), 377–382. (K.-N. Chow) **50** #3146 53C20 (30A48)

Behavior of Φ-bounded harmonic functions at the Wiener boundary. *Pacific J. Math.* **57** (1975), *no.* 2, 453–455. (Denis Feyel) **52** #3567 31C05

(*with* Yu, P. L.) Stabilization through taxation in n-person games. *J. Optimization Theory Appl.* **23** (1977), *no.* 2, 277–284. (J. J. Buckley) **58** #9321 90D12

Kwong, Ken C. K. (*with* Cantoni, Antonio) Further results on the Viterbi algorithm equalizer. *IEEE Trans. Information Theory* **IT-20** (1974), 764–767. (Authors' summary) **56** #11475 94A05

(*with* Cantoni, Antonio) Application of Richardson's nonstationary iterative procedure to the design of adaptive equalizers. *IEEE Trans. Information Theory* **IT-22** (1976), *no.* 5, 560–567. (Thomas A. Atchison) **54** #11747 65F10

(*with* Cantoni, Antonio; Butler, Paul) Design and performance of linear minimum mean square error digital data transmission equalizers. *Applications and research in information systems and sciences* (*Proc. First Internat. Conf., Univ. Patras, Patras,* 1976), *Vol.* 2, *pp.* 456–460. *Hemisphere, Washington, D.C.,* 1977. (Authors' summary) **58** #15638 94A05

Kwong, Man Kam L^p-perturbations of second order linear differential equations. *Math. Ann.* **215** (1975), 23–34. (D. Hinton) **51** #13379 34D10 (34B20)

Inequalities for the powers of nonnegative Hermitian operators. *Proc. Amer. Math. Soc.* **51** (1975), 401–406. (Thomas Hoover) **51** #11166 47B15

On boundedness of solutions of second order differential equations in the limit circle case. *Proc. Amer. Math. Soc.* **52** (1975), 242–246. (J. W. Heidel) **52** #8549 34B20

On uniqueness and continuability of the Emden-Fowler equation. *J. Austral. Math. Soc. Ser. A* **24** (1977), *no.* 1, 121–128. (Author's summary) **57** #10047 34A10

Conditions under which the order of two non-negative Hermitian matrices is preserved when taking integral powers. *Linear Algebra and Appl.* **18** (1977), *no.* 3, 223–228. (Jacques Dubois) **58** #5729 15A48

Note on the strong limit point condition of second order differential expressions. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 110, 201–208. (R. R. D. Kemp) **56** #8951 34B20

Conditional Dirichlet property of second order differential expressions. *Quart. J. Math. Oxford Ser.* (2) **28** (1977), *no.* 111, 329–338. (Robert M. Bullock) **56** #12379 34B05

Kwong, Raymond Hon-Sing (*with* Willsky, Alan S.) Optimal filtering and filter stability of linear stochastic delay systems. *Proceedings of the IEEE Conference on Decision and Control and the* 15*th Symposium on Adaptive Processes* (*Clearwater, Fla.,* 1976), *pp.* 192–197. *Inst. Electr. Electron. Engrs., New York,* 1976. (Authors' summary) **56** #18046 93E10 (93E15, 93E20)

Estimation optimale et structure du filtre pour les systèmes stochastiques à retard. Compte Rendu du Deuxième Colloque CRM-IRIA (Centre Recherche Math., Univ. Montréal, Montreal, Que., 1976). *Ann. Sci. Math. Québec* **1** (1977), *no.* 2, 247–255. (D. V. Lindley) **58** #9556 93C10 (93E20)

(*with* Willsky, Alan S.) Optimal filtering and filter stability of linear stochastic delay systems. *IEEE Trans. Automatic Control* **AC-22** (1977), *no.* 2, 196–201. (Agostino Villa) **56** #15048 93E10 (93E20, 93E15)

(*with* Willsky, Alan S.) Estimation and filter stability of stochastic delay systems. *SIAM J. Control Optim.* **16** (1978), *no.* 4, 660–681. (H. J. Kushner) **58** #9675 93E10

Kwong, Y. S. On reduction of asynchronous systems. *Theoret. Comput. Sci.* **5** (1977/78), *no.* 1, 25–50. (Jean-Claude Raoult) **58** #19301 68A05 (68A25)

Kwun, Kyung Whan Transfer homomorphisms of Whitehead groups of some cyclic groups. *Amer. J. Math.* **93** (1971), 310–316. (T. tom Dieck) **45** #7718a (E **45** #7718b) 57C20 (55E15)

Transfer homomorphisms of Whitehead groups of some cyclic groups. II. *Proceedings of the Second Conference on Compact Transformation Groups* (*Univ. Massachusetts, Amherst, Mass.,* 1971), *Part I, pp.* 437–440. *Lecture Notes in Math., Vol.* 298, *Springer, Berlin,* 1972. (Laurence Taylor) **51** #14076 57C10

Corrections to: "Transfer homorphisms of Whitehead groups of some cyclic groups". *Amer. J. Math.* **94** (1972), 329. (T. tom Dieck) **45** #7718b 57C20 (55E15)

(*with* Tollefson, Jeffrey L.) Uniqueness of orientation preserving PL involutions of 3-space. *Bull. Amer. Math. Soc.* **79** (1973), 761–762. (H. W. Lambert) **47** #5876 57A10

Sense-preserving PL involutions of some lens spaces. *Michigan Math. J.* **20** (1973), 73–77. (W. Metzler) **46** #9963 55C20 (57C99)

(*with* Tollefson, Jeffrey L.) PL involutions of $S^1 \times S^1 \times S^1$. *Trans. Amer. Math. Soc.* **203** (1975), 97–106. (L. S. Husch) **51** #6861 57E25

(*with* Tollefson, Jeffrey L.) Involutions of 3-manifolds with almost tame fixed point sets are PL. *Houston J. Math.* **2** (1976), *no.* 3, 381–386. (Allan Edmonds) **54** #6150 57C99 (57E15)

(*with* Tollefson, Jeffrey L.) Extending a PL involution of the interior of a compact manifold. *Amer. J. Math.* **99** (1977), *no.* 5, 995–1001. (S. Y. Husseini) **57** #10709 57C99

Tameness of ends in covering projections. *Houston J. Math.* **3** (1977), *no.* 3, 387–394. (Jeffrey L. Tollefson) **57** #1525 57E10

hoàng Kỳ *See* **Hoàng Kỳ**

nguyên xuân Ký *See* **Nguyên Xuân Ký**

yan, Seiki (*with* Shirakawa, Isao; Ozaki, Hiroshi) Bipartite network associated with optimal pivoting problem. *Electron. Commun. Japan* **57** (1974), *no.* 12, 17–24. (Authors' summary) **56** #13573 65F30 (94A20)

(*with* Onaga, Kenji) Minimum-delay maximum-gauge routes in a time-varying dynamic network. *Electron. Commun. Japan* **58** (1975), *no.* 3, 10–17. (A. T. Amin) **54** #6918 90B10

yburg, Henry E., Jr. Probability and informative inference. With comments by I. D. J. Bross, V. P. Godambe, I. J. Good and D. V. Lindley and a reply by the author. *Foundations of statistical inference* (*Proc. Sympos., Univ. Waterloo, Waterloo, Ont.*, 1970), *pp.* 82–107. *Holt, Rinehart and Winston of Canada, Toronto, Ont.*, 1971. (Terrence Fine) **53** #4154 60A05 (62A99)

★The logical foundations of statistical inference. Synthese Library, Vol. 65. *D. Reidel Publishing Co., Dordrecht-Boston, Mass.*, 1974. ix+427 *pp. ISBN* 90-277-0330-2 (Zbl **335** #02001) **58** #27238 02A05 (60A05, 62A99)

Propensities and probabilities. *British J. Philos. Sci.* **25** (1974), 358–375. (Editors) **58** #27239 02A05 (02C10, 60A05)

Statistical knowledge and statistical inference. With discussion. With a critical commentary by I. Levi. *Foundations of probability theory, statistical inference, and statistical theories of science* (*Proc. Internat. Res. Colloq., Univ. Western Ontario, London, Ont.*, 1973), *Vol. II, pp.* 315–352. *Univ. Western Ontario Ser. Philos. Sci., Vol.* 6, *Reidel, Dordrecht*, 1976. (Editors) **58** #31489 62A99

A defense of conventionalism. *Noûs* **11** (1977), *no.* 2, 75–95. **57** #2810 00A25

Decisions, conclusions, and utilities. Foundations of probability and statistics. I. *Synthese* **36** (1977), *no.* 1, 87–96. (H. Freudenthal) **58** #4993 02A05 (62A99)

Subjective probability: criticisms, reflections, and problems. *J. Philos. Logic* **7** (1978), *no.* 2, 157–180. (I. J. Good) **58** #24430 60A05 (62A15)

See also **Rubin, Herman**, **52** #1952; **Bross, Irwin D. J.**, **52** #1953; **Kempthorne, Oscar**, **52** #4469; **Good, Irving John**, **53** #4153; **Kempthorne, Oscar**, **58** #7951 *and* **Teller, Paul**, **58** #18804

Kyčkin, I. S. *See* **Kičkinas, I.**

Kydes, A. S. (*with* Tewarson, Reginald P.) An iterative method for solving partitioned linear equations. (German summary) *Computing* **15** (1975), *no.* 4, 357–363. (Jan Zitko) **53** #6996 65F10

(*with* Tewarson, Reginald P.) Householder modification for damped least squares solutions. *J. Inst. Math. Appl.* **19** (1977), *no.* 4, 407–423. (Peter Lancaster) **57** #1853 65F20

Kydland, Finn Duality in fractional programming. *Naval Res. Logist Quart.* **19** (1972), 691–697. (A. Gewirtz) **48** #7987 90C30

Hierarchical decomposition in linear economic models. *Management Sci.* **21** (1974/75), *no.* 9, 1029–1039. (Author's summary) **55** #11969 90A15

Noncooperative and dominant player solutions in discrete dynamic games. *Internat. Econom. Rev.* **16** (1975), *no.* 2, 321–335. (Norman P. Coleman, Jr.) **54** #9705 90D45 (90D15)

Equilibrium solutions in dynamic dominant-player models. *J. Econom. Theory* **15** (1977), *no.* 2, 307–324. (Ivar Ekeland) **57** #15535 90D45

Kydoniefs, A. D. Finite axisymmetric deformations of elastic membranes. (French, German, Italian and Russian summaries) *Internat. J. Engrg. Sci.* **10** (1972), *no.* 11, 939–946. (A. J. M. Spencer) **57** #2052 73.35

Kydoniefs, Anastasios D. (*with* Edelen, Dominic G. B.) ★An introduction to linear algebra for science and engineering. *American Elsevier Publishing Co., Inc., New York-London-Amsterdam*, 1972. xv+255 *pp.* (*loose errata*) (Editors) **50** #9885 15–01

Kyle, J. Norms of derivations. *J. London Math. Soc.* (2) **16** (1977), *no.* 2, 297–312. (Christopher Lance) **58** #7113 46L20 (46H05)

Spectra of derivations. *Math. Proc. Cambridge Philos. Soc.* **82** (1977), *no.* 1, 49–57. (Ş. Strătilă) **55** #13249 46L05

$W_\delta(T)$ is convex. *Pacific J. Math.* **72** (1977), *no.* 2, 483–485. (R. G. Douglas) **56** #16405 47A10

Ranges of Lyapunov transformations for operator algebras. *Glasgow Math. J.* **19** (1978), *no.* 2, 129–134. (Raphael Loewy) **58** #12409 46L10

Numerical ranges of derivations. *Proc. Edinburgh Math. Soc.* (2) **21** (1978/79), *no.* 1, 33–39. (F. F. Bonsall) **58** #7127 47A10 (47B15)

adžit Kymar *See* **Adžit Kymar**

Kymn, Kern O. An asymptotically unbiased two-stage least squares estimator of the structural disturbance variances and the bias. *Metroecon.* **26** (1974), *no.* 1-3, 245–255. (Mir Ali) **52** #9516 62J05

A simple derivation of the relation between t- and F-distributions. *SIAM J. Appl. Math.* **27** (1974), 517–518. (Javad Behboodian) **53** #11843 62E15

An alternative proof of theorems on the optimization of the ratio of quadratic forms. (Italian and French summaries) *Statistica* (*Bologna*) **34** (1974), 565–567. **50** #13091 15A63

Kympan, F. *See* **Câmpan, Florica T.**

Kyncl, Jan Initial condition in the theory of neutron transport. (Czech summary) *Apl. Mat.* **17** (1972), 245–253. (P. J. Roberts) **46** #10323 81.45

Neutron transport initial value problem in non-multiplying medium. (Czech summary) *Apl. Mat.* **17** (1972), 254–266. (P. J. Roberts) **46** #10324 81.45

(*with* Marek, Ivo) Relaxation lengths and non-negative solutions in neutron transport. (Czech and loose Russian summaries) *Apl. Mat.* **22** (1977), *no.* 1, 1–13. (Edward W. Larsen) **54** #14668 82.45

Kyner, Walter T. (*with* Allen, Richard C., Jr.) Functional differential equations of Peano-Baker type. *Quart. Appl. Math.* **31** (1973/74), 417–428. (Authors' summary) **56** #9030 34K05 (45B05)

(*with* Sánchez, David A.) Asymptotic and numerical approximation of roots of Lotka's equation. *Theoret. Population Biology* **13** (1978), *no.* 1, 112–120. (Gilbert Walter) **57** #9131 92A15

Kynev, V. I. An example of a simply connected surface of general type for which the local Torelli theorem does not hold. (Russian) *C. R. Acad. Bulgare Sci.* **30** (1977), *no.* 3, 323–325. (J. S. Joel) **56** #370 14J25 (14J15)

buĭ kong Kyong *See* **Buĭ Kong Kyong**

Kyprianou, E. K. The virtual waiting time of the $GI/G/1$ queue in heavy traffic. *Advances in Appl. Probability* **3** (1971), 249–268. (L. Takács) **45** #1287 60K30

On the quasi-stationary distribution of the virtual waiting time in queues with Poisson arrivals. *J. Appl. Probability* **8** (1971), 494–507. (T. Kawata) **45** #1288 60K25

On the quasi-stationary distributions of the $GI/M/1$ queue. *J. Appl. Probability* **9** (1972), 117–128. (N. U. Prabhu) **45** #1289 60K25

The quasi-stationary distributions of queues in heavy traffic. *J. Appl. Probability* **9** (1972), 821–831. (M. L. Chaudhry) **49** #11661 60K25

Kyrala, A. ★Applied functions of a complex variable. *Wiley-Interscience* [*A division of John Wiley & Sons, Inc.*], *New York-London-Sydney*, 1972. xix+374 *pp.* (Editors) **53** #8393 30–01

Kyriakopoulos, E. Lie algebra of the hypergeometric functions. *J. Mathematical Phys.* **15** (1974), 172–175. (W. Miller, Jr.) **49** #674 33A75

Generating functions of the hypergeometric functions. *J. Mathematical Phys.* **15** (1974), 753–759. (W. Miller, Jr.) **49** #9290 33A75

(*with* Floratos, E. G.) Generalized Funk-Hecke theorem and non-local O(1,f) symmetric potentials. *J. Phys. A* **9** (1976), *no.* 8, 1241–1251. (G. R. Allcock) **54** #6714 81.22 (22E70)

Kyš, Peter (*with* Glivjak, Ferdinand; Plesník, Ján) On the extension of graphs with a given diameter without superfluous edges. *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 92–101. (From the authors' introduction) **46** #1647 05C99

(*with* Glivjak, Ferdinand; Plesník, Ján) On irreducible graphs of diameter two without triangles. *Mat. Časopis Sloven. Akad. Vied* **19** (1969), 149–157. (From the authors' introduction) **46** #1648 05C99

Kysil′, V. O. *See* **Kisil′, V. O.**

Kytmanov, A. M. The estimation of the Ricci curvature of a Bergman metric that is invariant under biholomorphic mappings. (Russian) *Holomorphic functions of several complex variables* (*Sem., Krasnoyarsk*, 1972) (*Russian*), *pp.* 197–199, 214. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR, Krasnoyarsk*, 1972. (S. I. Pinčuk) **56** #15993 32H10

(*with* Dautov, Š. A.) The boundary values of an integral of Martinelli-Bochner type. (Russian) *Properties of holomorphic functions of several complex variables* (*Russian*), *pp.* 49–54, 236. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR, Krasnoyarsk*, 1973. (P. Agranovič) **57** #6486 32A25

An estimate of the Ricci curvature of the Bergman metric. (Russian) *Properties of holomorphic functions of several complex variables* (*Russian*), *pp.* 215–217, 240. *Inst. Fiz. Sibirsk. Otdel. Akad. Nauk SSSR, Krasnoyarsk*, 1973. (Editors) **58** #6367 32H15

A criterion for the holomorphy of an integral of Martinelli-Bochner type. (Russian) *Combinatorial and asymptotic analysis* (*Russian*), *pp.* 169–177. *Krasnojarsk. Gos. Univ., Krasnoyarsk*, 1975. (J. S. Joel) **58** #28611 32A25

(*with* Aronov, A. M.) The holomorphy of functions that are representable by the Martinelli-Bochner integral. (Russian) *Funkcional. Anal. i Priložen.* **9** (1975), *no.* 3, 83–84. (I. I. Bavrin) **52** #6012 32A25

(*with* Preobraženskiĭ, A. A.) On a problem about the density of the polynomials of a definite form in the space of continuous functions on the boundary of the domain in C^n. (Russian) *Izv. Vysš. Učebn. Zaved. Matematika* **1976**, *no.* 7(170), 50–51. (J. Siciak) **56** #5941 32E30 (41A63)

A certain characteristic property of $\bar\partial$-closed exterior differential forms. (Russian) *Uspehi Mat. Nauk* **31** (1976), *no.* 2(188), 217–218. (Guy Laville) **53** #13623 32A25 (35N15)

(*with* Aĭzenberg, L. A.) The holomorphy of continuous functions that are representable by the Martinelli-Bochner integral. (Russian. Armenian and English summaries) *Izv. Akad. Nauk Armjan. SSR Ser. Mat.* **13** (1978), *no.* 2, 158–169, 173. (I. P. Ramadanov) **58** #28612 32A25

An integral characteristic property $\bar d$-closed complex differential forms. (Russian) *Sibirsk. Mat. Ž.* **19** (1978), *no.* 4, 788–792, 954. (Ju. E. Hohlov) **58** #11482 32A25

Kyuno, Shoji On the radicals of Γ-rings. *Osaka J. Math.* **12** (1975), *no.* 3, 639–645. (V. C. Cateforis) **52** #10790 16A21

On the semi-simple gamma rings. *Tôhoku Math. J.* **29** (1977), *no.* 2, 217–225. (C. Niţă) **56** #15686 16A20

On prime gamma rings. *Pacific J. Math.* **75** (1978), *no.* 1, 185–190. (J. Luh) **58** #11038 16A78

Kživicki, Andžeĭ *See* **Krzywicki, Andrzej**